zertifiziert ISO 9001 seit 2007

MSPN GMBH

Märkische Stanz-Partner

# [**azolgas**Gasdruckfedern]
# [**azolgas**GasSprings]

**Stand / Revision Status: 01.08.2023**

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STANZNORMALIEN / STANDARD DIE COMPONENTS

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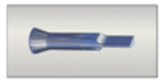

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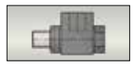
|  | Anschlussstücke, 1-fach | One way adapters | CF 01 | Azol.46 |
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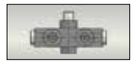
|  | Anschlussstücke, 4-fach | Four way adapters | CF 04 | Azol.47 |
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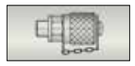
|  | Anschlussstücke mit Ventil und Schutzkappe | Adapters with valve and cover | SKK 12R 1/8 | Azol.43 |
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# Märkische Stanz-Partner

[technischeHinweise]

## AZOL GAS Gasdruckfedern

Gasdruckfedern sind eine sinnvolle Ergänzung zu den in der Praxis benutzten Schrauben, Teller- oder Urelastfedern. Allerdings sind die Vorteile der Gasdruckfedern beachtlich. So können auch in Werkzeuge und Pressen mit begrenztem Einbauraum hohe Kräfte und Hubwege eingebracht werden. Ein weiterer Vorteil ist der geringe Druckanstieg, wie auch die einfache Kraftveränderung gegenüber den Schrauben-, Teller- oder Urlastfedern. So können sich diese Vorteile positiv bei der Teilefertigung und bei den Werkzeugen und Pressen auswirken.
Die Gasdruckfedern werden mit dem umweltfreundlichen Medium “Stickstoff” gefüllt. Durch das variable Befüllen der Gasdruckfedern zwischen 20 bar min. und 150/180 bar max. ist es möglich, die exakte Kraft, die benötigt wird, zu erreichen. Es ist darauf zu achten, dass der max. Druck für die einzelnen Gasdruckfeder-Typen von max. 150/180 bar nicht überschritten wird. AZOL GAS Gasdruckfedern können je nach Anforderung als Einzelelement oder auch im Verbund (Schlauchverbindungen) eingesetzt werden. Die Gasdruckfedern werden nach neuesten Technologien gefertigt und haben einen hohen Qualitäts-Standard.
Sind Werkzeuge, Vorrichtungen oder Pressen mit Gasdruckfedern bestückt, so sollte mit einem Hinweis-Schild (welches gut sichtbar sein sollte) darauf hingewiesen werden.

**Märkische Stanz-Partner Normalien GmbH**
Jüngerstraße • D-58515 Lüdenscheid
Tel. +49 (0) 23 51 / 6 61 07-0 • Fax +49 (0) 23 51 / 6 61 07-77

AZOL GAS

### ACHTUNG

Werkzeug/Presse ist mit Gasdruckfedern bestückt.

Fülldruck max. 150 bar - 180 bar

**Achtung:**
Arbeiten am System nur im drucklosen Zustand.
Bitte Wartungsanleitung lesen.

Druck max. ..... bar  Arbeitsdruck ..... bar

**Achtung:**
**Wartungsarbeiten nur, wenn das Stickstoff-System drucklos ist. Lesen Sie die Wartungsanleitung. Wartungsarbeiten werden auch durch unser Fachpersonal ausgeführt. Bitte sprechen Sie uns an.**

ZUGELASSEN PED 2014/68/EU

**Gasdruckfedern und Stickstoffsysteme unterliegen hinsichtlich Wartungsintervallen u.ä. gesetzlichen Vorschriften, die länderspezifisch voneinander abweichen. In Deutschland sind diese z.B. u.a. in der Betriebssicherheitsverordnung geregelt.**

**AZOL GAS Gasdruckfedern werden entsprechend der Druckgeräte-Richtlinie PED 2014/68/EU hergestellt.**

Vom Europäischen Parlament und dem Europarat wurde im Mai 1997 die neue Druckgeräte-Richtlinie angenommen und seit dem 29. Mai 2002 in der gesamten EG zwingend vorgeschrieben. Gasdruckfedern sind per Definition “Druckbehälter”.

Märkische Stanz-Partner

[technicalinformation]

## AZOL GAS Gas Springs

Gas Springs are a perfect addition to the commonly used mechanical-, urelast- or disc-springs, offering quite some advantages. For example, even in dies and presses providing limited space, high forces and long strokes can be accomplished.

Another advantage is the slow pressure increase as well as the easy readjustment of forces when needed. Gas springs are filled with the environment-friendly „nitrogen“ - gas.

By charging the spring in between 20 and 150 (in some cases 180 max. !!) bar, the user has the possibility to obtain exactly the force needed for the specific application.

AZOL GAS gas springs may be used as stand-alones, but can be hosed together as well.
They are manufactured using the latest production technologies and with high technical and safety standards.
In case dies or presses utilize gas springs, a big-enough sign should inform the user about them being built in.

Märkische Stanz-Partner Normalien GmbH
Jüngerstraße • D-58515 Lüdenscheid
Tel. +49 (0) 23 51 / 6 61 07-0 • Fax +49 (0) 23 51 / 6 61 07-77

### Attention

This die / this press utilizes nitrogen gas springs with high pressure
(150 bar - 180 bar) and the resulting very high forces.

Repair and maintenance must only take place after the unit(s)
have been unloaded and unpressured !

Pressure max. ..... bar Working pressure ..... bar

**Attention:**
**Repair and Maintenance must onlytake place of after the unit(s) have been unloaded and unpressured !**
**Please read maintenance manual. If you require assistance, please contact us.**

**Gas springs and corresponding systems are subject to (f.e.) preventive maintenance as outlined in country specific legislation. In Germany this is governed for example by the Industrial Safety Regulation, amongst others.**

**AZOL GAS gas springs are manufactured in accordance with the PED-directive PED 2014/68/EU.**

In May 1997 the European Parliament and the Council of Europe agreed on the new „Pressure Equipment Directive“, which in 2002 became law throughout the EC.





Märkische Stanz-Partner

[bedienungsanleitung]

## AZOL GAS Gasdruckfedern

Einbau, Sicherheits- und Bedienungshinweise

Die richtige Auswahl von Gasdruckfedern und Zubehör während der Konstruktionsphase hilft Kosten und Probleme zu vermeiden und sichert so einen zuverlässigen Betrieb der Werkzeuge und Maschinen zu.

**Sicherheit**
Stickstoff-System-Federn sind befüllte Druckbehälter mit einem Maximal-Druck von 150/180 bar. Wartungsarbeiten oder Änderungen an Stickstoff-System-Federn dürfen nur im drucklosen Zustand vorgenommen werden.
Achtung: System durch Öffnen der Ventile drucklos machen!!!
Diese Arbeiten dürfen nur durch herstellerseitig geschultes Peronal durchgeführt werden.
Bei unsachgemäßem Einsatz von Gasdruckfedern oder Systemen drohen Gefahren für:
• Gesundheit
• Werkzeuge oder Pressen
was mit hohen Kosten verbunden sein kann.

**Anwendung/ Einbau**
Gasdruckfedern dürfen nur mit handelsüblichem Stickstoff befüllt werden. Der Befüll-Druck liegt bei min. 20 bar und max. 150/180 bar bei einer Raumtemperatur von 20 °C. Der max. Druck darf nicht überschritten werden, da sonst keine Gewährleistung für die Sicherheit und Standzeit der Gasdruckfedern gegeben ist. Auch sollte die max. Arbeitstemperatur von 80 °C nicht überschritten werden.
Hohe Temperaturen wirken sich negativ auf die Dichtungen aus und minimieren so die Standzeit.

AZOL GAS Gasdruckfedern sollten über das Bodengewinde oder Flansche sowie Haltestücke befestigt werden. Werden Gasdruckfedern in Aufnahmebohrungen / Kavitäten eingebracht, so sollte der Aufnahmedurchmesser nur ca. 1 mm größer als der Feder-Außendurchmesser sein, um so unerwünschtes Kippen auszuschließen. Wird eine Gasdruckfeder mit einem kleineren Körperdurchmesser in einen größeren Bohrungsdurchmesser eingebaut und nicht befestigt, so muss eine Ausgleichshülse über die Federn geschoben werden. Die Tiefe der Aufnahmebohrung / Kavität sollte ca. 85 % der Körperlänge nicht unterschreiten.

Die Kolbenstange der Gasdruckfeder sollte vor Schmutz und mechanischer Beschädigung geschützt werden. Es ist auch darauf zu achten, dass ein Überfluten der Gasdruckfeder mit Öl / Ziehemulsion vermieden wird. Das Überfluten kann durch Einbringen von Drainage-Bohrungen / -Kanälen vermieden werden.
**Auch muss darauf geachtet werden, dass die Kolbenstange der Gasdruckfeder bei Entlastung nicht ungebremst zurückschnellt. In diesem Fall können innere Bauteile zerstört werden.**

Der Einbau der Gasdruckfedern im Werkzeug oder in der Presse muss immer parallel zur Krafteinleitung erfolgen. Ebenso muss die Gasdruckfeder, die Auflagefläche für Zylinderflansche und die betätigte Kontaktfläche im rechten Winkel zur Krafteinleitung stehen. Die beaufschlagten Kontaktflächen sollten eine ausreichende Härte aufweisen.

Das Gewinde in der Feder-Kolbenstange darf nicht benutzt werden, um die Federn zu fixieren, z. B. um die Gasdruckfeder mit dem Werkzeug der Abstreiferplatte zu verschrauben. Es können hierdurch seitliche Kräfte auftreten, was zu Beschädigungen an Dichtungen und Kolbenstange führt. Dies hätte eine Verringerung der Standzeit zur Folge. Das Kolbenstangen-Gewinde dient ausschließlich Wartungs- und Reparaturarbeiten.

**Nach Möglichkeit sollte eine 10 %ige Hub-Reserve berücksichtigt werden.**

Maximale Kolbengeschwindigkeit: 0,5 / 1,6 / 2,0 m/sec (Gasdruckfeder-Typen abhängig).

zertifiziert ISO 9001 seit 2007

MSP-N GMBH

# Märkische Stanz-Partner

[operatinginstructions]

[AG]

## Azolgas Gas Springs

Assembly, Maintenance, Safety

The careful selection of gas springs and corresponding components during the design phase reduces cost and eliminates possible problems, and thereby ensures a reliable performance of dies and presses during production.

**Safety:**
Gas springs are high-charged pressure devices with a max. pressure of 150 bar (in some cases 180 bar max. !!). Repair and maintenance must only take place after the unit(s) have been unloaded and unpressured!
This happens through opening of the filling- / bleeding - valve of any given system.
Any repair or maintenance work should only be handled by skilled technicians of MSP-N, or people at the customer‘s plant that have been specifically trained for these tasks by MSP-N - technicians.
If not handled 100% accurately, there are dangerous threats for the health (possibly life !!!) of the people involved, as well as potentially for dies and presses.

**Assembly:**
Gas springs may only be charged with Nitrogen. The pressure ranges between 20 and 150 bar (in some cases 180 bar max. !!) at room temperature (20 ºC). The maximum nominal pressure must not be exceeded, since safety and operating lifetime will suffer and cannot longer be guaranteed. Additionally, the working temperature should not exceed 80 ºC, since higher temperatures have a negative impact on the lifetime of the seals.

AZOL GAS gas springs should be mounted using bottom threads, flanges or clamps. If put in cavities, the corresponding diameter should be only 1 mm larger than the spring OD to avoid tilting. If a gas spring with a smaller diameter needs to be put into a cavity with a larger OD and is not mounted, a compensating sleeve may be used. The depth of the cavity should - if possible - be at least 85% of the gas spring body-length.
The gas spring rod should be protected from dirt and mechanical damage. A „flooding“ of the gas spring with oils or similar fluids must be avoided. If needed, drain-holes have to be provided.

**It has to be kept in mind, that the rods must not return into 0-Position at full speed, which can destroy internal components.**

Gas springs have to be mounted in dies and presses parallel to the direction of the force - application. At the same time the flange-flats and the attached surfaces - which should have a sufficient hardness - need to be at an angle of 90º to the force-application.

It is prohibited to use the thread in the rod to fix the gas spring, f. e. to connect the spring to a stripper plate. Since this mounting could result in side load forces, the rod itself and seals could be damaged, thereby reducing lifetime.
The rod-thread is meant for maintenance - purposes only.

**A 10% stroke-buffer should be considered (min. 3 mm).**

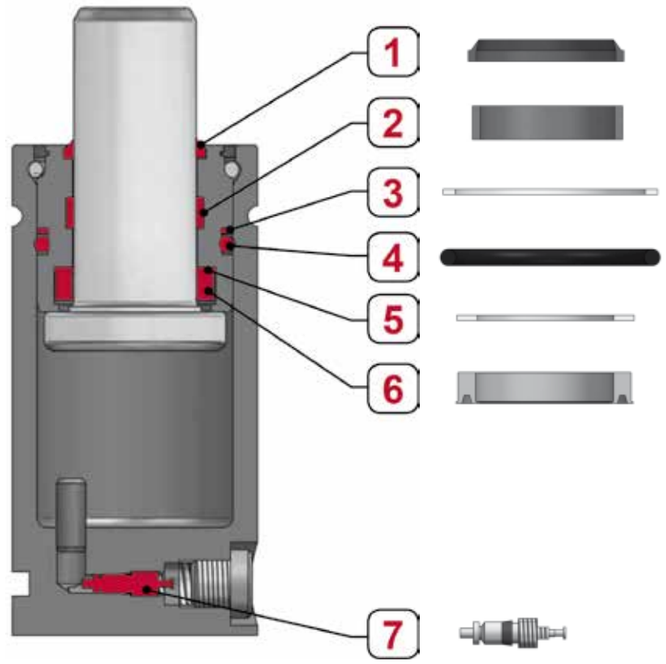
The maximum rod-speed, depending on the gas-spring family, of 0,5 / 1,6 or 2,0 m/sec. needs to be respected.



[23.02.2023]

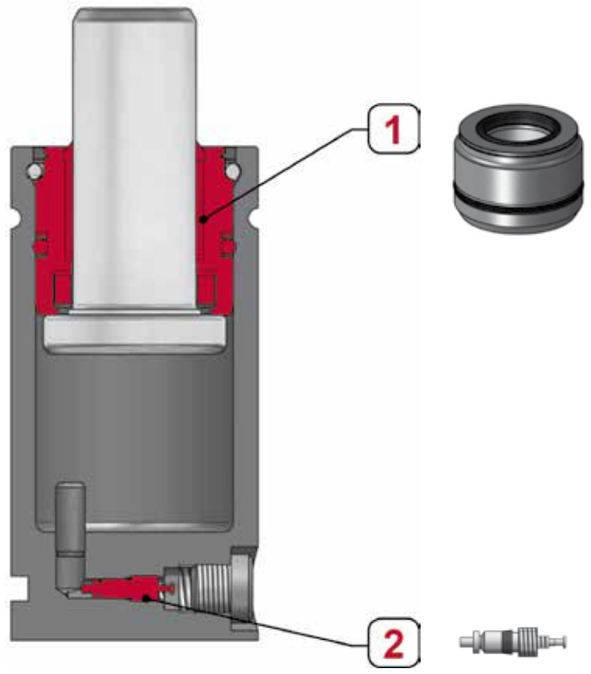


Dort, wo in Werkzeugen, Maschinen oder sonstigen Vorrichtungen Federelemente aus Stahl, Elastomere oder Gummi aufgrund ihrer Größe nicht unterzubringen sind, bieten sich die äußerst kompakten autonomen AZOL GAS-Stickstoff-Federsysteme an.
Die Federn werden nach strengen Qualitätskriterien und entsprechend den üblichen Sicherheitsvorschriften gefertigt.
Durch einen speziell konstruierten Kolbenkopf wird gewährleistet, dass bei defekten oder beschädigten Federn ein Herausschleudern der Kolbenstange aus dem Federkörper verhindert wird.
Die autonomen Gasdruckfedern sind mit einem eigenen Speicherraum für handelsüblichen Stickstoff ausgestattet und benötigen keinen zusätzlichen Speichertank. Sollte es nötig sein, können die Federn durch Schläuche miteinander verbunden und über eine Kontrollarmatur befüllt werden.
Alle Gasdruckfedern werden, soweit nicht anders angegeben, mit einem max. Fülldruck von **150/180/200 bar** ausgeliefert. Aus Gründen der Sicherheit sollte ein Fülldruck von 20 bar nicht unterschritten werden, da sich die Dichtsysteme verändern und Undichtigkeiten auftreten können.



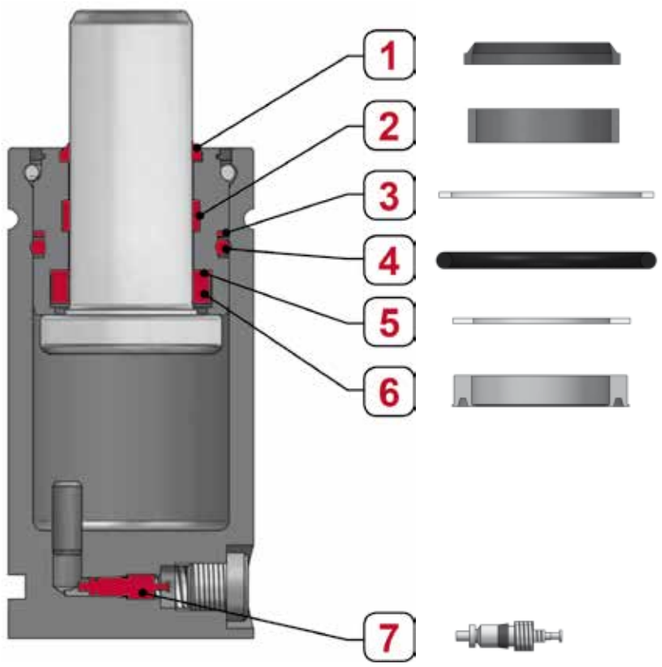

Zusatzinformation:
- Beim Einbau sollte die Rechtwinkligkeit zwischen Federkörper und Grundfläche auf jeden Fall angestrebt werden, wenngleich der Federkörper auftretende Seitendrücke aufgrund einer Winkelabweichung der Kolbenstange von 1-2° im Normalfall absorbieren kann.
- Bei exaktem Einbau und unter Berücksichtigung aller Kriterien kann von einer langen Lebensdauer ausgegangen werden.
- Die Federauslegung sollte so erfolgen, dass die Kolbenstange nicht permanent über den maximalen Hub fährt. In diesem Fall wäre die Wahl der nächstgrößeren Hublänge sinnvoll.

**Hinweis:**
Bei Verschlauchung empfehlen wir ausschließlich Gasdruckfedertypen mit Anschlussgewinde G1/8“ zu verwenden.



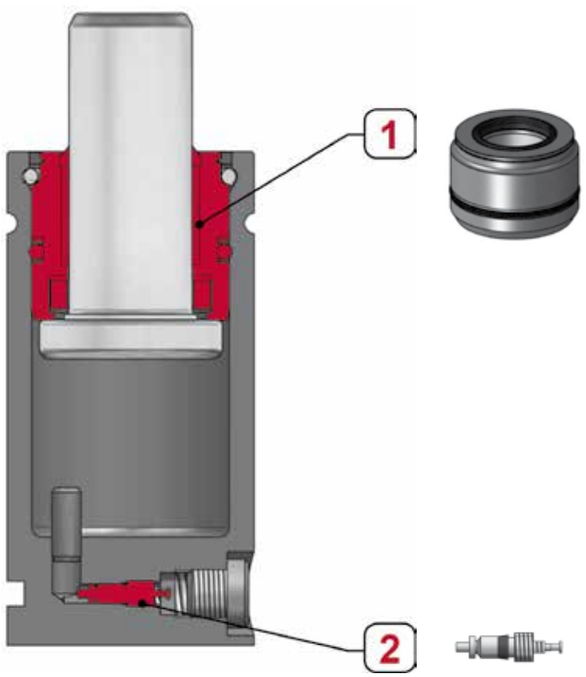

[AG]

Wherever in dies, machines and fixtures mechanical springs made out of steel, urelast or rubber cannot (because of their size) be accommodated, AZOL GAS gas springs present themselves as a perfect alternative.
They are manufactured using the latest production technologies and with high technical and safety standards.
The design of the lower rod avoids the ejection of the rod itself in case of a defect or damage.
The stand-alone gas springs have their own nitrogen-storage built in and do not need any additional external tanks.
If needed / wanted, they can be hosed together and charged via a control panel.
The charging pressure at 20 ºC is 150 bar, exceptions to run at 180 and 200 bar.
For safety reasons, a minimum pressure of 20 bar should be kept at all times, since otherwise the sealing system may change up to a point of unreliability.




Additional information:

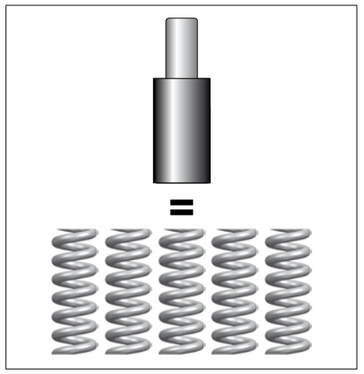
- It has to be ensured, that the gas spring does not overstroke. If there seems to be a possibility for that scenario, the next longer stroke-length must be used.
- Although usually the gas spring can absorb a non-perpendicularity of 1-2 degrees. During assembly it is important to align the gas spring body under an as-exact-as-possible 90º angle to the mounting, parallel surface.
- If the instructions are followed, a long service life can be assumed. For exact, gas-spring-specific information please contact our technical support.
- In case gas springs need to be hosed together, we recommend using G1/8 - threads only.





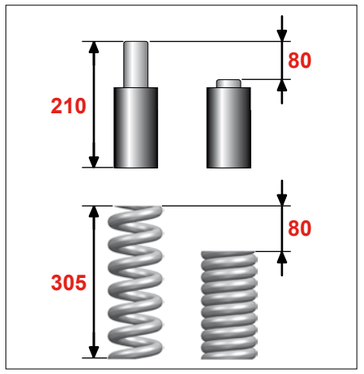



Beansprucht weniger Platz, Höhe und Volumen



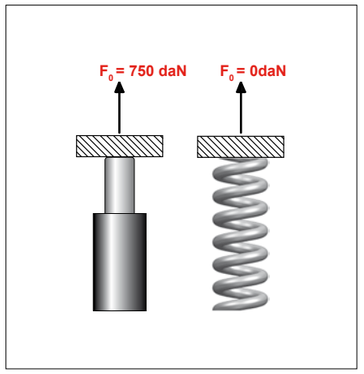
Reduction of surface area used, height, and volume occupied.

Im Allgemeinen beträchliche Verminderung der Höhe bei gleichem Hub und gleicher Kraft. Kompaktere Werkzeugkonstruktion möglich.



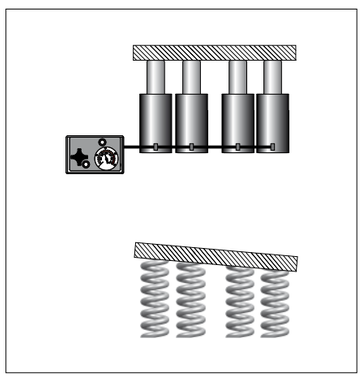

Considerable height reduction for the same work stroke and force. Compact tool construction possible.

Kein Bedarf an Vorrichtungen für Vorspannen, Führung und Aufnahme. Beseitigung der Vorspannung.



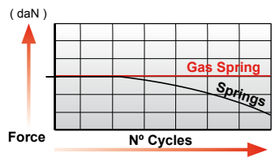

Considerable reduction of retaining devices to preload. No preload required.

Stets ausgeglichene und gleichförmige Kraft an allen Kontaktpunkten. Ständige Sichtanzeige des Betriebsdrucks.



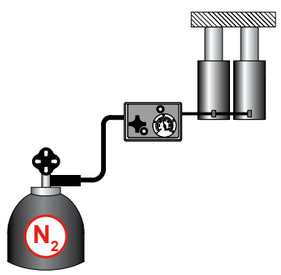
Always the same force on each contact point. System may be continually pressure monitored.

Bessere Kontrolle des Werkstücks während der Phasen des Formens und des Ziehens. Bessere Qualität der fertigen Werkstücke. Weniger Ausschuss.



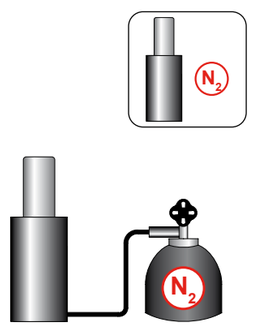

Controlled production conditions on sheet metal parts during forming and drawing operations. Less rejection of final products.

Anpassung der Zylinder an die effektiv erforderliche Kraft. Gewissheit der definierten Kräfte. Verwendung desselben Zylinders für unterschiedliche Arbeiten.



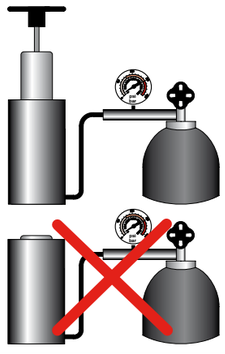

Gas springs adjustable to provide the real forces required. Assurance of defined forces. The same cylinder may be re-used for different applications.

Gasdruckfedern dürfen nur mit Stickstoff ($N_2$) gefüllt werden.




Charge only with NITROGEN ($N_2$).

Befüllung der Gasdruckfeder nur bei voll ausgefahrener Kolbenstange.



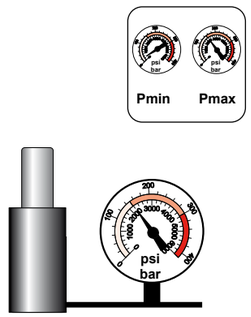
Never fill a gas spring when the piston rod is not fully extended.



[AG]

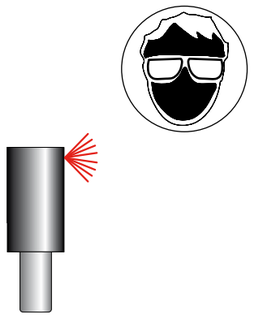
Information
Information
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

Befüllen Sie die Gasdruckfedern nur zwischen dem zulässigen Maximal- und Minimal-Druck.



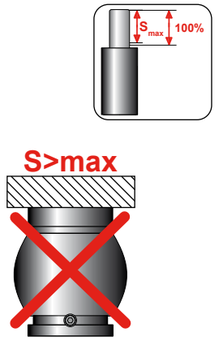

Only charge the gas springs within the allowed pressure-ranges.

Beim Entladen Ventil nicht auf Personen richten.



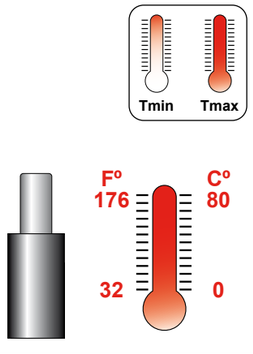
When discharging a gas spring point the gas flow away from operator or anybody else.

Es wird empfohlen, eine 10%ige Hubreserve einzuplanen. Ein Überhub führt zur Zerstörung der Gasdruckfeder mit großen Risiken für Gesundheit und Leben von Personen.




Maximum recommended stroke 90%. Overstroke would cause damages to the cylinder and jeopardize health and even life of people.

Arbeitstemperatur




Operating temperature

[23.02.2023]

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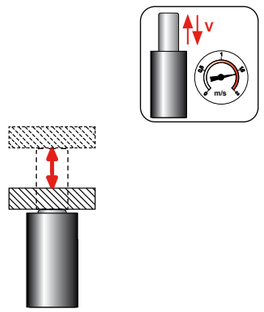
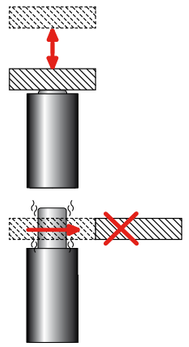
[AG]

Überschreiten Sie nicht die maximal zulässige Kolbengeschwindigkeit.



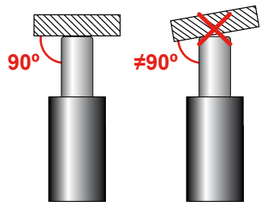

Do not exceed the maximum allowed rod speed.

Ein freier Rückhub muss vermieden werden, um Beschädigungen an der Gasdruckfeder zu vermeiden.



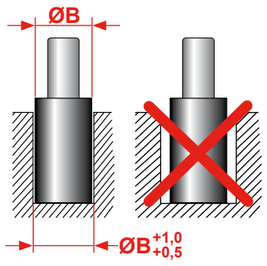
Avoid free release of the piston rod, this would cause damages to the gas spring.

Es dürfen keine seitlichen Kräfte auf die Gasdruckfedern wirken, da sich sonst die Lebensdauer wesentlich verringert.




Gas springs must always work completely perpendicular to the contact surface. Side loads increase wearing and reduce life expectancy.

Werden Gasdruckfedern in Kavitäten eingebaut, so sollte der Bohrungs-Ø nur 1 mm größer als der Federdurchmesser sein.




When the gas springs are installed into a bored pocket, the bored pocket diameter should not exceed 1 mm larger than the gas spring body diameter.



[23.02.2023]

[23.02.2023]

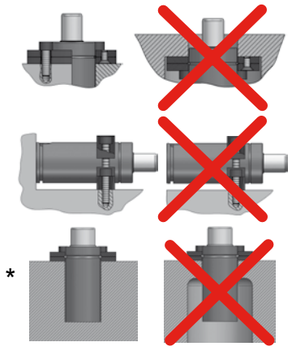


Das Gewinde in der Kolbenstange dient nur zu Wartungsarbeiten und darf nicht zur Befestigung der Gasdruckfeder benutzt werden.
Das Mittengewinde im Boden einiger Gasdruckfedern sollte unter Berücksichtigung möglicher Seitenkräfte - besonders bei langhubigen Federn - nur sehr selektiv für die Befestigung genutzt werden.
In jedem Fall müssen die Schraubenlängen so gewählt werden, dass das tiefer liegende Ventil nicht beschädigt wird.

Do not use the piston rod threaded hole for fixing the gas spring into the tool. This hole is only to be used for maintenance operations. The centre-thread in the bottom of these gas springs be used very carefully, especially taking possible side loads of long-stroke springs into account.
In any case: In order not to destroy the internal valve, the screw-lengths have to be given special consideration and selected carefully.

Die Fixierung der Gasdruckfeder sollte mit der vorgesehenen Befestigung erfolgen.

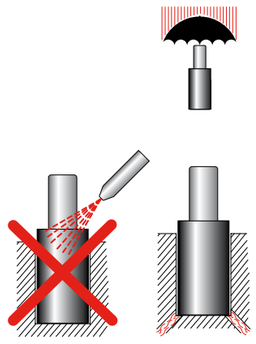
* Nur für den Fall eines zweiteiligen Zylinderkörpers




Fix the gas spring into the tool through the appropriate mount.

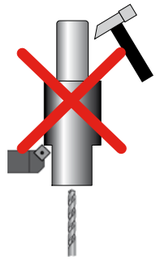
* Only applies in case of two-part body design.

Schützen Sie die Gasdruckfedern vor Kontakt mit festen oder flüssigen Verschmutzungen. Bei Einbau in Kavitäten müssen Drainage-Kanäle eingebracht werden.



Protect the gas springs from solid or liquid contaminants. Provide adequate drainage in gas springs pockets.

Schützen Sie die Gasdruckfeder insgesamt (besonders Körper und Kolbenstangen) gegen mechanische Beschädigung.

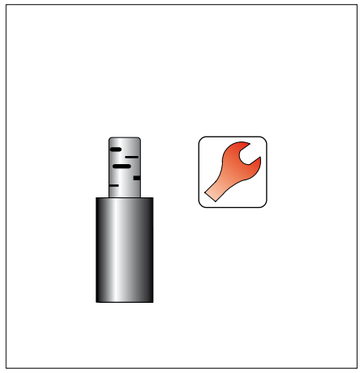


Avoid whatever impatct and do not perform any mechanical work on the gas spring body or piston rod.




[AG]

Gasdruckfedern mit Kratzern auf der Kolbenstangenoberfläche sollten ersetzt werden.



Gas springs with scratches on the piston rod surface should be replaced.

Arbeiten an den Gasdruckfedern dürfen ausschließlich von geschulten Mitarbeitern durchgeführt werden. Die technischen Hinweise, Vorgaben und Anweisungen von AZOL GAS / MSPN müssen unbedingt und jederzeit befolgt werden.

Gas springs maintenance must be carried out only by skilled personnel, with the appropriate training, and always following the operating and service instructions from AZOL GAS / MSPN.

Die meisten AZOL GAS Gasdruckfedern können durch Verschlauchung in einem Verbundsystem arbeiten. Das erleichtert das Steuern, Ablesen und das Anpassen des Druckes.

Most of AZOL GAS gas springs can be used into linked systems. Linked systems allow users to easily monitor, control and adjust pressure.

Die Bestimmungen der Druckgeräte-Richtlinie (2014/68/EU) sind besonders zu beachten. AZOL GAS empfiehlt, die Gasdruckfedern nach 2 Millionen Hüben, spätestens nach 10 Jahren, zu ersetzen.

Follow the regulation related to the pressure equipment devices 2014/68/EU as for inspection and safety of gas springs. AZOL GAS recommend to replace gas springs after 2 million strokes.

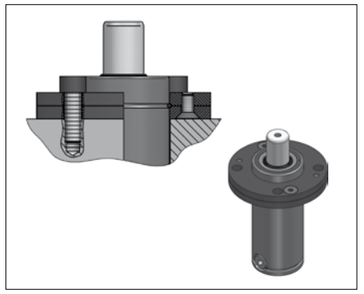




[23.02.2023]

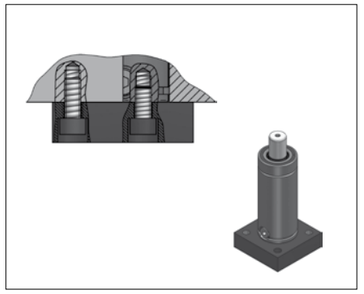


Oberer runder Nut-Flansch



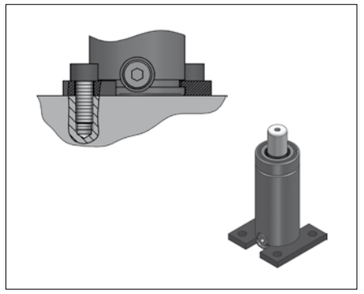
Upper round groove flange

Untere Befestigungsplatte



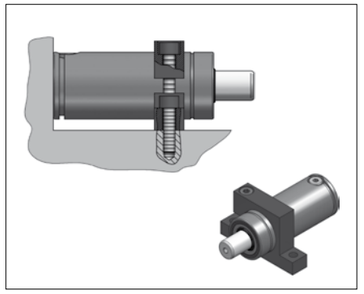
Bottom mount plate

Unterer quadratischer Nut-Flansch



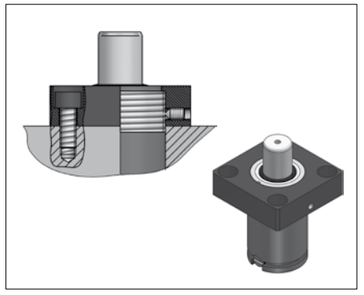
Lower square groove flange

Stütz-Flansch



Support mount

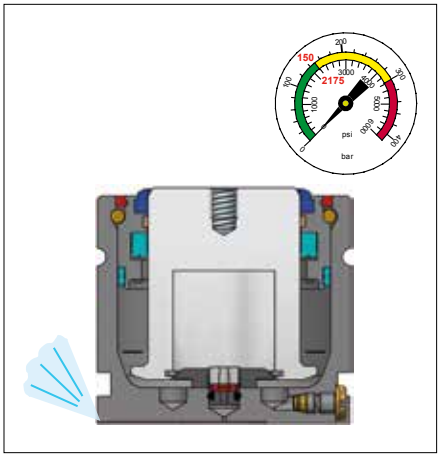
Körpergewinde-Flansch



Threaded body flange

## Überdruck

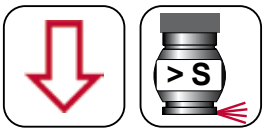
Wird durch Anwendungsfehler der maximale Fülldruck überschritten, aktiviert sich automatisch das SP-Sicherheitssystem. Die Feder wird drucklos und damit ein Bersten verhindert.



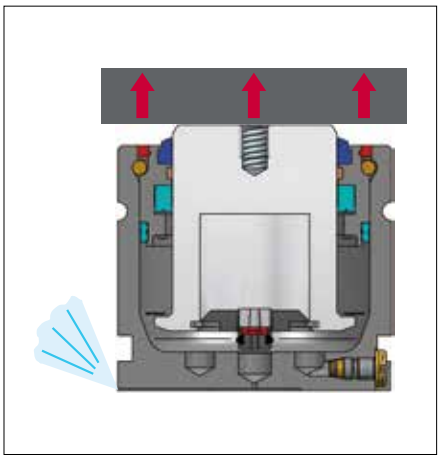
## Over-Pressure

In case the maximum allowed charging pressure is exceeded, the safety system SP is activated, depressurizes the gas spring and prevents an uncontrolled bursting of the spring.

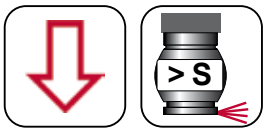
## Überhub




Überschreitet der Anwender den maximal zulässigen Hub, entlädt das SS-Sicherheitssystem die Gasdruckfeder komplett und vermeidet so Schäden durch Bersten oder herausschießende Teile.

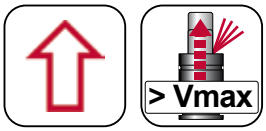


## Over-Stroke

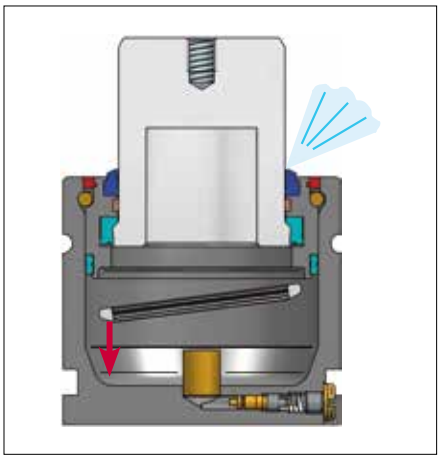



If the maximum allowed stroke is exceeded, the safety system SS unpressurizes the gas spring completely, thereby preventing damages through bursting and / or ejecting parts and components.

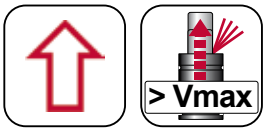
## Freier Rückhub




Kommt es durch unsachgemäße Behandlung der Gasdruckfeder zu einem Festklemmen der Kolbenstange, verhindert das SV-Sicherheitssystem ein Herausschießen der Kolbenstange, die Gasdruckfeder wird kontrolliert druckentleert.



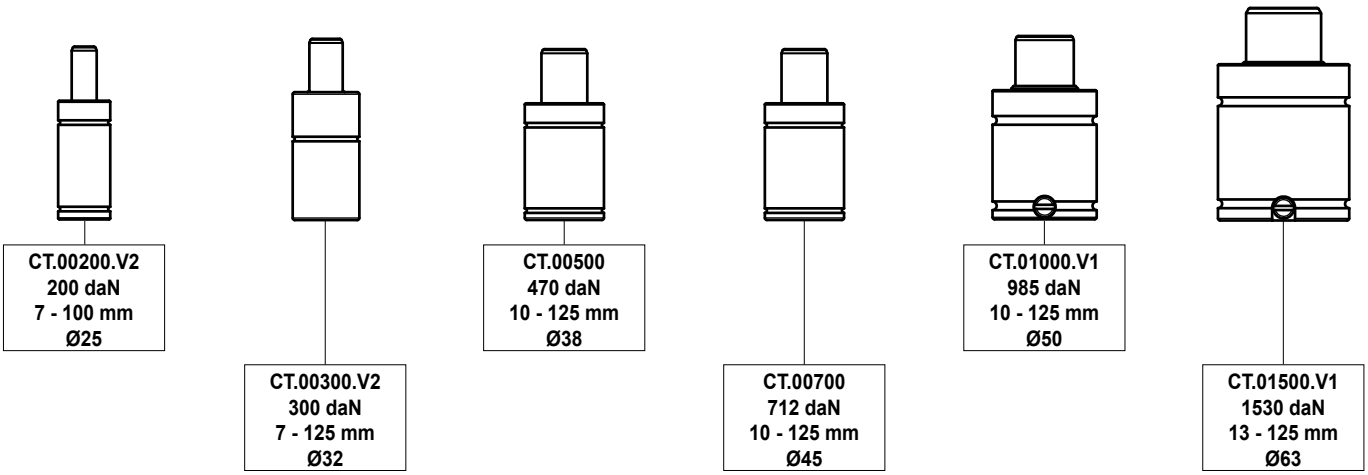
## Over-Speed

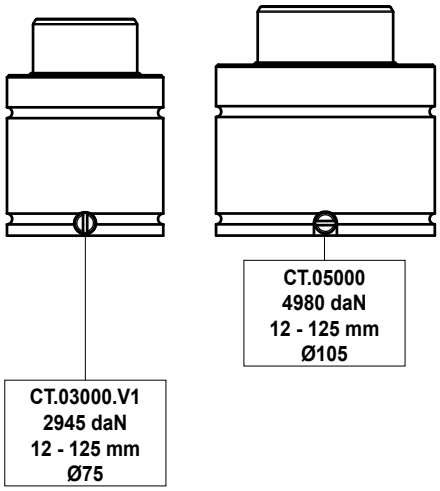



If due to an inappropriate handling the piston rod is first jammed and afterwards released to return at high speed, the SV Safety System makes sure, that the rod cannot blast out of the gas spring body. The spring is automatically and safely discharged.

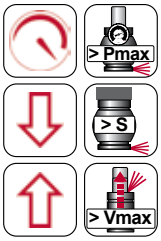
## Größenübersicht Serie CT

## Gas spring index CT series




## SICHERHEITSSYSTEME



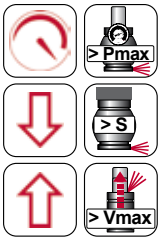

**Überdruck**

**Überhub**

**Freier Rückhub**

Information über die Sicherheitssysteme (Überdruck, Überhub, Freier Rückhub) erhalten Sie im Vorspann auf der Seite Azol.22.

## SAFETY SYSTEMS




**Over-Pressure**

**Over-Stroke**

**Over-Speed**

Information about the safety systems (over-pressure, over-stroke, over-speed) can be found in the introductory part on page Azol.22.

# CT.00200...V2

**Technische Daten:**

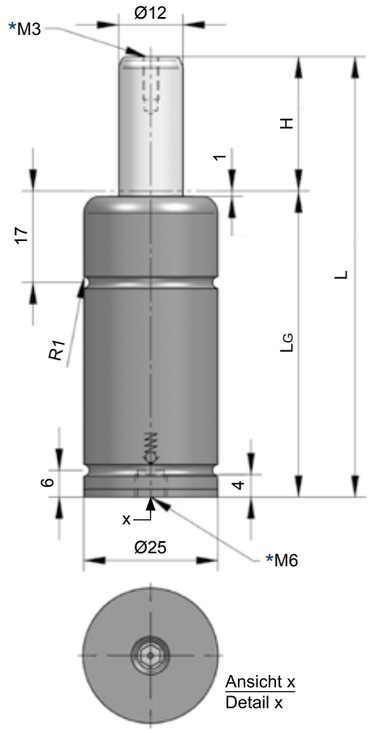
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Einwegfeder ist nicht reparierbar!**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

**One-way spring is irreparable!**

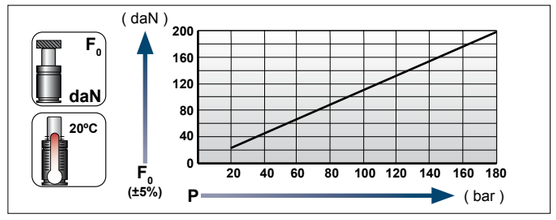


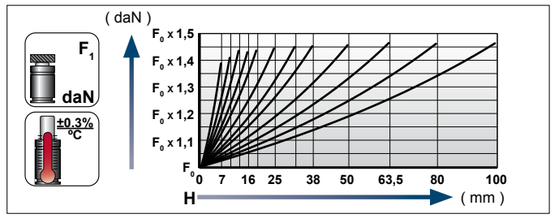

> Vmax

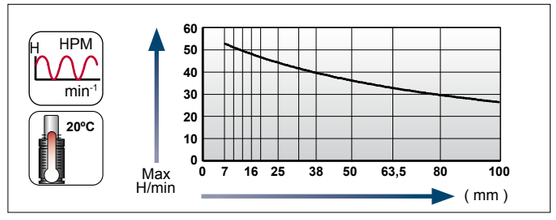
INFO [Azol.19]

**CT.00200.016.V2**

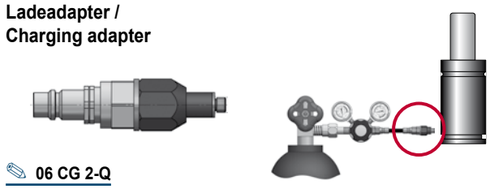
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (180 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **007** | 46 | 39 | 200 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **010** | 52 | 42 | 200 | |
| **012,7** | 57,4 | 44,7 | 200 | |
| **016** | 64 | 48 | 200 | |
| **019** | 70 | 51 | 200 | |
| **025** | 82 | 57 | 200 | |
| **032** | 96 | 64 | 200 | |
| **038** | 108 | 70 | 200 | |
| **050** | 132 | 82 | 200 | |
| **063,5** | 159 | 95,5 | 200 | |
| **080** | 192 | 112 | 200 | |
| **100** | 232 | 132 | 200 | |




**Ladeadapter / Charging adapter**

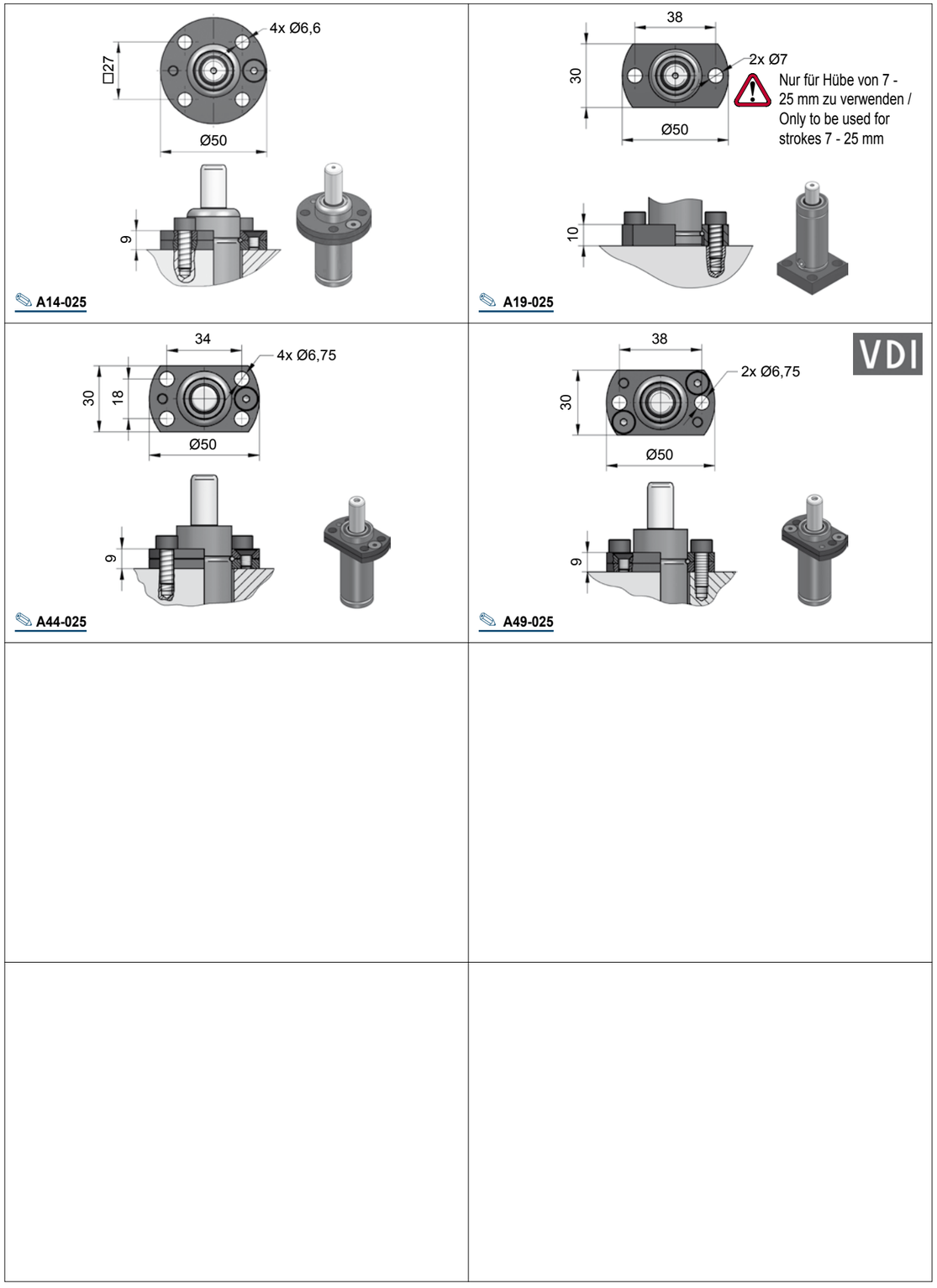


**06 CG 2-Q**



GDF, niedrigbauend
GS, smaller height
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

## Flansche für / Flanges for **CT.00200...V2**



# CT.00300...V2

**Technische Daten:**

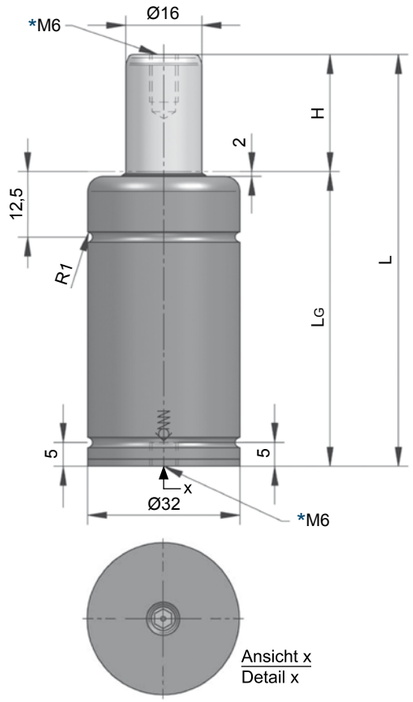
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Einwegfeder ist nicht reparierbar!**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

**One-way spring is irreparable!**



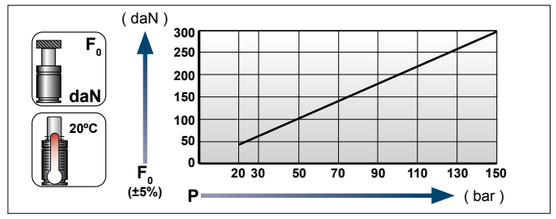

> Vmax

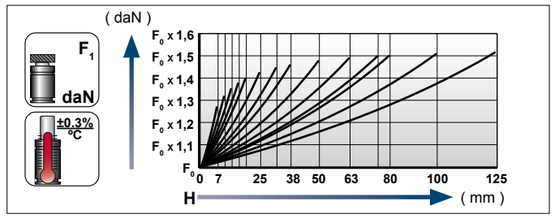
INFO [Azol.19]

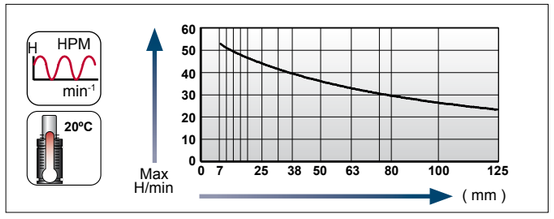
CAD MAIL

**CT.00300.016.V2**

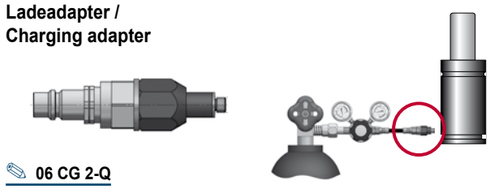
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **007** | 51 | 44 | 300 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **010** | 57 | 47 | 300 | |
| **013** | 63 | 50 | 300 | |
| **016** | 69 | 53 | 300 | |
| **019** | 75 | 56 | 300 | |
| **025** | 87 | 62 | 300 | |
| **032** | 101 | 69 | 300 | |
| **038** | 113 | 75 | 300 | |
| **050** | 137 | 87 | 300 | |
| **063** | 163 | 100 | 300 | |
| **075** | 187 | 112 | 300 | |
| **080** | 197 | 117 | 300 | |
| **100** | 237 | 137 | 300 | |
| **125** | 287 | 162 | 300 | |




**Ladeadapter / Charging adapter**

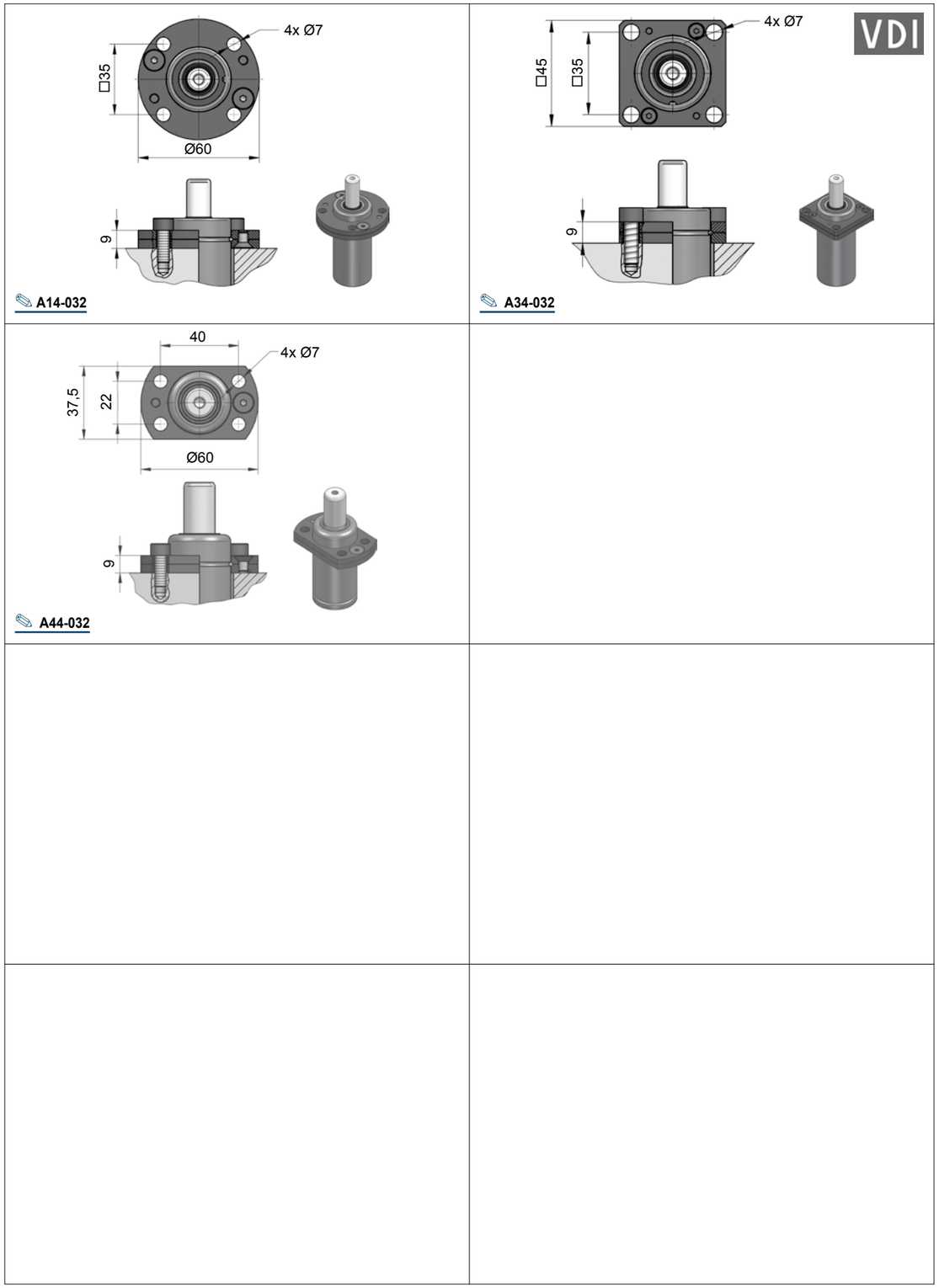


**06 CG 2-Q**





## Flansche für / Flanges for **CT.00300...V2**



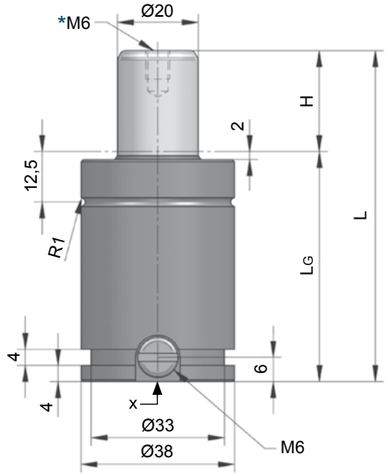
# CT.00500

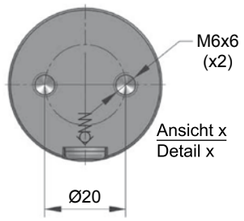
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

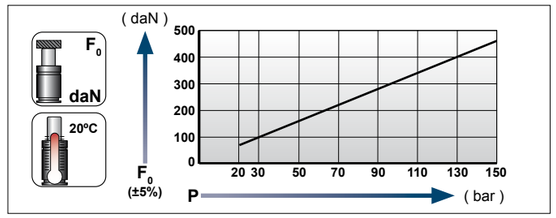
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

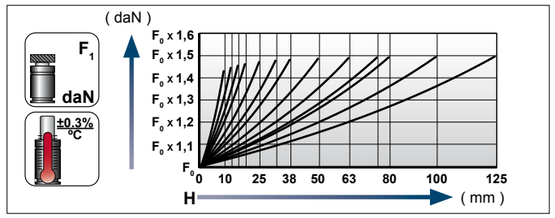


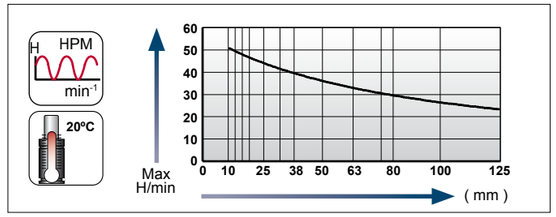




CT.00500.025

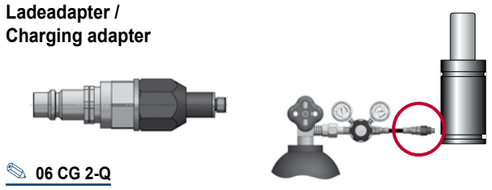
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (145 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 52 | 42 | 470 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **013** | 58 | 45 | 470 | |
| **016** | 64 | 48 | 470 | |
| **019** | 70 | 51 | 470 | |
| **025** | 82 | 57 | 470 | |
| **032** | 96 | 64 | 470 | |
| **038** | 108 | 70 | 470 | |
| **050** | 132 | 82 | 470 | |
| **063** | 158 | 95 | 470 | |
| **075** | 182 | 107 | 470 | |
| **080** | 192 | 112 | 470 | |
| **100** | 232 | 132 | 470 | |
| **125** | 282 | 157 | 470 | |




**Ladeadapter / Charging adapter**

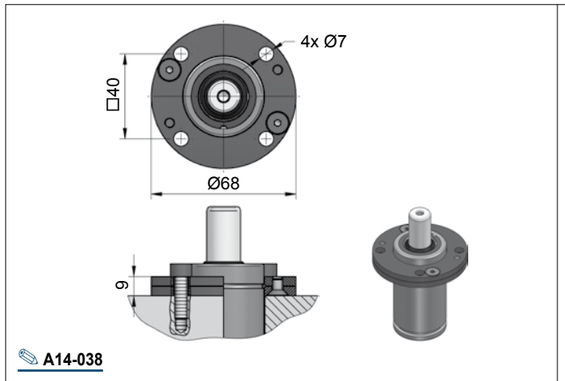


06 CG 2-Q

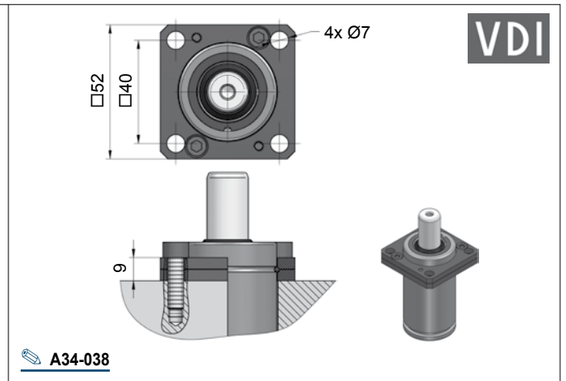




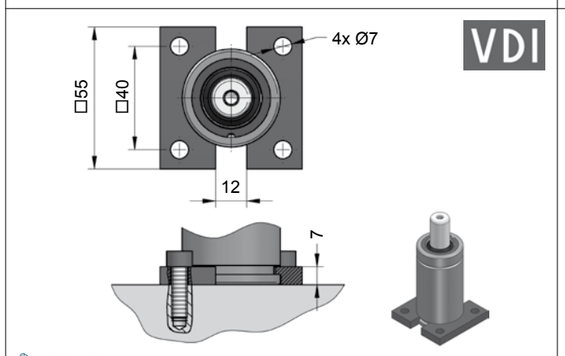
## Flansche für / Flanges for **CT.00500**



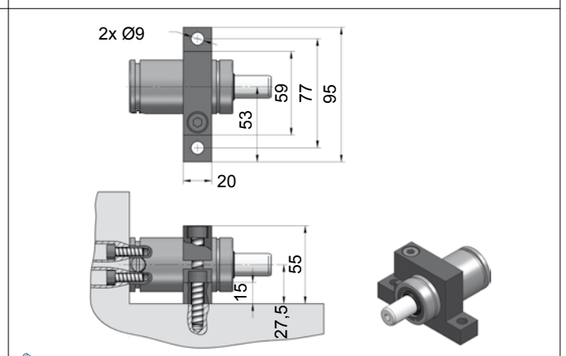

A14-038




A34-038




C20-038




D02-038

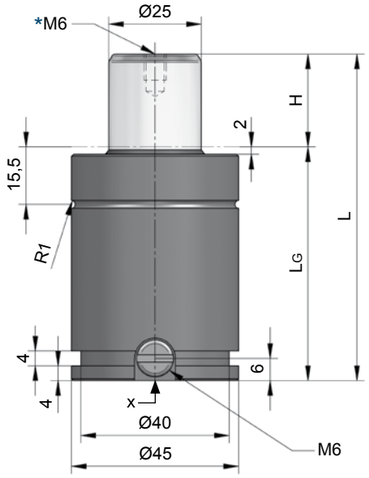
# CT.00700

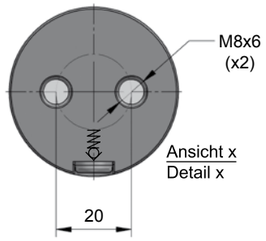
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

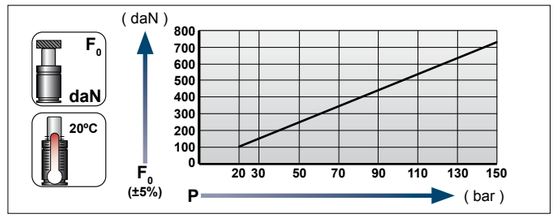
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

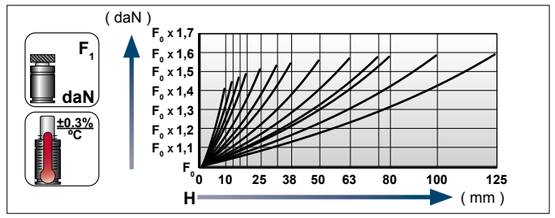


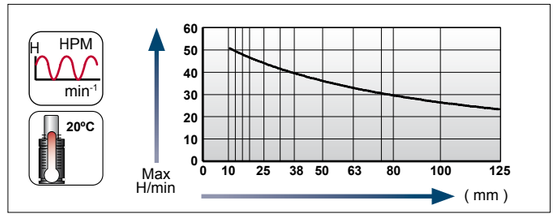




CT.00700.025

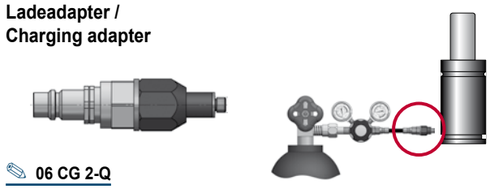
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (145 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 58 | 48 | 712 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **013** | 64 | 51 | 712 | |
| **016** | 70 | 54 | 712 | |
| **019** | 76 | 57 | 712 | |
| **025** | 88 | 63 | 712 | |
| **032** | 102 | 70 | 712 | |
| **038** | 114 | 76 | 712 | |
| **050** | 138 | 88 | 712 | |
| **063** | 164 | 101 | 712 | |
| **075** | 188 | 113 | 712 | |
| **080** | 198 | 118 | 712 | |
| **100** | 238 | 138 | 712 | |
| **125** | 288 | 163 | 712 | |




**Ladeadapter / Charging adapter**



06 CG 2-Q

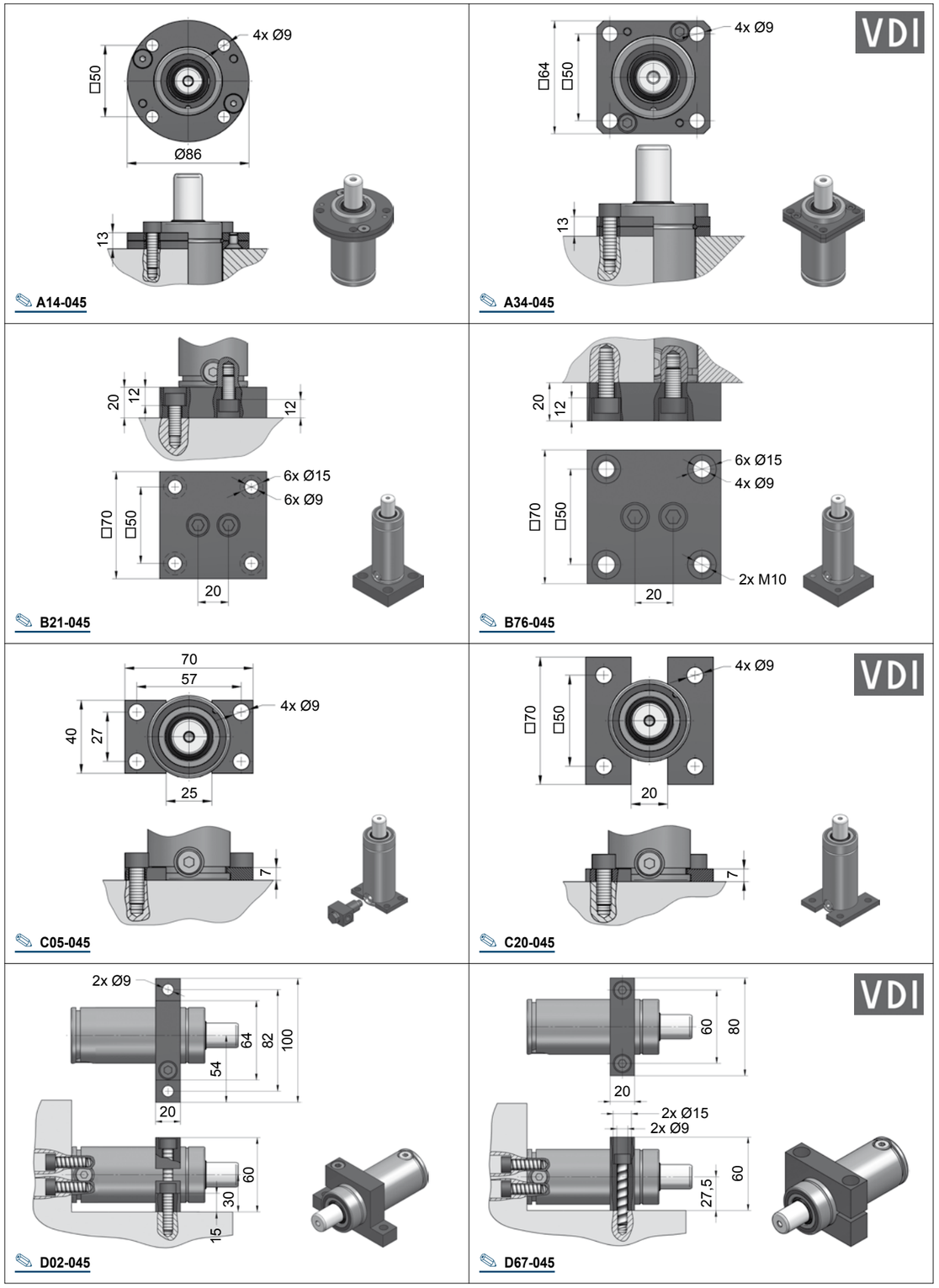


[01.03.2023]

[01.03.2023]



## Flansche für / Flanges for **CT.00700**



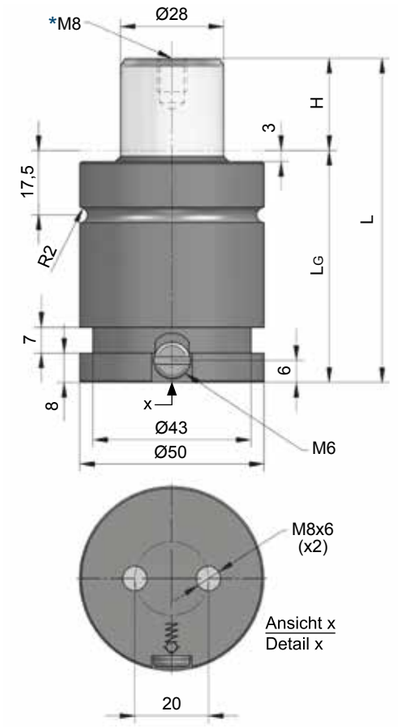
# CT.01000...V1

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 160 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

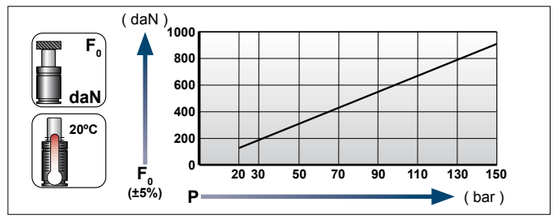
**Specifications:**

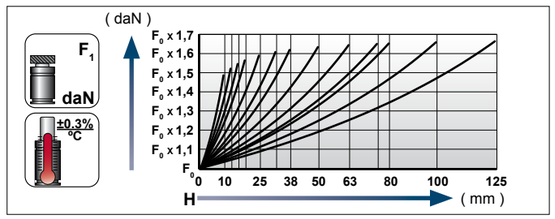
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 160 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

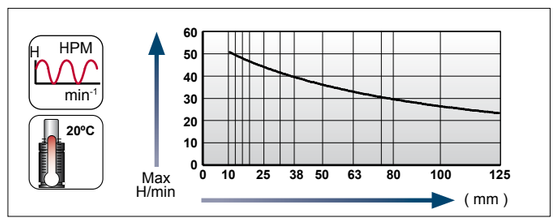



CT.01000.038.V1

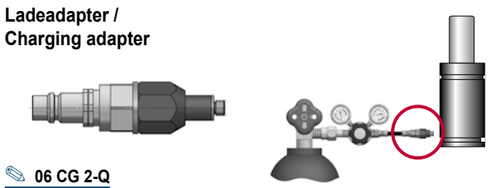
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (160 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 58 | 48 | 985 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **013** | 64 | 51 | 985 | |
| **016** | 70 | 54 | 985 | |
| **019** | 76 | 57 | 985 | |
| **025** | 88 | 63 | 985 | |
| **032** | 102 | 70 | 985 | |
| **038** | 114 | 76 | 985 | |
| **050** | 138 | 88 | 985 | |
| **063** | 164 | 101 | 985 | |
| **075** | 188 | 113 | 985 | |
| **080** | 198 | 118 | 985 | |
| **100** | 238 | 138 | 985 | |
| **125** | 288 | 163 | 985 | |




**Ladeadapter / Charging adapter**



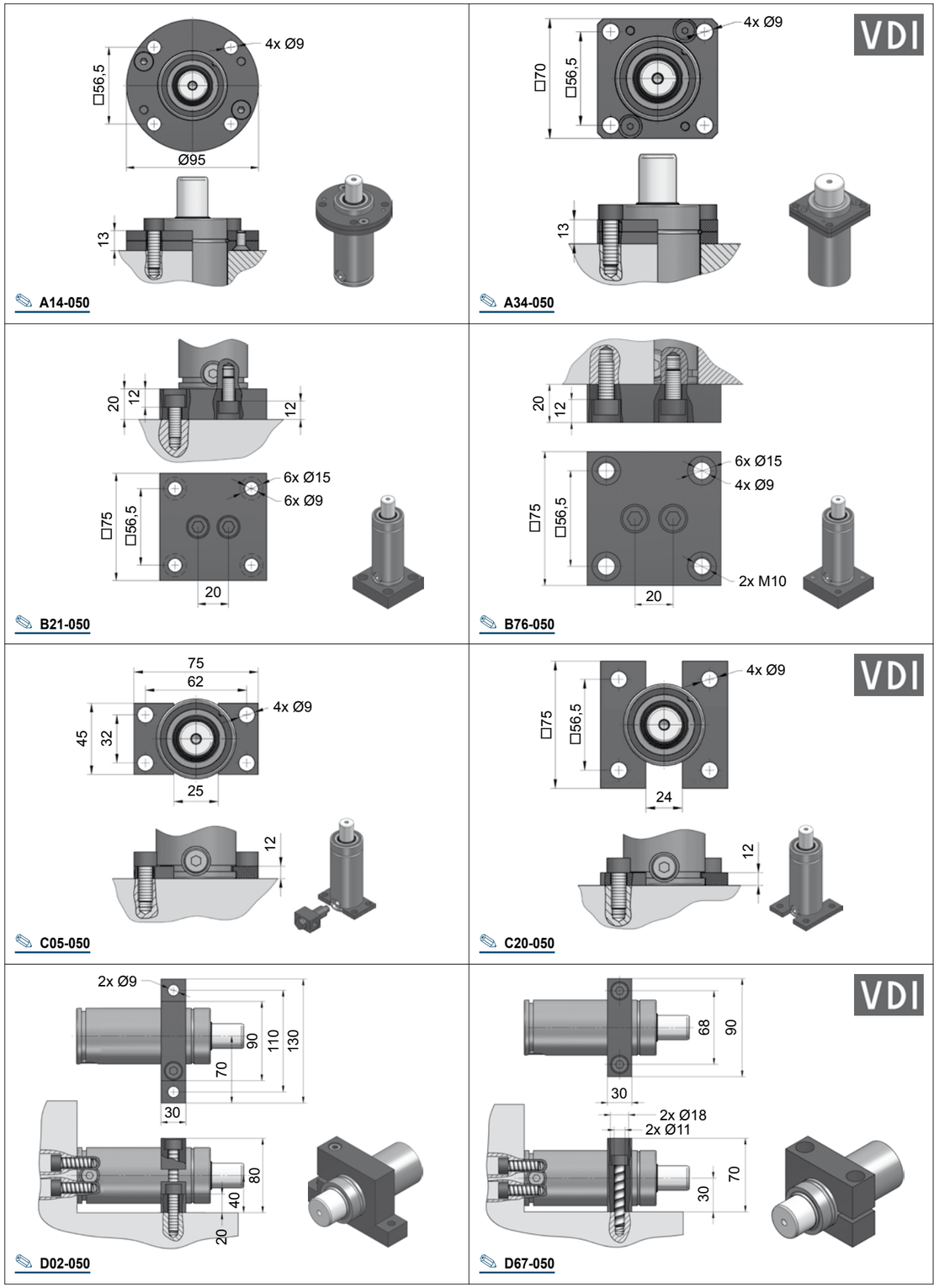
06 CG 2-Q



[28.01.2020]
[01.03.2023]

GDF, niedrigbauend
GS, smaller height
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

## Flansche für / Flanges for **CT.01000...V1**






[AG]

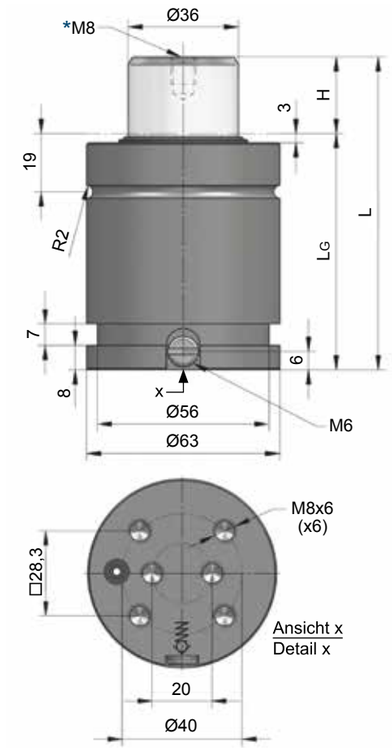
# CT.01500...V1

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

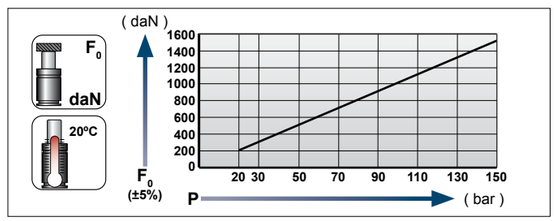
**Specifications:**

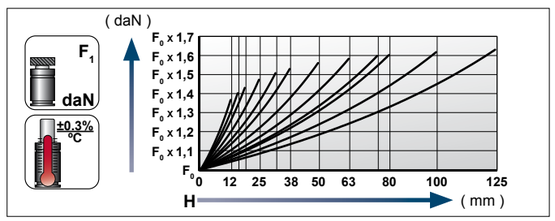
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

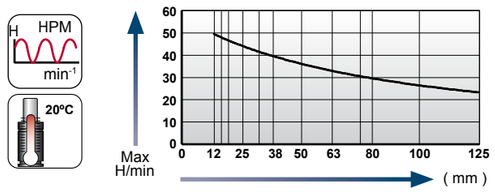



CT.01500.038.V1

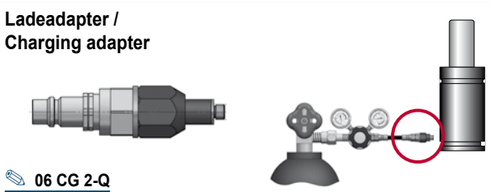
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **013** | 78 | 65 | 1530 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **016** | 84 | 68 | 1530 | |
| **019** | 90 | 71 | 1530 | |
| **025** | 102 | 77 | 1530 | |
| **032** | 116 | 84 | 1530 | |
| **038** | 128 | 90 | 1530 | |
| **050** | 152 | 102 | 1530 | |
| **063** | 178 | 115 | 1530 | |
| **075** | 202 | 127 | 1530 | |
| **080** | 212 | 132 | 1530 | |
| **100** | 252 | 152 | 1530 | |
| **125** | 302 | 177 | 1530 | |




**Ladeadapter / Charging adapter**



06 CG 2-Q

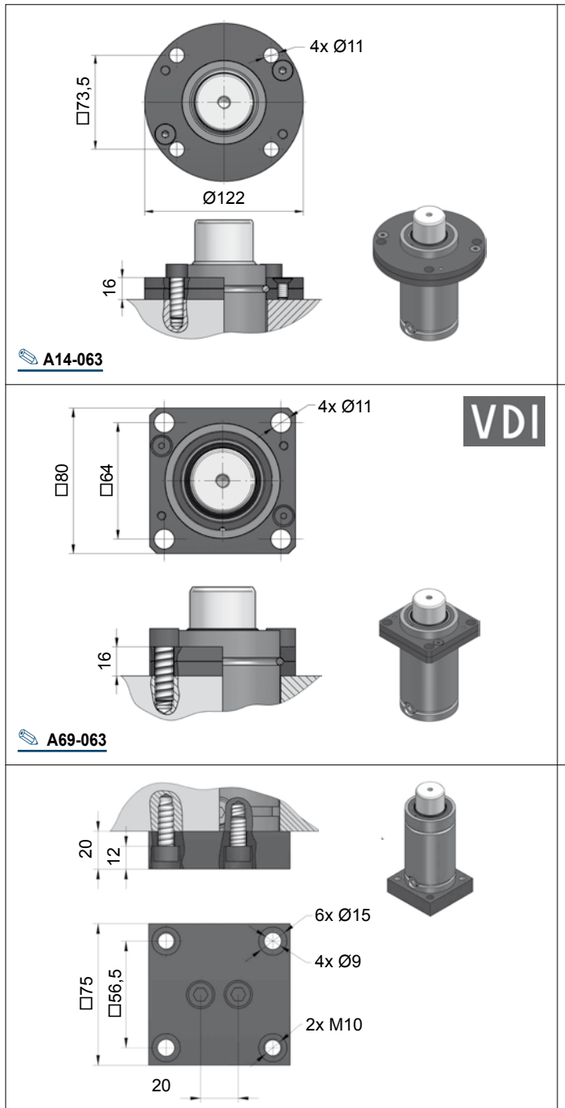


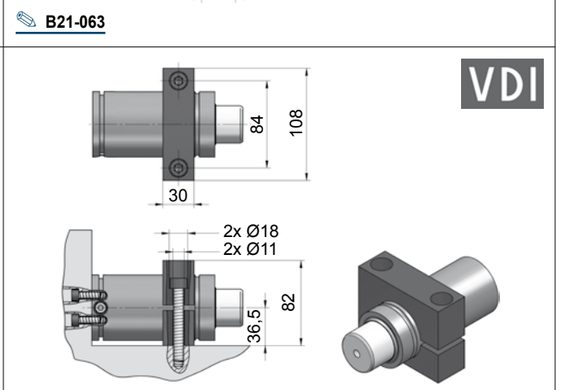
[01.03.2023]

[01.03.2023]



## Flansche für / Flanges for **CT.01500...V1**



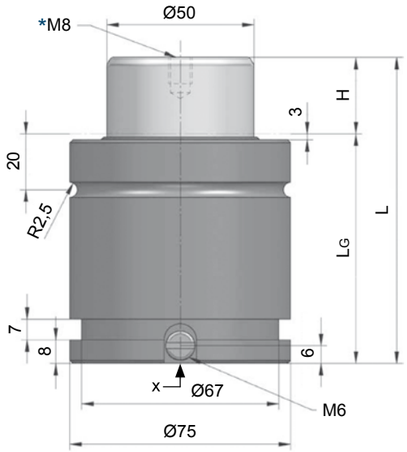
# CT.03000…V1

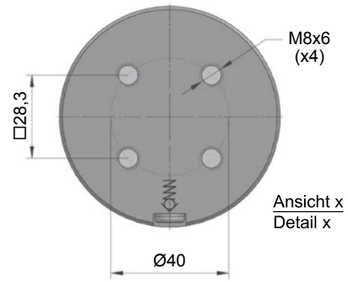
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

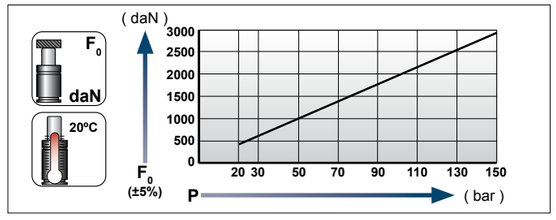
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

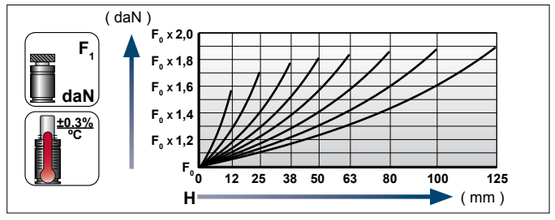


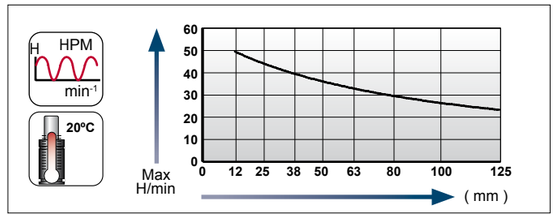




CT.03000.025.V1

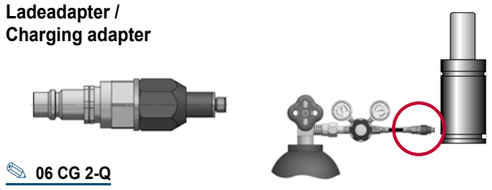
| H<br>Hub / Stroke | L<br>±0,25 | LG | Kraft / Force (150 bar)<br>Anfang / Initial<br>[daN] | <br>Ende / Final<br>[daN] |
|---|---|---|---|---|
| **012** | 78 | 66 | 2945 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **016** | 86 | 70 | 2945 | |
| **019** | 92 | 73 | 2945 | |
| **025** | 104 | 79 | 2945 | |
| **032** | 118 | 86 | 2945 | |
| **038** | 130 | 92 | 2945 | |
| **050** | 154 | 104 | 2945 | |
| **063** | 180 | 117 | 2945 | |
| **075** | 204 | 129 | 2945 | |
| **080** | 214 | 134 | 2945 | |
| **100** | 254 | 154 | 2945 | |
| **125** | 304 | 179 | 2945 | |




**Ladeadapter / Charging adapter**



06 CG 2-Q

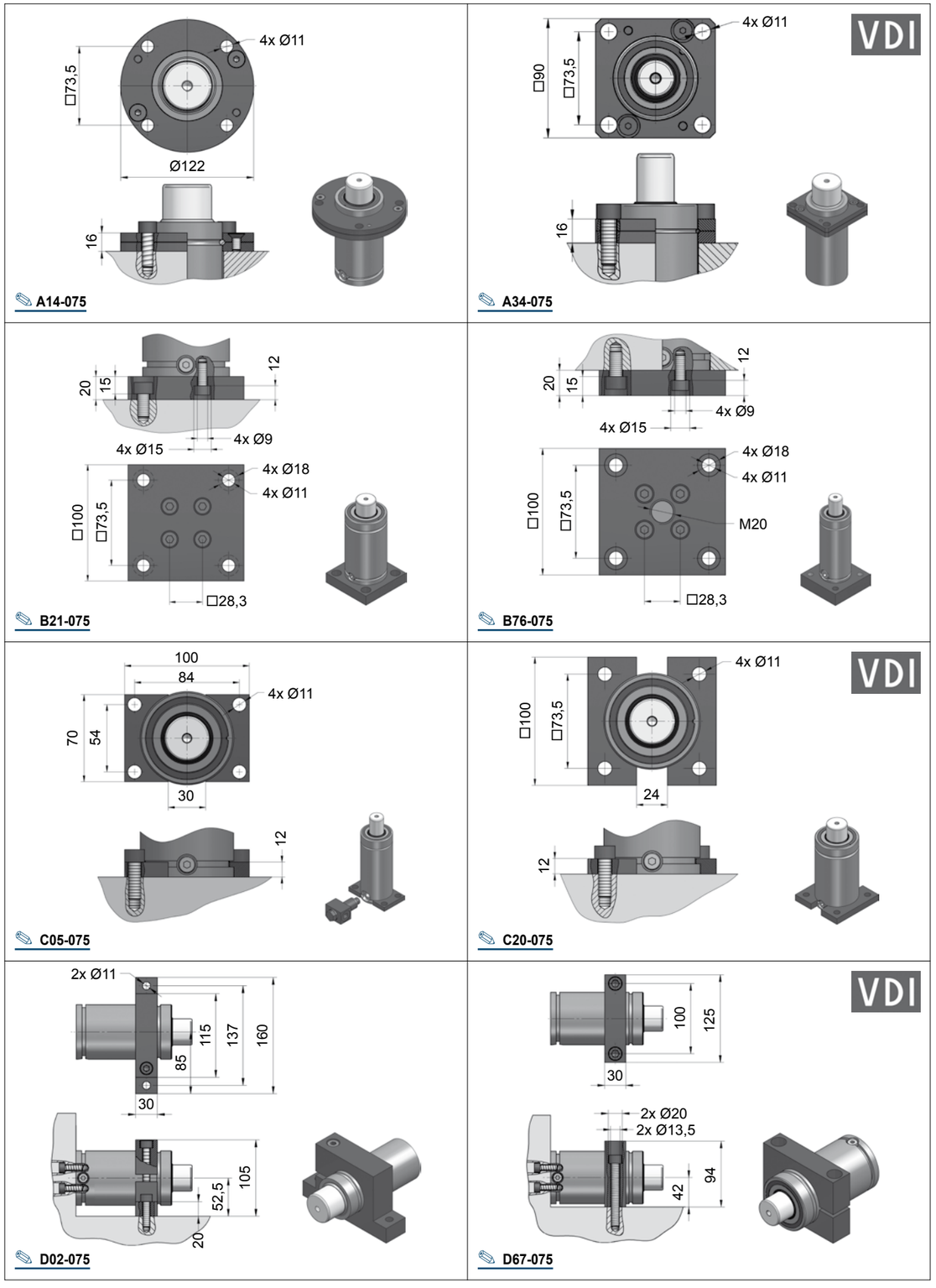


[01.03.2023]

[01.03.2023]



## Flansche für / Flanges for **CT.03000…V1**



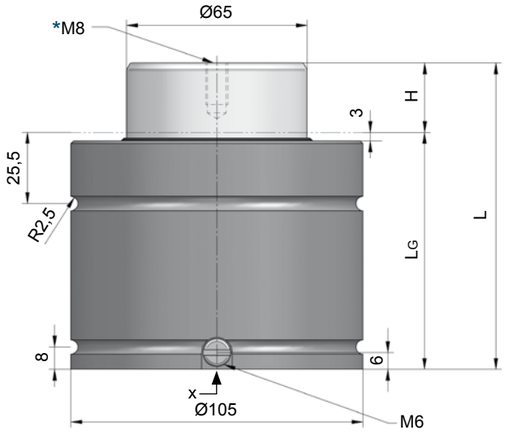
# CT.05000

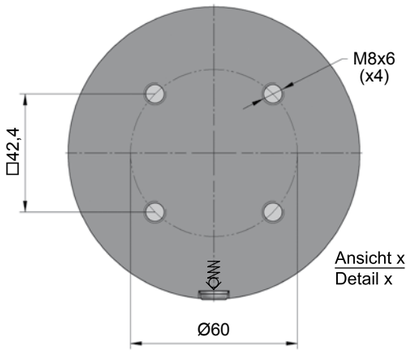
**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

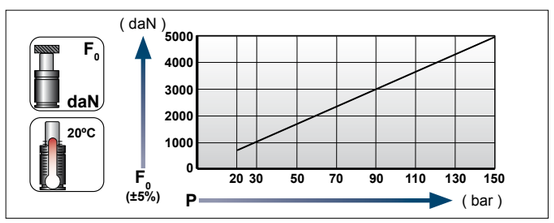
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

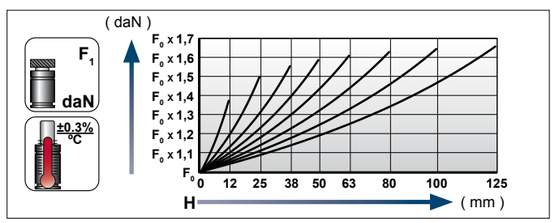


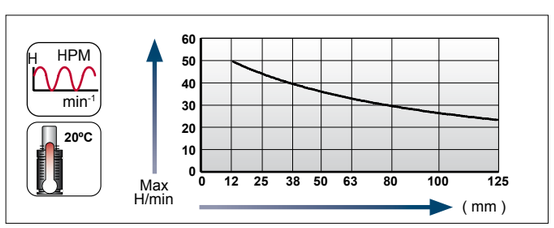




CT.05000.012

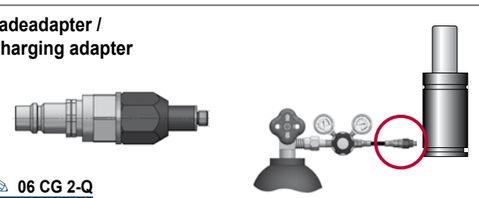
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **012** | 84 | 72 | 4980 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **025** | 110 | 85 | 4980 | |
| **038** | 136 | 98 | 4980 | |
| **050** | 160 | 110 | 4980 | |
| **063** | 186 | 123 | 4980 | |
| **080** | 220 | 140 | 4980 | |
| **100** | 260 | 160 | 4980 | |
| **125** | 310 | 185 | 4980 | |




**Ladeadapter / Charging adapter**

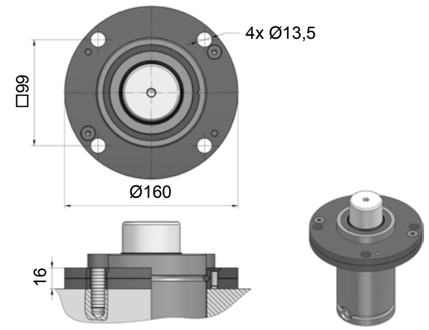


06 CG 2-Q

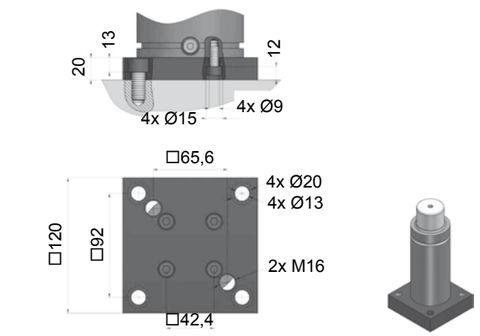




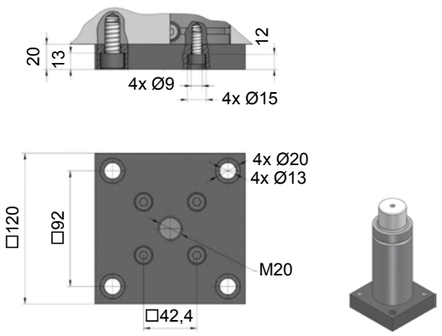
## Flansche für / Flanges for **CT.05000**




A14-105



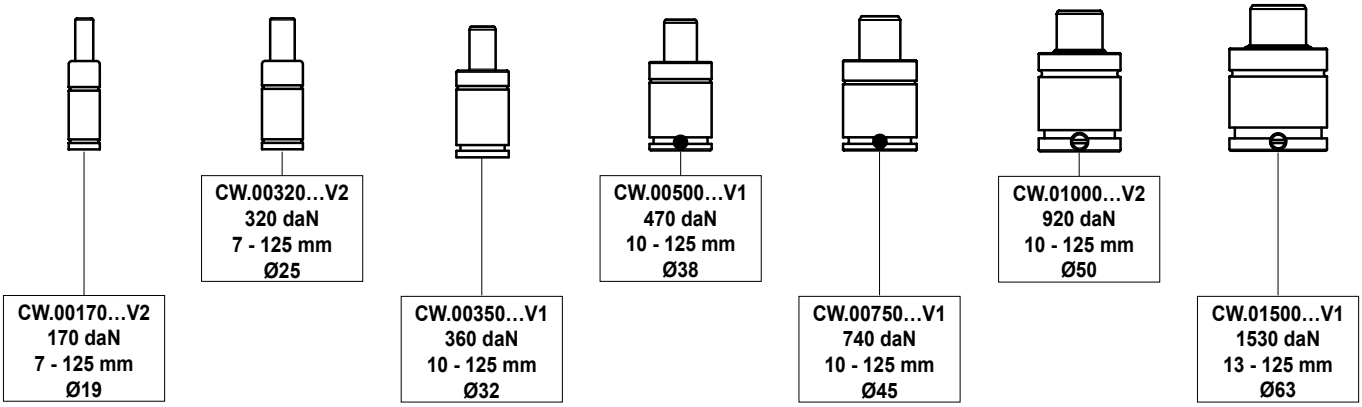

B21-105

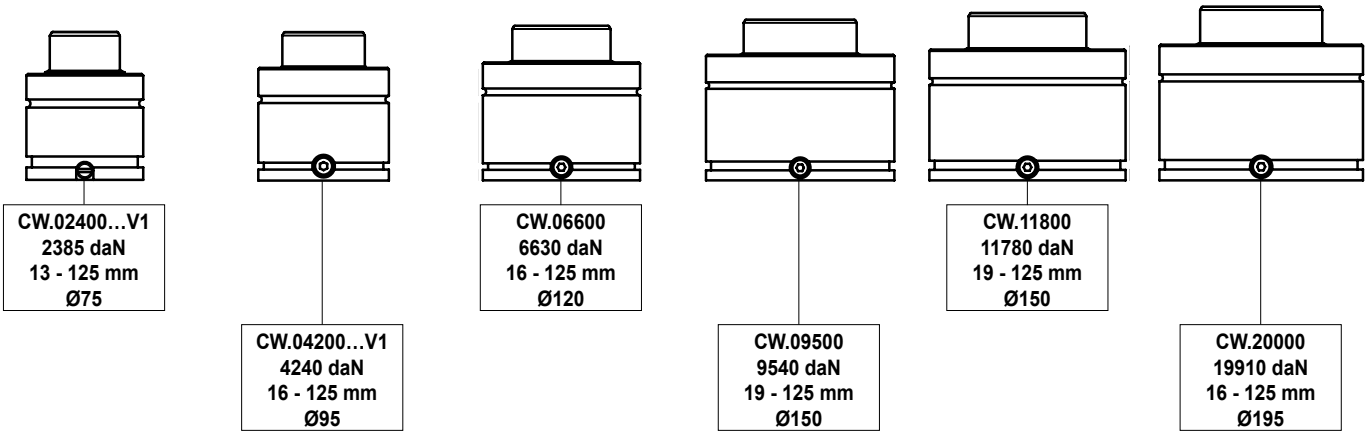



B76-105

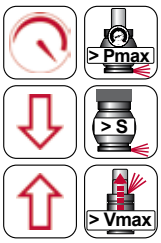
## Größenübersicht Serie CW

## Gas spring index CW series




## SICHERHEITSSYSTEME



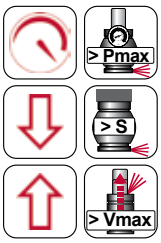

**Überdruck**

**Überhub**

**Freier Rückhub**

Information über die Sicherheitssysteme (Überdruck, Überhub, Freier Rückhub) erhalten Sie im Vorspann auf der Seite Acol.22.

## SAFETY SYSTEMS




**Over-Pressure**

**Over-Stroke**

**Over-Speed**

Information about the safety systems (over-pressure, over-stroke, over-speed) can be found in the introductory part on page Azol.22.

# CW.00170...V2

**Technische Daten:**

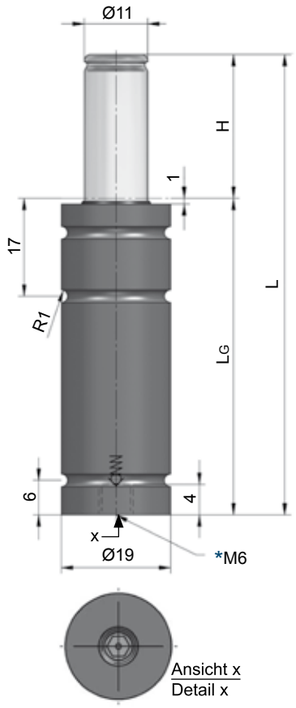
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

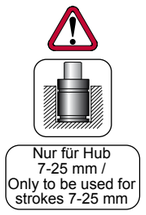
**Einwegfeder ist nicht reparierbar!**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

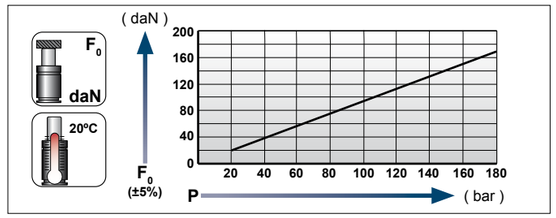
**One-way spring is irreparable!**

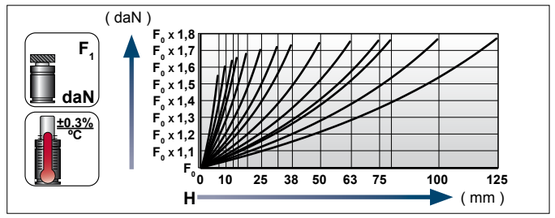


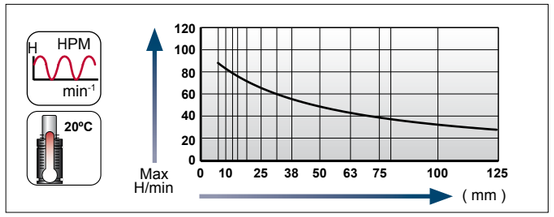



**CW.00170.038.V2**

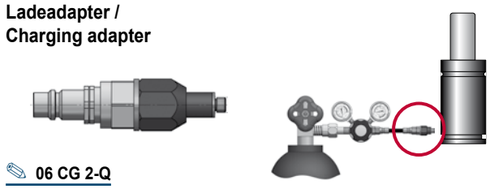
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (180 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **007** | 44 | 37 | 170 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **010** | 50 | 40 | 170 | |
| **013** | 56 | 43 | 170 | |
| **015** | 60 | 45 | 170 | |
| **019** | 68 | 49 | 170 | |
| **025** | 80 | 55 | 170 | |
| **032** | 94 | 62 | 170 | |
| **038** | 106 | 68 | 170 | |
| **050** | 130 | 80 | 170 | |
| **063** | 156 | 93 | 170 | |
| **075** | 185 | 110 | 170 | |
| **080** | 195 | 115 | 170 | |
| **100** | 235 | 135 | 170 | |
| **125** | 285 | 160 | 170 | |




**Ladeadapter / Charging adapter**

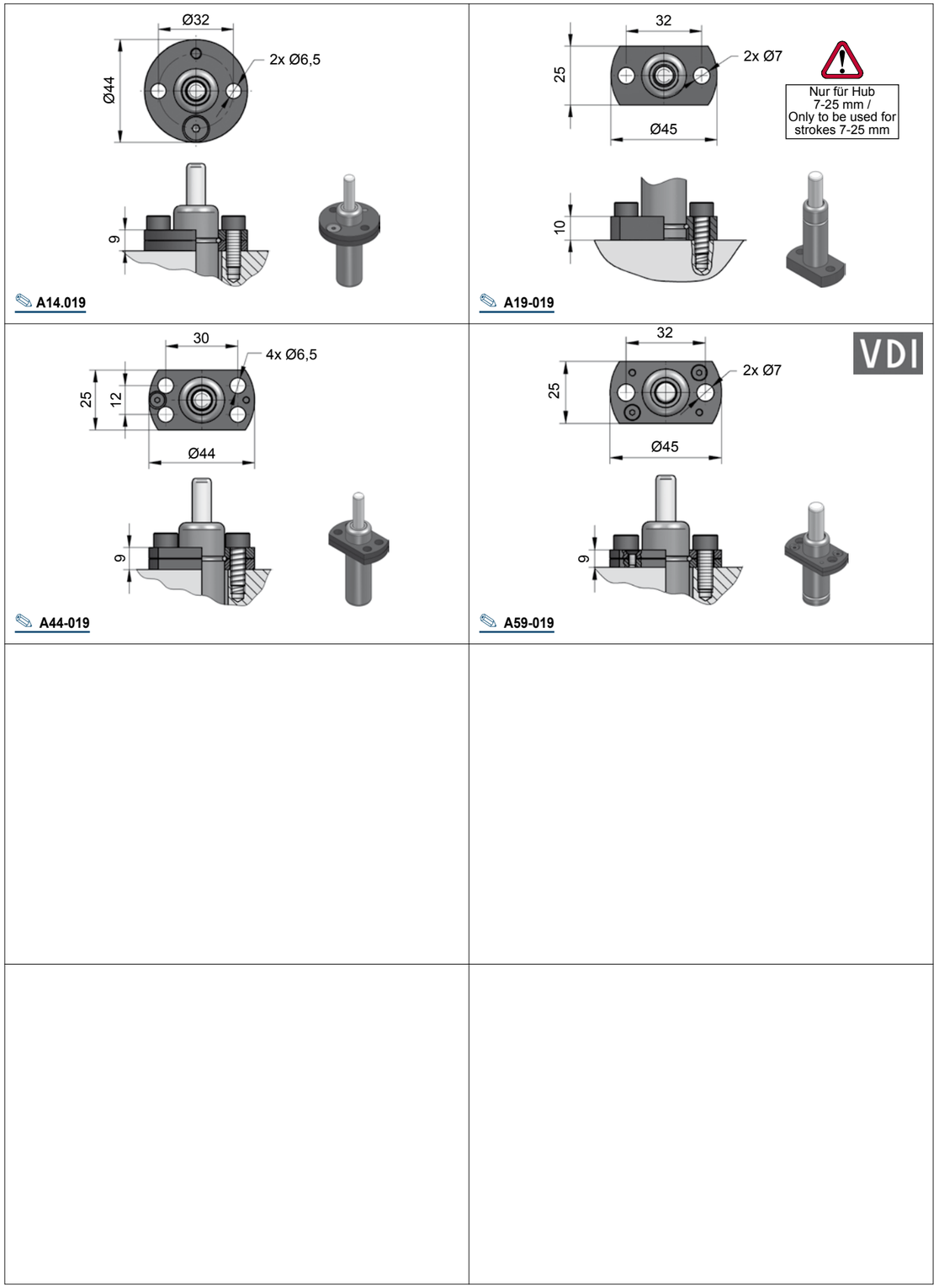


**06 CG 2-Q**





## Flansche für / Flanges for **CW.00170...V2**



# CW.00320...V2

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

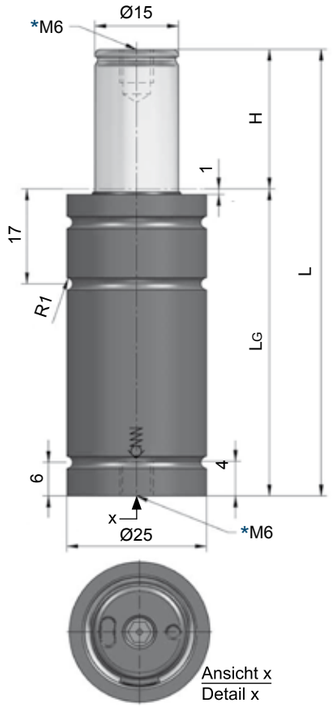
**Einwegfeder ist nicht reparierbar!**

**Specifications:**

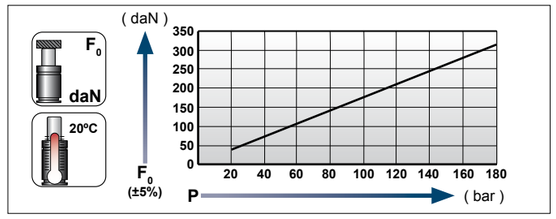
| | |
|---|---|
| Pressure medium: | N2 |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

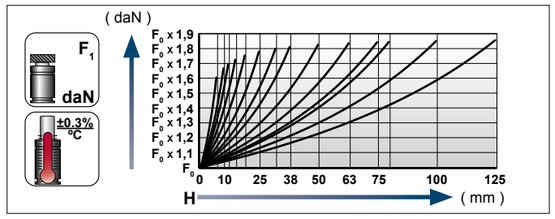
**One-way spring is irreparable!**

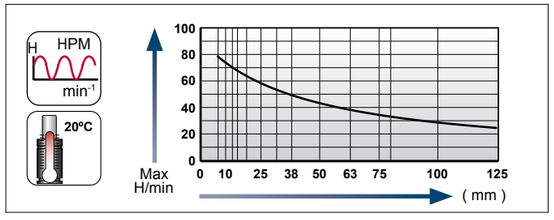
**CW.00320.012.V2**



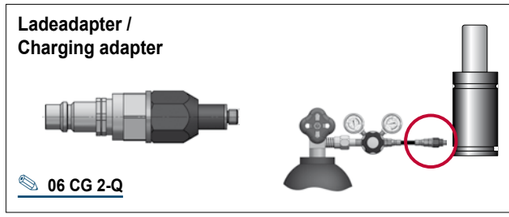
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (180 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **007** | 44 | 37 | 320 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **010** | 50 | 40 | 320 | |
| **013** | 56 | 43 | 320 | |
| **015** | 60 | 45 | 320 | |
| **019** | 68 | 49 | 320 | |
| **025** | 80 | 55 | 320 | |
| **032** | 94 | 62 | 320 | |
| **038** | 106 | 68 | 320 | |
| **050** | 130 | 80 | 320 | |
| **063** | 156 | 93 | 320 | |
| **075** | 185 | 110 | 320 | |
| **080** | 195 | 115 | 320 | |
| **100** | 235 | 135 | 320 | |
| **125** | 285 | 160 | 320 | |




**Ladeadapter / Charging adapter**



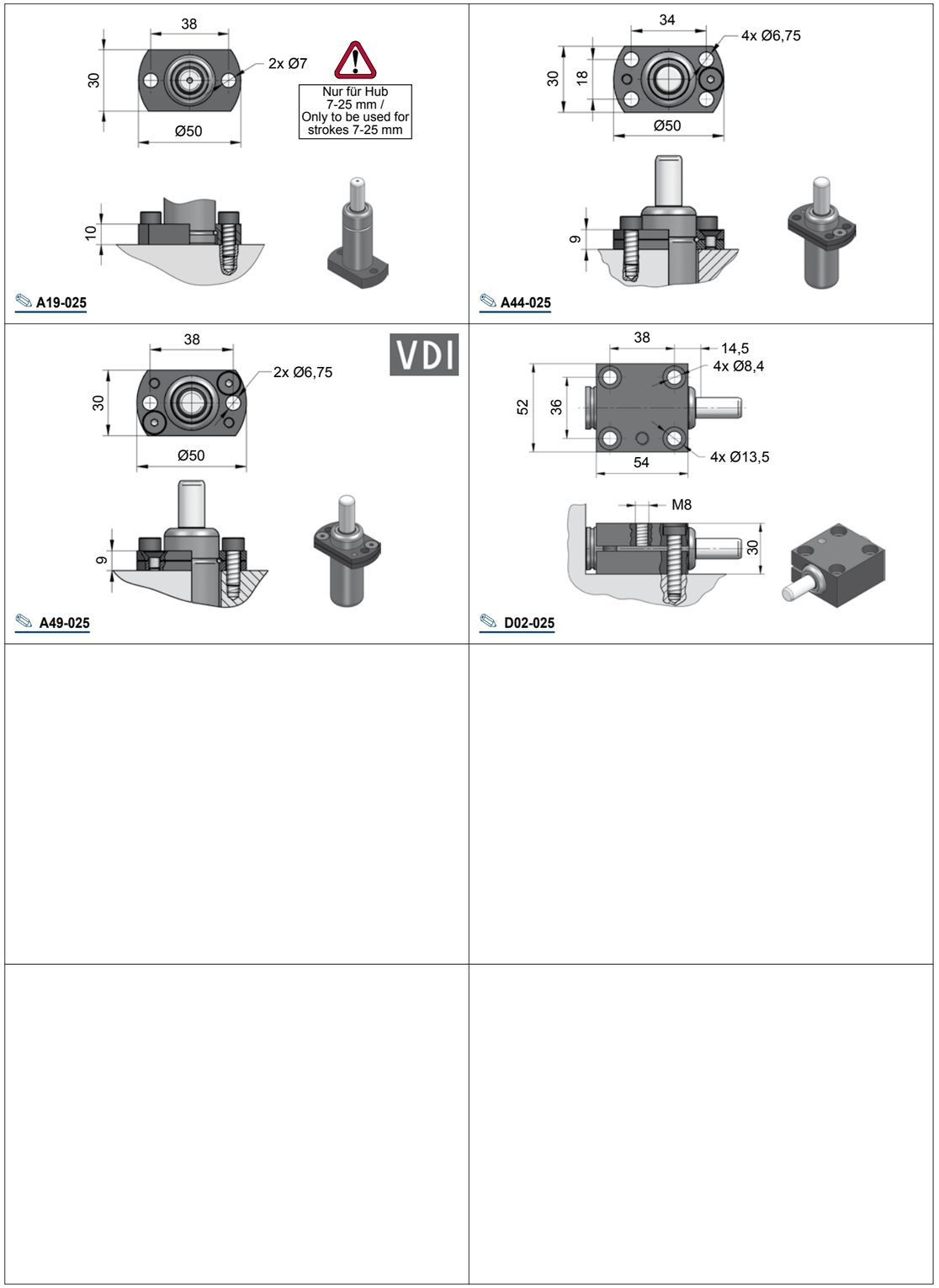
**06 CG 2-Q**



[AG]

GDF, niedrigbauend
GS, smaller height
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

## Flansche für / Flanges forCW.**00320...V2**






[AG]

# CW.00350...V1

**Technische Daten:**

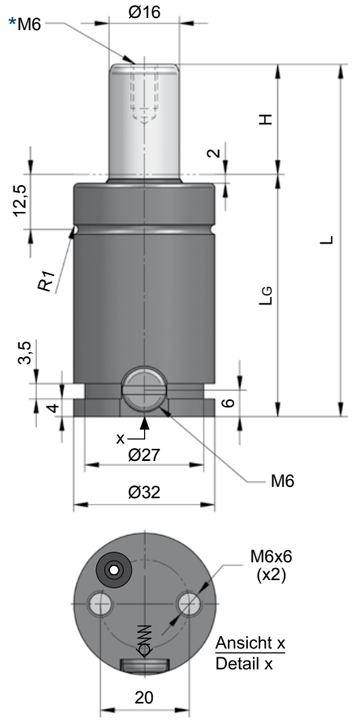
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Einwegfeder ist nicht reparierbar!**

**Specifications:**

| | |
|---|---|
| Pressure medium: | N2 |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

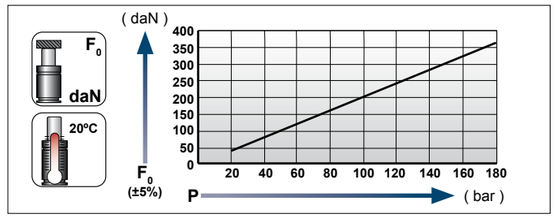
**One-way spring is irreparable!**

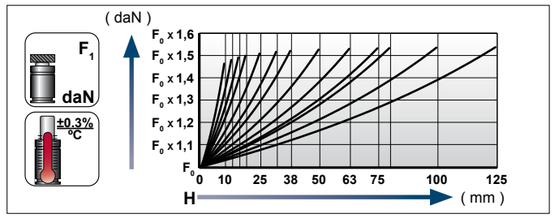


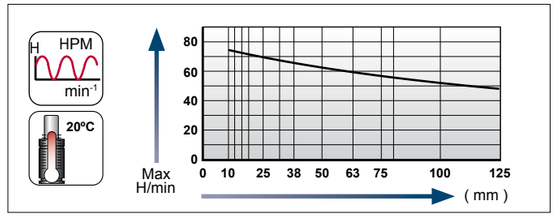
CAD MAIL

**CW.00350.013.V1**

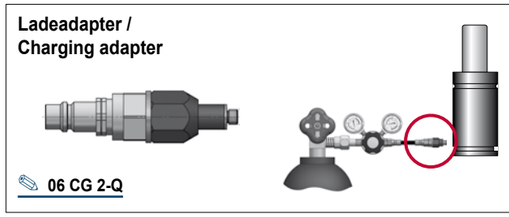
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (180 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 50 | 40 | 360 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **013** | 56 | 43 | 360 | |
| **016** | 62 | 46 | 360 | |
| **019** | 68 | 49 | 360 | |
| **025** | 80 | 55 | 360 | |
| **032** | 94 | 62 | 360 | |
| **038** | 106 | 68 | 360 | |
| **050** | 130 | 80 | 360 | |
| **063** | 156 | 93 | 360 | |
| **075** | 180 | 105 | 360 | |
| **080** | 190 | 110 | 360 | |
| **100** | 230 | 130 | 360 | |
| **125** | 280 | 155 | 360 | |




**Ladeadapter / Charging adapter**



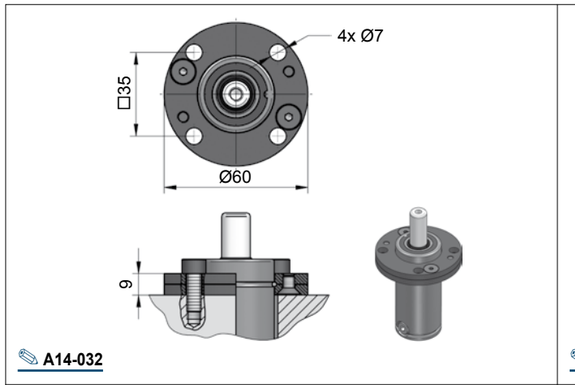
**06 CG 2-Q**



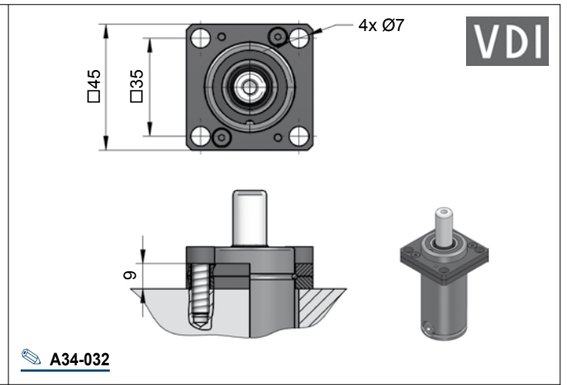
[AG]

GDF, niedrigbauend
GS, smaller height
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

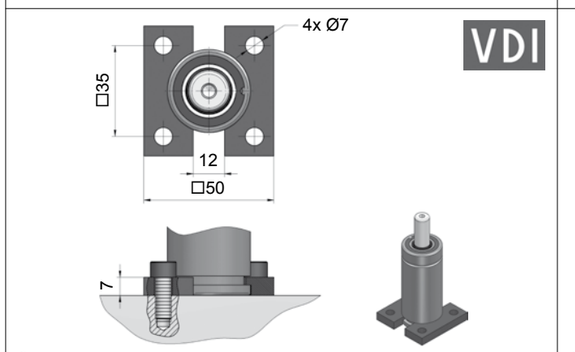
## Flansche für / Flanges for **CW.00350...V1**



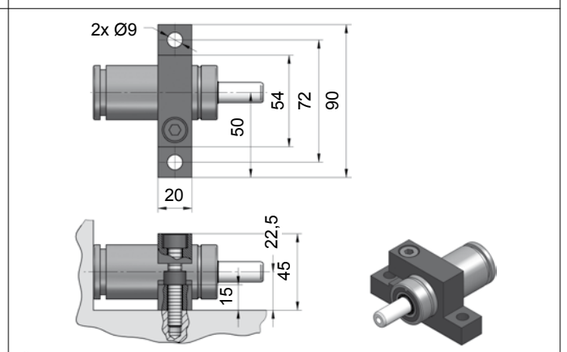

**A14-032**




**A34-032**




**C20-032**




**D02-032**



[AG]

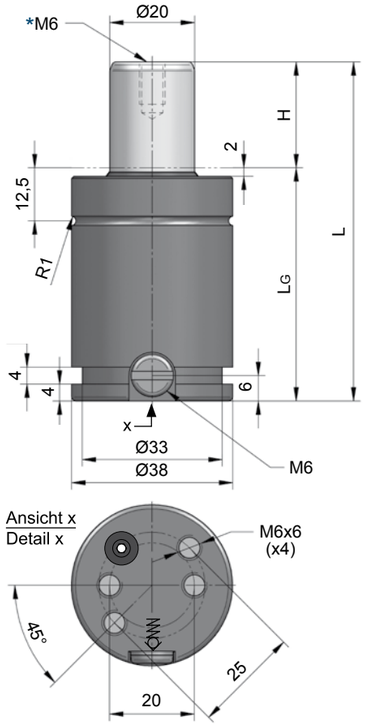
# CW.00500...V1

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

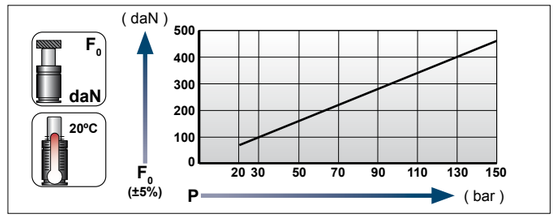
**Specifications:**

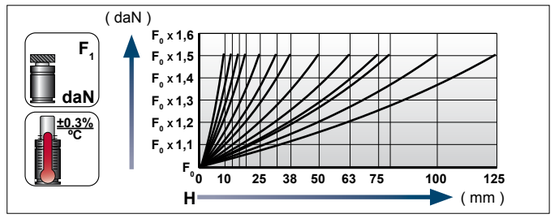
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

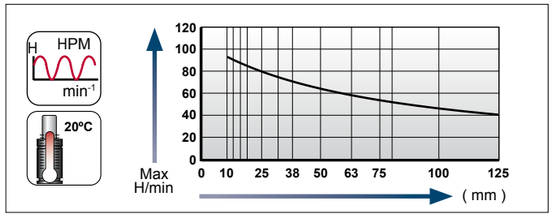



CW.00500.016.V1

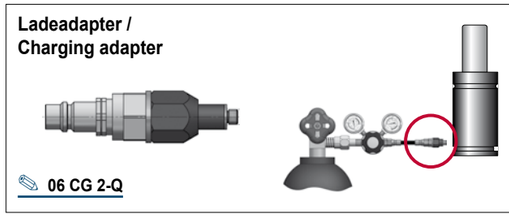
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 50 | 40 | 470 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **013** | 56 | 43 | 470 | |
| **016** | 62 | 46 | 470 | |
| **019** | 68 | 49 | 470 | |
| **025** | 80 | 55 | 470 | |
| **032** | 94 | 62 | 470 | |
| **038** | 106 | 68 | 470 | |
| **050** | 130 | 80 | 470 | |
| **063** | 156 | 93 | 470 | |
| **075** | 180 | 105 | 470 | |
| **080** | 190 | 110 | 470 | |
| **100** | 230 | 130 | 470 | |
| **125** | 280 | 155 | 470 | |




**Ladeadapter / Charging adapter**

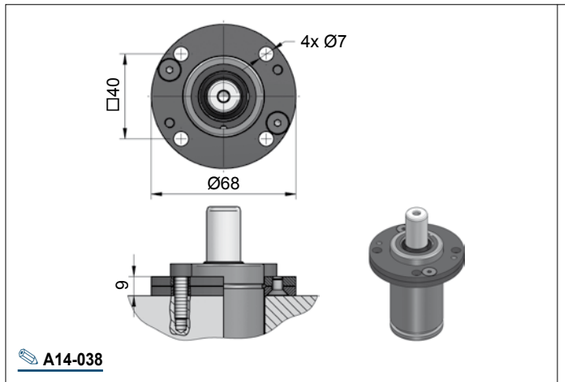


06 CG 2-Q

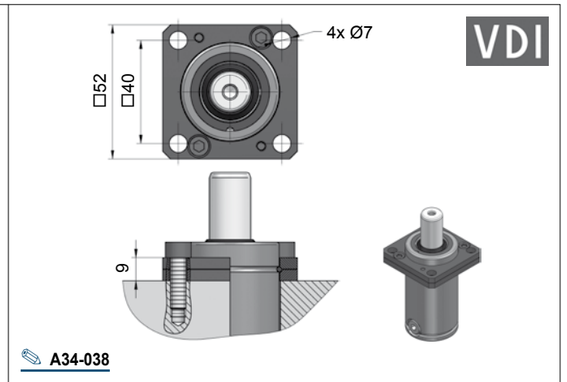


GDF, niedrigbauend
GS, smaller height
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

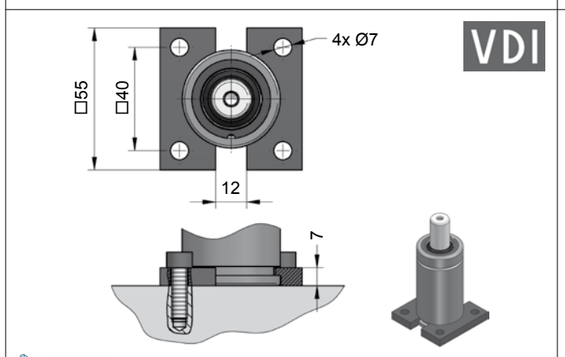
## Flansche für / Flanges for **CW.00500...V1**



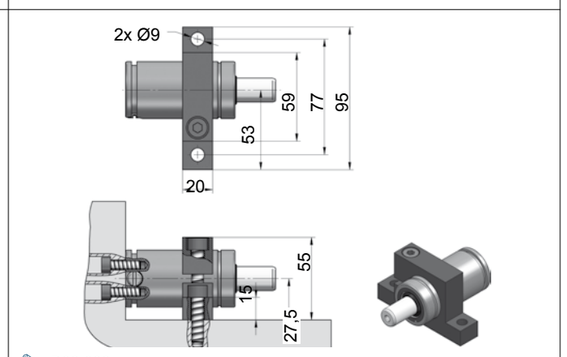

A14-038




A34-038




C20-038




D02-038

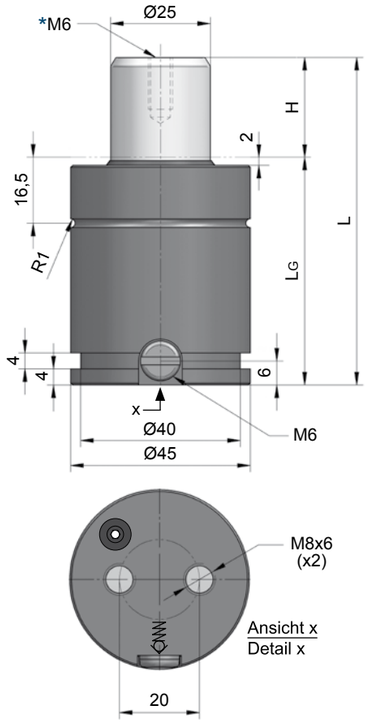
# CW.00750...V1

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

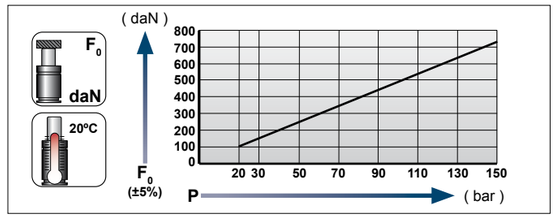
**Specifications:**

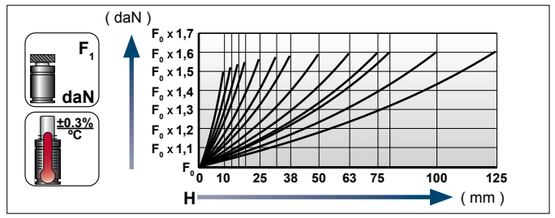
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

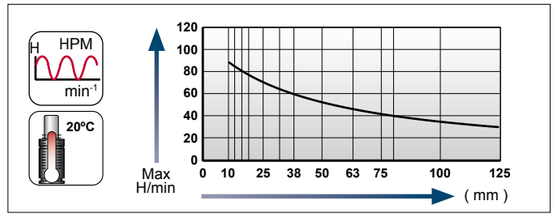



CW.00750.025.V1

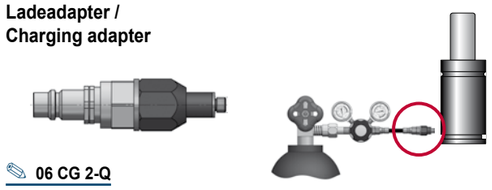
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 52 | 42 | 740 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **013** | 58 | 45 | 740 | |
| **016** | 64 | 48 | 740 | |
| **019** | 70 | 51 | 740 | |
| **025** | 82 | 57 | 740 | |
| **032** | 96 | 64 | 740 | |
| **038** | 108 | 70 | 740 | |
| **050** | 132 | 82 | 740 | |
| **063** | 158 | 95 | 740 | |
| **075** | 182 | 107 | 740 | |
| **080** | 192 | 112 | 740 | |
| **100** | 232 | 132 | 740 | |
| **125** | 282 | 157 | 740 | |




**Ladeadapter / Charging adapter**



06 CG 2-Q

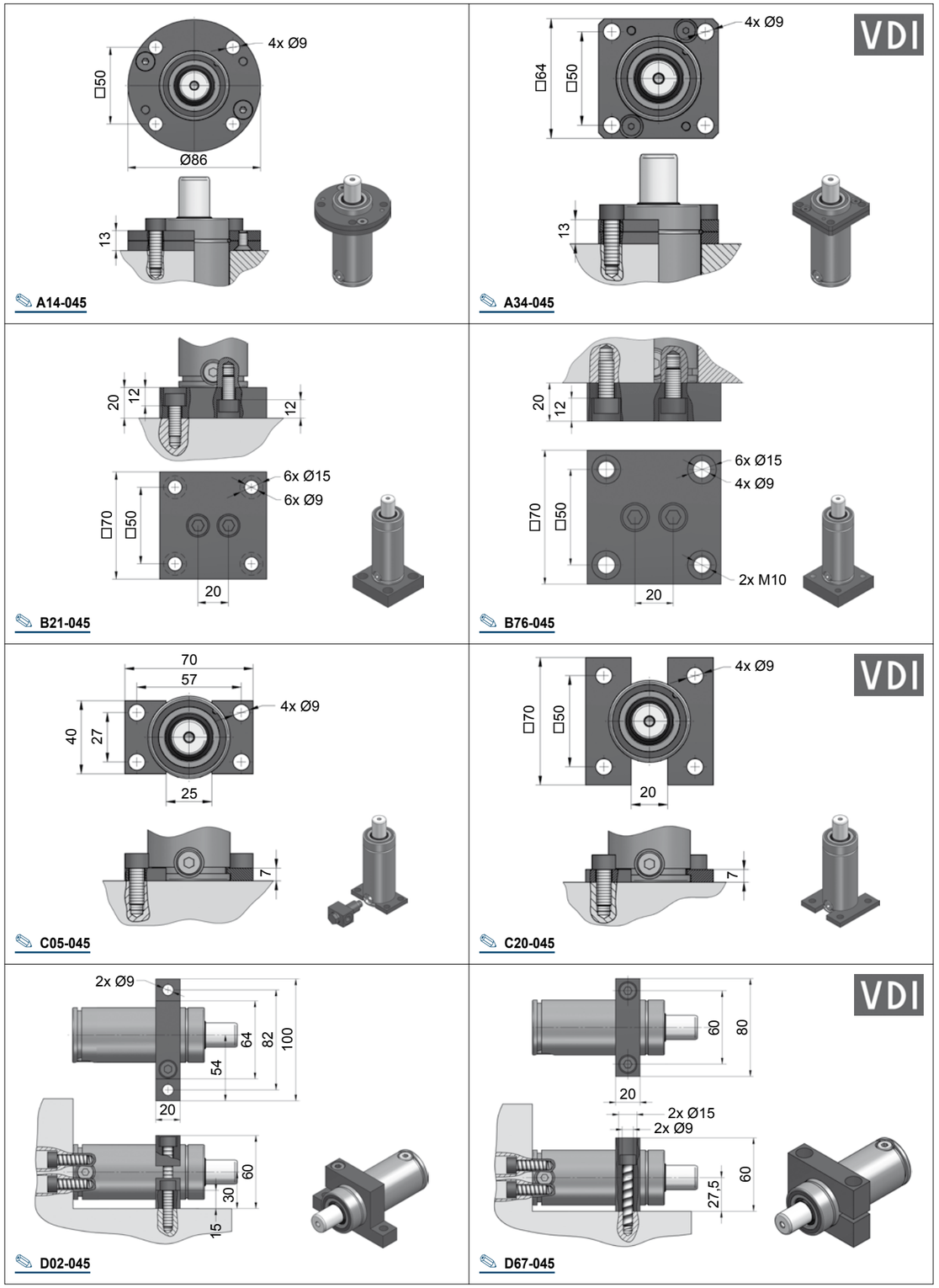


[01.03.2023]

[01.03.2023]



## Flansche für / Flanges for **CW.00750...V1**






[AG]

[AG]

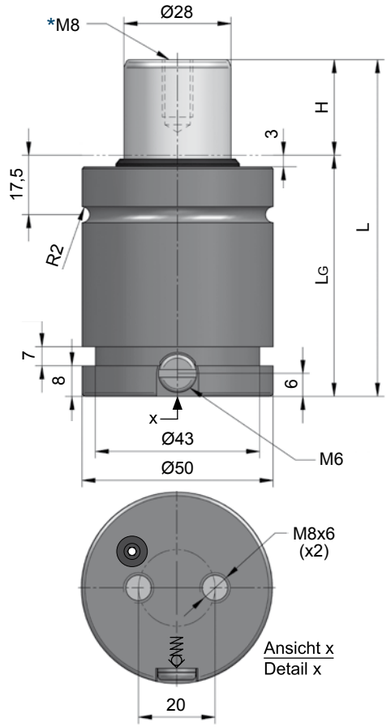
# CW.01000...V2

**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

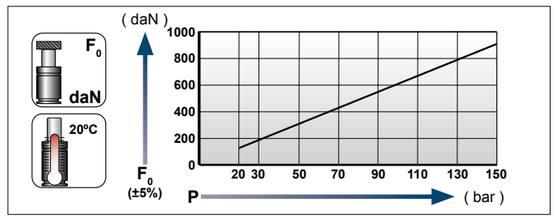
**Specifications:**

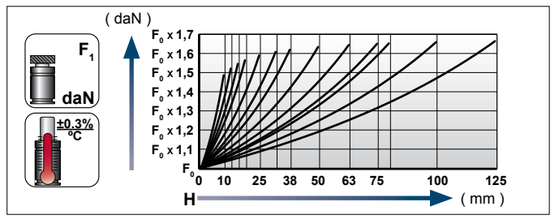
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

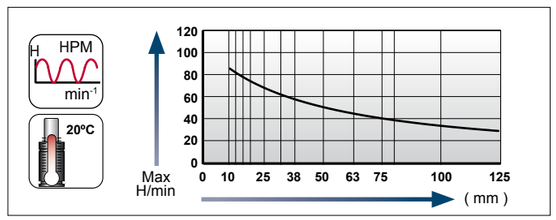



CW.01000.032.V2

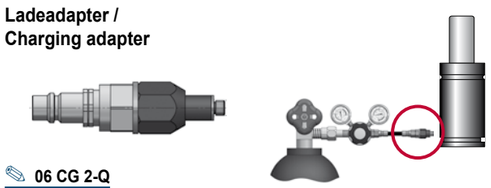
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 58 | 48 | 920 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **013** | 64 | 51 | 920 | |
| **016** | 70 | 54 | 920 | |
| **019** | 76 | 57 | 920 | |
| **025** | 88 | 63 | 920 | |
| **032** | 102 | 70 | 920 | |
| **038** | 114 | 76 | 920 | |
| **050** | 138 | 88 | 920 | |
| **063** | 164 | 101 | 920 | |
| **075** | 188 | 113 | 920 | |
| **080** | 198 | 118 | 920 | |
| **100** | 238 | 138 | 920 | |
| **125** | 288 | 163 | 920 | |




**Ladeadapter / Charging adapter**



06 CG 2-Q

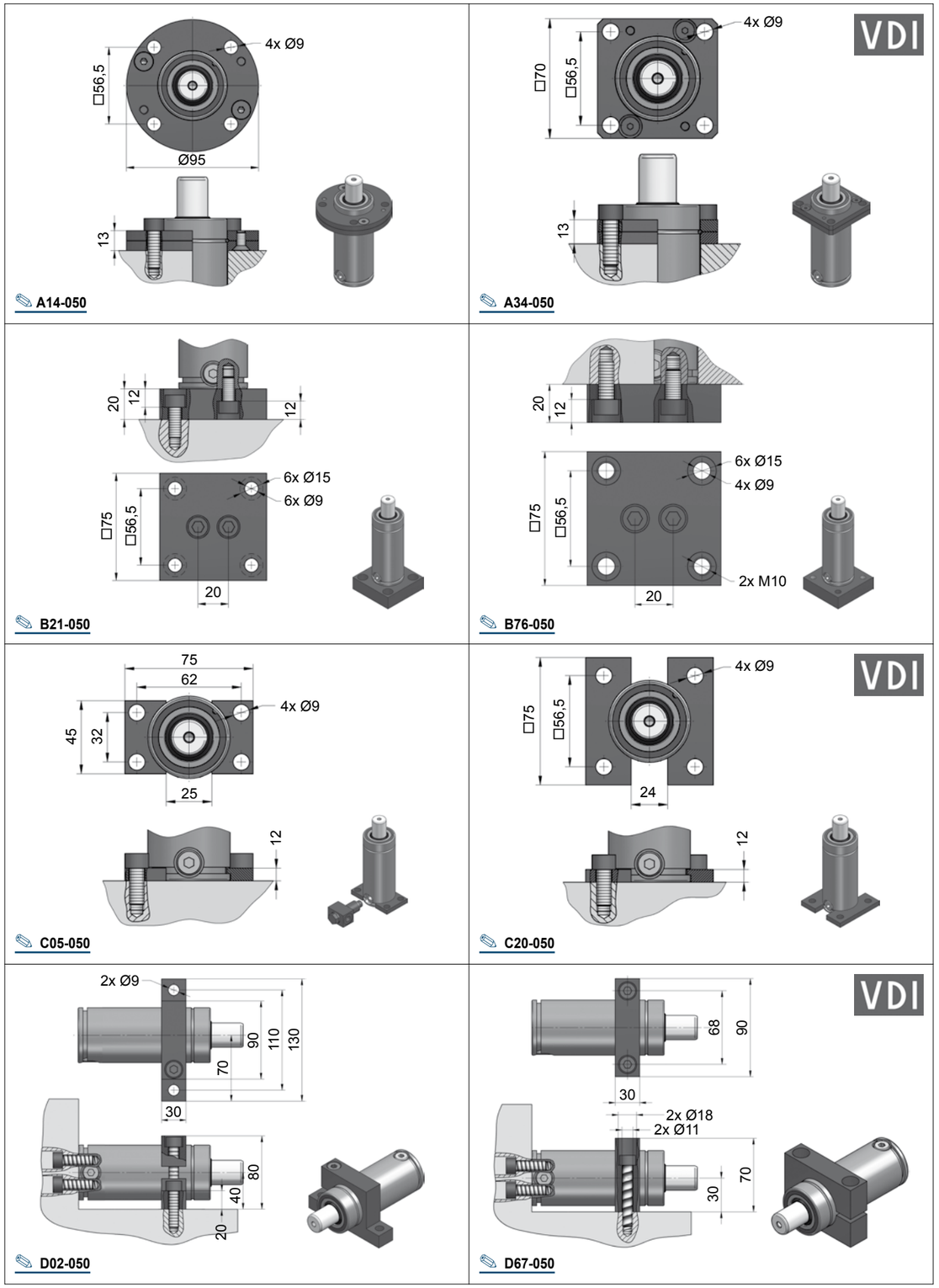


[01.03.2023]

[01.03.2023]



## Flansche für / Flanges for **CW.01000...V2**



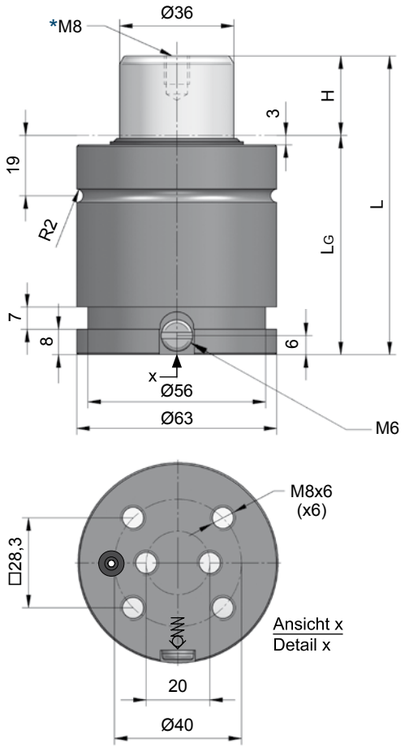
# CW.01500…V1

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

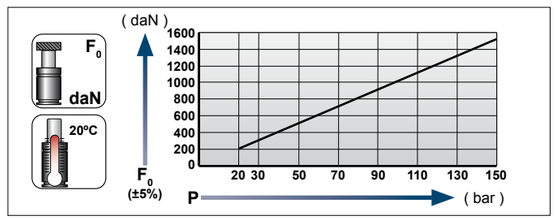
**Specifications:**

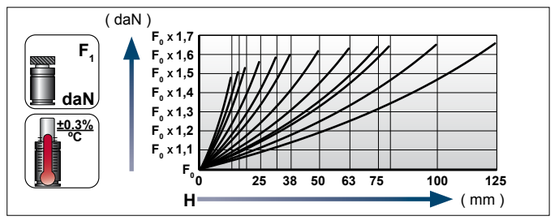
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

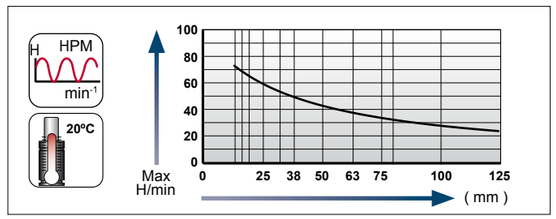



CW.01500.050.V1

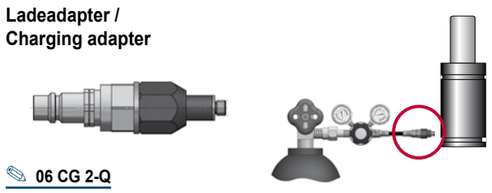
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| 013 | 70 | 57 | 1530 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| 016 | 76 | 60 | 1530 | |
| 019 | 82 | 63 | 1530 | |
| 025 | 94 | 69 | 1530 | |
| 032 | 108 | 76 | 1530 | |
| 038 | 120 | 82 | 1530 | |
| 050 | 144 | 94 | 1530 | |
| 063 | 170 | 107 | 1530 | |
| 075 | 194 | 119 | 1530 | |
| 080 | 204 | 124 | 1530 | |
| 100 | 244 | 144 | 1530 | |
| 125 | 294 | 169 | 1530 | |




**Ladeadapter / Charging adapter**



06 CG 2-Q

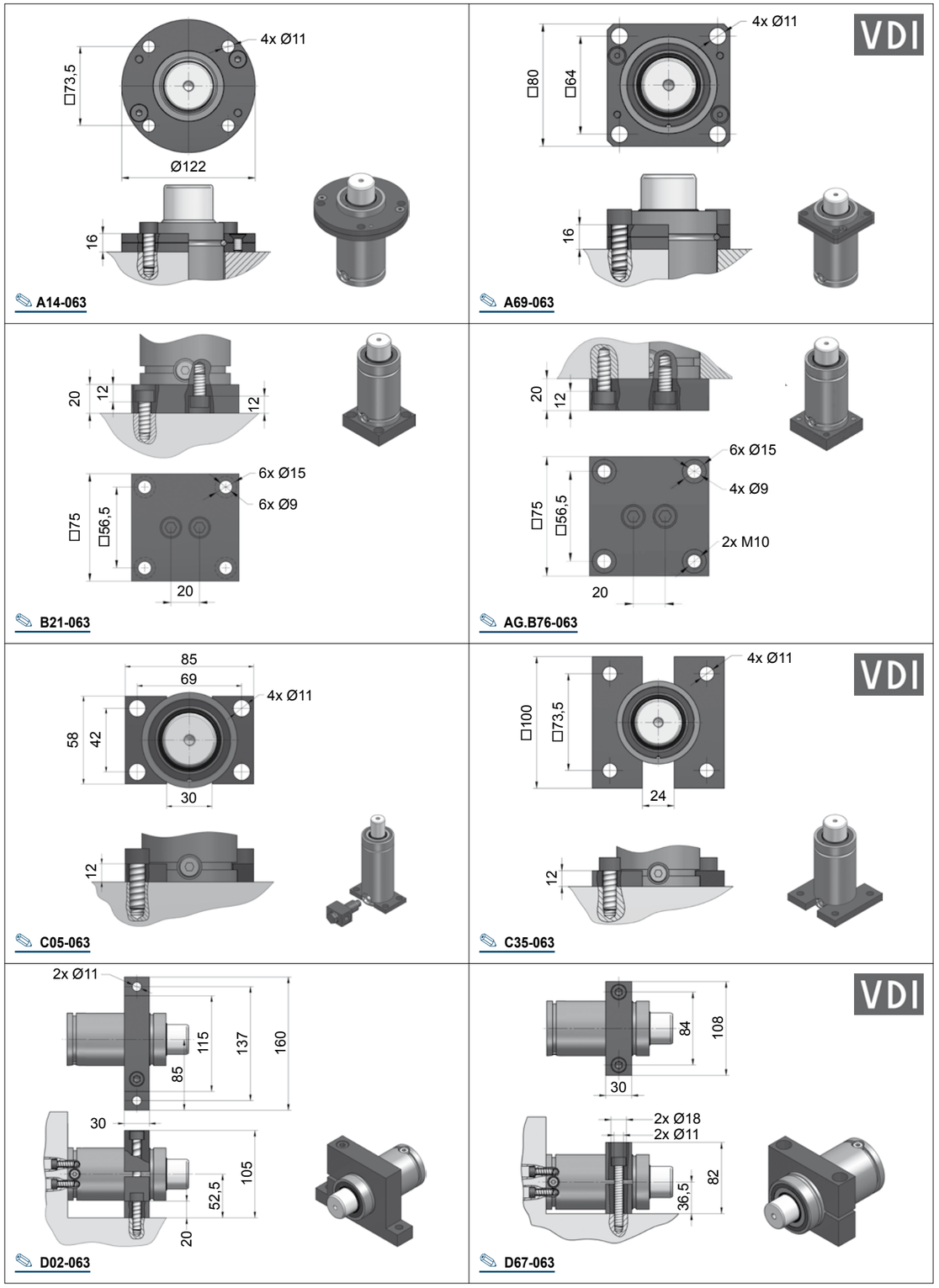


[01.03.2023]

[01.03.2023]



## Flansche für / Flanges for **CW.01500…V1**



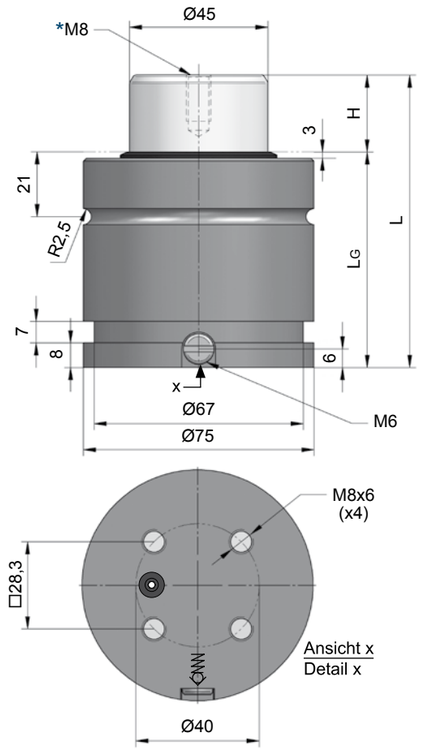
# CW.02400…V1

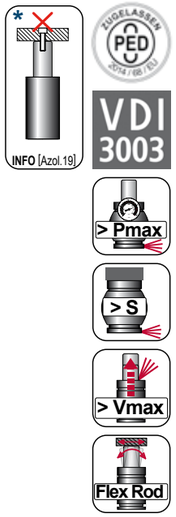
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

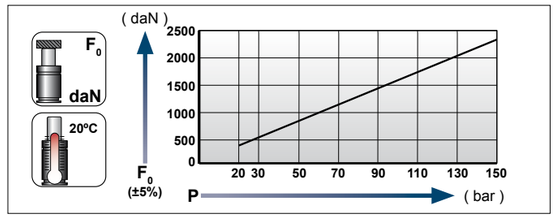


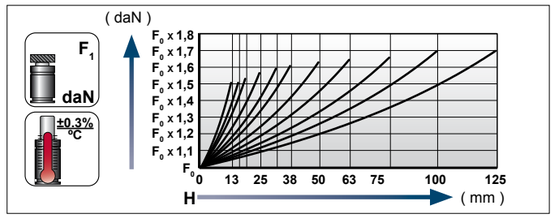



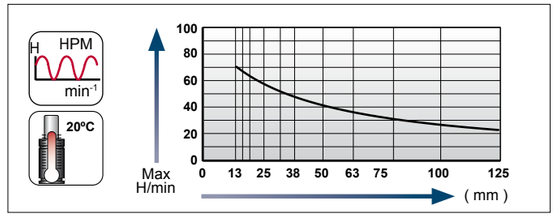

CW.02400.075.V1

CAD MAIL

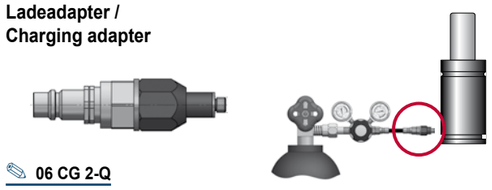
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **013** | 71 | 58 | | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **016** | 77 | 61 | 2385 | |
| **019** | 83 | 64 | 2385 | |
| **025** | 95 | 70 | 2385 | |
| **032** | 109 | 77 | 2385 | |
| **038** | 121 | 83 | 2385 | |
| **050** | 145 | 95 | 2385 | |
| **063** | 171 | 108 | 2385 | |
| **075** | 195 | 120 | 2385 | |
| **080** | 205 | 125 | 2385 | |
| **100** | 245 | 145 | 2385 | |
| **125** | 295 | 170 | 2385 | |




**Ladeadapter / Charging adapter**



06 CG 2-Q

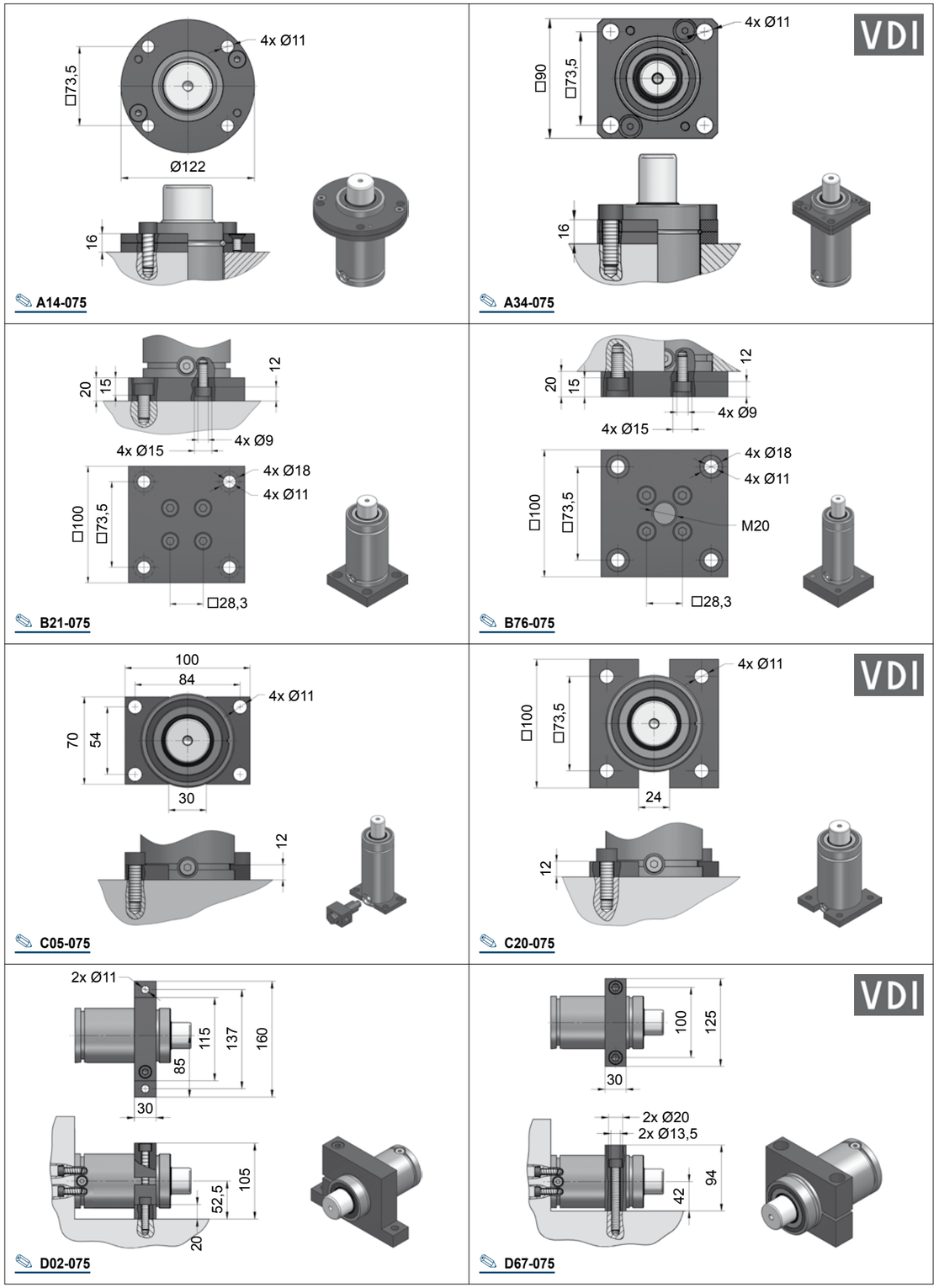


[01.03.2023]

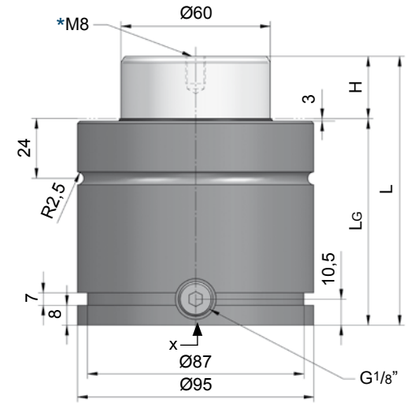
[01.03.2023]

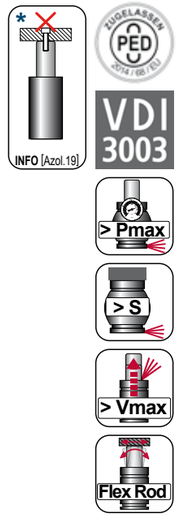


## Flansche für / Flanges for **CW.02400…V1**



# CW.04200…V1



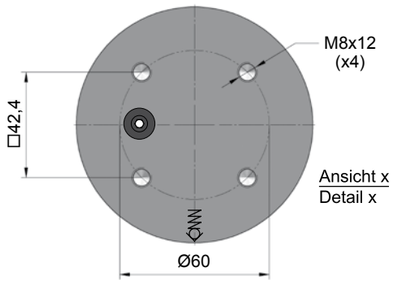




**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

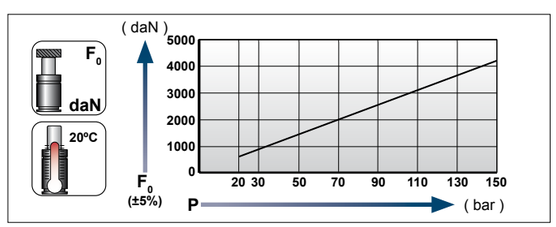
**Specifications:**

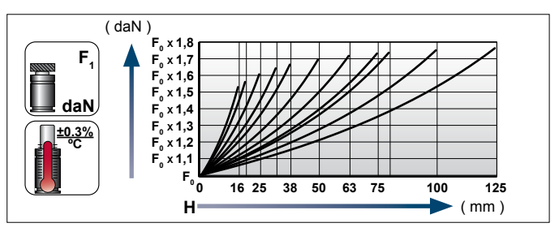
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

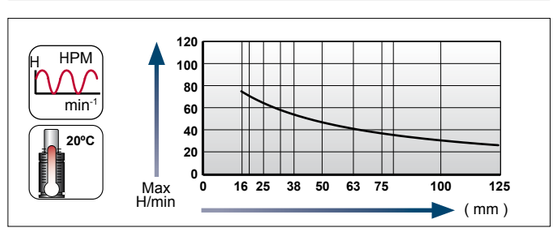



**CW.04200.100.V1**

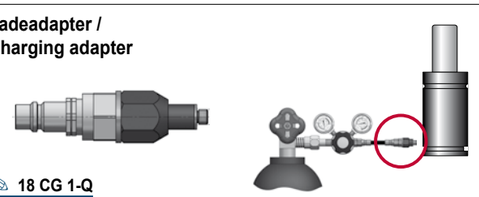
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **016** | 90 | 74 | 4240 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **019** | 96 | 77 | 4240 | |
| **025** | 108 | 83 | 4240 | |
| **032** | 122 | 90 | 4240 | |
| **038** | 134 | 96 | 4240 | |
| **050** | 158 | 108 | 4240 | |
| **063** | 184 | 121 | 4240 | |
| **075** | 208 | 133 | 4240 | |
| **080** | 218 | 138 | 4240 | |
| **100** | 258 | 158 | 4240 | |
| **125** | 308 | 183 | 4240 | |




**Ladeadapter / Charging adapter**



**18 CG 1-Q**

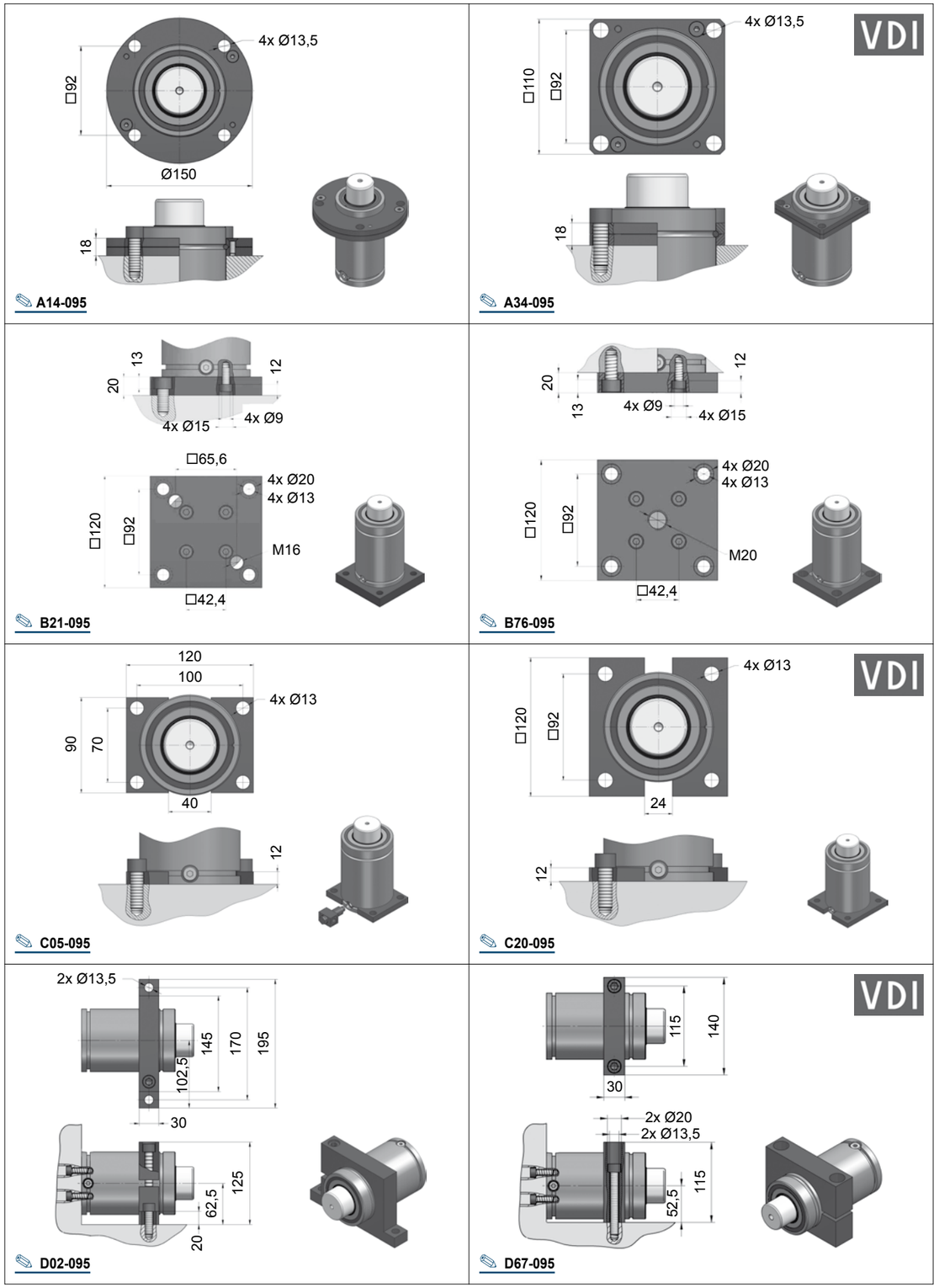


[01.03.2023]

[01.03.2023]



## Flansche für / Flanges for **CW.04200…V1**

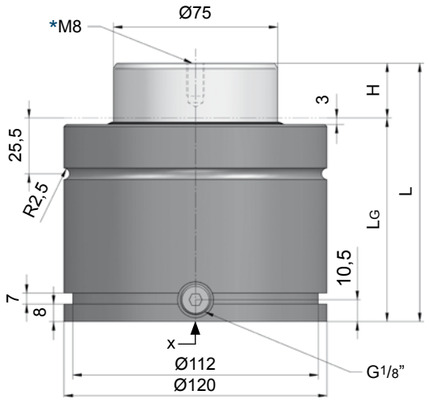





[AG]

[AG]

# CW.06600



ZUGELASSEN PED 2014/68/EU

VDI 3003

> Pmax

> S

> Vmax

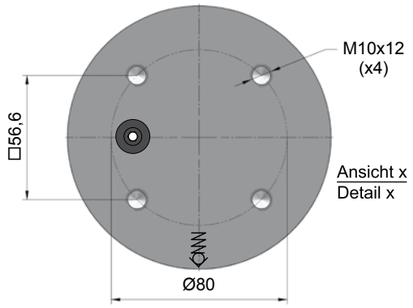
Flex Rod

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

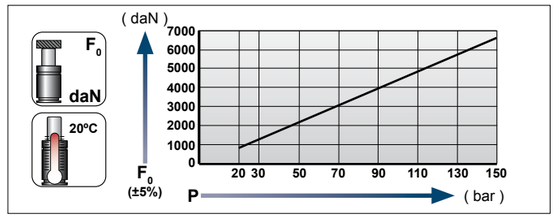
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

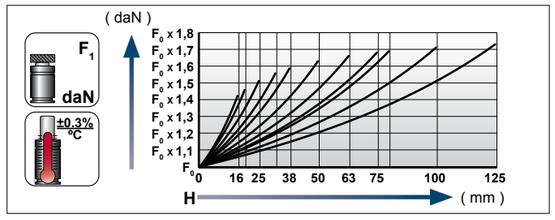


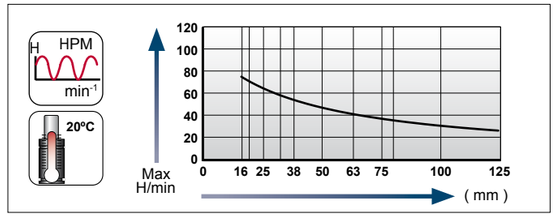

**CW.06600.125**

CAD MAIL

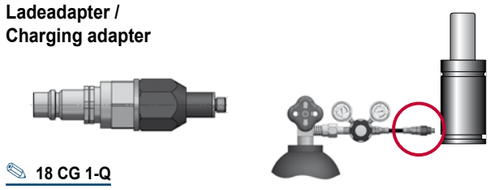
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **016** | 100 | 84 | 6630 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **019** | 106 | 87 | 6630 | |
| **025** | 118 | 93 | 6630 | |
| **032** | 132 | 100 | 6630 | |
| **038** | 144 | 106 | 6630 | |
| **050** | 168 | 118 | 6630 | |
| **063** | 194 | 131 | 6630 | |
| **075** | 218 | 143 | 6630 | |
| **080** | 228 | 148 | 6630 | |
| **100** | 268 | 168 | 6630 | |
| **125** | 318 | 193 | 6630 | |




**Ladeadapter / Charging adapter**



**18 CG 1-Q**

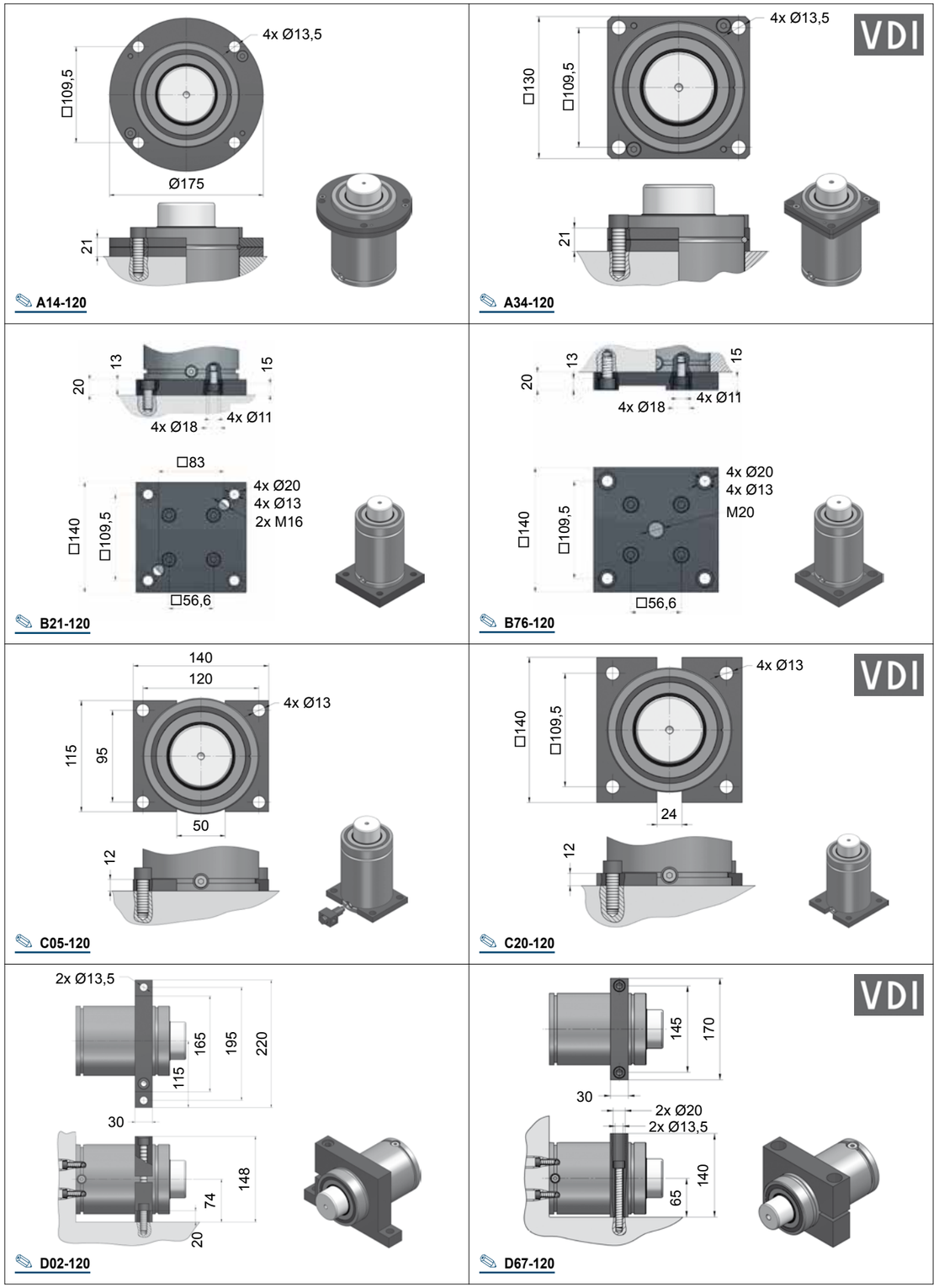


[01.03.2023]

[24.05.2023]



## Flansche für / Flanges for **CW.06600**

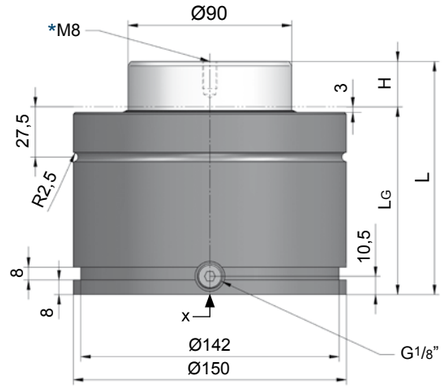





[AG]

[AG]

# CW.09500

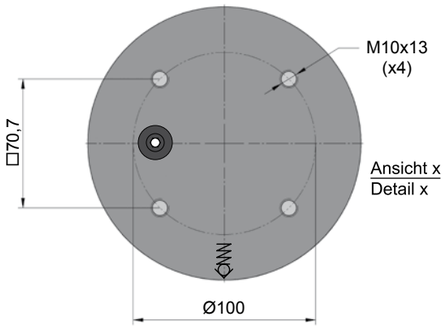



**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

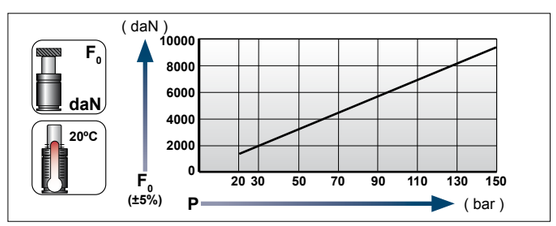
**Specifications:**

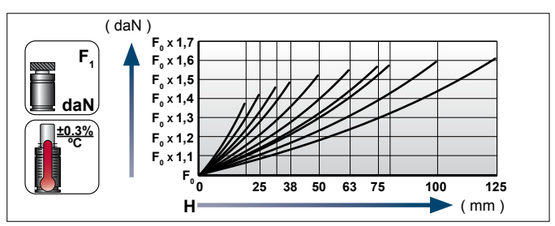
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

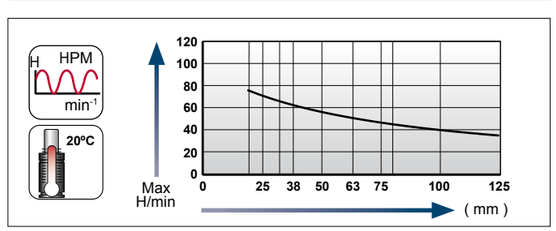



**CW.09500.125**

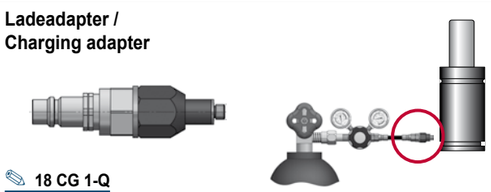
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **019** | 116 | 97 | 9540 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **025** | 128 | 103 | 9540 | |
| **032** | 142 | 110 | 9540 | |
| **038** | 154 | 116 | 9540 | |
| **050** | 178 | 128 | 9540 | |
| **063** | 204 | 141 | 9540 | |
| **075** | 228 | 153 | 9540 | |
| **080** | 238 | 158 | 9540 | |
| **100** | 278 | 178 | 9540 | |
| **125** | 328 | 203 | 9540 | |




**Ladeadapter / Charging adapter**

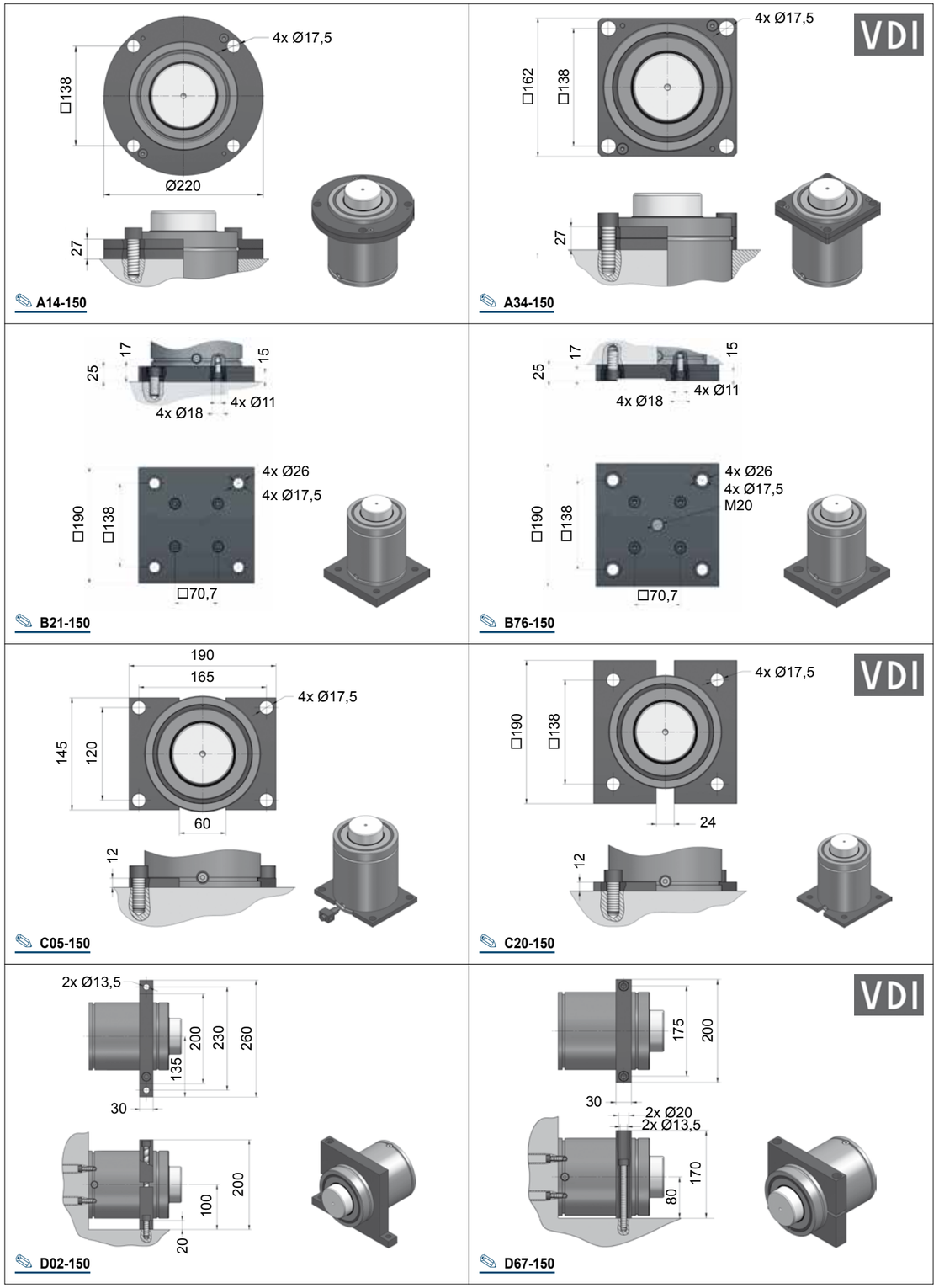


**18 CG 1-Q**





## Flansche für / Flanges for **CW.09500**



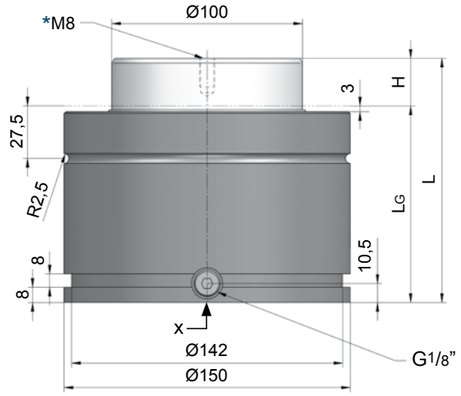
# CW.11800

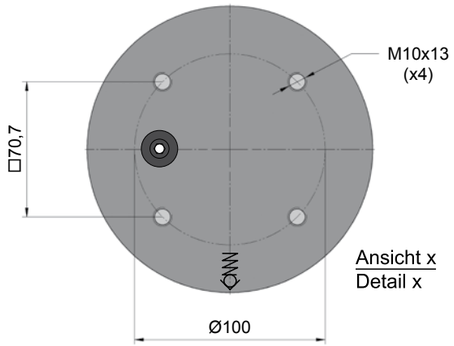
**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

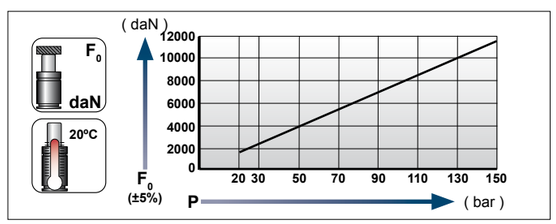


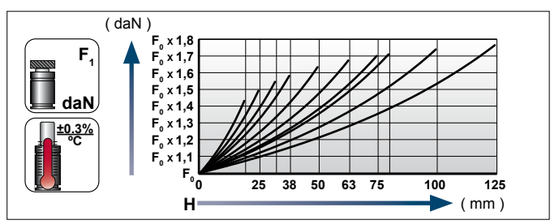



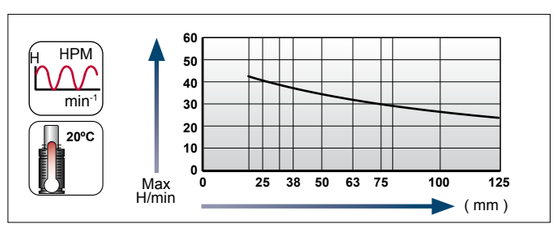

Ansicht x
Detail x

CW.11800.080

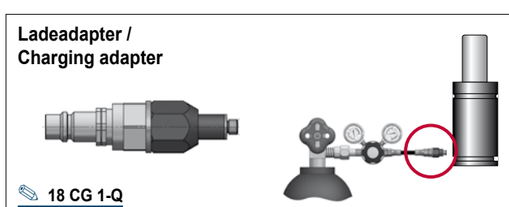
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **019** | 116 | 97 | 11780 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **025** | 128 | 103 | 11780 | |
| **032** | 142 | 110 | 11780 | |
| **038** | 154 | 116 | 11780 | |
| **050** | 178 | 128 | 11780 | |
| **063** | 204 | 141 | 11780 | |
| **075** | 228 | 153 | 11780 | |
| **080** | 238 | 158 | 11780 | |
| **100** | 278 | 178 | 11780 | |
| **125** | 328 | 203 | 11780 | |




**Ladeadapter / Charging adapter**

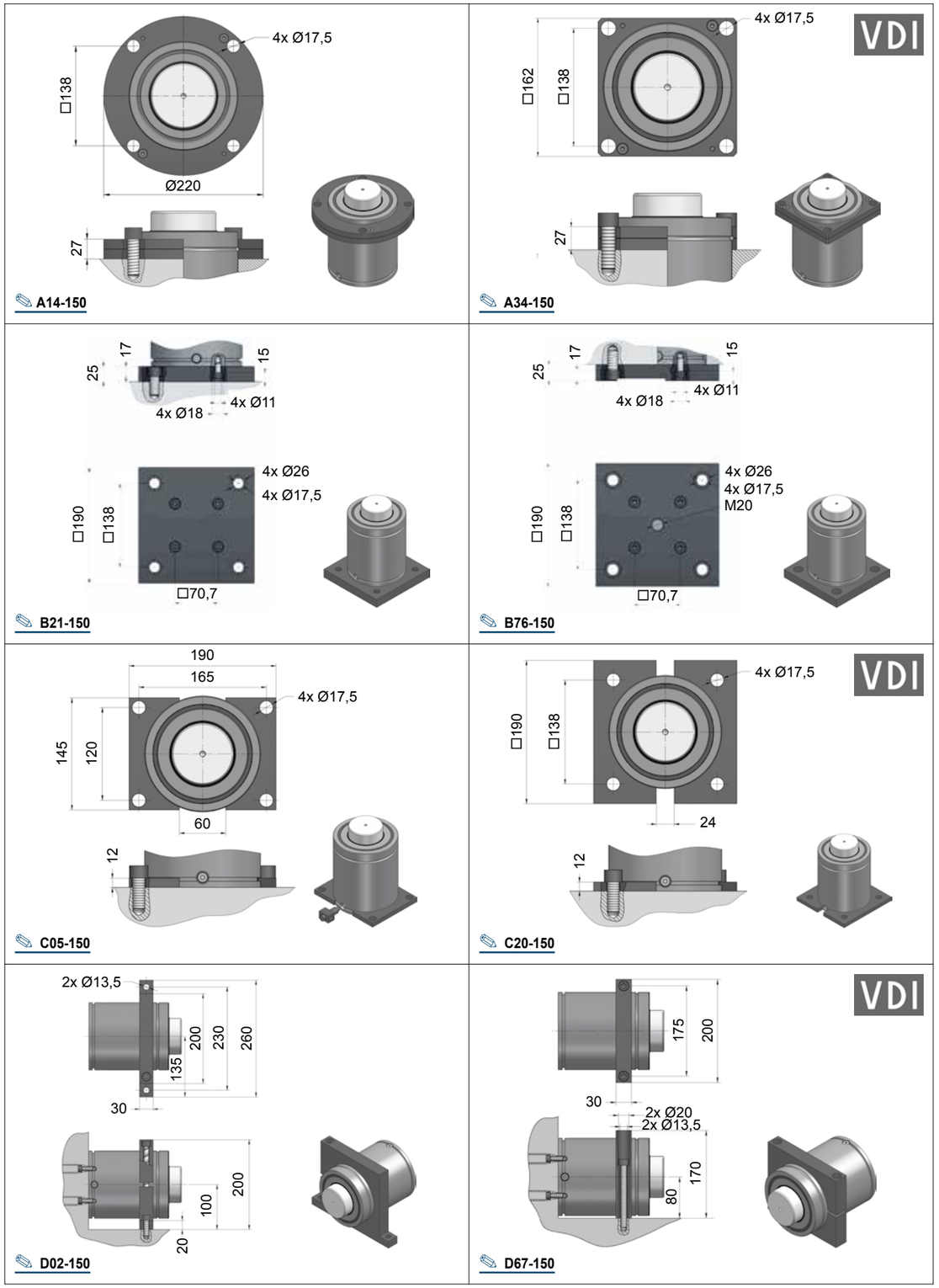


18 CG 1-Q





## Flansche für / Flanges for **CW.11800**



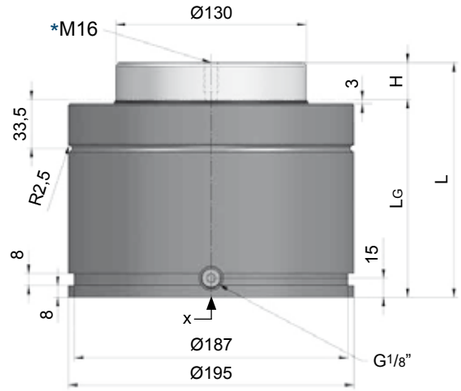
# CW.20000

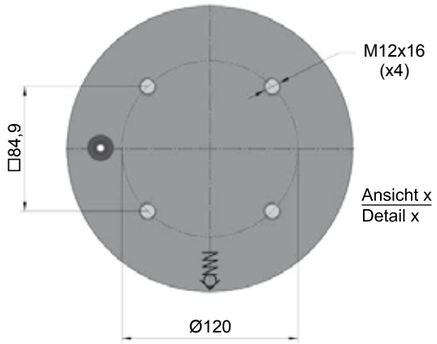
**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

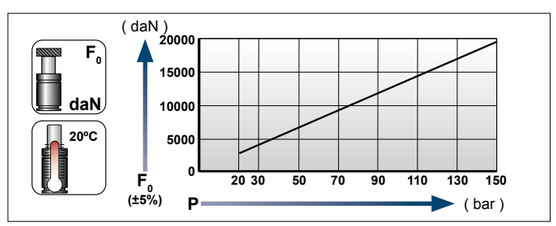
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

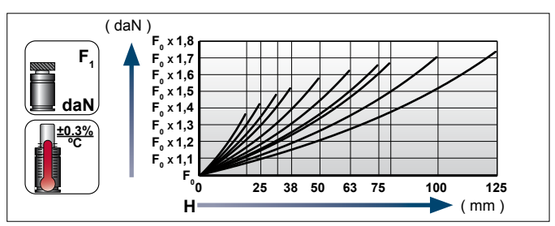


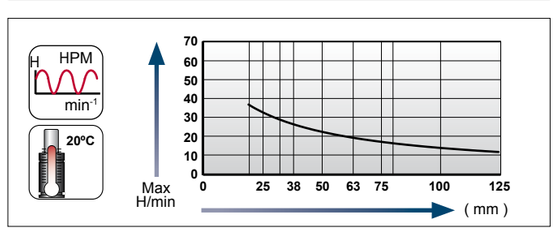




CW.20000.050

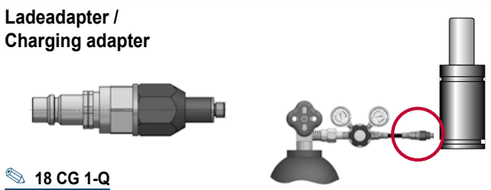
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| 019 | 148 | 129 | 19910 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| 025 | 160 | 135 | 19910 | |
| 032 | 174 | 142 | 19910 | |
| 038 | 186 | 148 | 19910 | |
| 050 | 210 | 160 | 19910 | |
| 063 | 236 | 173 | 19910 | |
| 075 | 260 | 185 | 19910 | |
| 080 | 270 | 190 | 19910 | |
| 100 | 310 | 210 | 19910 | |
| 125 | 360 | 235 | 19910 | |




**Ladeadapter / Charging adapter**

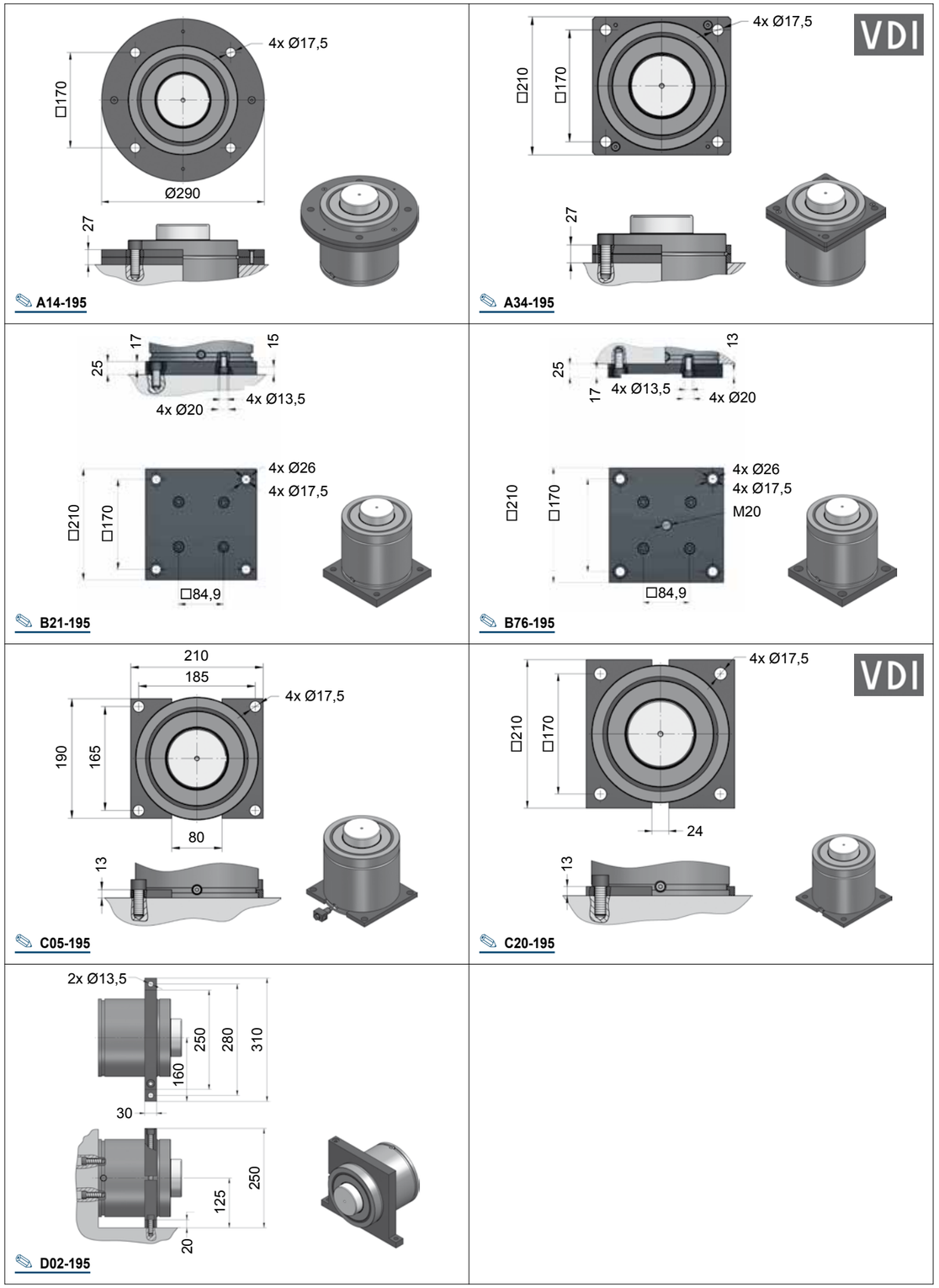


18 CG 1-Q



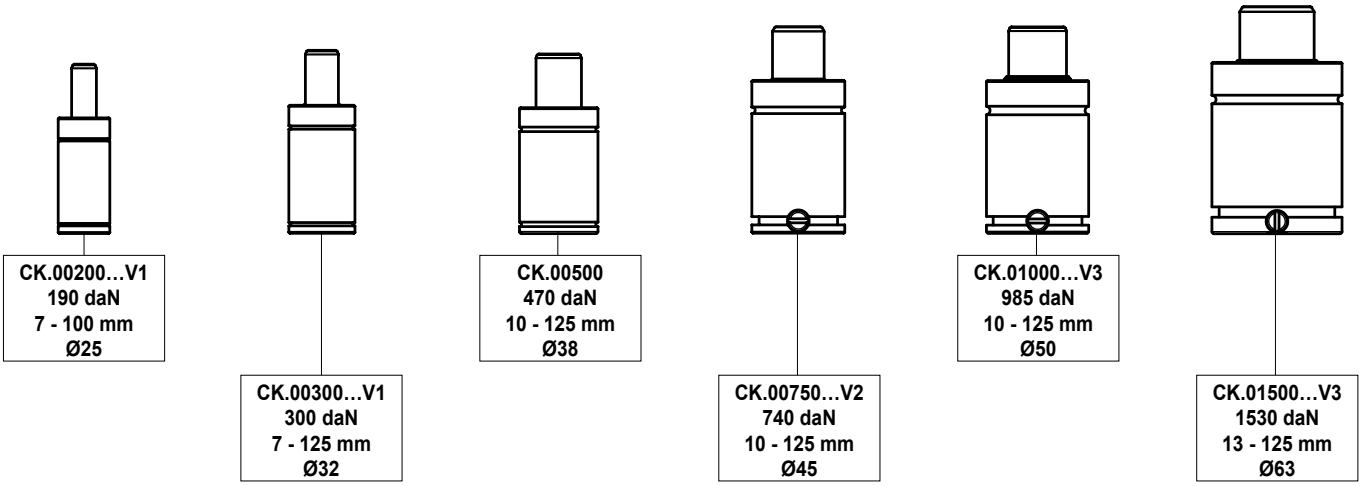
GDF, niedrigbauend
GS, smaller height
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

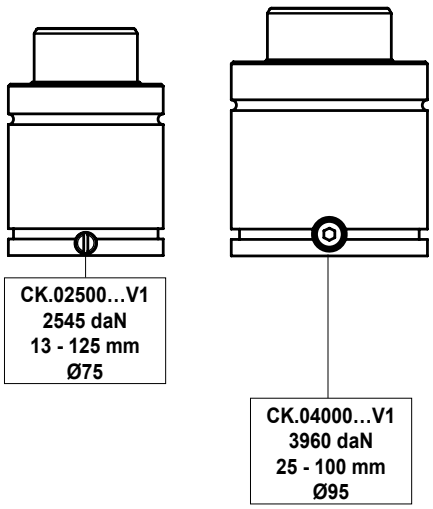
## Flansche für / Flanges for **CW.20000**



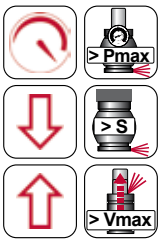
## Größenübersicht Serie CK

## Gas spring index CK series




## SICHERHEITSSYSTEME



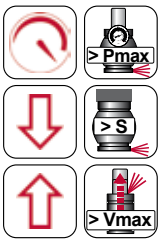

**Überdruck**

**Überhub**

**Freier Rückhub**

Information über die Sicherheitssysteme (Überdruck, Überhub, Freier Rückhub) erhalten Sie im Vorspann auf der Seite Azol.22.

## SAFETY SYSTEMS




**Over-Pressure**

**Over-Stroke**

**Over-Speed**

Information about the safety systems (over-pressure, over-stroke, over-speed) can be found in the introductory part on page Azol.22.

# CK.00200...V1

**Technische Daten:**

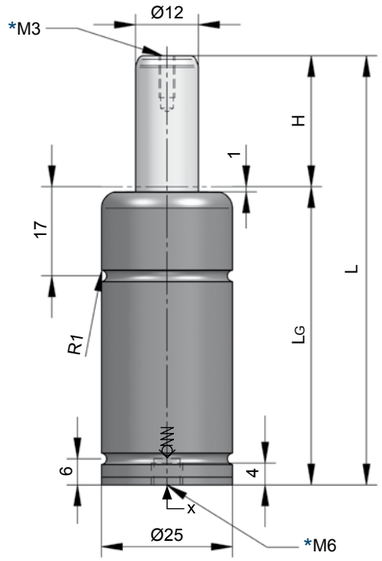
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

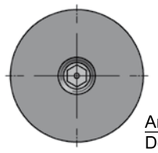
**Einwegfeder ist nicht reparierbar!**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

**One-way spring is irreparable!**



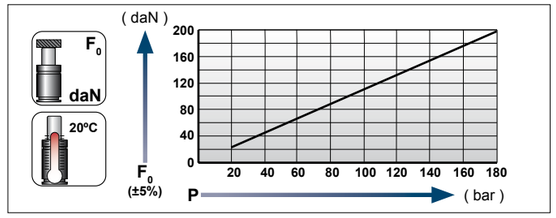
Ansicht x
Detail x

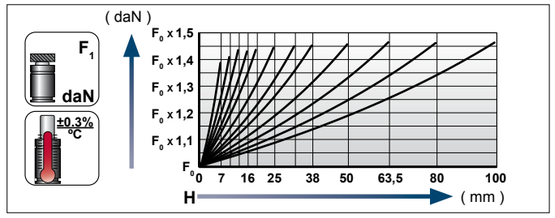
> Vmax

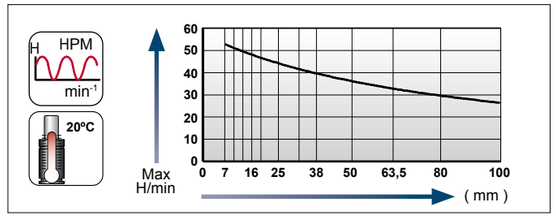
INFO [Azol.19]

**CK.00200.007.V1**

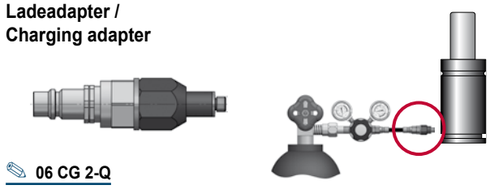
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (170 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **007** | 46 | 39 | 190 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **010** | 52 | 42 | 190 | |
| **012,7** | 57,4 | 44,7 | 190 | |
| **016** | 64 | 48 | 190 | |
| **019** | 70 | 51 | 190 | |
| **025** | 82 | 57 | 190 | |
| **032** | 96 | 64 | 190 | |
| **038** | 108 | 70 | 190 | |
| **050** | 132 | 82 | 190 | |
| **063,5** | 159 | 95,5 | 190 | |
| **080** | 192 | 112 | 190 | |
| **100** | 232 | 132 | 190 | |




**Ladeadapter / Charging adapter**



**06 CG 2-Q**

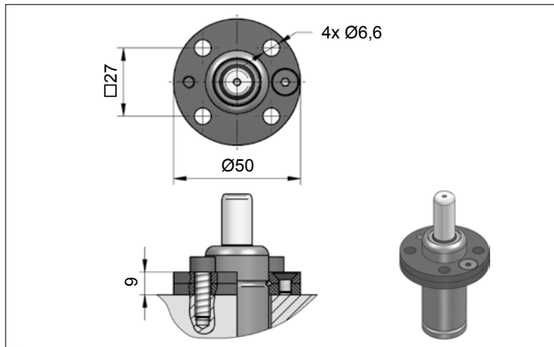


[09.03.2023]

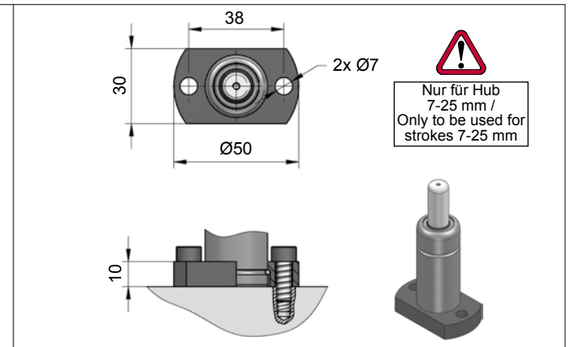
[09.03.2023]



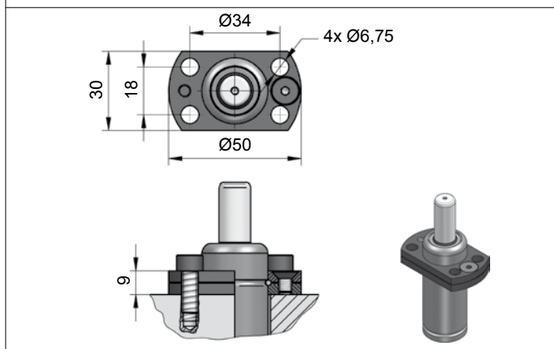
## Flansche für / Flanges for **CK.00200...V1**



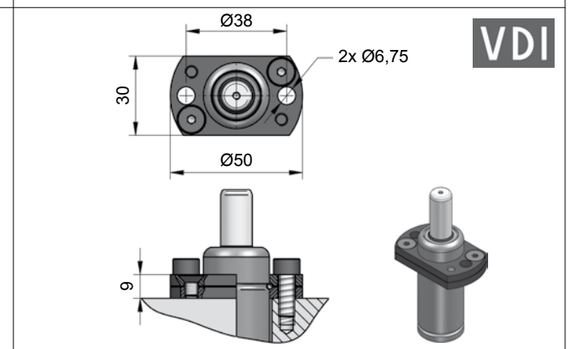

**A14-025**




**A19-025**




**A44-025**




**A49-025**

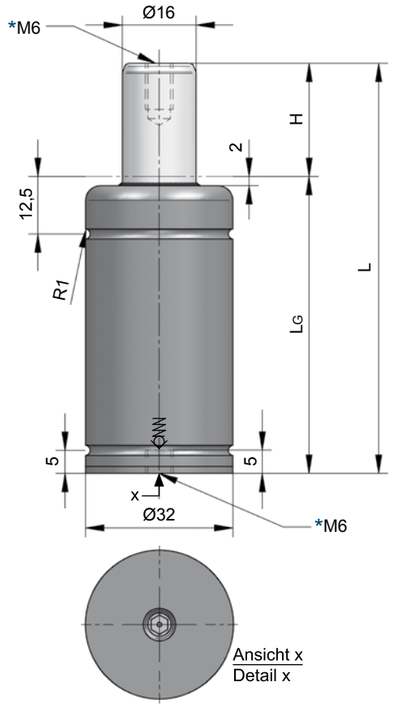
# CK.00300...V1

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

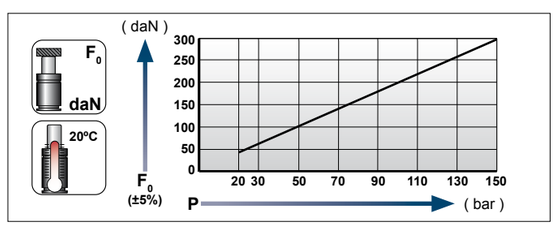
**Specifications:**

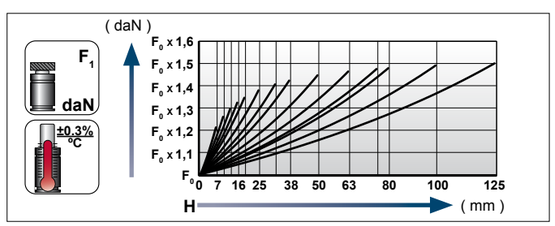
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

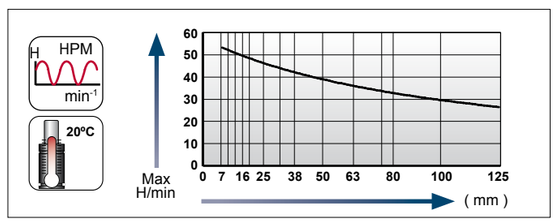



CK.00300.025.V1

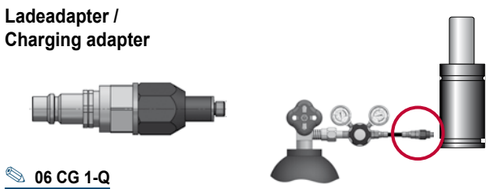
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **007** | 53 | 46 | 300 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **010** | 59 | 49 | 300 | |
| **013** | 65 | 52 | 300 | |
| **016** | 71 | 55 | 300 | |
| **019** | 77 | 58 | 300 | |
| **025** | 89 | 64 | 300 | |
| **032** | 103 | 71 | 300 | |
| **038** | 115 | 77 | 300 | |
| **050** | 139 | 89 | 300 | |
| **063** | 165 | 102 | 300 | |
| **075** | 189 | 114 | 300 | |
| **080** | 199 | 119 | 300 | |
| **100** | 239 | 139 | 300 | |
| **125** | 289 | 164 | 300 | |




**Ladeadapter / Charging adapter**

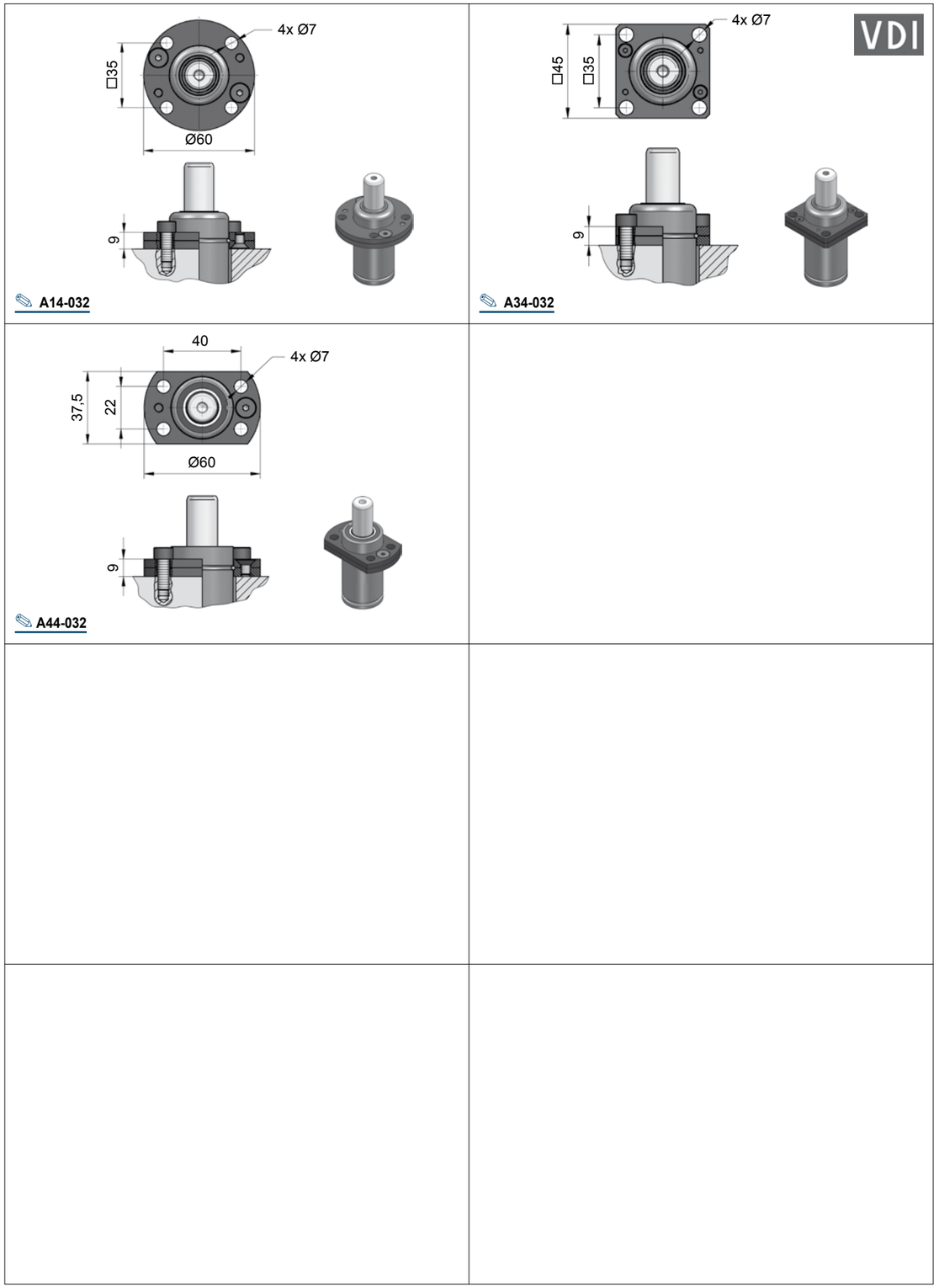


06 CG 1-Q





## Flansche für / Flanges for **CK.00300...V1**



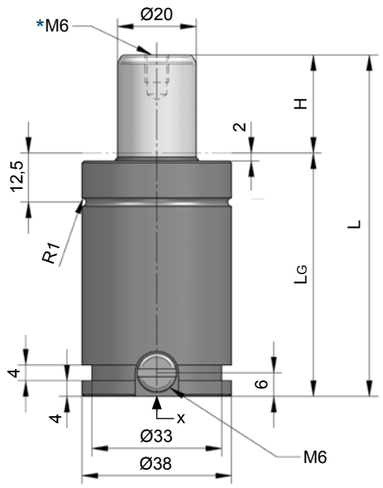
# CK.00500

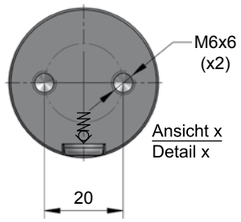
**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

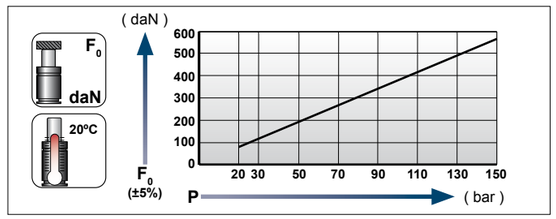
| | |
|---|---|
| Pressure medium: | $N_2$ |
| Max. charging pressure: | 150 bar |
| Min. charging pressure: | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

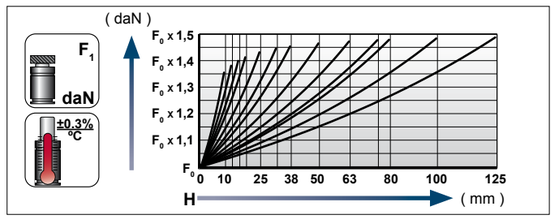


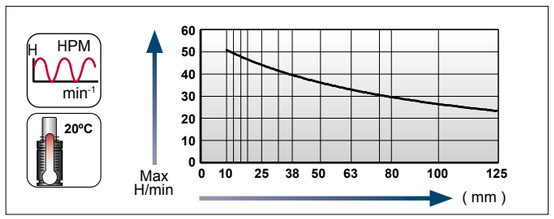




CK.00500.038

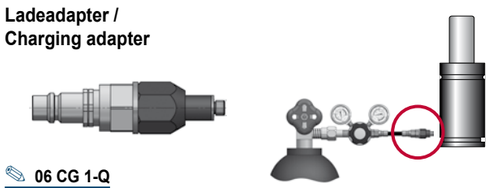
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 57 | 47 | 470 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **013** | 63 | 50 | 470 | |
| **016** | 69 | 53 | 470 | |
| **019** | 75 | 56 | 470 | |
| **025** | 87 | 62 | 470 | |
| **032** | 101 | 69 | 470 | |
| **038** | 113 | 75 | 470 | |
| **050** | 137 | 87 | 470 | |
| **063** | 163 | 100 | 470 | |
| **075** | 187 | 112 | 470 | |
| **080** | 197 | 117 | 470 | |
| **100** | 237 | 137 | 470 | |
| **125** | 287 | 162 | 470 | |




**Ladeadapter / Charging adapter**



06 CG 1-Q

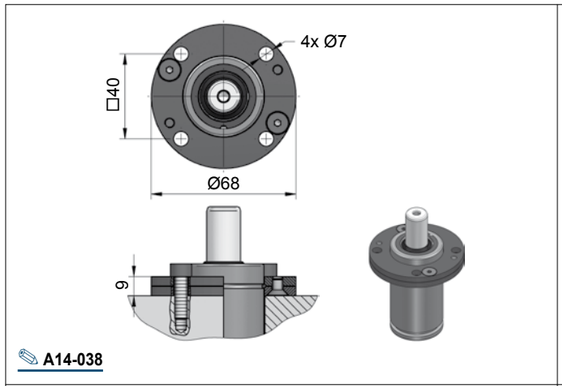


[09.03.2023]

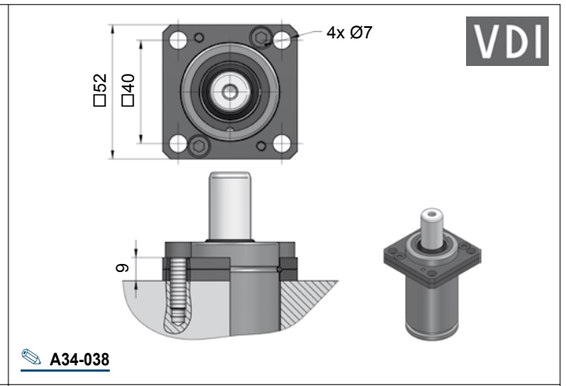
[09.03.2023]



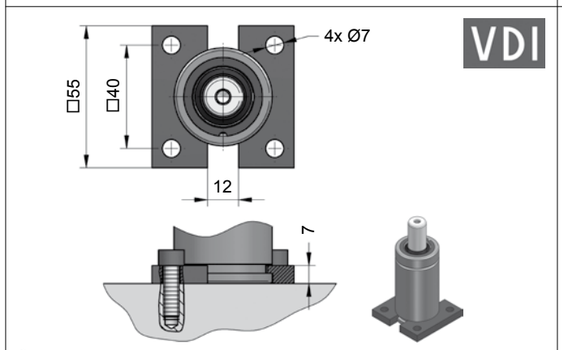
## Flansche für / Flanges for **CK.00500**



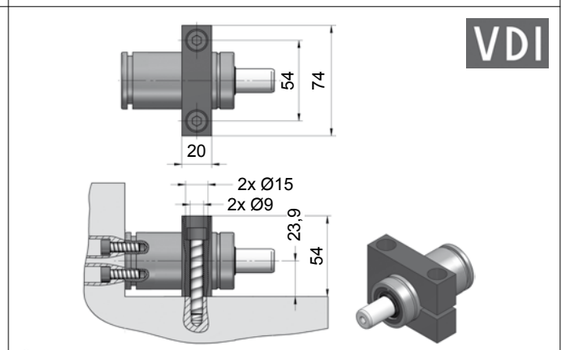

A14-038




A34-038




C20-038




D67-038

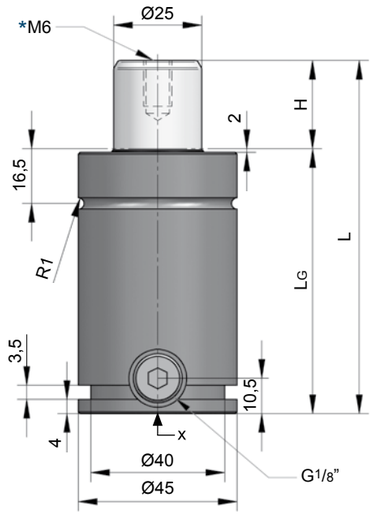
# CK.00750...V2

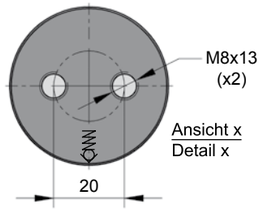
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

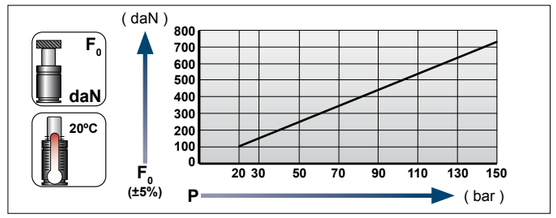
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

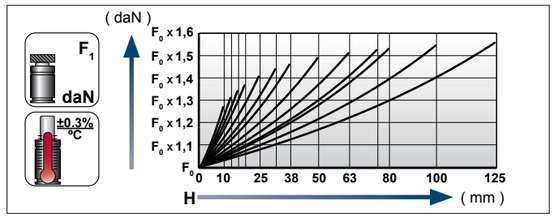


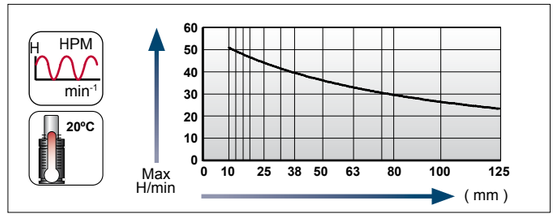




CK.00750.025.V2

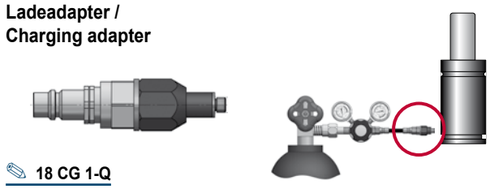
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 70 | 60 | 740 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **013** | 76 | 63 | 740 | |
| **016** | 82 | 66 | 740 | |
| **019** | 88 | 69 | 740 | |
| **025** | 100 | 75 | 740 | |
| **032** | 114 | 82 | 740 | |
| **038** | 126 | 88 | 740 | |
| **050** | 150 | 100 | 740 | |
| **063** | 176 | 113 | 740 | |
| **075** | 200 | 125 | 740 | |
| **080** | 210 | 130 | 740 | |
| **100** | 250 | 150 | 740 | |
| **125** | 300 | 175 | 740 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

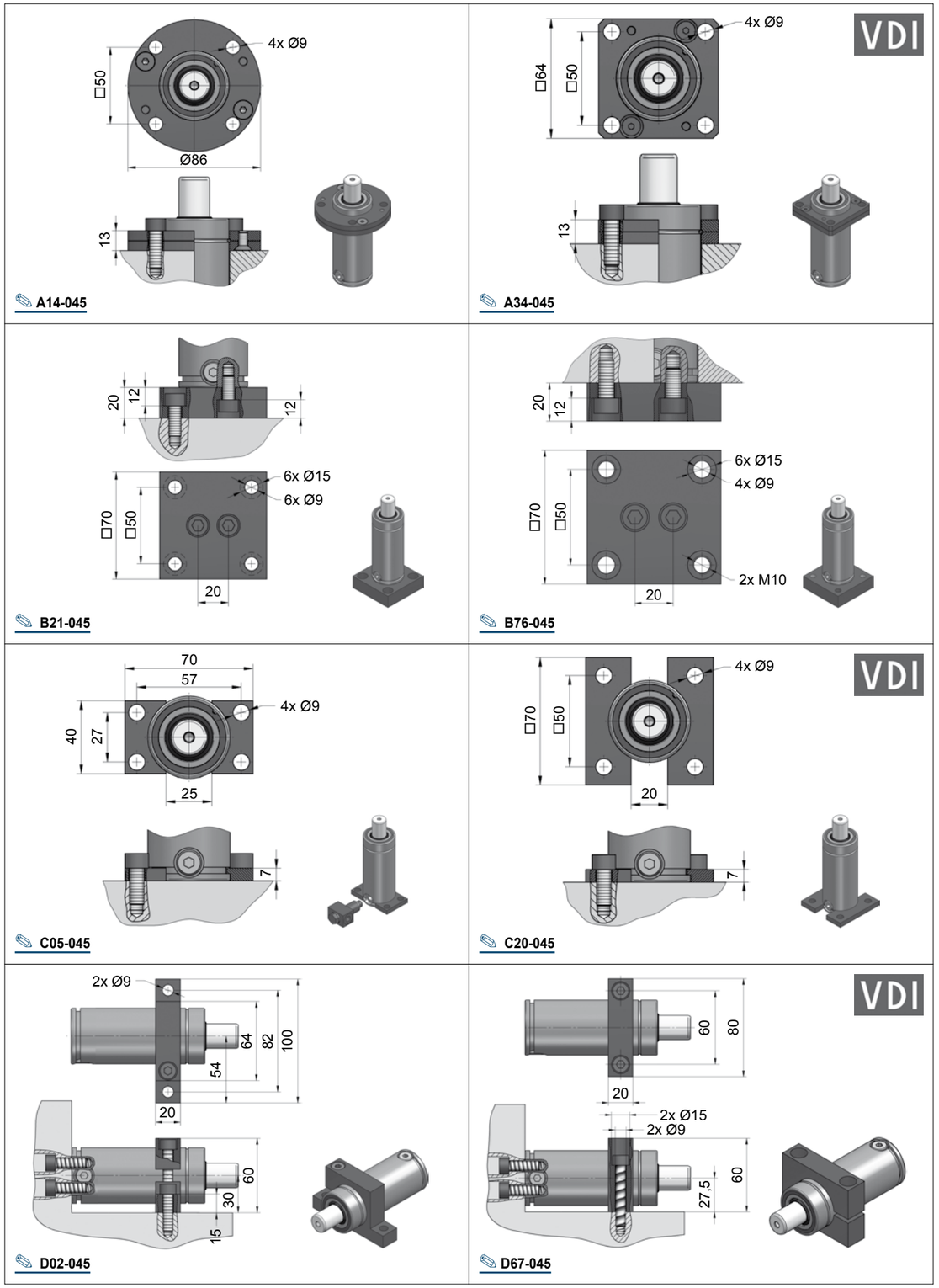


[09.03.2023]

[09.03.2023]



## Flansche für / Flanges for **CK.00750...V2**






[AG]

[AG]

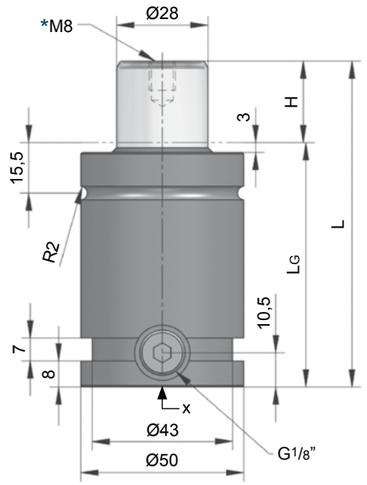
# CK.01000...V3

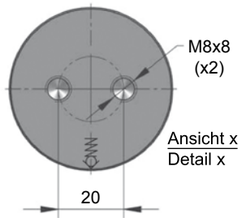
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 160 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

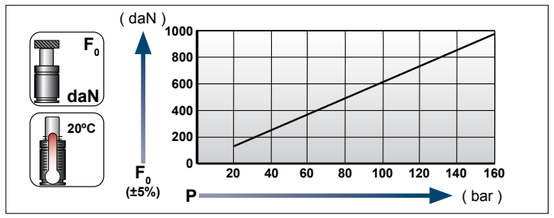
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 160 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

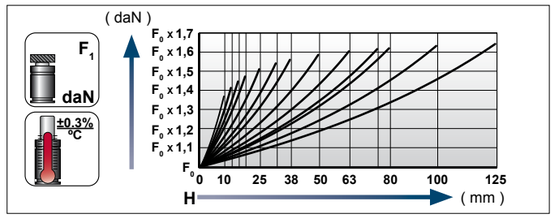


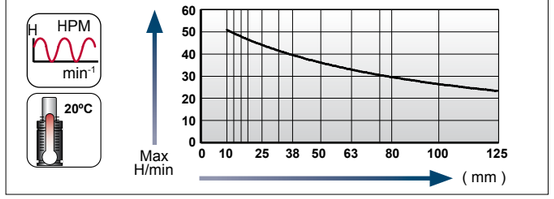




CK.01000.063.V3

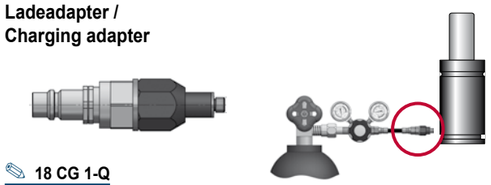
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (160 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 70 | 60 | 985 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **013** | 76 | 63 | 985 | |
| **016** | 82 | 66 | 985 | |
| **019** | 88 | 69 | 985 | |
| **025** | 100 | 75 | 985 | |
| **032** | 114 | 82 | 985 | |
| **038** | 126 | 88 | 985 | |
| **050** | 150 | 100 | 985 | |
| **063** | 176 | 113 | 985 | |
| **075** | 200 | 125 | 985 | |
| **080** | 210 | 130 | 985 | |
| **100** | 250 | 150 | 985 | |
| **125** | 300 | 175 | 985 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

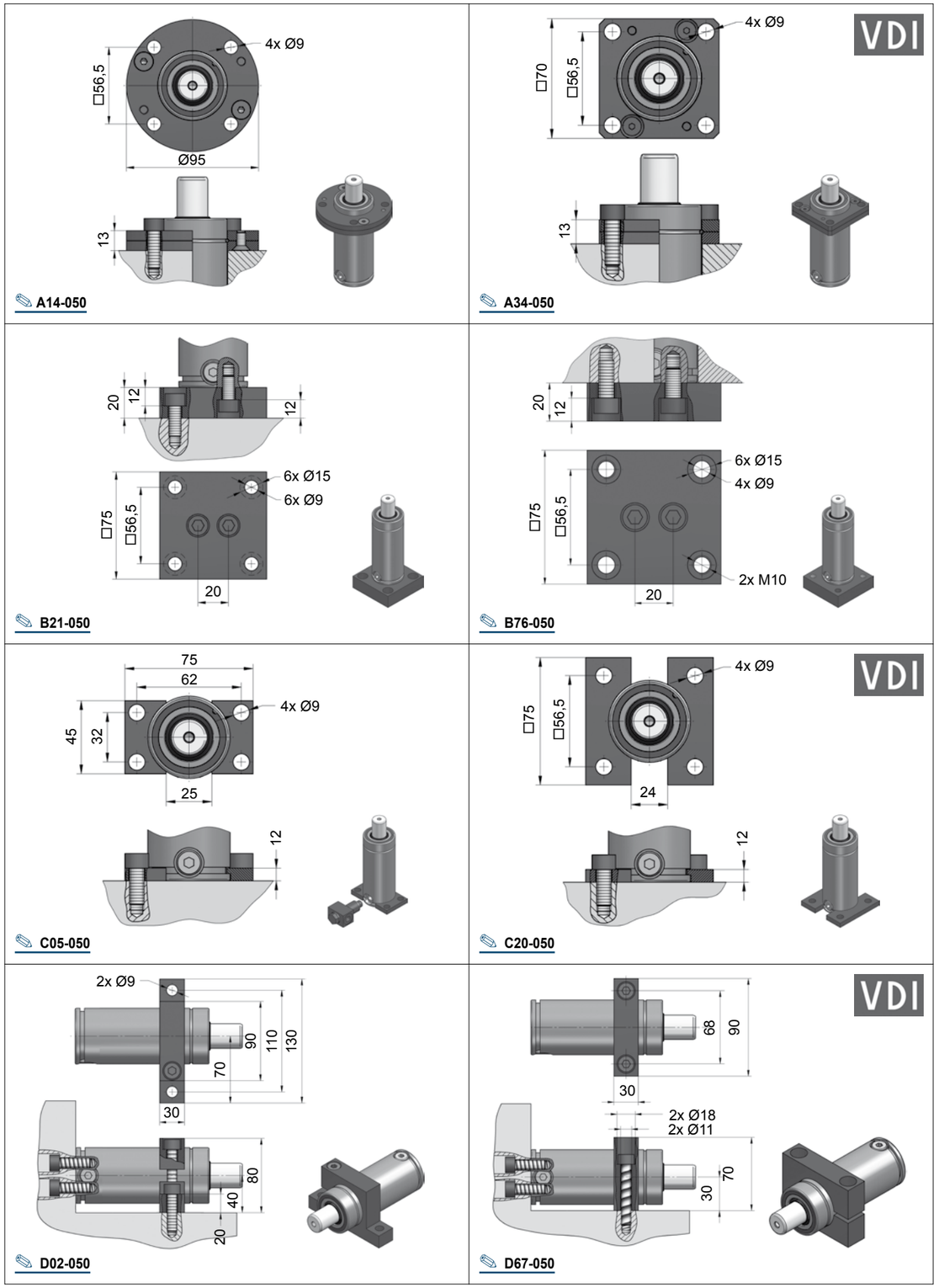


[09.03.2023]

[09.03.2023]



## Flansche für / Flanges for **CK.01000...V3**








[AG]

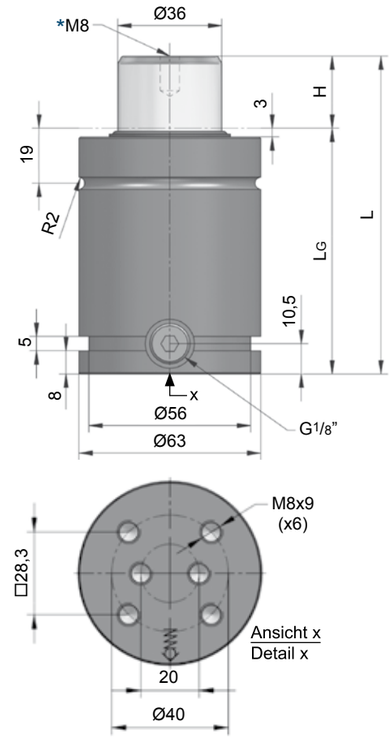
# CK.01500...V3

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

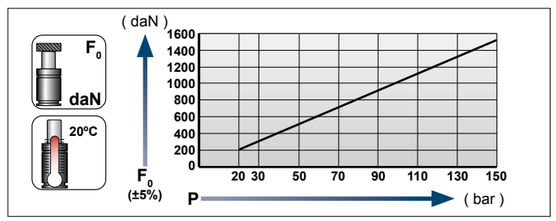
**Specifications:**

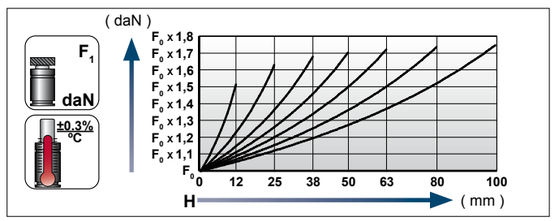
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

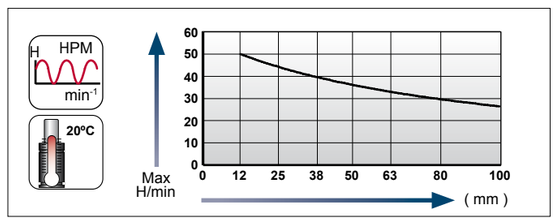



**CK.01500.080.V3**

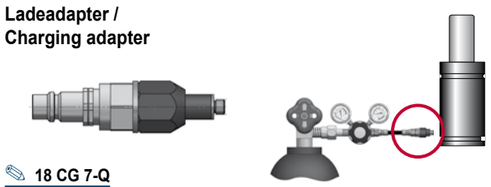
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **013** | 86 | 73 | 1530 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **016** | 92 | 76 | 1530 | |
| **019** | 98 | 79 | 1530 | |
| **025** | 110 | 85 | 1530 | |
| **032** | 124 | 92 | 1530 | |
| **038** | 136 | 98 | 1530 | |
| **050** | 160 | 110 | 1530 | |
| **063** | 186 | 123 | 1530 | |
| **075** | 210 | 135 | 1530 | |
| **080** | 220 | 140 | 1530 | |
| **100** | 260 | 160 | 1530 | |
| **125** | 310 | 185 | 1530 | |




**Ladeadapter / Charging adapter**



**18 CG 7-Q**

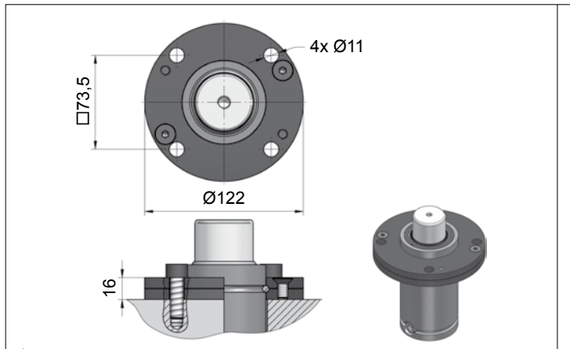


[09.03.2023]

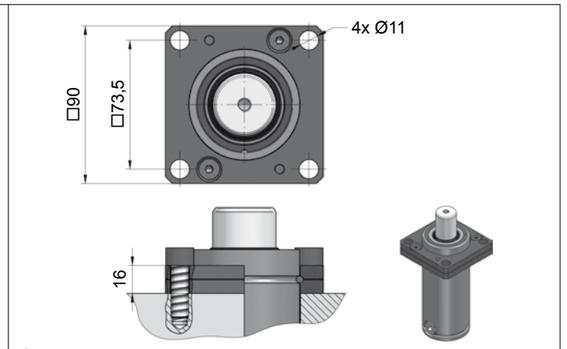
[09.03.2023]

GDF, niedrigbauend
GS, smaller height
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

## Flansche für / Flanges for **CK.01500...V3**




**A14-063**

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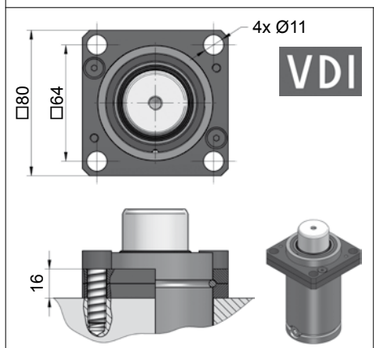
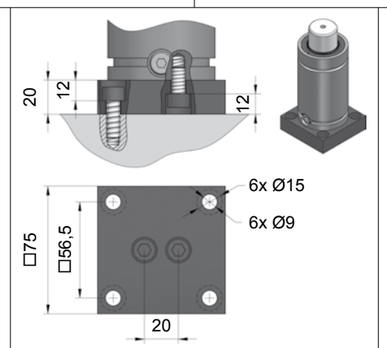
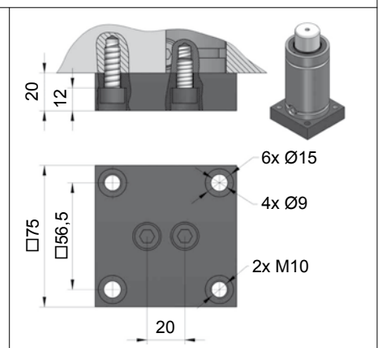


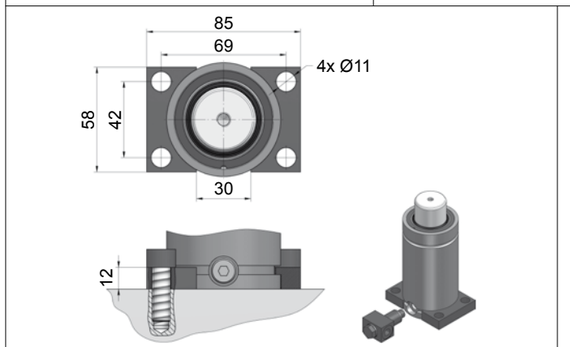

**A69-063**



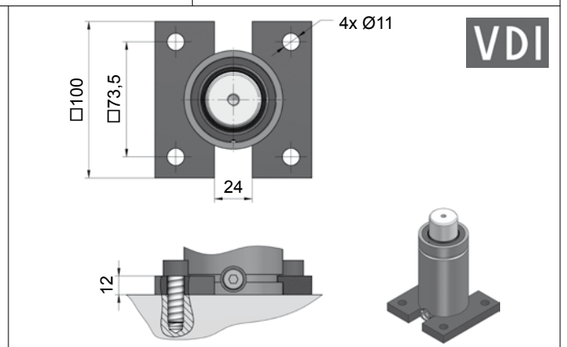

**B21-063**



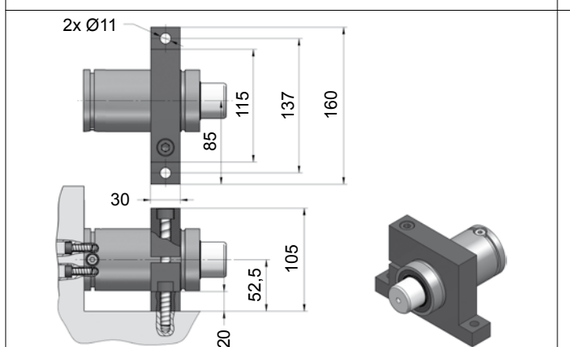

**B76-063**



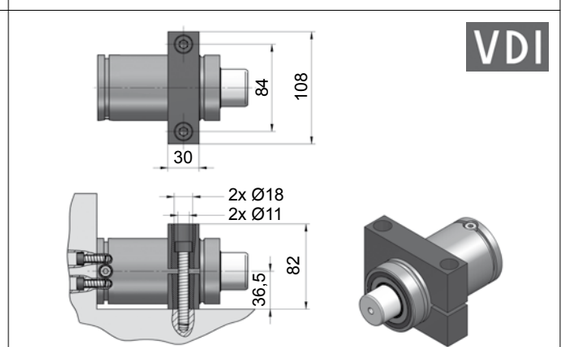

**C05-063**




**C35-063**




**D02-063**




**D67-063**

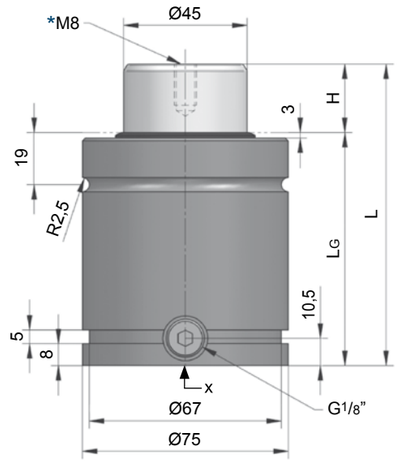
# CK.02500...V1

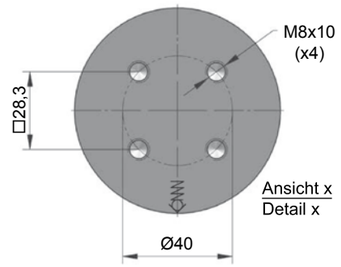
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 160 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

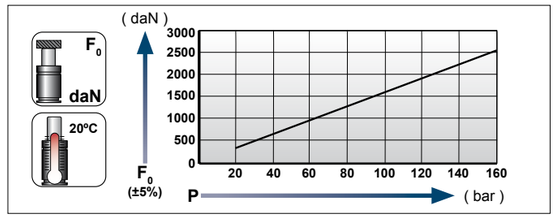
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 160 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

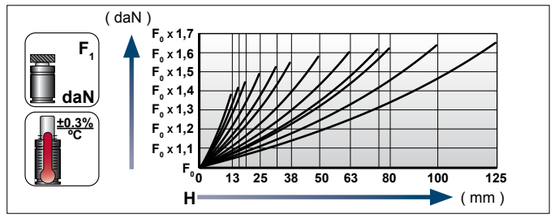


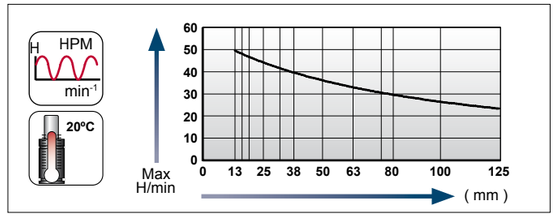




**CK.02500.100.V1**

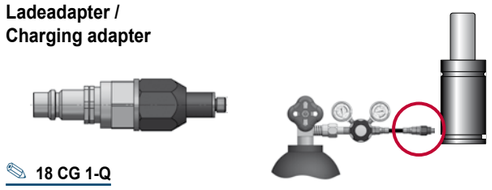
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (160 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **013** | 86 | 73 | 2545 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **016** | 92 | 76 | 2545 | |
| **019** | 98 | 79 | 2545 | |
| **025** | 110 | 85 | 2545 | |
| **032** | 124 | 92 | 2545 | |
| **038** | 136 | 98 | 2545 | |
| **050** | 160 | 110 | 2545 | |
| **063** | 186 | 123 | 2545 | |
| **075** | 210 | 135 | 2545 | |
| **080** | 220 | 140 | 2545 | |
| **100** | 260 | 160 | 2545 | |
| **125** | 310 | 185 | 2545 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

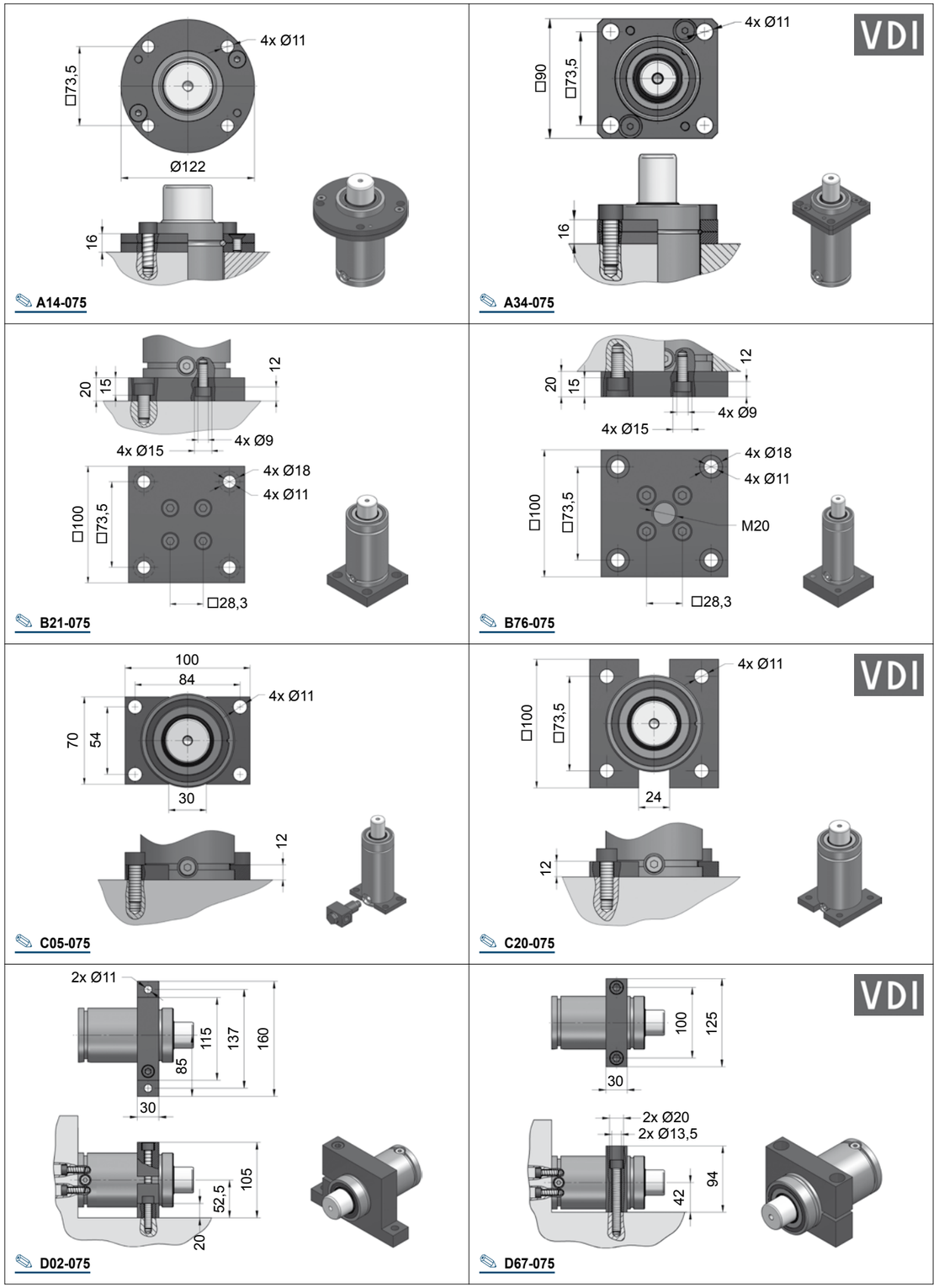


[09.03.2023]

[09.03.2023]



## Flansche für / Flanges for **CK.02500...V1**



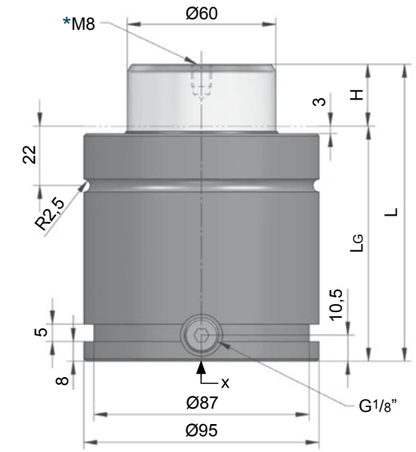
# CK.04000...V1

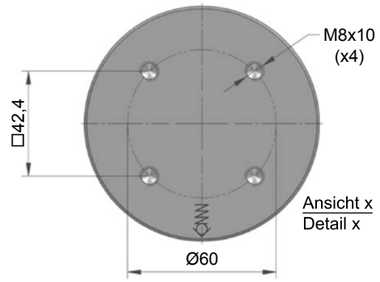
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

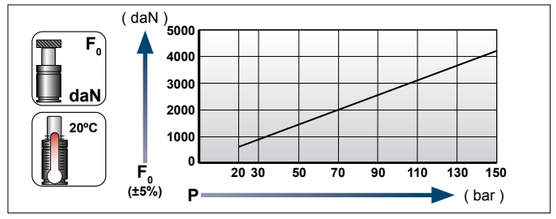
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

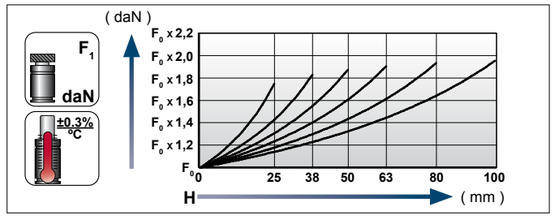


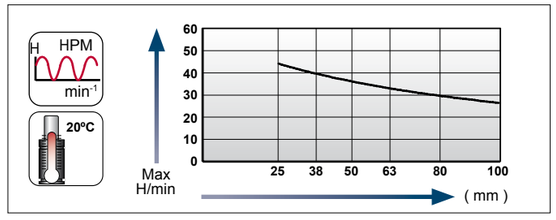




CK.04000.100.V1

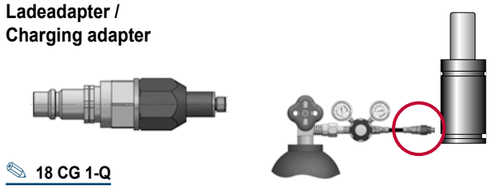
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (140 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 120 | 95 | 3960 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **038** | 146 | 108 | 3960 | |
| **050** | 170 | 120 | 3960 | |
| **063** | 196 | 133 | 3960 | |
| **080** | 230 | 150 | 3960 | |
| **100** | 270 | 170 | 3960 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

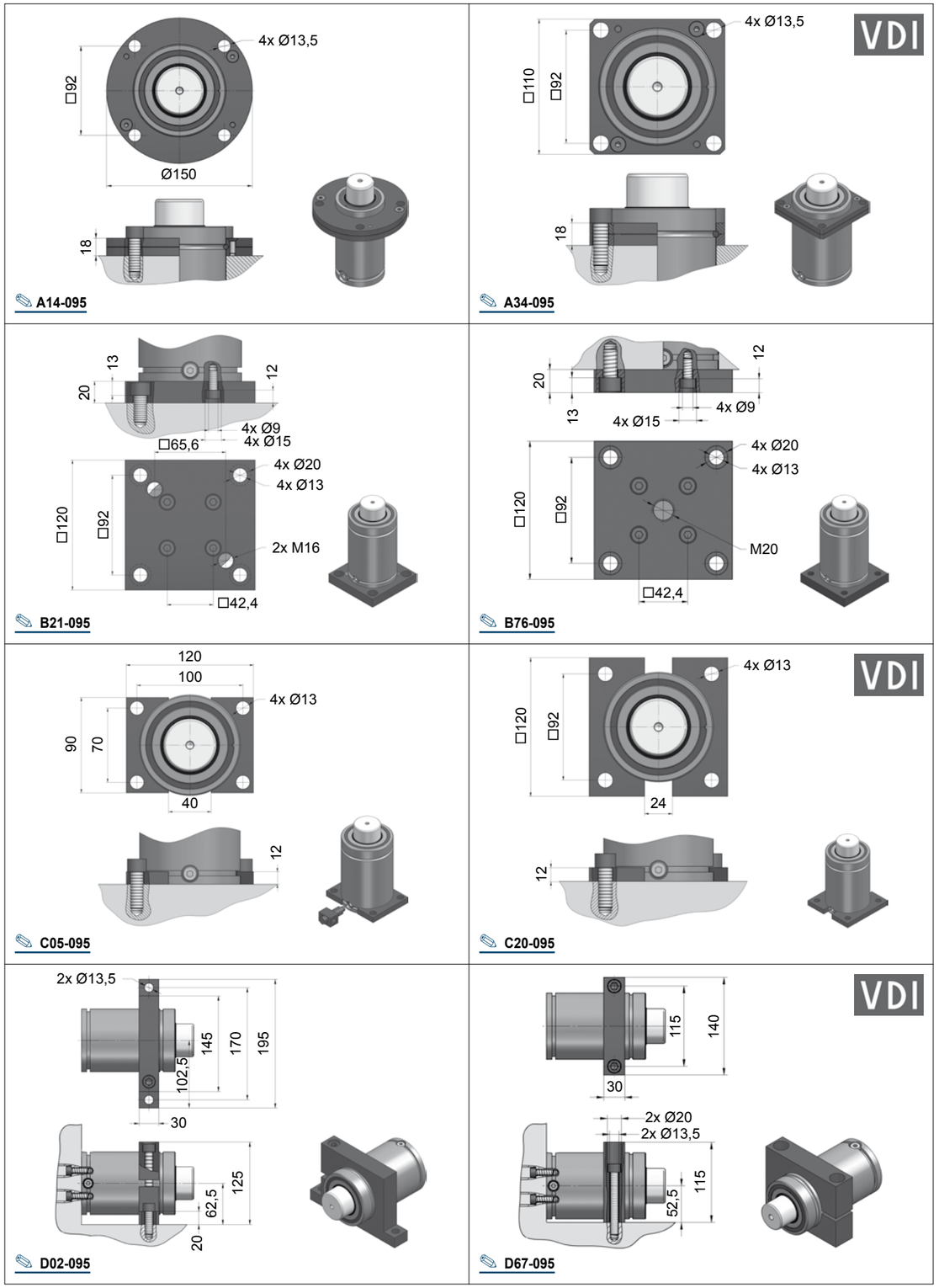


[09.03.2023]

[09.03.2023]



## Flansche für / Flanges for **CK.04000...V1**



## Technische Information Serie CWC

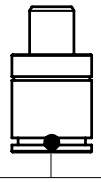
Die Gasdruckfedern der Serie **CWC** sind baugleich mit den kleineren Abmessungen der Serie **CW**, haben aber einen verstärkten Boden zur Unterbringung eines G1/8“-Anschlussgewindes.

## Technical information CWC series

The **CWC**-gas springs have the same outside dimensions as the smaller size **CW**-series. However, in order to accomodate a G1/8“ - thread, their base plate is thicker.

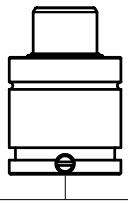
## Größenübersicht Serie CWC

## Gas spring index CWC series

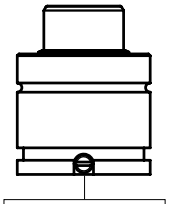


**CWC.00750…V2**
**740 daN**
**10 - 125 mm**
**Ø45**

**CWC.01000…V2**
**920 daN**
**10 - 125 mm**
**Ø50**



**CWC.01500…V1**
**1530 daN**
**13 - 125 mm**
**Ø63**



**CWC.02400…V2**
**2385 daN**
**13 - 125 mm**
**Ø75**

## SICHERHEITSSYSTEME

**Überdruck**

**Überhub**

**Freier Rückhub**

Information über die Sicherheitssysteme (Überdruck, Überhub, Freier Rückhub) erhalten Sie im Vorspann auf der Seite Azol.22.

## SAFETY SYSTEMS

**Over-Pressure**

**Over-Stroke**

**Over-Speed**

Information about the safety systems (over-pressure, over-stroke, over-speed) can be found in the introductory part on page Azol.22.

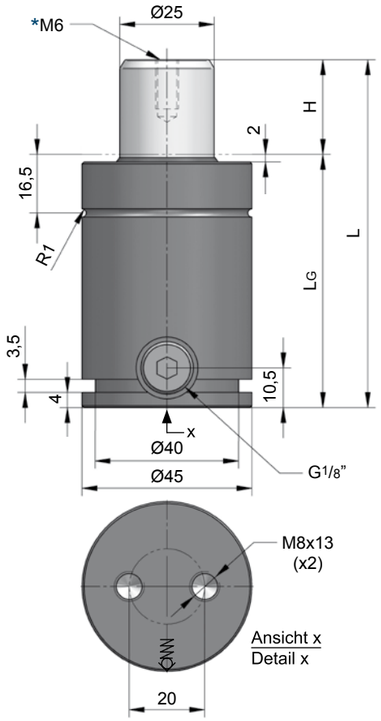
# CWC.00750...V2

**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

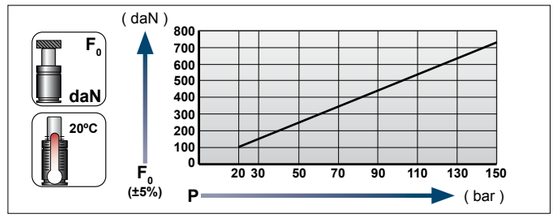
**Specifications:**

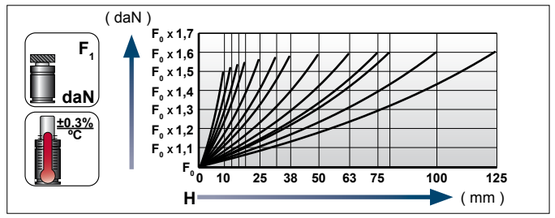
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

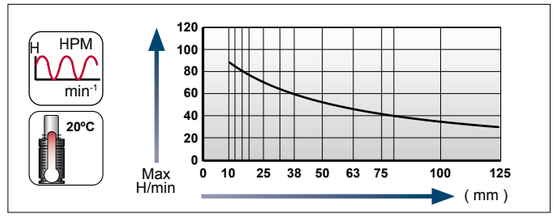



CWC.00750.025.V2

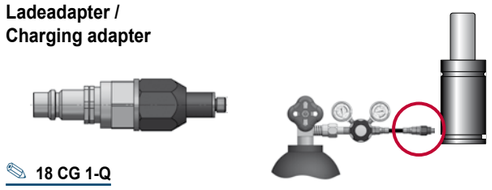
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 62 | 52 | 740 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **013** | 68 | 55 | 740 | |
| **016** | 74 | 58 | 740 | |
| **019** | 80 | 61 | 740 | |
| **025** | 92 | 67 | 740 | |
| **032** | 106 | 74 | 740 | |
| **038** | 118 | 80 | 740 | |
| **050** | 142 | 92 | 740 | |
| **063** | 168 | 105 | 740 | |
| **075** | 192 | 117 | 740 | |
| **080** | 202 | 122 | 740 | |
| **100** | 242 | 142 | 740 | |
| **125** | 292 | 167 | 740 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

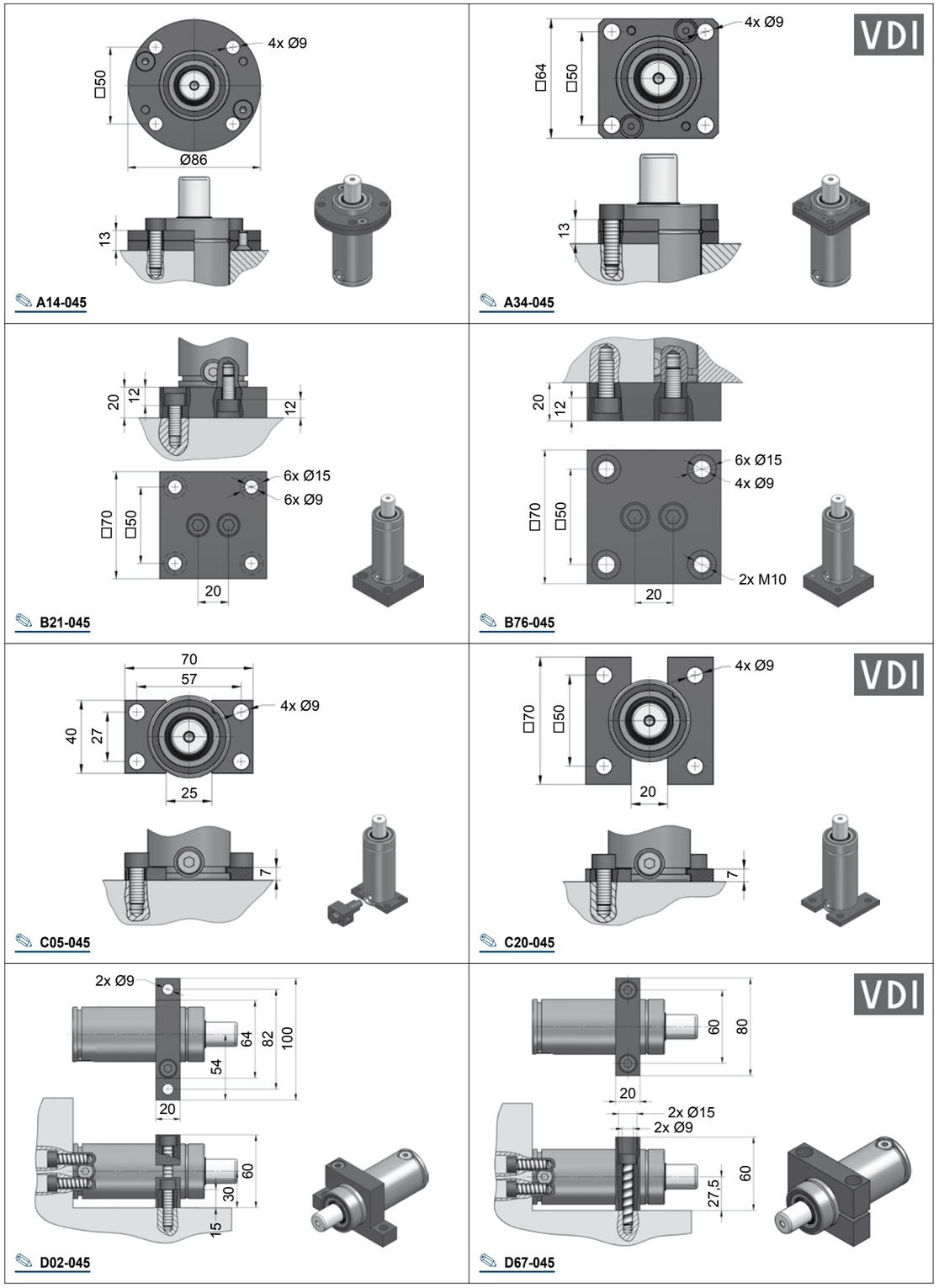


[09.03.2023]

[09.03.2023]

GDF, niedrigbauend, G1/8“
GS, smaller height, G1/8“
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

## Flansche für / Flanges for **CWC.00750...V2**






[AG]

[AG]

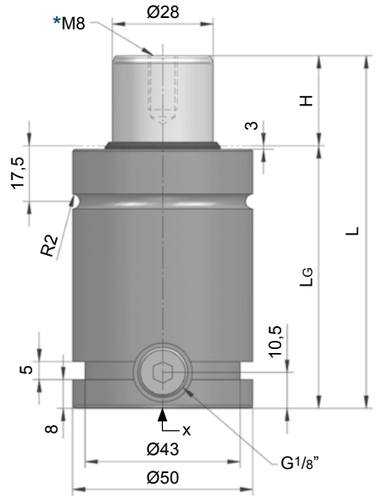
# CWC.01000...V2

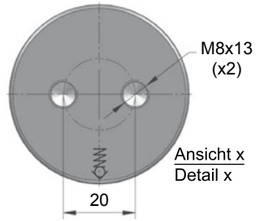
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

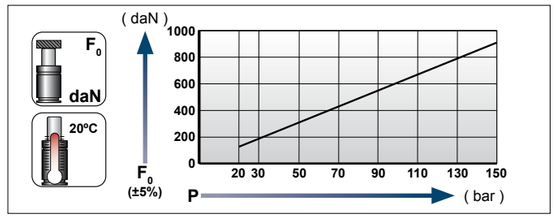
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

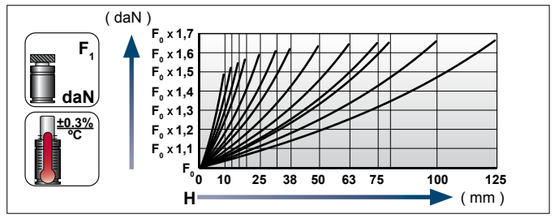


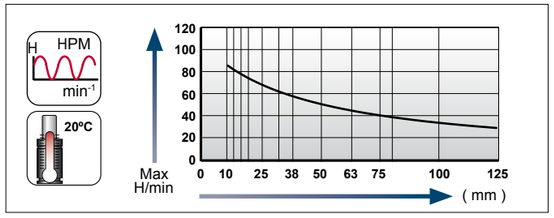




CWC.01000.032.V2

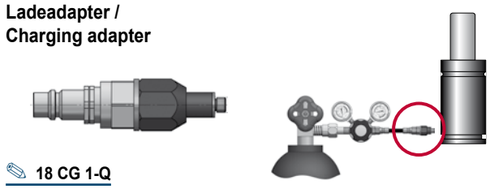
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 68 | 58 | 920 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **013** | 74 | 61 | 920 | |
| **016** | 80 | 64 | 920 | |
| **019** | 86 | 67 | 920 | |
| **025** | 98 | 73 | 920 | |
| **032** | 112 | 80 | 920 | |
| **038** | 124 | 86 | 920 | |
| **050** | 148 | 98 | 920 | |
| **063** | 174 | 111 | 920 | |
| **075** | 198 | 123 | 920 | |
| **080** | 208 | 128 | 920 | |
| **100** | 248 | 148 | 920 | |
| **125** | 298 | 173 | 920 | |




**Ladeadapter / Charging adapter**



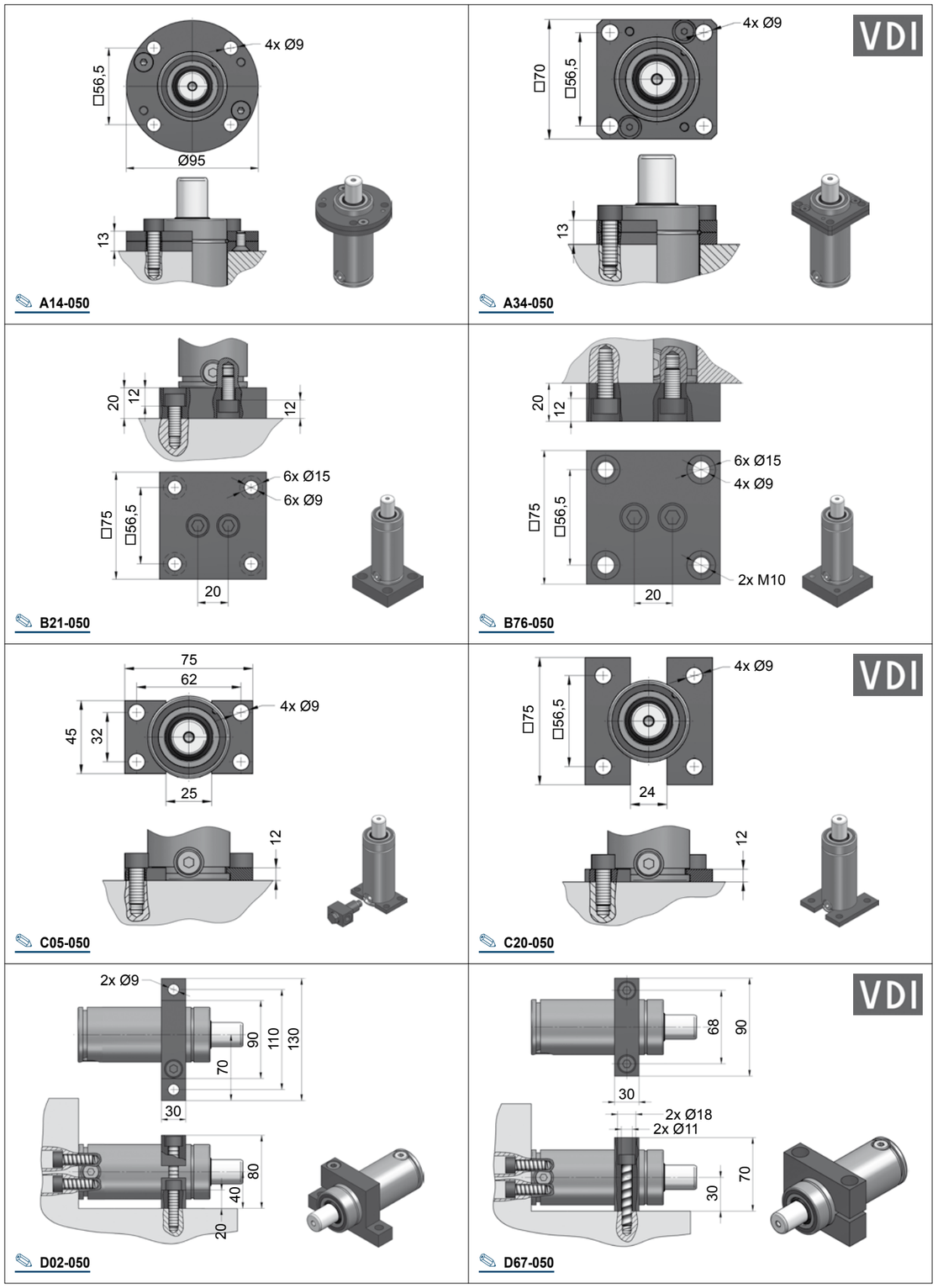
18 CG 1-Q





GDF, niedrigbauend, G1/8“
GS, smaller height, G1/8“
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

## Flansche für / Flanges for **CWC.01000...V2**



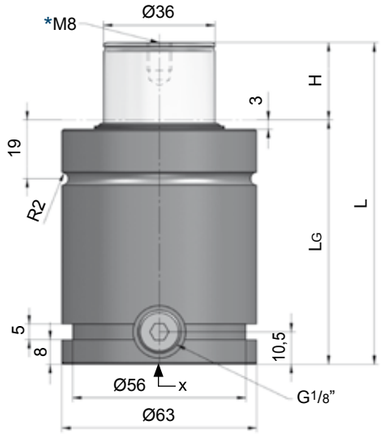
# CWC.01500…V1

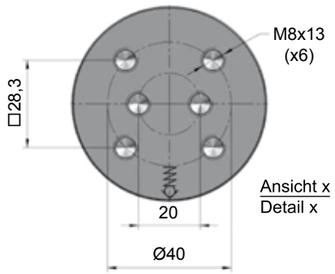
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

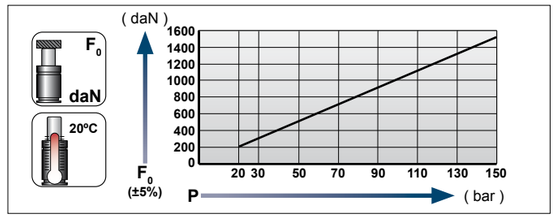
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

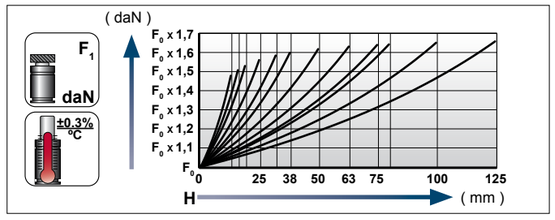


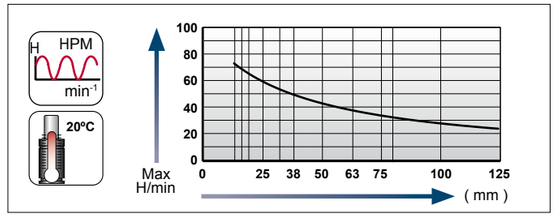




**CWC.01500.050.V1**

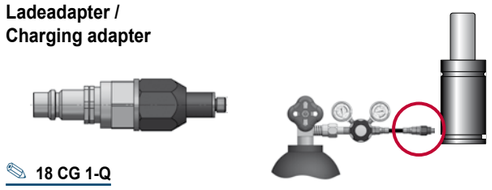
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **013** | 80 | 67 | 1530 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **016** | 86 | 70 | 1530 | |
| **019** | 92 | 73 | 1530 | |
| **025** | 104 | 79 | 1530 | |
| **032** | 118 | 86 | 1530 | |
| **038** | 130 | 92 | 1530 | |
| **050** | 154 | 104 | 1530 | |
| **063** | 180 | 117 | 1530 | |
| **075** | 204 | 129 | 1530 | |
| **080** | 214 | 134 | 1530 | |
| **100** | 254 | 154 | 1530 | |
| **125** | 304 | 179 | 1530 | |




**Ladeadapter / Charging adapter**



**18 CG 1-Q**

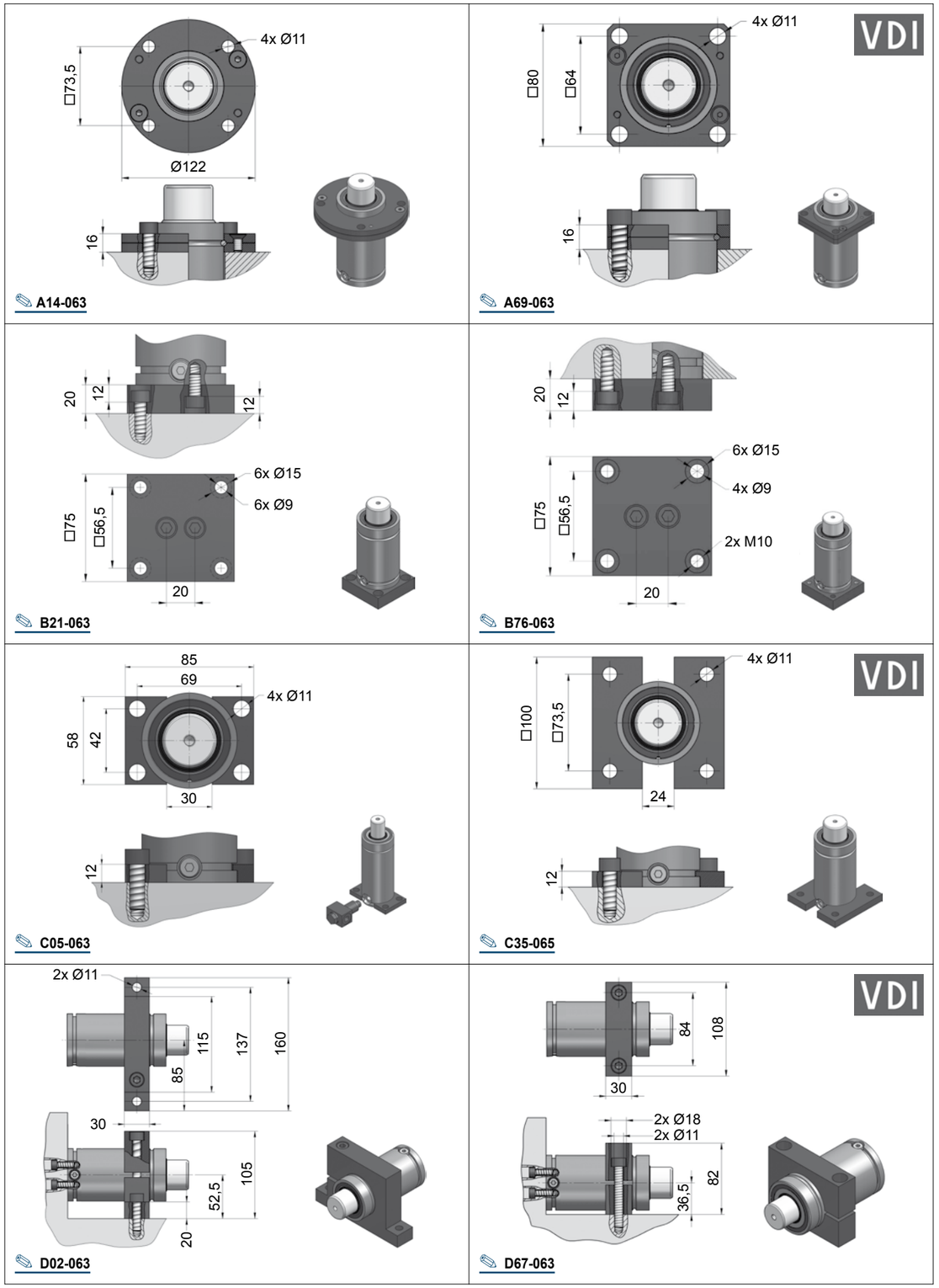


[09.03.2023]

[09.03.2023]

GDF, niedrigbauend, G1/8“
GS, smaller height, G1/8“
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

## Flansche für / Flanges for **CWC.01500…V1**



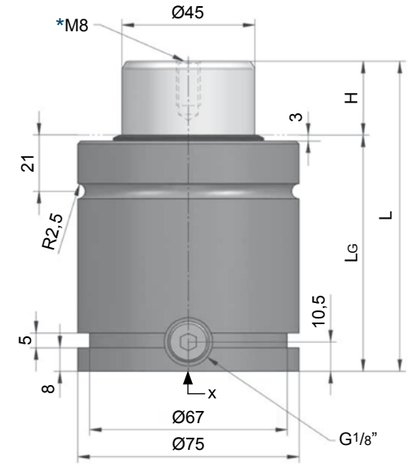
# CWC.02400...V2

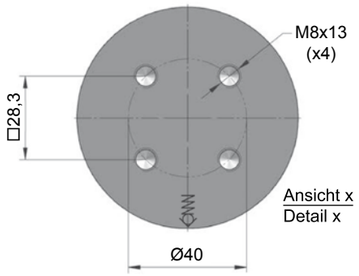
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

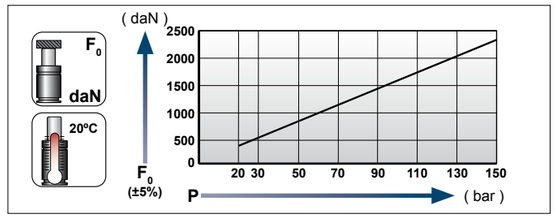
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

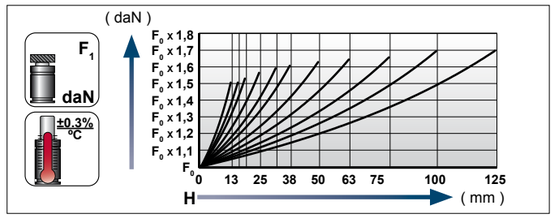


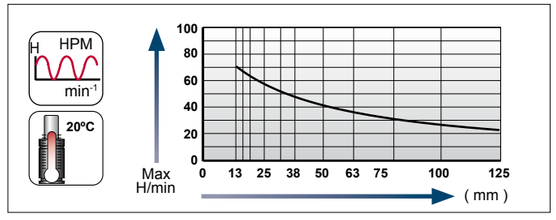




CWC.02400.075.V2

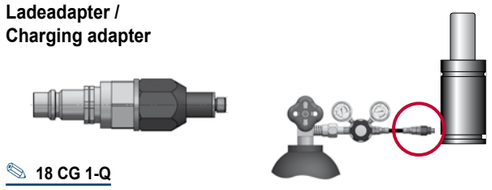
| H<br>Hub / Stroke | L<br>±0,25 | LG | Kraft / Force (150 bar)<br>Anfang / Initial<br>[daN] | <br>Ende / Final<br>[daN] |
|---|---|---|---|---|
| **013** | 81 | 68 | 2385 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **016** | 87 | 71 | 2385 | |
| **019** | 93 | 74 | 2385 | |
| **025** | 105 | 80 | 2385 | |
| **032** | 119 | 87 | 2385 | |
| **038** | 131 | 93 | 2385 | |
| **050** | 155 | 105 | 2385 | |
| **063** | 181 | 118 | 2385 | |
| **075** | 205 | 130 | 2385 | |
| **080** | 215 | 135 | 2385 | |
| **100** | 255 | 155 | 2385 | |
| **125** | 305 | 180 | 2385 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

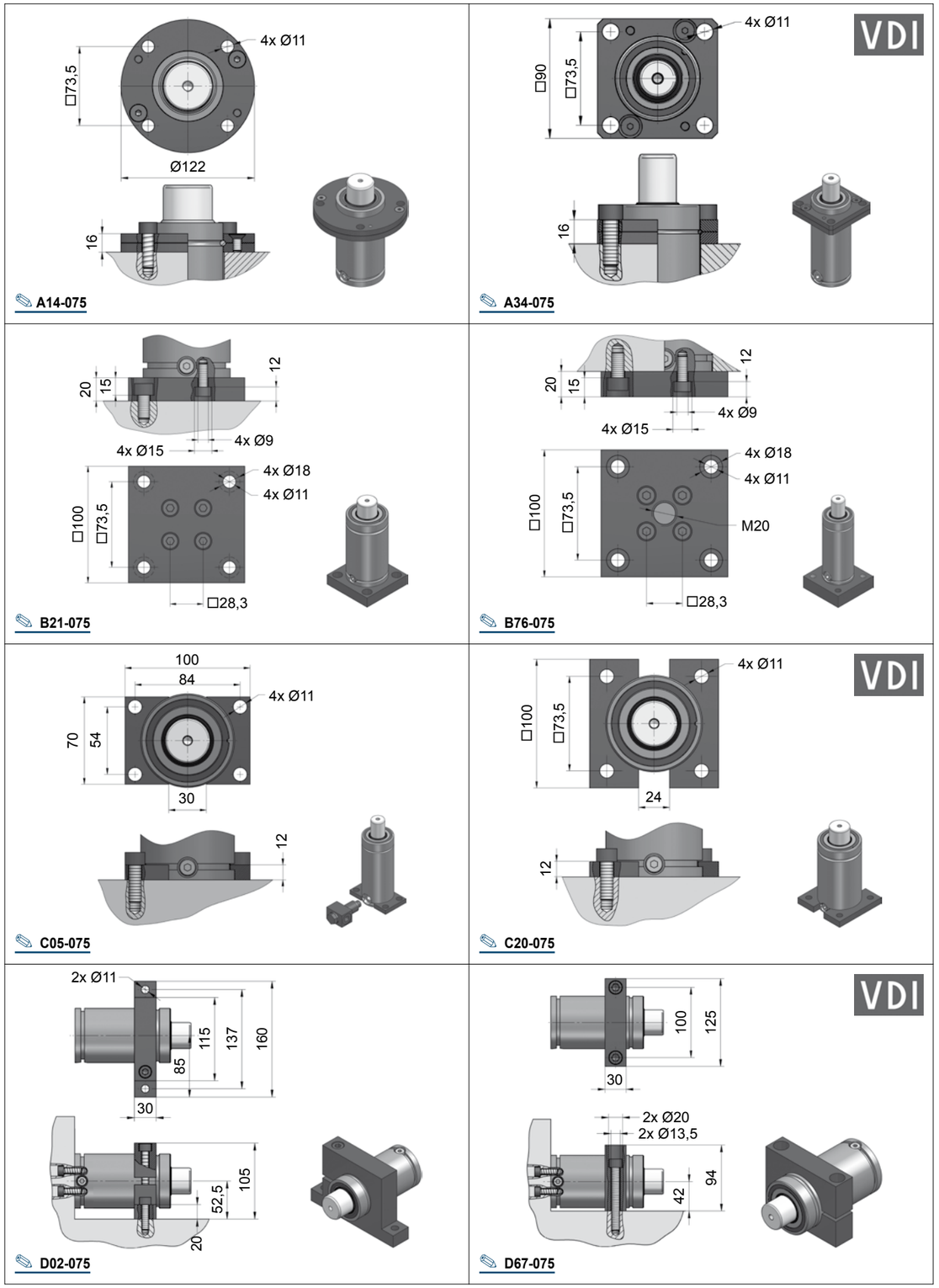


[09.03.2023]

[09.03.2023]



## Flansche für / Flanges for **CWC.02400...V2**



## Technische Information Serie CS

Beim Einsatz von Gasdruckfedern ist darauf zu achten, dass diese vor Schmutz, Ziehölen und sonstigen Fluiden geschützt werden. Zwar verfügen die meisten Gasdruckfedern über einen Schmutzabstreifer, der das Eindringen von Fremdkörpern verhindern soll, allerdings besteht der beste Schutz darin, erst gar keine Verunreinigung an die Zylinder kommen zu lassen.

Die Gasdruckfedern der **CS**-Serie haben einen besonderen Aufbau (Kolben mit Kolbenkopf). Bei diesem Zylinder-Typ entsteht an der Zylinder-Oberseite ein Saugeffekt, der Flüssigkeiten oder Schmutz in den Zylinder-innenraum ziehen kann. Da sich der Raum für den Stickstoff dadurch verringert, entsteht ein kontinuierlich ansteigender Druck, der letztendlich zum frühzeitigen Ausfall des Zylinders führen kann. Aus diesem Grund müssen die Gasdruckfedern **CS** konsequent gegen Verunreinigung geschützt werden.

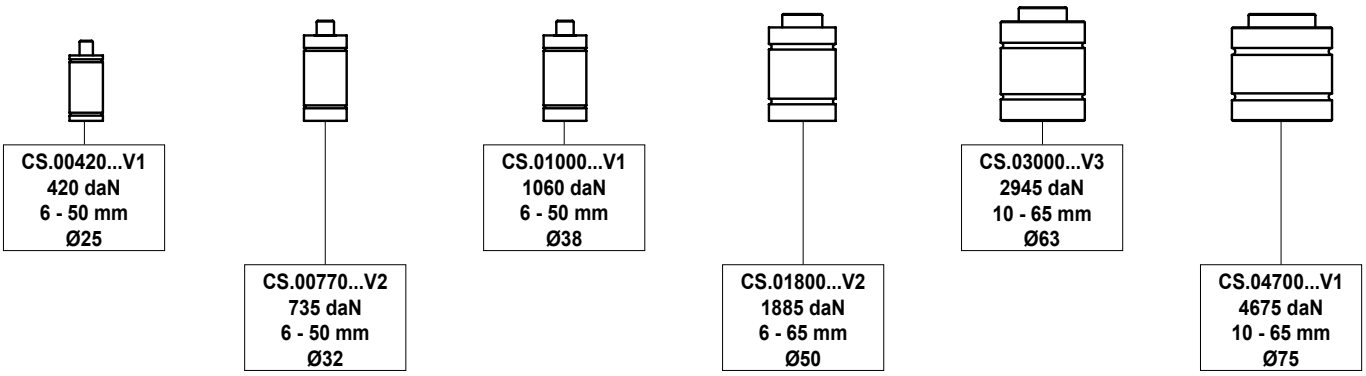
## Technical information CS series

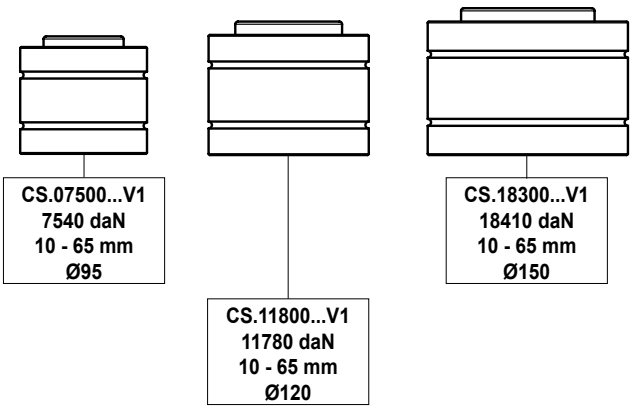
Using gas springs it is mandatory to protect them from dirt, oil and similar fluids. For that reason, most springs have a plastic dirt-scraper, to prevent the penetration of these external particles. However, the best protection is not to let any dirt get to the springs at all in the first place.

Due to the specific design of the **CS**-gas springs there is a „sucking“ effect at the top of the cylinder body. This effect can lead to foreign particles being pulled inside. Since the room designated for the nitrogne thereby continously decreases, the cylinder life - time may be negatively affected. It is for this reason, that the gas springs of this series must be well protected against dirt and fluids.

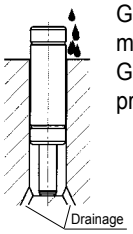
## Größenübersicht Serie CS

## Gas spring index CS series

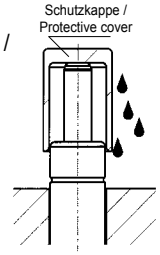


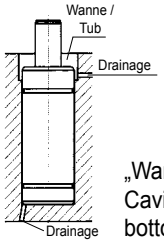




Gasdruckfeder-Einbau „über Kopf“ mit Drainage im Boden / Upside-Down - Application, drain-hole at the bottom



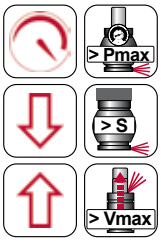

Gasdruckfeder mit Schutzkappe / Gas spring with protective cover




„Wanne“ mit Drainage oben, zusätzlich Boden-Drainage / Cavity with upper drain-hole, additional drain hole at the bottom

## SICHERHEITSSYSTEME



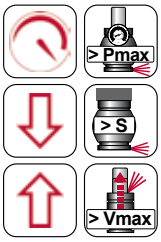

**Überdruck**

**Überhub**

**Freier Rückhub**

Information über die Sicherheitssysteme (Überdruck, Überhub, Freier Rückhub) erhalten Sie im Vorspann auf der Seite Azol.22.

## SAFETY SYSTEMS




**Over-Pressure**

**Over-Stroke**

**Over-Speed**

Information about the safety systems (over-pressure, over-stroke, over-speed) can be found in the introductory part on page Azol.22.

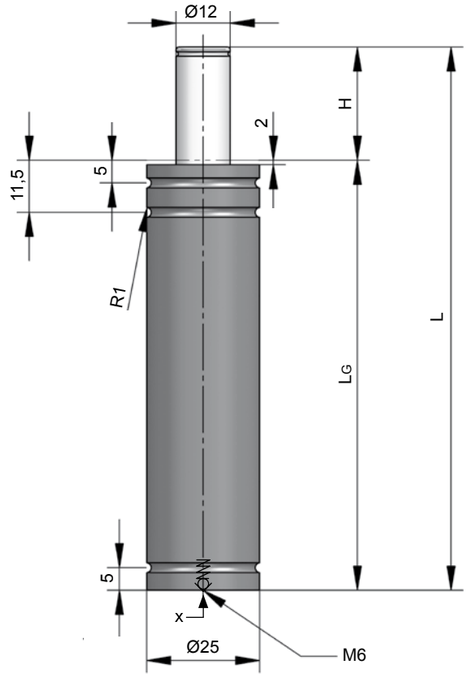
# CS.00420...V1

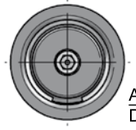
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 165 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |
| **Ventil:** | **XTC-M6** |

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 165 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |
| **Valve:** | **XTC-M6** |

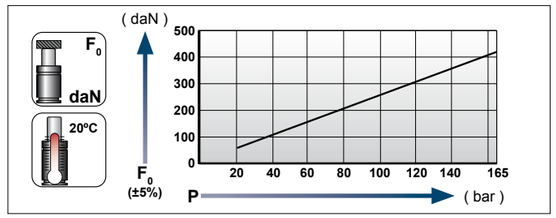


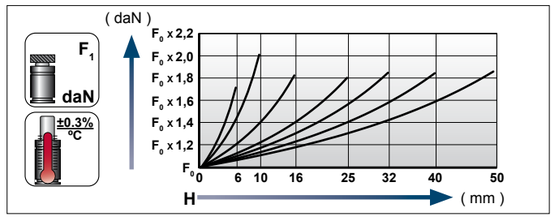



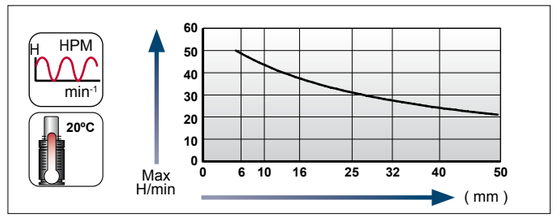
Ansicht x
Detail x

**CS.00420.032.V1**

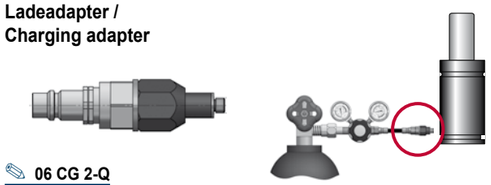
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (165 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **006** | 56 | 50 | 420 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **010** | 70 | 60 | 420 | |
| **016** | 91 | 75 | 420 | |
| **025** | 120 | 95 | 420 | |
| **032** | 140 | 108 | 420 | |
| **040** | 165 | 125 | 420 | |
| **050** | 195 | 145 | 420 | |




**Ladeadapter /**
**Charging adapter**



**06 CG 2-Q**

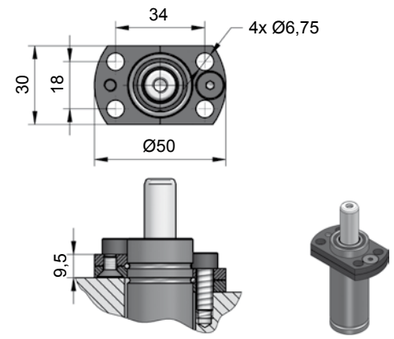


[10.03.2023]

[10.03.2023]



## Flansche für / Flanges for **CS.00420...V1**




**A44-025**

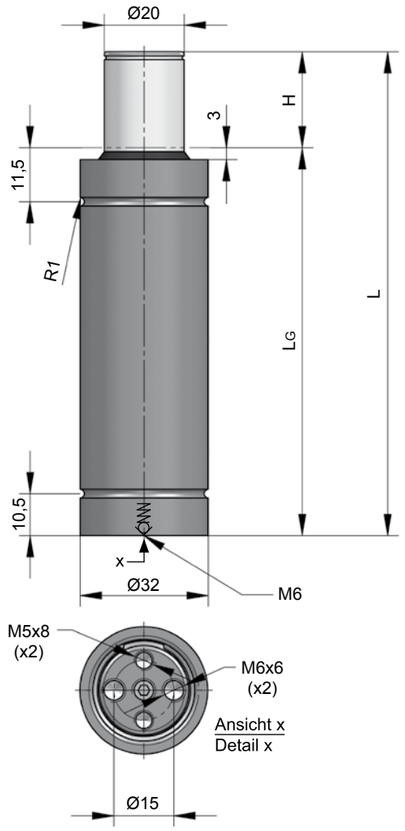
# CS.00770...V2

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

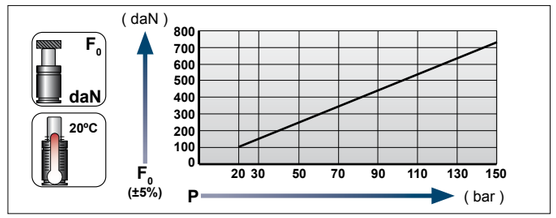
**Specifications:**

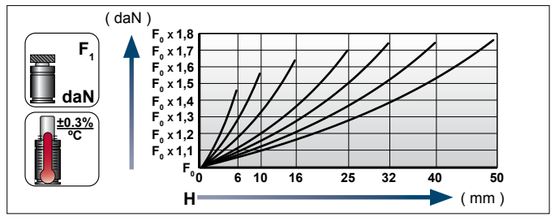
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

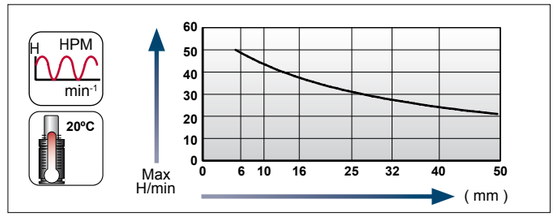



**CS.00770.032.V2**

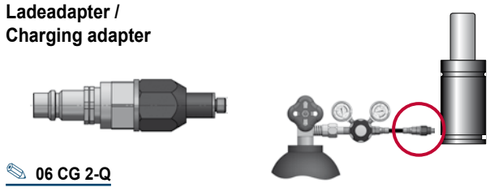
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **006** | 63 | 57 | 735 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **010** | 75 | 65 | 735 | |
| **016** | 93 | 77 | 735 | |
| **025** | 120 | 95 | 735 | |
| **032** | 140 | 108 | 735 | |
| **040** | 165 | 125 | 735 | |
| **050** | 195 | 145 | 735 | |




**Ladeadapter / Charging adapter**



**06 CG 2-Q**

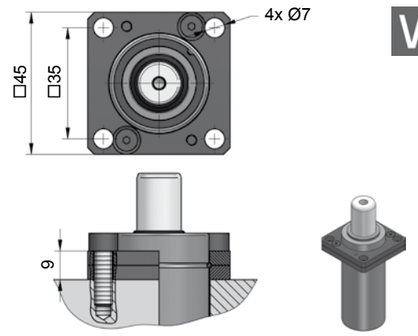


[10.03.2023]

[10.03.2023]



## Flansche für / Flanges for **CS.00770...V2**




**A34-032**

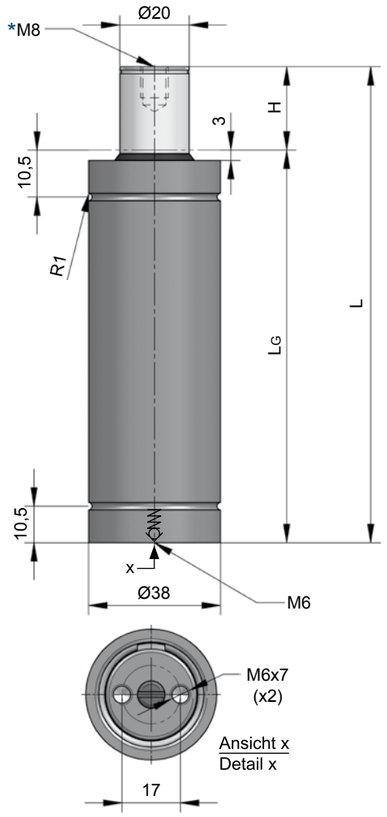
# CS.01000...V1

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

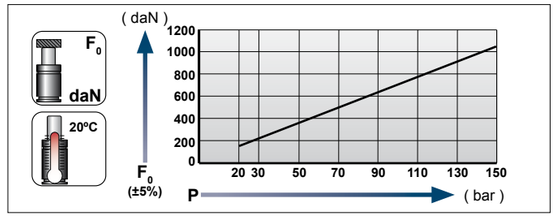
**Specifications:**

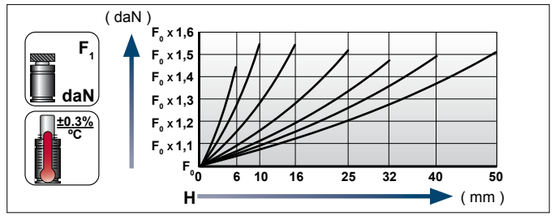
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

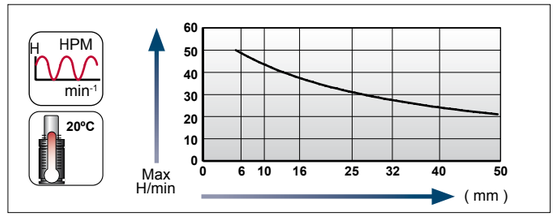



**CS.01000.016.V1**

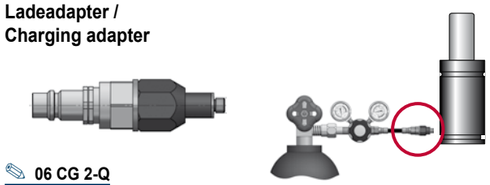
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **006** | 61 | 55 | 1060 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **010** | 78 | 68 | 1060 | |
| **016** | 100 | 84 | 1060 | |
| **025** | 135 | 110 | 1060 | |
| **032** | 167 | 135 | 1060 | |
| **040** | 195 | 155 | 1060 | |
| **050** | 230 | 180 | 1060 | |




**Ladeadapter / Charging adapter**



**06 CG 2-Q**

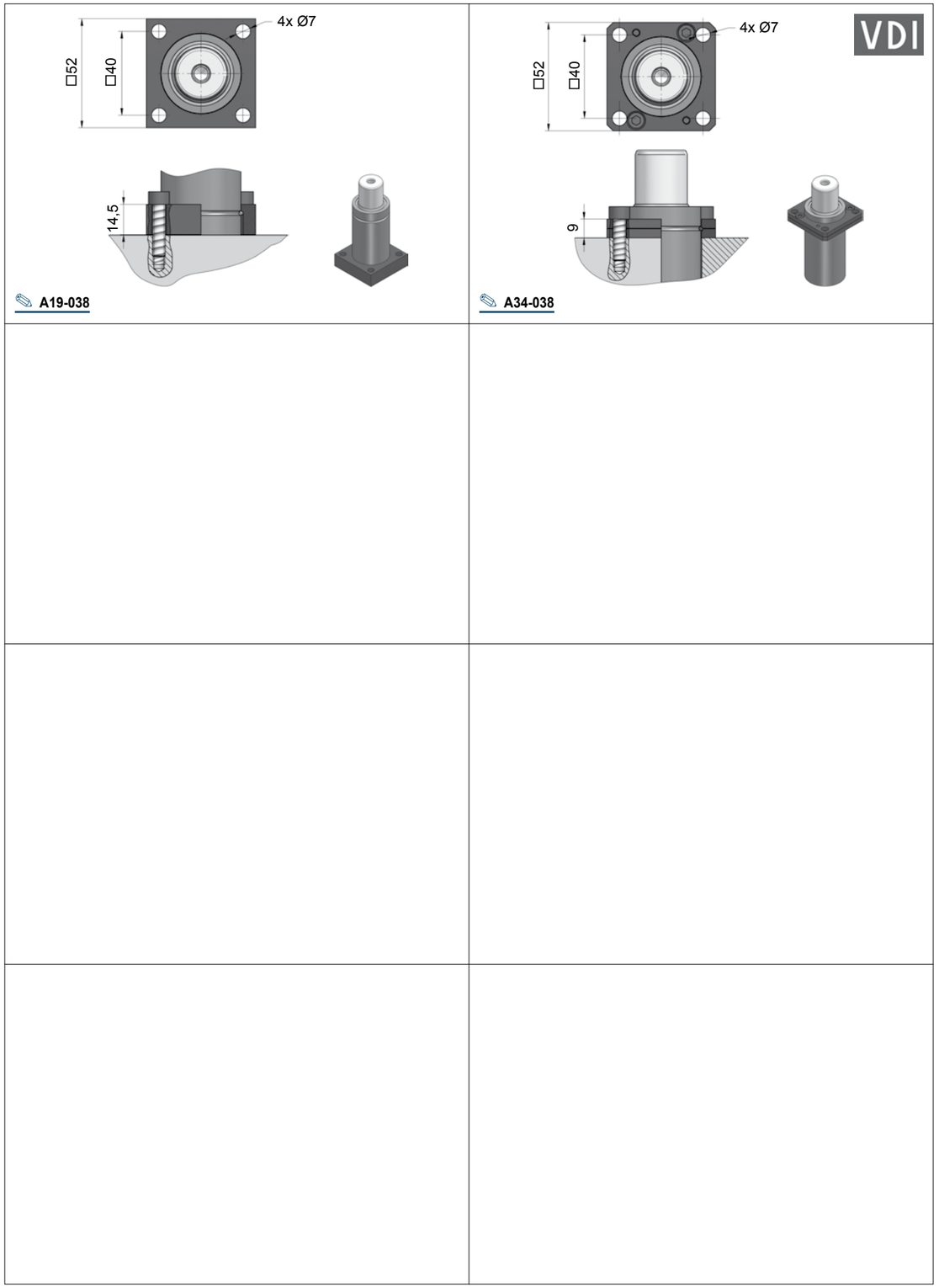


[10.03.2023]

[10.03.2023]



## Flansche für / Flanges for **CS.01000...V1**



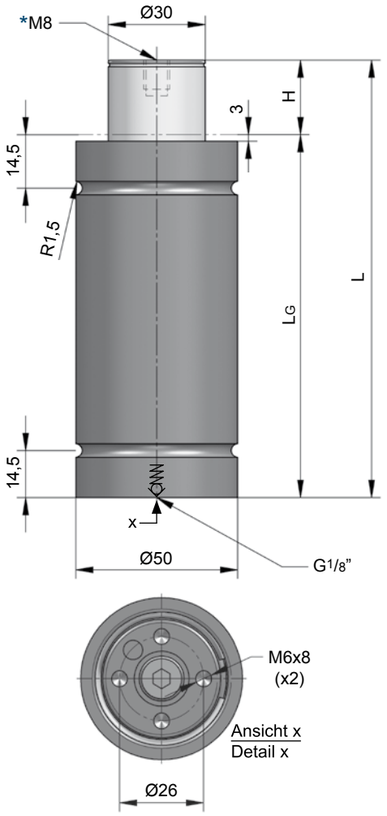
# CS.01800...V2

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

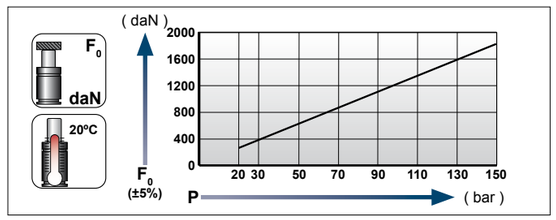
**Specifications:**

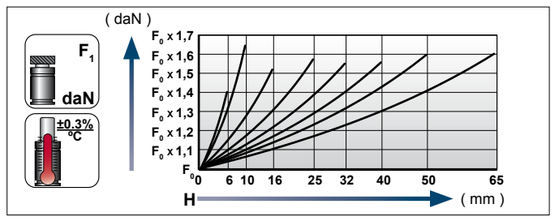
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

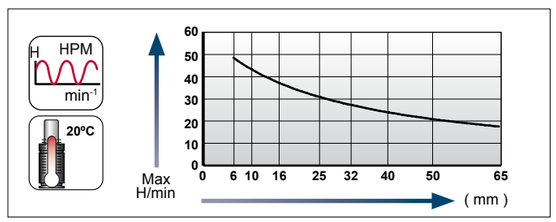



**CS.01800.025.V2**

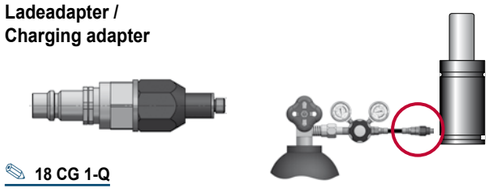
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **006** | 66 | 60 | 1885 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **010** | 80 | 70 | 1885 | |
| **016** | 106 | 90 | 1885 | |
| **025** | 135 | 110 | 1885 | |
| **032** | 162 | 130 | 1885 | |
| **040** | 190 | 150 | 1885 | |
| **050** | 220 | 170 | 1885 | |
| **065** | 271 | 206 | 1885 | |




**Ladeadapter / Charging adapter**



**18 CG 1-Q**

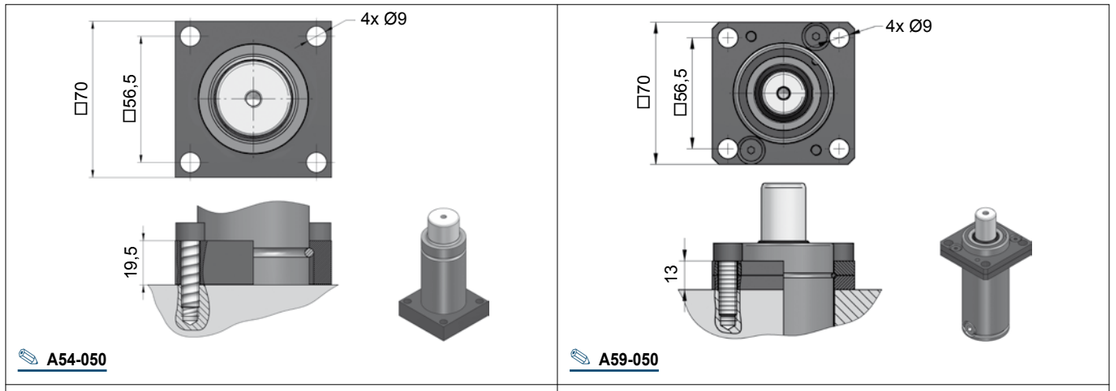


[10.03.2023]

[10.03.2023]



## Flansche für / Flanges for **CS.01800...V2**



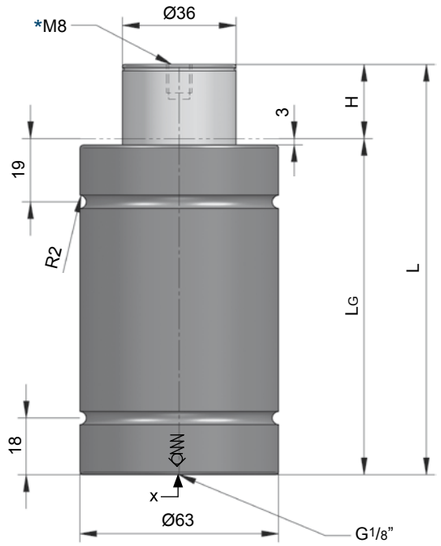
# CS.03000...V3

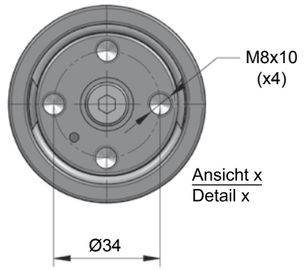
**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

**Specifications:**

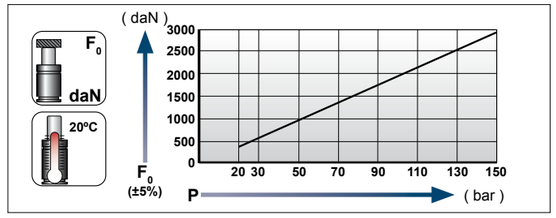
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

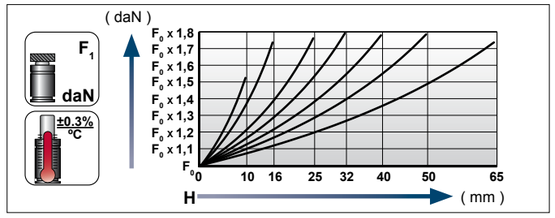


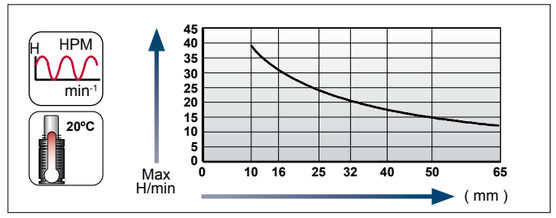




**CS.03000.016.V3**

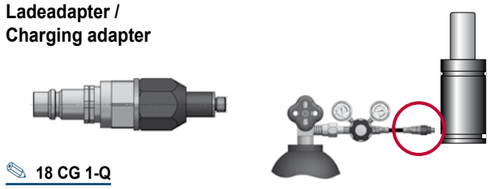
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 85 | 75 | 2945 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **016** | 103 | 87 | 2945 | |
| **025** | 130 | 105 | 2945 | |
| **032** | 150 | 118 | 2945 | |
| **040** | 175 | 135 | 2945 | |
| **050** | 205 | 155 | 2945 | |
| **065** | 256 | 191 | 2945 | |




**Ladeadapter / Charging adapter**

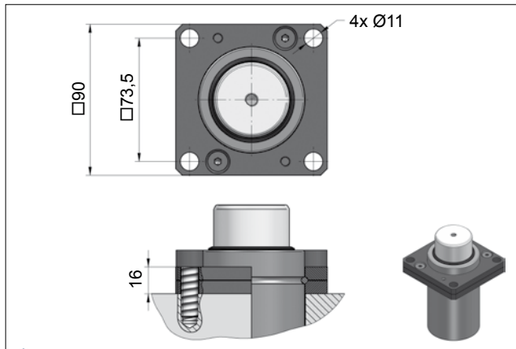


18 CG 1-Q

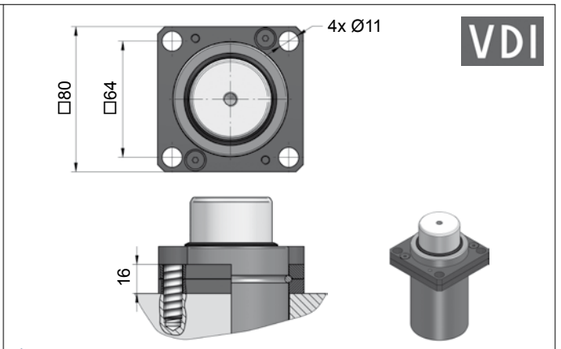




## Flansche für / Flanges for **CS.03000...V3**




A39-063




A69-063

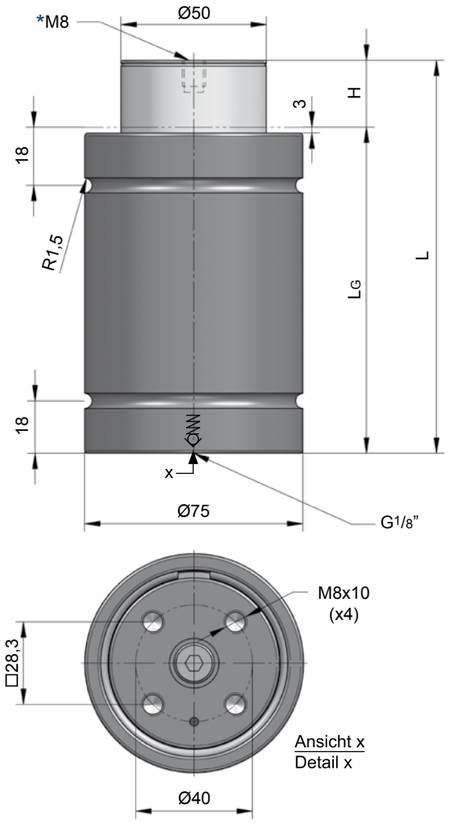
# CS.04700...V1

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

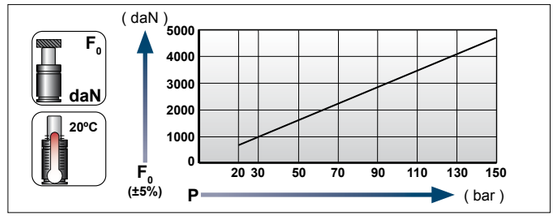
**Specifications:**

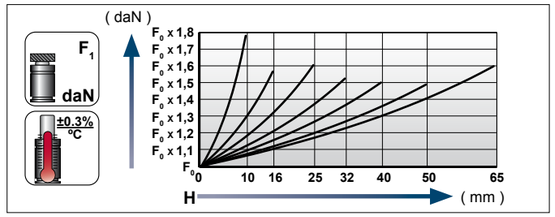
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

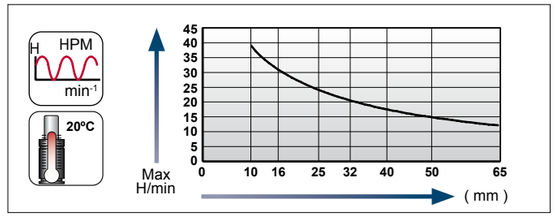



**CS.04700.032.V1**

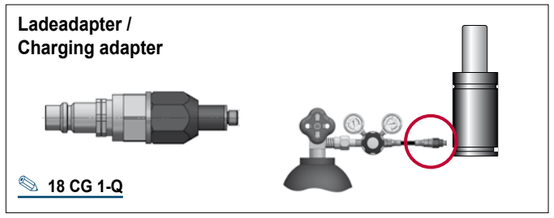
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 80 | 70 | 4675 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **016** | 106 | 90 | 4675 | |
| **025** | 135 | 110 | 4675 | |
| **032** | 167 | 135 | 4675 | |
| **040** | 200 | 160 | 4675 | |
| **050** | 240 | 190 | 4675 | |
| **065** | 273 | 208 | 4675 | |




**Ladeadapter / Charging adapter**



**18 CG 1-Q**

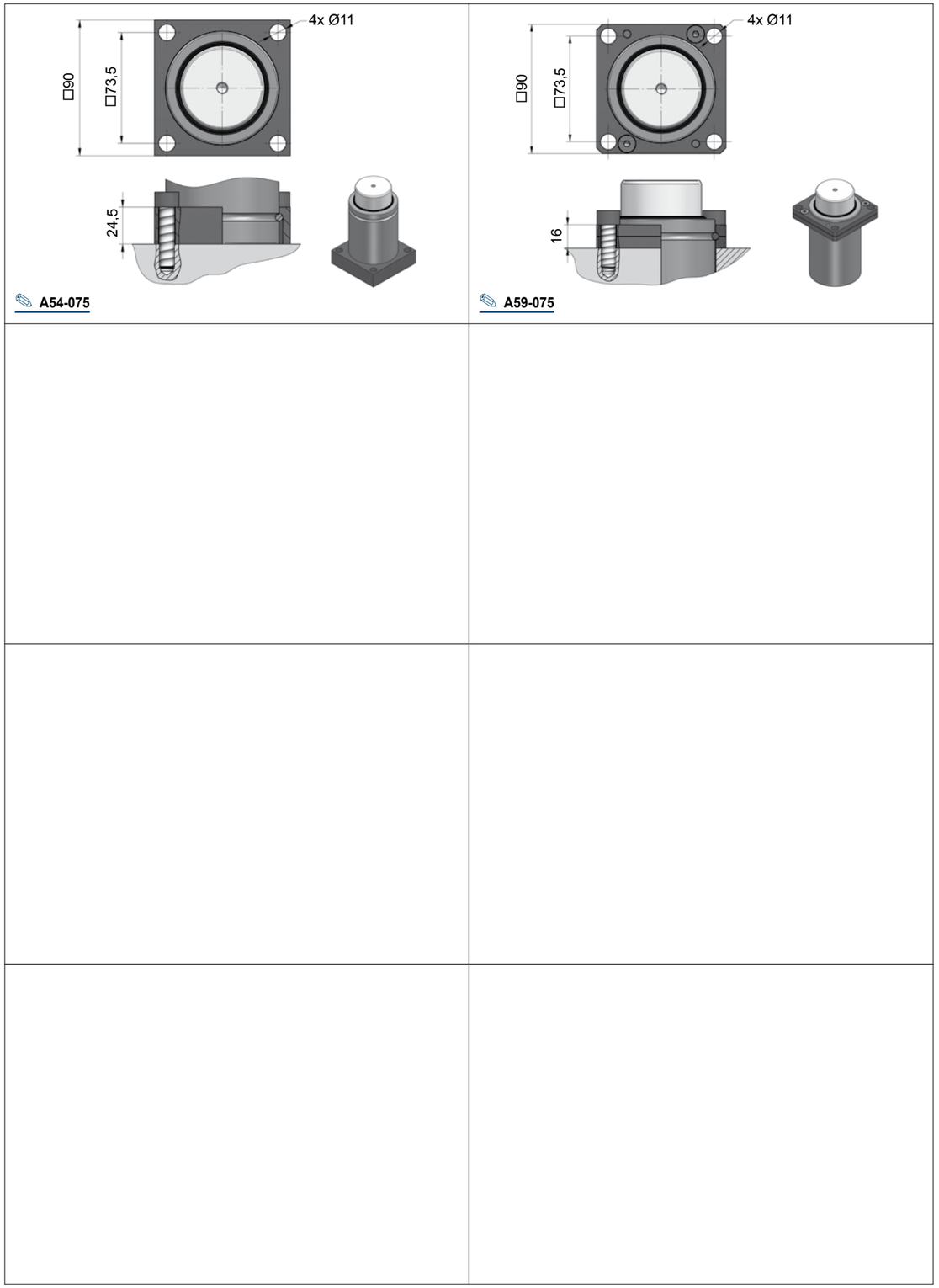


[10.03.2023]

[10.03.2023]



## Flansche für / Flanges for **CS.04700...V1**



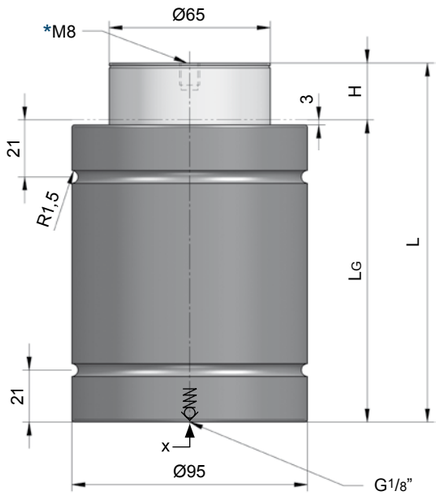
# CS.07500...V1

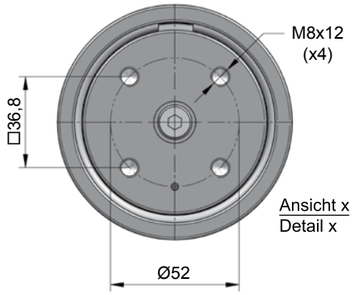
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

**Specifications:**

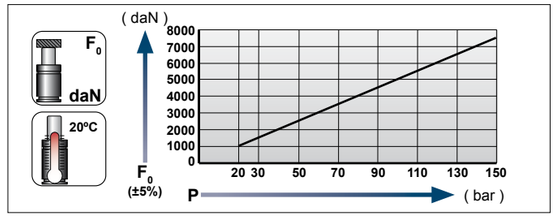
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 -80 °C |
| Max. piston rod speed: | 0,5 m/s |

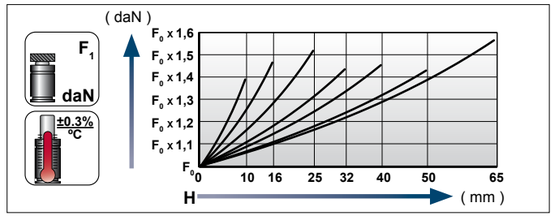


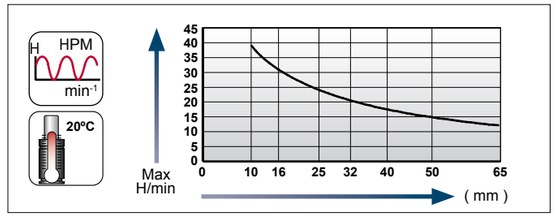




**CS.07500.040.V1**

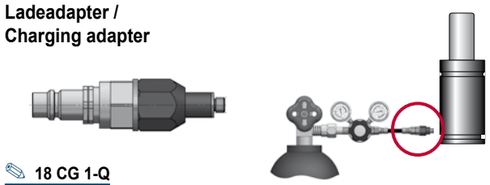
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 90 | 80 | 7540 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **016** | 116 | 100 | 7540 | |
| **025** | 145 | 120 | 7540 | |
| **032** | 182 | 150 | 7540 | |
| **040** | 210 | 170 | 7540 | |
| **050** | 255 | 205 | 7540 | |
| **065** | 279 | 214 | 7540 | |




**Ladeadapter / Charging adapter**



**18 CG 1-Q**

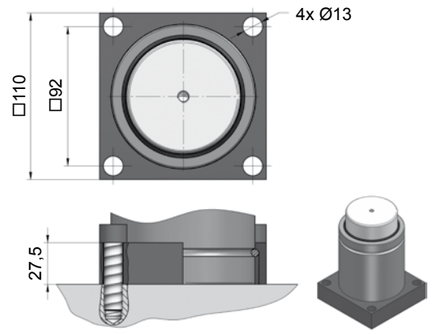


[10.03.2023]

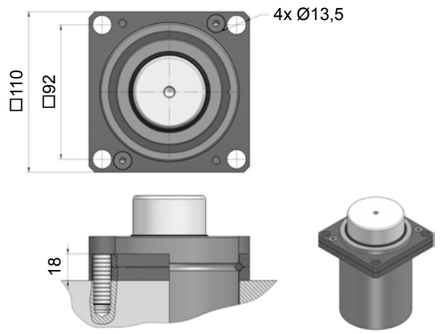
[10.03.2023]



## Flansche für / Flanges for **CS.07500...V1**




**A54-095**




**A59-095**

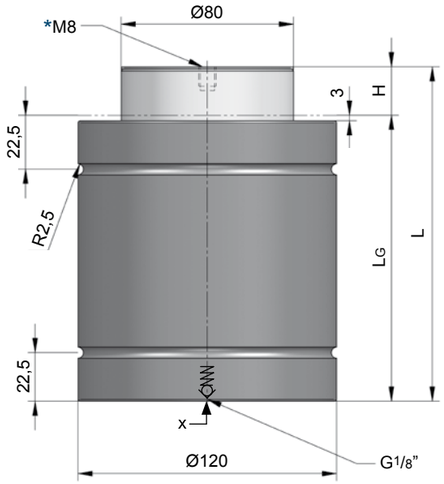
# CS.11800...V1

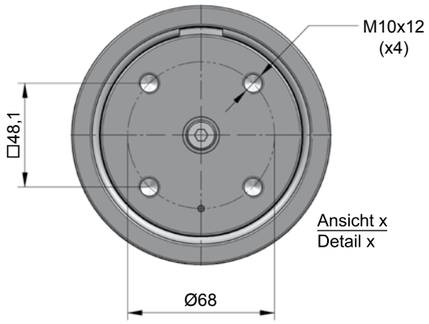
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

**Specifications:**

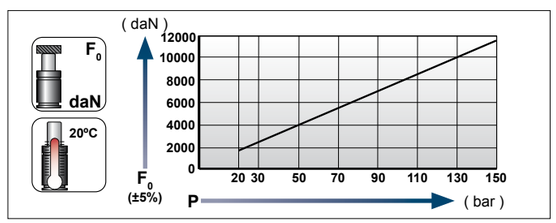
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

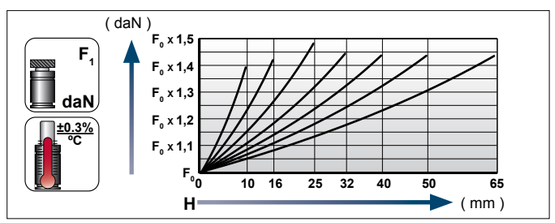


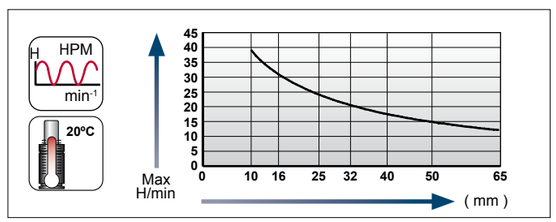




**CS.11800.050.V1**

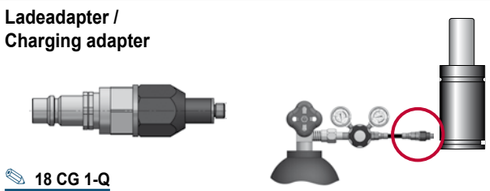
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 100 | 90 | 11780 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **016** | 126 | 110 | 11780 | |
| **025** | 155 | 130 | 11780 | |
| **032** | 187 | 155 | 11780 | |
| **040** | 220 | 180 | 11780 | |
| **050** | 260 | 210 | 11780 | |
| **065** | 320 | 255 | 11780 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

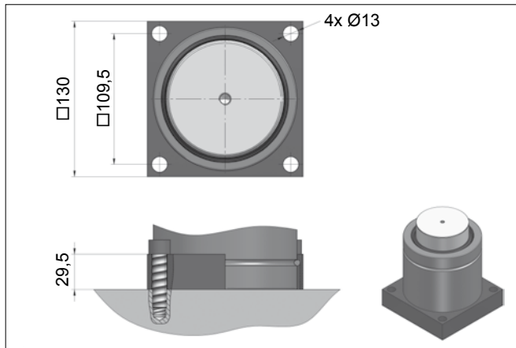


[10.03.2023]

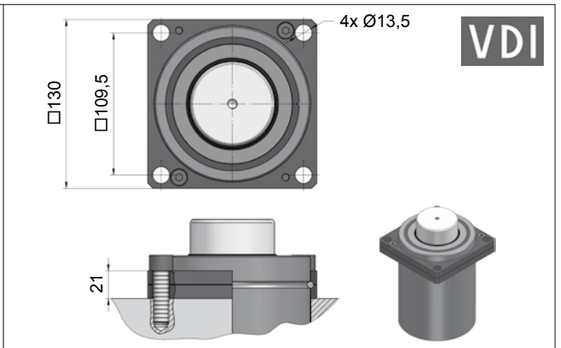
[10.03.2023]



## Flansche für / Flanges for **CS.11800...V1**




A19-120




A34-120

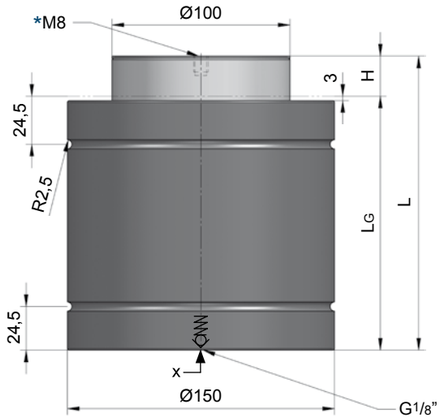
# CS.18300...V1

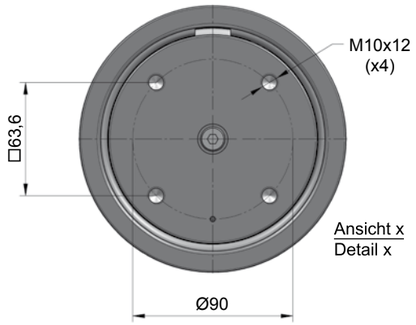
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

**Specifications:**

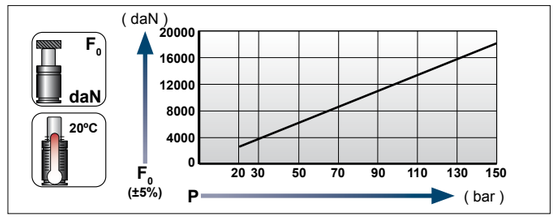
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

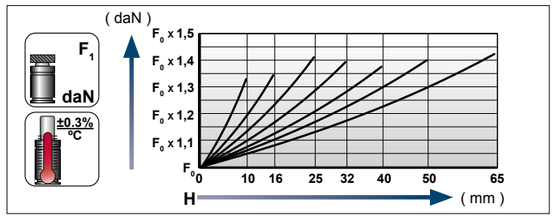


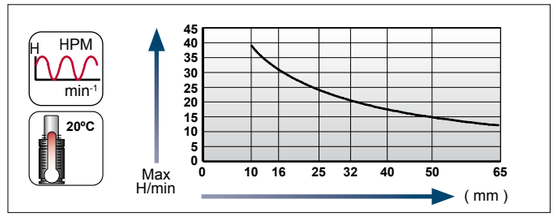




**CS.18300.010.V1**

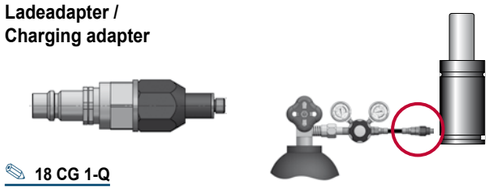
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 110 | 100 | 18410 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **016** | 136 | 120 | 18410 | |
| **025** | 165 | 140 | 18410 | |
| **032** | 197 | 165 | 18410 | |
| **040** | 235 | 195 | 18410 | |
| **050** | 270 | 220 | 18410 | |
| **065** | 323 | 258 | 18410 | |




**Ladeadapter / Charging adapter**



**18 CG 1-Q**

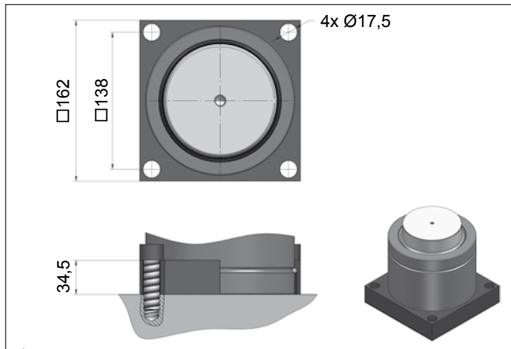


[10.03.2023]

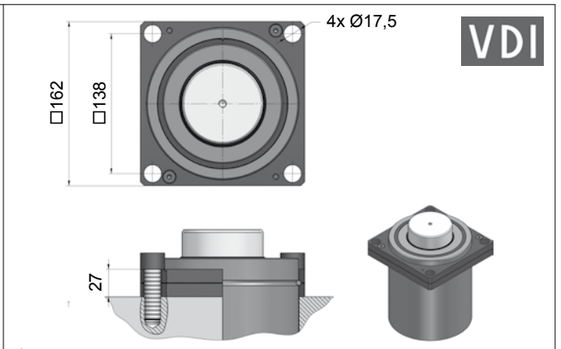
[10.03.2023]



## Flansche für / Flanges for **CS.18300...V1**




**A19-150**




**A34-150**

## Technische Information Serie CS-KC(V)

Beim Einsatz von Gasdruckfedern ist darauf zu achten, dass diese vor Schmutz, Ziehölen und sonstigen Fluiden geschützt werden. Zwar verfügen die meisten Gasdruckfedern über einen Schmutzabstreifer, der das Eindringen von Fremdkörpern verhindern soll, allerdings besteht der beste Schutz darin, erst gar keine Verunreinigung an die Zylinder kommen zu lassen.

Die Gasdruckfedern der **CS**-Serie haben einen besonderen Aufbau (Kolben mit Kolbenkopf). Bei diesem Zylinder-Typ entsteht an der Zylinder-Oberseite ein Saugeffekt, der Flüssigkeiten oder Schmutz in den Zylinderinnenraum ziehen kann. Da sich der Raum für den Stickstoff dadurch verringert, entsteht ein kontinuierlich ansteigender Druck, der letztendlich zum frühzeitigen Ausfall des Zylinders führen kann. Aus diesem Grund müssen die Gasdruckfedern **CS** konsequent gegen Verunreinigung geschützt werden.

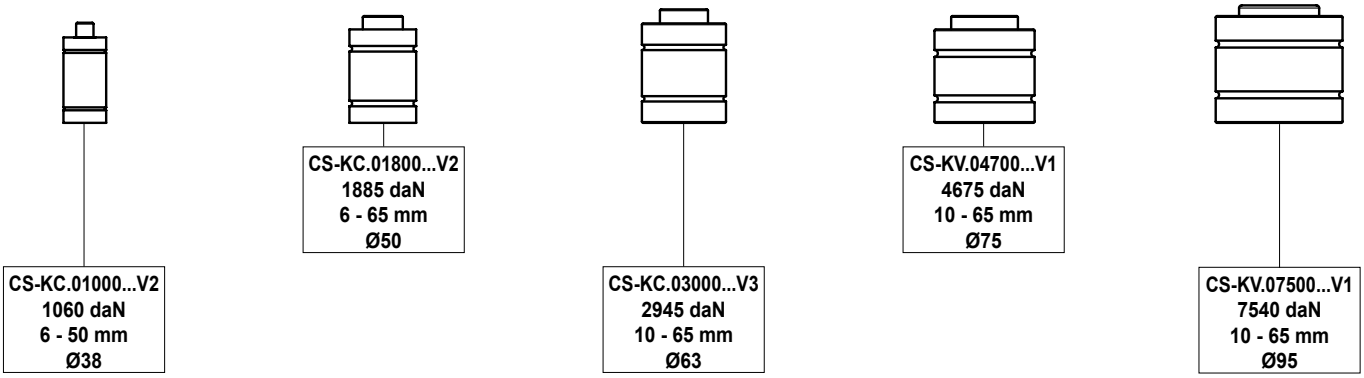
## Technical information CS-KC(V) series

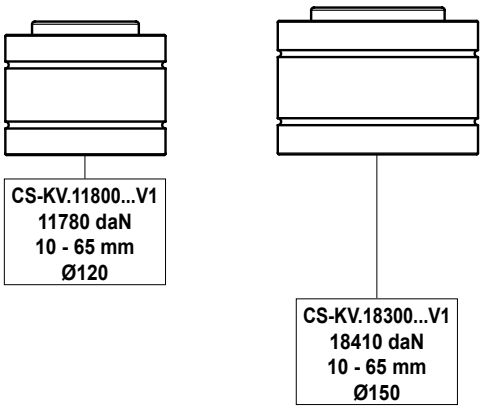
Using gas springs it is mandatory to protect them from dirt, oil and similar fluids. For that reason, most springs have a plastic dirt-scraper, to prevent the penetration of these external particles. However, the best protection is not to let any dirt get to the springs at all in the first place.

Due to the specific design of the **CSx**-gas springs there is a „sucking“ effect at the top of the cylinder body. This effect can lead to foreign particles being pulled inside. Since the room designated for the nitrogne thereby continously decreases, the cylinder life - time may be negatively affected. It is for this reason, that the gas springs of this series must be well protected against dirt and fluids.

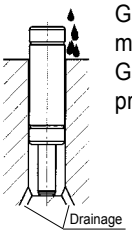
## Größenübersicht Serie CS-KC

## Gas spring index CS-KC series

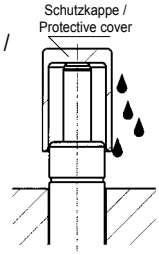


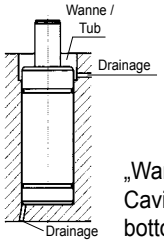




Gasdruckfeder-Einbau „über Kopf“ mit Drainage im Boden / Upside-Down - Application, drain-hole at the bottom



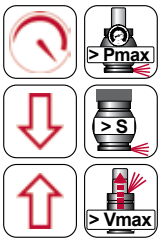

Gasdruckfeder mit Schutzkappe / Gas spring with protective cover




„Wanne“ mit Drainage oben, zusätzlich Boden-Drainage / Cavity with upper drain-hole, additional drain hole at the bottom

## SICHERHEITSSYSTEME



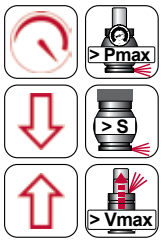

**Überdruck**

**Überhub**

**Freier Rückhub**

Information über die Sicherheitssysteme (Überdruck, Überhub, Freier Rückhub) erhalten Sie im Vorspann auf der Seite Azol.22.

## SAFETY SYSTEMS




**Over-Pressure**

**Over-Stroke**

**Over-Speed**

Information about the safety systems (over-pressure, over-stroke, over-speed) can be found in the introductory part on page Azol.22.

# CS-KC.01000...V2

**Technische Daten:**

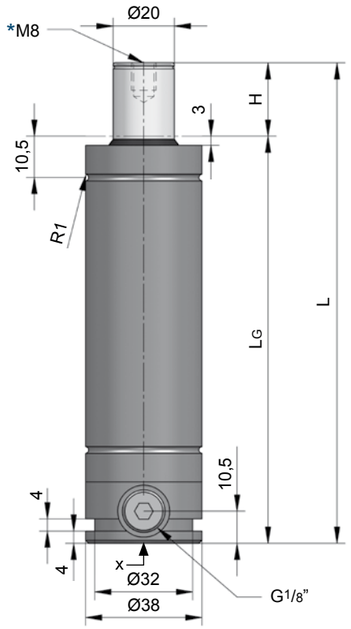
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

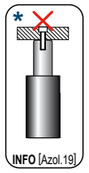
**Achtung: Wartungsarbeiten nur durch den Hersteller!**

**Specifications:**

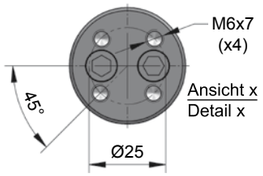
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

**Attention: Maintenance only at manufacturer's site!**



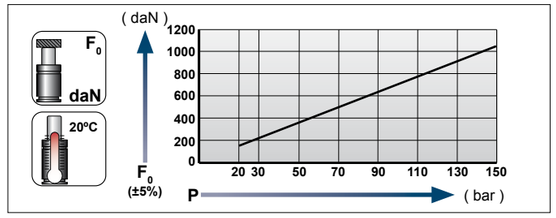



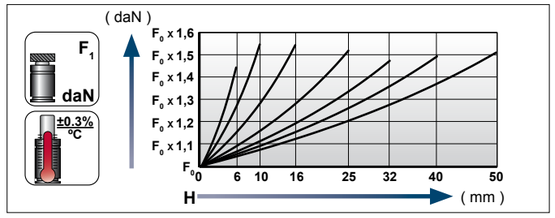

Gasdruckfeder kann nur im Verbund eingesetzt werden (ohne Ventil) / Gas spring only to be used in a permanent connection (valveless)

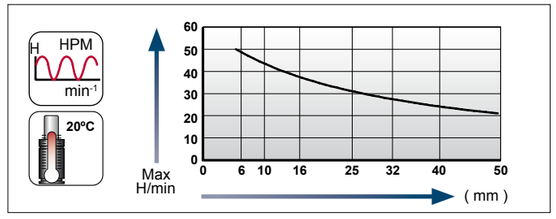



**CS-KC.01000.016.V2**

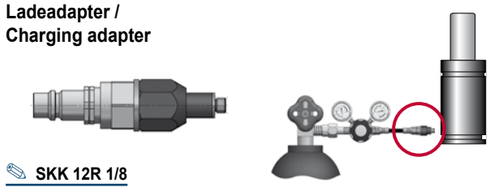
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **006** | 81 | 75 | 1060 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **010** | 98 | 88 | 1060 | |
| **016** | 120 | 104 | 1060 | |
| **025** | 155 | 130 | 1060 | |
| **032** | 187 | 155 | 1060 | |
| **040** | 215 | 175 | 1060 | |
| **050** | 250 | 200 | 1060 | |




**Ladeadapter / Charging adapter**

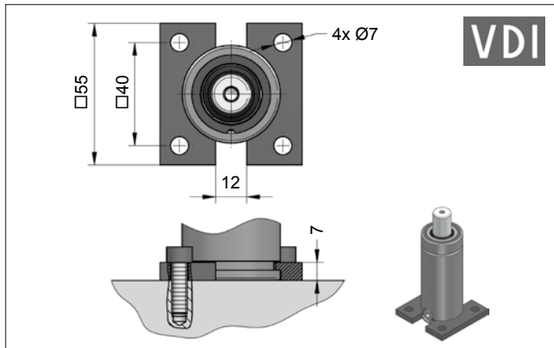


**SKK 12R 1/8**

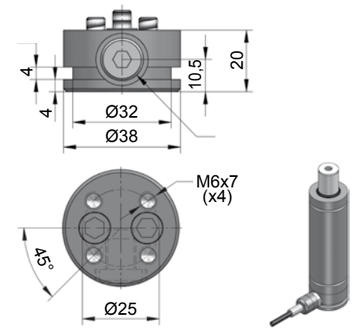


GDF, kompakt, seitlicher Anschluss
GS, compact, side connection
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

## Flansche für / Flanges for **CS-KC.01000...V2**




**C20-038**




**KC 1000**

# CS-KC.01800...V2

**Technische Daten:**

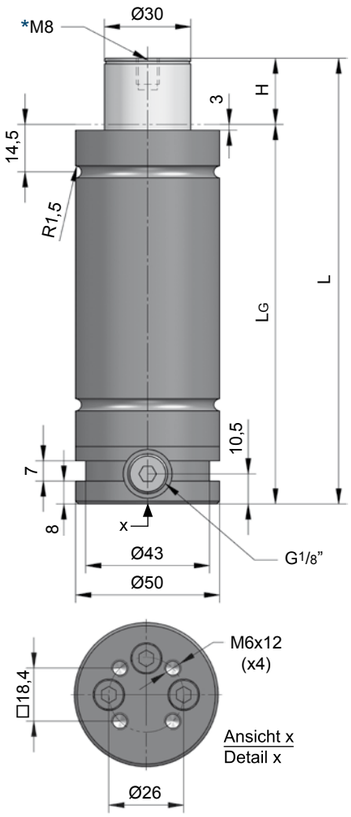
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

**Achtung: Wartungsarbeiten nur durch den Hersteller!**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

**Attention: Maintenance only at manufacturer's site!**

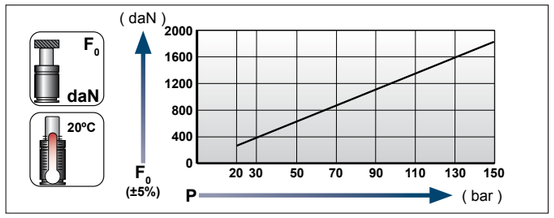


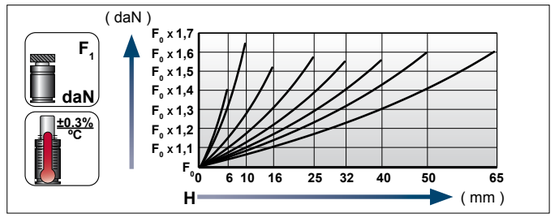

Gasdruckfeder kann nur im Verbund eingesetzt werden (ohne Ventil) / Gas spring only to be used in a permanent connection (valveless)

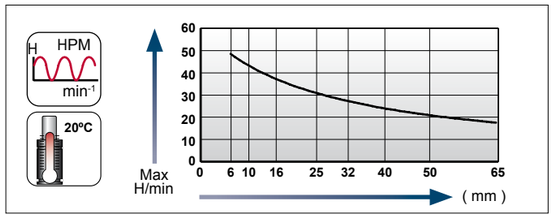
INFO [Azol.19]

CS-KC.01800.025.V2

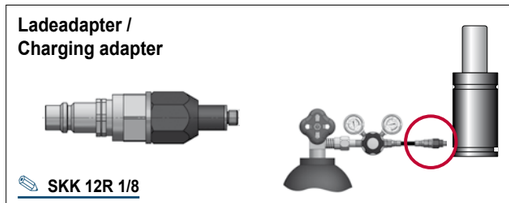
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **006** | 86 | 80 | 1885 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **010** | 100 | 90 | 1885 | |
| **016** | 126 | 110 | 1885 | |
| **025** | 155 | 130 | 1885 | |
| **032** | 182 | 150 | 1885 | |
| **040** | 210 | 170 | 1885 | |
| **050** | 240 | 190 | 1885 | |
| **065** | 291 | 226 | 1885 | |




**Ladeadapter / Charging adapter**



SKK 12R 1/8

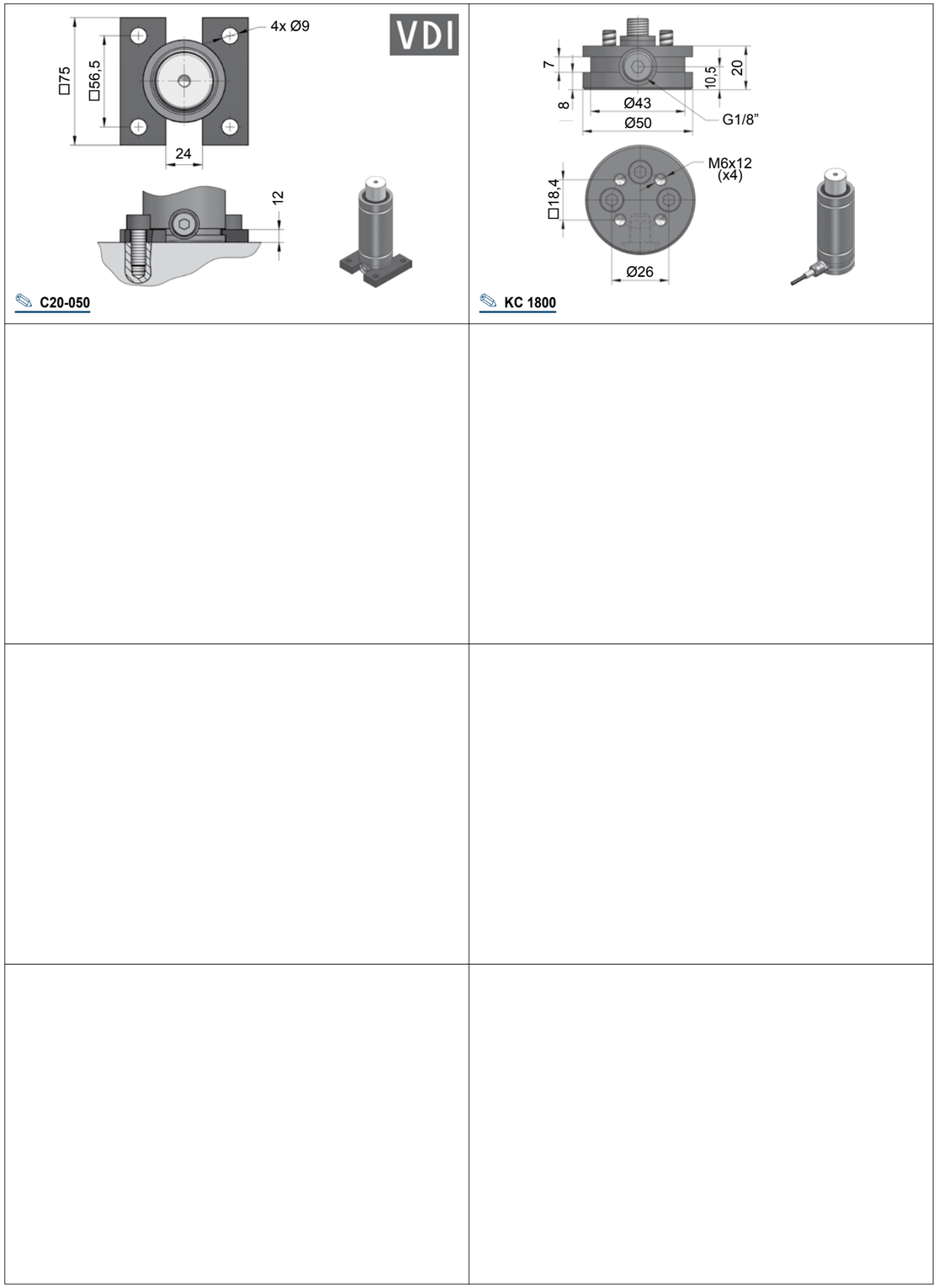


[11.03.2023]

[11.03.2023]



## Flansche für / Flanges for **CS-KC.01800...V2**






[AG]

[AG]

# CS-KC.03000...V3

**Technische Daten:**

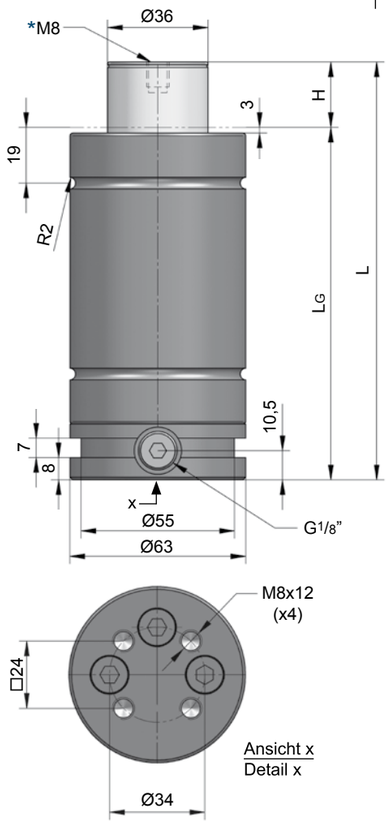
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

**Achtung: Wartungsarbeiten nur durch den Hersteller!**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

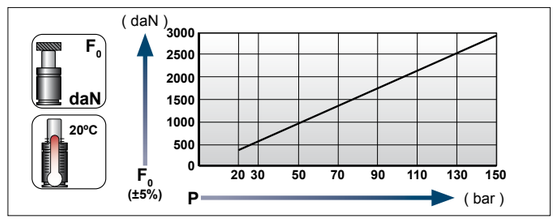
**Attention: Maintenance only at manufacturer's site!**

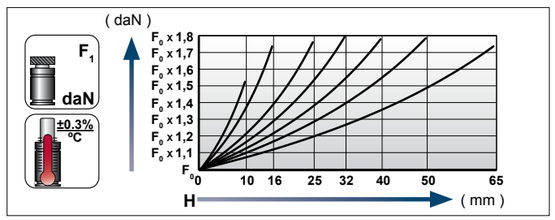


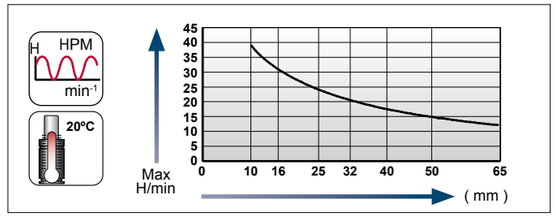

Gasdruckfeder kann nur im Verbund eingesetzt werden (ohne Ventil) / Gas spring only to be used in a permanent connection (valveless)

**CS-KC.03000.016.V3**

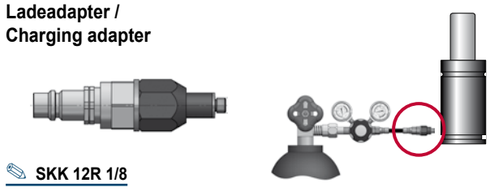
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 105 | 95 | 2945 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **016** | 123 | 107 | 2945 | |
| **025** | 150 | 125 | 2945 | |
| **032** | 170 | 138 | 2945 | |
| **040** | 195 | 155 | 2945 | |
| **050** | 225 | 175 | 2945 | |
| **065** | 276 | 211 | 2945 | |




**Ladeadapter / Charging adapter**

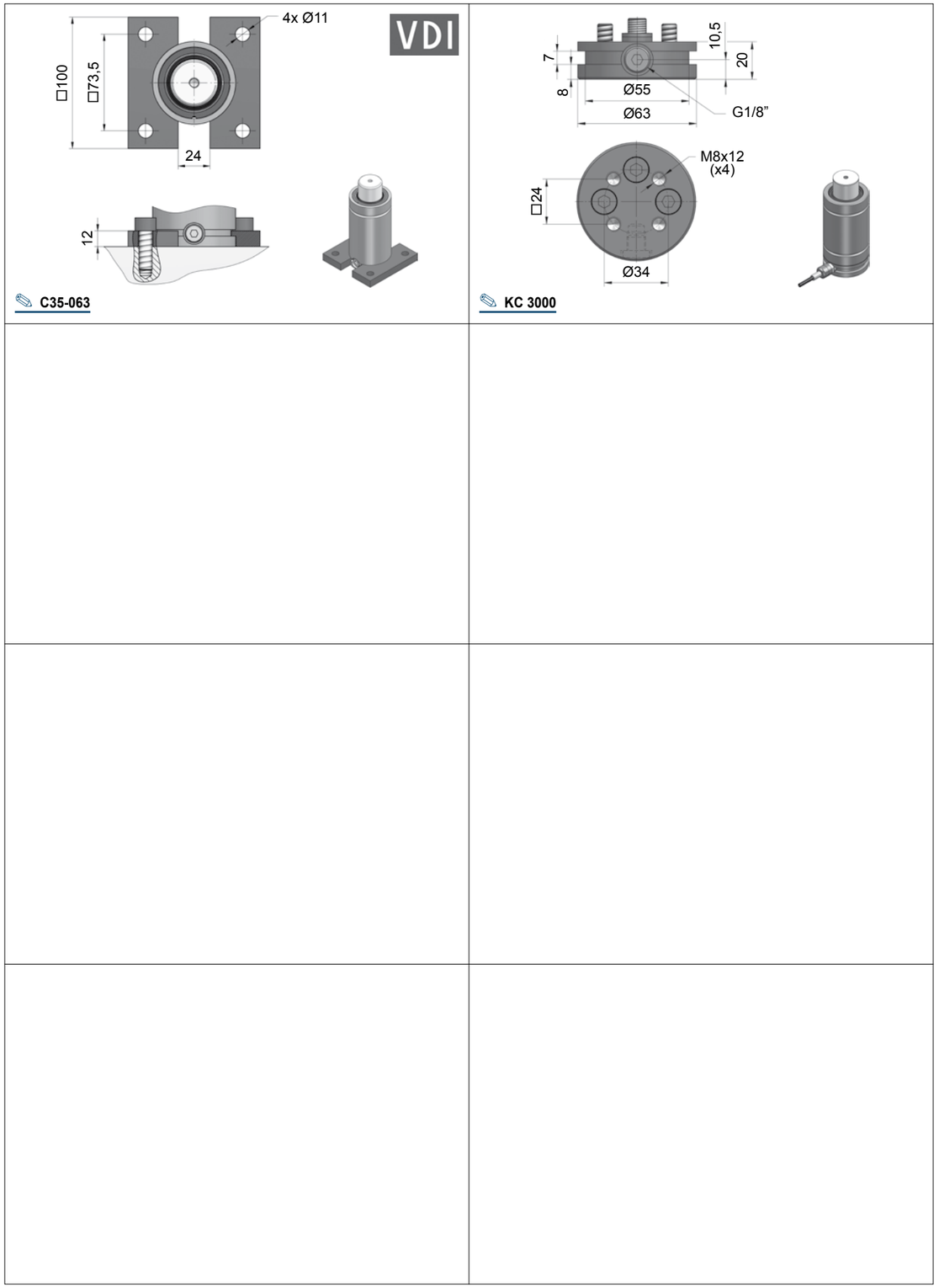


**SKK 12R 1/8**





## Flansche für / Flanges for **CS-KC.03000...V3**



# CS-KV.04700...V1

**Technische Daten:**

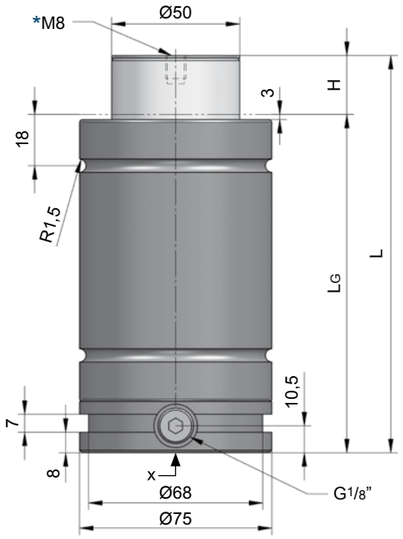
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

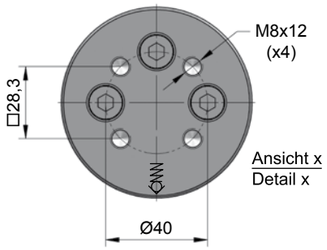
**Achtung: Wartungsarbeiten nur durch den Hersteller!**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

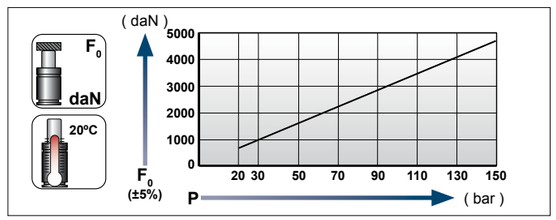
**Attention: Maintenance only at manufacturer's site!**

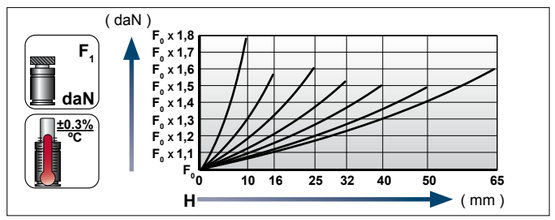


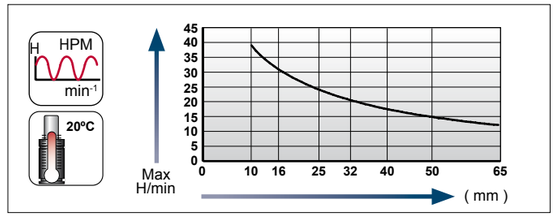




CS-KV.04700.032.V1

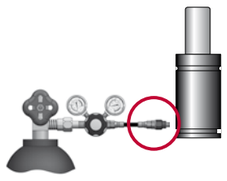
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 100 | 90 | 4675 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **016** | 126 | 110 | 4675 | |
| **025** | 155 | 130 | 4675 | |
| **032** | 187 | 155 | 4675 | |
| **040** | 220 | 180 | 4675 | |
| **050** | 260 | 210 | 4675 | |
| **065** | 293 | 228 | 4675 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

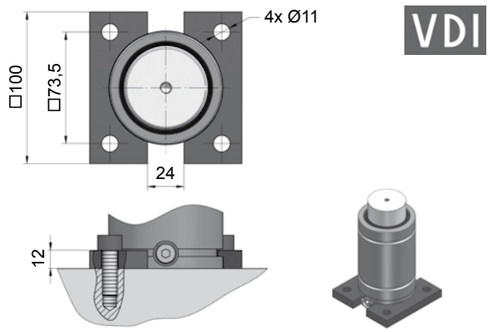


[11.03.2023]

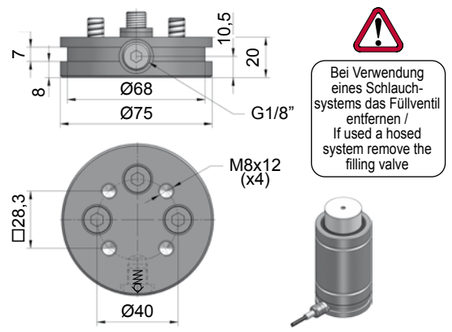
[11.03.2023]



## Flansche für / Flanges for **CS-KV.04700...V1**




C20-075




KV 4700

# CS-KV.07500...V1

**Technische Daten:**

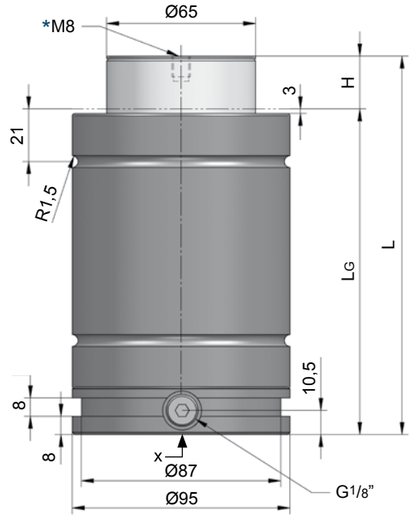
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

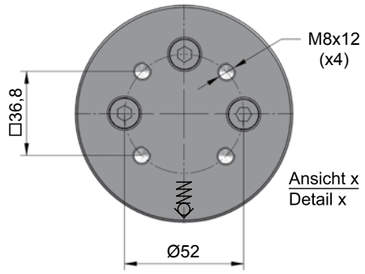
**Achtung: Wartungsarbeiten nur durch den Hersteller!**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

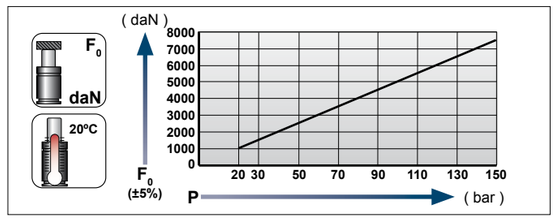
**Attention: Maintenance only at manufacturer‘s site!**

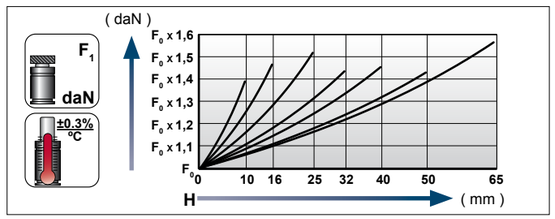


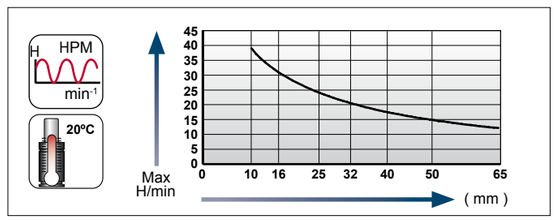




**CS.KV.07500.040.V1**

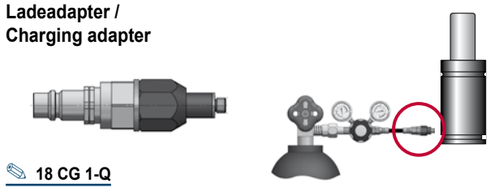
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 110 | 100 | 7540 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **016** | 136 | 120 | 7540 | |
| **025** | 165 | 140 | 7540 | |
| **032** | 202 | 170 | 7540 | |
| **040** | 230 | 190 | 7540 | |
| **050** | 275 | 225 | 7540 | |
| **065** | 299 | 234 | 7540 | |




**Ladeadapter / Charging adapter**



**18 CG 1-Q**

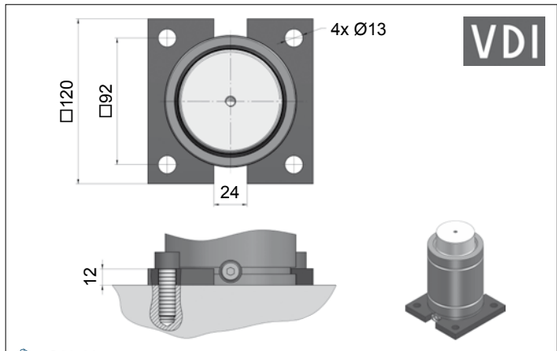


[11.03.2023]

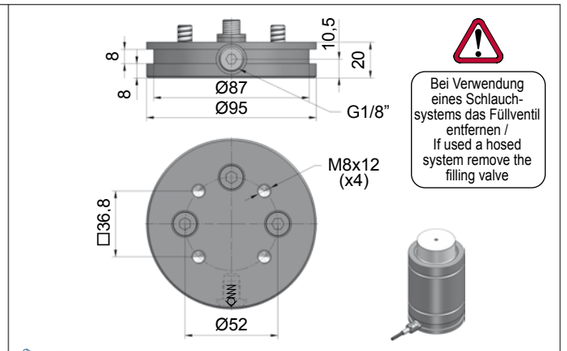
[11.03.2023]



## Flansche für / Flanges for **CS-KV.07500...V1**




**C20-095**




Bei Verwendung eines Schlauch-systems das Füllventil entfernen / If used a hosed system remove the filling valve

**KV 7500**

# CS-KV.11800...V1

**Technische Data:**

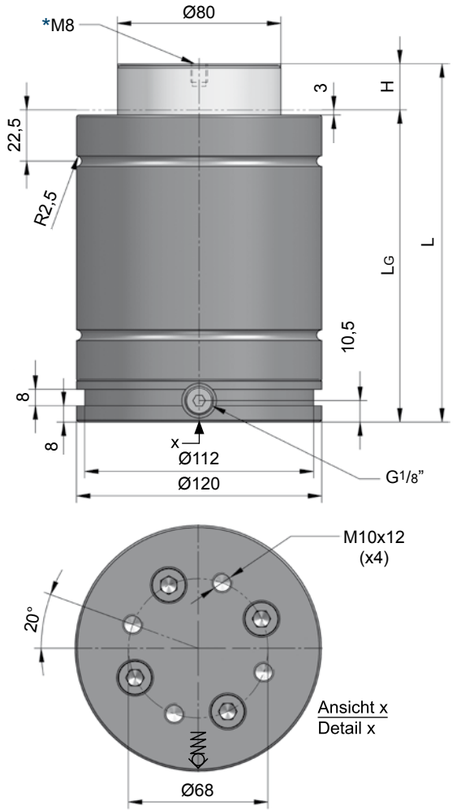
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

**Achtung: Wartungsarbeiten nur durch den Hersteller!**

**Specifications:**

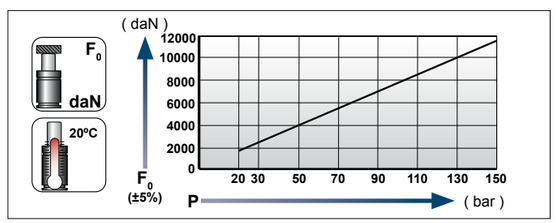
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

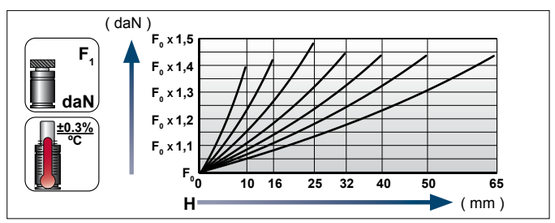
**Attention: Maintenance only at manufacturer's site!**

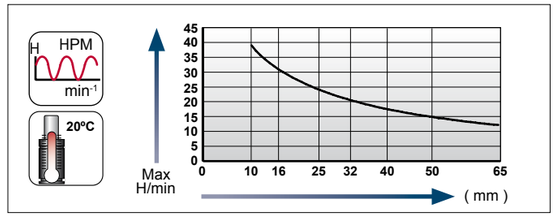



**CS-KV.11800.050.V1**

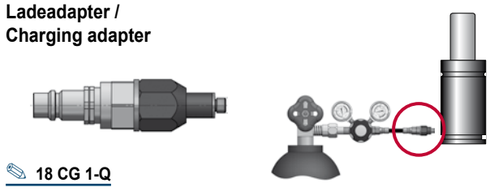
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 120 | 110 | 11780 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **016** | 146 | 130 | 11780 | |
| **025** | 175 | 150 | 11780 | |
| **032** | 207 | 175 | 11780 | |
| **040** | 240 | 200 | 11780 | |
| **050** | 280 | 230 | 11780 | |
| **065** | 340 | 275 | 11780 | |




**Ladeadapter / Charging adapter**

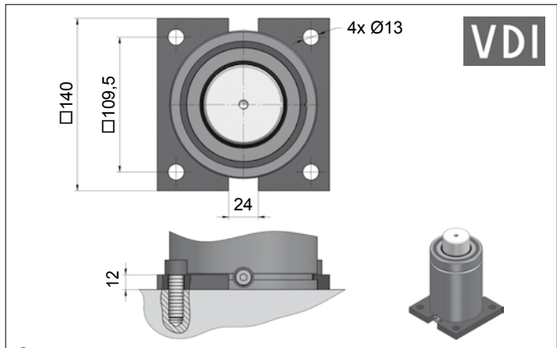


**18 CG 1-Q**

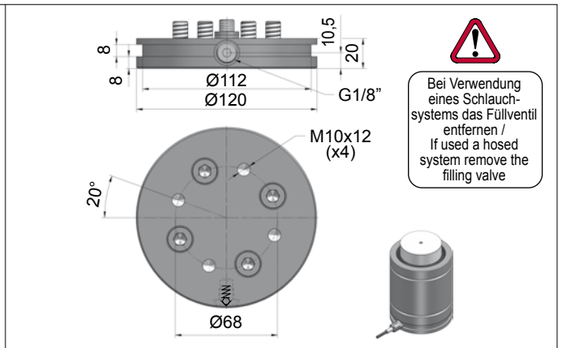




## Flansche für / Flanges for **CS-KV.11800...V1**




**C20-120**




**KV 11800**

# CS-KV.18300...V1

**Technische Daten:**

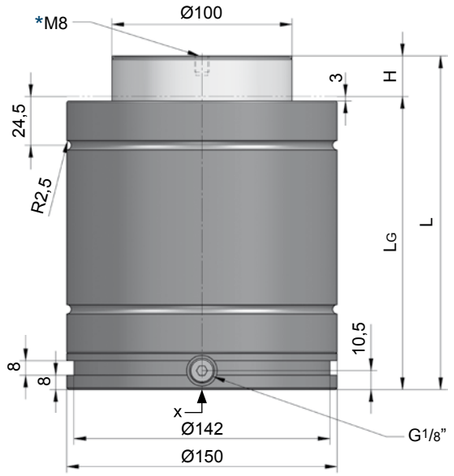
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

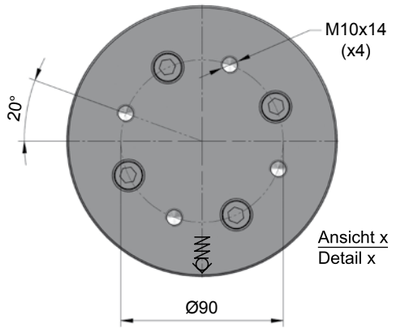
**Achtung: Wartungsarbeiten nur durch den Hersteller!**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

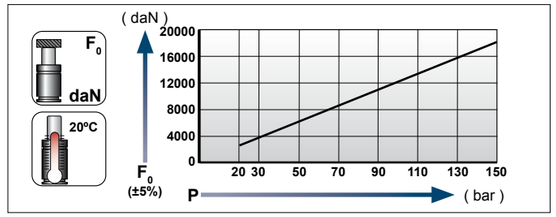
**Attention: Maintenance only at manufacturer's site!**

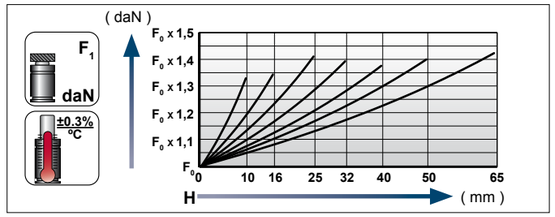


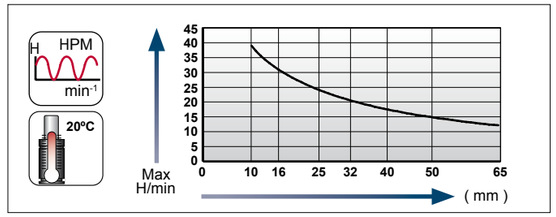




**CS-KV.18300.010.V1**

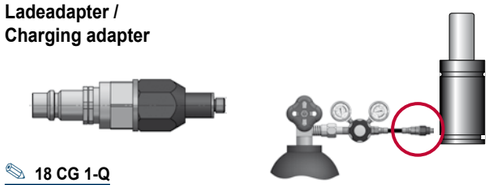
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 130 | 120 | 18410 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **016** | 156 | 140 | 18410 | |
| **025** | 185 | 160 | 18410 | |
| **032** | 217 | 185 | 18410 | |
| **040** | 255 | 215 | 18410 | |
| **050** | 290 | 240 | 18410 | |
| **065** | 343 | 278 | 18410 | |




**Ladeadapter / Charging adapter**



**18 CG 1-Q**

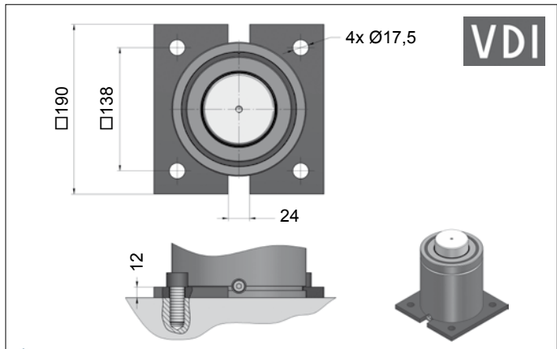


[11.03.2023]

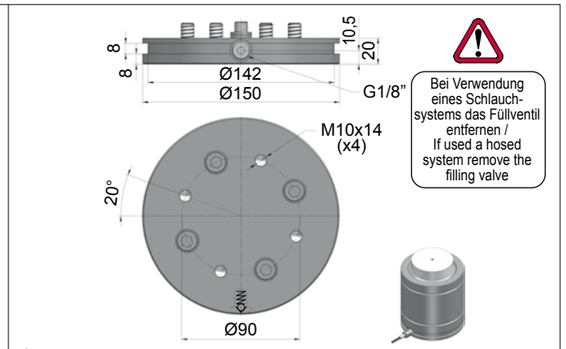
[11.03.2023]



## Flansche für / Flanges for **CS-KV.18300...V1**



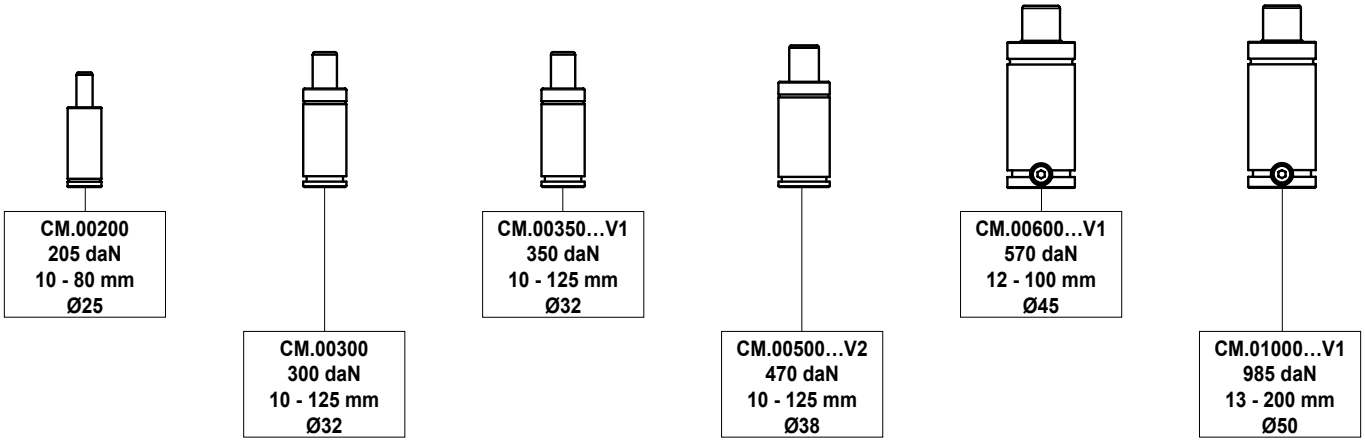

**C20-150**

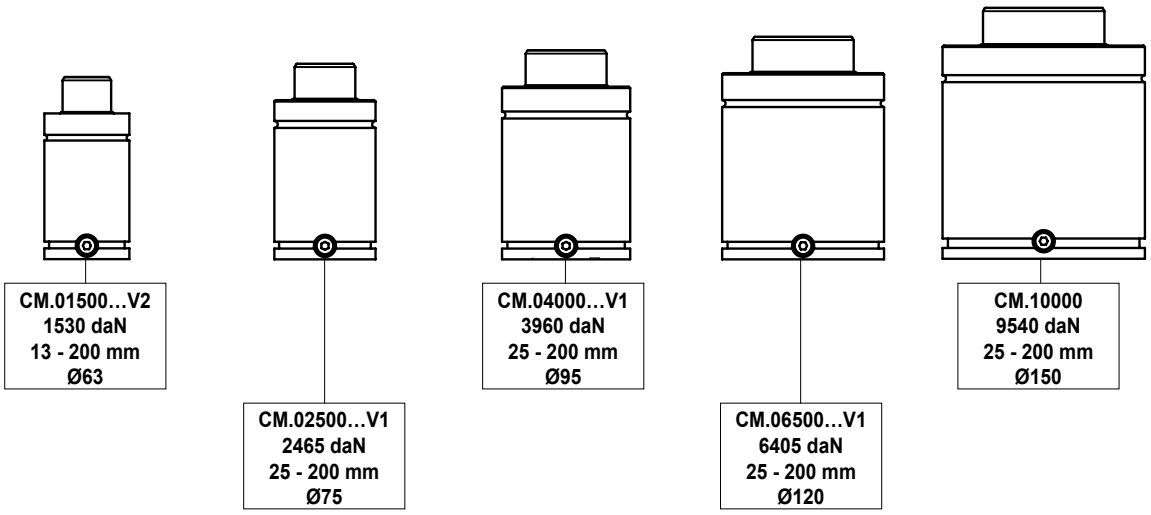



**KC 18300**

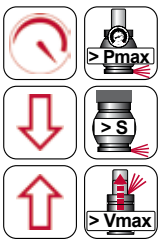
## Größenübersicht Serie CM

## Gas spring index CM series




## SICHERHEITSSYSTEME



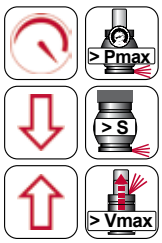

**Überdruck**

**Überhub**

**Freier Rückhub**

Information über die Sicherheitssysteme (Überdruck, Überhub, Freier Rückhub) erhalten Sie im Vorspann auf der Seite Azol.22.

## SAFETY SYSTEMS




**Over-Pressure**

**Over-Stroke**

**Over-Speed**

Information about the safety systems (over-pressure, over-stroke, over-speed) can be found in the introductory part on page Azol.22.

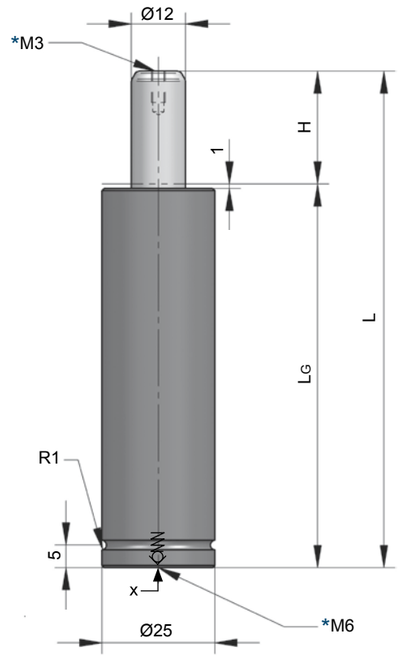
# CM.00200

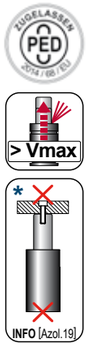
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

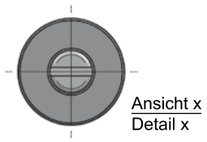
**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |



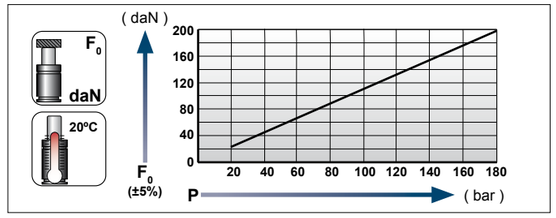



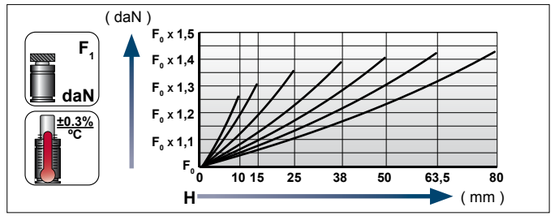

## CM.00200.015

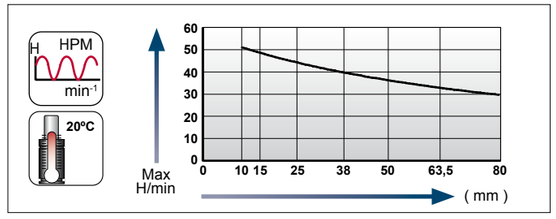


Ansicht x
Detail x

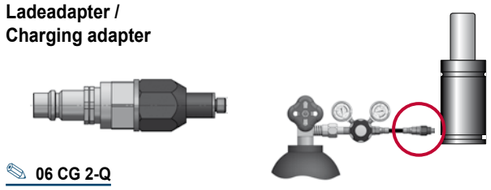
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (180 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 80 | 70 | 205 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **015** | 90 | 75 | 205 | |
| **025** | 110 | 85 | 205 | |
| **038** | 136 | 98 | 205 | |
| **050** | 160 | 110 | 205 | |
| **063,5** | 186,5 | 123 | 205 | |
| **080** | 220 | 140 | 205 | |




**Ladeadapter / Charging adapter**



06 CG 2-Q

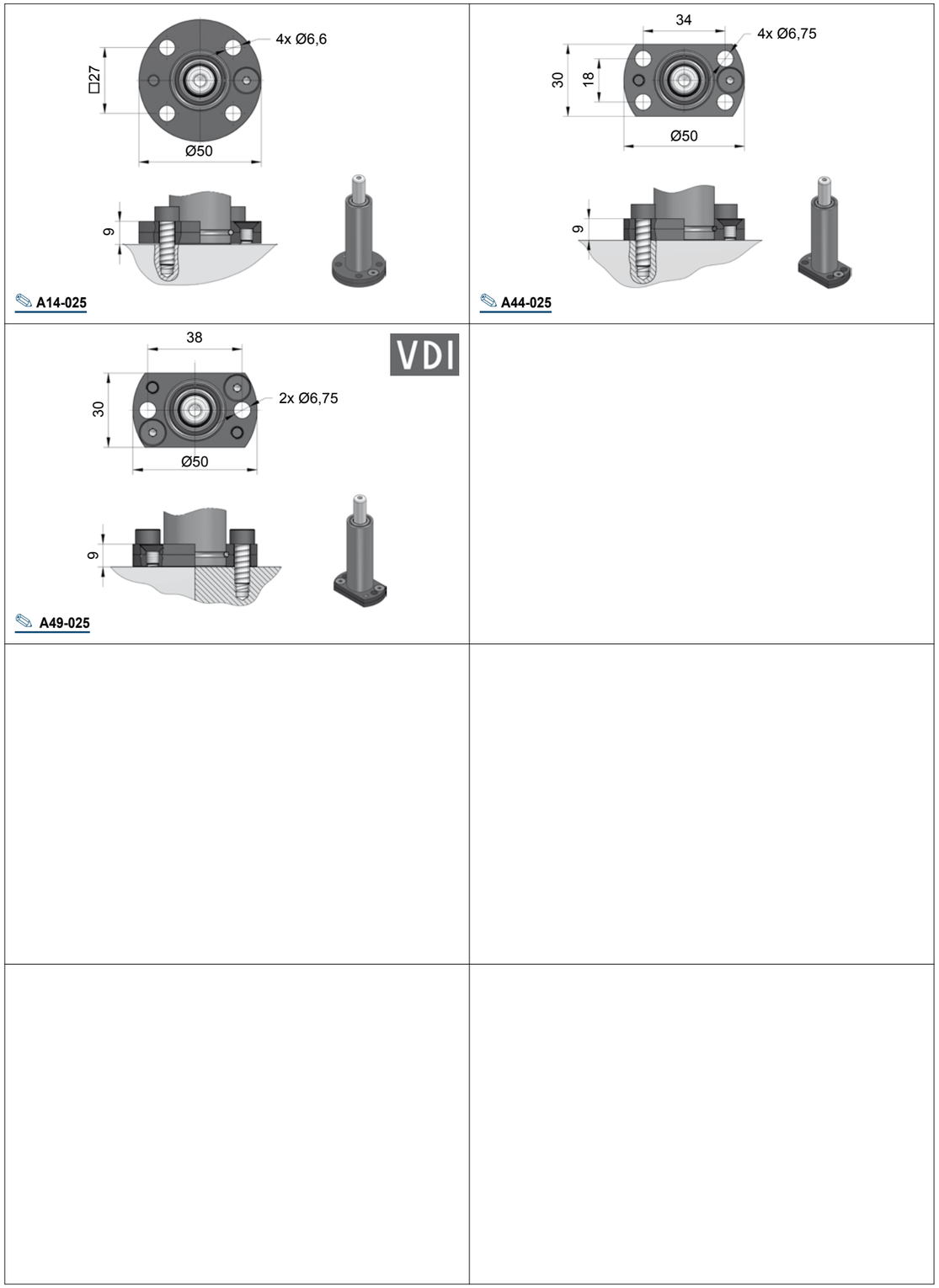


[11.03.2023]

[11.03.2023]



## Flansche für / Flanges for **CM.00200**



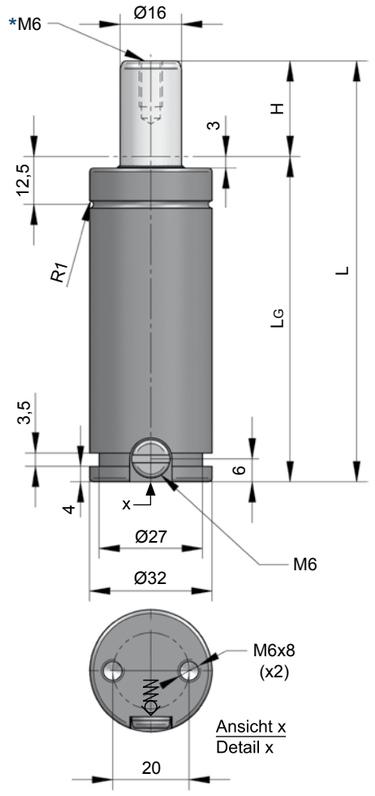
# CM.00300

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

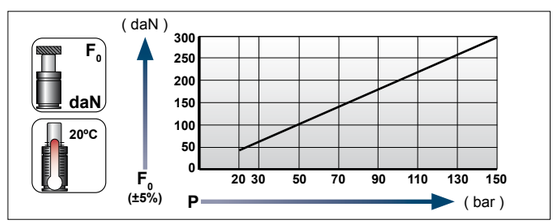
**Specifications:**

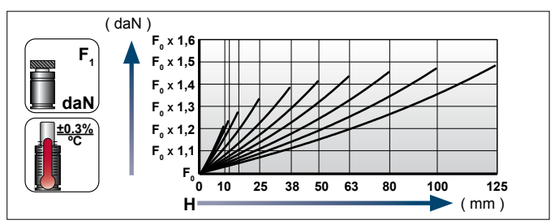
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

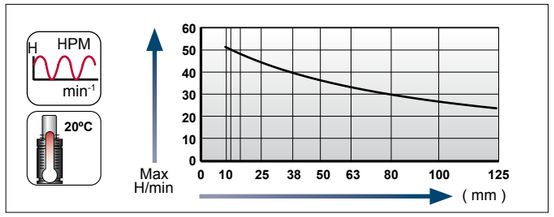



CM.00300.012

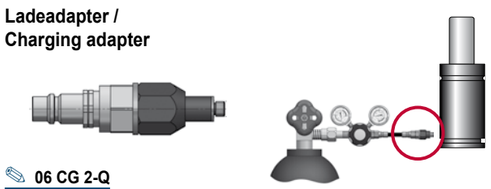
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 80 | 70 | 300 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **012** | 84 | 72 | 300 | |
| **016** | 92 | 76 | 300 | |
| **025** | 110 | 85 | 300 | |
| **038** | 136 | 98 | 300 | |
| **050** | 160 | 110 | 300 | |
| **063** | 186 | 123 | 300 | |
| **080** | 220 | 140 | 300 | |
| **100** | 260 | 160 | 300 | |
| **125** | 310 | 185 | 300 | |




**Ladeadapter / Charging adapter**



06 CG 2-Q

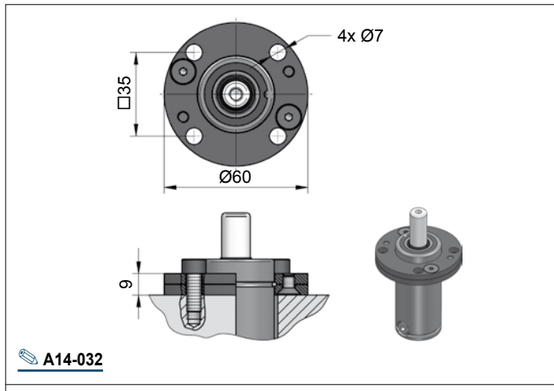


[11.03.2023]

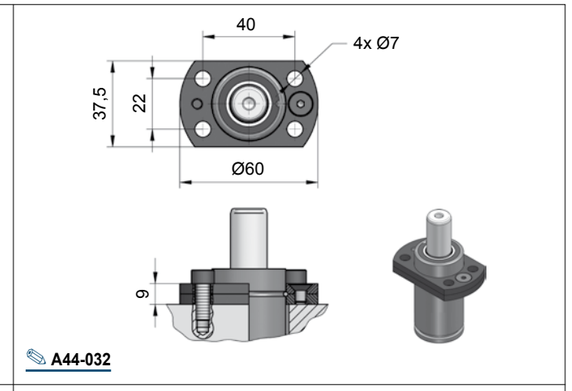
[11.03.2023]



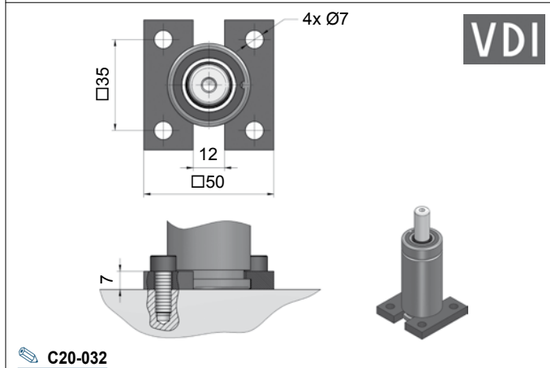
## Flansche für / Flanges for **CM.00300**



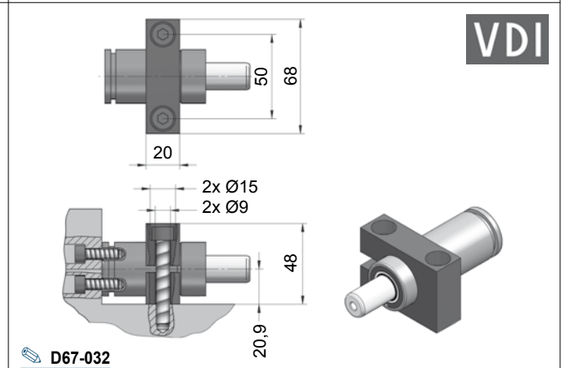

A14-032




A44-032




C20-032




D67-032

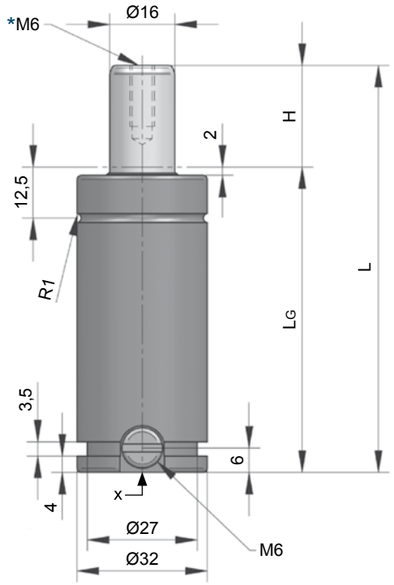
# CM.00350…V1

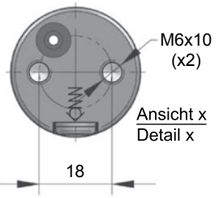
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

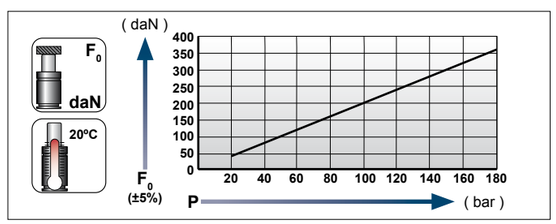
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

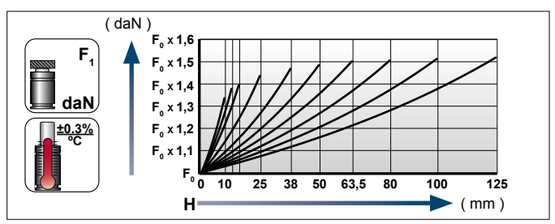


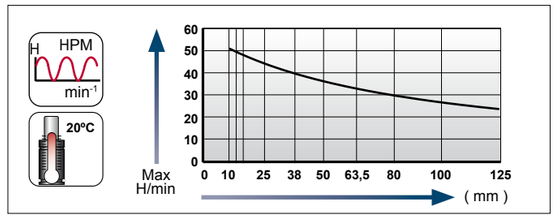



CM.00350.015.V1

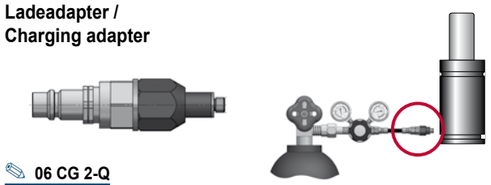
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (175 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 70 | 60 | 350 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **012,7** | 75,4 | 62,7 | 350 | |
| **016** | 82 | 66 | 350 | |
| **025** | 100 | 75 | 350 | |
| **038** | 126 | 88 | 350 | |
| **050** | 150 | 100 | 350 | |
| **063,5** | 177 | 113,5 | 350 | |
| **080** | 210 | 130 | 350 | |
| **100** | 250 | 150 | 350 | |
| **125** | 300 | 175 | 350 | |




**Ladeadapter / Charging adapter**

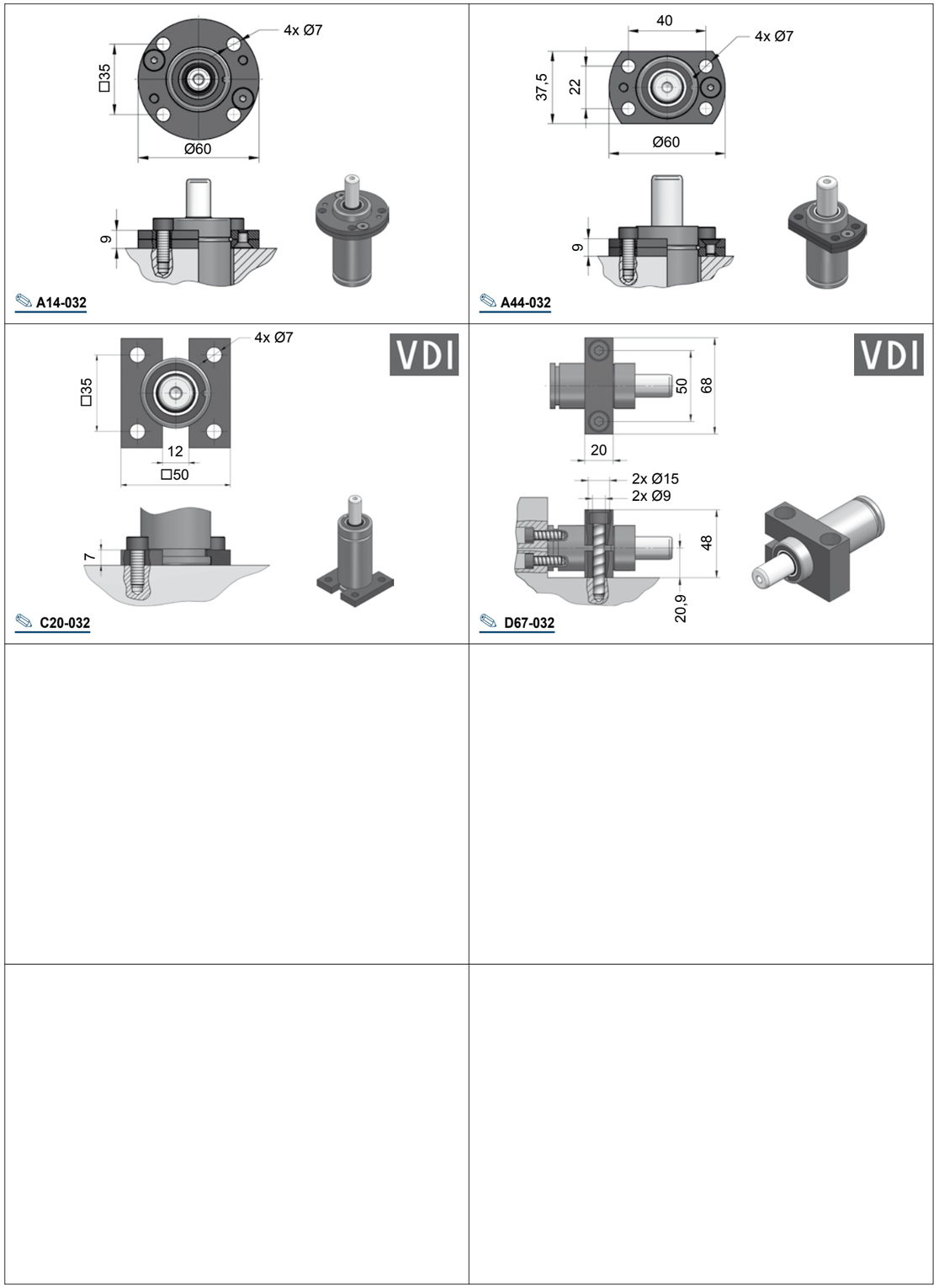


06 CG 2-Q





## Flansche für / Flanges for **CM.00350…V1**



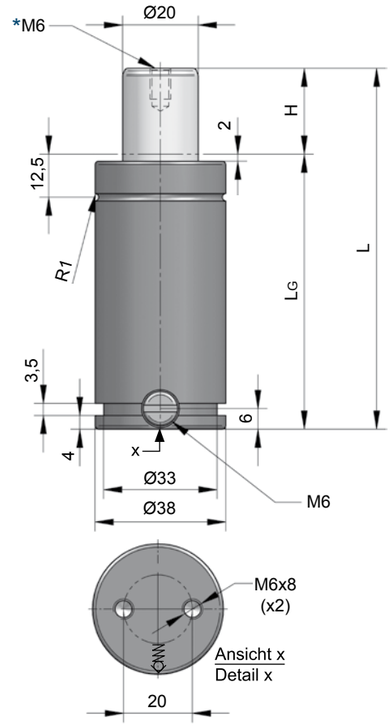
# CM.00500…V2

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |



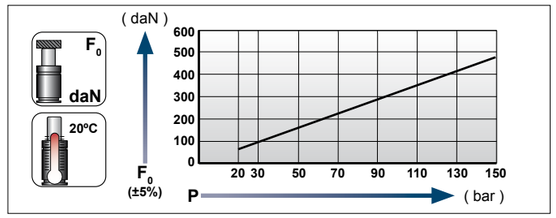

> Vmax

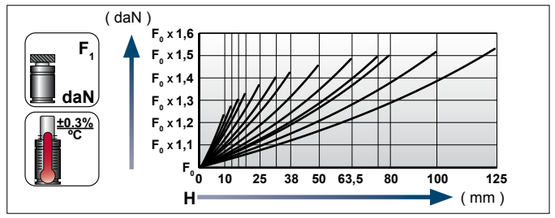
INFO [Azol.19]

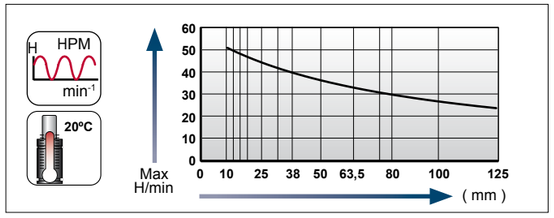
CM.00500.038.V2

CAD MAIL

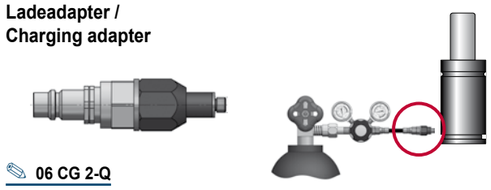
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 75 | 65 | 470 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **013** | 81 | 68 | 470 | |
| **016** | 87 | 71 | 470 | |
| **019** | 93 | 74 | 470 | |
| **025** | 105 | 80 | 470 | |
| **032** | 119 | 87 | 470 | |
| **038** | 131 | 93 | 470 | |
| **050** | 155 | 105 | 470 | |
| **063,5** | 187 | 123,5 | 470 | |
| **075** | 210 | 135 | 470 | |
| **080** | 220 | 140 | 470 | |
| **100** | 260 | 160 | 470 | |
| **125** | 310 | 185 | 470 | |




**Ladeadapter / Charging adapter**

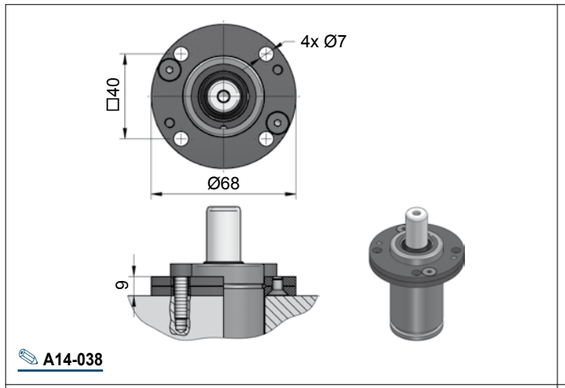


06 CG 2-Q

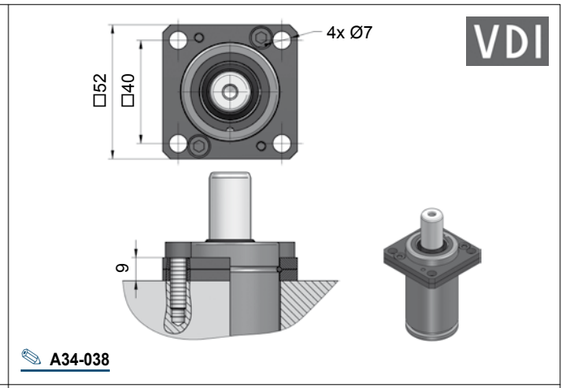




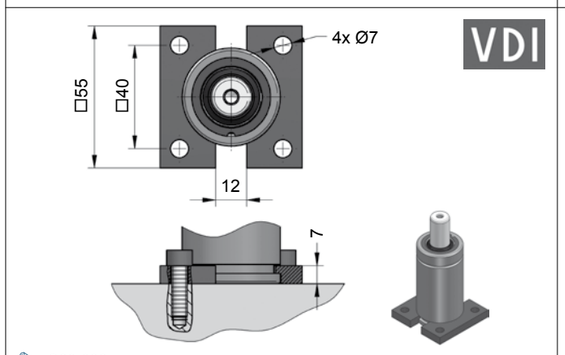
## Flansche für / Flanges for **CM.00500…V2**



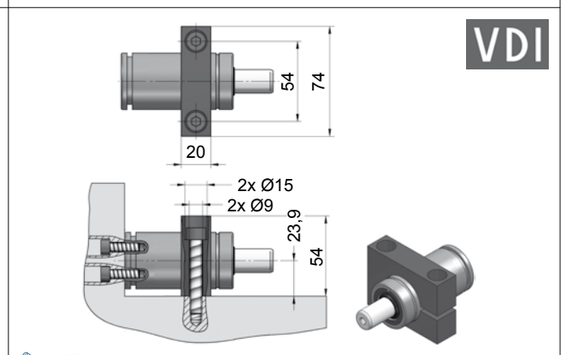

A14-038




A34-038




C20-038




D67-038

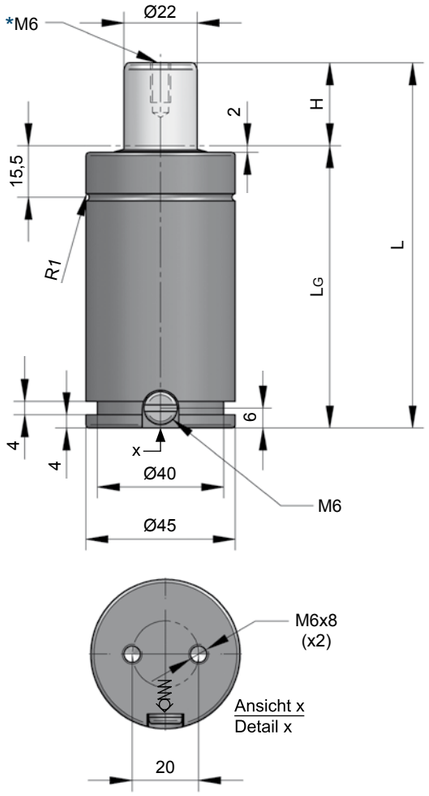
# CM.00600…V1

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

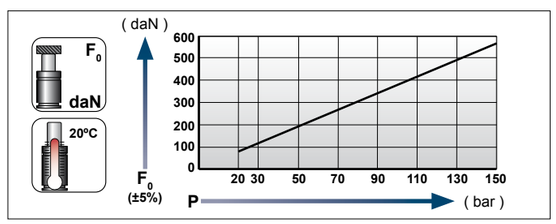
**Specifications:**

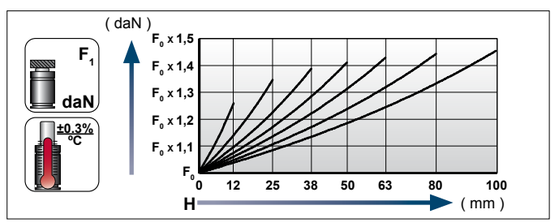
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

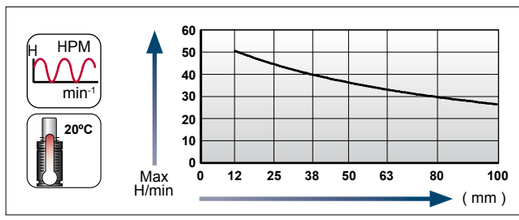



CM.00600.038.V1

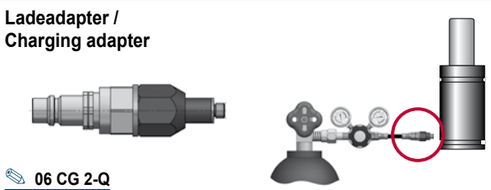
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **012** | 84 | 72 | 570 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **025** | 110 | 85 | 570 | |
| **038** | 136 | 98 | 570 | |
| **050** | 160 | 110 | 570 | |
| **063** | 186 | 123 | 570 | |
| **080** | 220 | 140 | 570 | |
| **100** | 260 | 160 | 570 | |




**Ladeadapter / Charging adapter**



06 CG 2-Q

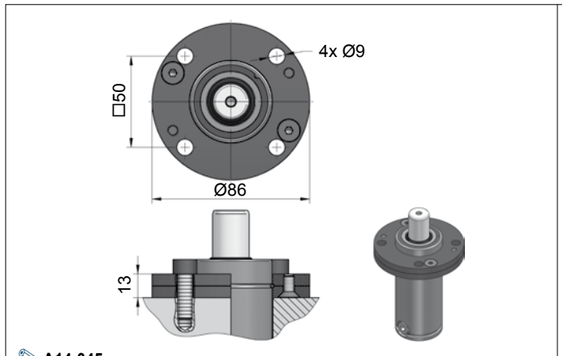


[11.03.2023]

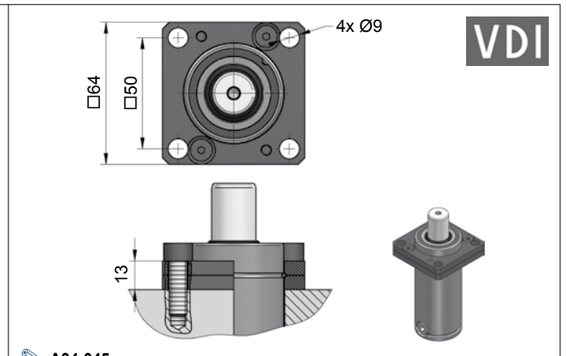
[11.03.2023]



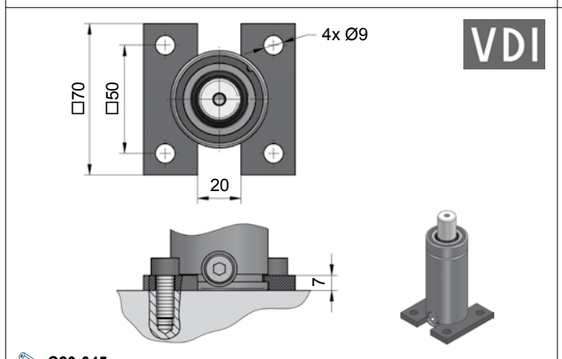
## Flansche für / Flanges for **CM.00600…V1**



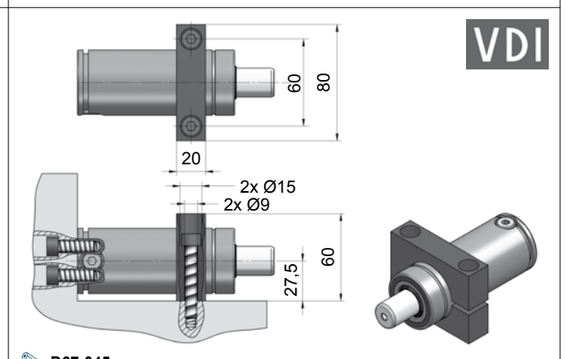

A14-045




A34-045




C20-045




D67-045

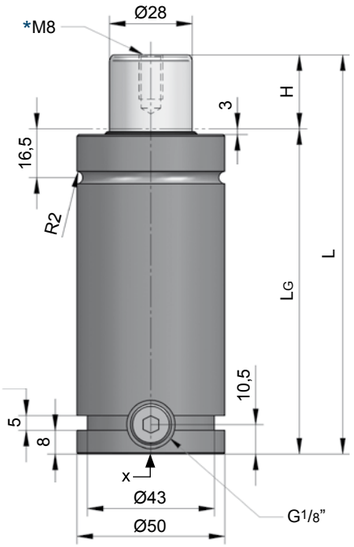
# CM.01000…V1

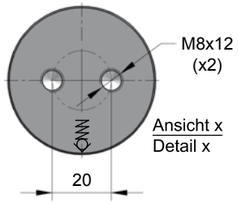
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 160 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

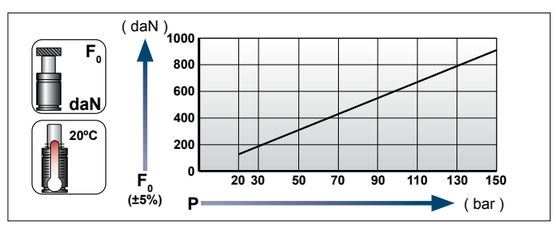
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 160 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

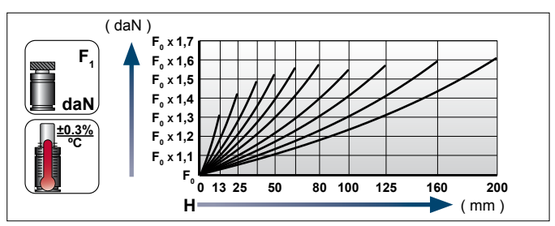


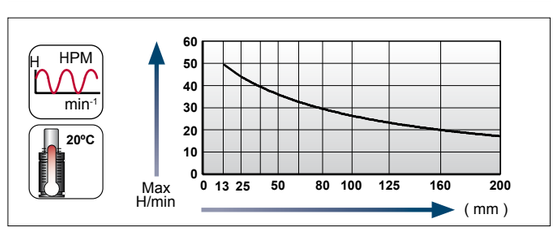




CM.01000.038.V1

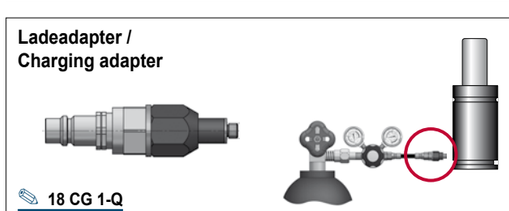
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (160 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **013** | 111 | 98 | 985 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **025** | 135 | 110 | 985 | |
| **038** | 161 | 123 | 985 | |
| **050** | 185 | 135 | 985 | |
| **063,5** | 212 | 148,5 | 985 | |
| **080** | 245 | 165 | 985 | |
| **100** | 295 | 195 | 985 | |
| **125** | 345 | 220 | 985 | |
| **160** | 415 | 255 | 985 | |
| **200** | 495 | 295 | 985 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

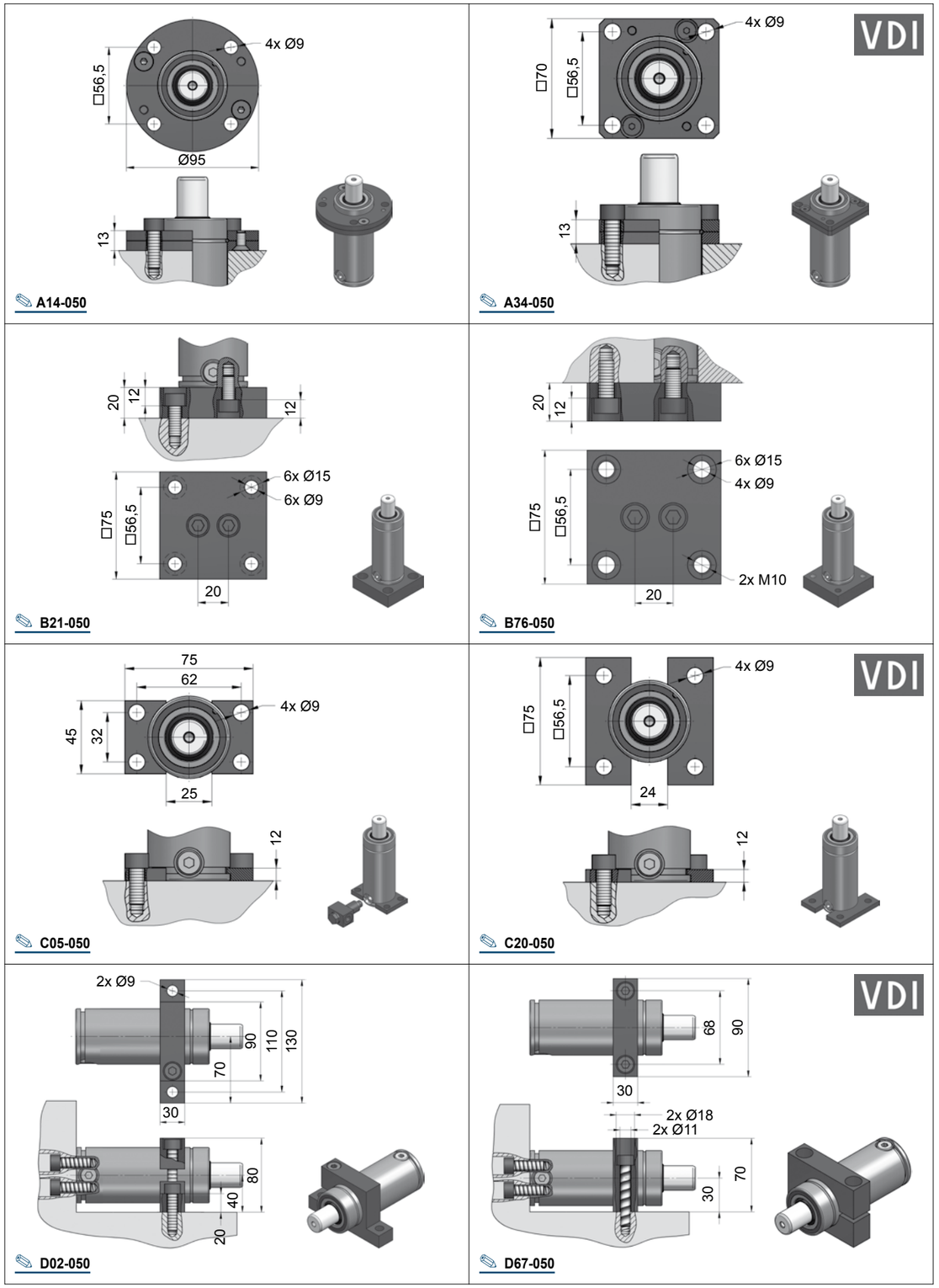


[11.03.2023]

[11.03.2023]



## Flansche für / Flanges for **CM.01000…V1**






[AG]

[AG]

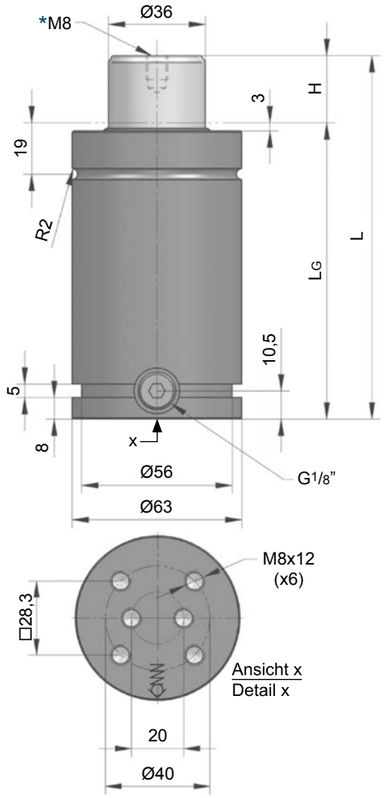
# CM.01500…V2

**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

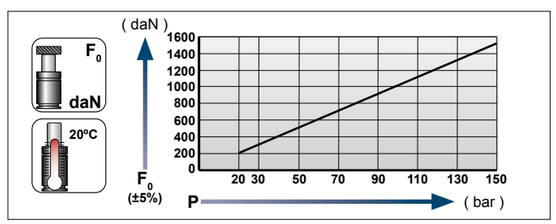
**Specifications:**

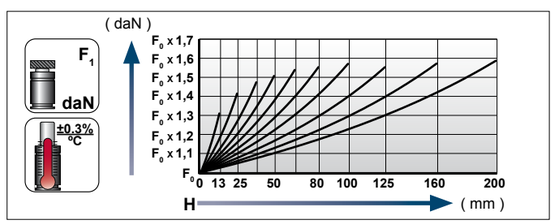
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

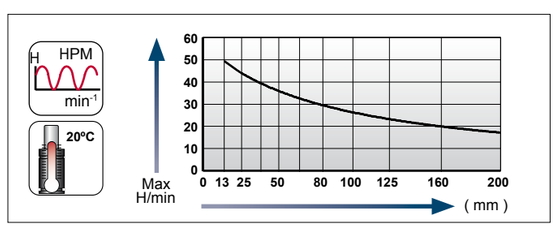



CM.01500.050.V2

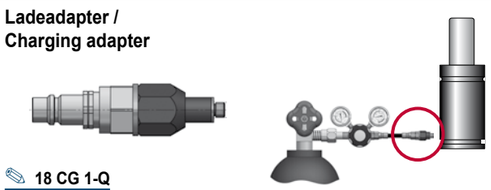
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **013** | 111 | 98 | 1530 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **025** | 135 | 110 | 1530 | |
| **038** | 161 | 123 | 1530 | |
| **050** | 185 | 135 | 1530 | |
| **063,5** | 211 | 148,5 | 1530 | |
| **080** | 245 | 165 | 1530 | |
| **100** | 285 | 185 | 1530 | |
| **125** | 345 | 220 | 1530 | |
| **160** | 415 | 255 | 1530 | |
| **200** | 495 | 295 | 1530 | |




**Ladeadapter / Charging adapter**

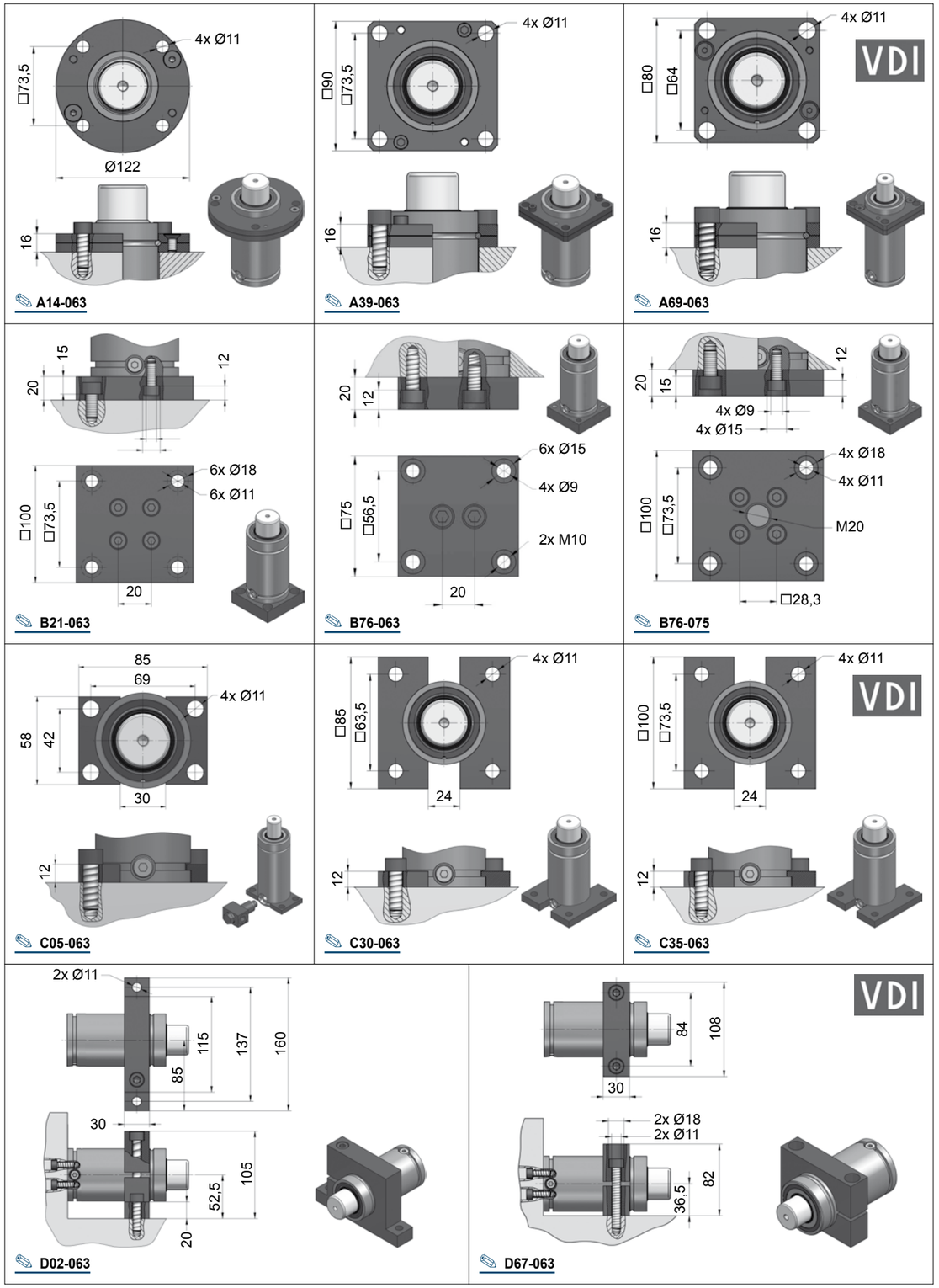


18 CG 1-Q



GDF, mittlere Größen
GS, medium sizes
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

## Flansche für / Flanges for **CM.01500…V2**



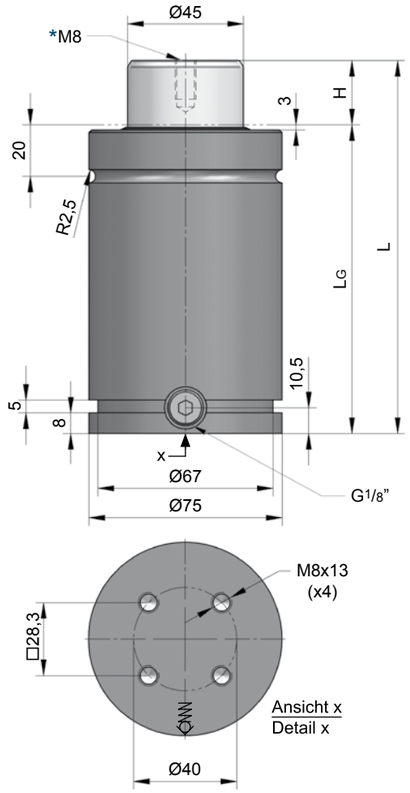
# CM.02500…V1

**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 160 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

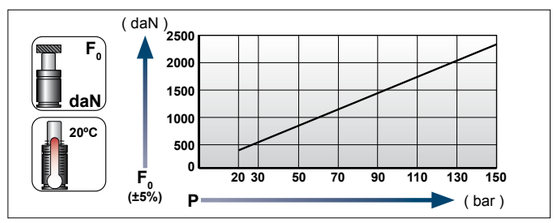
**Specifications:**

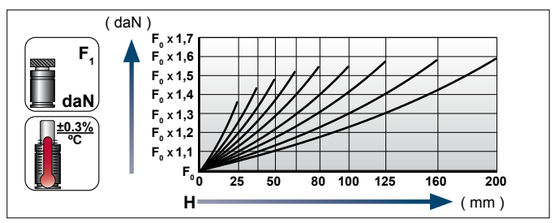
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 160 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

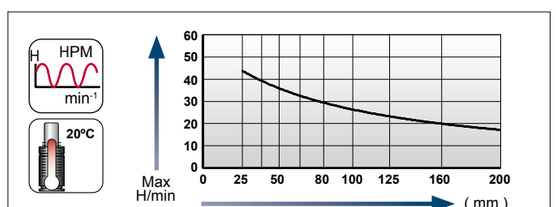


CM.02500.063.V1

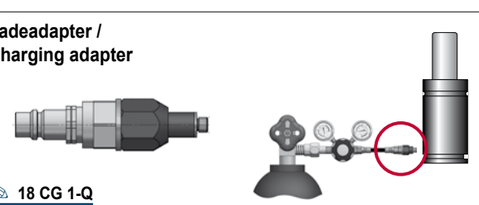
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (155 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 145 | 120 | 2465 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **038** | 171 | 133 | 2465 | |
| **050** | 195 | 145 | 2465 | |
| **063,5** | 222 | 158,5 | 2465 | |
| **080** | 255 | 175 | 2465 | |
| **100** | 300 | 200 | 2465 | |
| **125** | 350 | 225 | 2465 | |
| **160** | 425 | 265 | 2465 | |
| **200** | 510 | 310 | 2465 | |




**Ladeadapter / Charging adapter**

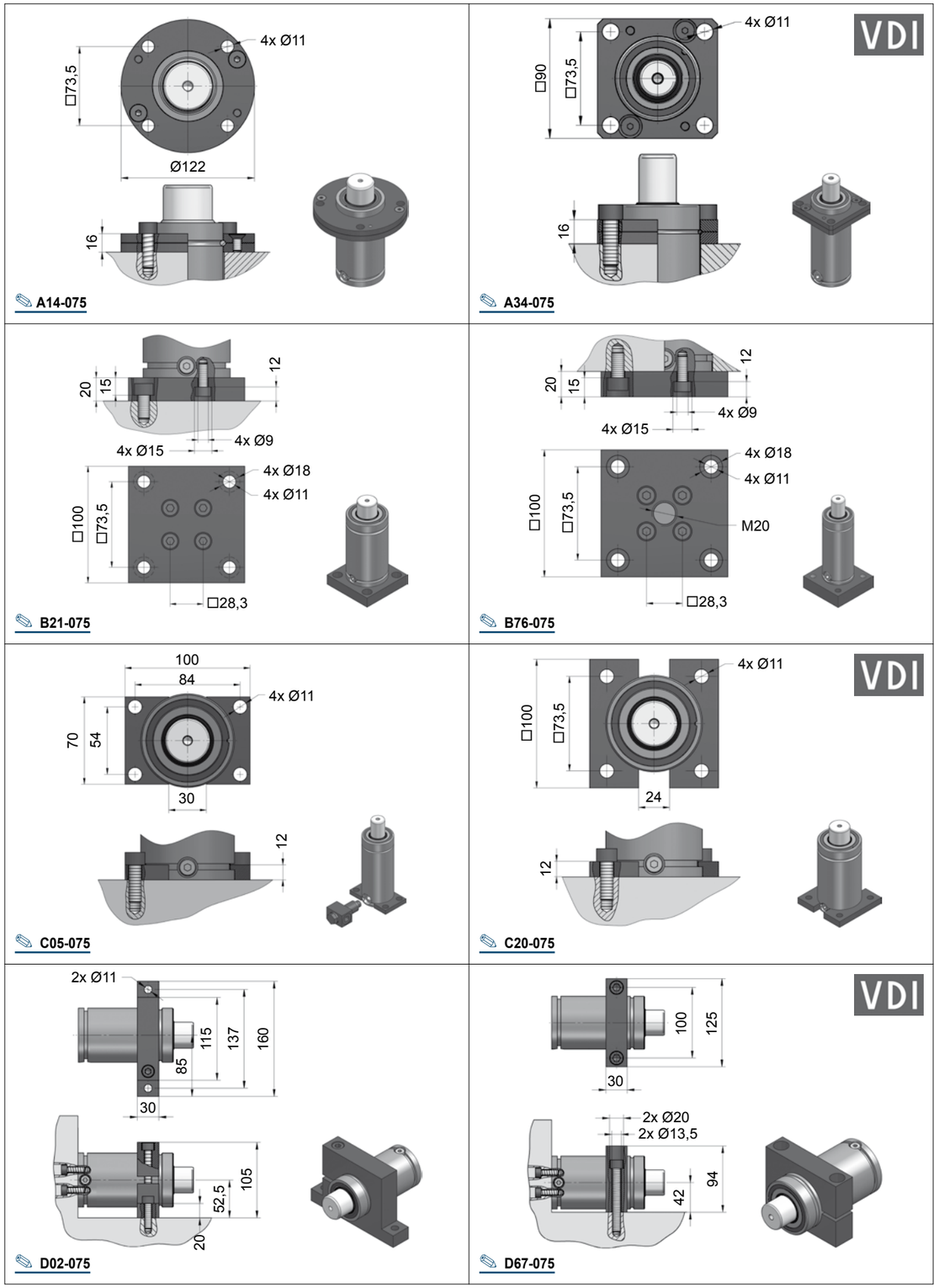


18 CG 1-Q





## Flansche für / Flanges for **CM.02500…V1**



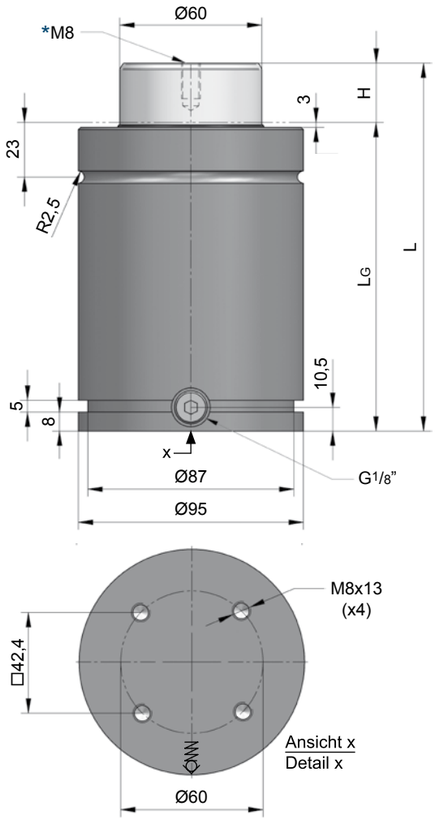
# CM.04000…V1

**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

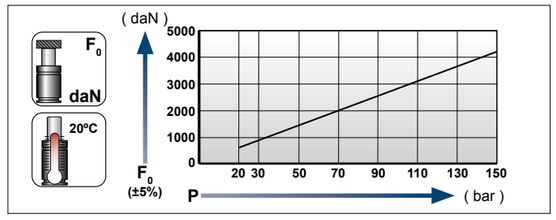
**Specifications:**

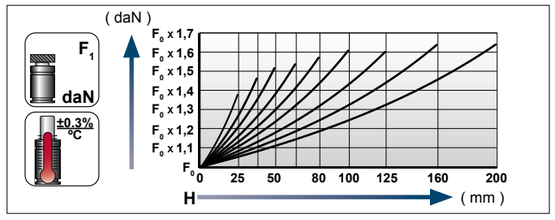
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

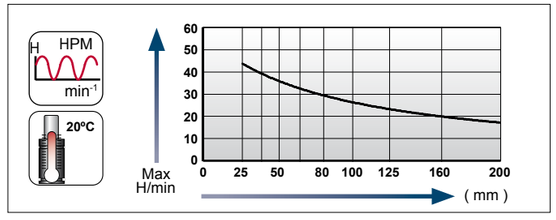



**CM.04000.080.V1**

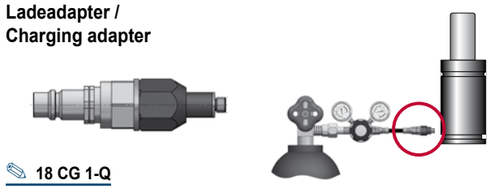
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (140 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 155 | 130 | 3960 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **038** | 181 | 143 | 3960 | |
| **050** | 205 | 155 | 3960 | |
| **063,5** | 237 | 173,5 | 3960 | |
| **080** | 270 | 190 | 3960 | |
| **100** | 310 | 210 | 3960 | |
| **125** | 370 | 245 | 3960 | |
| **160** | 440 | 280 | 3960 | |
| **200** | 530 | 330 | 3960 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

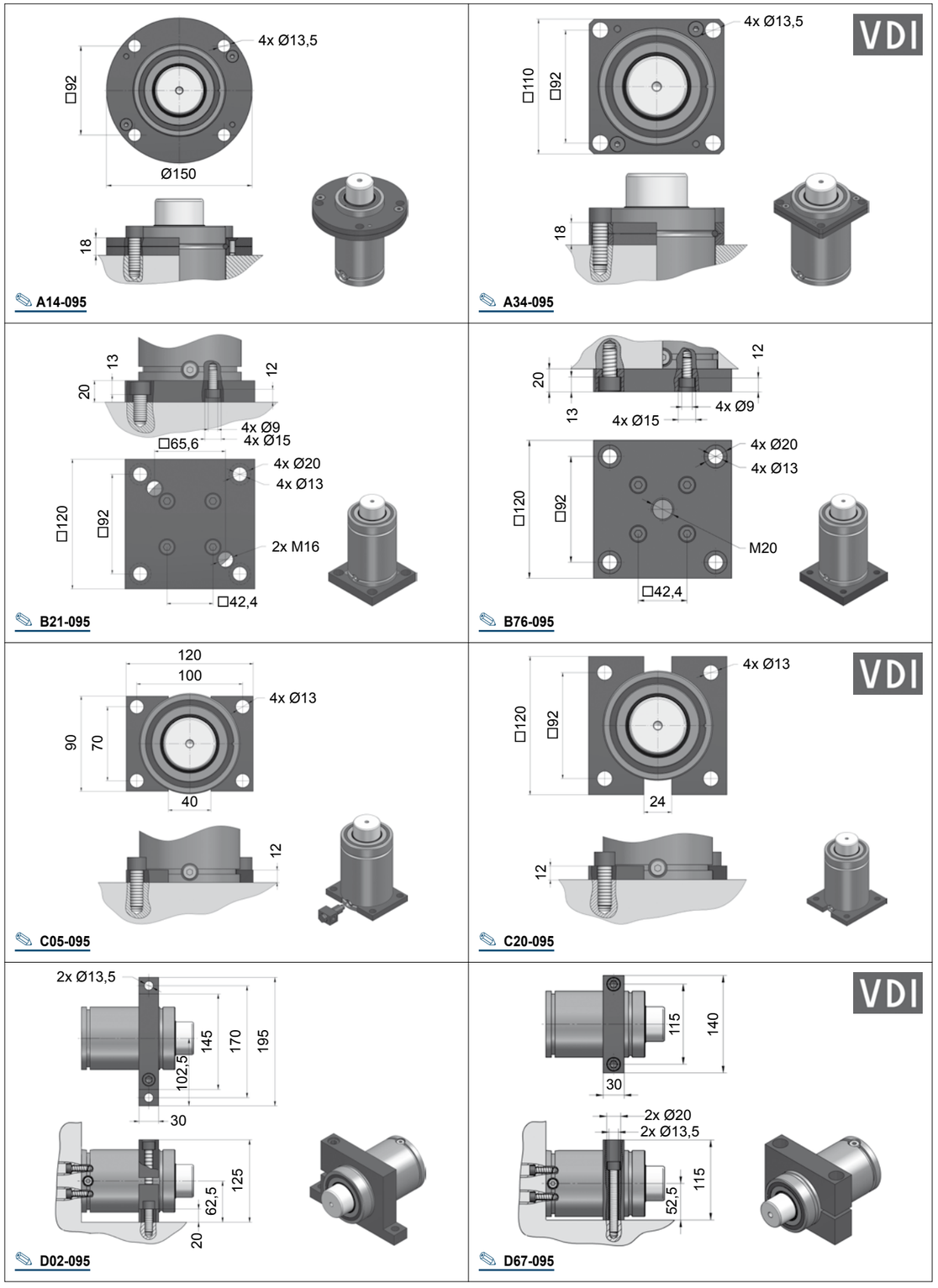


[11.03.2023]

[11.03.2023]



## Flansche für / Flanges for **CM.04000…V1**



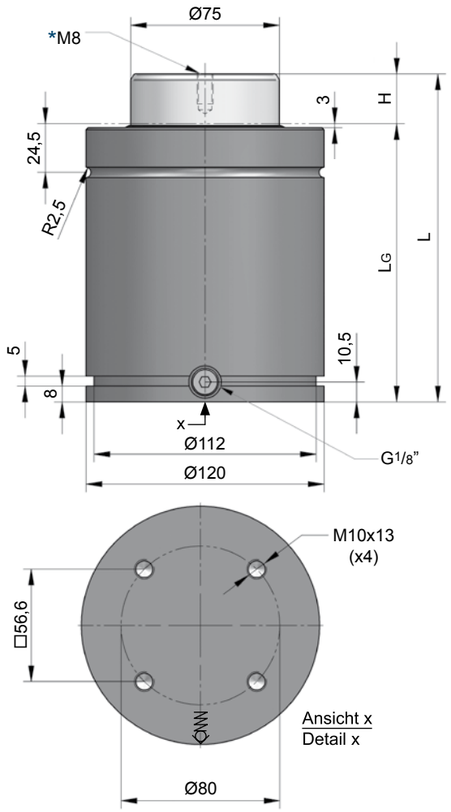
# CM.06500…V1

**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

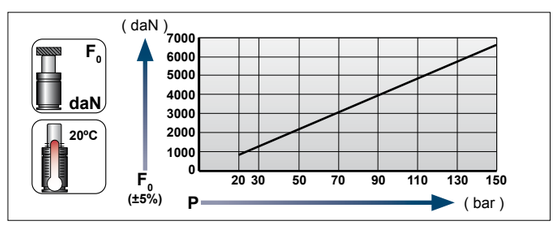
**Specifications:**

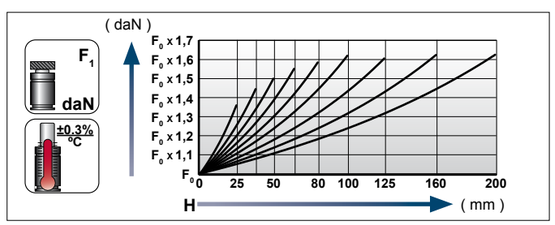
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

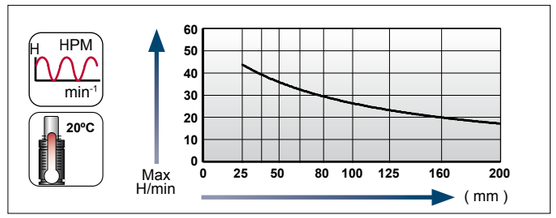



**CM.06500.080.V1**

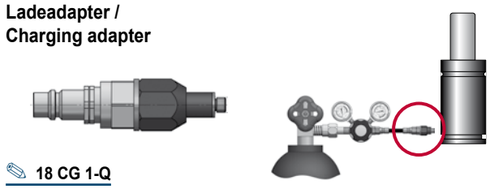
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (145 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 165 | 140 | 6405 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **038** | 191 | 153 | 6405 | |
| **050** | 215 | 165 | 6405 | |
| **063,5** | 242 | 178,5 | 6405 | |
| **080** | 275 | 195 | 6405 | |
| **100** | 315 | 215 | 6405 | |
| **125** | 375 | 250 | 6405 | |
| **160** | 450 | 290 | 6405 | |
| **200** | 540 | 340 | 6405 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

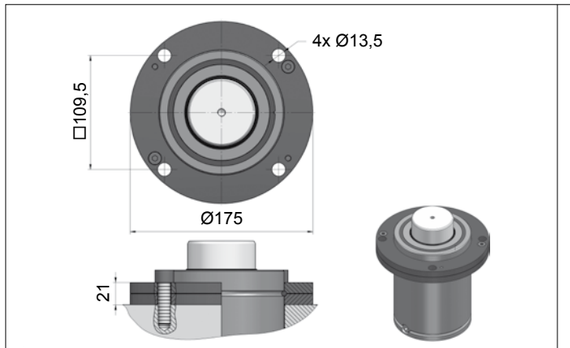


[11.03.2023]

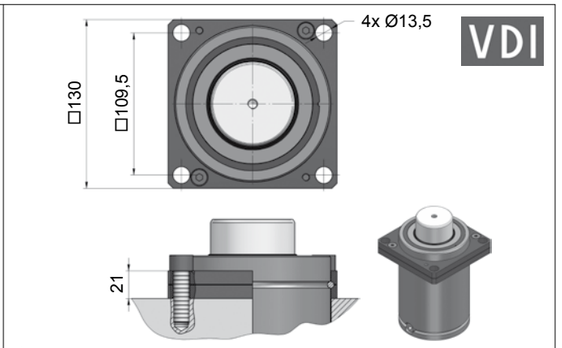
[11.03.2023]



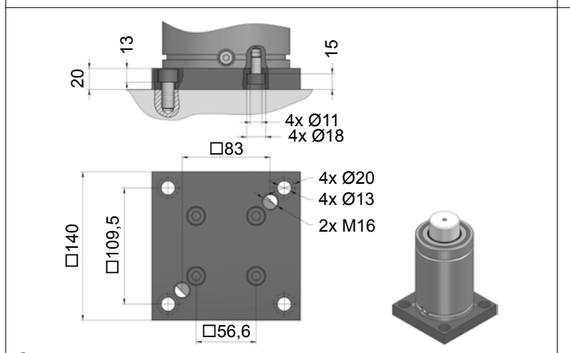
## Flansche für / Flanges for **CM.06500…V1**



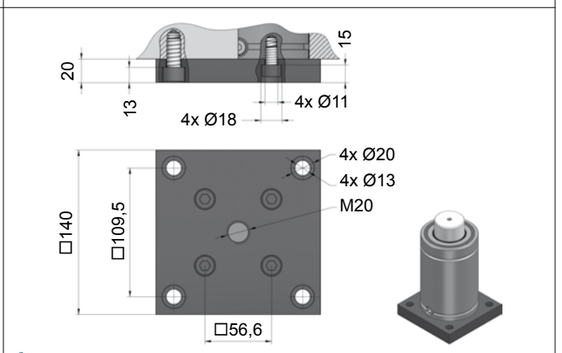

A14-120



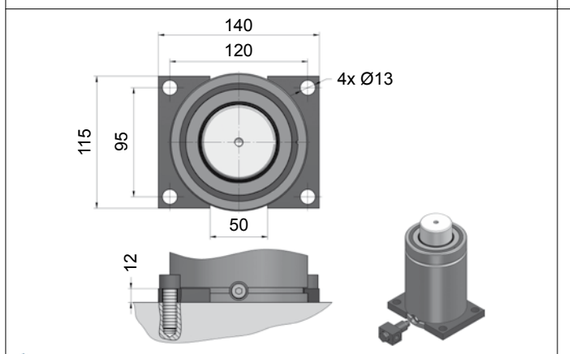

A34-120



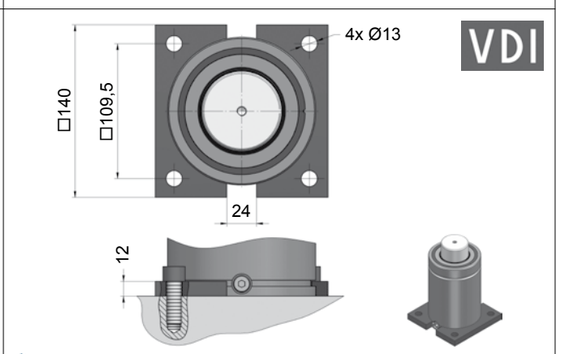

B21-120



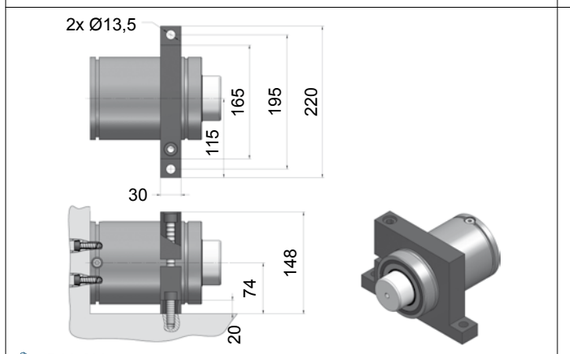

B76-120



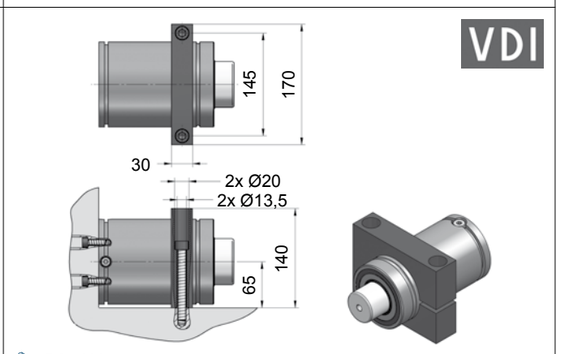

C05-120




C20-120




D02-120




D67-120

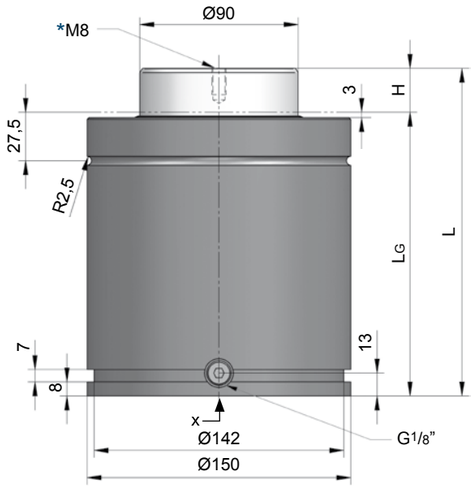
# CM.10000

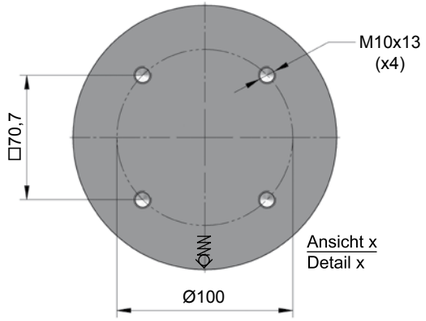
**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 160 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

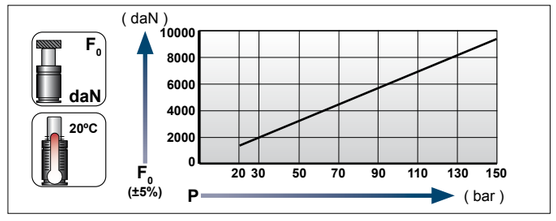
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 160 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

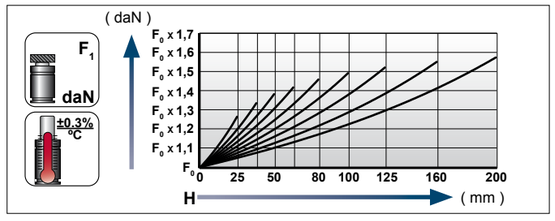


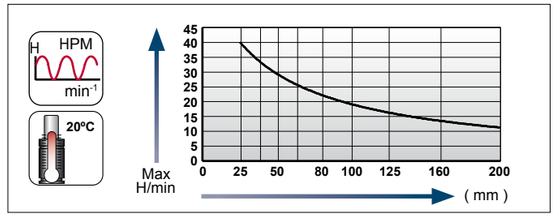




**CM.10000.100**

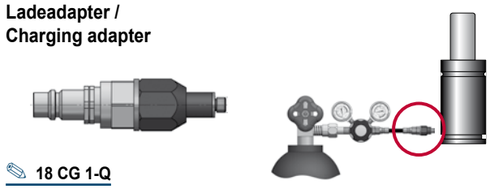
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| 025 | 186 | 161 | 9540 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| 038 | 212 | 174 | 9540 | |
| 050 | 236 | 186 | 9540 | |
| 063,5 | 263 | 199,5 | 9540 | |
| 080 | 296 | 216 | 9540 | |
| 100 | 336 | 236 | 9540 | |
| 125 | 386 | 261 | 9540 | |
| 160 | 456 | 296 | 9540 | |
| 200 | 536 | 336 | 9540 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

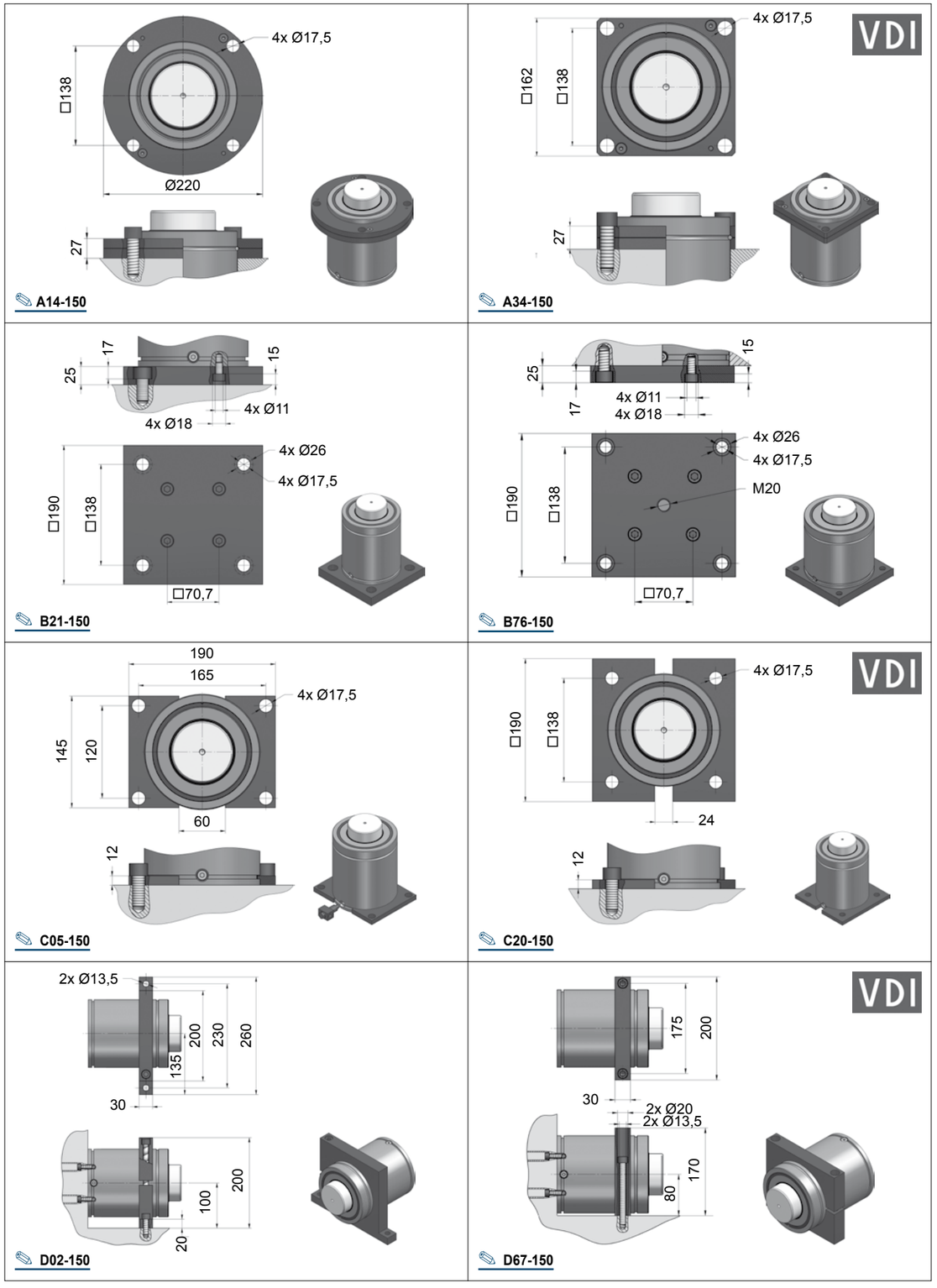


[11.03.2023]

[11.03.2023]

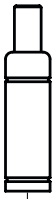


## Flansche für / Flanges for **CM.10000**

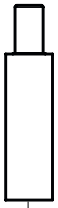


## Größenübersicht Serie CP

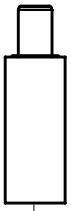
## Gas spring index CP series



CP.00150…V1
150 daN
10 - 80 mm
Ø19

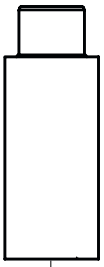


CP.00300…V1
300 daN
10 - 80 mm
Ø25

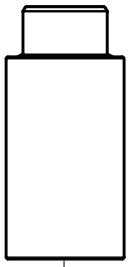


CP.00500…V1
485 daN
10 - 80 mm
Ø32

CP.01000…V1
960 daN
10 - 80 mm
Ø38

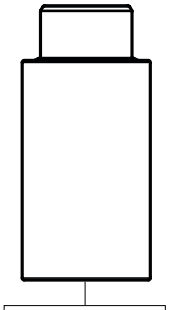


CP.02000…V2
1925 daN
10 - 80 mm
Ø50



CP.03000…V1
2860 daN
10 - 80 mm
Ø63

CP.05000…V1
4925 daN
10 - 80 mm
Ø75



CP.08000…V1
7950 daN
10 - 80 mm
Ø95

# CP.00150…V1

**Technische Data:**

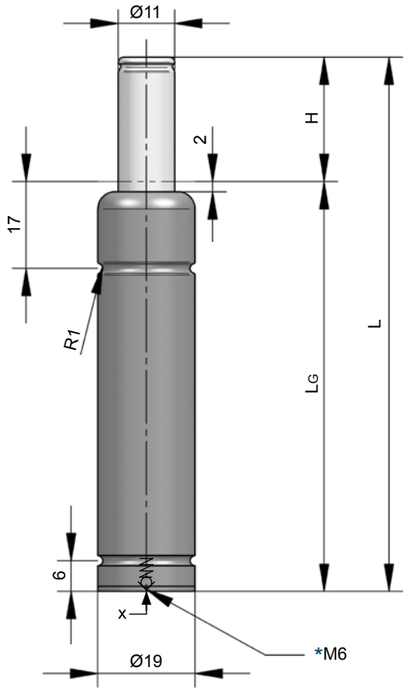
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 160 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

**Einwegfeder ist nicht reparierbar!**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 160 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

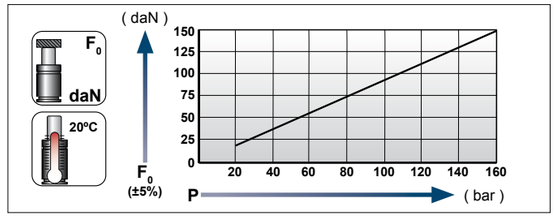
**One-way spring is irreparable!**

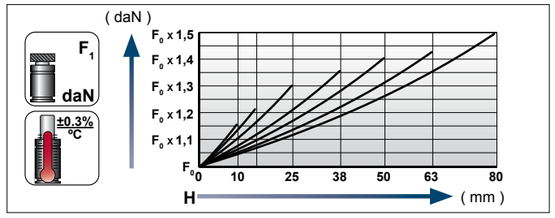


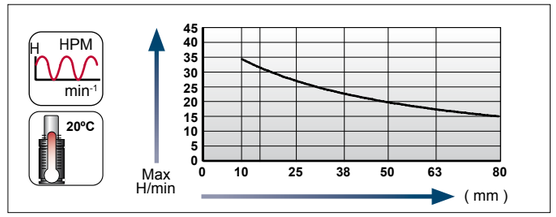
**CP.00150.015.V1**

Ansicht x
Detail x

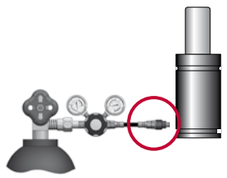
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (160 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 75 | 65 | 150 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **015** | 85 | 70 | 150 | |
| **025** | 105 | 80 | 150 | |
| **038** | 135 | 97 | 150 | |
| **050** | 160 | 110 | 150 | |
| **063** | 190 | 127 | 150 | |
| **080** | 220 | 140 | 150 | |




**Ladeadapter / Charging adapter**



**06 CG 2-Q**



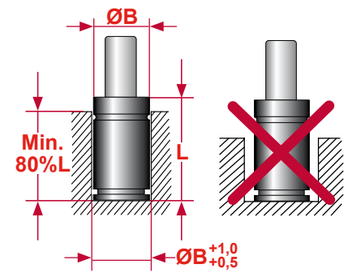
[13.03.2023]

[13.03.2023]



## Einbauhinweis für / Mounting instruction for **CP.00150…V1**

Werden Gasdruckfedern in einer Vertiefung eingebaut, sollte der Bohrungsdurchmesser nur 1 mm grösser als der Federdurchmesser sein. Die Kaverne sollte mindestens 80% von L betragen, und die Stellfläche absolut plan sein.




When the gas springs are installed into a bored pocket, the bored pocket diameter should not exceed 1 mm larger than the gas spring body diameter. The bore pocket depth must be minimum 80% of L and a flat surface against the base is always required.



[AG]

[AG]

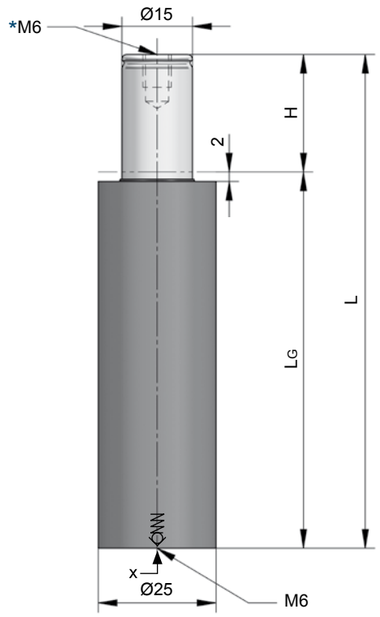
# CP.00300…V1

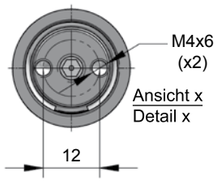
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 170 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

**Specifications:**

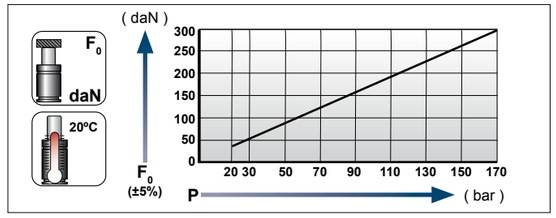
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 170 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

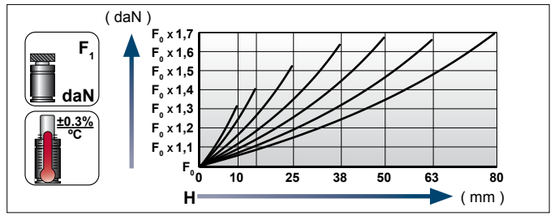


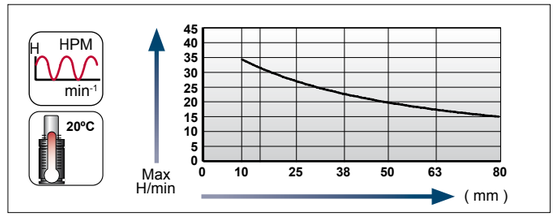




**CP.00300.015.V1**

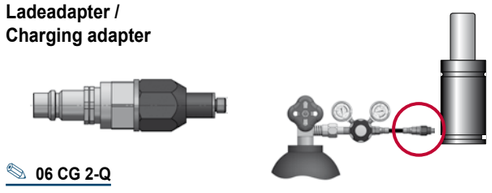
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (170 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 75 | 65 | 300 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **015** | 85 | 70 | 300 | |
| **025** | 105 | 80 | 300 | |
| **038** | 130 | 92 | 300 | |
| **050** | 155 | 105 | 300 | |
| **063** | 185 | 122 | 300 | |
| **080** | 220 | 140 | 300 | |




**Ladeadapter / Charging adapter**



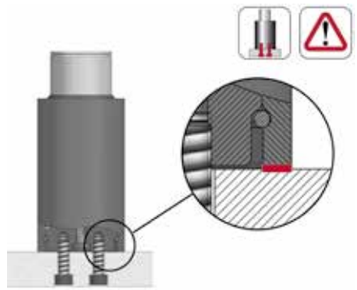
**06 CG 2-Q**





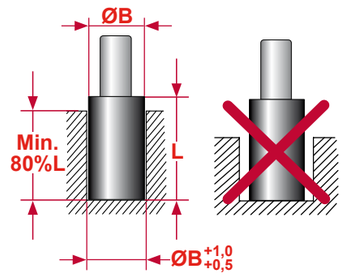
## Einbauhinweise für / Mounting instructions for **CP.00300…V1**

Gasdruckfedern vom Typ **CP**, die mit Schrauben befestigt werden, benötigen eine absolut plane und winklige Anschraubfläche.



Gas springs of type **CP**, which are fastened with screws, require an absolutely flat and angled screwing surface.

Werden Gasdruckfedern in einer Vertiefung eingebaut, sollte der Bohrungsdurchmesser nur 1 mm grösser als der Federdurchmesser sein. Die Kaverne sollte mindestens 80% von L betragen, und die Stellfläche absolut plan sein.




When the gas springs are installed into a bored pocket, the bored pocket diameter should not exceed 1 mm larger than the gas spring body diameter. The bore pocket depth must be minimum 80% of L and a flat surface against the base is always required.

# CP.00500…V1

**Technische Daten:**

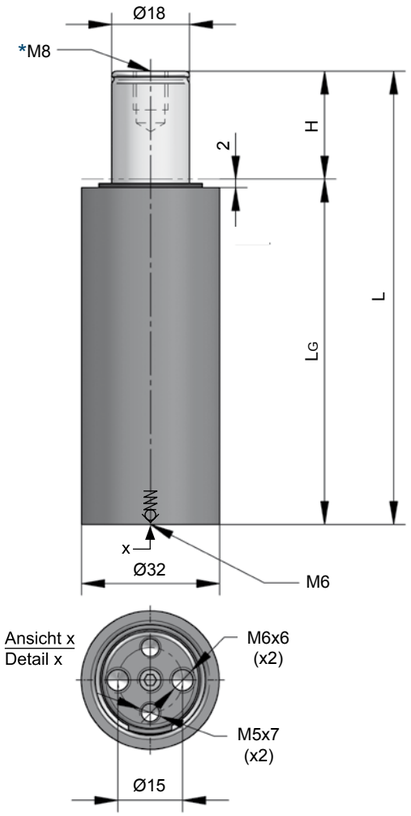
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 200 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

**Achtung: Wartungsarbeiten nur durch den Hersteller!**

**Specifications:**

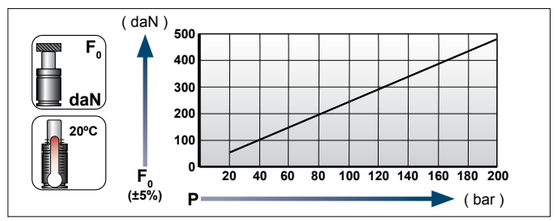
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 200 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

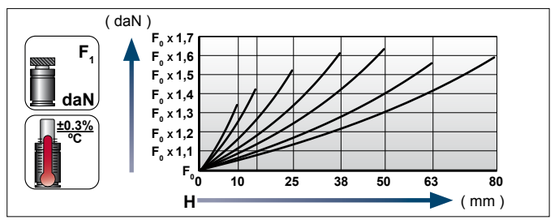
**Attention: Maintenance only at manufacturer's site!**

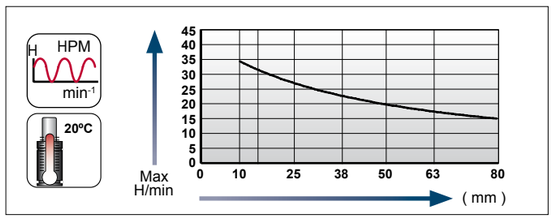



**CP.00500.025.V1**

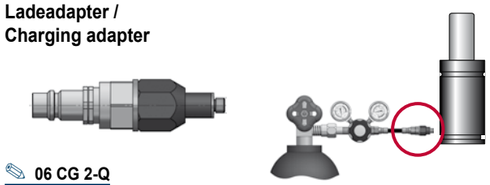
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (190 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 75 | 65 | 485 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **015** | 85 | 70 | 485 | |
| **025** | 105 | 80 | 485 | |
| **038** | 130 | 92 | 485 | |
| **050** | 155 | 105 | 485 | |
| **063** | 190 | 127 | 485 | |
| **080** | 225 | 145 | 485 | |




**Ladeadapter / Charging adapter**



**06 CG 2-Q**



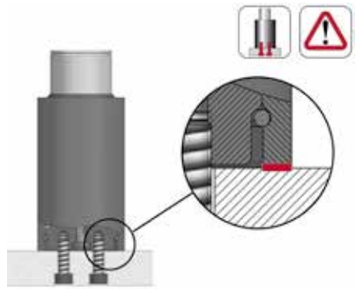
[13.03.2023]

[13.03.2023]



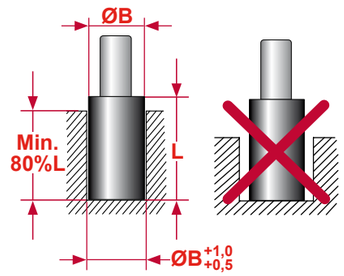
## Einbauhinweise für / Mounting instructions for **CP.00500…V1**

Gasdruckfedern vom Typ **CP**, die mit Schrauben befestigt werden, benötigen eine absolut plane und winklige Anschraubfläche.



Gas springs of type **CP**, which are fastened with screws, require an absolutely flat and angled screwing surface.

Werden Gasdruckfedern in einer Vertiefung eingebaut, sollte der Bohrungsdurchmesser nur 1 mm grösser als der Federdurchmesser sein. Die Kaverne sollte mindestens 80% von L betragen, und die Stellfläche absolut plan sein.




When the gas springs are installed into a bored pocket, the bored pocket diameter should not exceed 1 mm larger than the gas spring body diameter. The bore pocket depth must be minimum 80% of L and a flat surface against the base is always required.

# CP.01000…V1

**Technische Data:**

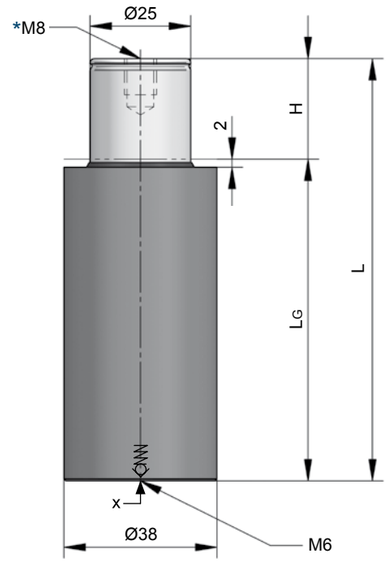
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 205 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

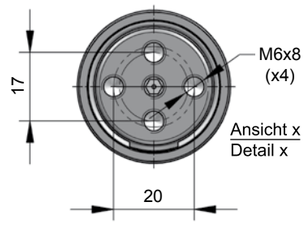
**Achtung: Wartungsarbeiten nur durch den Hersteller!**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 205 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

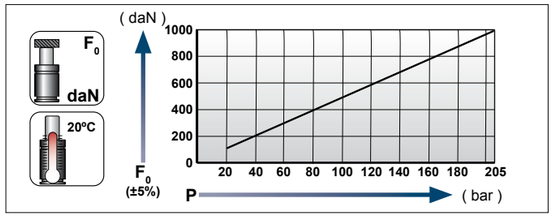
**Attention: Maintenance only at manufacturer's site!**

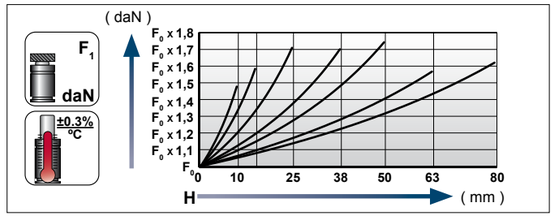


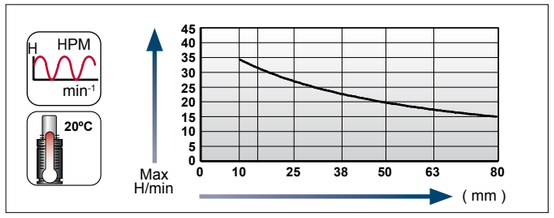




**CP.01000.038.V1**

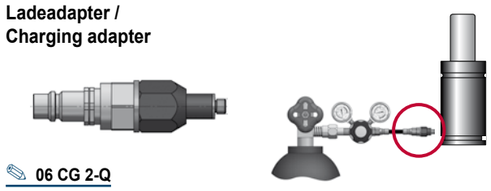
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (195 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 75 | 65 | 960 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **015** | 85 | 70 | 960 | |
| **025** | 105 | 80 | 960 | |
| **038** | 135 | 97 | 960 | |
| **050** | 160 | 110 | 960 | |
| **063** | 205 | 142 | 960 | |
| **080** | 240 | 160 | 960 | |




**Ladeadapter / Charging adapter**



**06 CG 2-Q**



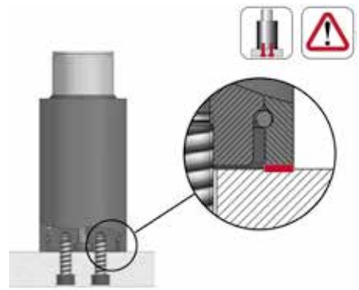
[13.03.2023]

[13.03.2023]



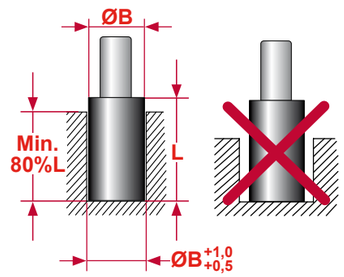
## Einbauhinweise für / Mounting instructions for **CP.01000…V1**

Gasdruckfedern vom Typ **CP**, die mit Schrauben befestigt werden, benötigen eine absolut plane und winklige Anschraubfläche.



Gas springs of type **CP**, which are fastened with screws, require an absolutely flat and angled screwing surface.

Werden Gasdruckfedern in einer Vertiefung eingebaut, sollte der Bohrungsdurchmesser nur 1 mm grösser als der Federdurchmesser sein. Die Kaverne sollte mindestens 80% von L betragen, und die Stellfläche absolut plan sein.




When the gas springs are installed into a bored pocket, the bored pocket diameter should not exceed 1 mm larger than the gas spring body diameter. The bore pocket depth must be minimum 80% of L and a flat surface against the base is always required.

# CP.02000…V2

**Technische Data:**

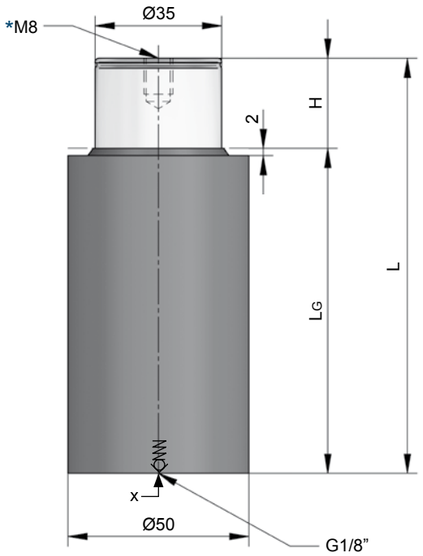
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 210 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

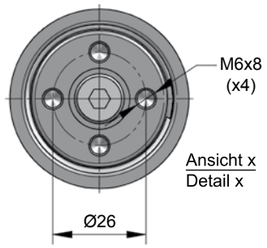
**Achtung: Wartungsarbeiten nur durch den Hersteller!**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 210 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

**Attention: Maintenance only at manufacturer's site!**

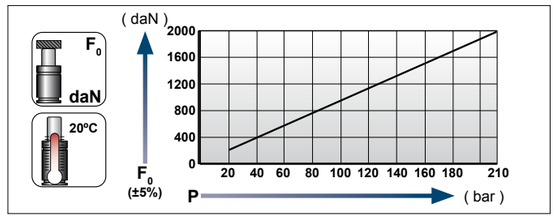


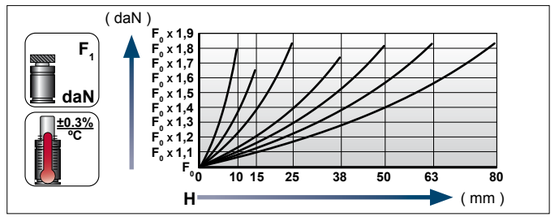



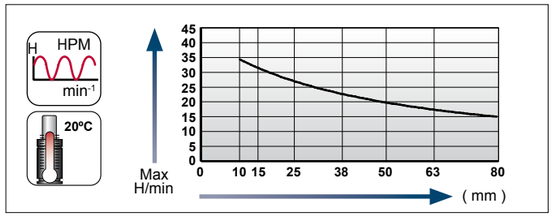

Ansicht x
Detail x

**CP.02000.050.V2**

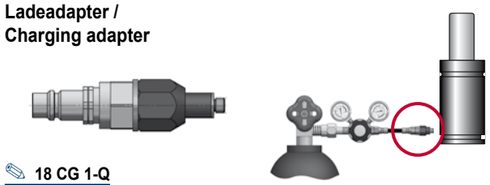
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (200 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 80 | 70 | 1925 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **015** | 95 | 80 | 1925 | |
| **025** | 115 | 90 | 1925 | |
| **038** | 150 | 112 | 1925 | |
| **050** | 175 | 125 | 1925 | |
| **063** | 205 | 142 | 1925 | |
| **080** | 245 | 165 | 1925 | |




**Ladeadapter / Charging adapter**



**18 CG 1-Q**



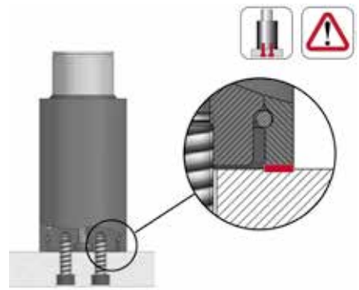
[13.03.2023]

[13.03.2023]



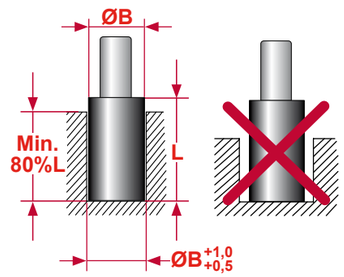
## Einbauhinweise für / Mounting instructions for **CP.02000…V2**

Gasdruckfedern vom Typ **CP**, die mit Schrauben befestigt werden, benötigen eine absolut plane und winklige Anschraubfläche.



Gas springs of type **CP**, which are fastened with screws, require an absolutely flat and angled screwing surface.

Werden Gasdruckfedern in einer Vertiefung eingebaut, sollte der Bohrungsdurchmesser nur 1 mm grösser als der Federdurchmesser sein. Die Kaverne sollte mindestens 80% von L betragen, und die Stellfläche absolut plan sein.




When the gas springs are installed into a bored pocket, the bored pocket diameter should not exceed 1 mm larger than the gas spring body diameter. The bore pocket depth must be minimum 80% of L and a flat surface against the base is always required.

# CP.03000…V1

**Technische Daten:**

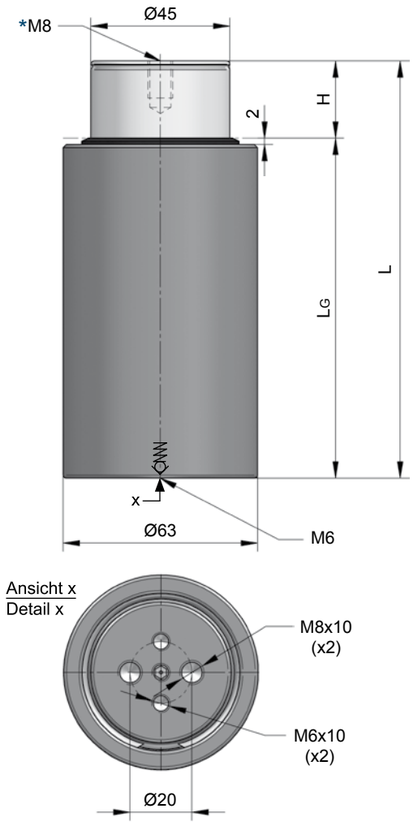
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 190 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

**Achtung: Wartungsarbeiten nur durch den Hersteller!**

**Specifications:**

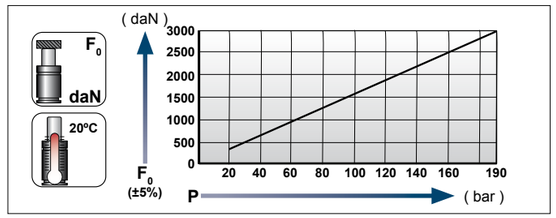
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 190 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

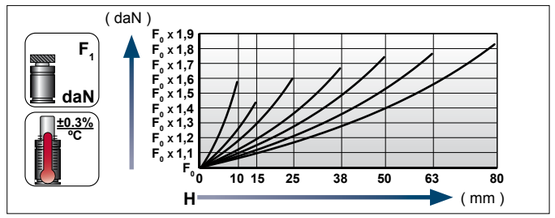
**Attention: Maintenance only at manufacturer's site!**

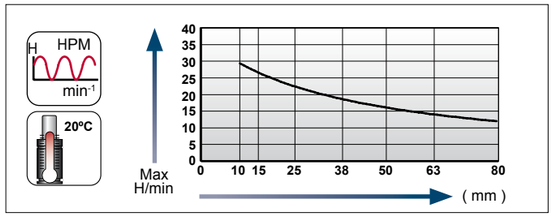



**CP.03000.063.V1**

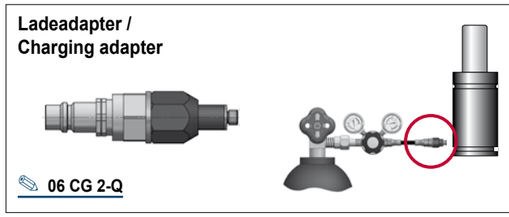
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (180 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 95 | 85 | 2860 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **015** | 115 | 100 | 2860 | |
| **025** | 135 | 110 | 2860 | |
| **038** | 165 | 127 | 2860 | |
| **050** | 190 | 140 | 2860 | |
| **063** | 220 | 157 | 2860 | |
| **080** | 255 | 175 | 2860 | |




**Ladeadapter / Charging adapter**



**06 CG 2-Q**



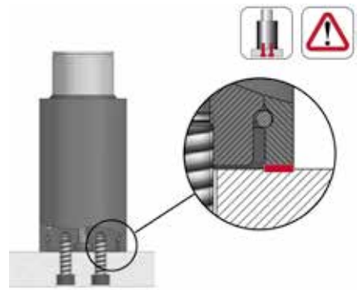
[13.03.2023]

[13.03.2023]



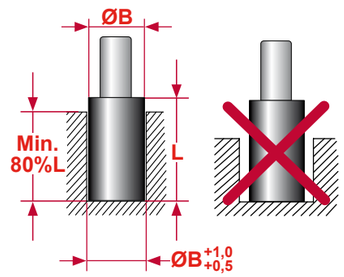
## Einbauhinweise für / Mounting instructions for **CP.03000…V1**

Gasdruckfedern vom Typ **CP**, die mit Schrauben befestigt werden, benötigen eine absolut plane und winklige Anschraubfläche.



Gas springs of type **CP**, which are fastened with screws, require an absolutely flat and angled screwing surface.

Werden Gasdruckfedern in einer Vertiefung eingebaut, sollte der Bohrungsdurchmesser nur 1 mm grösser als der Federdurchmesser sein. Die Kaverne sollte mindestens 80% von L betragen, und die Stellfläche absolut plan sein.




When the gas springs are installed into a bored pocket, the bored pocket diameter should not exceed 1 mm larger than the gas spring body diameter. The bore pocket depth must be minimum 80% of L and a flat surface against the base is always required.

# CP.05000…V1

**Technische Daten:**

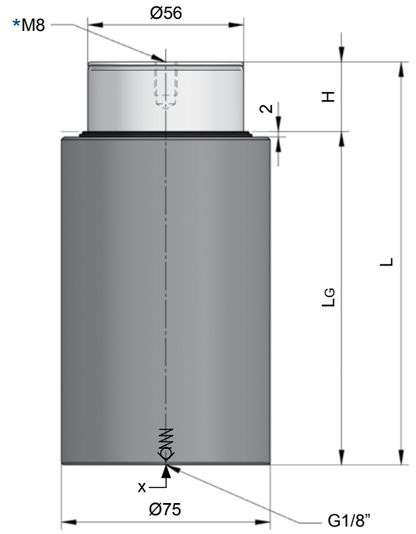
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 200 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

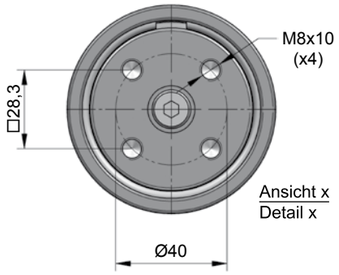
**Achtung: Wartungsarbeiten nur durch den Hersteller!**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 200 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

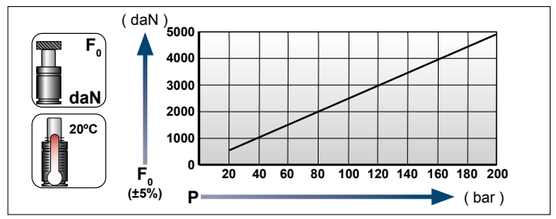
**Attention: Maintenance only at manufacturer's site!**

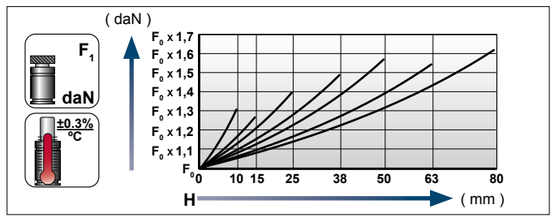


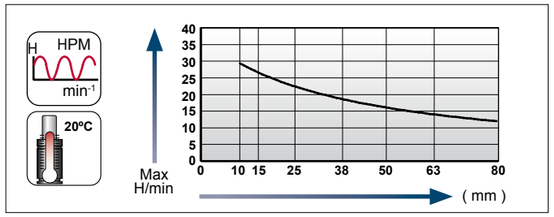




**CP.05000.080.V1**

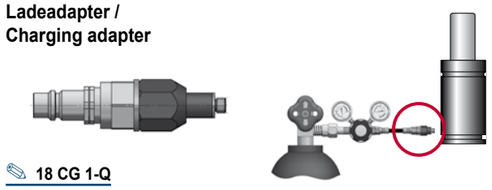
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (200 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 100 | 90 | 4925 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **015** | 125 | 110 | 4925 | |
| **025** | 145 | 120 | 4925 | |
| **038** | 175 | 137 | 4925 | |
| **050** | 200 | 150 | 4925 | |
| **063** | 240 | 177 | 4925 | |
| **080** | 275 | 195 | 4925 | |




**Ladeadapter / Charging adapter**



**18 CG 1-Q**



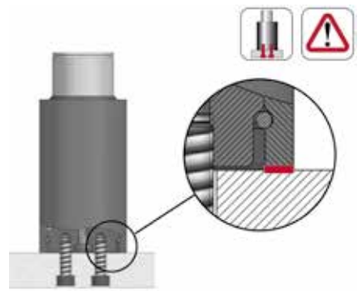
[13.03.2023]

[13.03.2023]



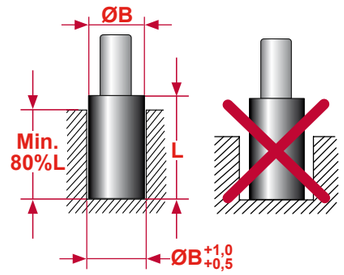
## Einbauhinweise für / Mounting instructions for **CP.05000…V1**

Gasdruckfedern vom Typ **CP**, die mit Schrauben befestigt werden, benötigen eine absolut plane und winklige Anschraubfläche.



Gas springs of type **CP**, which are fastened with screws, require an absolutely flat and angled screwing surface.

Werden Gasdruckfedern in einer Vertiefung eingebaut, sollte der Bohrungsdurchmesser nur 1 mm grösser als der Federdurchmesser sein. Die Kaverne sollte mindestens 80% von L betragen, und die Stellfläche absolut plan sein.




When the gas springs are installed into a bored pocket, the bored pocket diameter should not exceed 1 mm larger than the gas spring body diameter. The bore pocket depth must be minimum 80% of L and a flat surface against the base is always required.

# CP.08000…V1

**Technische Data:**

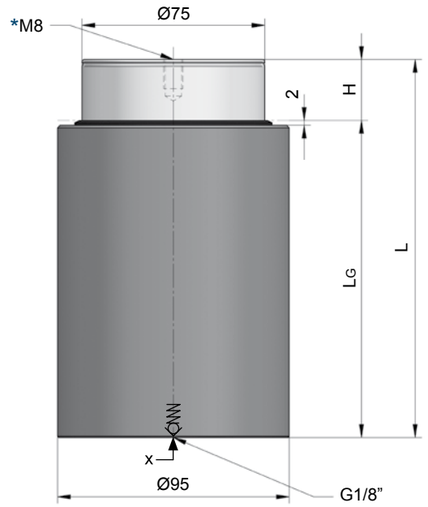
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

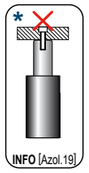
**Achtung: Wartungsarbeiten nur durch den Hersteller!**

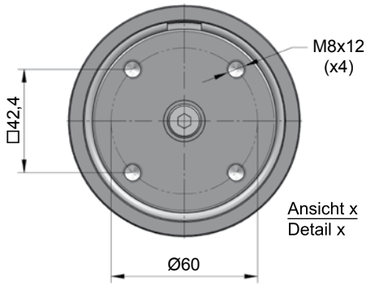
**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

**Attention: Maintenance only at manufacturer's site!**

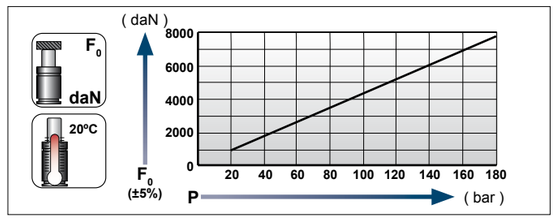


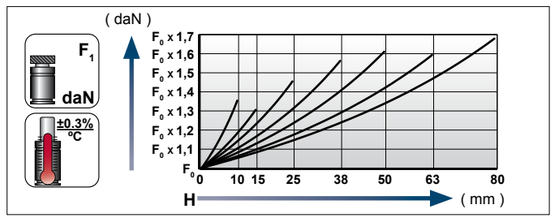



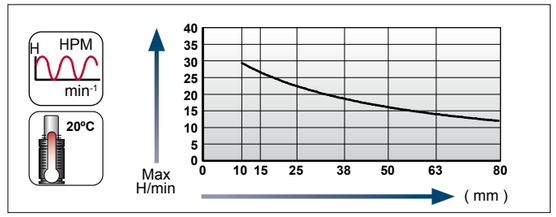




**CP.08000.010.V1**

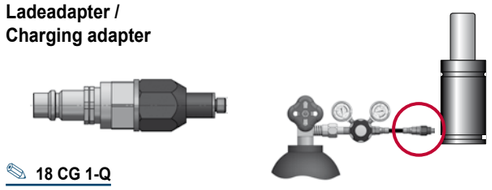
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (180 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 110 | 100 | 7950 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **015** | 135 | 120 | 7950 | |
| **025** | 155 | 130 | 7950 | |
| **038** | 185 | 147 | 7950 | |
| **050** | 215 | 165 | 7950 | |
| **063** | 255 | 192 | 7950 | |
| **080** | 290 | 210 | 7950 | |




**Ladeadapter / Charging adapter**



**18 CG 1-Q**



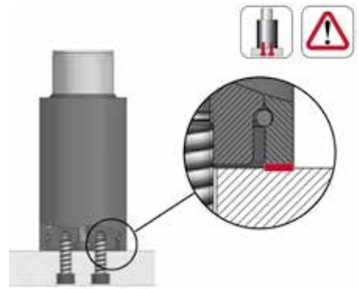
[13.03.2023]

[13.03.2023]



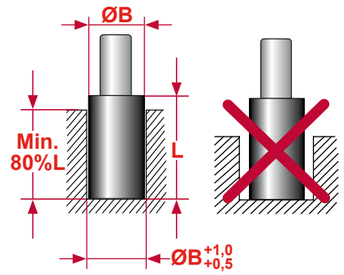
## Einbauhinweise für / Mounting instructions for **CP.08000…V1**

Gasdruckfedern vom Typ **CP**, die mit Schrauben befestigt werden, benötigen eine absolut plane und winklige Anschraubfläche.



Gas springs of type **CP**, which are fastened with screws, require an absolutely flat and angled screwing surface.

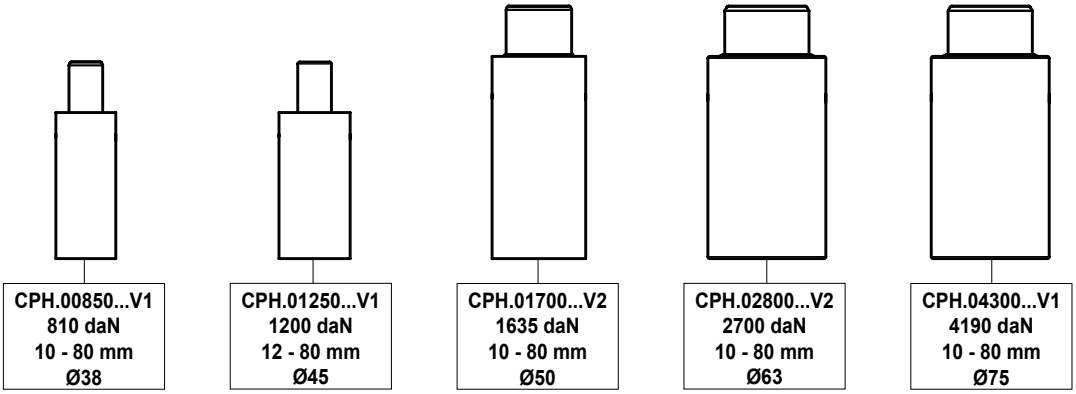
Werden Gasdruckfedern in einer Vertiefung eingebaut, sollte der Bohrungsdurchmesser nur 1 mm grösser als der Federdurchmesser sein. Die Kaverne sollte mindestens 80% von L betragen, und die Stellfläche absolut plan sein.




When the gas springs are installed into a bored pocket, the bored pocket diameter should not exceed 1 mm larger than the gas spring body diameter. The bore pocket depth must be minimum 80% of L and a flat surface against the base is always required.

## Größenübersicht Serie CPH

## Gas spring index CPH series



# CPH.00850...V1

**Technische Data:**

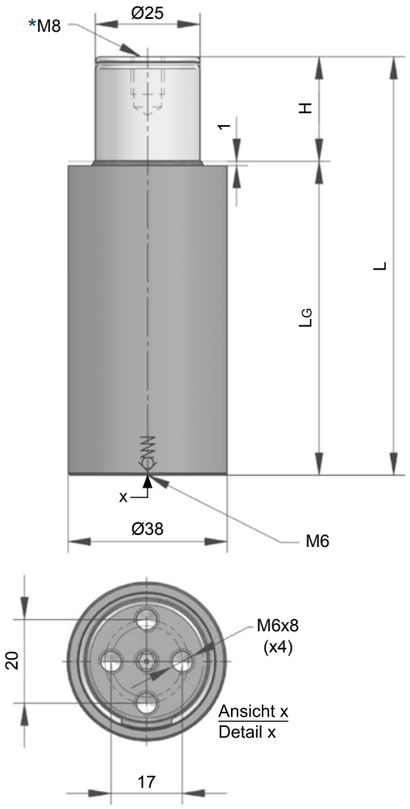
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 175 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

**Achtung: Wartungsarbeiten nur durch den Hersteller!**

**Specifications:**

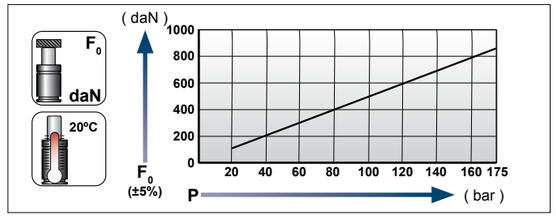
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 175 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

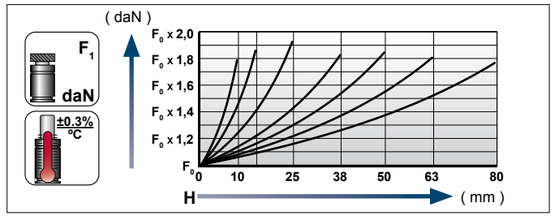
**Attention: Maintenance only at manufacturer's site!**

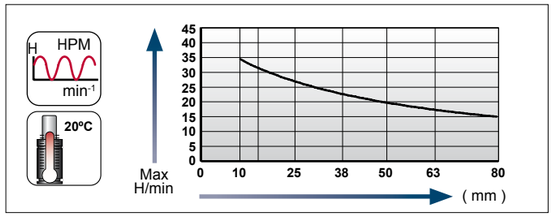



**CPH.00850.038.V1**

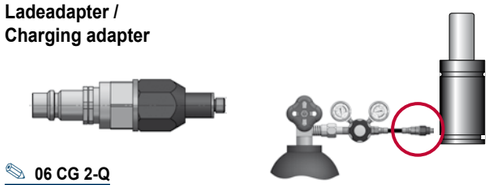
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (165 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 70 | 60 | 810 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **015** | 80 | 65 | 810 | |
| **025** | 100 | 75 | 810 | |
| **038** | 130 | 92 | 810 | |
| **050** | 155 | 105 | 810 | |
| **063** | 185 | 122 | 810 | |
| **080** | 225 | 145 | 810 | |




**Ladeadapter / Charging adapter**



**06 CG 2-Q**



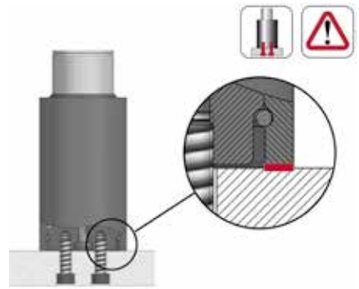
[14.03.2023]

[14.03.2023]



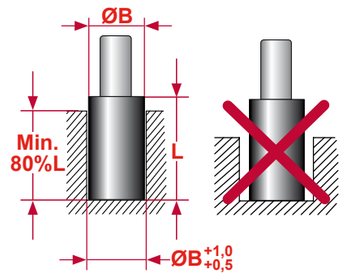
## Einbauhinweise für / Mounting instructions for **CPH.00850...V1**

Gasdruckfedern vom Typ **CPH**, die mit Schrauben befestigt werden, benötigen eine absolut plane und winklige Anschraubfläche.



Gas springs of type **CPH**, which are fastened with screws, require an absolutely flat and angled screwing surface.

Werden Gasdruckfedern in einer Vertiefung eingebaut, sollte der Bohrungsdurchmesser nur 1 mm grösser als der Federdurchmesser sein. Die Kaverne sollte mindestens 80% von L betragen, und die Stellfläche absolut plan sein.




When the gas springs are installed into a bored pocket, the bored pocket diameter should not exceed 1 mm larger than the gas spring body diameter. The bore pocket depth must be minimum 80% of L and a flat surface against the base is always required.

# CPH.01250...V1

**Technische Data:**

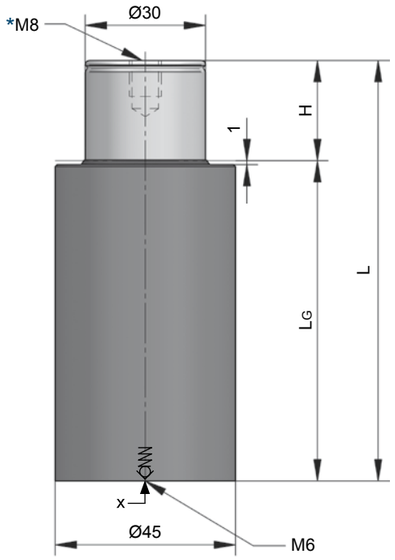
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 175 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

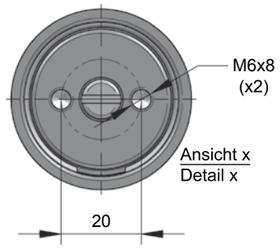
**Achtung: Wartungsarbeiten nur durch den Hersteller!**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 175 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

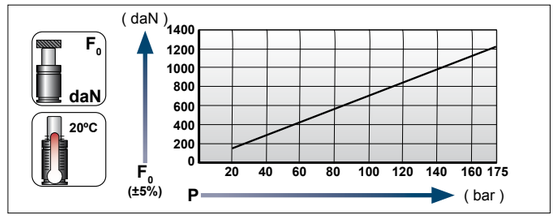
**Attention: Maintenance only at manufacturer's site!**

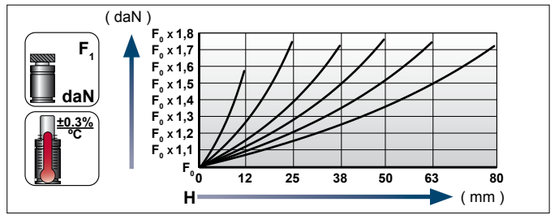


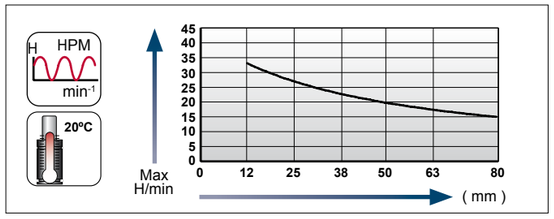




**CPH.01250.050.V1**

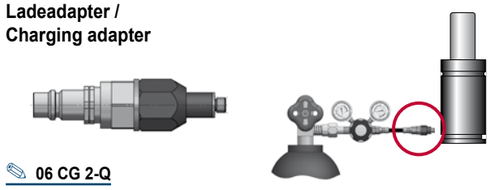
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (170 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **012** | 79 | 67 | 1200 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **025** | 105 | 80 | 1200 | |
| **038** | 135 | 97 | 1200 | |
| **050** | 160 | 110 | 1200 | |
| **063** | 190 | 127 | 1200 | |
| **080** | 230 | 150 | 1200 | |




**Ladeadapter / Charging adapter**



**06 CG 2-Q**



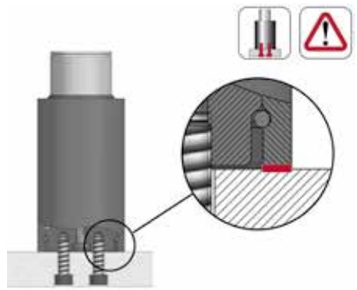
[14.03.2023]

[14.03.2023]



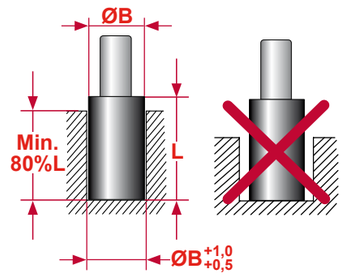
## Einbauhinweise für / Mounting instructions for **CPH.01250...V1**

Gasdruckfedern vom Typ **CPH**, die mit Schrauben befestigt werden, benötigen eine absolut plane und winklige Anschraubfläche.



Gas springs of type **CPH**, which are fastened with screws, require an absolutely flat and angled screwing surface.

Werden Gasdruckfedern in einer Vertiefung eingebaut, sollte der Bohrungsdurchmesser nur 1 mm grösser als der Federdurchmesser sein. Die Kaverne sollte mindestens 80% von L betragen, und die Stellfläche absolut plan sein.




When the gas springs are installed into a bored pocket, the bored pocket diameter should not exceed 1 mm larger than the gas spring body diameter. The bore pocket depth must be minimum 80% of L and a flat surface against the base is always required.

# CPH.01700...V2

**Technische Data:**

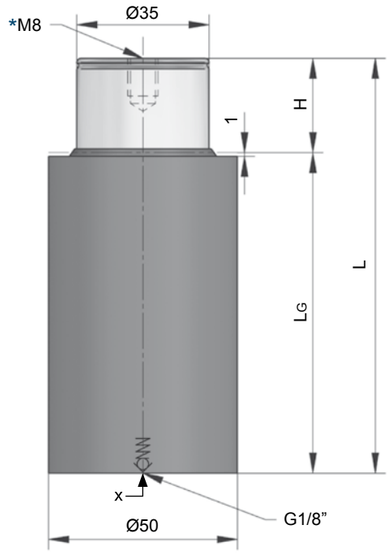
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 175 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

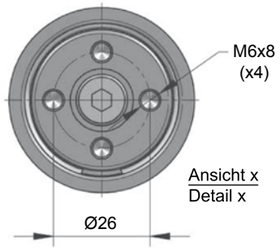
**Achtung: Wartungsarbeiten nur durch den Hersteller!**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 175 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

**Attention: Maintenance only at manufacturer's site!**

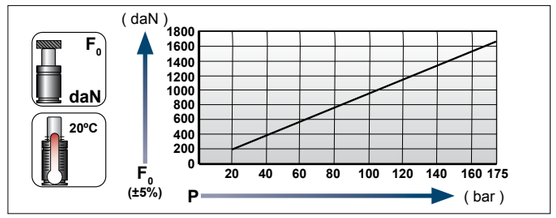


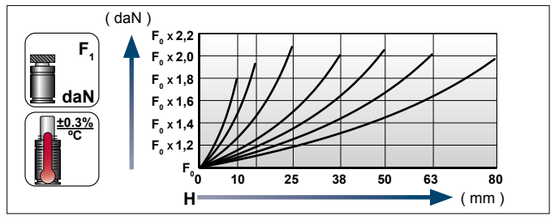



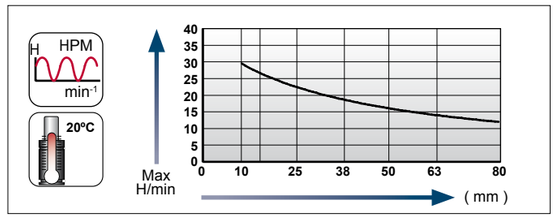

Ansicht x
Detail x

**CPH.01700.063.V2**

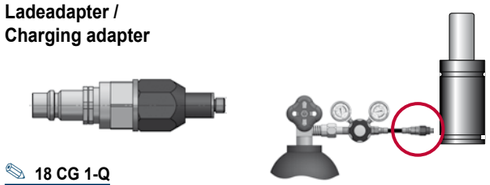
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (170 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 80 | 70 | 1635 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **015** | 90 | 75 | 1635 | |
| **025** | 110 | 85 | 1635 | |
| **038** | 140 | 102 | 1635 | |
| **050** | 165 | 115 | 1635 | |
| **063** | 195 | 132 | 1635 | |
| **080** | 235 | 155 | 1635 | |




**Ladeadapter / Charging adapter**



**18 CG 1-Q**



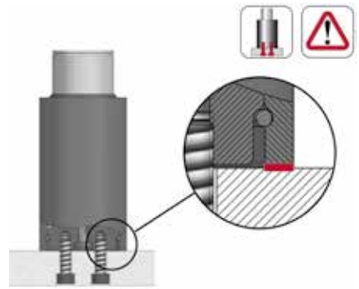
[14.03.2023]

[14.03.2023]



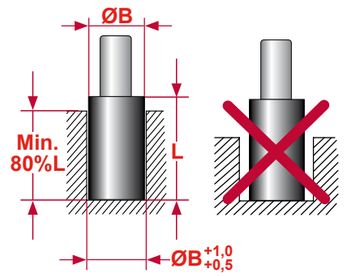
## Einbauhinweise für / Mounting instructions for **CPH.01700...V2**

Gasdruckfedern vom Typ **CPH**, die mit Schrauben befestigt werden, benötigen eine absolut plane und winklige Anschraubfläche.



Gas springs of type **CPH**, which are fastened with screws, require an absolutely flat and angled screwing surface.

Werden Gasdruckfedern in einer Vertiefung eingebaut, sollte der Bohrungsdurchmesser nur 1 mm grösser als der Federdurchmesser sein. Die Kaverne sollte mindestens 80% von L betragen, und die Stellfläche absolut plan sein.




When the gas springs are installed into a bored pocket, the bored pocket diameter should not exceed 1 mm larger than the gas spring body diameter. The bore pocket depth must be minimum 80% of L and a flat surface against the base is always required.

# CPH.02800...V2

**Technische Data:**

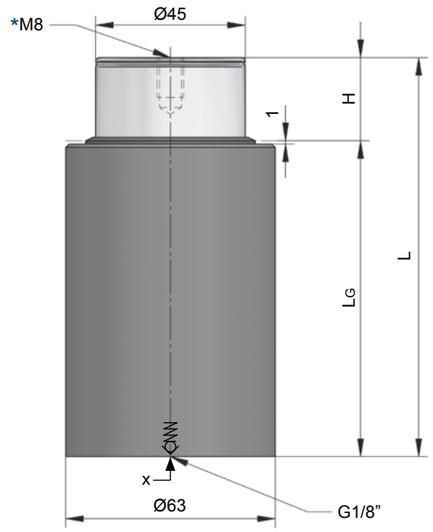
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 175 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

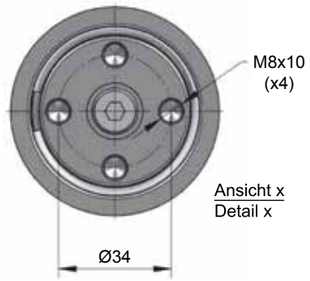
**Achtung: Wartungsarbeiten nur durch den Hersteller!**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 175 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

**Attention: Maintenance only at manufacturer's site!**

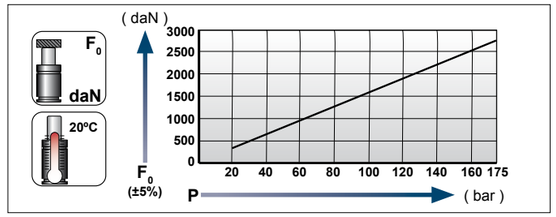


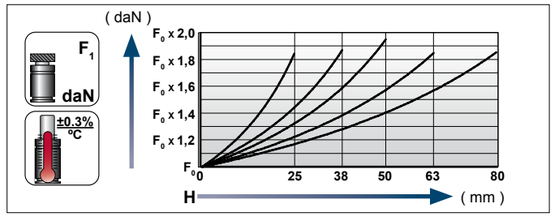



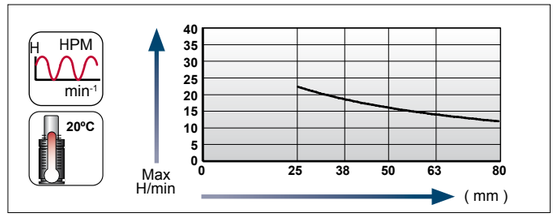

Ansicht x
Detail x

**CPH.02800.063.V2**

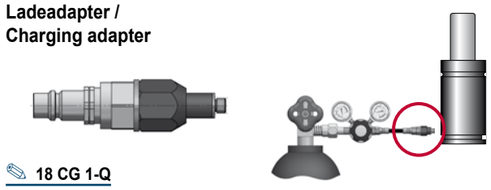
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (170 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 90 | 80 | 2700 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **015** | 100 | 85 | 2700 | |
| **025** | 120 | 95 | 2700 | |
| **038** | 150 | 112 | 2700 | |
| **050** | 175 | 125 | 2700 | |
| **063** | 210 | 147 | 2700 | |
| **080** | 250 | 170 | 2700 | |




**Ladeadapter / Charging adapter**



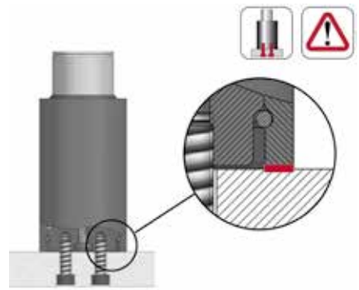
**18 CG 1-Q**



GDF, mit erhöhter Kraft
GS, with higher force
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

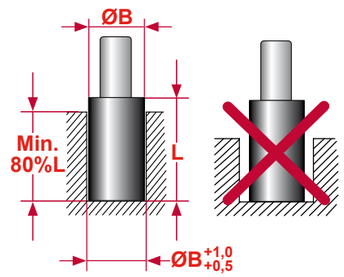
## Einbauhinweise für / Mounting instructions for **CPH.02800...V2**

Gasdruckfedern vom Typ **CPH**, die mit Schrauben befestigt werden, benötigen eine absolut plane und winklige Anschraubfläche.



Gas springs of type **CPH**, which are fastened with screws, require an absolutely flat and angled screwing surface.

Werden Gasdruckfedern in einer Vertiefung eingebaut, sollte der Bohrungsdurchmesser nur 1 mm grösser als der Federdurchmesser sein. Die Kaverne sollte mindestens 80% von L betragen, und die Stellfläche absolut plan sein.




When the gas springs are installed into a bored pocket, the bored pocket diameter should not exceed 1 mm larger than the gas spring body diameter. The bore pocket depth must be minimum 80% of L and a flat surface against the base is always required.

# CPH.04300...V1

**Technische Data:**

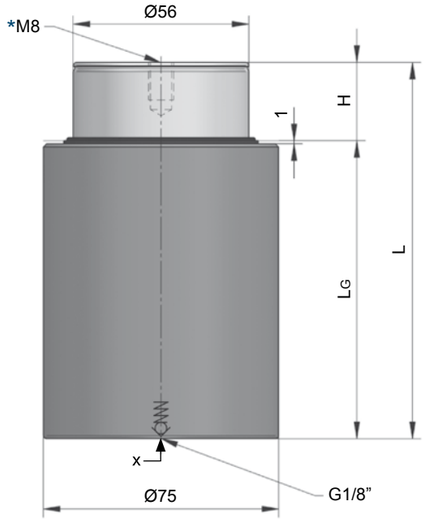
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 175 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

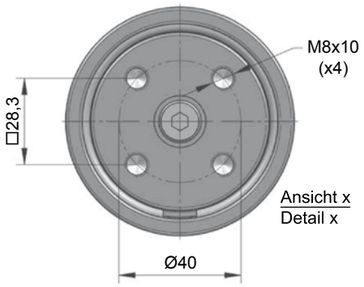
**Achtung: Wartungsarbeiten nur durch den Hersteller!**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 175 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

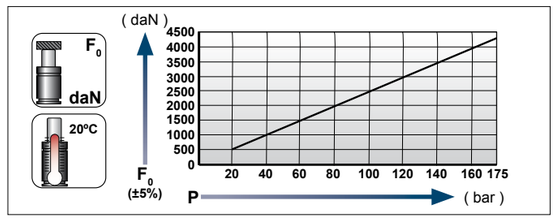
**Attention: Maintenance only at manufacturer's site!**

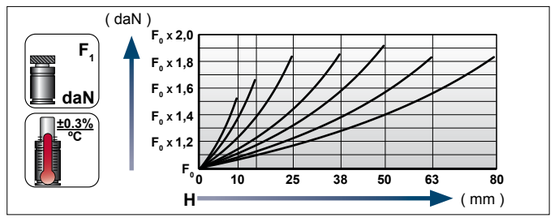


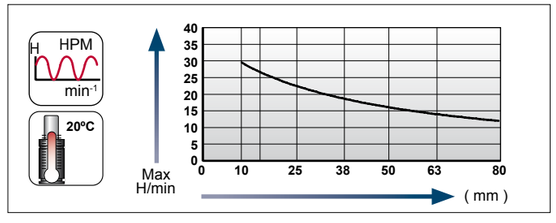




**CPH.04300.063.V1**

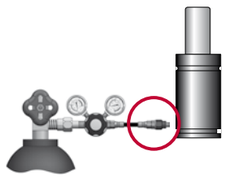
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (170 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 90 | 80 | 4190 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **015** | 100 | 85 | 4190 | |
| **025** | 120 | 95 | 4190 | |
| **038** | 150 | 112 | 4190 | |
| **050** | 175 | 125 | 4190 | |
| **063** | 210 | 147 | 4190 | |
| **080** | 250 | 170 | 4190 | |




**Ladeadapter / Charging adapter**



**18 CG 1-Q**



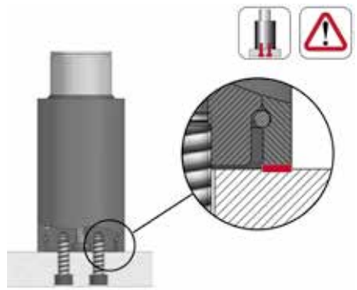
[14.03.2023]

[14.03.2023]

GDF, mit erhöhter Kraft
GS, with higher force
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

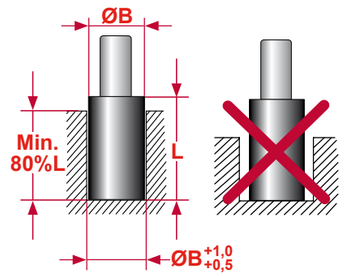
## Einbauhinweise für / Mounting instructions for **CPH.04300...V1**

Gasdruckfedern vom Typ **CPH**, die mit Schrauben befestigt werden, benötigen eine absolut plane und winklige Anschraubfläche.



Gas springs of type **CPH**, which are fastened with screws, require an absolutely flat and angled screwing surface.

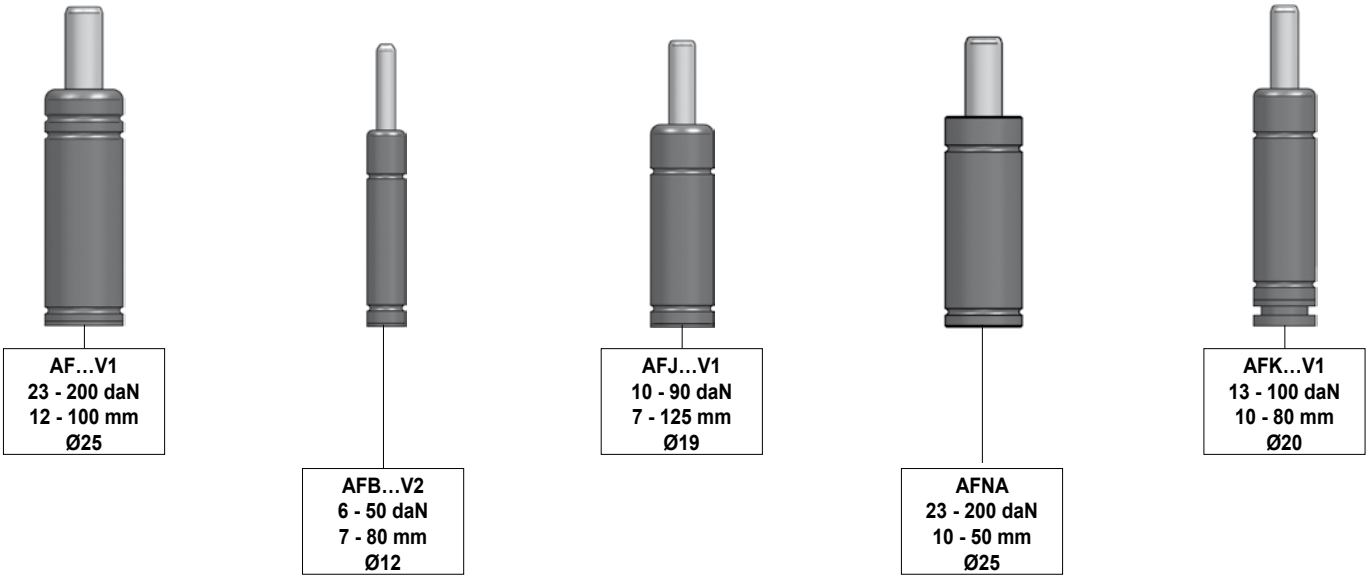
Werden Gasdruckfedern in einer Vertiefung eingebaut, sollte der Bohrungsdurchmesser nur 1 mm grösser als der Federdurchmesser sein. Die Kaverne sollte mindestens 80% von L betragen, und die Stellfläche absolut plan sein.

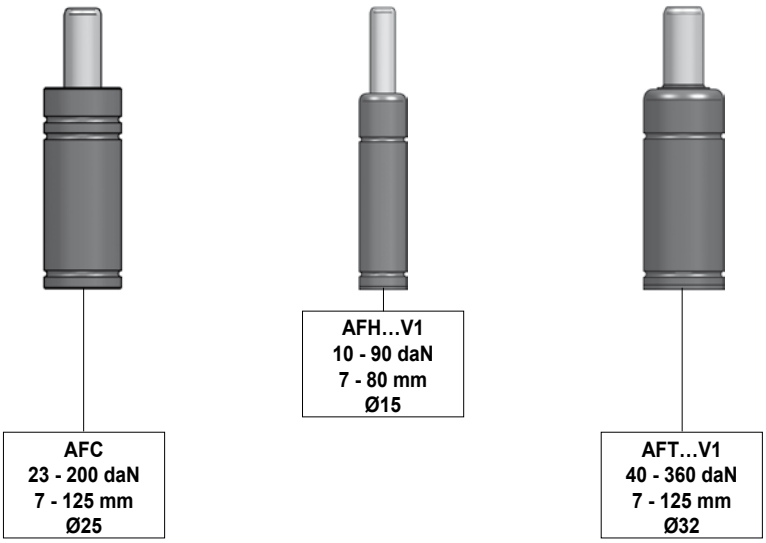



When the gas springs are installed into a bored pocket, the bored pocket diameter should not exceed 1 mm larger than the gas spring body diameter. The bore pocket depth must be minimum 80% of L and a flat surface against the base is always required.

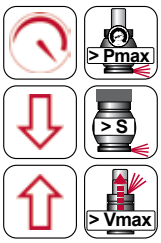
## Größenübersicht Serie AFX

## Gas spring index AFX series




## SICHERHEITSSYSTEME



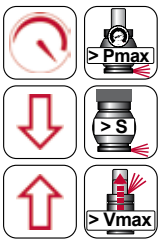

**Überdruck**

**Überhub**

**Freier Rückhub**

Information über die Sicherheitssysteme (Überdruck, Überhub, Freier Rückhub) erhalten Sie im Vorspann auf der Seite Azol.22.

## SAFETY SYSTEMS




**Over-Pressure**

**Over-Stroke**

**Over-Speed**

Information about the safety systems (over-pressure, over-stroke, over-speed) can be found in the introductory part on page Azol.22.

[AG]

# AF…V1

**Technische Daten:**

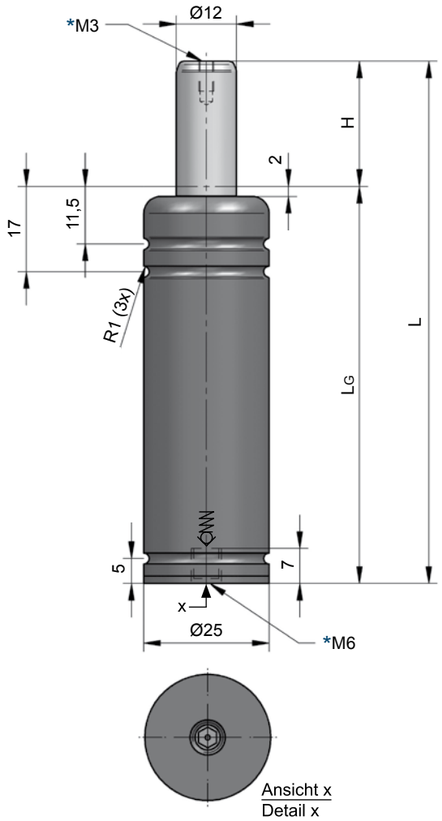
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Einwegfeder ist nicht reparierbar!**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

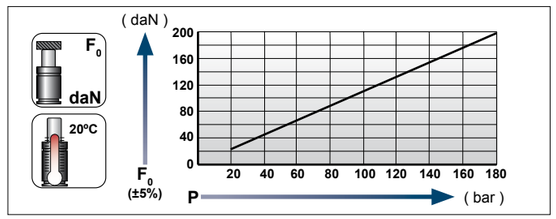
**One-way spring is irreparable!**

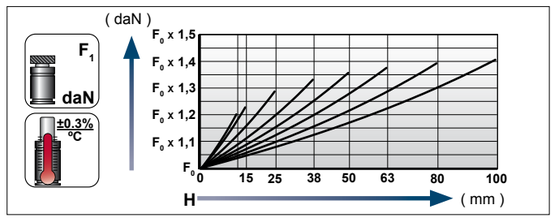


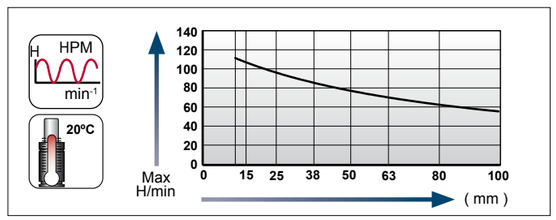
**AF.00050.015.V1**

| Typ / Type | Farbe / Color | Fülldruck Loading pressure [bar] | Kraft / Force Anfang / Initial [daN] | Kraft / Force Ende / Final [daN] |
|---|---|---|---|---|
| **AF.00050.V1** | Grün / Green | 45 | 50 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **AF.00100.V1** | Blau / Blue | 90 | 100 | |
| **AF.00150.V1** | Rot / Red | 135 | 150 | |
| **AF.00200.V1** | Gelb / Yellow | 180 | 200 | |
| **AF.00XXX.V1** | Schwarz / Black | 20 - 180 | 23 - 200 | |

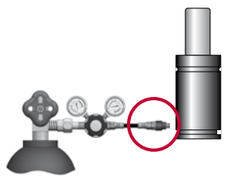
| Hub / Stroke | L ±0,25 | LG |
|---|---|---|
| **012** | 78 | 66 |
| **015** | 84 | 69 |
| **025** | 104 | 79 |
| **038** | 130 | 92 |
| **050** | 154 | 104 |
| **063** | 180 | 117 |
| **080** | 214 | 134 |
| **100** | 254 | 154 |




**Ladeadapter / Charging adapter**

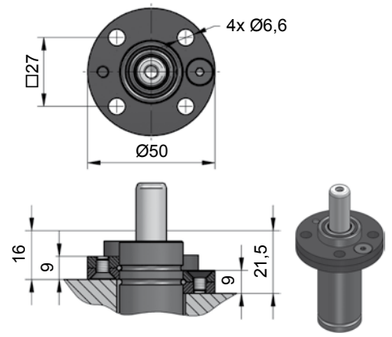


**06 CG 2-Q**





## Flansche für / Flanges for **AF.00050.V1, …00100.V1, …00150.V1, …00200.V1, …00XXX.V1**




**A14-025**

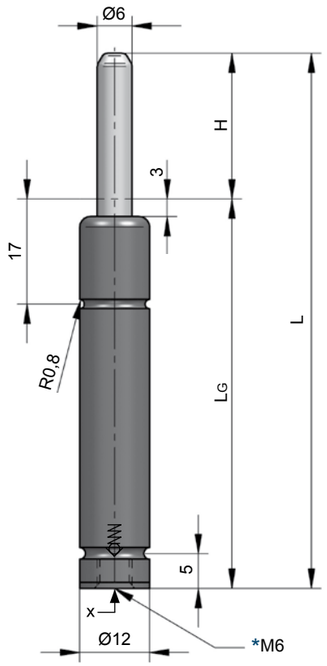
# AFB…V2

**Technische Data:**
Medium: $N_2$
$P_{max.}$ (20 °C): 180 bar
$P_{min.}$ (20 °C): 20 bar
Arbeitstemperatur: 0 - 80 °C
Max. Kolbengeschw.: 1,6 m/s
**Einwegfeder ist nicht reparierbar!**

**Achtung:** Das Mittengewinde M6 im Boden der Gasdruckfeder darf nicht zur Befestigung genutzt werden.

**Specifications:**
Pressure medium: $N_2$
$P_{max.}$ (20 °C): 180 bar
$P_{min.}$ (20 °C): 20 bar
Operating temperature: 0 - 80 °C
Max. piston rod speed: 1,6 m/s
**One-way spring is irreparable!**

**Important:** Do not use the centre-thread M6 in the bottom for fixing the gas spring into the tool.

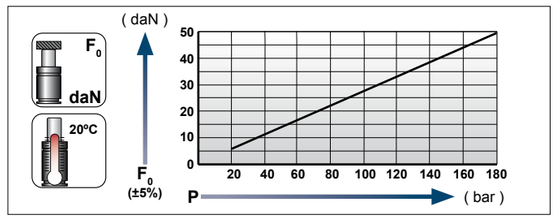


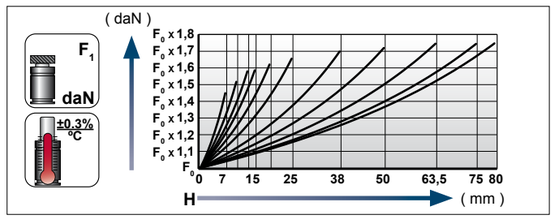
**AFB.00025.025.2V**

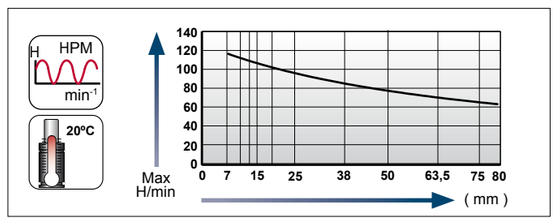
Ansicht x
Detail x

| Typ / Type | Farbe / Color | Fülldruck Loading pressure [bar] | Kraft / Force Anfang / Initial [daN] | Kraft / Force Ende / Final [daN] |
|---|---|---|---|---|
| **AFB.00013.2** | Grün / Green | 45 | 13 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **AFB.00025.2** | Blau / Blue | 90 | 25 | |
| **AFB.00038.2** | Rot / Red | 135 | 38 | |
| **AFB.00050.2** | Gelb / Yellow | 180 | 50 | |
| **AFB.000XX.2** | Schwarz / Black | 20 - 180 | 6 - 50 | |

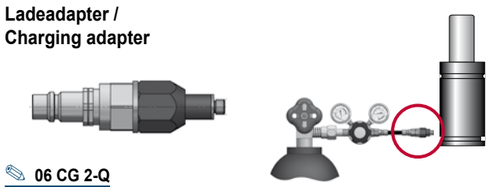
| Hub / Stroke | L ±0,25 | LG |
|---|---|---|
| **007** | 56 | 49 |
| **010** | 62 | 52 |
| **012,7** | 67,4 | 54,7 |
| **015** | 72 | 57 |
| **019** | 80 | 61 |
| **025** | 92 | 67 |
| **038** | 118 | 80 |
| **050** | 142 | 92 |
| **063,5** | 172 | 108,5 |
| **075** | 195 | 120 |
| **080** | 205 | 125 |




**Ladeadapter /**
**Charging adapter**



**06 CG 2-Q**

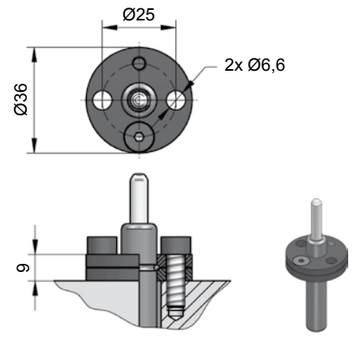


[14.03.2023]

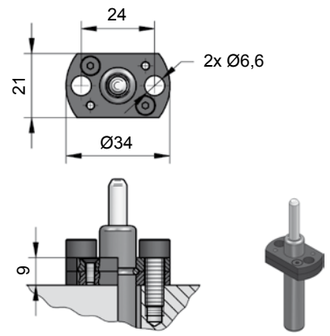
[14.03.2023]



## Flansche für / Flanges for **AFB.00013.V2, …00025.V2, …00038.V2, …00050.V2, …000XX.V2**




**A14-012**




**A59-012**

# AFJ…V1

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Einwegfeder ist nicht reparierbar!**

**Achtung:** Das Mittengewinde M6 im Boden der Gasdruckfeder darf nicht zur Befestigung genutzt werden.

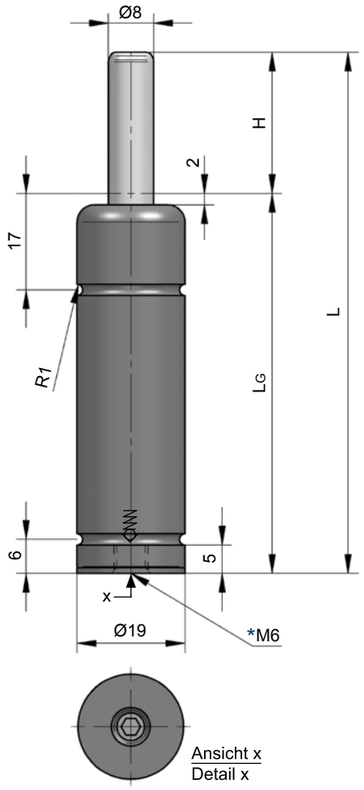
**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

**One-way spring is irreparable!**

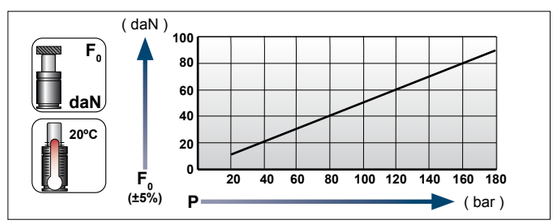
**Important:** Do not use the centre-thread M6 in the bottom for fixing the gas spring into the tool.

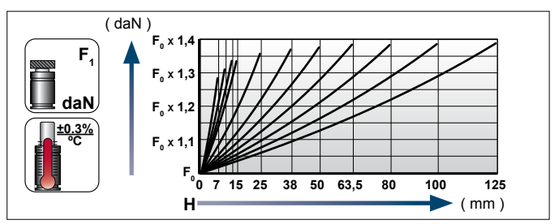
**AFJ.00030.080.V1**

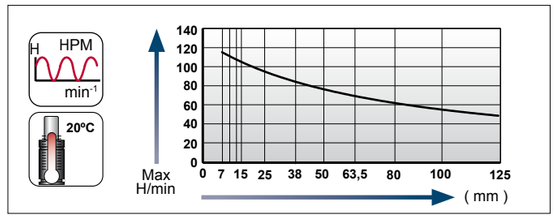



| Typ / Type | Farbe / Color | Fülldruck Loading pressure [bar] | Kraft / Force Anfang / Initial [daN] | Kraft / Force Ende / Final [daN] |
|---|---|---|---|---|
| **AFJ.00030.V1** | Grün / Green | 60 | 30 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **AFJ.00050.V1** | Blau / Blue | 100 | 50 | |
| **AFJ.00070.V1** | Rot / Red | 140 | 70 | |
| **AFJ.00090.V1** | Gelb / Yellow | 180 | 90 | |
| **AFJ.000XX.V1** | Schwarz / Black | 20 - 180 | 10 - 90 | |

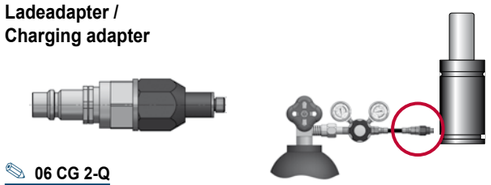
| Hub / Stroke | L ±0,25 | LG |
|---|---|---|
| **007** | 56 | 49 |
| **010** | 62 | 52 |
| **012,7** | 67,4 | 54,7 |
| **015** | 72 | 57 |
| **025** | 92 | 67 |
| **038** | 118 | 80 |
| **050** | 142 | 92 |
| **063,5** | 172 | 108,5 |
| **080** | 205 | 125 |
| **100** | 245 | 145 |
| **125** | 295 | 170 |




**Ladeadapter / Charging adapter**



**06 CG 2-Q**

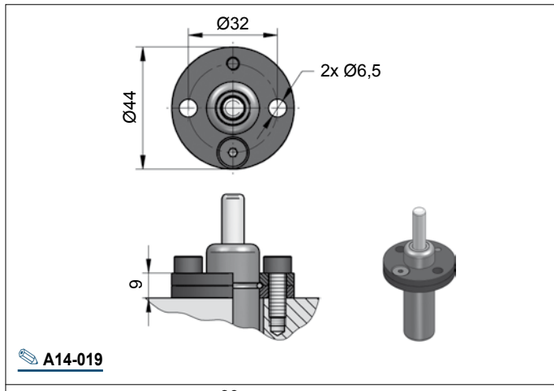


[14.03.2023]

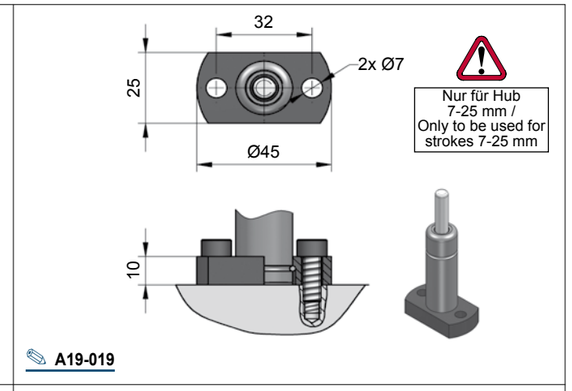
[14.03.2023]



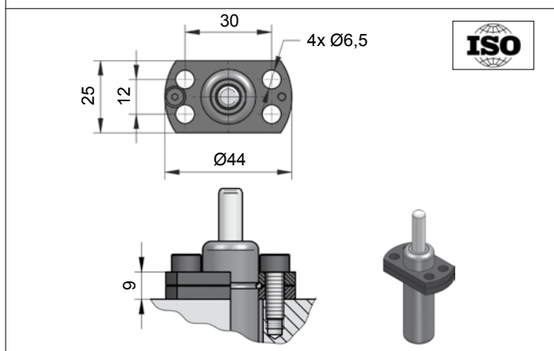
## Flansche für / Flanges for **AFJ.00030.V1, ...00050.V1, ...00070.V1, ...00090.V1, ...000XX.V1**



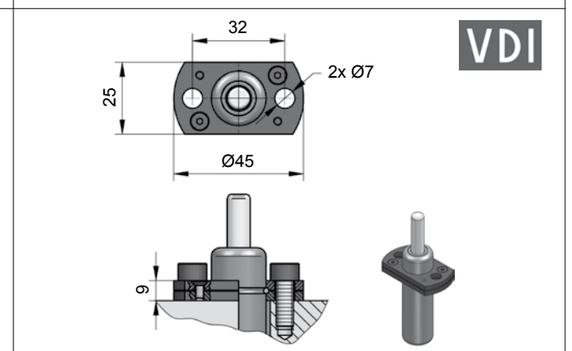

**A14-019**




**A19-019**




**A44-019**




**A59-019**

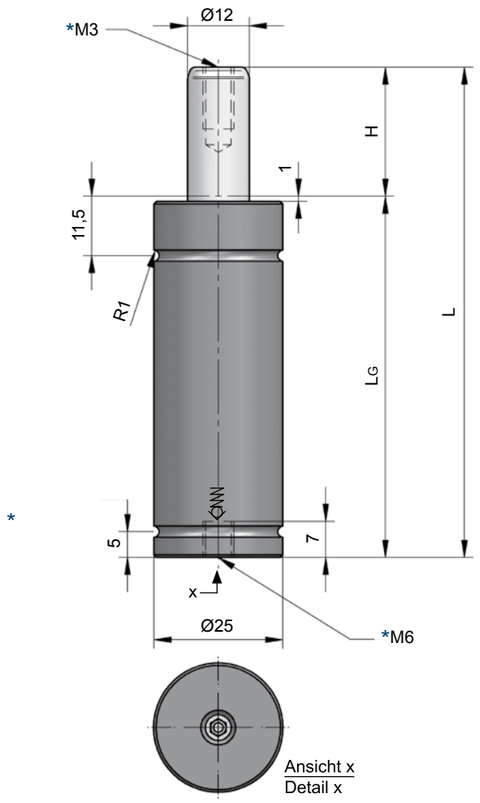
# AFNA

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

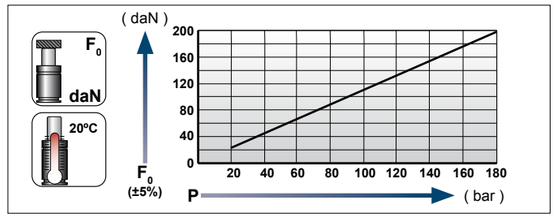
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

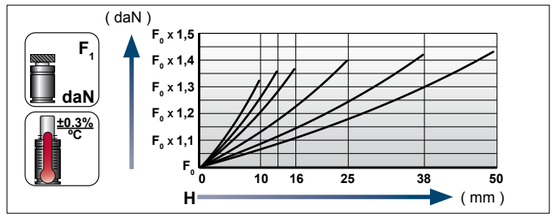


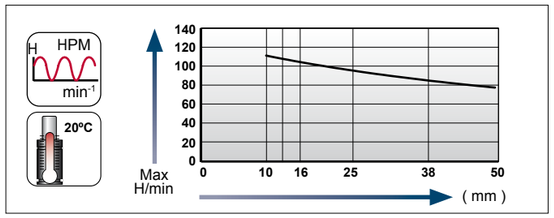
## AFNA.00050.016

| Typ / Type | Farbe / Color | Fülldruck Loading pressure [bar] | Kraft / Force Anfang / Initial [daN] | Kraft / Force Ende / Final [daN] |
|---|---|---|---|---|
| **AFNA.00050** | Grün / Green | 45 | 50 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **AFNA.00100** | Blau / Blue | 90 | 100 | |
| **AFNA.00150** | Rot / Red | 135 | 150 | |
| **AFNA.00200** | Gelb / Yellow | 180 | 200 | |
| **AFNA.00XXX** | Schwarz / Black | 20 - 180 | 23 - 200 | |

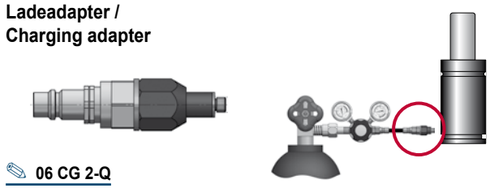
| Hub / Stroke | L ±0,25 | LG |
|---|---|---|
| **010** | 65 | 55 |
| **012,7** | 70,4 | 57,7 |
| **016** | 77 | 61 |
| **025** | 95 | 70 |
| **038** | 121 | 83 |
| **050** | 145 | 95 |




**Ladeadapter / Charging adapter**

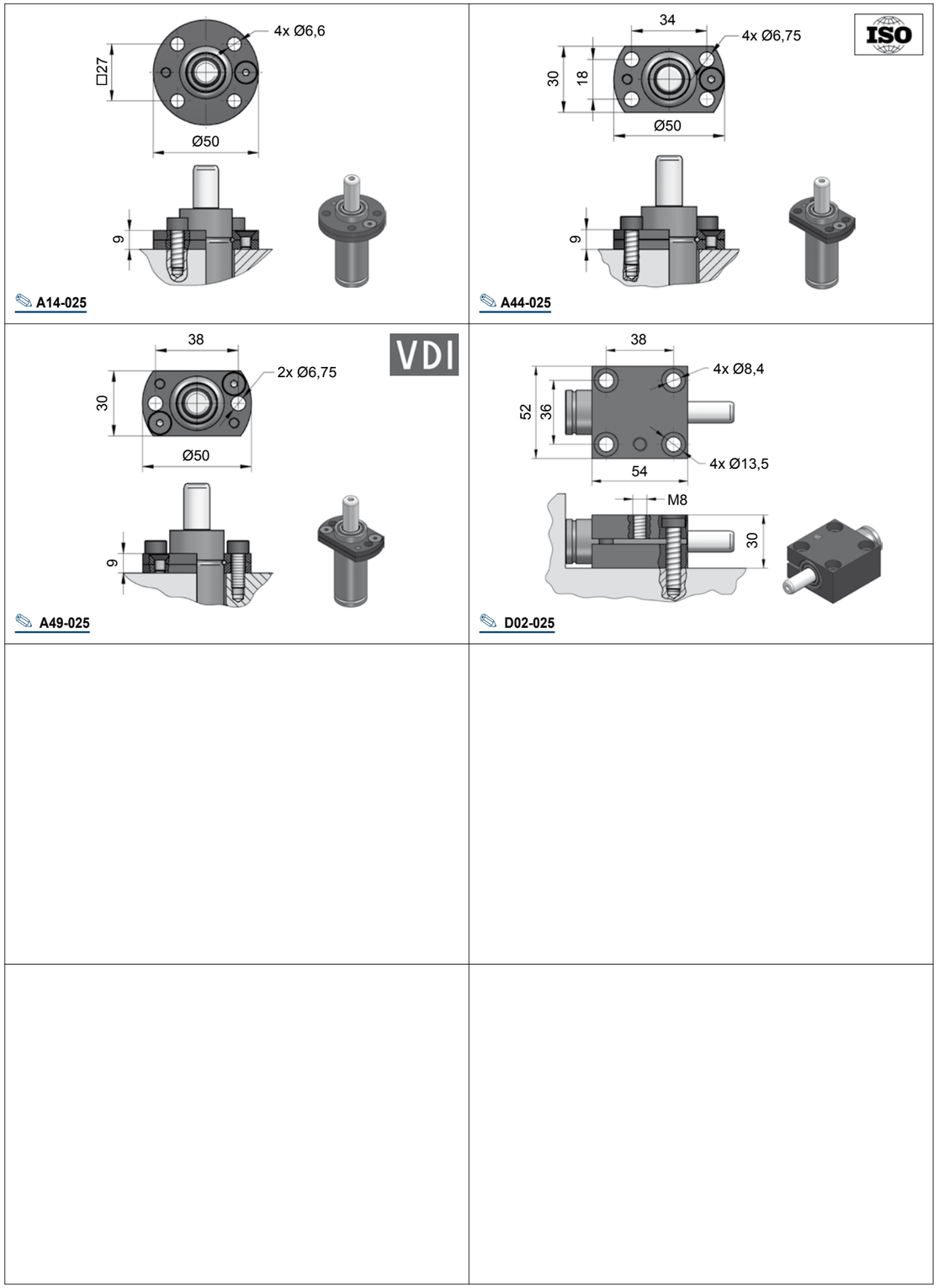


06 CG 2-Q





## Flansche für / Flanges for **AFNA.00050, ...00100, ...00150, ...00200, ...00XXX**



# AFK...V1

**Technische Daten:**

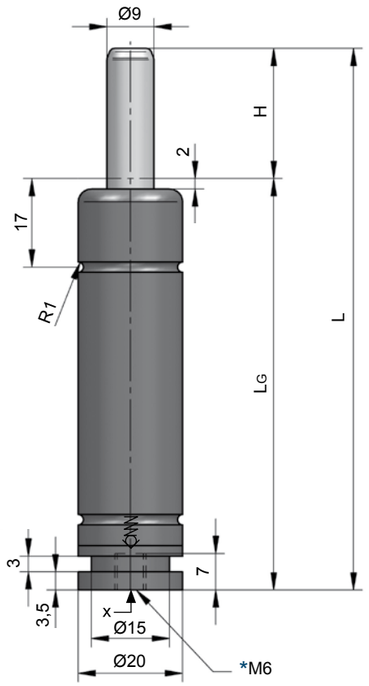
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 160 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

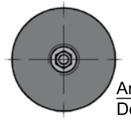
**Einwegfeder ist nicht reparierbar!**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 160 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

**One-way spring is irreparable!**



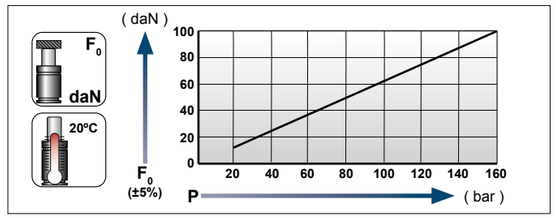


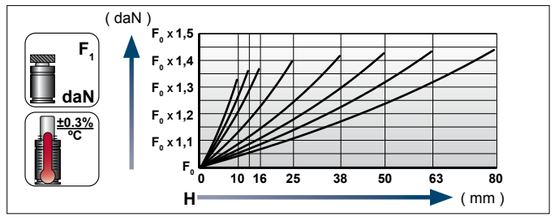
Ansicht x
Detail x

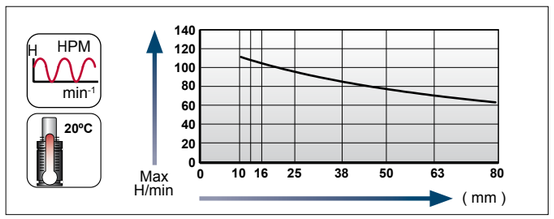
**AFK.00025.050.V1**

| Typ / Type | Farbe / Color | Fülldruck Loading pressure [bar] | Kraft / Force Anfang / Initial [daN] | Kraft / Force Ende / Final [daN] |
|---|---|---|---|---|
| **AFK.00025.V1** | Grün / Green | 40 | 25 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **AFK.00050.V1** | Blau / Blue | 80 | 50 | |
| **AFK.00075.V1** | Rot / Red | 120 | 75 | |
| **AFK.00100.V1** | Gelb / Yellow | 160 | 100 | |
| **AFK.00XXX.V1** | Schwarz / Black | 20 - 160 | 13 - 100 | |

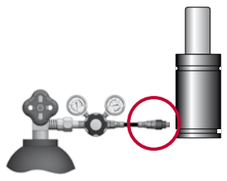
| Hub / Stroke | L ±0,25 | LG |
|---|---|---|
| **010** | 74 | 64 |
| **012,7** | 79,4 | 66,7 |
| **016** | 86 | 70 |
| **025** | 104 | 79 |
| **038** | 130 | 92 |
| **050** | 154 | 104 |
| **063** | 180 | 117 |
| **080** | 214 | 134 |




**Ladeadapter /**
**Charging adapter**



**06 CG 2-Q**



[14.03.2023]

[14.03.2023]



Flansche für / Flanges for **AFK.00025.V1, ...00050.V1, ...00075.V1, ...00100.1, 00XXX.V1**

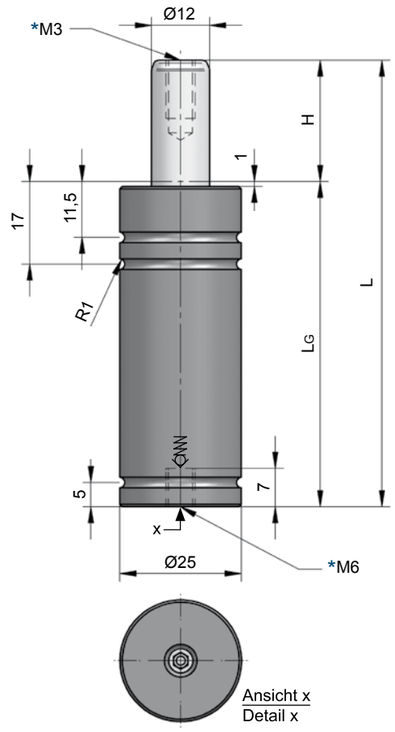
# AFC

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

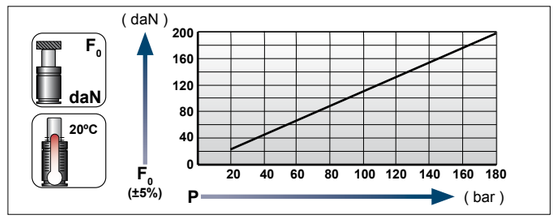
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

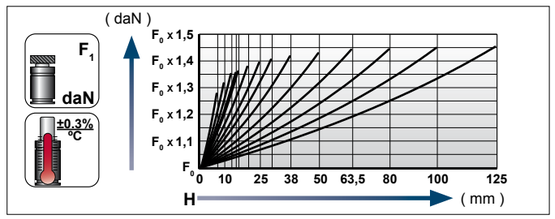


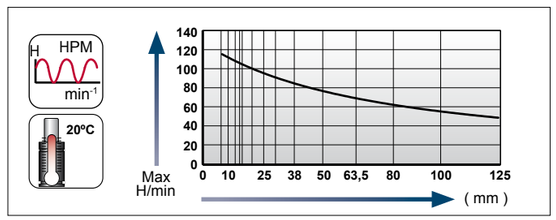

**AFC.00150.016**

| Typ / Type | Farbe / Color | Fülldruck Loading pressure [bar] | Kraft / Force Anfang / Initial [daN] | Kraft / Force Ende / Final [daN] |
|---|---|---|---|---|
| **AFC.00050** | Grün / Green | 45 | 50 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **AFC.00100** | Blau / Blue | 90 | 100 | |
| **AFC.00150** | Rot / Red | 135 | 150 | |
| **AFC.00200** | Gelb / Yellow | 180 | 200 | |
| **AFC.00XXX** | Schwarz / Black | 20 - 180 | 23 - 200 | |

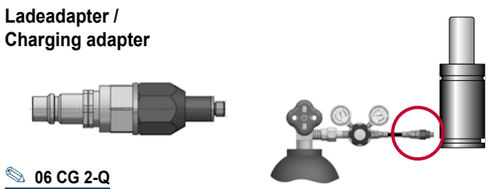
| Hub / Stroke | L ±0,5 | LG |
|---|---|---|
| **007** | 56 | 49 |
| **010** | 62 | 52 |
| **012,7** | 67,4 | 54,7 |
| **015** | 72 | 57 |
| **016** | 74 | 58 |
| **020** | 82 | 62 |
| **025** | 92 | 67 |
| **030** | 102 | 72 |
| **038** | 118 | 80 |
| **050** | 142 | 92 |
| **063,5** | 172 | 108,5 |
| **080** | 205 | 125 |
| **100** | 245 | 145 |
| **125** | 295 | 170 |




**Ladeadapter / Charging adapter**



**06 CG 2-Q**

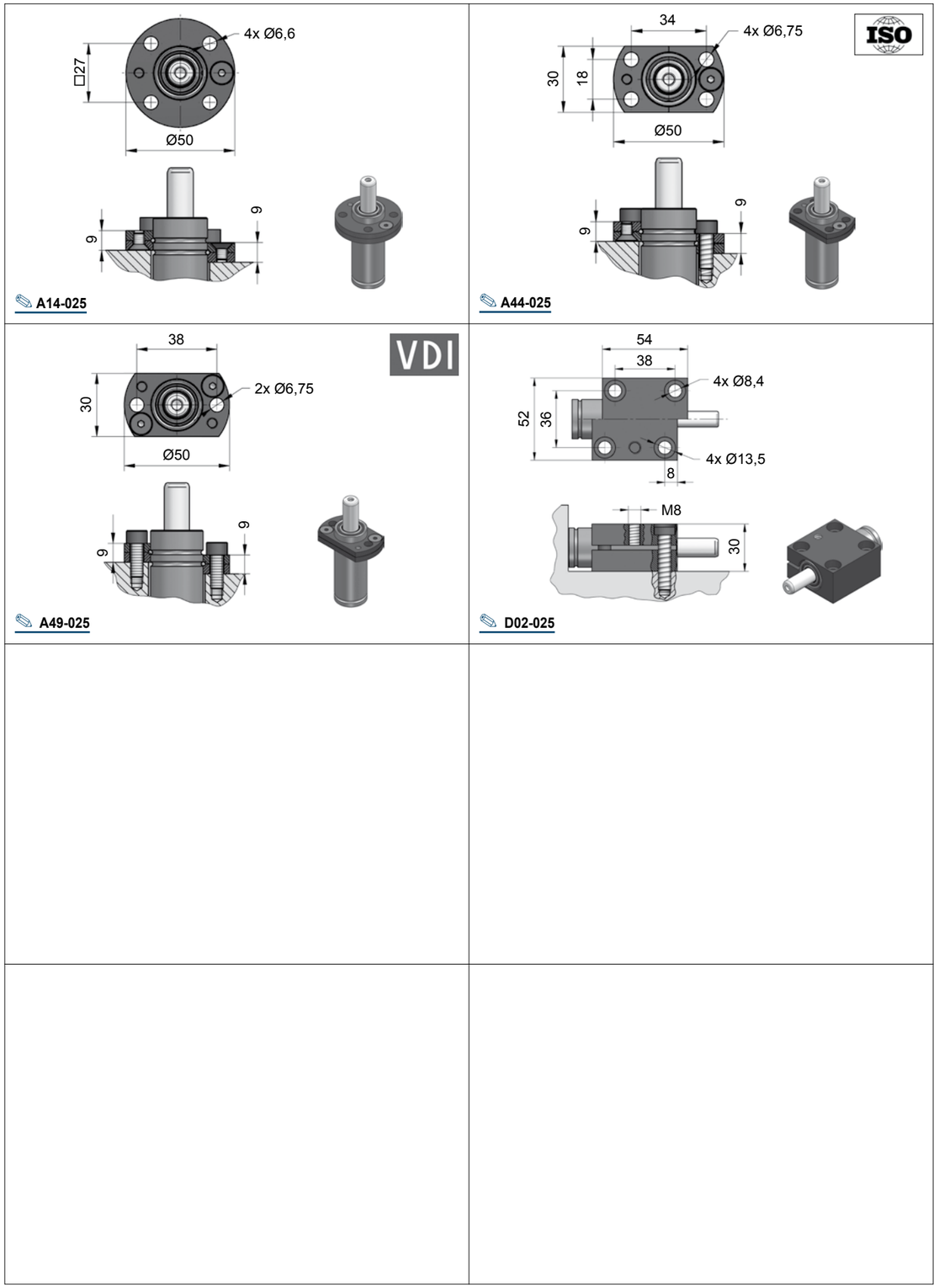


[14.03.2023]

[14.03.2023]



## Flansche für / Flanges for **AFC.00050, ...00100, ...00150, ...00200, ...00XXX**



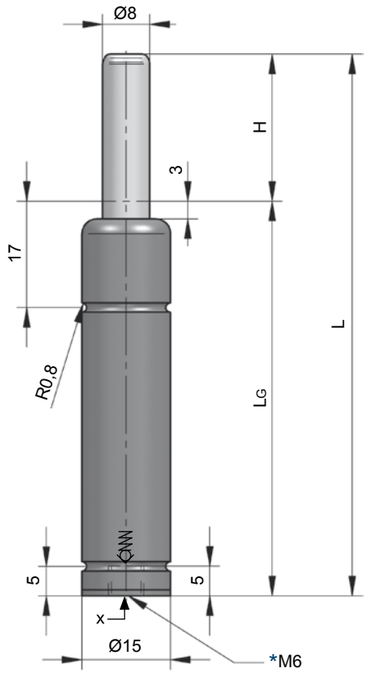
# AFH…V1

**Technische Data:**
Medium: $N_2$
$P_{max.}$ (20 °C): 180 bar
$P_{min.}$ (20 °C): 20 bar
Arbeitstemperatur: 0 - 80 °C
Max. Kolbengeschw.: 1,6 m/s
**Einwegfeder ist nicht reparierbar!**

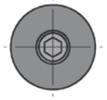
**Achtung:** Das Mittengewinde M6 im Boden der Gasdruckfeder darf nicht zur Befestigung genutzt werden.

**Specifications:**
Pressure medium: $N_2$
$P_{max.}$ (20 °C): 180 bar
$P_{min.}$ (20 °C): 20 bar
Operating temperature: 0 - 80 °C
Max. piston rod speed: 1,6 m/s
**One-way spring is irreparable!**

**Important:** Do not use the centre-thread M6 in the bottom for fixing the gas spring into the tool.



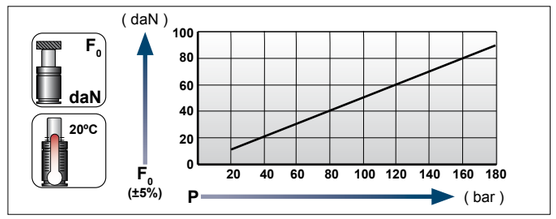
**AFH.00090.015.V1**

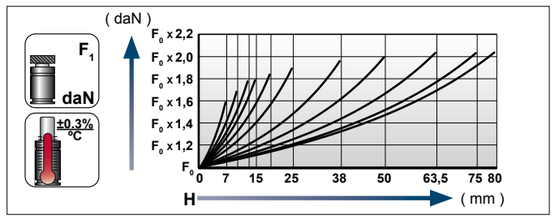


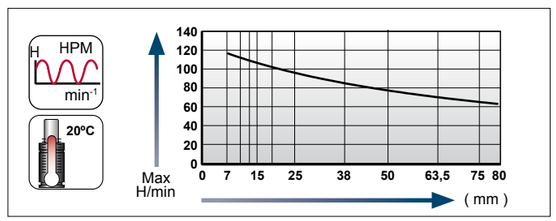
Ansicht x
Detail x

| Typ / Type | Farbe / Color | Fülldruck Loading pressure [bar] | Kraft / Force Anfang / Initial [daN] | Kraft / Force Ende / Final [daN] |
|---|---|---|---|---|
| **AFH.00018.V1** | Grün / Green | 35 | 18 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **AFH.00035.V1** | Blau / Blue | 70 | 35 | |
| **AFH.00050.V1** | Rot / Red | 100 | 50 | |
| **AFH.00070.V1** | Gelb / Yellow | 140 | 70 | |
| **AFH.000XX.V1** | Schwarz / Black | 20 - 180 | 10 - 90 | |

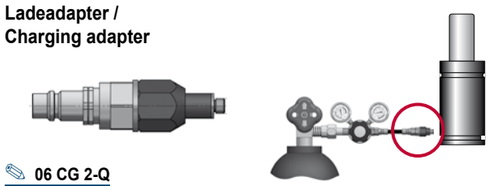
| Hub / Stroke | L ±0,5 | LG |
|---|---|---|
| **007** | 56 | 49 |
| **010** | 62 | 52 |
| **012,7** | 67,4 | 54,7 |
| **015** | 72 | 57 |
| **019** | 80 | 61 |
| **025** | 92 | 67 |
| **038** | 118 | 80 |
| **050** | 142 | 92 |
| **063,5** | 172 | 108,5 |
| **075** | 195 | 120 |
| **080** | 205 | 125 |




**Ladeadapter /**
**Charging adapter**



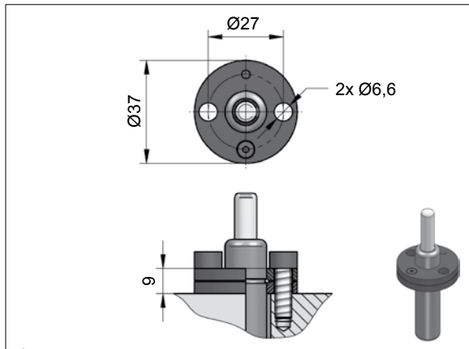
**06 CG 2-Q**

[14.03.2023]

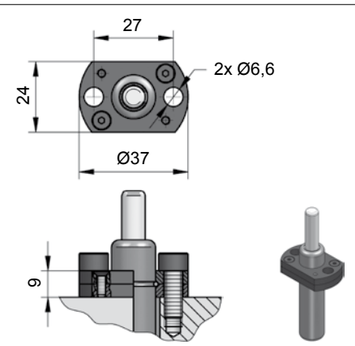


GDF, kleine Abmessungen
GS, Micro springs
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

## Flansche für / Flanges for **AFH.00018.V1, …00035.V1, …00050.V1, …00070.V1, …000XX.V1**




**A14-015**




**A49-015**

[14.03.2023]

# AFT…V1

**Technische Daten:**

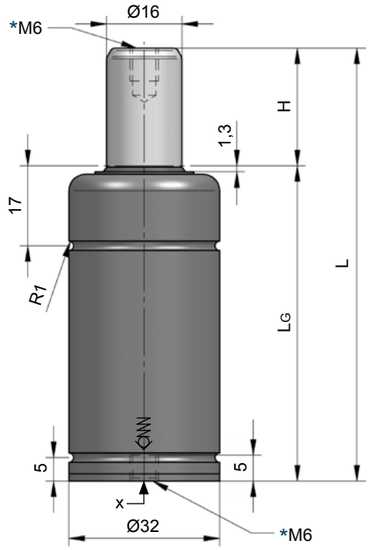
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

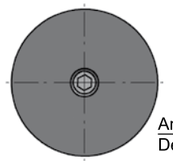
**Einwegfeder ist nicht reparierbar!**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

**One-way spring is irreparable!**



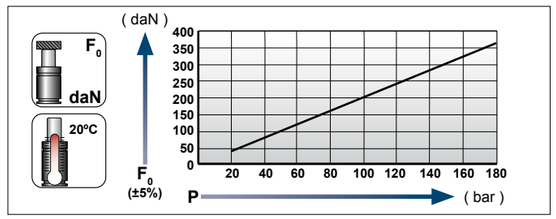


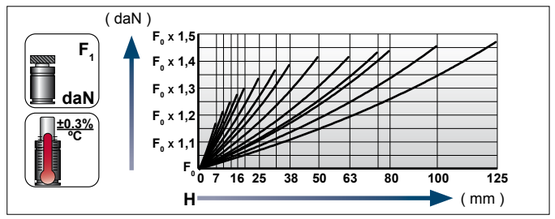
Ansicht x
Detail x

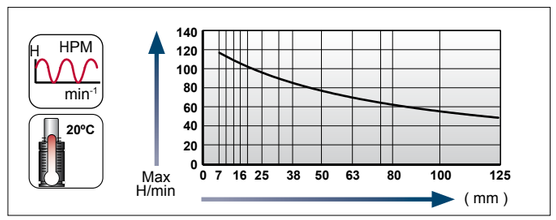
**AFT.00160.038.V1**

| Typ / Type | Farbe / Color | Fülldruck Loading pressure [bar] | Kraft / Force Anfang / Initial [daN] | Kraft / Force Ende / Final [daN] |
|---|---|---|---|---|
| **AFT.00080.V1** | Grün / Green | 40 | 80 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **AFT.00160.V1** | Blau / Blue | 80 | 160 | |
| **AFT.00240.V1** | Rot / Red | 120 | 240 | |
| **AFT.00310.V1** | Gelb / Yellow | 155 | 310 | |
| **AFT.00XXX.V1** | Schwarz / Black | 20 - 180 | 40 - 360 | |

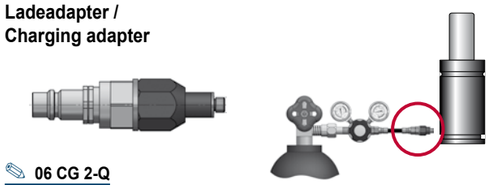
| Hub / Stroke | L ±0,5 | LG |
|---|---|---|
| **007** | 56 | 49 |
| **010** | 62 | 52 |
| **013** | 68 | 55 |
| **016** | 74 | 58 |
| **019** | 80 | 61 |
| **025** | 92 | 67 |
| **032** | 106 | 74 |
| **038** | 118 | 80 |
| **050** | 142 | 92 |
| **063** | 171 | 108 |
| **075** | 195 | 120 |
| **080** | 205 | 125 |
| **100** | 245 | 145 |
| **125** | 295 | 170 |




**Ladeadapter / Charging adapter**



**06 CG 2-Q**

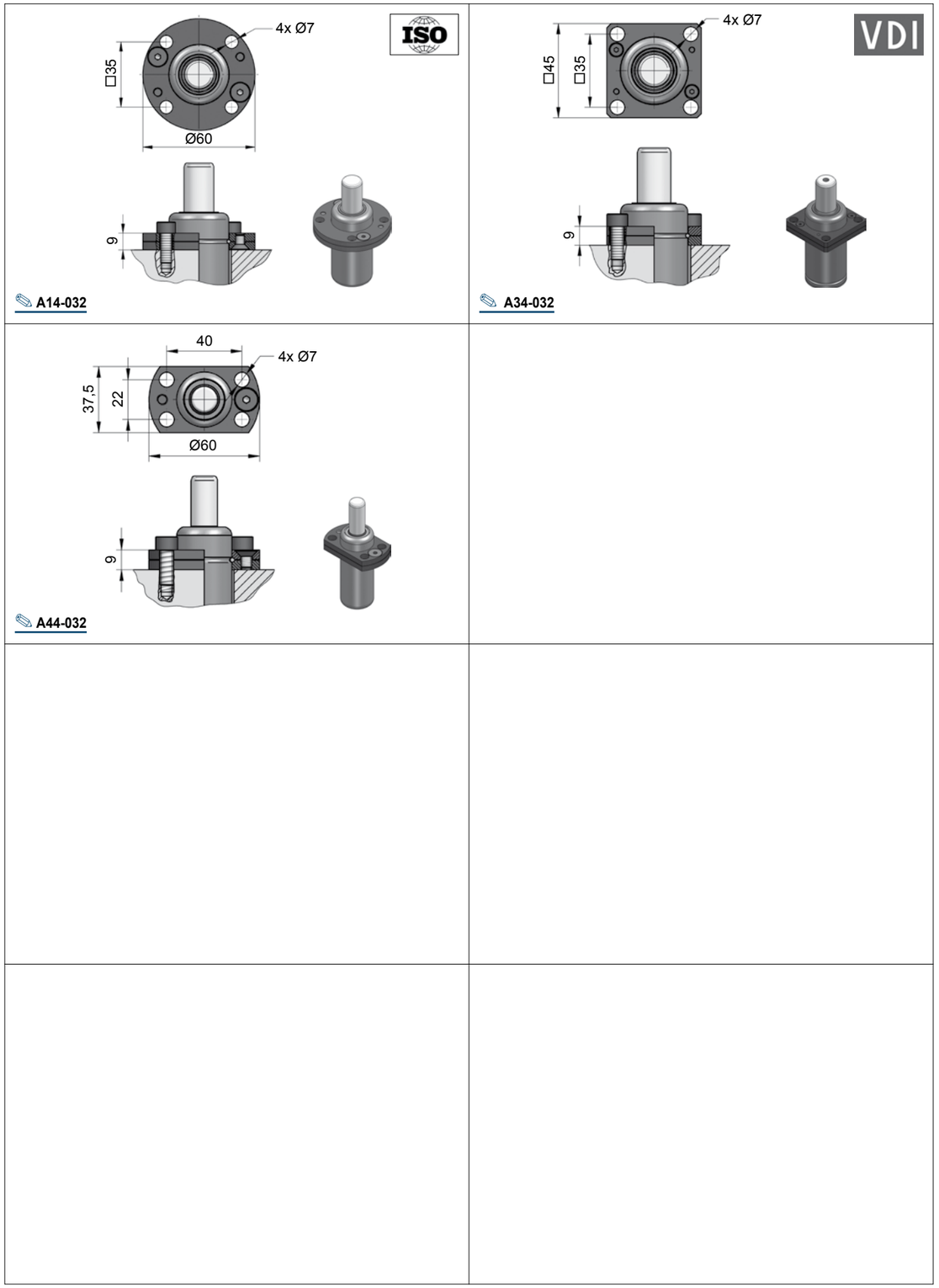


[14.03.2023]

[14.03.2023]

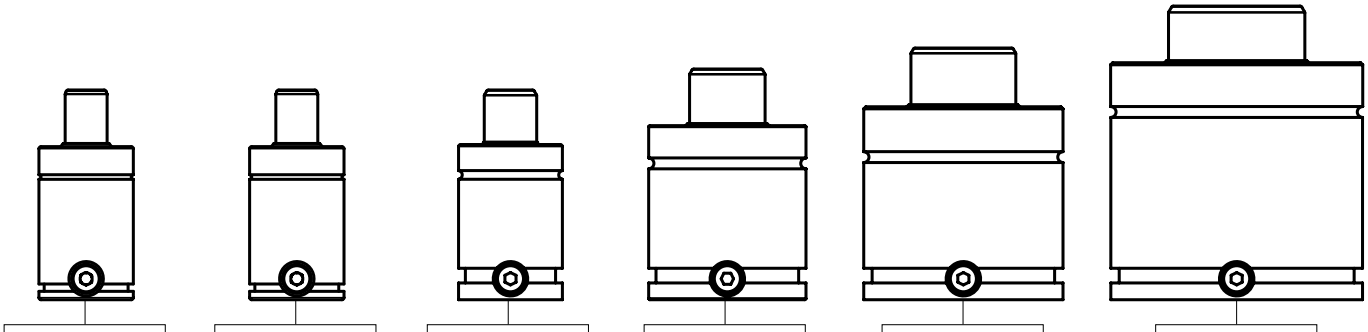


## Flansche für / Flanges for **AFT.00080.V1, ...00160.V1, ...00240.V1, ...00310.V1, ...00XXX.V1**



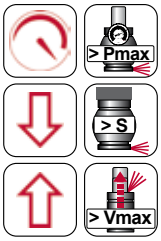
## Größenübersicht Serie FD

## Gas spring index FD series



| FD.00300 | FD.00500 | FD.00750...V1 | FD.01500...V2 | FD.03000 | FD.05000...V1 |
|---|---|---|---|---|---|
| 300 daN | 470 daN | 740 daN | 1530 daN | 2945 daN | 4980 daN |
| 10 - 125 mm | 10 - 125 mm | 10 - 125 mm | 25 - 125 mm | 25 - 125 mm | 25 - 125 mm |
| Ø38 | Ø45 | Ø50 | Ø75 | Ø95 | Ø120 |

## SICHERHEITSSYSTEME



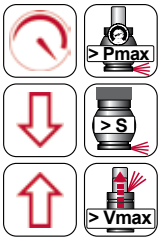

**Überdruck**

**Überhub**

**Freier Rückhub**

Information über die Sicherheitssysteme (Überdruck, Überhub, Freier Rückhub) erhalten Sie im Vorspann auf der Seite Azol.22.

## SAFETY SYSTEMS




**Over-Pressure**

**Over-Stroke**

**Over-Speed**

Information about the safety systems (over-pressure, over-stroke, over-speed) can be found in the introductory part on page Azol.22.

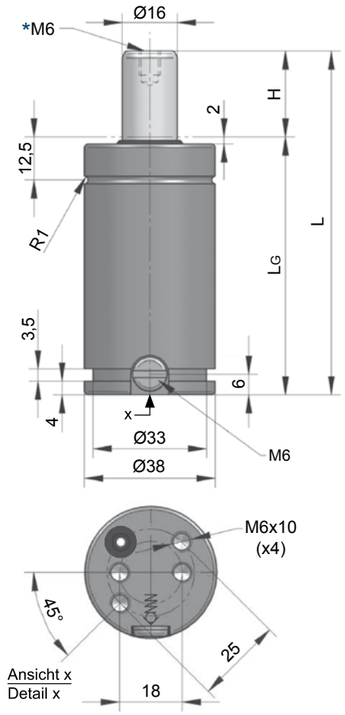
# FD.00300

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

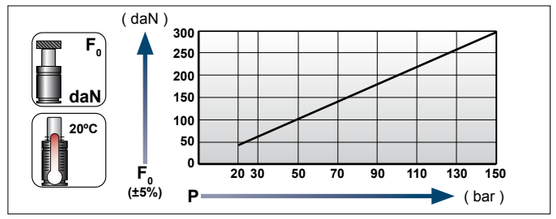
**Specifications:**

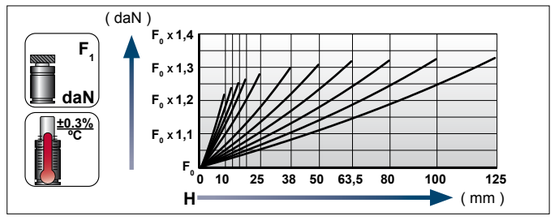
| | |
|---|---|
| Pressure medium: | N2 |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

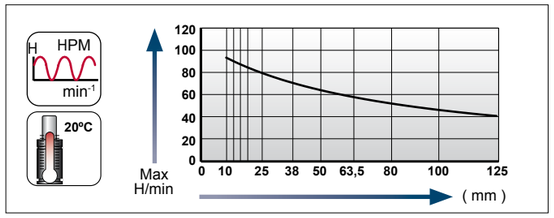



FD.00300.010

| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 70 | 60 | 300 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **013** | 76 | 63 | 300 | |
| **016** | 82 | 66 | 300 | |
| **019** | 88 | 69 | 300 | |
| **025** | 100 | 75 | 300 | |
| **038** | 126 | 88 | 300 | |
| **050** | 150 | 100 | 300 | |
| **063,5** | 177 | 113,5 | 300 | |
| **080** | 210 | 130 | 300 | |
| **100** | 250 | 150 | 300 | |
| **125** | 300 | 175 | 300 | |



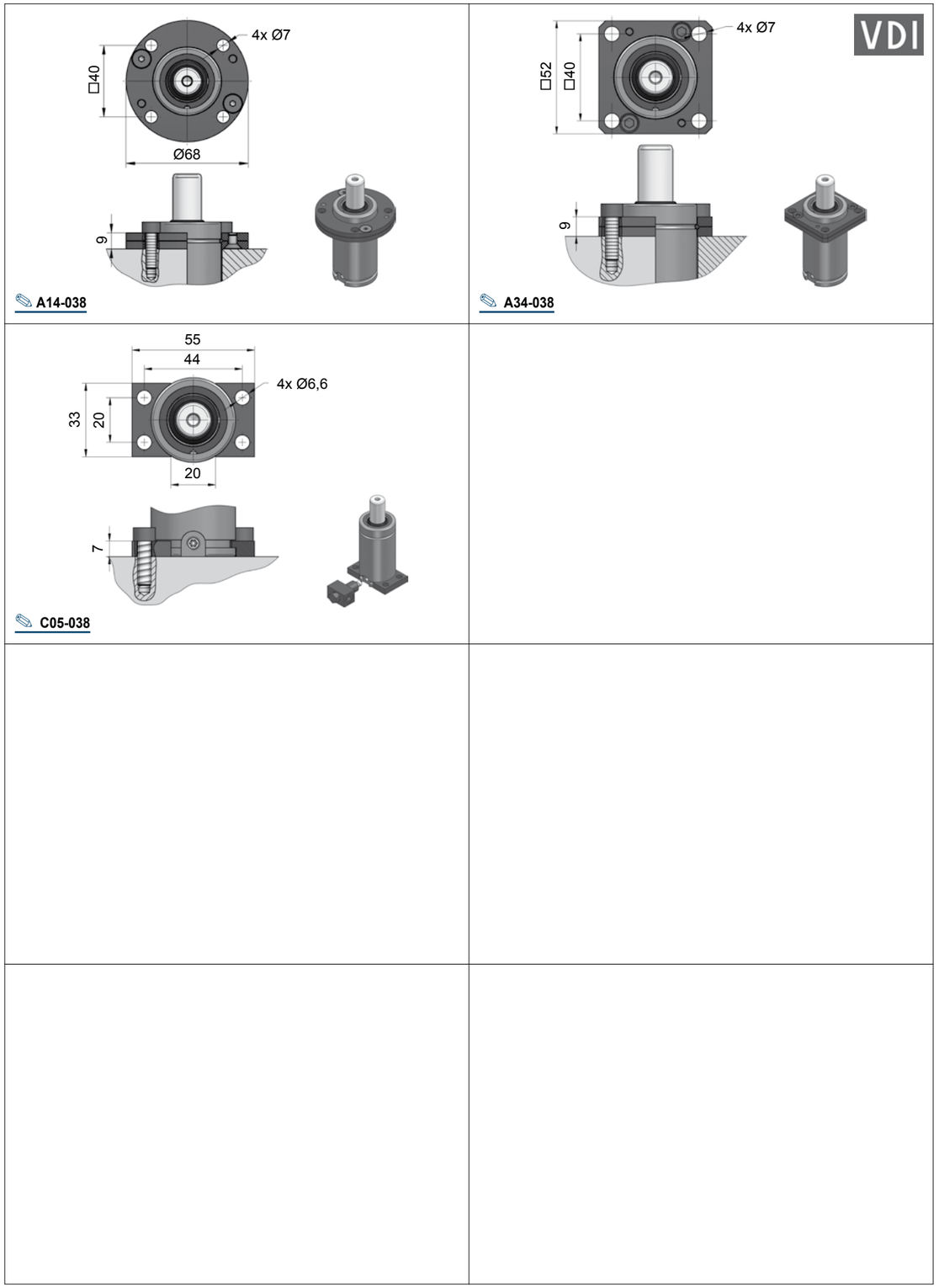

**Ladeadapter / Charging adapter**

06 CG 2-Q





## Flansche für / Flanges for **FD.00300**



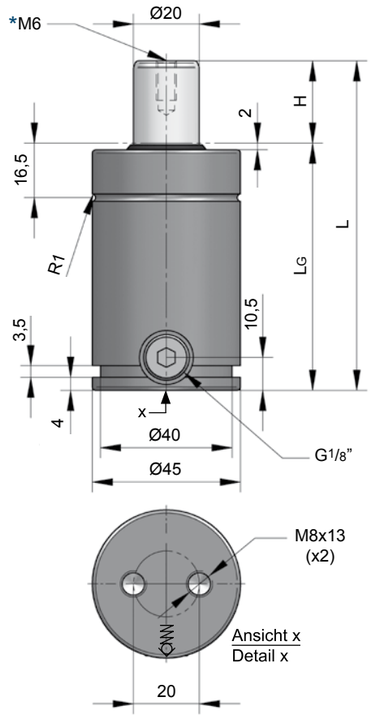
# FD.00500

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |



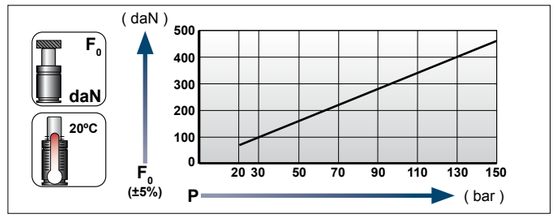

> Vmax

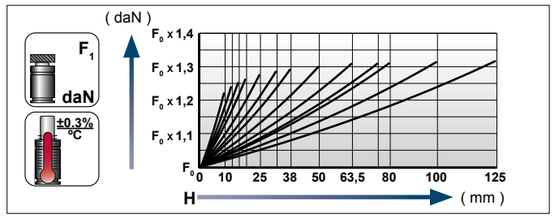
INFO [Azol.19]

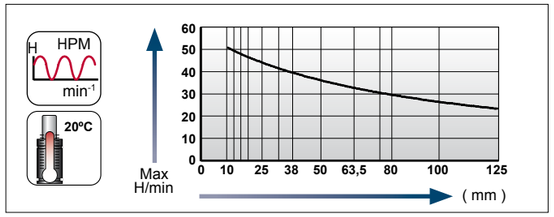
**FD.00500.013**

CAD MAIL

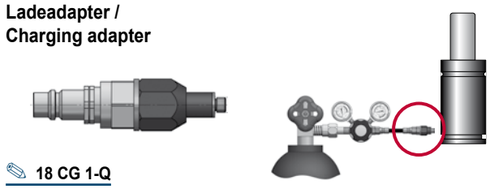
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 70 | 60 | 470 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **013** | 76 | 63 | 470 | |
| **016** | 82 | 66 | 470 | |
| **019** | 88 | 69 | 470 | |
| **025** | 100 | 75 | 470 | |
| **032** | 114 | 82 | 470 | |
| **038** | 126 | 88 | 470 | |
| **050** | 150 | 100 | 470 | |
| **063,5** | 177 | 113,5 | 470 | |
| **075** | 200 | 125 | 470 | |
| **080** | 210 | 130 | 470 | |
| **100** | 250 | 150 | 470 | |
| **125** | 300 | 175 | 470 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

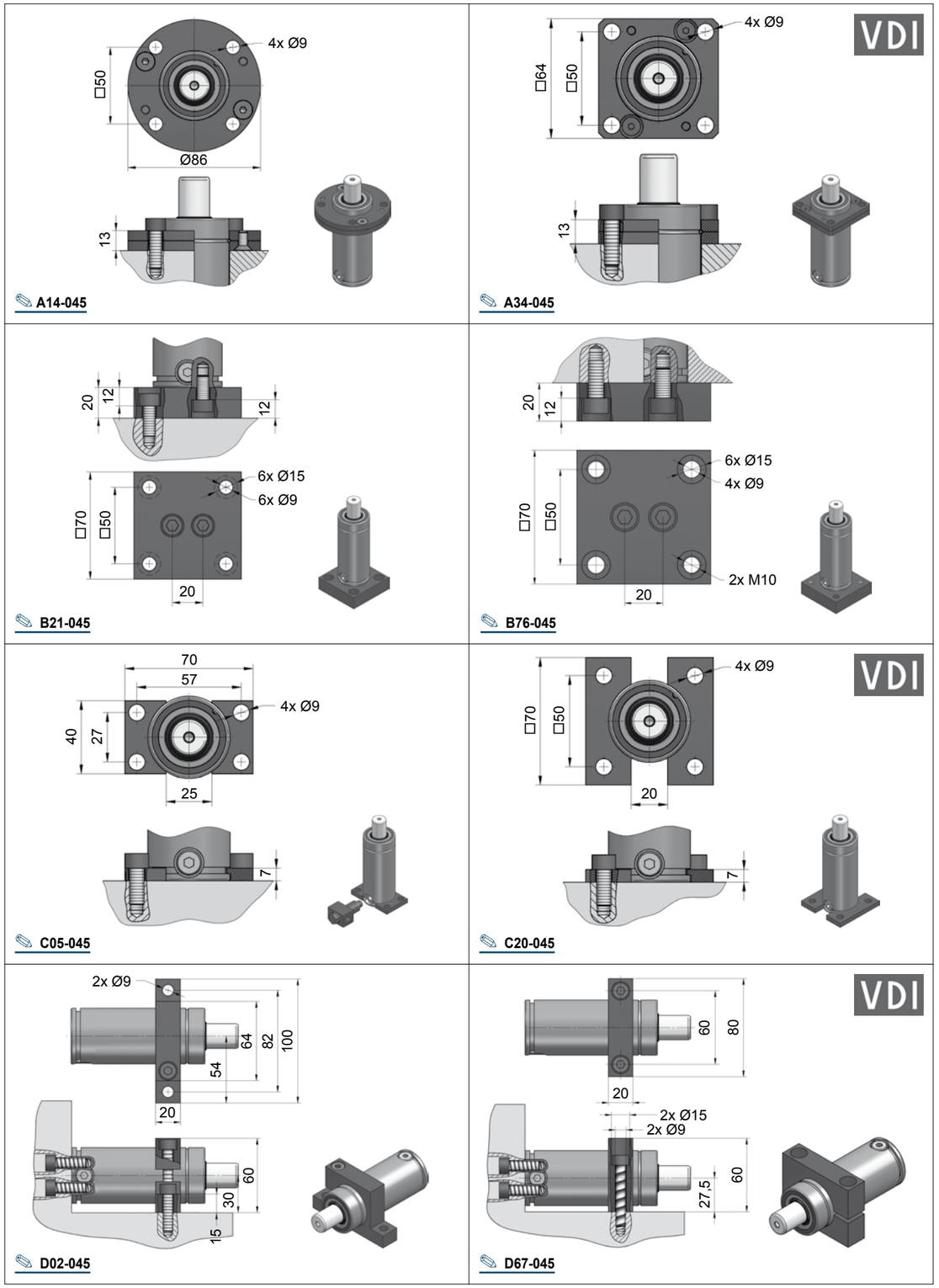


[14.03.2023]

[14.03.2023]



## Flansche für / Flanges for **FD.00500**






[AG]

[AG]

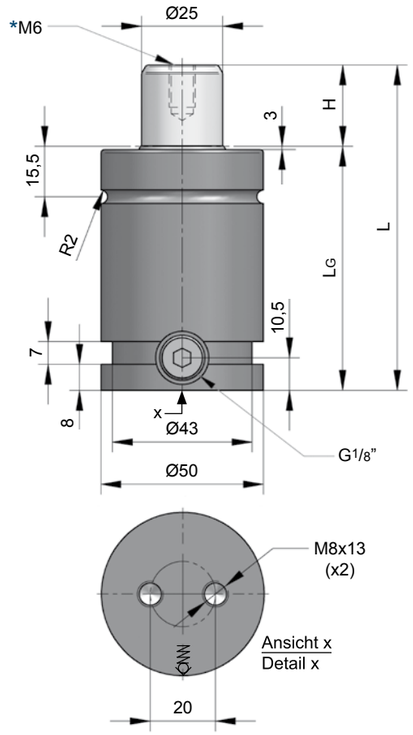
# FD.00750...V1

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |




> Vmax

Flex Rod

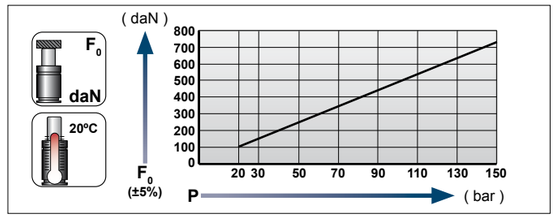
INFO [Azol.19]

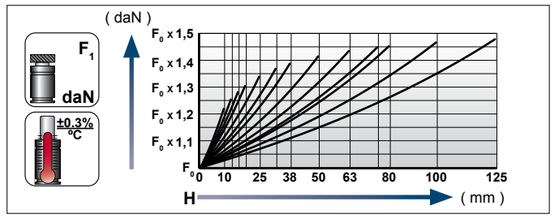
FD.00750.016.V1

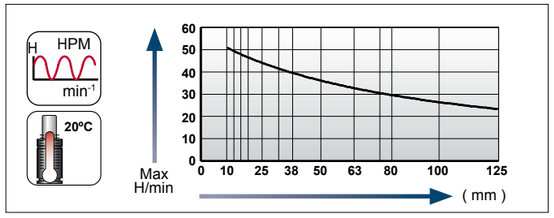
CAD

MAIL

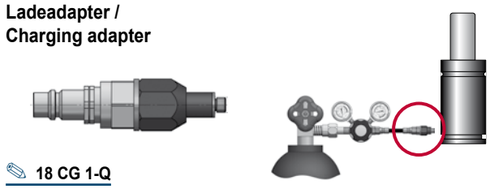
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 70 | 60 | 740 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **013** | 76 | 63 | 740 | |
| **016** | 82 | 66 | 740 | |
| **019** | 88 | 69 | 740 | |
| **025** | 100 | 75 | 740 | |
| **032** | 114 | 82 | 740 | |
| **038** | 126 | 88 | 740 | |
| **050** | 150 | 100 | 740 | |
| **063** | 176 | 113 | 740 | |
| **075** | 200 | 125 | 740 | |
| **080** | 210 | 130 | 740 | |
| **100** | 250 | 150 | 740 | |
| **125** | 300 | 175 | 740 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

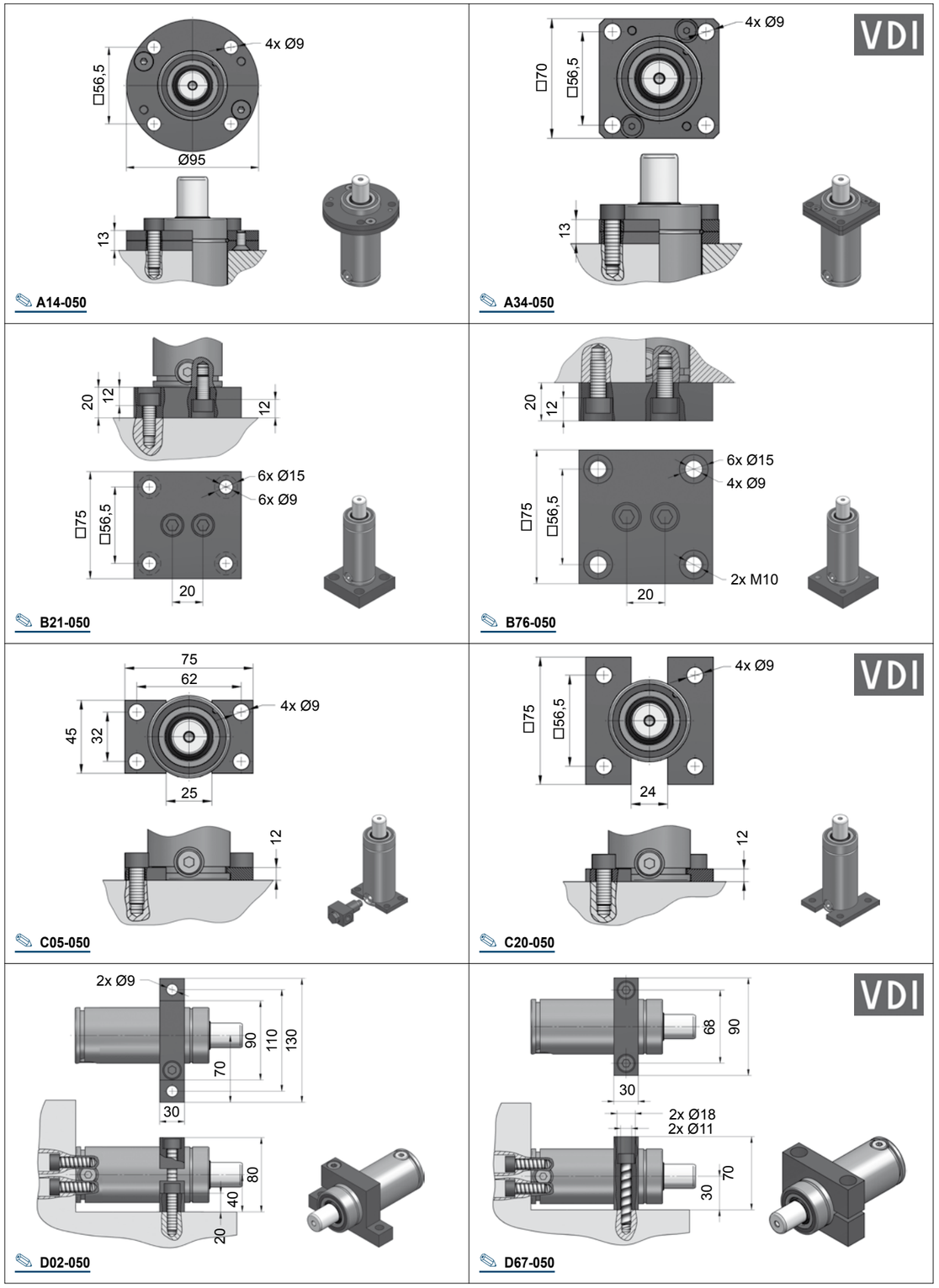


[14.03.2023]

[14.03.2023]



## Flansche für / Flanges for **FD.00750...V1**






[AG]

[AG]

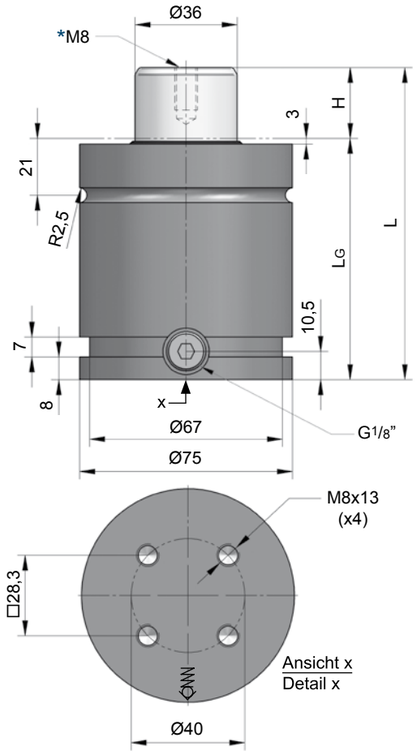
# FD.01500...V2

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

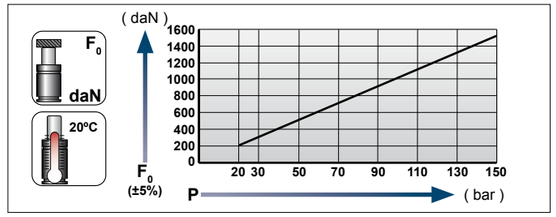
**Specifications:**

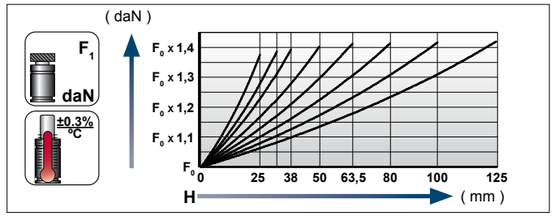
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

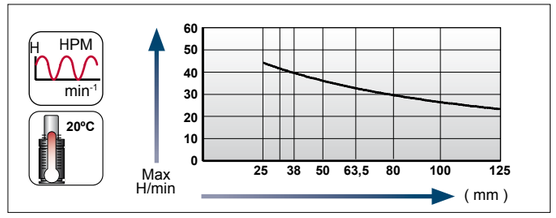



FD.01500.038.V2

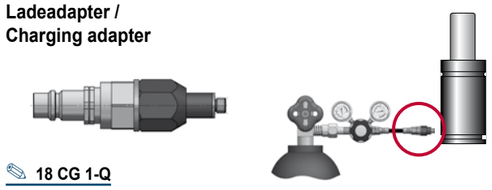
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 110 | 85 | 1530 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **032** | 124 | 92 | 1530 | |
| **038** | 136 | 98 | 1530 | |
| **050** | 160 | 110 | 1530 | |
| **063,5** | 187 | 123,5 | 1530 | |
| **080** | 220 | 140 | 1530 | |
| **100** | 260 | 160 | 1530 | |
| **125** | 310 | 185 | 1530 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

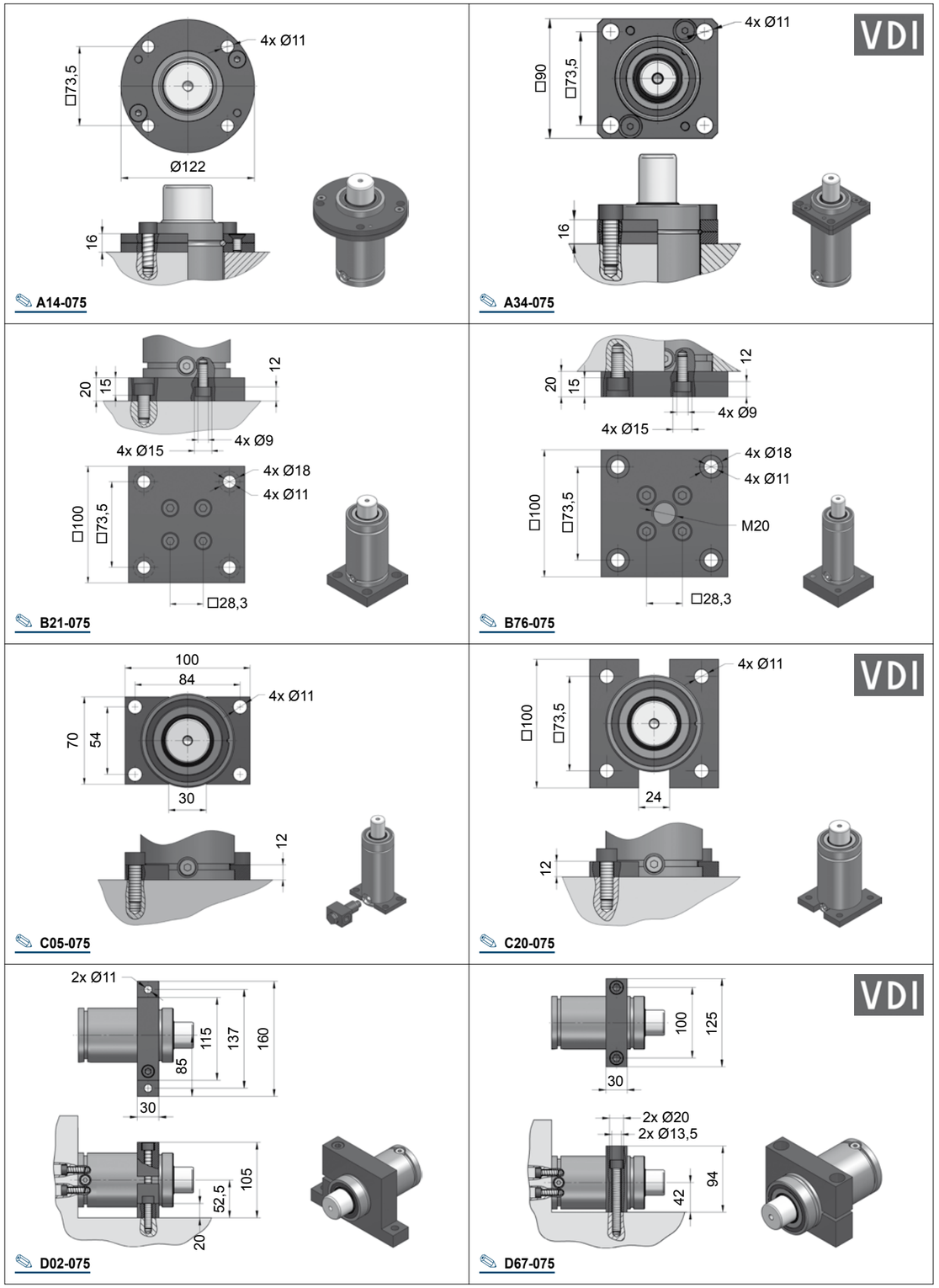


[14.03.2023]

[14.03.2023]



## Flansche für / Flanges for **FD.01500...V2**



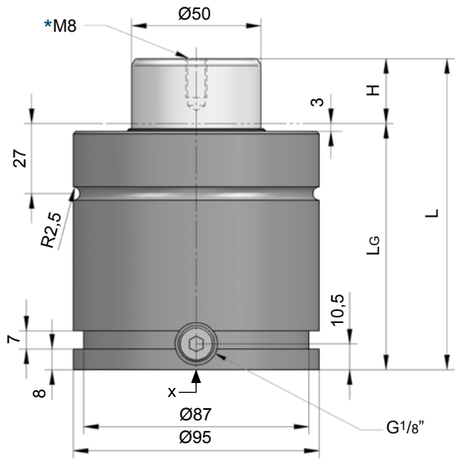
# FD.03000

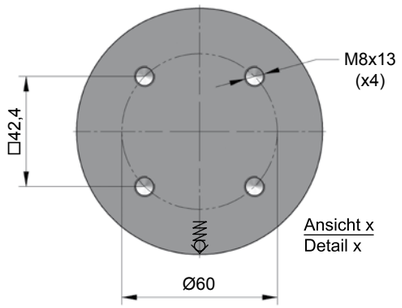
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

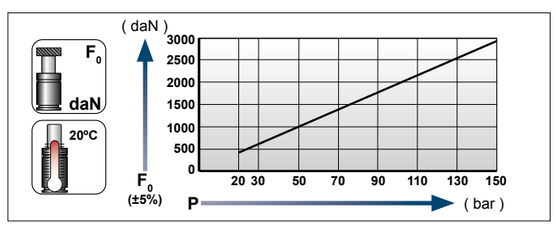
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

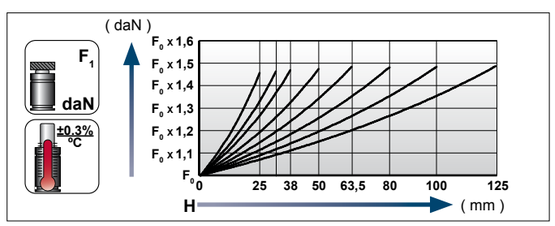


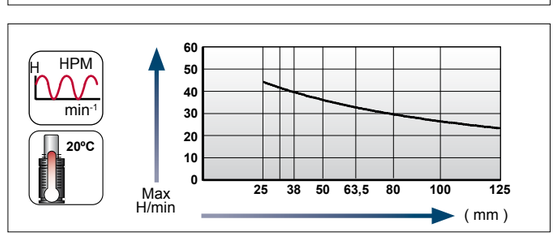




FD.03000.050

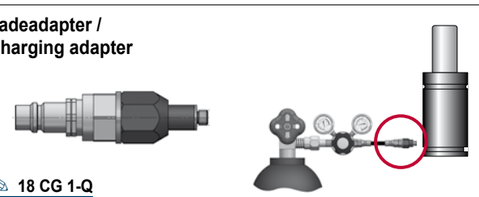
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 120 | 95 | 2945 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **032** | 134 | 102 | 2945 | |
| **038** | 146 | 108 | 2945 | |
| **050** | 170 | 120 | 2945 | |
| **063,5** | 197 | 133,5 | 2945 | |
| **080** | 230 | 150 | 2945 | |
| **100** | 270 | 170 | 2945 | |
| **125** | 320 | 195 | 2945 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

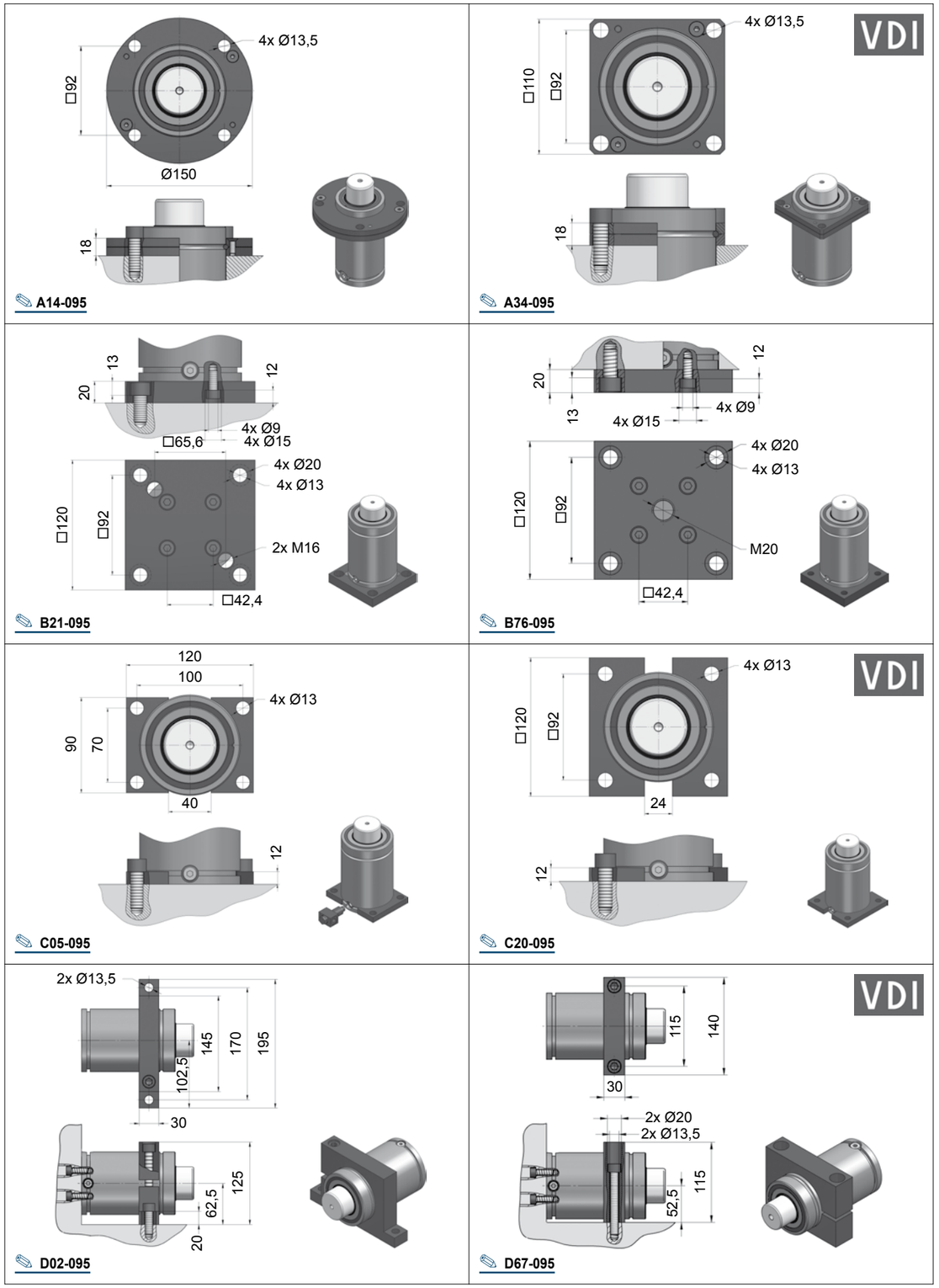


[14.03.2023]

[14.03.2023]



## Flansche für / Flanges for **FD.03000**



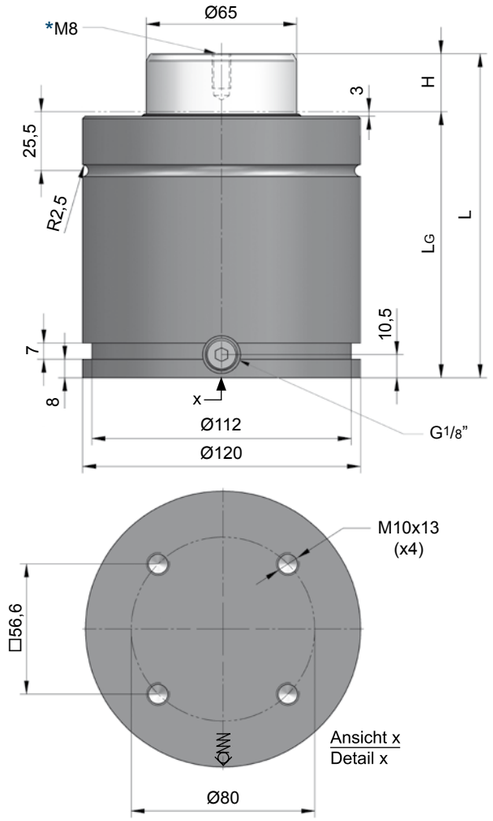
# FD.05000...V1

**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

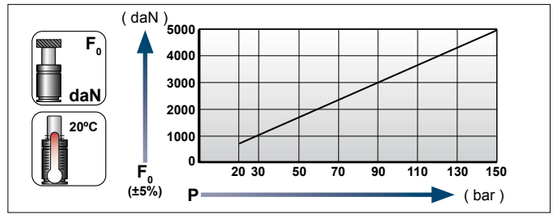
**Specifications:**

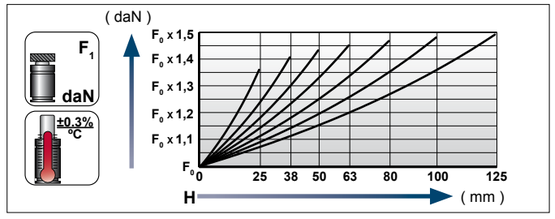
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

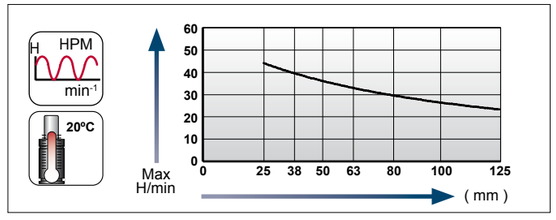



**FD.05000.080.V1**

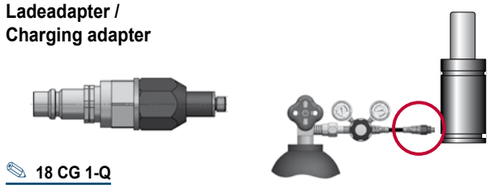
| H Hub / Stroke | L ±0,5 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 140 | 115 | 4980 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **038** | 166 | 128 | 4980 | |
| **050** | 190 | 140 | 4980 | |
| **063** | 216 | 153 | 4980 | |
| **080** | 250 | 170 | 4980 | |
| **100** | 290 | 190 | 4980 | |
| **125** | 340 | 215 | 4980 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

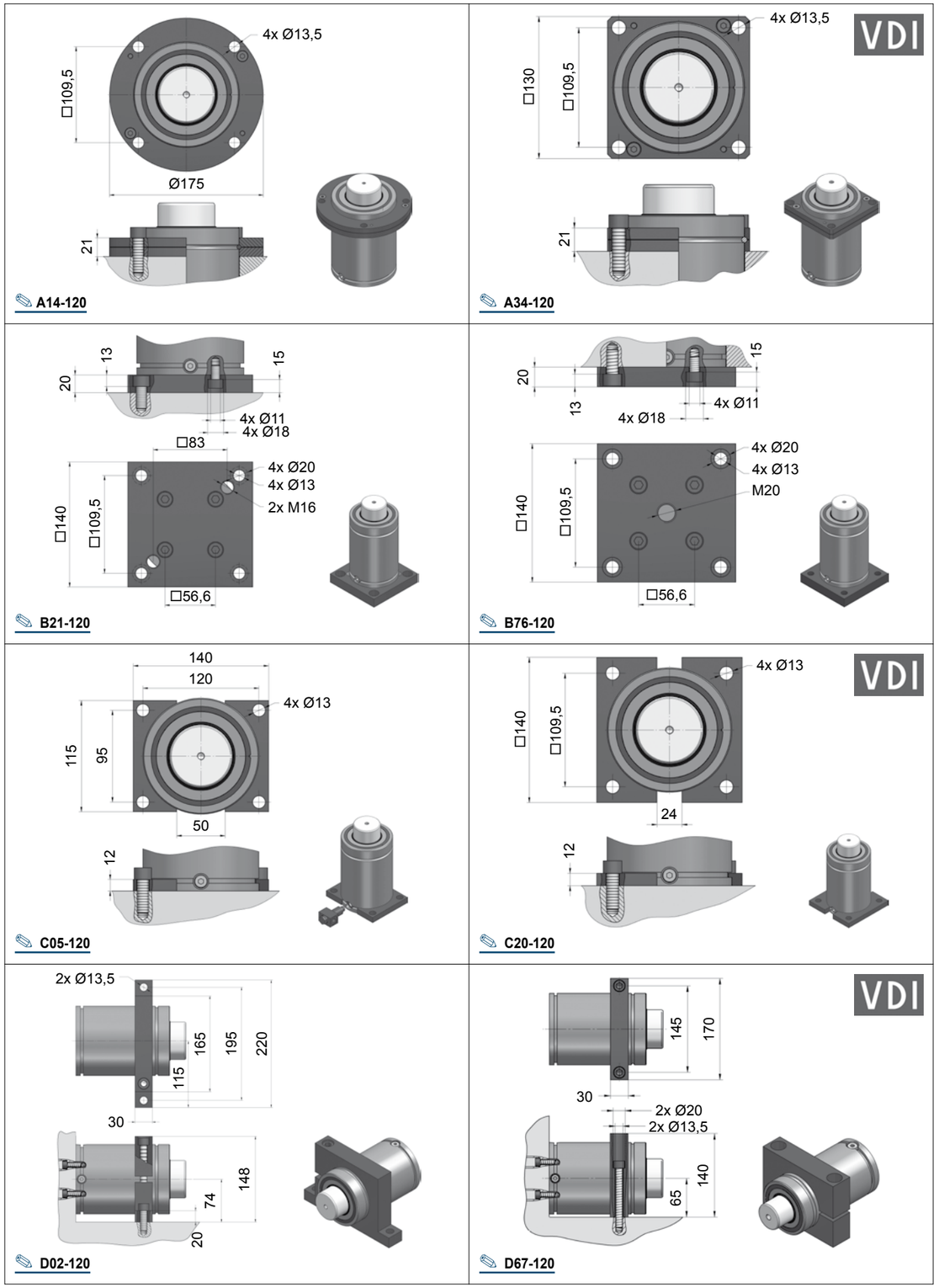


[14.03.2023]

[14.03.2023]

GDF, Standard, kompakt
GS, Standard, compact height
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

## Flansche für / Flanges for **FD.05000...V1**



## Technische Information Serie AG

Die Gasdruckfedern der Serie **AG** sind bei allen Hüben mit FlexRod ausgestattet und sind zusätzlich zur Standard- auch in der Version-B-Ausführungen erhältlich.

Version **B** = Doppelanschluss

Die Standard-Bestellnummer muss um den Versionsbuchstaben ergänzt werden.

## Technical information AG series

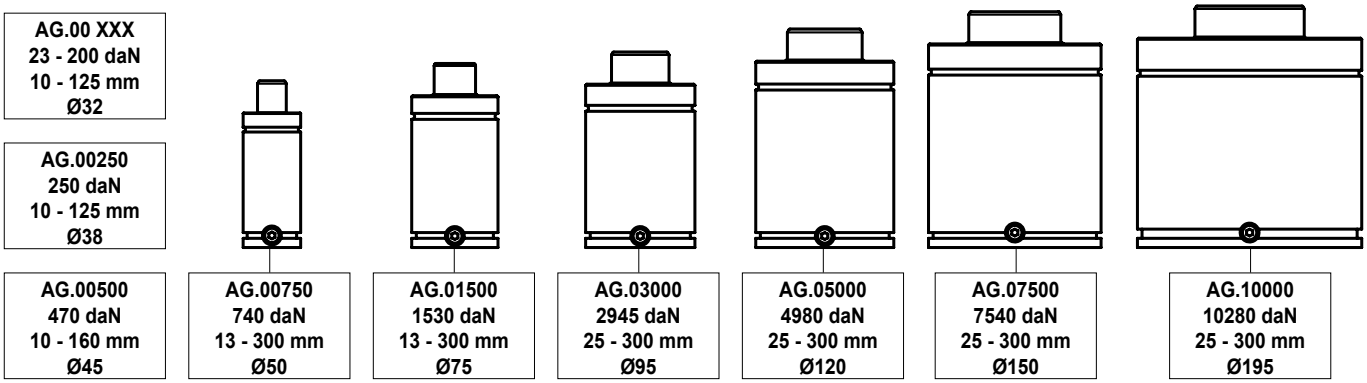
All gas springs of this family come with the built-in „Flexrod“ feature. They are not only available as standards, but with Version B as well.

Version **B** = with double connecting ports

Please add the corresponding letter to the order number.

## Größenübersicht Serie AG

## Gas spring index AG series




Die Gasdruckfedern der Serie **AG** sind grundsätzlich mit einem Spezial-Dichtungs-System ausgestattet, welches eine maximalen Kolbengeschwindigkeit von 2 m/s ermöglicht.

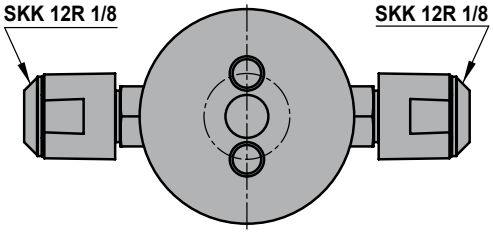
The **AG** gas springs are all equipped with special seals, enabling them to operate with a maximum rod-speed of 2 m/s.

## Serie AG

## Version B

Die Gasdruckfedern der Serie **AG** besitzen in der Version B zwei Anschlüsse G1/8“. Ausgestattet mit zwei Anschlussstücken wird die Verschlauchung im System erheblich vereinfacht. Die Gasdruckfedern können aber auch mit anderen Anschlussstücken (siehe Zubehör) versehen werden.

**Vorschlag / Proposal**




## AG series

## Version B

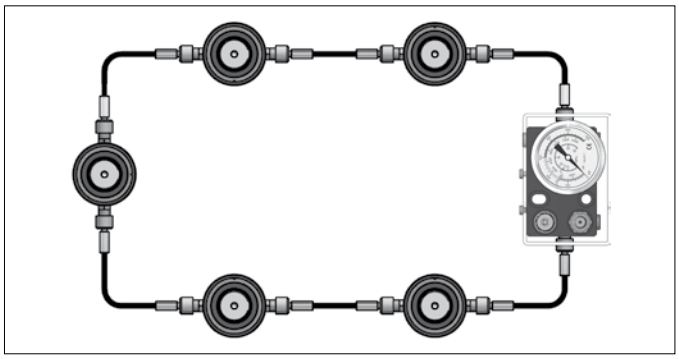
The **AG** gas springs of this version are designed with two (!) G1/8“ - connection threads.
Using two adapters simplifies the connection of the springs with hoses significantly.
Other adapters may be used as well.

## SICHERHEITSSYSTEME

Information über die Sicherheitssysteme (Überdruck, Überhub, Freier Rückhub) erhalten Sie im Vorspann auf der Seite Azol.22.

## SAFETY SYSTEMS

Information about the safety systems (over-pressure, over-stroke, over-speed) can be found in the introductory part on page Azol.22.



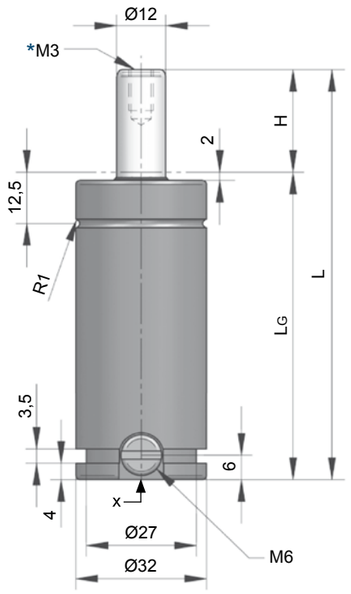
# AG.00XXX

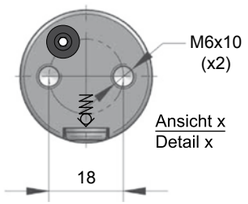
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

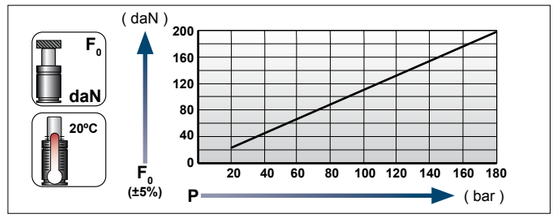


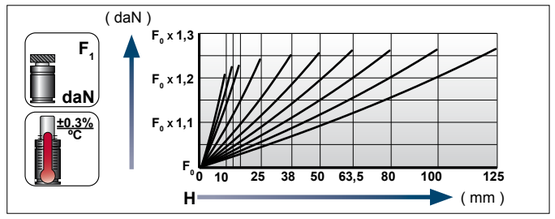



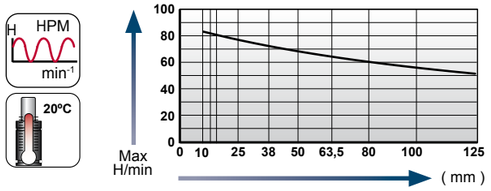

**AG.00150.038**

| Typ / Type | Farbe / Color | Fülldruck Loading pressure [bar] | Kraft / Force Anfang / Initial [daN] | Kraft / Force Ende / Final [daN] |
|---|---|---|---|---|
| **AG.00050** | Grün / Green | 45 | 50 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **AG.00100** | Blau / Blue | 90 | 100 | |
| **AG.00150** | Rot / Red | 135 | 150 | |
| **AG.00200** | Gelb / Yellow | 180 | 200 | |
| **AG.00XXX** | Schwarz / Black | 20 - 180 | 23 - 200 | |

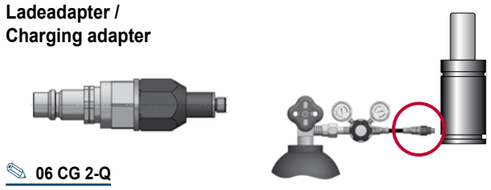
| Hub / Stroke | L ±0,25 | LG |
|---|---|---|
| **010** | 70 | 60 |
| **012,7** | 75,4 | 62,7 |
| **016** | 82 | 66 |
| **025** | 100 | 75 |
| **038** | 126 | 88 |
| **050** | 150 | 100 |
| **063,5** | 177 | 113,5 |
| **080** | 210 | 130 |
| **100** | 250 | 150 |
| **125** | 300 | 175 |




**Ladeadapter / Charging adapter**



**06 CG 2-Q**

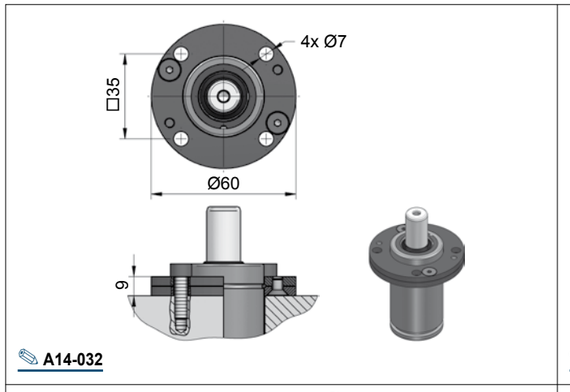


[15.03.2023]

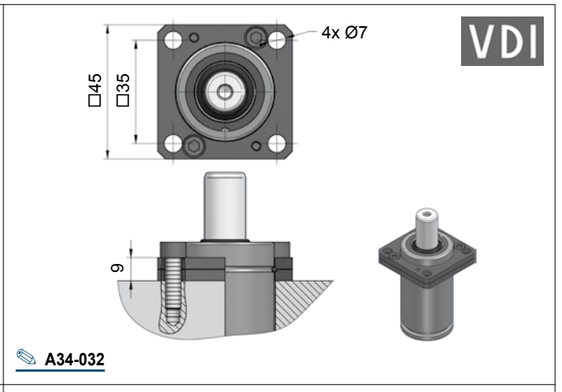
[15.03.2023]



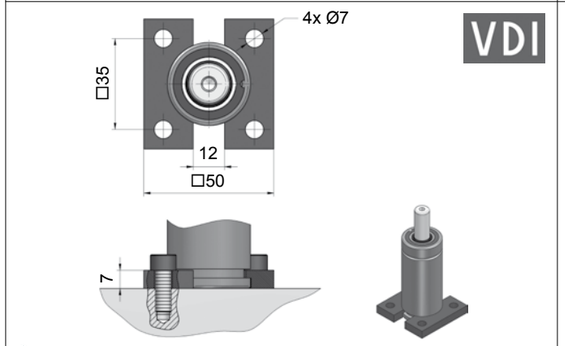
## Flansche für / Flanges for **AG.00050, ...00100, ...00150, ...00200, ...00XXX**



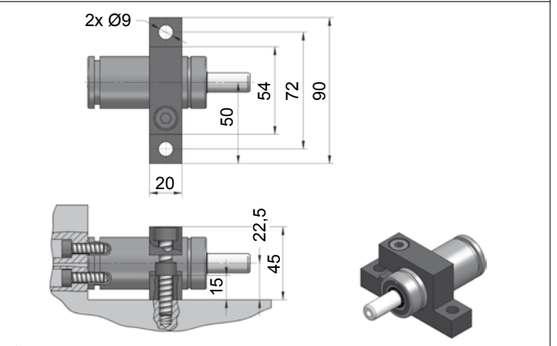

**A14-032**




**A34-032**




**C20-032**




**D02-032**

# AG.00250

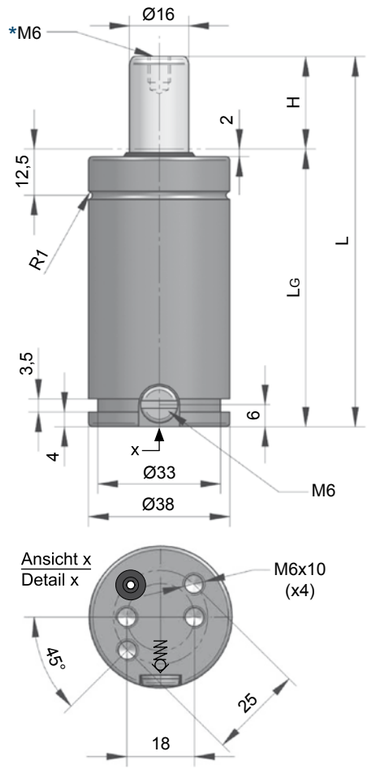
**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

INFO [Azol. AG.1]

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |




ZULASSEN PED 2014/68/EU

VDI 3003

> Pmax

> S

> Vmax

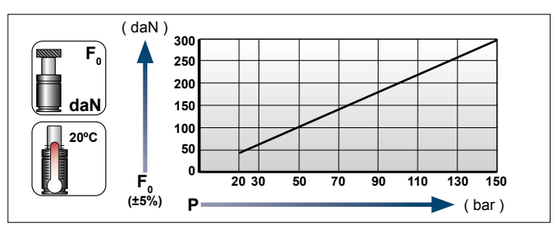
INFO [Azol.19]

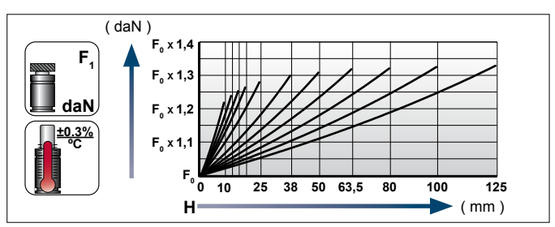
CAD

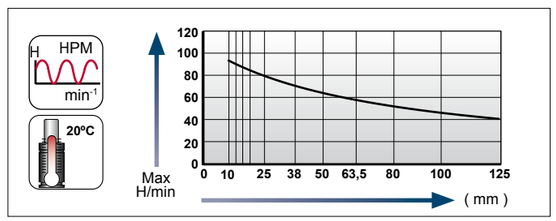
MAIL

AG.00250.025

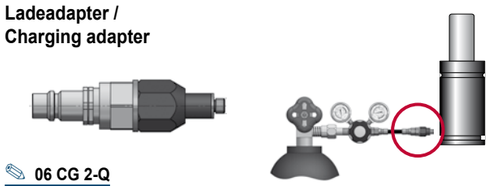
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (125 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 70 | 60 | 250 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **013** | 76 | 63 | 250 | |
| **016** | 82 | 66 | 250 | |
| **019** | 88 | 69 | 250 | |
| **025** | 100 | 75 | 250 | |
| **038** | 126 | 88 | 250 | |
| **050** | 150 | 100 | 250 | |
| **063,5** | 177 | 113,5 | 250 | |
| **080** | 210 | 130 | 250 | |
| **100** | 250 | 150 | 250 | |
| **125** | 300 | 175 | 250 | |




**Ladeadapter / Charging adapter**



06 CG 2-Q

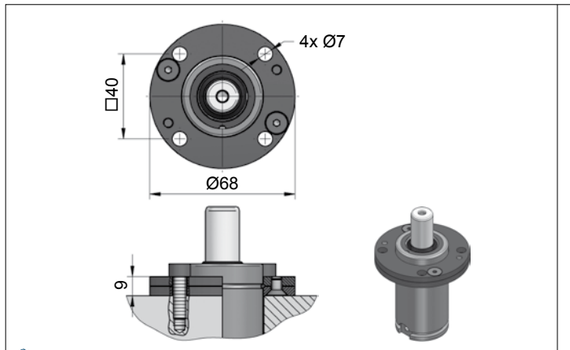


[15.03.2023]

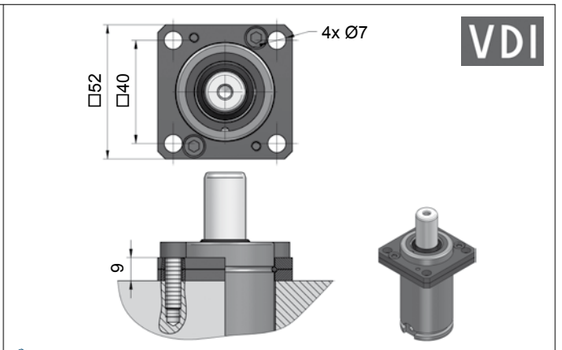
[15.03.2023]

GDF, Standard nach VDI 3003
GS, Standard acc. to VDI 3003
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

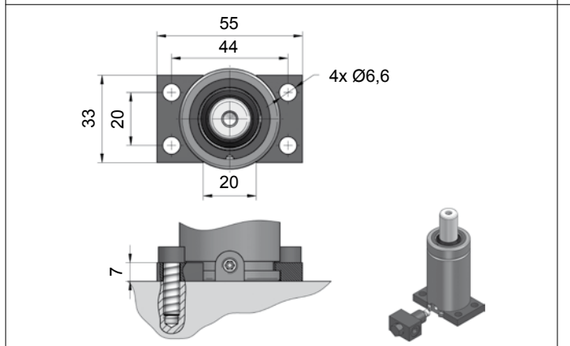
## Flansche für / Flanges for **AG.00250**



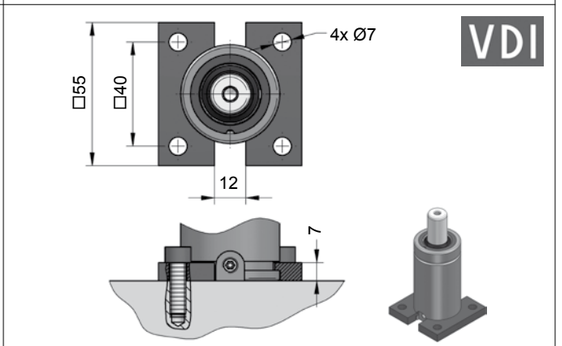

A14-038



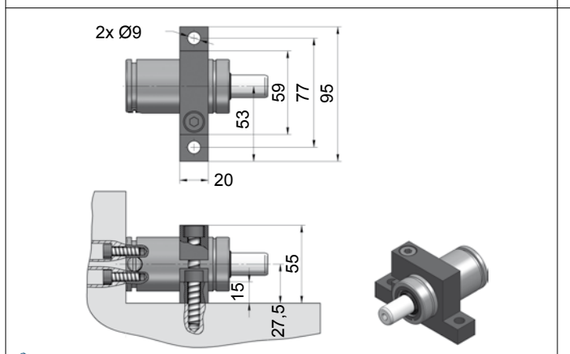

A34-038



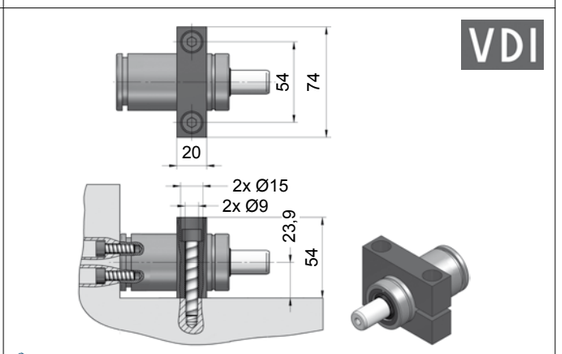

C05-038




C20-038




D02-038




D67-038



[AG]

[AG]

# AG.00500

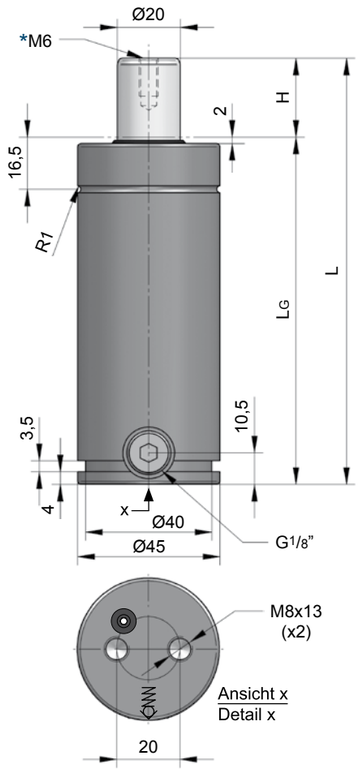
**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

INFO [Azol. AG.1]

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |




ZUGELASSEN PED 2014/68/EU

VDI 3003

> Pmax

> S

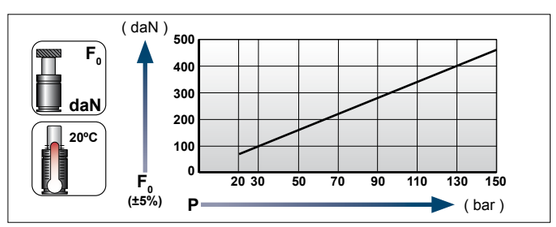
> Vmax

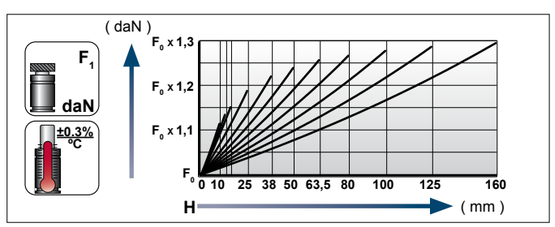
* INFO [Azol.21]

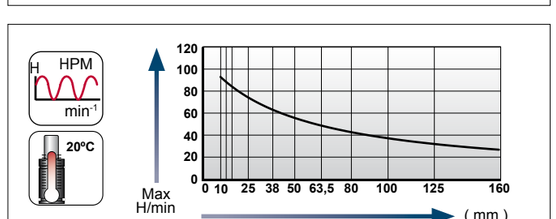
AG.00500.025

CAD MAIL

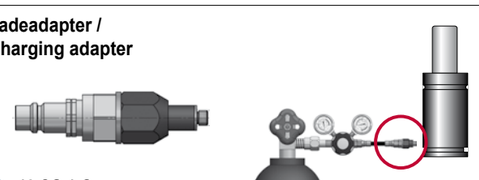
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 105 | 95 | 470 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **013** | 111 | 98 | 470 | |
| **016** | 117 | 101 | 470 | |
| **025** | 135 | 110 | 470 | |
| **038** | 161 | 123 | 470 | |
| **050** | 185 | 135 | 470 | |
| **063,5** | 212 | 148,5 | 470 | |
| **080** | 245 | 165 | 470 | |
| **100** | 285 | 185 | 470 | |
| **125** | 335 | 210 | 470 | |
| **160** | 405 | 245 | 470 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

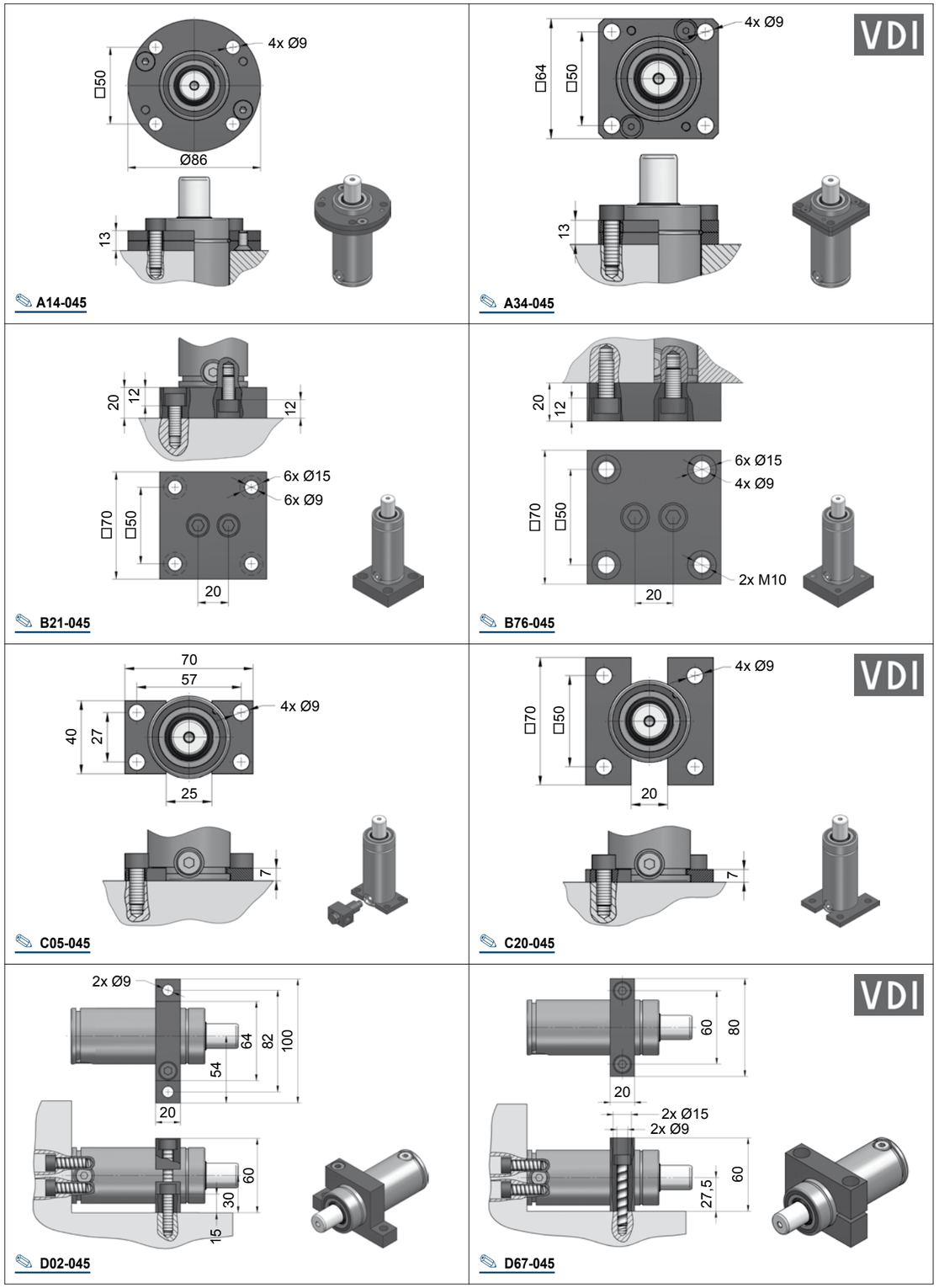


[15.03.2023]

[15.03.2023]

GDF, Standard nach VDI 3003
GS, Standard acc. to VDI 3003
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

## Flansche für / Flanges for **AG.00500**






[AG]

[AG]

# AG.00750

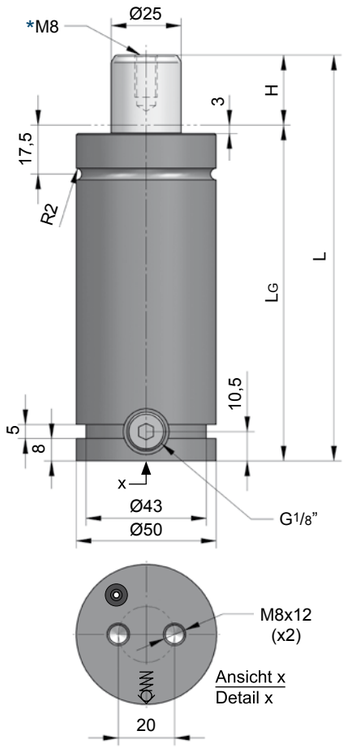
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 2 m/s |

INFO [Azol. AG.1]

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 2 m/s |




INFO [Azol.19]

VDI 3003

> Pmax

> S

> Vmax

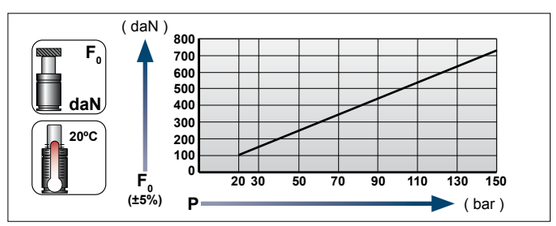
Flex Rod

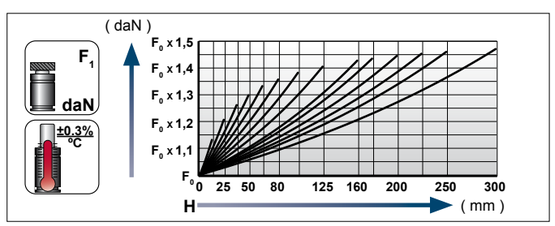
AG.□.00750.100

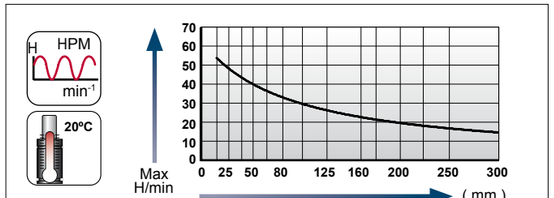
CAD

MAIL

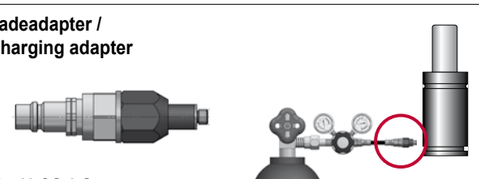
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **013** | 121 | 108 | 740 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **025** | 145 | 120 | 740 | |
| **038** | 171 | 133 | 740 | |
| **050** | 195 | 145 | 740 | |
| **063,5** | 222 | 158,5 | 740 | |
| **080** | 255 | 175 | 740 | |
| **100** | 295 | 195 | 740 | |
| **125** | 345 | 220 | 740 | |
| **160** | 415 | 255 | 740 | |
| **175** | 445 | 270 | 740 | |
| **200** | 495 | 295 | 740 | |
| **225** | 545 | 320 | 740 | |
| **250** | 595 | 345 | 740 | |
| **300** | 695 | 395 | 740 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

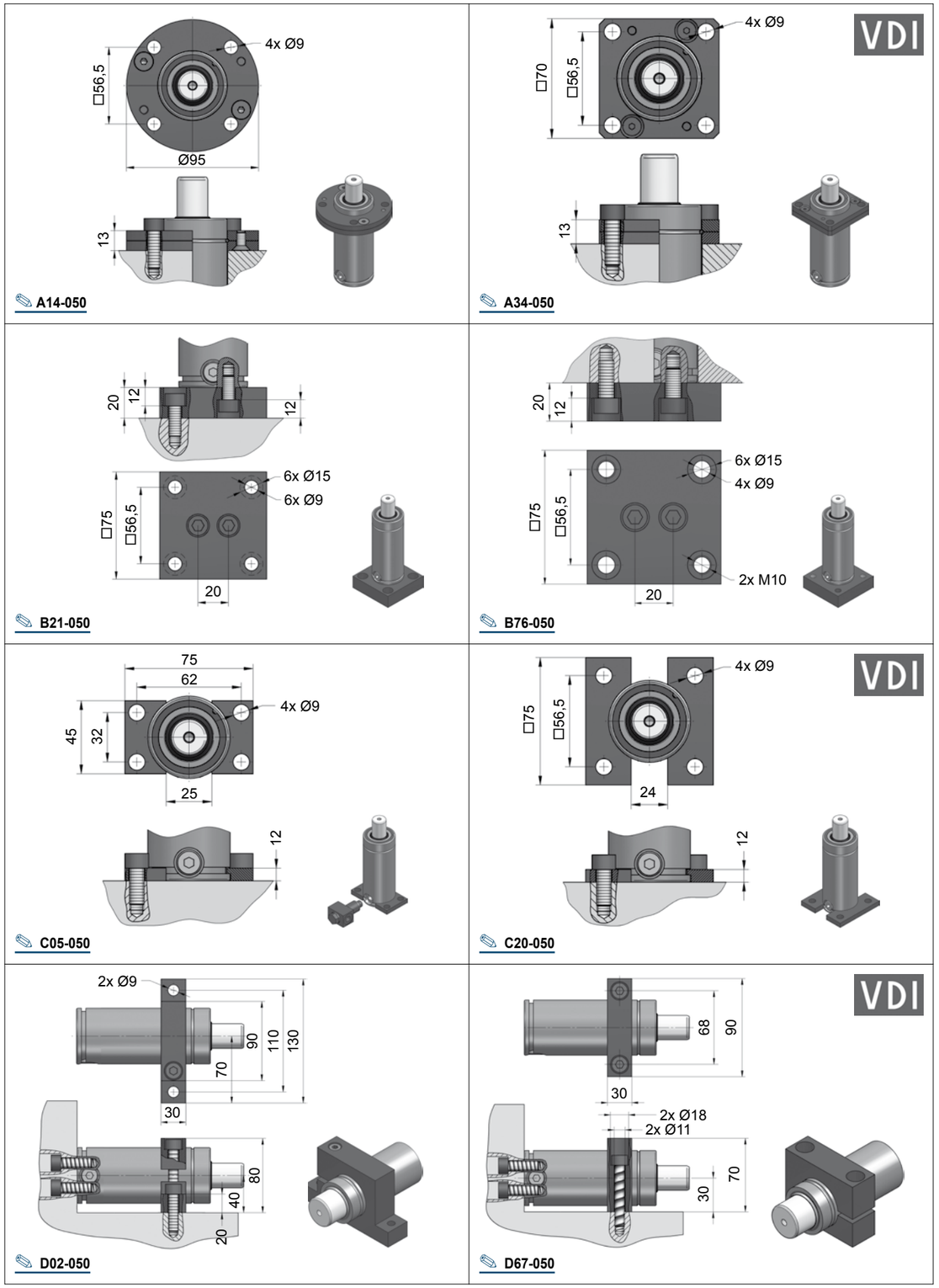


[15.03.2023]

[15.03.2023]



## Flansche für / Flanges for **AG.00750**








[AG]

# AG.01500

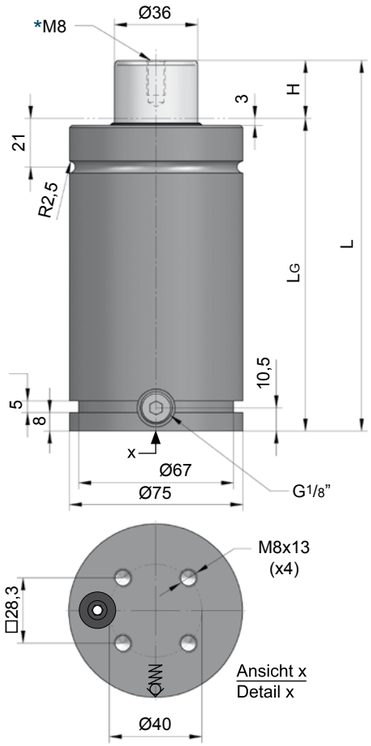
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 2 m/s |

INFO [Azol. AG.1]

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 2 m/s |



VDI 3003

> Pmax

> S

> Vmax

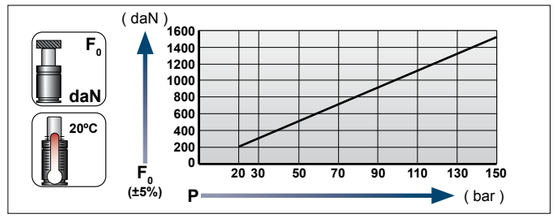
Flex Rod

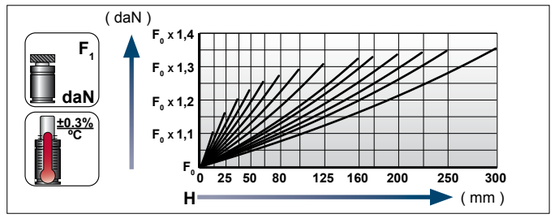
CAD

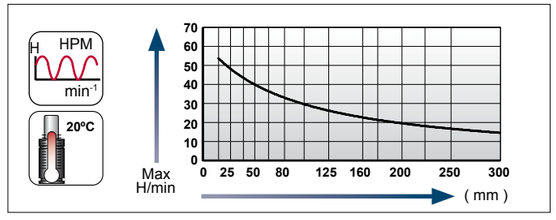
MAIL

AG.□.01500.080

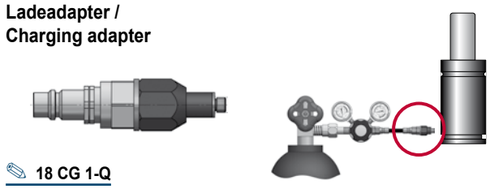
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| 013 | 136 | 123 | 1530 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| 025 | 160 | 135 | 1530 | |
| 038 | 186 | 148 | 1530 | |
| 050 | 210 | 160 | 1530 | |
| 063,5 | 237 | 173,5 | 1530 | |
| 080 | 270 | 190 | 1530 | |
| 100 | 310 | 210 | 1530 | |
| 125 | 360 | 235 | 1530 | |
| 160 | 430 | 270 | 1530 | |
| 175 | 460 | 285 | 1530 | |
| 200 | 510 | 310 | 1530 | |
| 225 | 560 | 335 | 1530 | |
| 250 | 610 | 360 | 1530 | |
| 300 | 710 | 410 | 1530 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

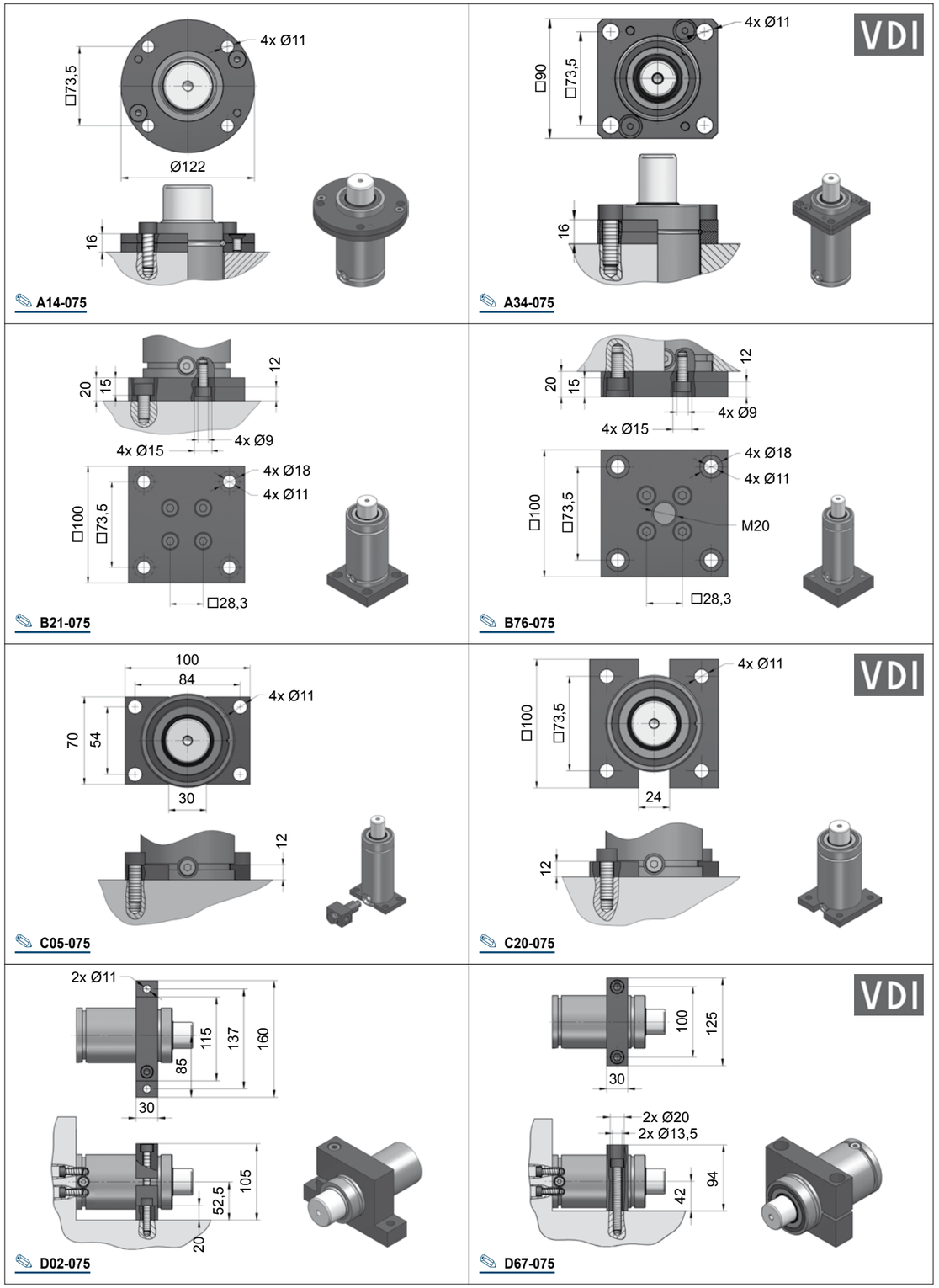


[15.03.2023]

[15.03.2023]



## Flansche für / Flanges for **AG.01500**



# AG.03000

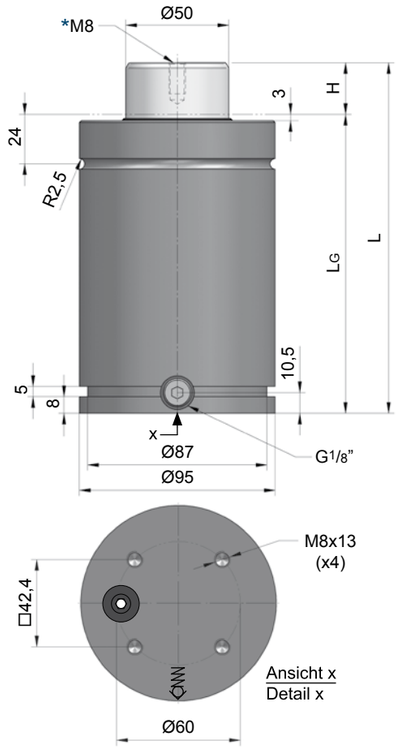
**Technische Daten:**

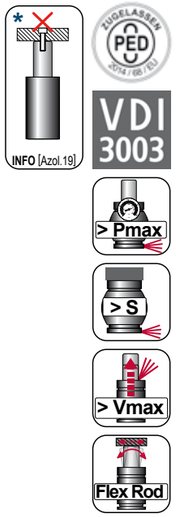
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 2 m/s |

INFO [Azol. AG.1]

**Specifications:**

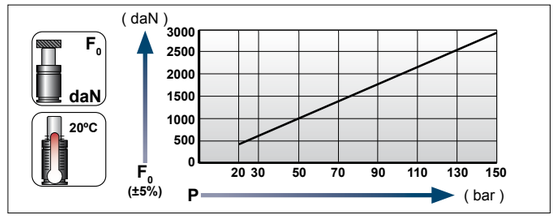
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 2 m/s |

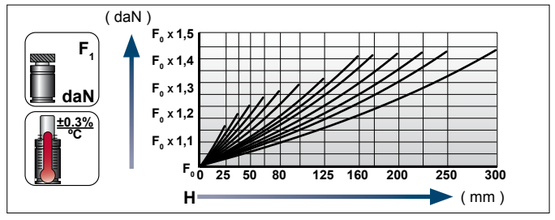


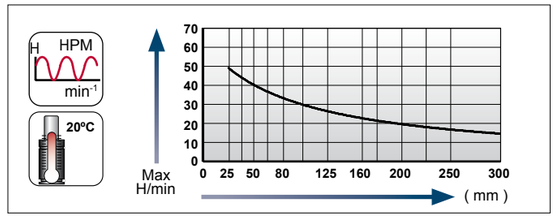




AG.□.03000.100

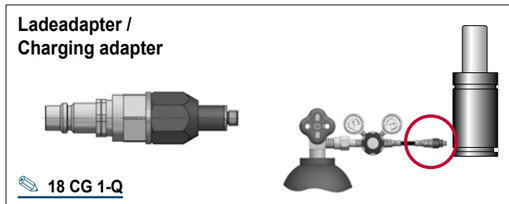
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 170 | 145 | 2945 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **038** | 196 | 158 | 2945 | |
| **050** | 220 | 170 | 2945 | |
| **063,5** | 247 | 183,5 | 2945 | |
| **080** | 280 | 200 | 2945 | |
| **100** | 320 | 220 | 2945 | |
| **125** | 370 | 245 | 2945 | |
| **160** | 440 | 280 | 2945 | |
| **175** | 470 | 295 | 2945 | |
| **200** | 520 | 320 | 2945 | |
| **225** | 570 | 345 | 2945 | |
| **250** | 620 | 370 | 2945 | |
| **300** | 720 | 420 | 2945 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

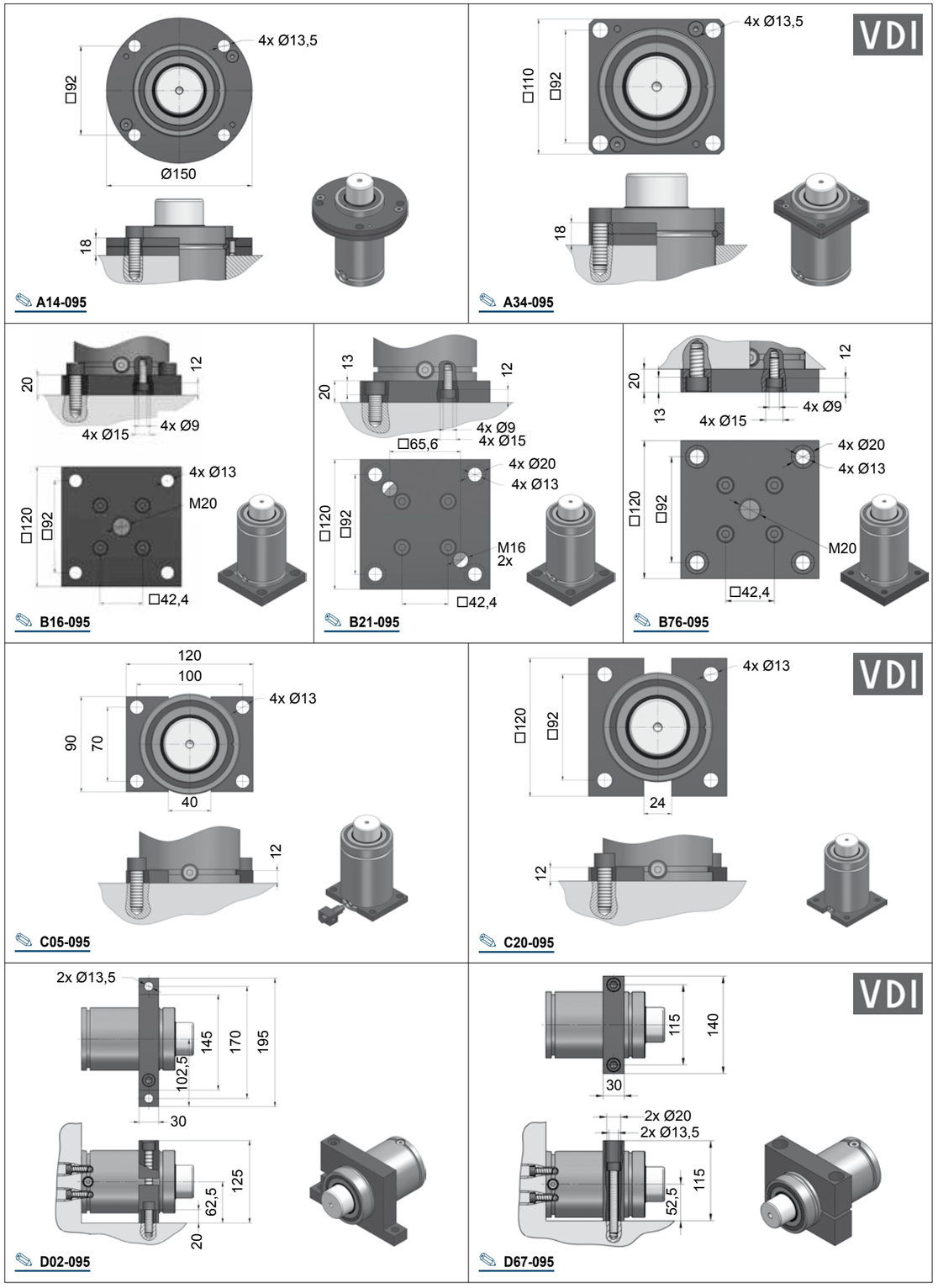


[15.03.2023]

[15.03.2023]



## Flansche für / Flanges for **AG.03000**



# AG.05000

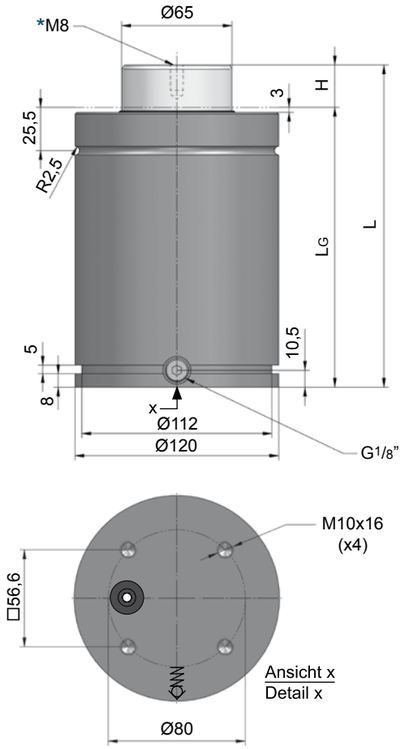
**Technische Daten:**

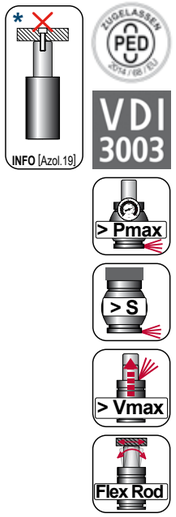
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 2 m/s |

INFO [Azol. AG.1]

**Specifications:**

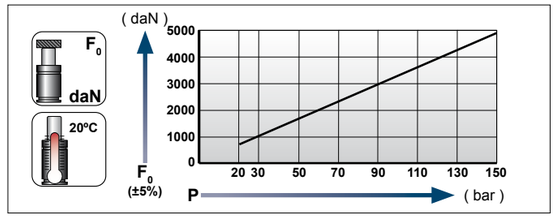
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 2 m/s |

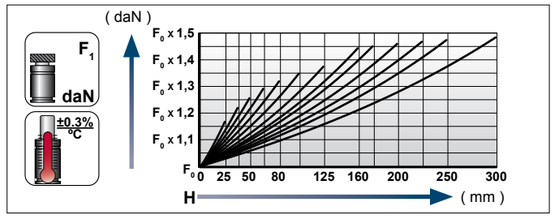


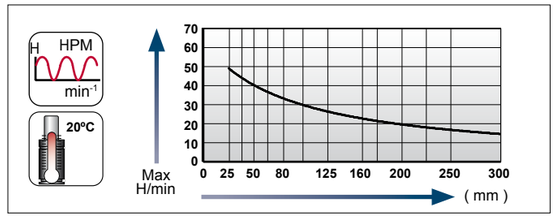




AG.□.05000.125

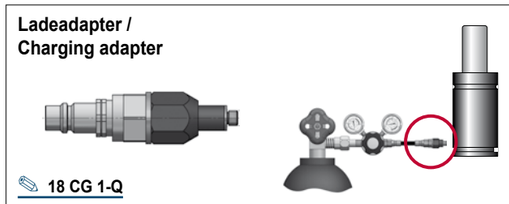
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 190 | 165 | 4980 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **038** | 216 | 178 | 4980 | |
| **050** | 240 | 190 | 4980 | |
| **063,5** | 267 | 203,5 | 4980 | |
| **080** | 300 | 220 | 4980 | |
| **100** | 340 | 240 | 4980 | |
| **125** | 390 | 265 | 4980 | |
| **160** | 460 | 300 | 4980 | |
| **175** | 490 | 315 | 4980 | |
| **200** | 540 | 340 | 4980 | |
| **225** | 590 | 365 | 4980 | |
| **250** | 640 | 390 | 4980 | |
| **300** | 740 | 440 | 4980 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

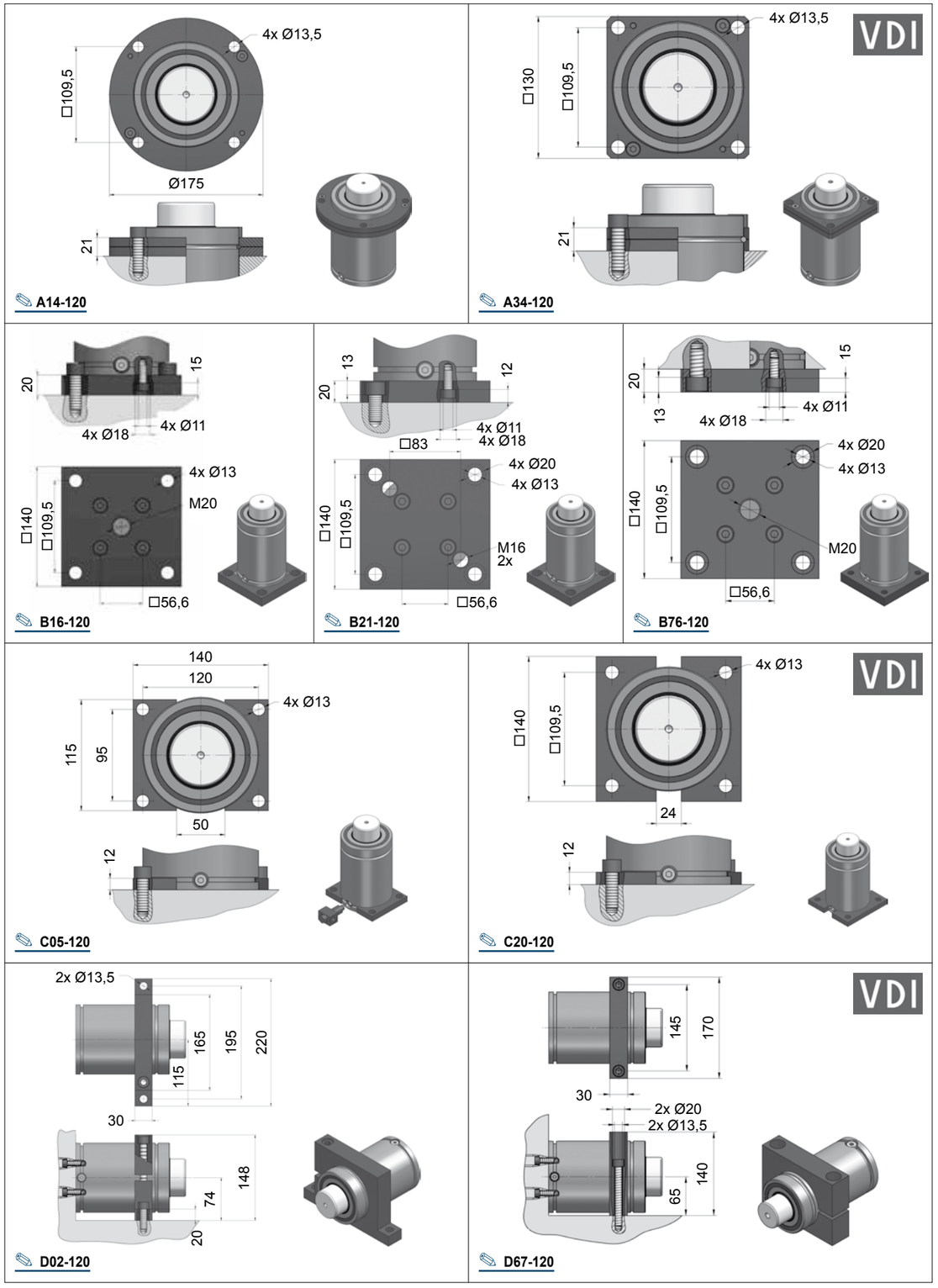


[15.03.2023]

[15.03.2023]



## Flansche für / Flanges for **AG.05000**



# AG.07500

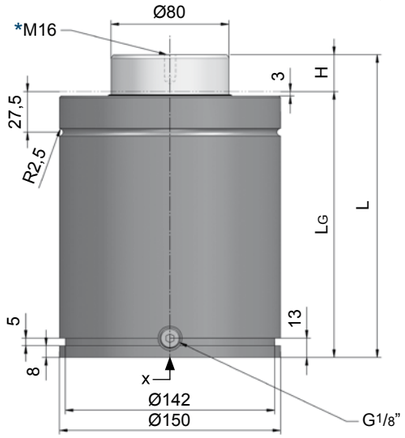
**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 2 m/s |

INFO [Azol. AG.1]

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 2 m/s |



ZUGELASSEN PED 2014/68/EU

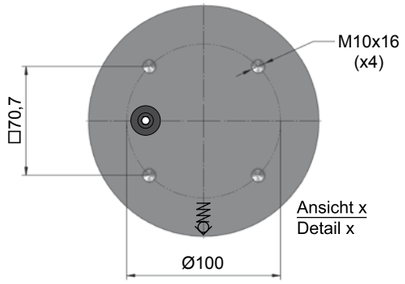
VDI 3003

> Pmax

> S

> Vmax

Flex Rod

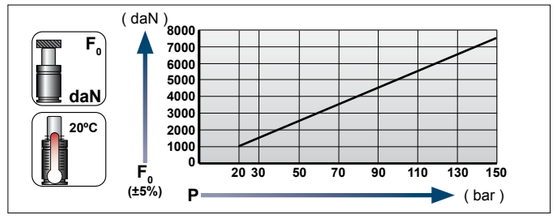


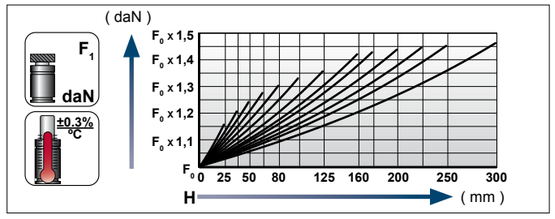

AG.□.07500.160

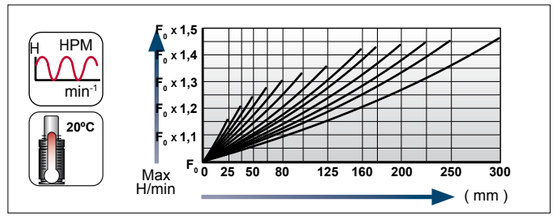
CAD

MAIL

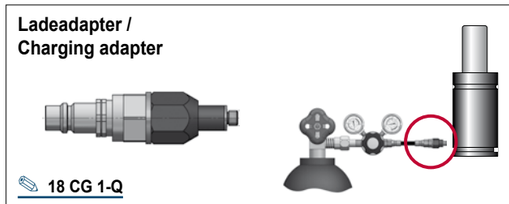
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 205 | 180 | 7540 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **038** | 231 | 193 | 7540 | |
| **050** | 255 | 205 | 7540 | |
| **063,5** | 282 | 218,5 | 7540 | |
| **080** | 315 | 235 | 7540 | |
| **100** | 355 | 255 | 7540 | |
| **125** | 405 | 280 | 7540 | |
| **160** | 475 | 315 | 7540 | |
| **175** | 505 | 330 | 7540 | |
| **200** | 555 | 355 | 7540 | |
| **225** | 605 | 380 | 7540 | |
| **250** | 655 | 405 | 7540 | |
| **300** | 755 | 455 | 7540 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

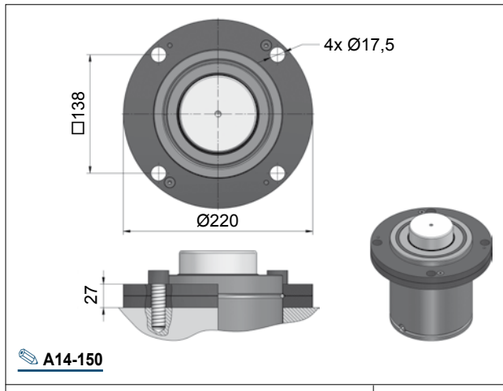


[15.03.2023]

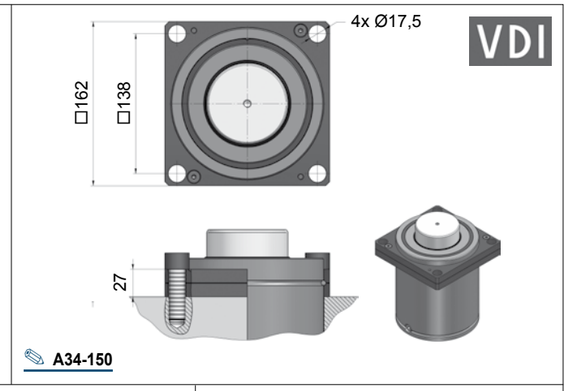
[15.03.2023]



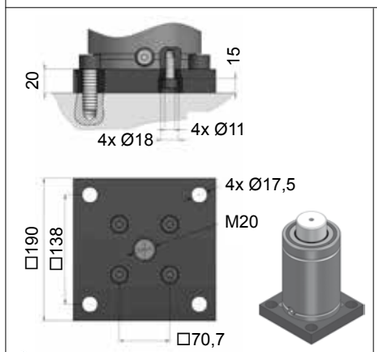
## Flansche für / Flanges for **AG.07500**



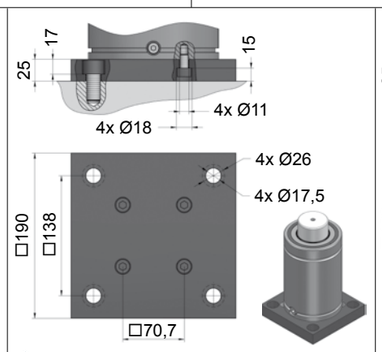

A14-150



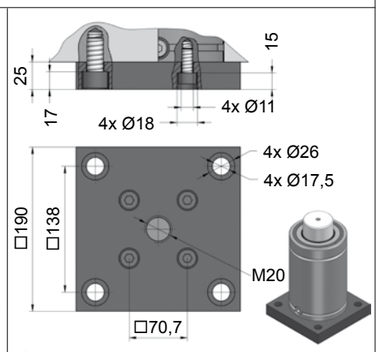

A34-150



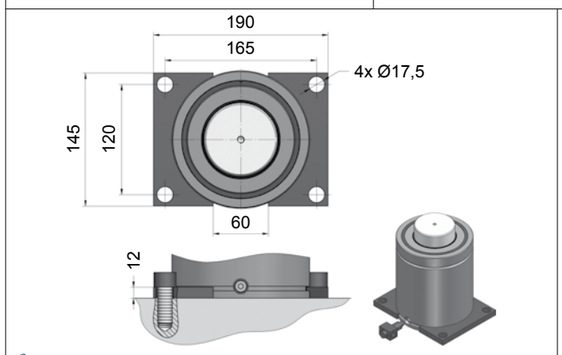

B16-150



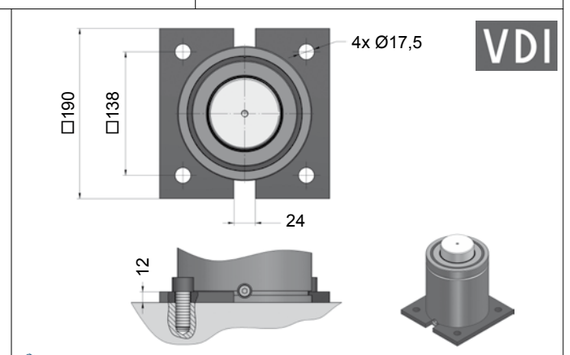

B21-150



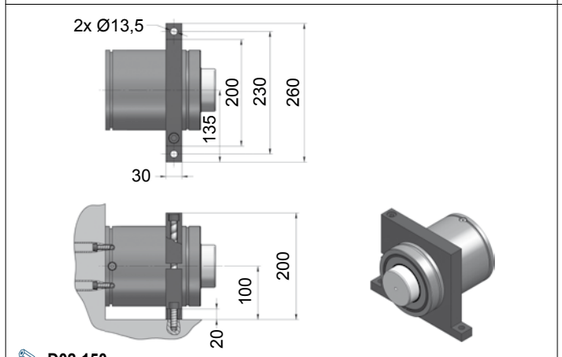

B76-150



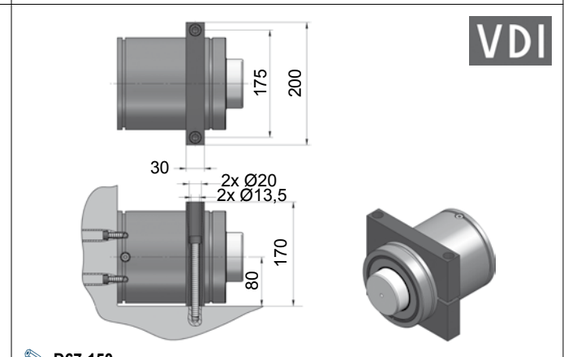

C05-150




C20-150




D02-150




D67-150



[AG]

[AG]

# AG.10000

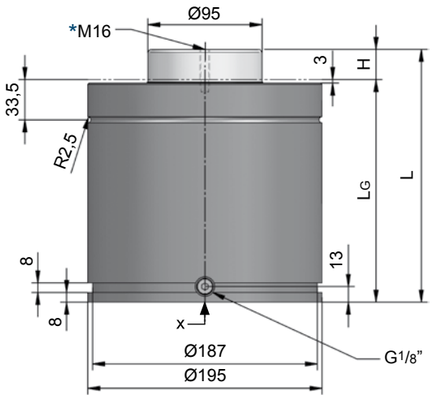
**Technische Data:**

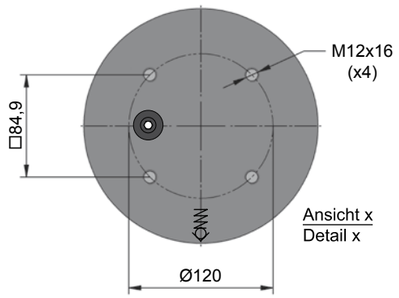
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 2 m/s |

INFO [Azol. AG.1]

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 2 m/s |



ZUGELASSEN PED 2014/68/EU

VDI 3003

> Pmax

> S

> Vmax

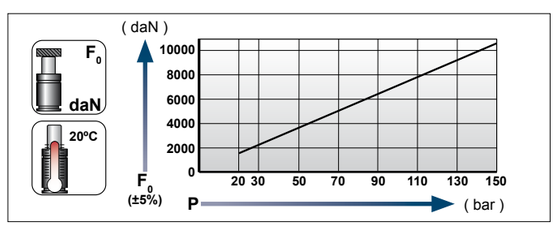
Flex Rod

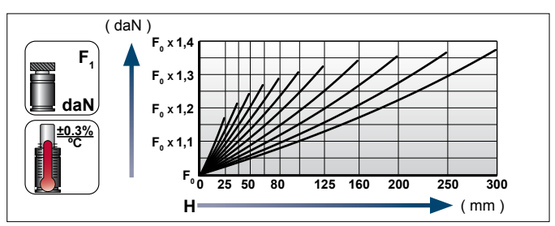
AG.□.10000.200

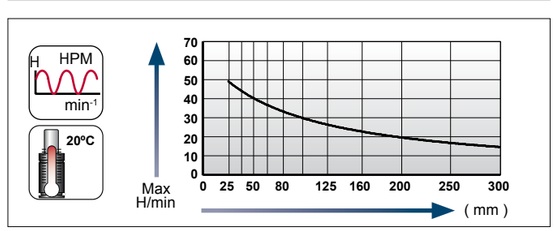
CAD

MAIL

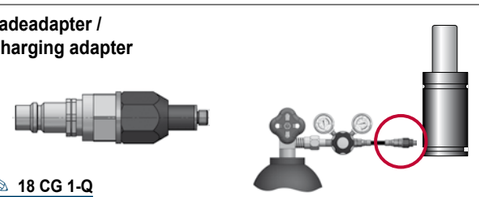
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (145 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 210 | 185 | 10280 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **038** | 236 | 198 | 10280 | |
| **050** | 260 | 210 | 10280 | |
| **063,5** | 287 | 223,5 | 10280 | |
| **080** | 320 | 240 | 10280 | |
| **100** | 360 | 260 | 10280 | |
| **125** | 410 | 285 | 10280 | |
| **160** | 480 | 320 | 10280 | |
| **200** | 560 | 360 | 10280 | |
| **250** | 660 | 410 | 10280 | |
| **300** | 760 | 460 | 10280 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

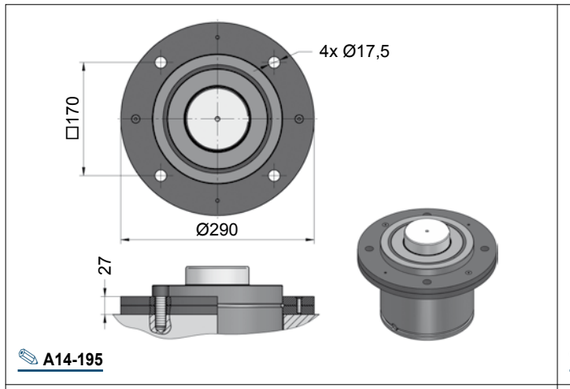


[15.03.2023]

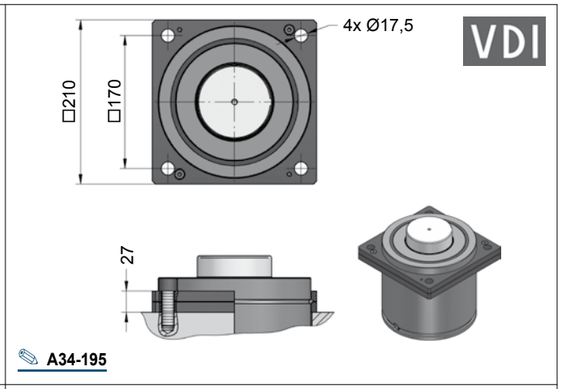
[15.03.2023]



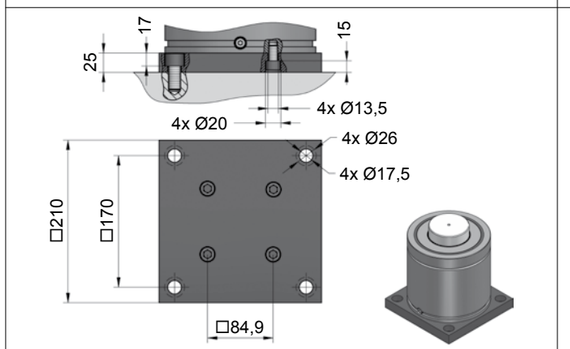
## Flansche für / Flanges for **AG.10000**



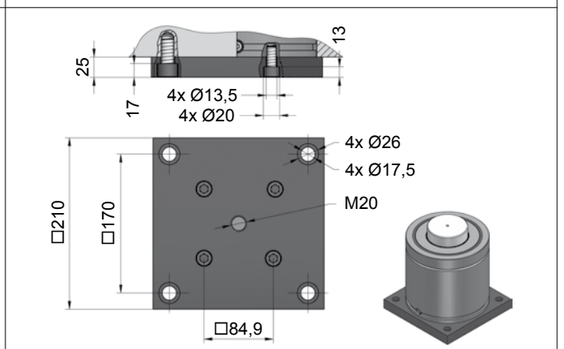

A14-195



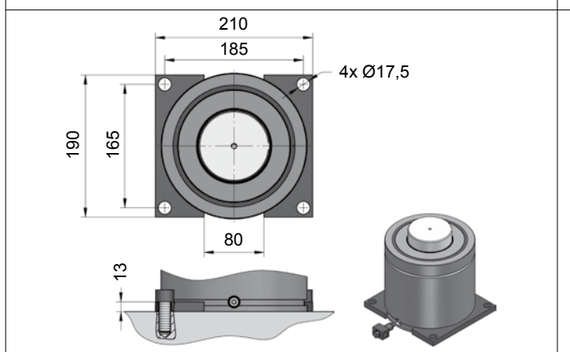

A34-195



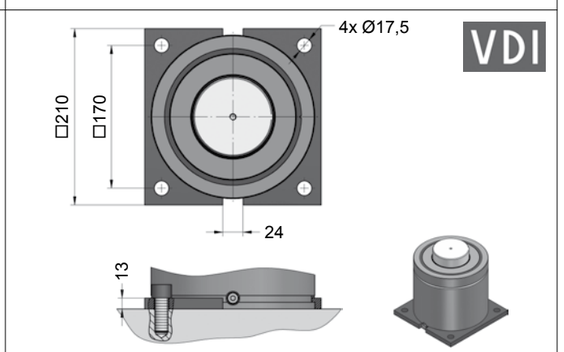

B21-195



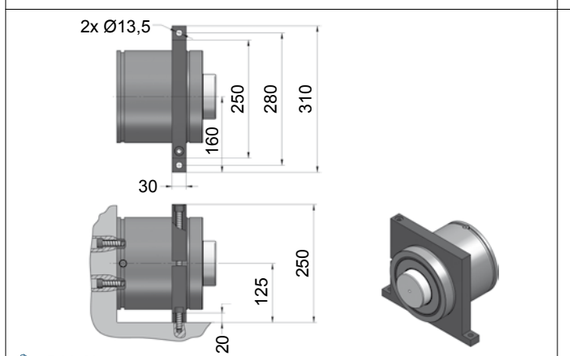

B76-195




C05-195




C20-195




D02-195

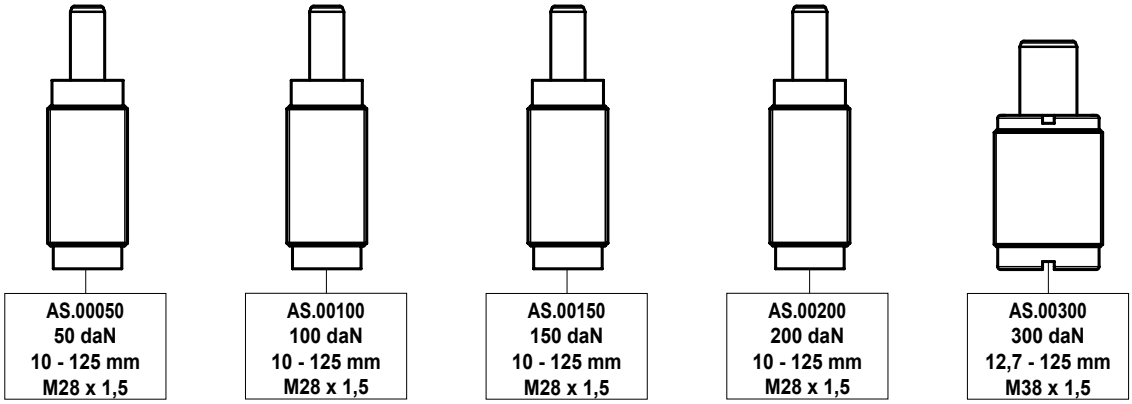


[AG]

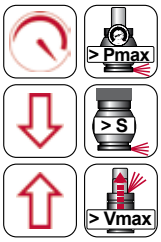
[AG]

## Größenübersicht Serie AS

## Gas spring index AS series




## SICHERHEITSSYSTEME



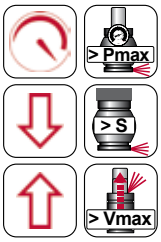

**Überdruck**

**Überhub**

**Freier Rückhub**

Information über die Sicherheitssysteme (Überdruck, Überhub, Freier Rückhub) erhalten Sie im Vorspann auf der Seite Azol.22.

## SAFETY SYSTEMS




**Over-Pressure**

**Over-Stroke**

**Over-Speed**

Information about the safety systems (over-pressure, over-stroke, over-speed) can be found in the introductory part on page Azol.22.

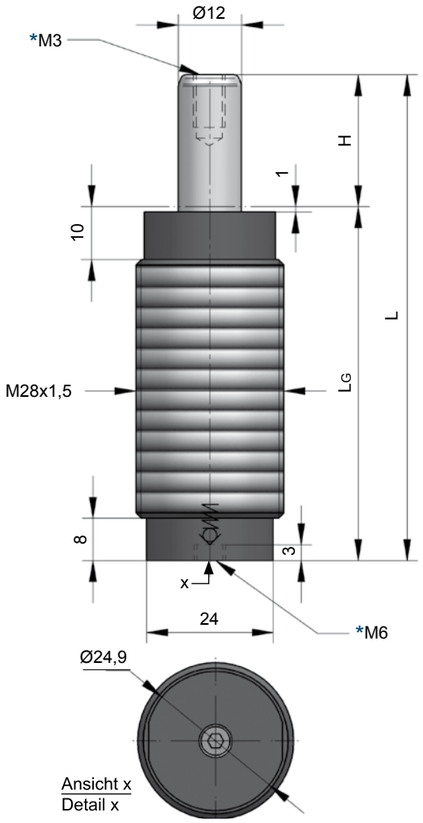
# AS.00XXX

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

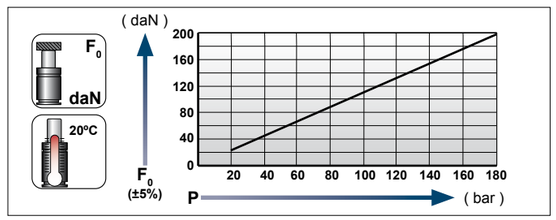
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

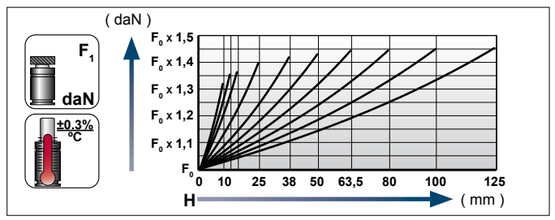


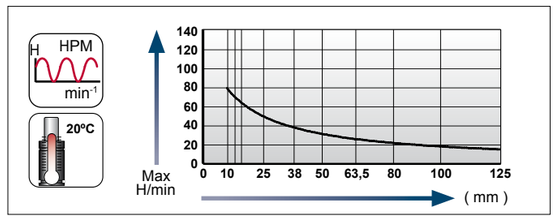

**AS.00200.016**

| Typ / Type | Farbe / Color | Fülldruck Loading pressure [bar] | Kraft / Force Anfang / Initial [daN] | Kraft / Force Ende / Final [daN] |
|---|---|---|---|---|
| **AS.00050** | Grün / Green | 45 | 50 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **AS.00100** | Blau / Blue | 90 | 100 | |
| **AS.00150** | Rot / Red | 135 | 150 | |
| **AS.00200** | Gelb / Yellow | 180 | 200 | |

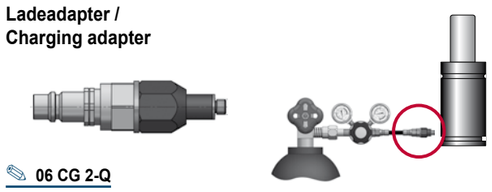
| Hub / Stroke | L ±0,25 | LG |
|---|---|---|
| **010** | 62 | 52 |
| **012,7** | 67,4 | 54,7 |
| **016** | 74 | 58 |
| **025** | 92 | 67 |
| **038** | 118 | 80 |
| **050** | 142 | 92 |
| **063,5** | 169 | 105,5 |
| **080** | 202 | 122 |
| **100** | 242 | 142 |
| **125** | 292 | 167 |




**Ladeadapter / Charging adapter**

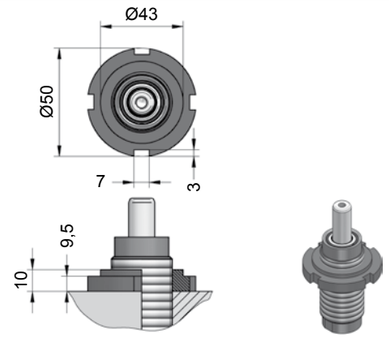


**06 CG 2-Q**





## Flansche für / Flanges for **AS.00050, ...00100, ...00150, ...00200**




**E58-028**

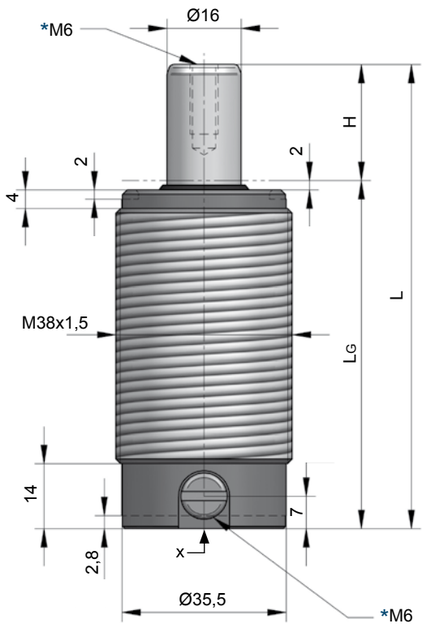
# AS.00300

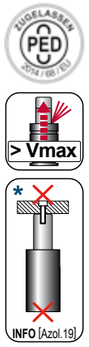
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

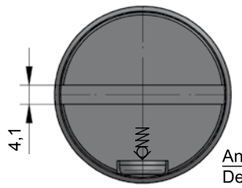
**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

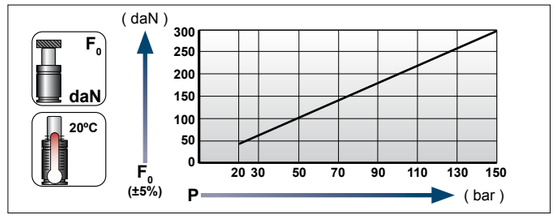


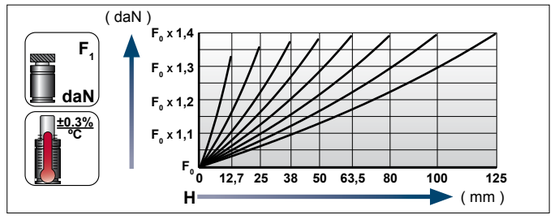



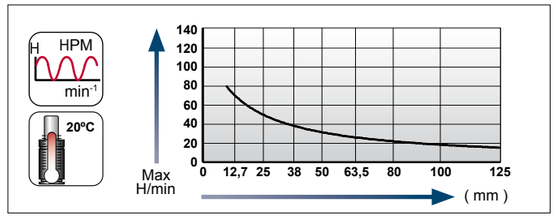

## AS.00300.025



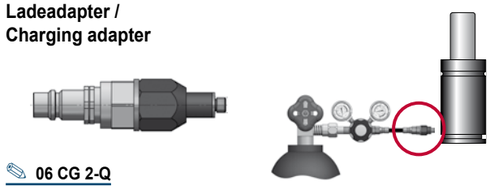

| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **012,7** | 75,4 | 62,7 | 300 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **025** | 100 | 75 | 300 | |
| **038** | 126 | 88 | 300 | |
| **050** | 150 | 100 | 300 | |
| **063,5** | 177 | 113,5 | 300 | |
| **080** | 210 | 130 | 300 | |
| **100** | 250 | 150 | 300 | |
| **125** | 300 | 175 | 300 | |




**Ladeadapter / Charging adapter**



06 CG 2-Q



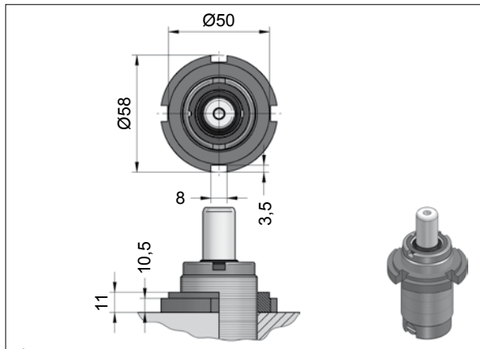
[AG]

[15.03.2023]

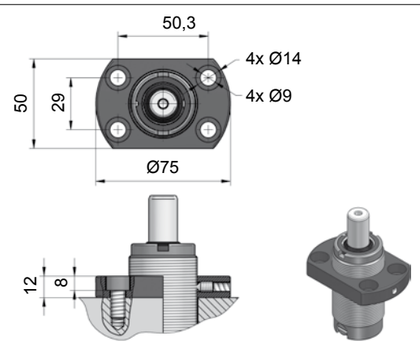
[15.03.2023]



## Flansche für / Flanges for **AS.00300**




E58-038



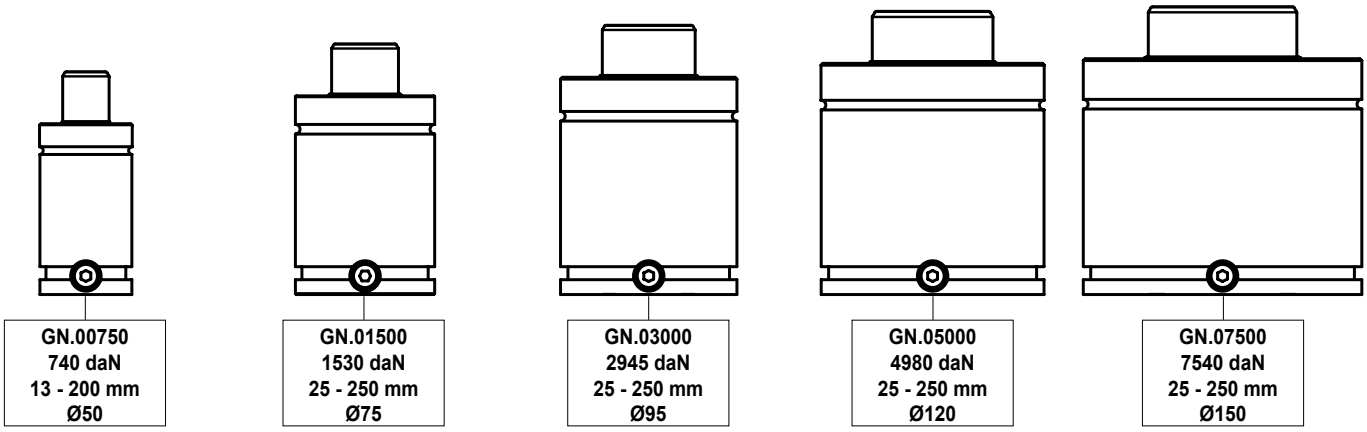

E68-038



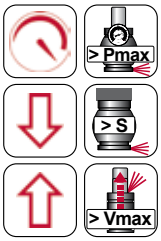
[AG]

## Größenübersicht Serie GN

## Gas spring index GN series




## SICHERHEITSSYSTEME



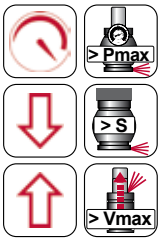

**Überdruck**

**Überhub**

**Freier Rückhub**

Information über die Sicherheitssysteme (Überdruck, Überhub, Freier Rückhub) erhalten Sie im Vorspann auf der Seite Azol.22.

## SAFETY SYSTEMS




**Over-Pressure**

**Over-Stroke**

**Over-Speed**

Information about the safety systems (over-pressure, over-stroke, over-speed) can be found in the introductory part on page Azol.22.

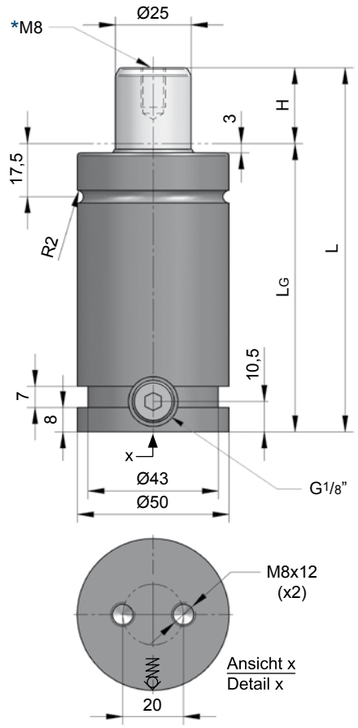
# GN.00750

**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |




> Vmax

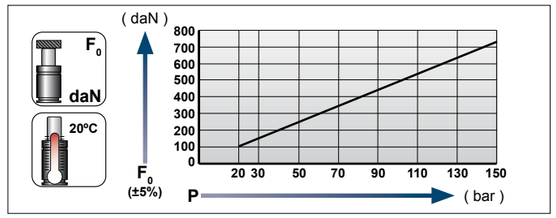
Flex Rod

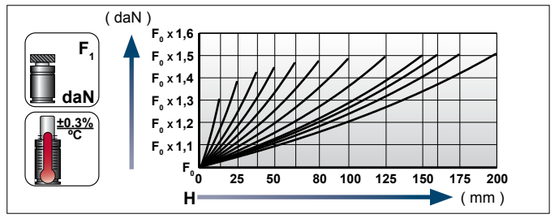
INFO [Azol.19]

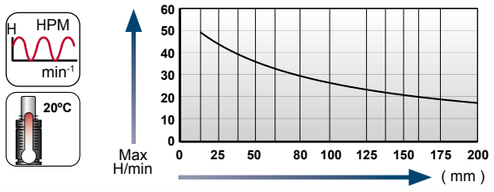
GN.00750.025

CAD MAIL

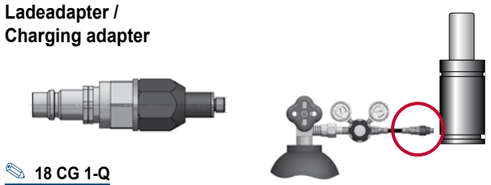
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **013** | 96 | 83 | 740 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **025** | 120 | 95 | 740 | |
| **038** | 146 | 108 | 740 | |
| **050** | 170 | 120 | 740 | |
| **063,5** | 197 | 133,5 | 740 | |
| **080** | 230 | 150 | 740 | |
| **100** | 270 | 170 | 740 | |
| **125** | 320 | 195 | 740 | |
| **137,5** | 345 | 207,5 | 740 | |
| **150** | 370 | 220 | 740 | |
| **160** | 390 | 230 | 740 | |
| **175** | 420 | 245 | 740 | |
| **200** | 470 | 270 | 740 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

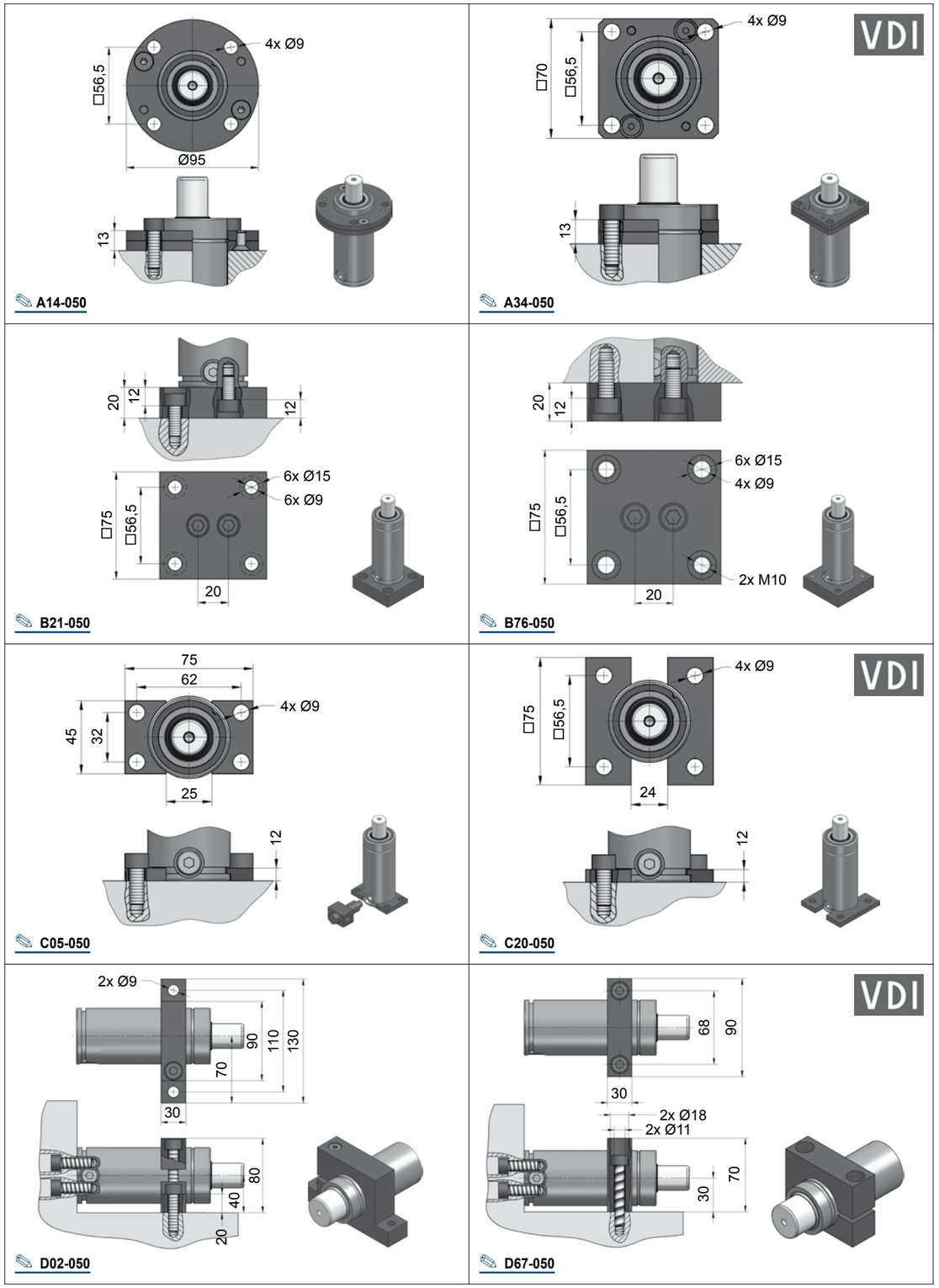


[15.03.2023]

[15.03.2023]



## Flansche für / Flanges for **GN.00750**








[AG]

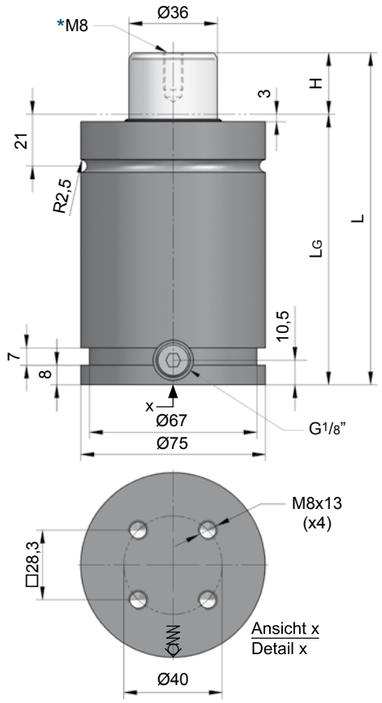
# GN.01500

**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

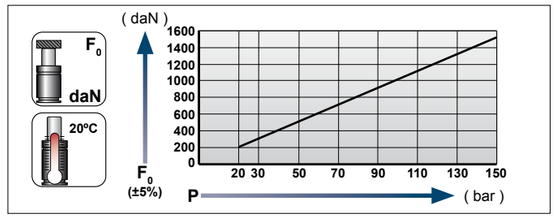
**Specifications:**

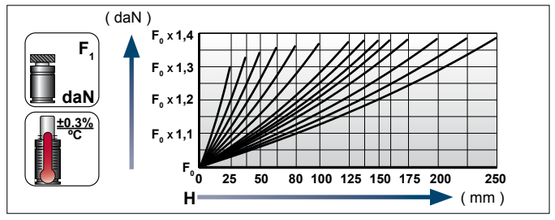
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

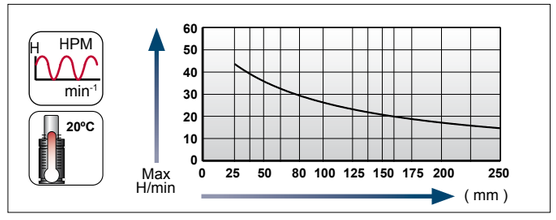



**GN.01500.025**

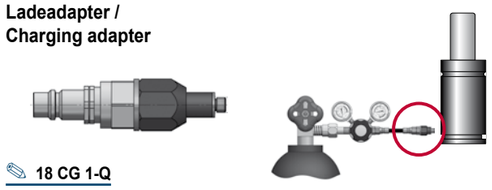
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 135 | 110 | 1530 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **038** | 161 | 123 | 1530 | |
| **050** | 185 | 135 | 1530 | |
| **063,5** | 212 | 148,5 | 1530 | |
| **080** | 245 | 165 | 1530 | |
| **100** | 285 | 185 | 1530 | |
| **125** | 335 | 210 | 1530 | |
| **137,5** | 360 | 222,5 | 1530 | |
| **150** | 385 | 235 | 1530 | |
| **160** | 405 | 245 | 1530 | |
| **175** | 435 | 260 | 1530 | |
| **200** | 485 | 285 | 1530 | |
| **225** | 535 | 310 | 1530 | |
| **250** | 585 | 335 | 1530 | |




**Ladeadapter / Charging adapter**



**18 CG 1-Q**

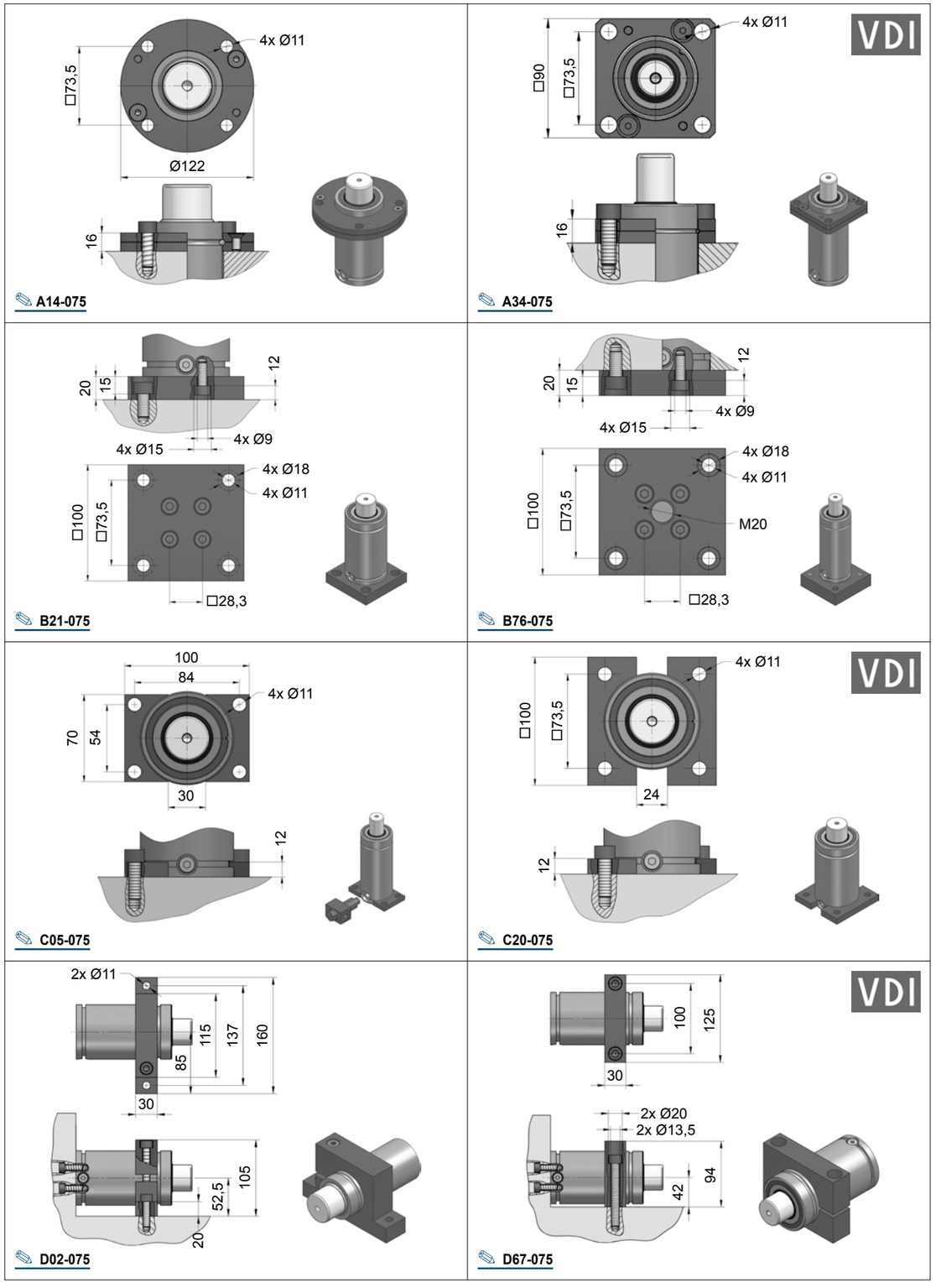


[15.03.2023]

[15.03.2023]

GDF, Standard, mittlere Größe
GS, Standard, medium size
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

## Flansche für / Flanges for **GN.01500**



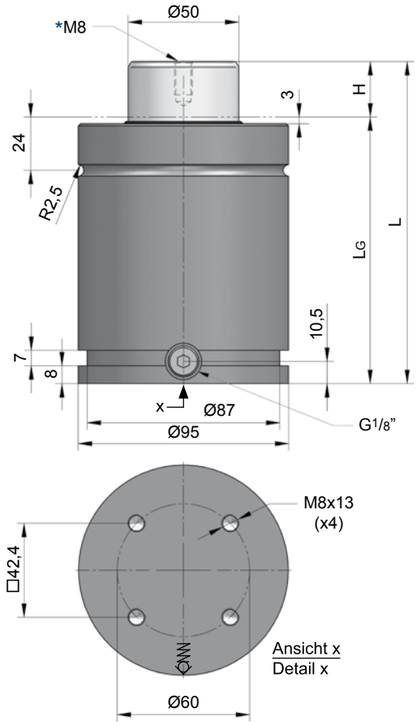
# GN.03000

**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

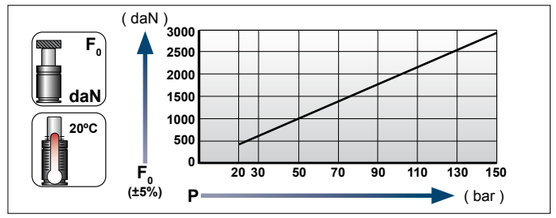
**Specifications:**

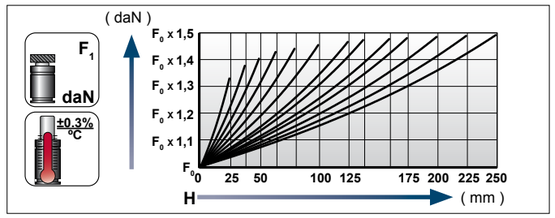
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

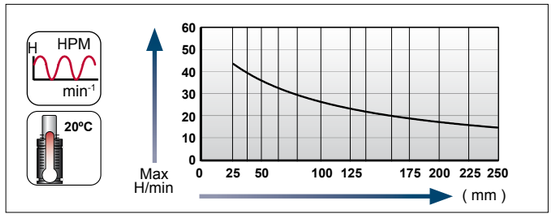



GN.03000.050

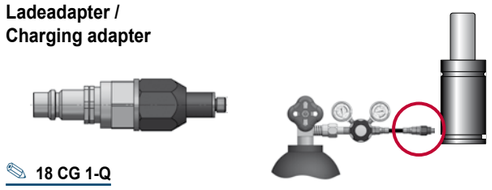
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 145 | 120 | 2945 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **038** | 171 | 133 | 2945 | |
| **050** | 195 | 145 | 2945 | |
| **063,5** | 222 | 158,5 | 2945 | |
| **080** | 255 | 175 | 2945 | |
| **100** | 295 | 195 | 2945 | |
| **125** | 345 | 220 | 2945 | |
| **137,5** | 370 | 232,5 | 2945 | |
| **160** | 415 | 255 | 2945 | |
| **175** | 445 | 270 | 2945 | |
| **200** | 495 | 295 | 2945 | |
| **225** | 545 | 320 | 2945 | |
| **250** | 595 | 345 | 2945 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

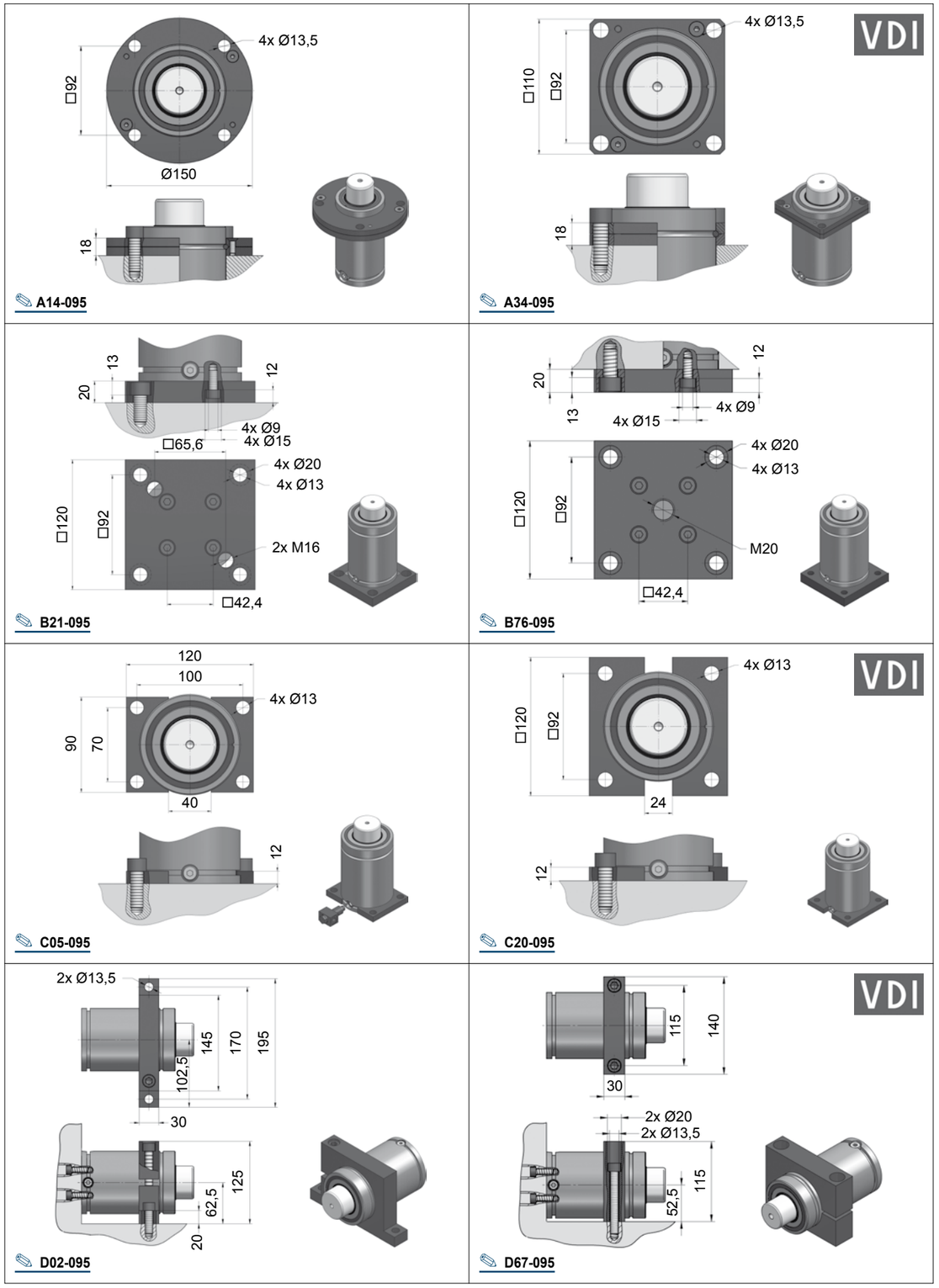


[15.03.2023]

[15.03.2023]



## Flansche für / Flanges for **GN.03000**



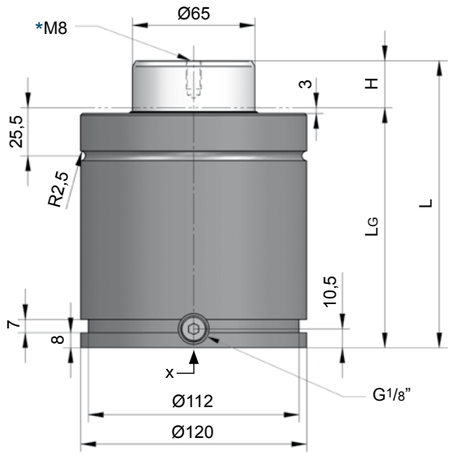
# GN.05000

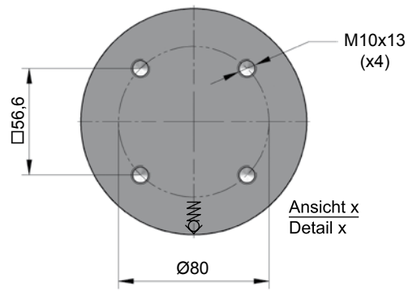
**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

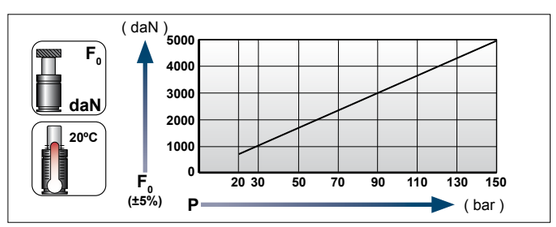
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

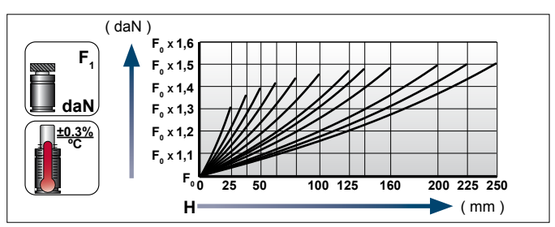


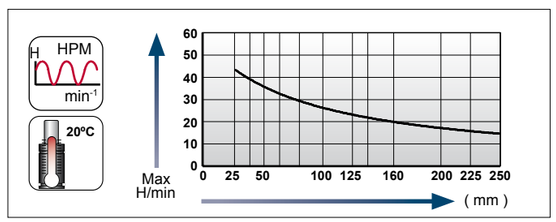




GN.05000.025

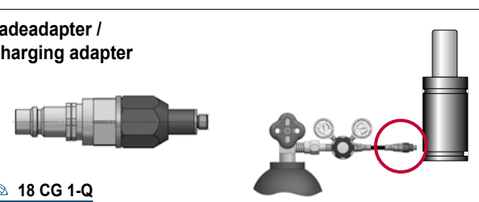
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 152,5 | 127,5 | 4980 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **038** | 178,5 | 140,5 | 4980 | |
| **050** | 202,5 | 152,5 | 4980 | |
| **063** | 228,5 | 165,5 | 4980 | |
| **080** | 262,5 | 182,5 | 4980 | |
| **100** | 302,5 | 202,5 | 4980 | |
| **125** | 352,5 | 227,5 | 4980 | |
| **137,5** | 377,5 | 240 | 4980 | |
| **160** | 422,5 | 262,5 | 4980 | |
| **200** | 502,5 | 302,5 | 4980 | |
| **225** | 552,5 | 327,5 | 4980 | |
| **250** | 602,5 | 352,5 | 4980 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q



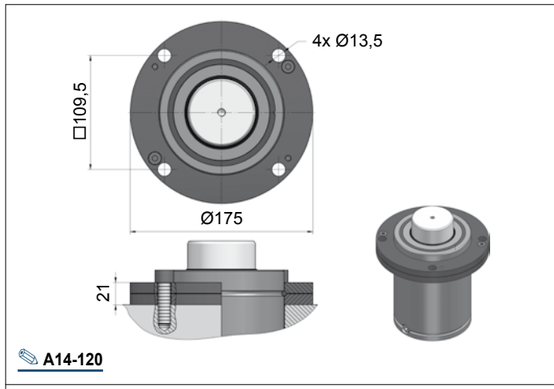


[15.03.2023]

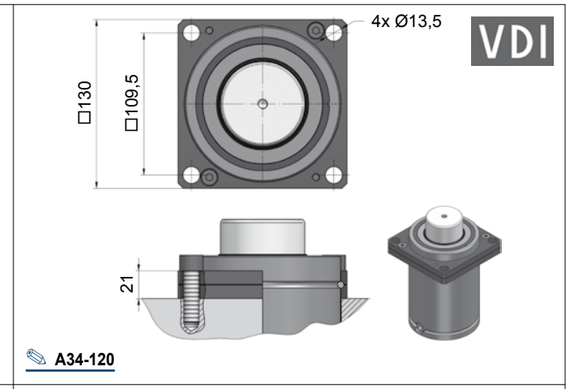
[15.03.2023]

GDF, Standard, mittlere Größe
GS, Standard, medium size
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

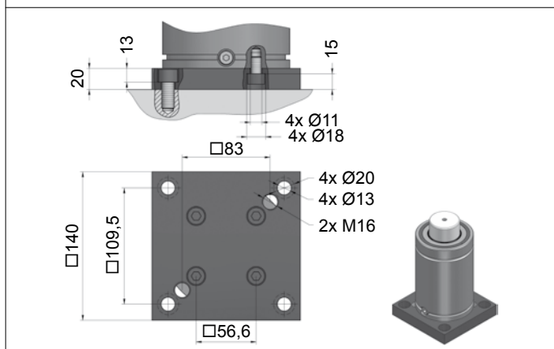
## Flansche für / Flanges for **GN.05000**



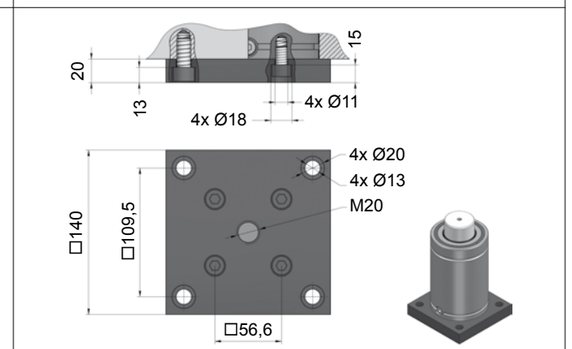

A14-120



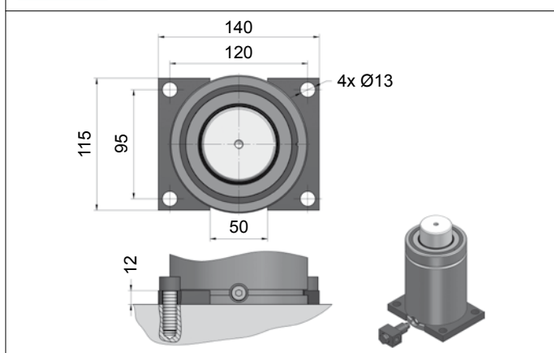

A34-120



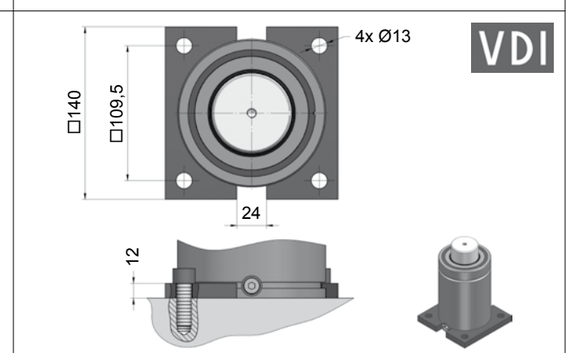

B21-120



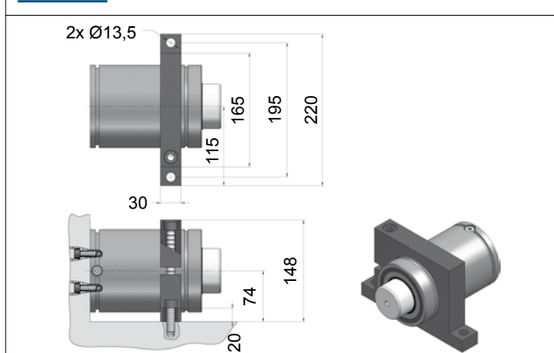

B76-120



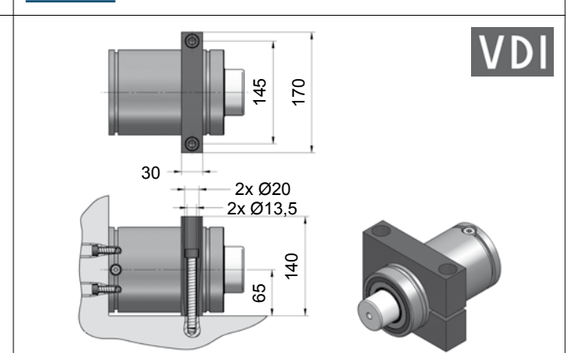

C05-120




C20-120




D02-120




D67-120



[AG]

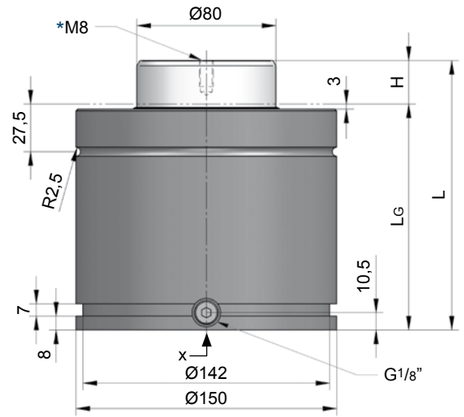
# GN.07500

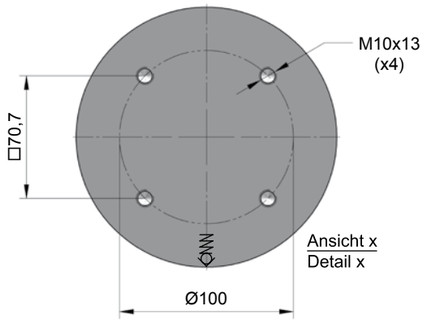
**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |



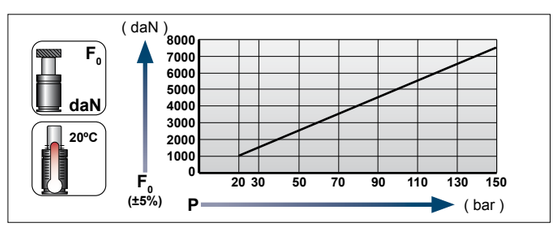

> Vmax

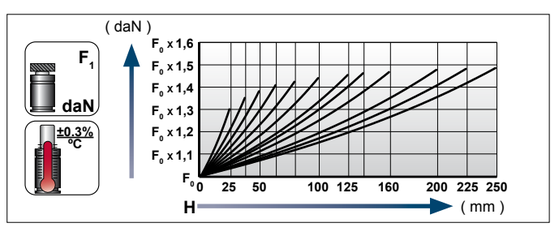
Flex Rod

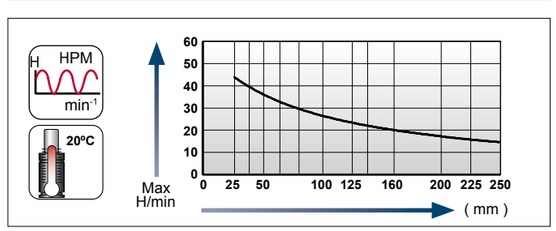
INFO [Azol.19]

GN.07500.125

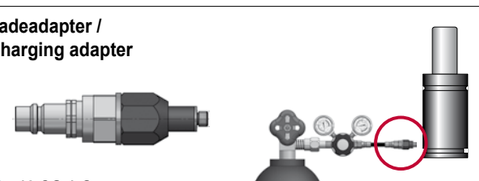
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| 025 | 155 | 130 | 7540 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| 038 | 181 | 143 | 7540 | |
| 050 | 205 | 155 | 7540 | |
| 063,5 | 232 | 168,5 | 7540 | |
| 080 | 265 | 185 | 7540 | |
| 100 | 305 | 205 | 7540 | |
| 125 | 355 | 230 | 7540 | |
| 137,5 | 380 | 242,5 | 7540 | |
| 160 | 425 | 265 | 7540 | |
| 200 | 505 | 305 | 7540 | |
| 225 | 555 | 330 | 7540 | |
| 250 | 605 | 355 | 7540 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

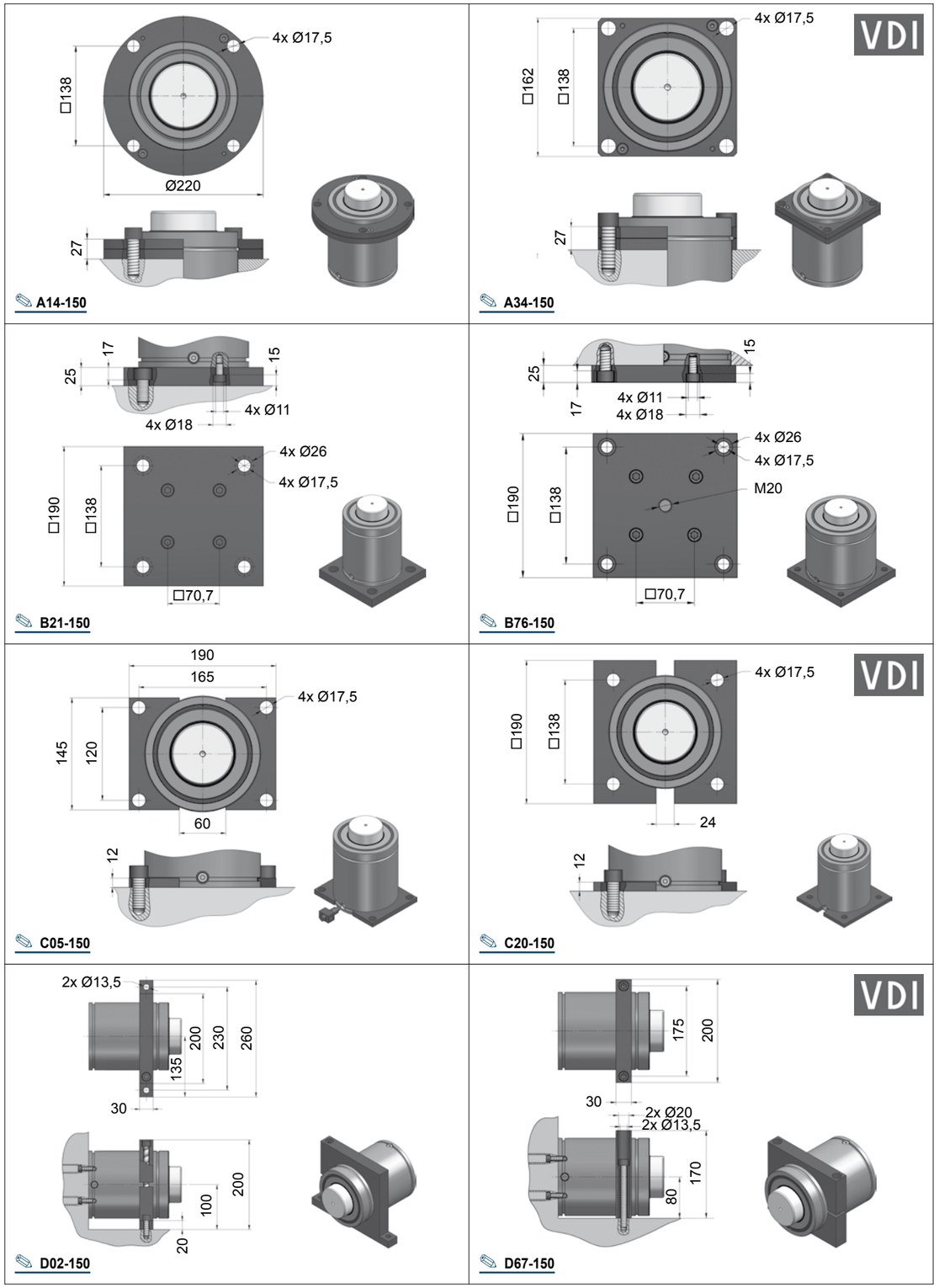


[15.03.2023]

[15.03.2023]

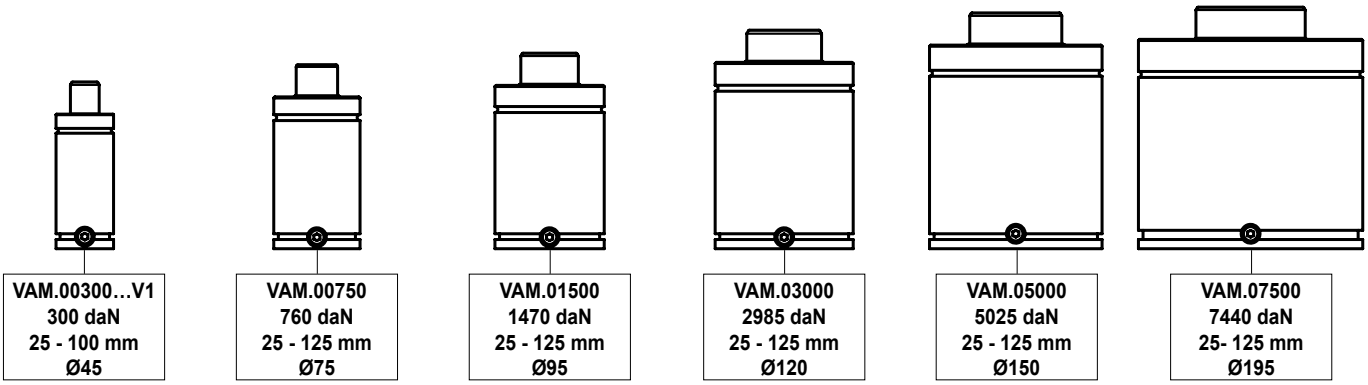


## Flansche für / Flanges for **GN.07500**



## Größenübersicht Serie VAM

## Gas spring index VAM series




## Technische Informationen Serie VAM

Die Gasdruckfedern **VAM** wurden für einen verzögerten Rückhub konstruiert. Dabei fährt die Kolbenstange langsamer zurück als das Werkzeugoberteil.

**Ablauf:** Die Gasdruckfedern **VAM** werden wie herkömmliche Federn unter Last zusammengefahren, wobei die Kolbenstange beim Rückhub auf den ersten ca. 5 mm „normal“, dann verzögert zurückfährt.
Um die Gasdruckfedern den jeweiligen, spezifischen Kundenanforderungen entsprechend konzipieren zu können, nutzen Sie bitte das Anforderunsformular auf Seite **Azol. VAM.14**.
**Anwendungsfälle:** Überall, wo ein gleichzeitiger Rückhub von Pressenoberteil und Gasdruckfeder(n) **VAM** möglicherweise zur Blechteil-Beschädigung führen könnte.

**Vorteile** im Vergleich zu anderen Verzögerungssystemen:
- Autonome Zylinder ohne Verschlauchung, u.ä.
- Einfacher Einbau.
- Gesteigerte Produktivität.
- Kosteneinsparung, da keine komplexen Systeme (Peripherie).

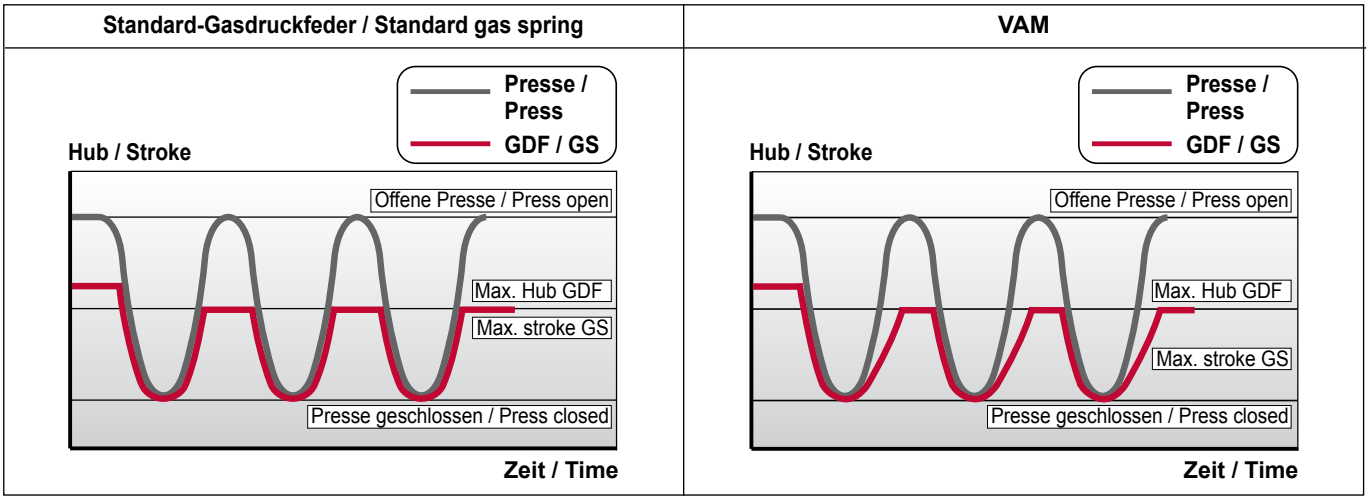
## Technical information VAM series

**VAM** gas springs are designed to achieve a delayed effect. The piston-rod-return is slower than the return of the upper half of the die.

**Performance:** Gas springs of the **VAM** family are compressed like regular ones, but their rod-return tuwards the extended 0-position happens delayed, meaning: the rod-return is slower (but the first 5 mm), than usually.
In order to design the custom-specific internal layout of these delayed gas springs, please use the request form on page **Azol.VAM.15**.

**Applications: VAM** gas springs satisfy customer needs in applications, that require a slow(er) return of the gas spring piston rods in order to avoid damage of the final sheet-metal products.

**Advantages: VAM** gas springs represent a very interesting alternative in comparison to other complex time-delayed systems:
- Self contained gas springs with higher reliability.
- Easy implementation.
- Increases productivity.
- Cost savings to alternatives.




## SICHERHEITSSYSTEME

**Überdruck**

**Überhub**

**Freier Rückhub**

Information über die Sicherheitssysteme (Überdruck, Überhub, Freier Rückhub) erhalten Sie im Vorspann auf der Seite Azol.22.

## SAFETY SYSTEMS

**Over-Pressure**

**Over-Stroke**

**Over-Speed**

Information about the safety systems (over-pressure, over-stroke, over-speed) can be found in the introductory part on page Azol.22.

# VAM.00300…V1

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

Gasdruckfedern mit verzögertem Rückhub. Die Verzögerungszeit ist abhängig vom benötigten Arbeitshub. Die Berechnung der maximalen Verzögerungszeit (**K**) erfolgt nach der Formel:
**K = 0,015 x Arbeitshub in (mm)**
Verzögerungszeit bei Bestellung bitte angeben.

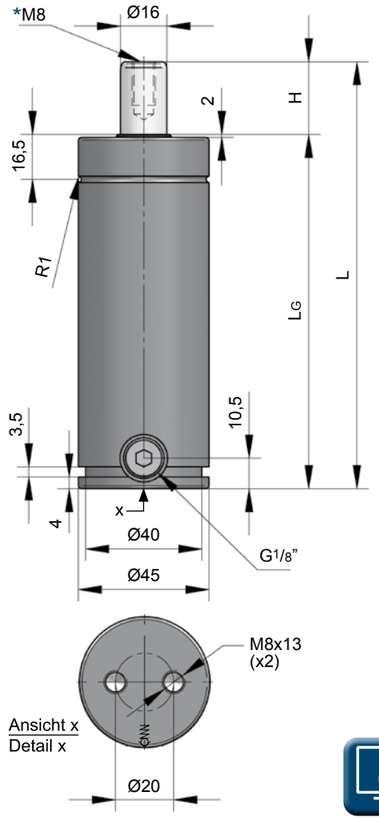
Erforderliche Angaben siehe Seite **Azol.VAM.14**!

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

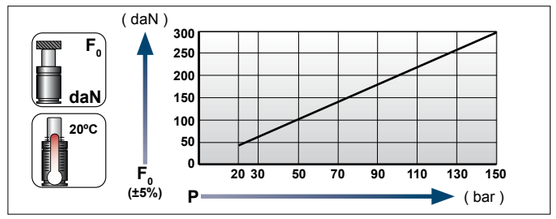
Gas springs with delayed return stroke, depending in part on the working stroke.
The maximum time for the return-stroke (**K**) is calculated by:
**K = 0,015 x working stroke (mm)**
When ordering please specify the real working stroke and the desired time of delay.

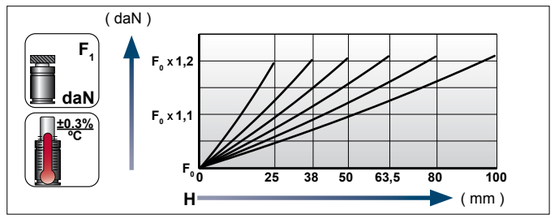
Required data see page **Azol. VAM.15**!

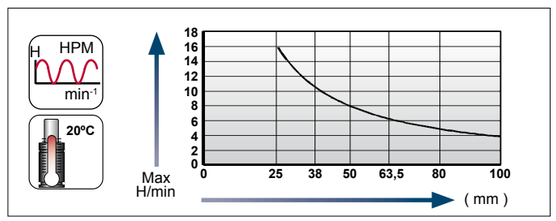



**VAM.00300.050.V1**

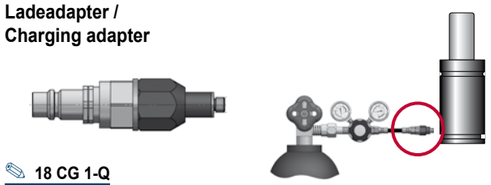
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 135 | 110 | 300 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **038** | 161 | 123 | 300 | |
| **050** | 185 | 135 | 300 | |
| **063,5** | 212 | 148,5 | 300 | |
| **080** | 245 | 165 | 300 | |
| **100** | 285 | 185 | 300 | |




**Ladeadapter / Charging adapter**



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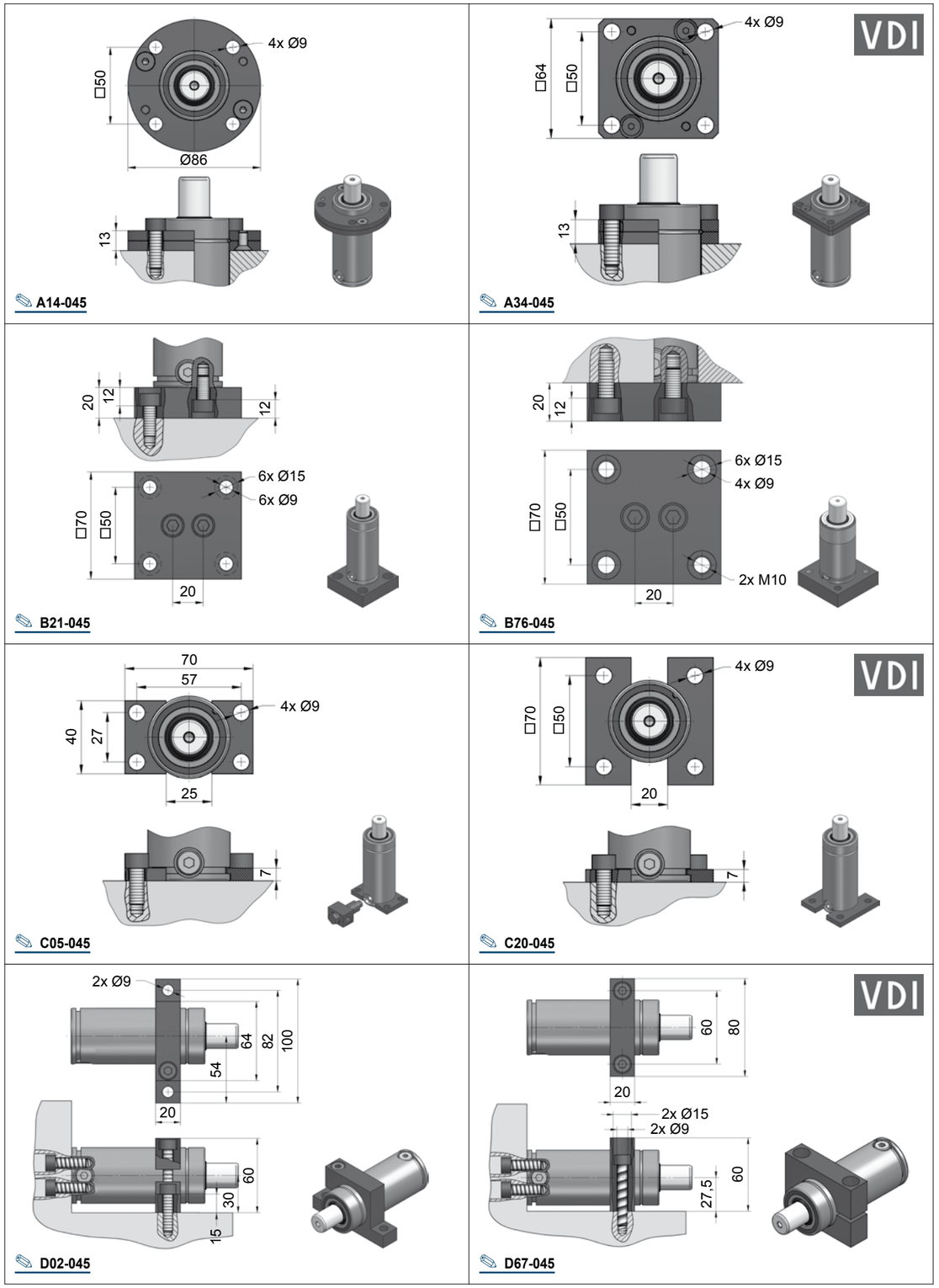
[18.03.2023]



## Flansche für / Flanges for **VAM.00300…V1**



# VAM.00750

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 75 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

**Specifications:**

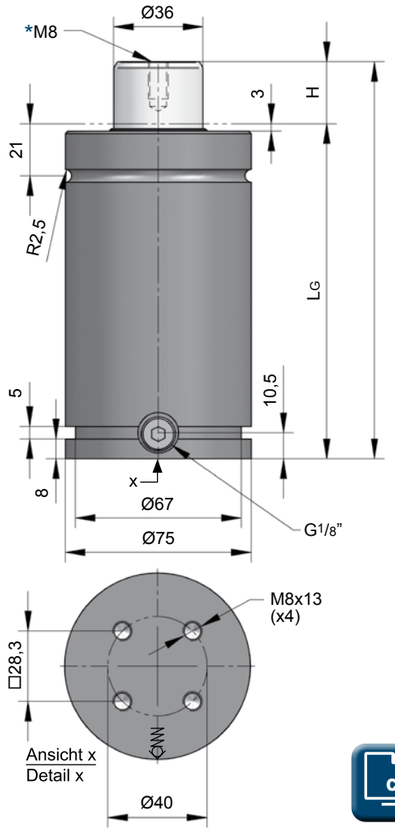
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 75 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

Gasdruckfedern mit verzögertem Rückhub. Die Verzögerungszeit ist abhängig vom benötigten Arbeitshub. Die Berechnung der maximalen Verzögerungszeit (**K**) erfolgt nach der Formel:
**K = 0,062 x Arbeitshub in (mm)**
Verzögerungszeit bei Bestellung bitte angeben.

Erforderliche Angaben siehe Seite **Azol.VAM.14**!

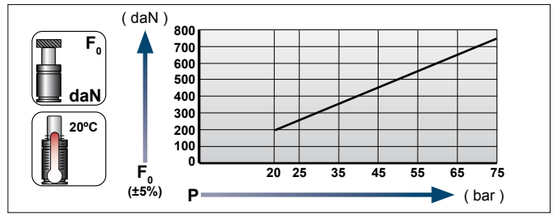
Gas springs with delayed return stroke, depending in part on the working stroke.
The maximum time for the return-stroke (**K**) is calculated by:
**K = 0,062 x working stroke (mm)**
When ordering please specify the real working stroke and the desired time of delay.

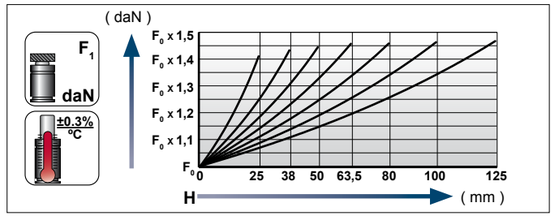
Required data see page **Azol. VAM.15**!

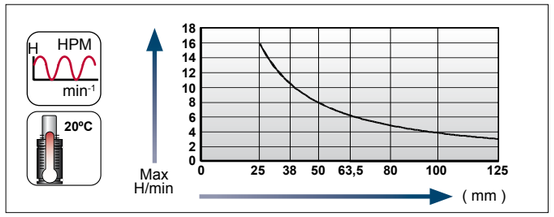



**VAM.00750.050**

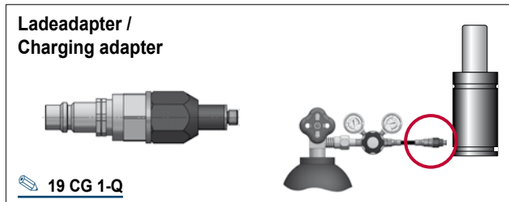
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (75 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 160 | 135 | 760 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **038** | 186 | 148 | 760 | |
| **050** | 210 | 160 | 760 | |
| **063,5** | 237 | 173,5 | 760 | |
| **080** | 270 | 190 | 760 | |
| **100** | 310 | 210 | 760 | |
| **125** | 360 | 235 | 760 | |




**Ladeadapter / Charging adapter**



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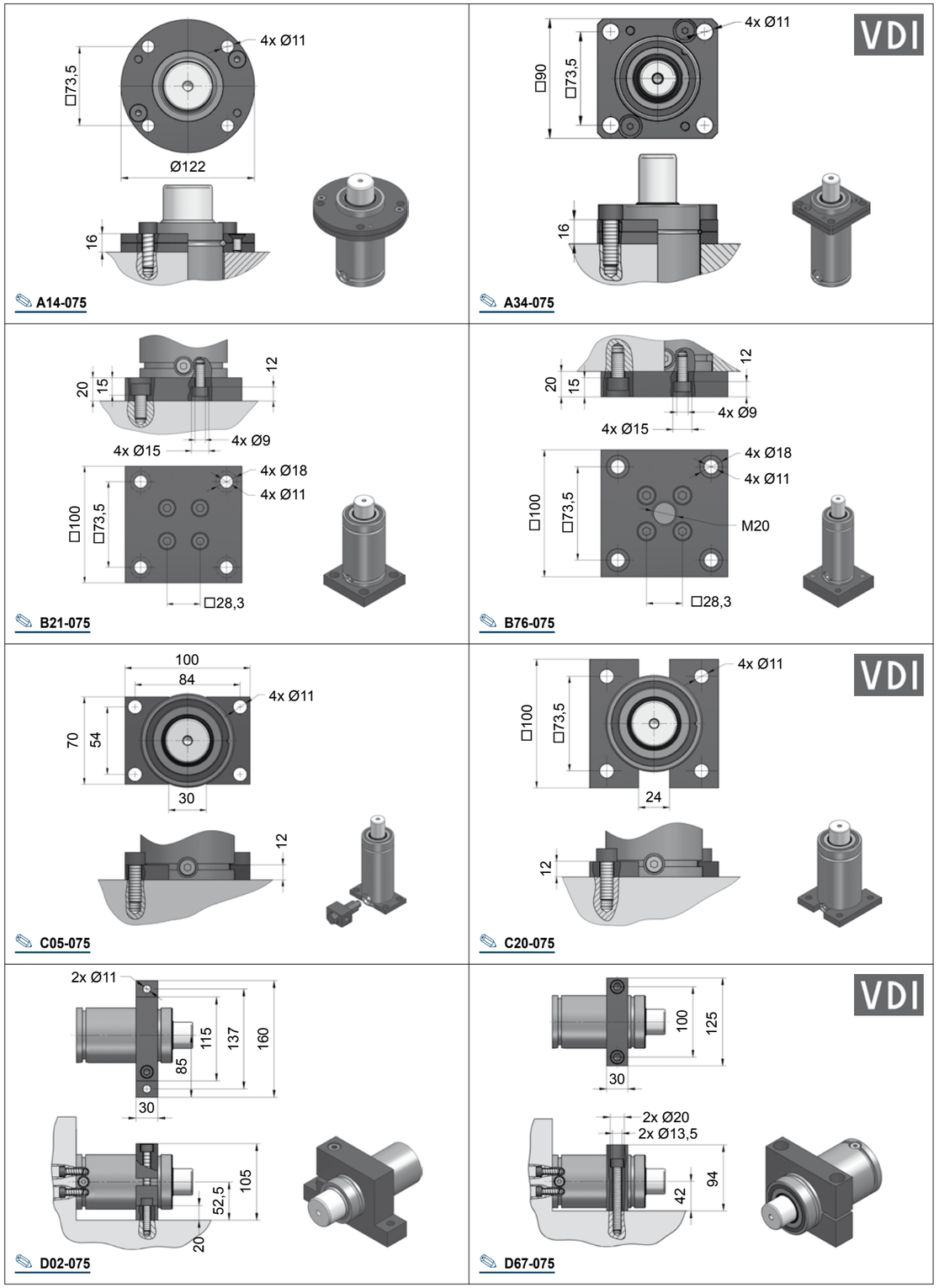
[18.03.2023]

[18.03.2023]



## Flansche für / Flanges for **VAM.00750**



# VAM.01500

**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 75 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

Gasdruckfedern mit verzögertem Rückhub. Die Verzögerungszeit ist abhängig vom benötigten Arbeitshub. Die Berechnung der maximalen Verzögerungszeit (**K**) erfolgt nach der Formel:
**K = 0,09 x Arbeitshub in (mm)**
Verzögerungszeit bei Bestellung bitte angeben.

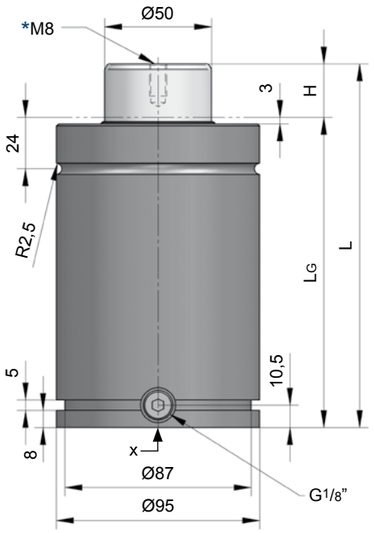
Erforderliche Angaben siehe Seite **Azol.VAM.14**!

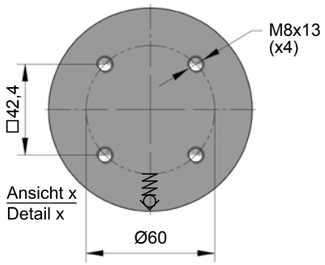
**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 75 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

Gas springs with delayed return stroke, depending in part on the working stroke.
The maximum time for the return-stroke (**K**) is calculated by:
**K = 0,09 x working stroke (mm)**
When ordering please specify the real working stroke and the desired time of delay.

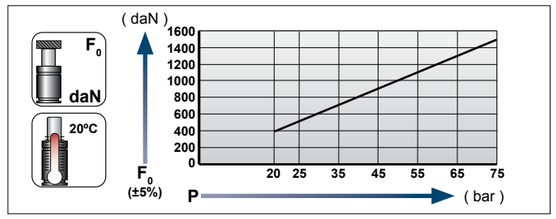
Required data see page **Azol. VAM.15**!

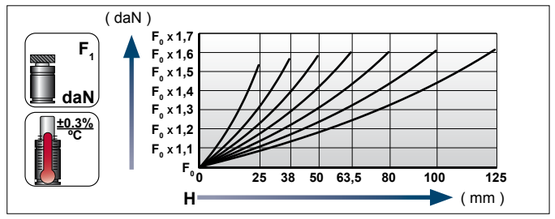


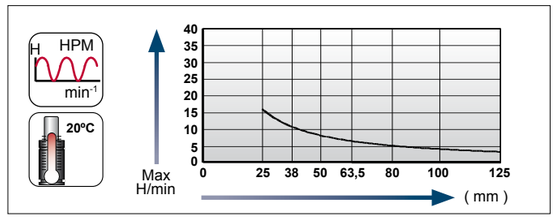




**VAM.01500.080**

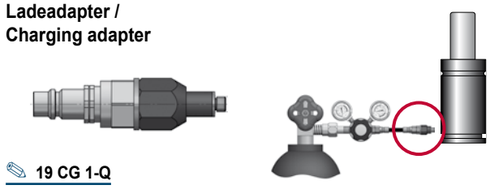
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (75 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 170 | 145 | 1470 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **038** | 196 | 158 | 1470 | |
| **050** | 220 | 170 | 1470 | |
| **063,5** | 247 | 183,5 | 1470 | |
| **080** | 280 | 200 | 1470 | |
| **100** | 320 | 220 | 1470 | |
| **125** | 370 | 245 | 1470 | |




**Ladeadapter / Charging adapter**



**19 CG 1-Q**

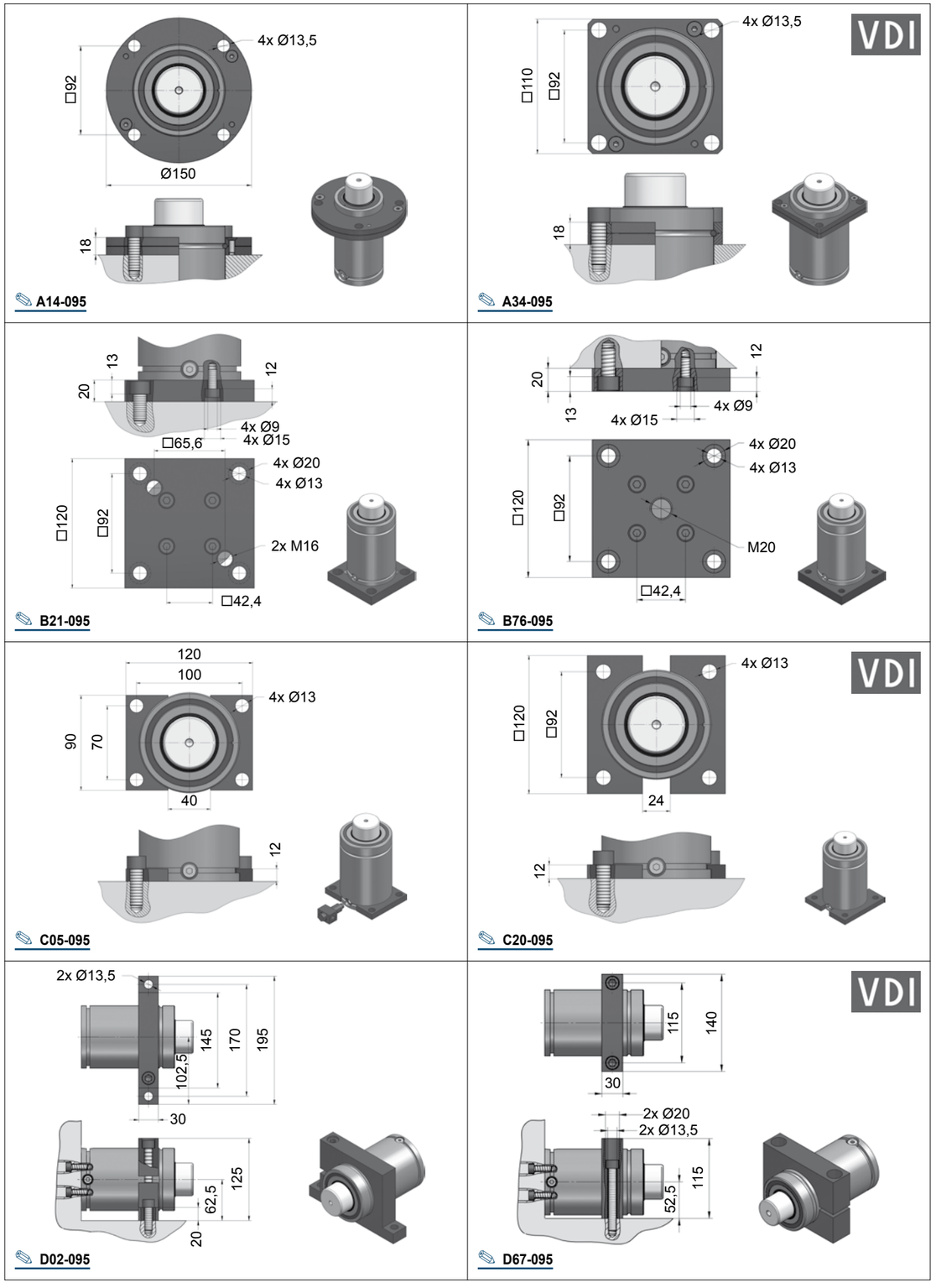


[18.03.2023]

[18.03.2023]



## Flansche für / Flanges for **VAM.01500**



# VAM.03000

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 90 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

Gasdruckfedern mit verzögertem Rückhub. Die Verzögerungszeit ist abhängig vom benötigten Arbeitshub. Die Berechnung der maximalen Verzögerungszeit (**K**) erfolgt nach der Formel:
**K = 0,131 x Arbeitshub in (mm)**
Verzögerungszeit bei Bestellung bitte angeben.

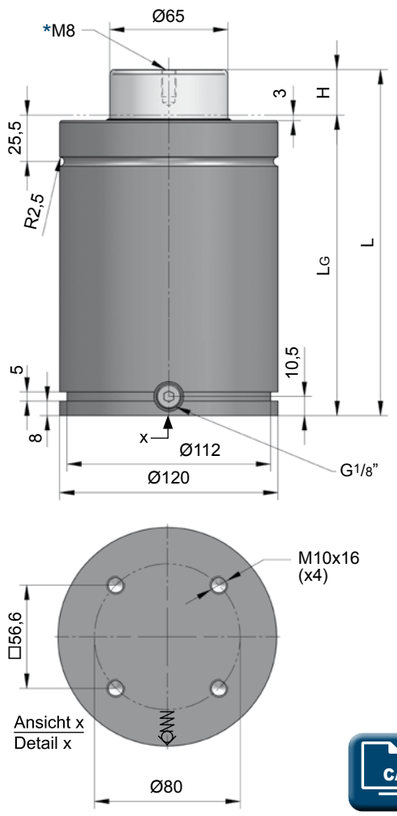
Erforderliche Angaben siehe Seite **Azol.VAM.14**!

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 90 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

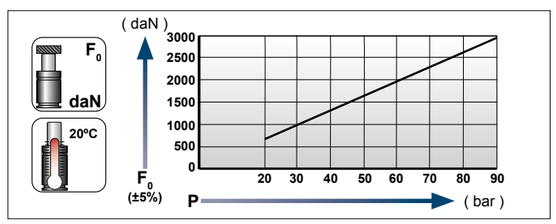
Gas springs with delayed return stroke, depending in part on the working stroke.
The maximum time for the return-stroke (**K**) is calculated by:
**K = 0,131 x working stroke (mm)**
When ordering please specify the real working stroke and the desired time of delay.

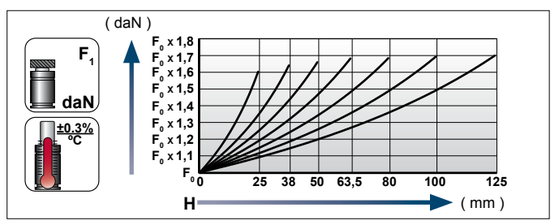
Required data see page **Azol. VAM.15**!

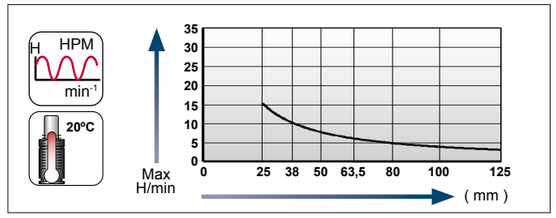



**VAM.03000.080**

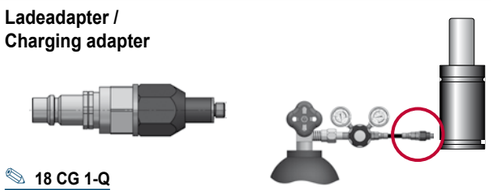
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (90 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 190 | 165 | 2985 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **038** | 216 | 178 | 2985 | |
| **050** | 240 | 190 | 2985 | |
| **063,5** | 267 | 203,5 | 2985 | |
| **080** | 300 | 220 | 2985 | |
| **100** | 340 | 240 | 2985 | |
| **125** | 390 | 265 | 2985 | |




**Ladeadapter / Charging adapter**



**18 CG 1-Q**

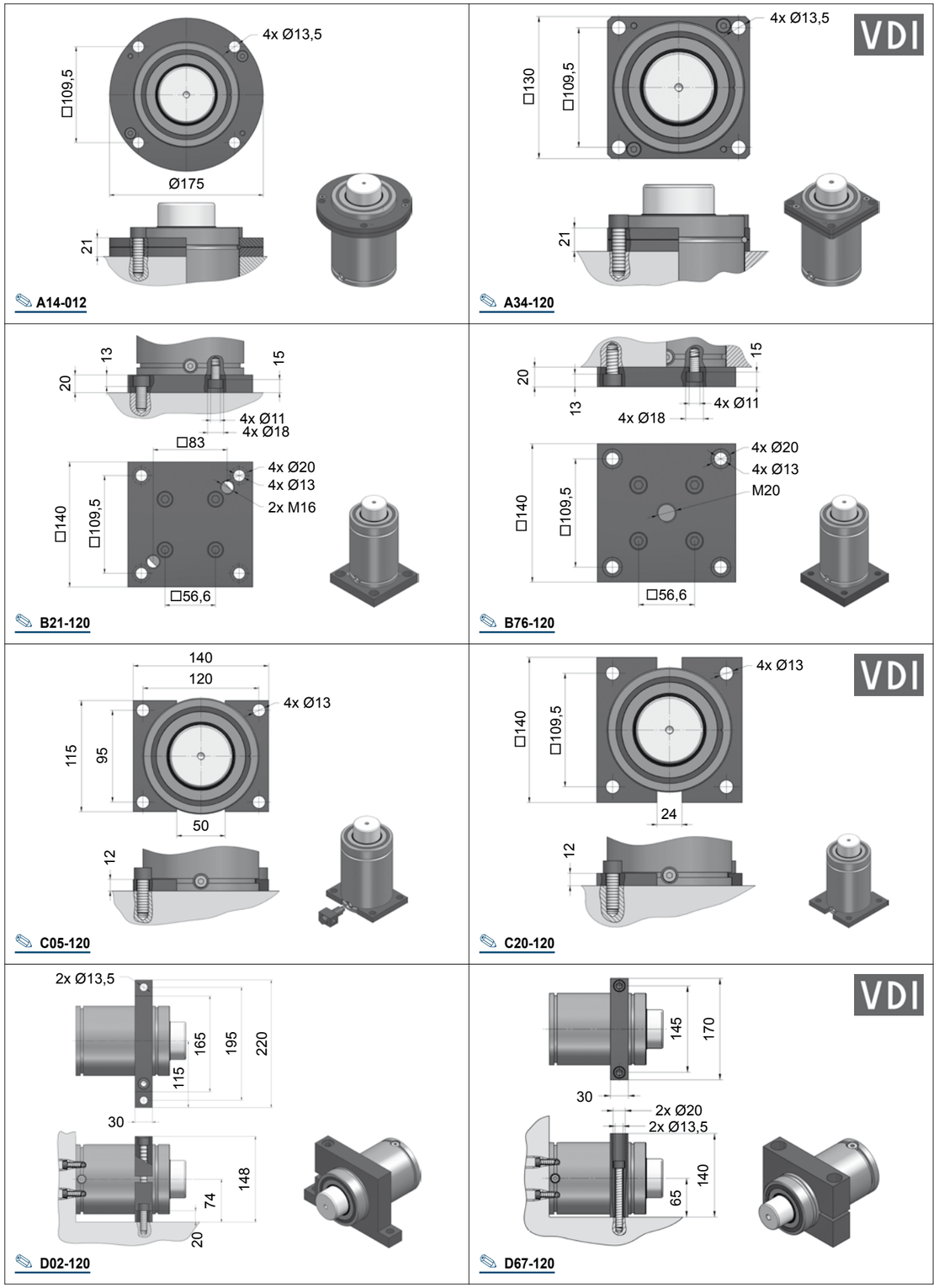


[18.03.2023]

[18.03.2023]



## Flansche für / Flanges for **VAM.03000**






[AG]

[AG]

# VAM.05000

**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 100 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

Gasdruckfedern mit verzögertem Rückhub. Die Verzögerungszeit ist abhängig vom benötigten Arbeitshub. Die Berechnung der maximalen Verzögerungszeit (**K**) erfolgt nach der Formel:
**K = 0,214 x Arbeitshub in (mm)**
Verzögerungszeit bei Bestellung bitte angeben.

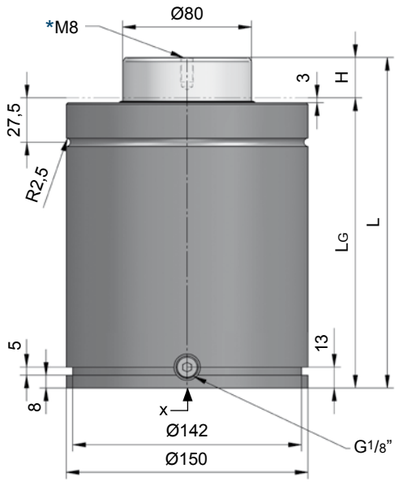
Erforderliche Angaben siehe Seite **Azol.VAM.14**!

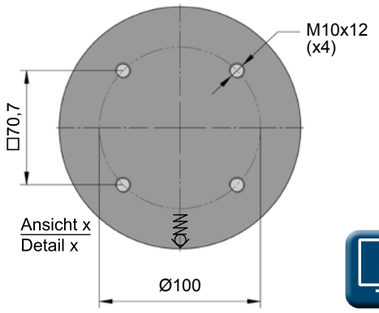
**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 100 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

Gas springs with delayed return stroke, depending in part on the working stroke.
The maximum time for the return-stroke (**K**) is calculated by:
**K = 0,214 x working stroke (mm)**
When ordering please specify the real working stroke and the desired time of delay.

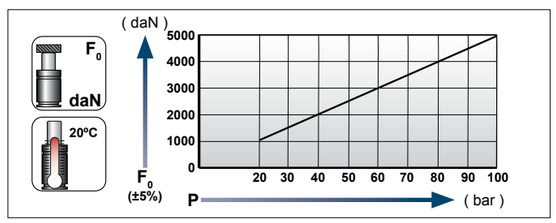
Required data see page **Azol. VAM.15**!

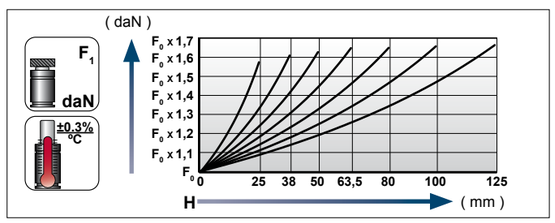


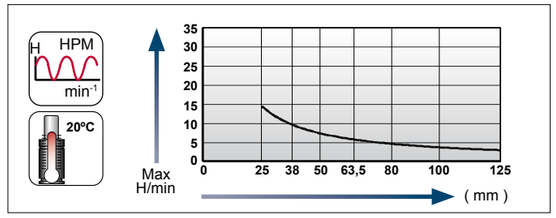




**VAM.05000.100**

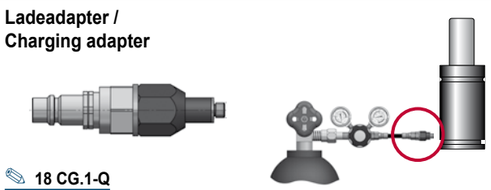
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (100 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 205 | 180 | 5025 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **038** | 231 | 193 | 5025 | |
| **050** | 255 | 205 | 5025 | |
| **063,5** | 282 | 218,5 | 5025 | |
| **080** | 315 | 235 | 5025 | |
| **100** | 355 | 255 | 5025 | |
| **125** | 405 | 280 | 5025 | |




**Ladeadapter / Charging adapter**



18 CG.1-Q

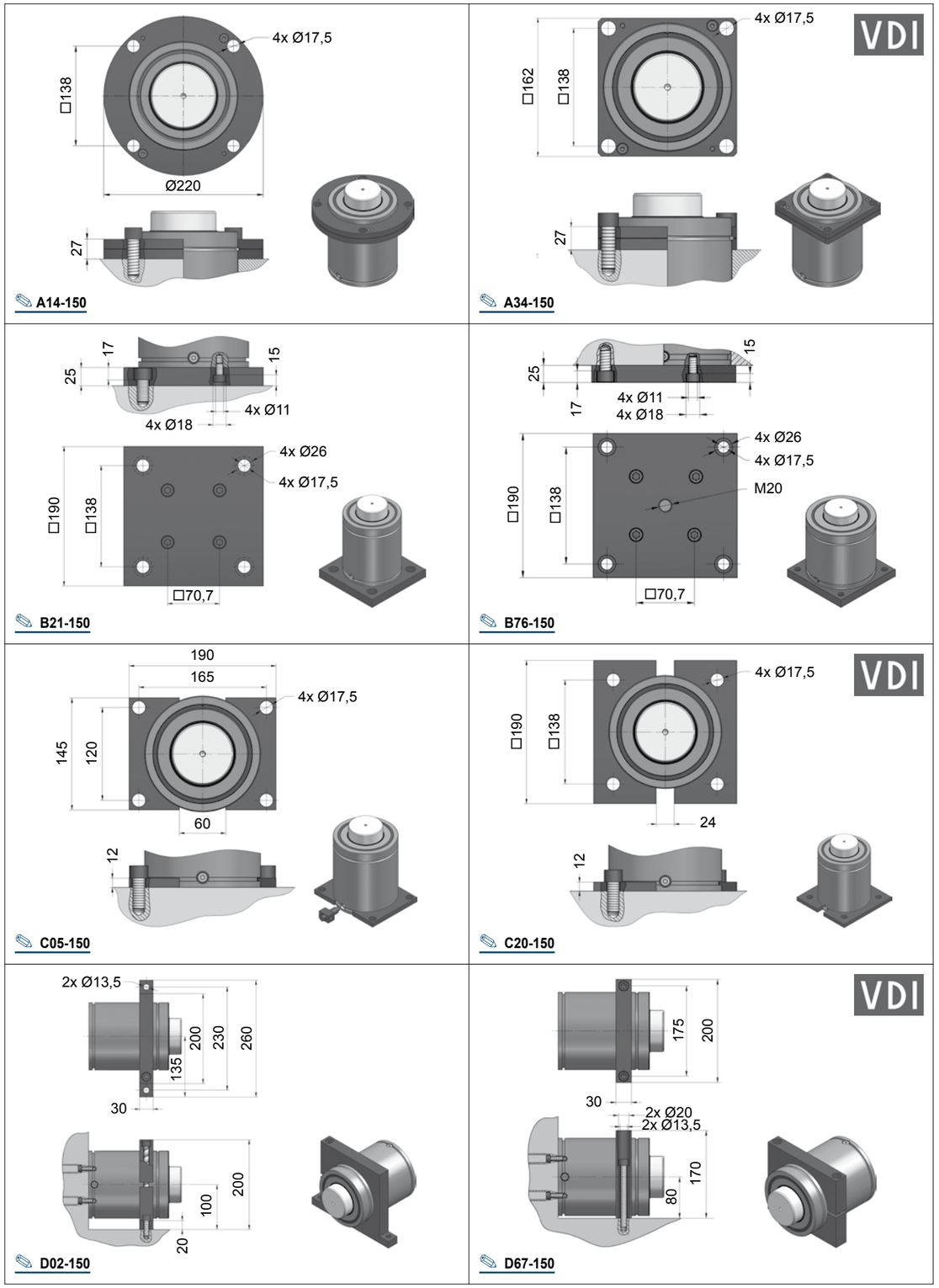




[18.03.2023]



## Flansche für / Flanges for **VAM.05000**



# VAM.07500

**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 105 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

Gasdruckfedern mit verzögertem Rückhub. Die Verzögerungszeit ist abhängig vom benötigten Arbeitshub. Die Berechnung der maximalen Verzögerungszeit (**K**) erfolgt nach der Formel:
**K = 0,289 x Arbeitshub in (mm)**
Verzögerungszeit bei Bestellung bitte angeben.

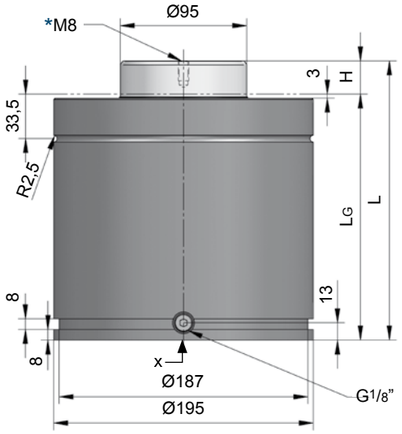
Erforderliche Angaben siehe Seite **Azol.VAM.14**!

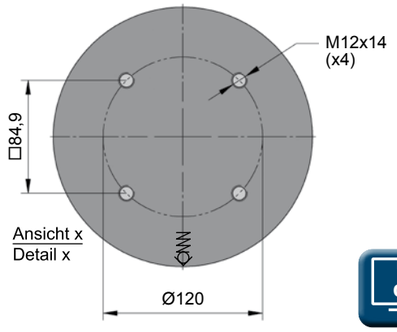
**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 105 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

Gas springs with delayed return stroke, depending in part on the working stroke.
The maximum time for the return-stroke (**K**) is calculated by:
**K = 0,289 x working stroke (mm)**
When ordering please specify the real working stroke and the desired time of delay.

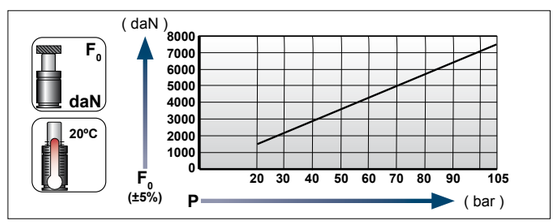
Required data see page **Azol. VAM.15**!

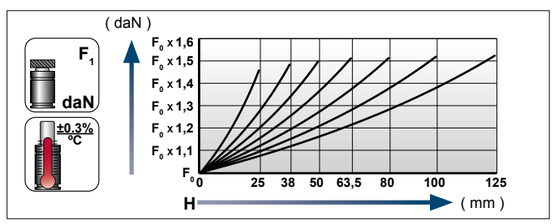


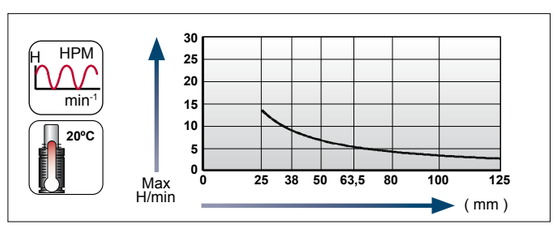




**VAM.07500.125**

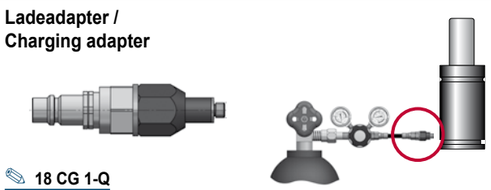
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (105 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 210 | 185 | 7440 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **038** | 236 | 198 | 7440 | |
| **050** | 260 | 210 | 7440 | |
| **063,5** | 287 | 223,5 | 7440 | |
| **080** | 320 | 240 | 7440 | |
| **100** | 360 | 260 | 7440 | |
| **125** | 410 | 285 | 7440 | |




**Ladeadapter / Charging adapter**



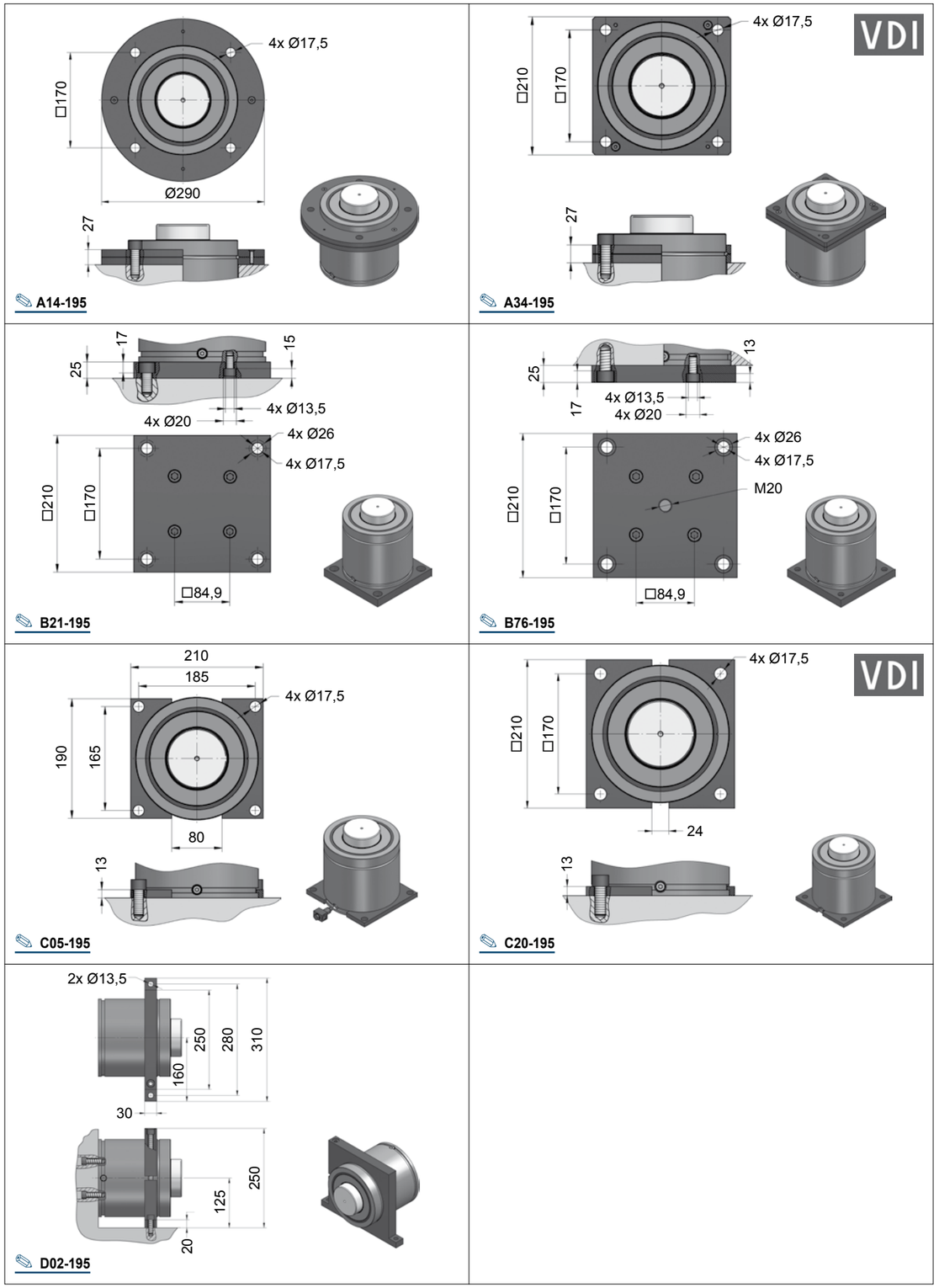
**18 CG 1-Q**



[18.03.2023]

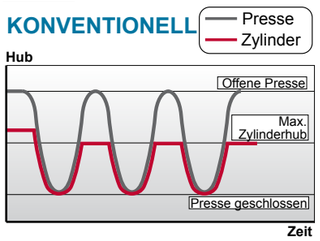


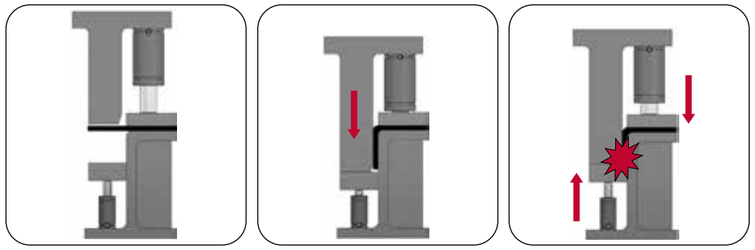
## Flansche für / Flanges for **VAM.07500**



## ZIEL

**KONVENTIONELL**

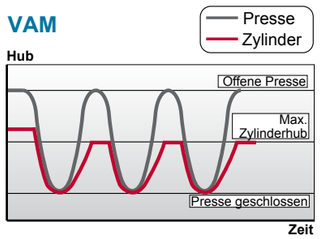


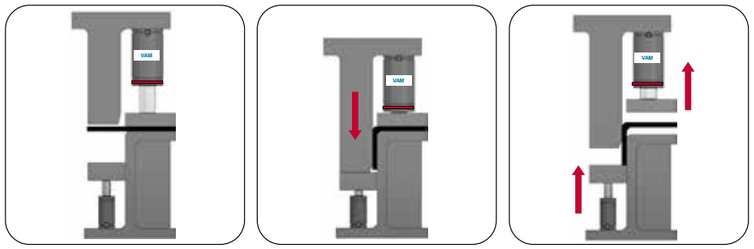



Einige Arbeitsvorgänge beinhalten, dass die Kolbenstange zu arbeiten beginnt, wenn der Niederhalter das Bauteil unten hält. Der Einsatz herkömmlicher Gasdruckfedern in diesen Situationen führt zu Verformungen im Bauteil.

## LÖSUNG

**VAM**



Wenn sich die **VAM** Verzögerungszylinder in ihre Ausgangsposition zurückbewegen, arbeiten diese auf den ersten Millimetern wie eine konventionelle Feder und verlangsamen darauffolgend. Dies ermöglicht, das Bauteil ohne Verformungen zu entnehmen.

## ERFORDERLICHE ANGABEN

- Soll die Kolbenstange im Zylinder zurückgehalten werden? **(ja / nein)**
- Gewünschte Kraft **( daN )**.....
- Nennhub **( mm )**.....
- Nutzhub **( mm )**.....
- Zu leistende Hübe pro Minute.....
- Gewünschte Verzögerungszeit **(Bsp.: 1 Sekunde)**.....
- Presswerk.....

**ABSCHICKEN**

[AG]



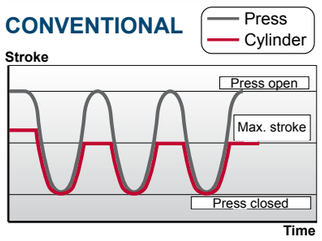
[03.08.2023]

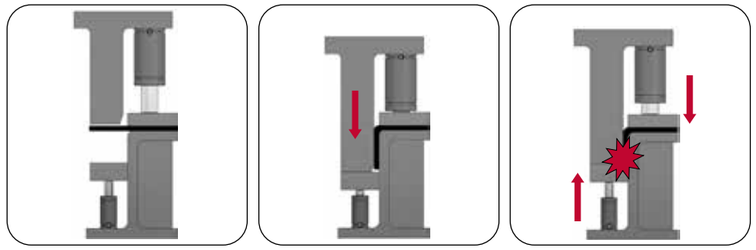
[03.08.2023]

Erforderliche Angaben
Required data
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

## CHALLENGE

**CONVENTIONAL**

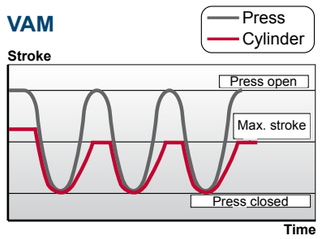


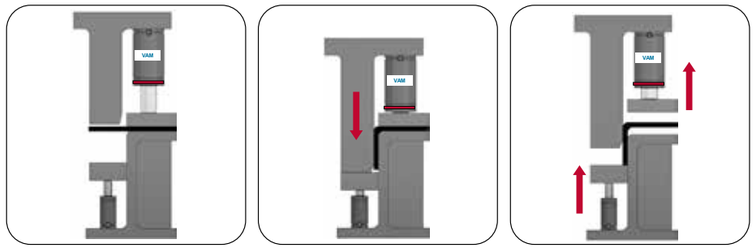



Some operations involve the ejector starting to work when the hold-down device holds down. The use of conventional gas pressure springs in these situations leads to deformations in the component.

## SOLUTION

**VAM**



When the **VAM** deceleration cylinders move back to their starting position, they work like a conventional spring for the first millimeters and then slow down. This enables the component to be removed without deformation.

## REQUIRED DATA

- Do piston rod have to keep locked down? **(yes / no)**.....
- Desired force **( daN )**.....
- Total stroke **( mm )**.....
- Stroke used **( mm )**.....
- Number of cycles per minute.....
- Desired slowed return **(eg. 1 second)**.....
- Presswerk.....

**SEND OFF**

[AG]

## Technische Information Serie CD

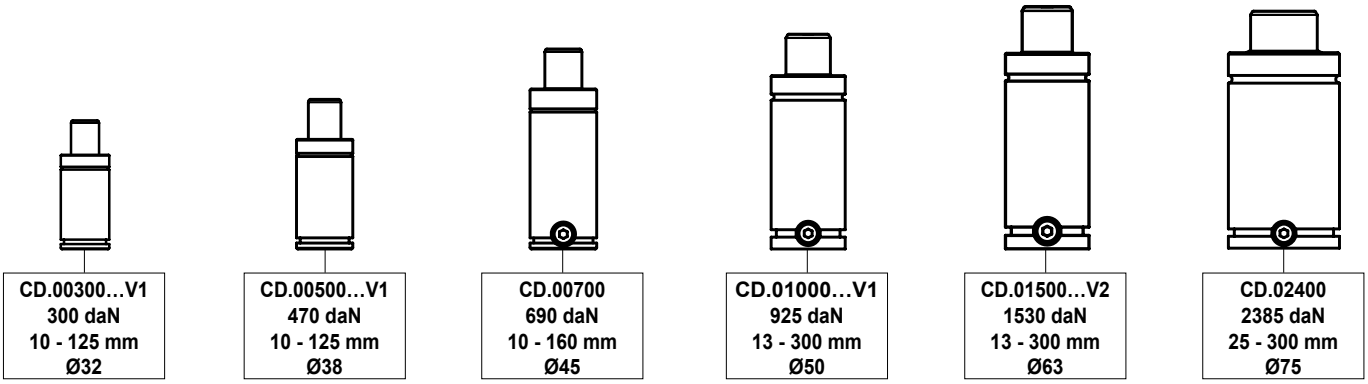
Bei der Serie **CD** handelt es sich um kompakte Gasdruckfedern, die nach VDI 3003 gefertigt werden.
Sie sind von der Körpergröße her baugleich mit der Serie **AG**, werden aber mit Kolbenstangen ausgestattet, die einen größeren Durchmesser aufweisen.
Dadurch wird erreicht, dass sie bei gleichen Abmessungen über höhere Kräfte verfügen.
Letztendlich können auf diese Weise im Werkzeugbau Gasdruckfedern eingespart werden, was zu erheblicher Kostenersparnis führt.
Die Serie **CD** verfügt über acht Größen von 300 daN bis 18500 daN Anfangskraft. Bei einer maximalen Arbeitstemperatur von 80 °C und einer maximalen Kolbengeschwindigkeit von 1,6 m/s sind diese Zylinder universell einsetzbar.

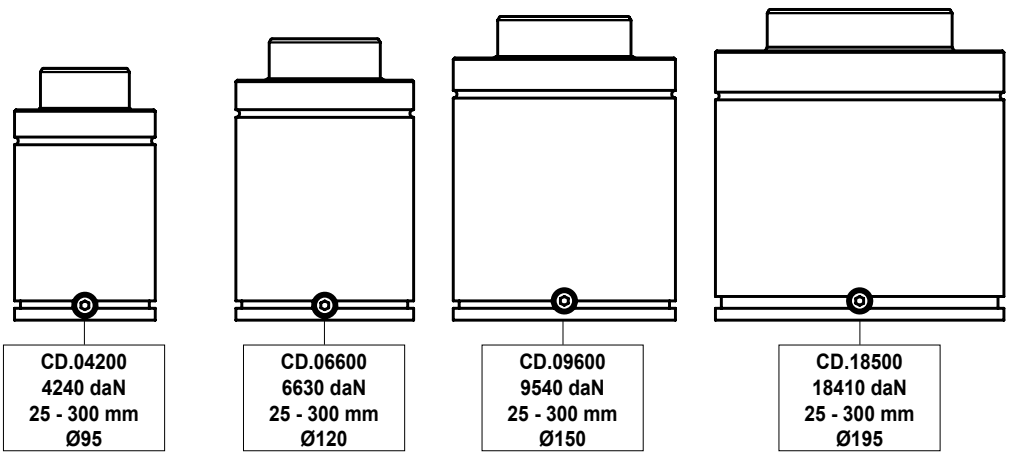
## Technical information CD series

**CD** are compact gas springs according to VDI 3003.
Body size is identical to **AG**, but the rod diameters are larger. This results in higher forces, even if the required space is the same.
By using these springs their quantity can be reduced, bottom line are cost savings.
The **CD**-series is available in 8 sizes between 300 daN and 18500 daN initial nominal force.
At a maximum working temperature of 80 degrees C and max. rod speed of 1,6 m/s they are universally useable.

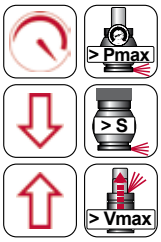
## Größenübersicht Serie CD

## Gas spring index CD series




## SICHERHEITSSYSTEME



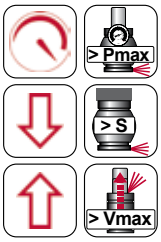

**Überdruck**

**Überhub**

**Freier Rückhub**

Information über die Sicherheitssysteme (Überdruck, Überhub, Freier Rückhub) erhalten Sie im Vorspann auf der Seite Azol.22.

## SAFETY SYSTEMS




**Over-Pressure**

**Over-Stroke**

**Over-Speed**

Information about the safety systems (over-pressure, over-stroke, over-speed) can be found in the introductory part on page Azol.22.

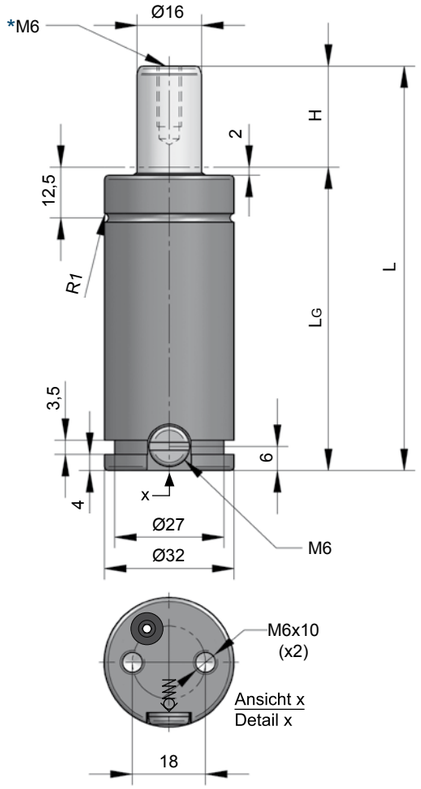
# CD.00300...V1

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

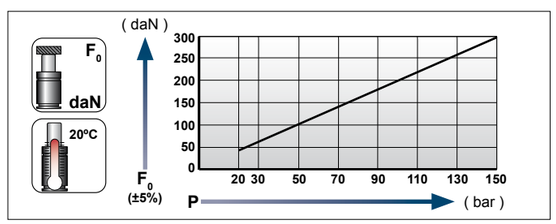
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

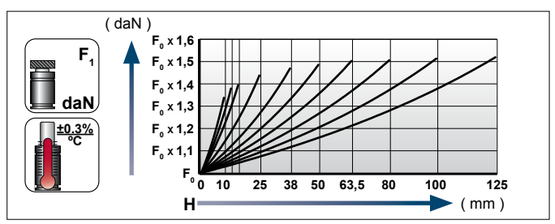


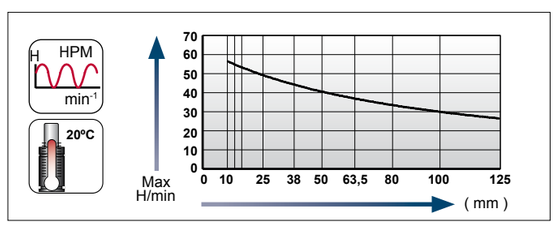

> Pmax
> S
> Vmax
INFO [Azol.19]

CD.00300.010.V1

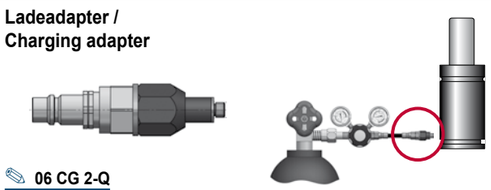
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 70 | 60 | 300 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **012,7** | 75,4 | 62,7 | 300 | |
| **016** | 82 | 66 | 300 | |
| **025** | 100 | 75 | 300 | |
| **038** | 126 | 88 | 300 | |
| **050** | 150 | 100 | 300 | |
| **063,5** | 177 | 113,5 | 300 | |
| **080** | 210 | 130 | 300 | |
| **100** | 250 | 150 | 300 | |
| **125** | 300 | 175 | 300 | |




**Ladeadapter / Charging adapter**

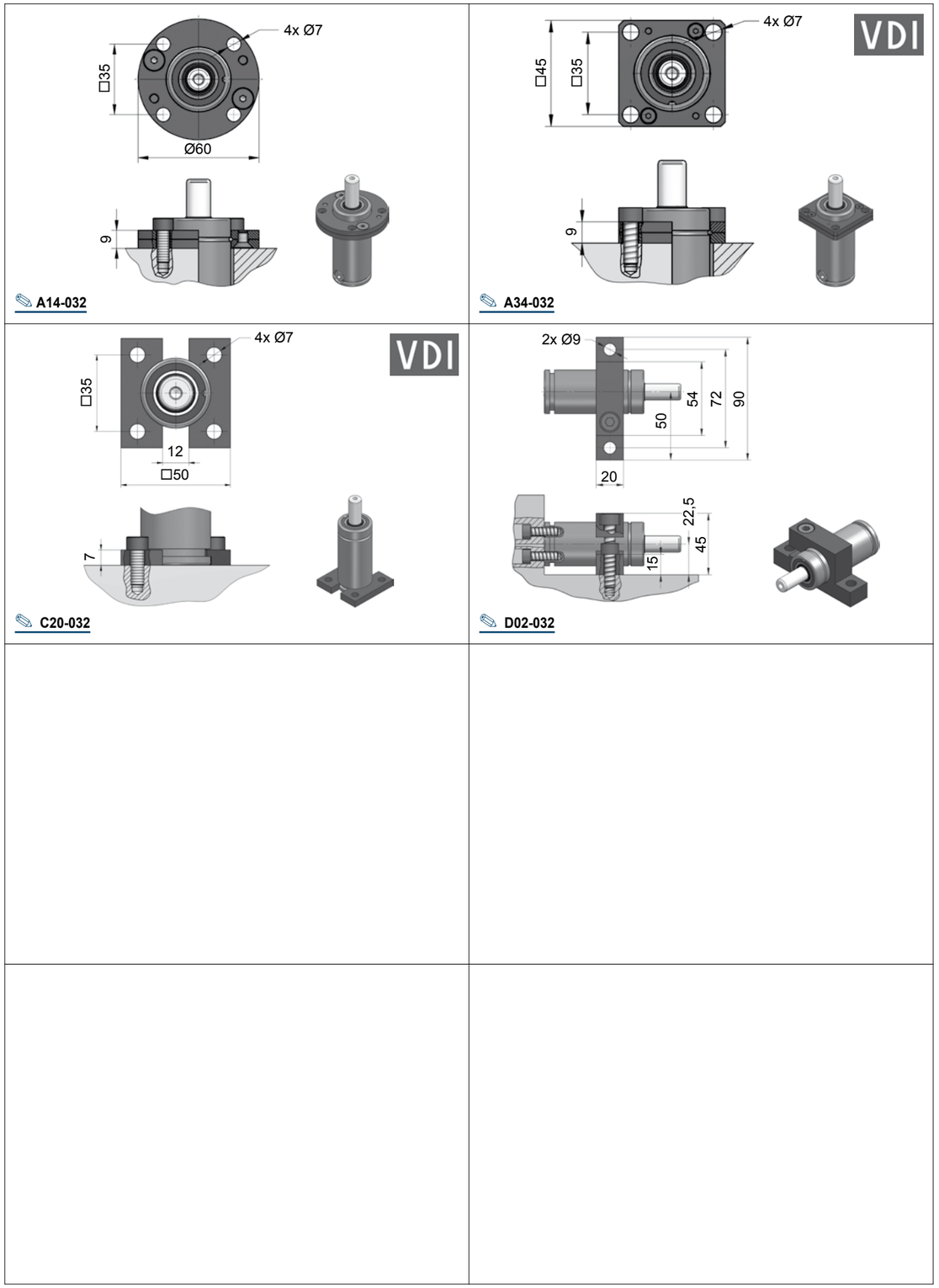


06 CG 2-Q





## Flansche für / Flanges for **CD.00300...V1**



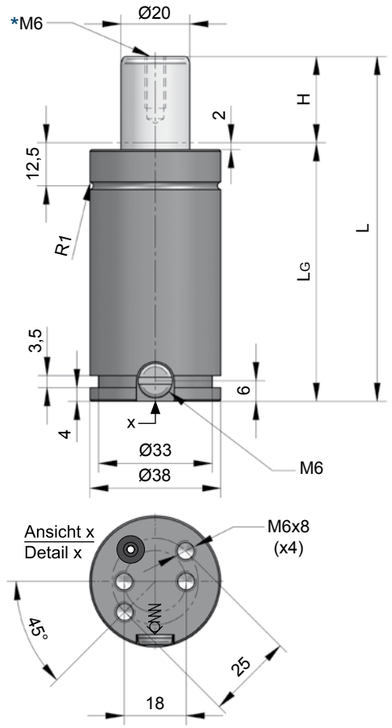
# CD.00500...V1

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

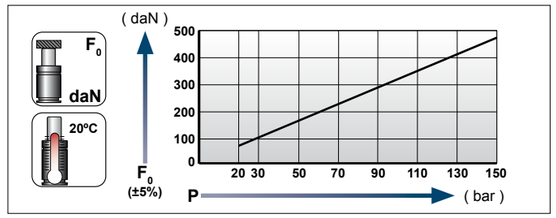
**Specifications:**

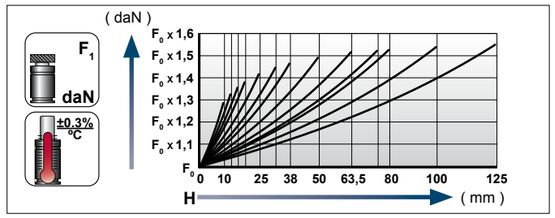
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

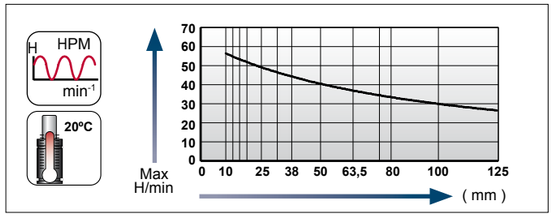



CD.00500.010.V1

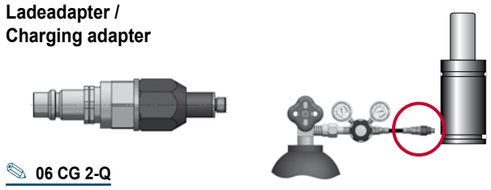
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 70 | 60 | 470 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **013** | 76 | 63 | 470 | |
| **016** | 82 | 66 | 470 | |
| **019** | 88 | 69 | 470 | |
| **025** | 100 | 75 | 470 | |
| **032** | 114 | 82 | 470 | |
| **038** | 126 | 88 | 470 | |
| **050** | 150 | 100 | 470 | |
| **063,5** | 177 | 113,5 | 470 | |
| **075** | 200 | 125 | 470 | |
| **080** | 210 | 130 | 470 | |
| **100** | 250 | 150 | 470 | |
| **125** | 300 | 175 | 470 | |




**Ladeadapter / Charging adapter**

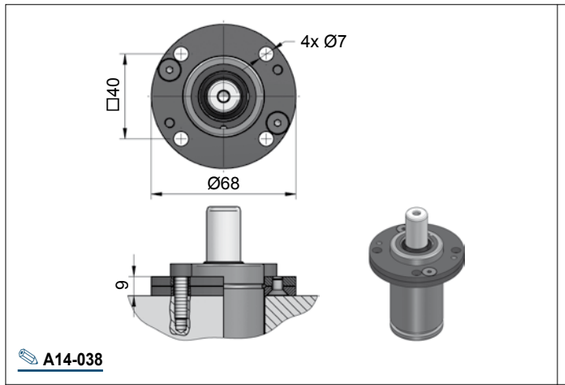


06 CG 2-Q

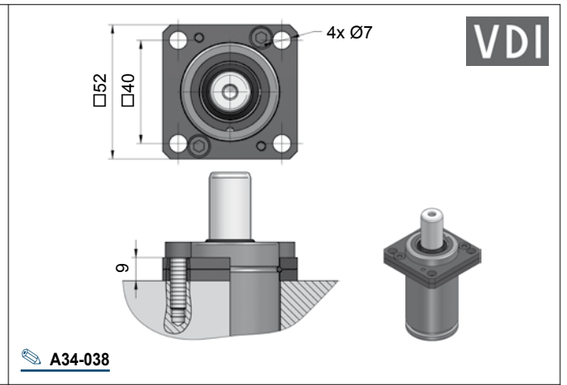




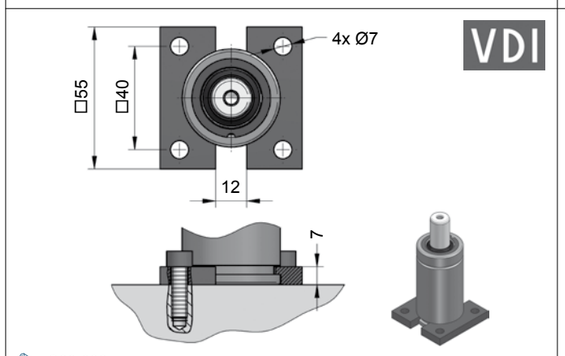
## Flansche für / Flanges for **CD.00500...V1**



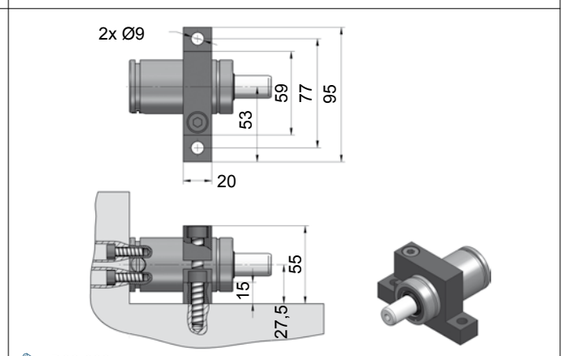

A14-038




A34-038




C20-038




D02-038

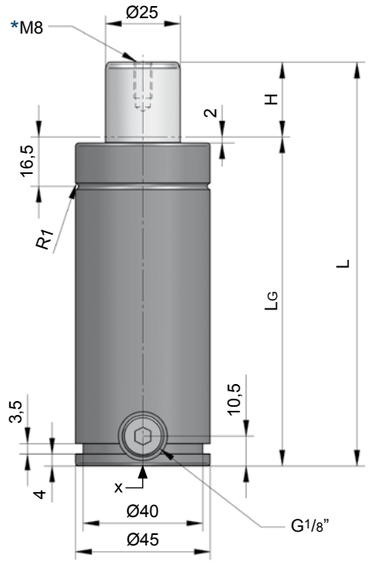
# CD.00700

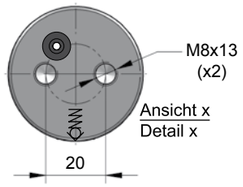
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

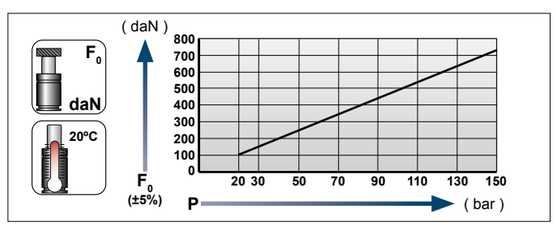
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

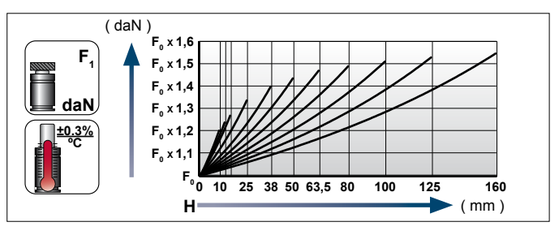


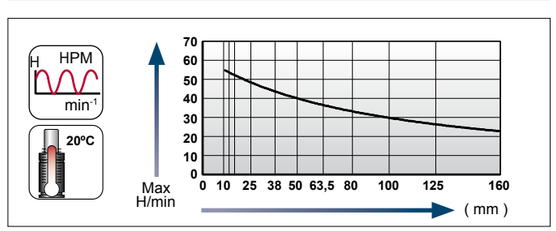




CD.00700.016

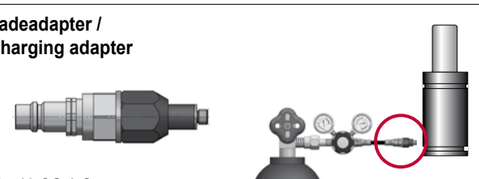
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (140 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **010** | 105 | 95 | 690 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **013** | 111 | 98 | 690 | |
| **016** | 117 | 101 | 690 | |
| **025** | 135 | 110 | 690 | |
| **038** | 161 | 123 | 690 | |
| **050** | 185 | 135 | 690 | |
| **063,5** | 212 | 148,5 | 690 | |
| **080** | 245 | 165 | 690 | |
| **100** | 285 | 185 | 690 | |
| **125** | 335 | 210 | 690 | |
| **160** | 405 | 245 | 690 | |




**Ladeadapter / Charging adapter**

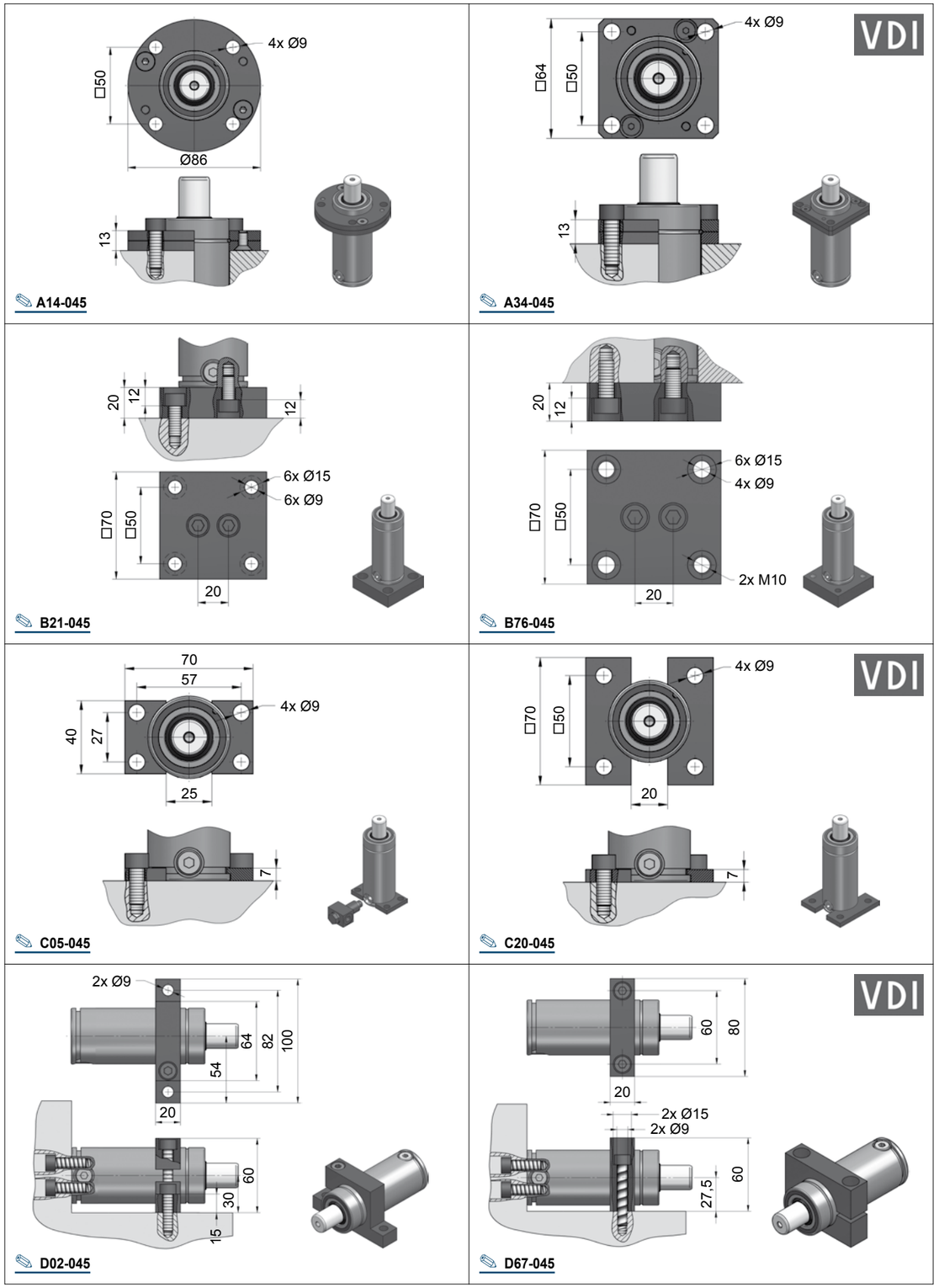


18 CG 1-Q





## Flansche für / Flanges for **CD.00700**



# CD.01000...V1

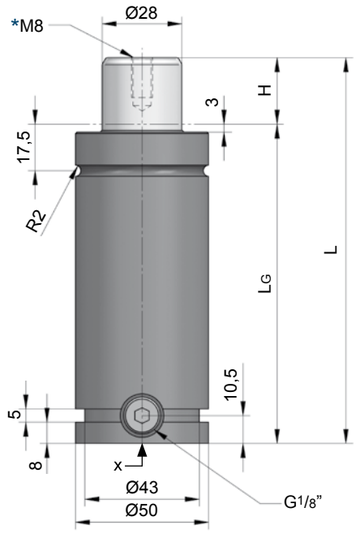
**Technische Daten:**

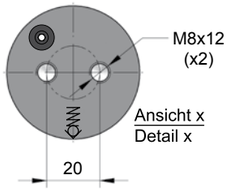
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

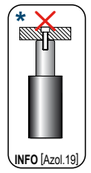
**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

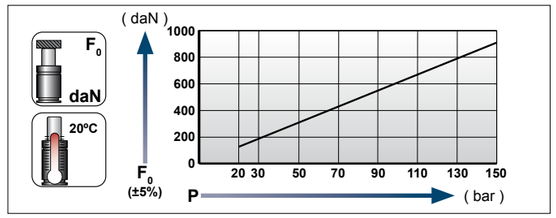
CD.01000.038.V1

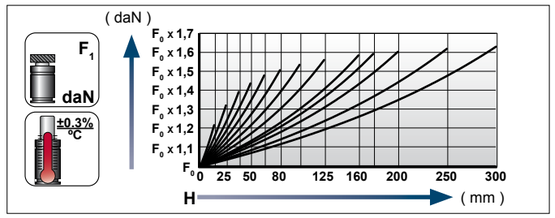


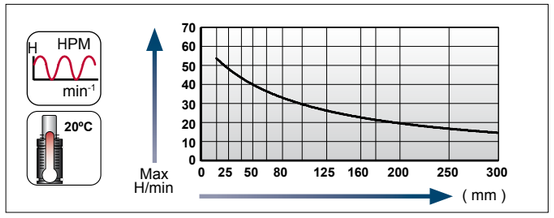



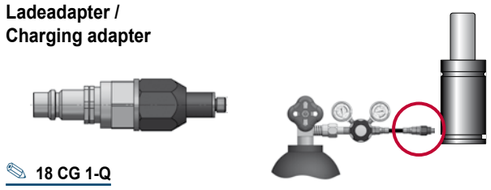

| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **013** | 121 | 108 | 925 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **025** | 145 | 120 | 925 | |
| **038** | 171 | 133 | 925 | |
| **050** | 195 | 145 | 925 | |
| **063,5** | 222 | 158,5 | 925 | |
| **080** | 255 | 175 | 925 | |
| **100** | 295 | 195 | 925 | |
| **125** | 345 | 220 | 925 | |
| **160** | 415 | 255 | 925 | |
| **175** | 445 | 270 | 925 | |
| **200** | 495 | 295 | 925 | |
| **250** | 595 | 345 | 925 | |
| **300** | 695 | 395 | 925 | |




**Ladeadapter / Charging adapter**

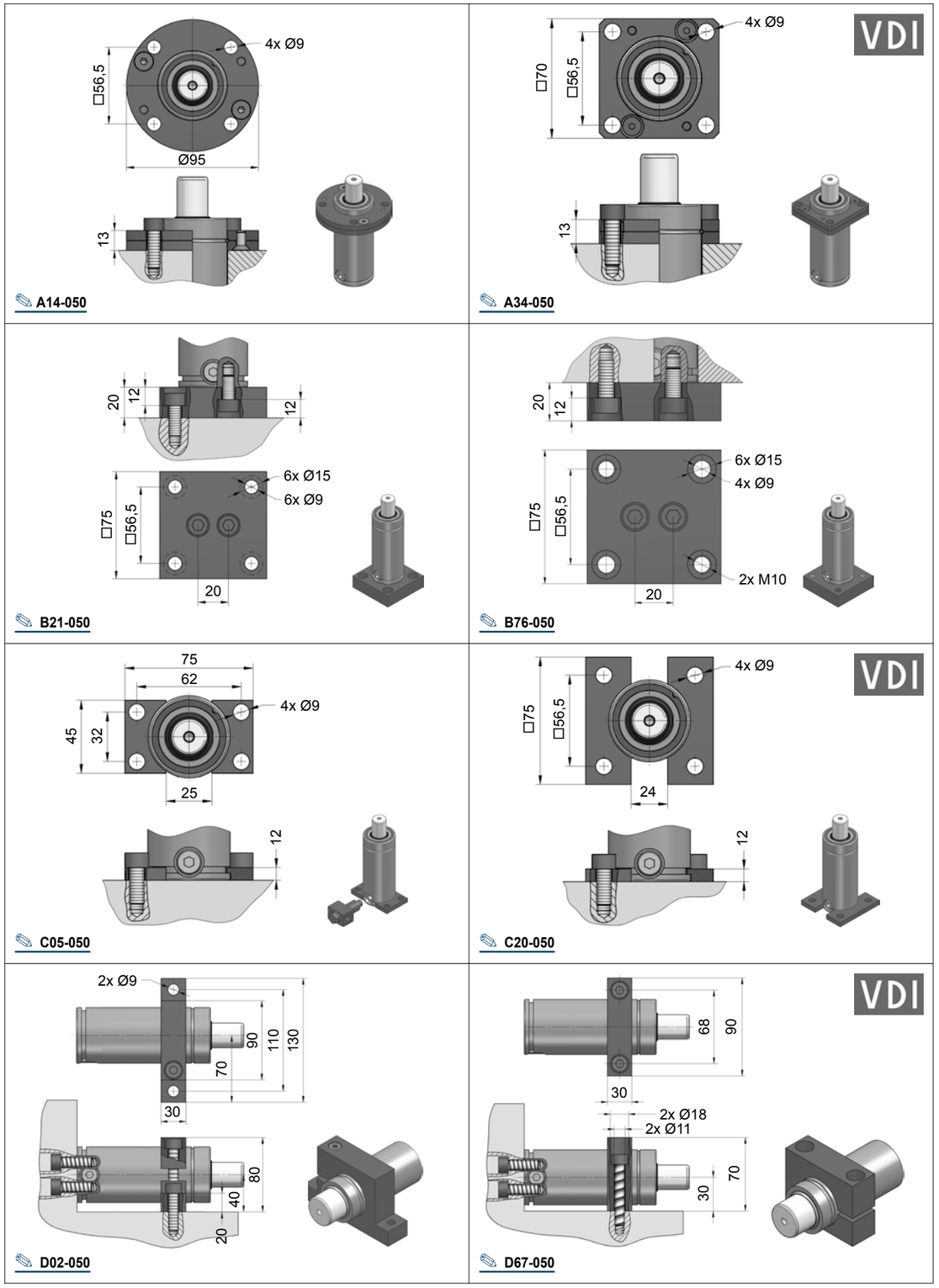


18 CG 1-Q





## Flansche für / Flanges for **CD.01000...V1**







[20.03.2023]

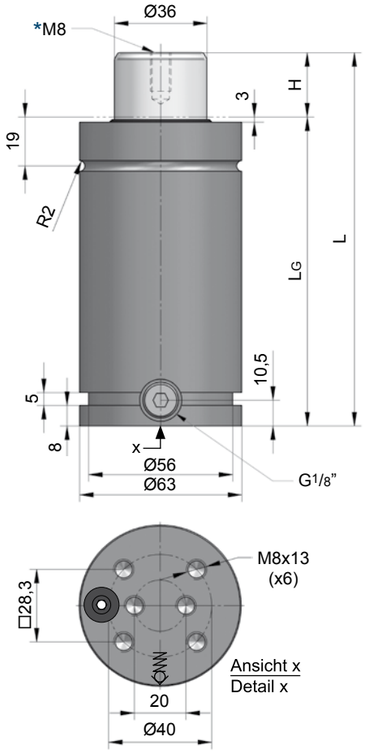
# CD.01500...V2

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

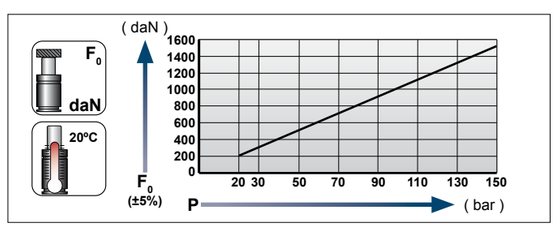
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

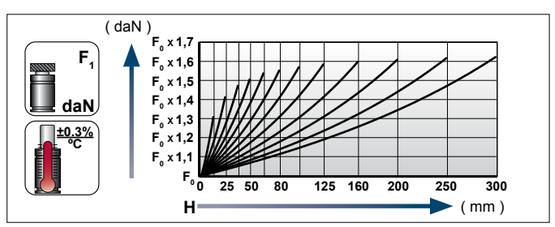


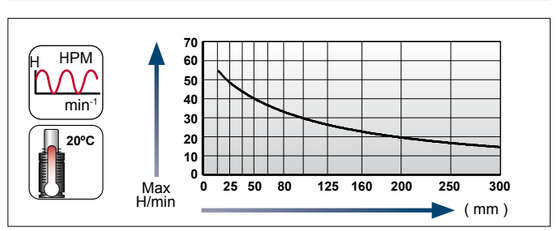

> Pmax
> S
> Vmax
Flex Rod
INFO [Azol.19]

CD.01500.038.V2

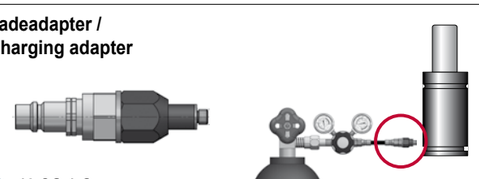
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| 013 | 121 | 108 | 1530 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| 025 | 145 | 120 | 1530 | |
| 038 | 171 | 133 | 1530 | |
| 050 | 195 | 145 | 1530 | |
| 063,5 | 222 | 158,5 | 1530 | |
| 080 | 255 | 175 | 1530 | |
| 100 | 295 | 195 | 1530 | |
| 125 | 345 | 220 | 1530 | |
| 160 | 415 | 255 | 1530 | |
| 200 | 495 | 295 | 1530 | |
| 250 | 595 | 345 | 1530 | |
| 300 | 695 | 395 | 1530 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

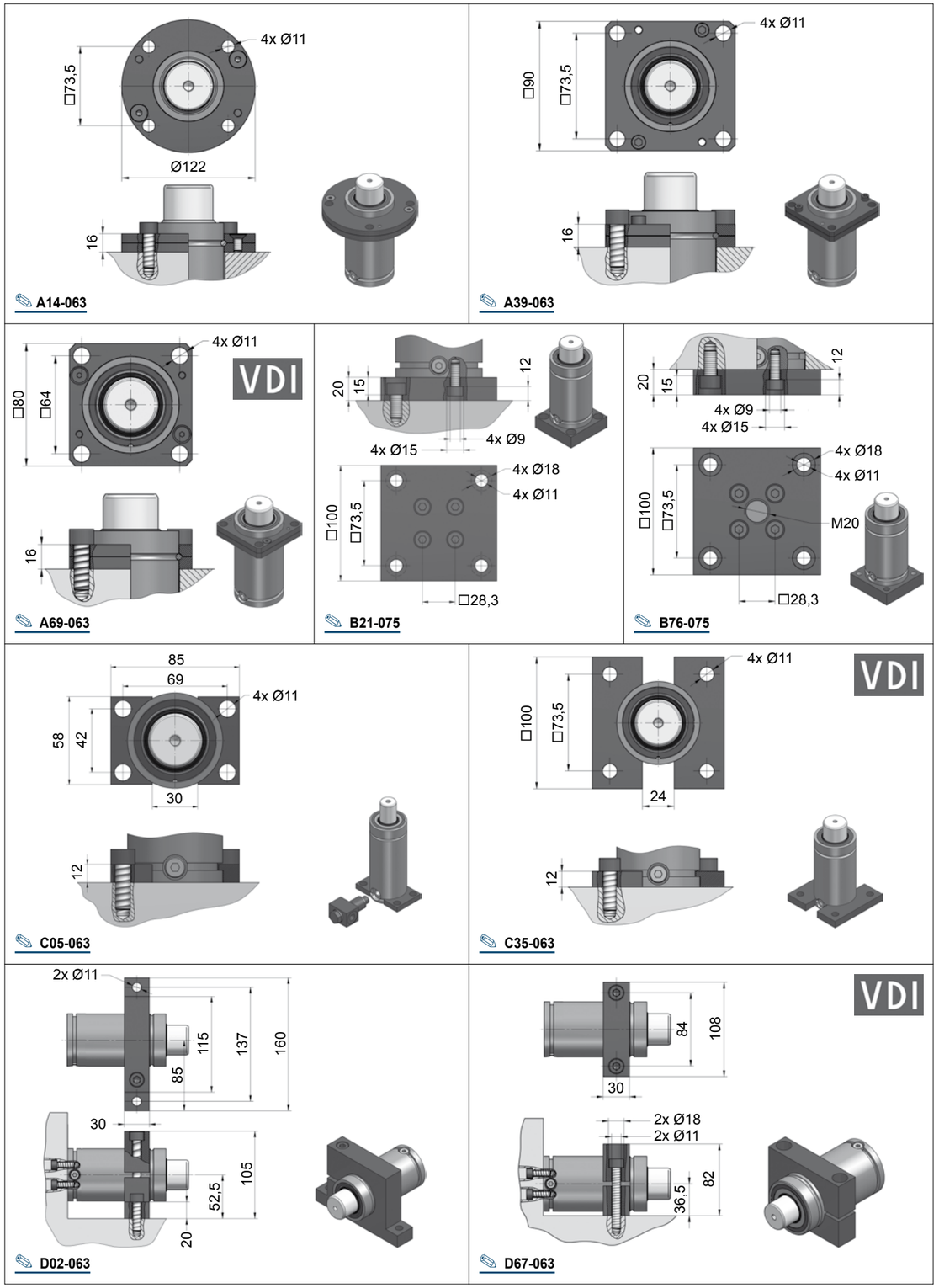


[20.03.2023]

[20.03.2023]



## Flansche für / Flanges for **CD.01500...V2**



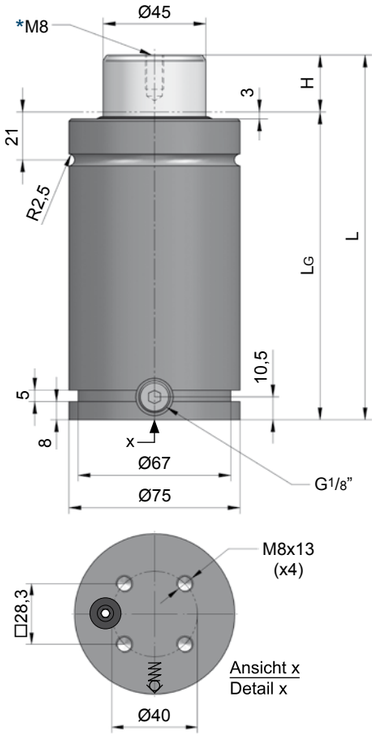
# CD.02400

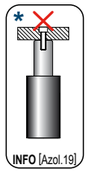
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |




VDI 3003

> Pmax

> S

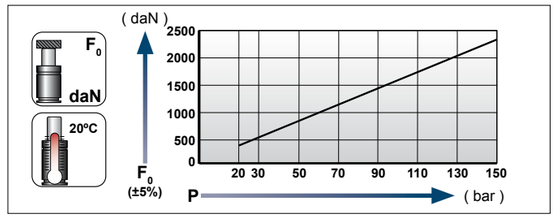
> Vmax

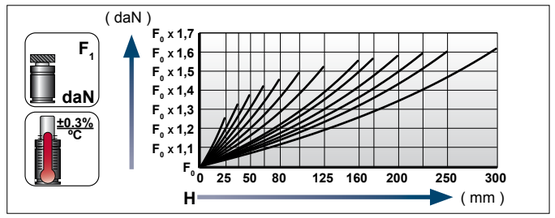
Flex Rod

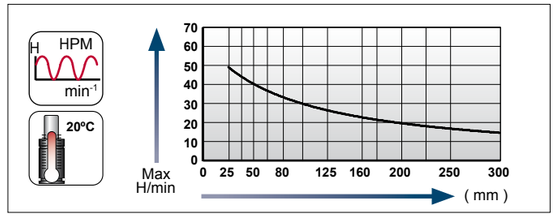
MAIL

**CD.02400.050**

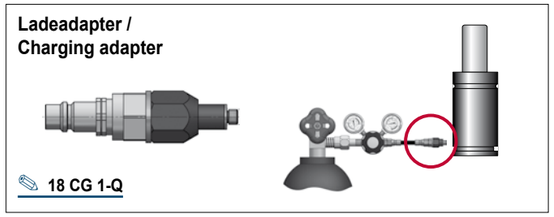
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 160 | 135 | 2385 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **038** | 186 | 148 | 2385 | |
| **050** | 210 | 160 | 2385 | |
| **063,5** | 237 | 173,5 | 2385 | |
| **080** | 270 | 190 | 2385 | |
| **100** | 310 | 210 | 2385 | |
| **125** | 360 | 235 | 2385 | |
| **160** | 430 | 270 | 2385 | |
| **175** | 460 | 285 | 2385 | |
| **200** | 510 | 310 | 2385 | |
| **225** | 560 | 335 | 2385 | |
| **250** | 610 | 360 | 2385 | |
| **300** | 710 | 410 | 2385 | |




**Ladeadapter / Charging adapter**



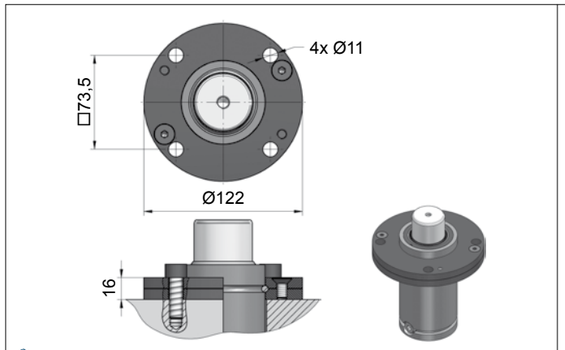
18 CG 1-Q



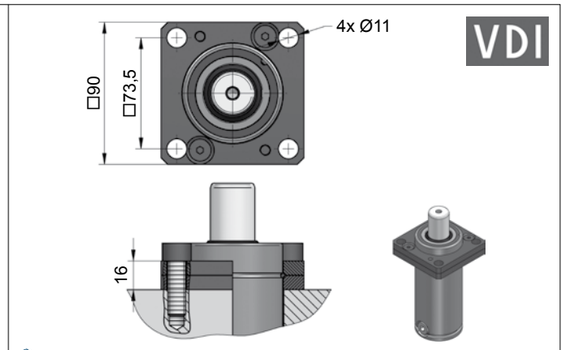
[20.03.2023]

GDF, kompakt, erhöhte Kraft
GS, compact, height force
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

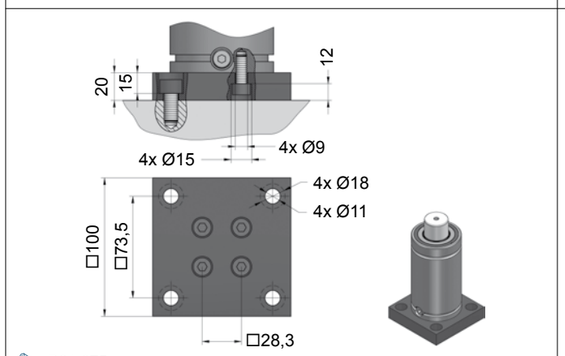
## Flansche für / Flanges for **CD.02400**



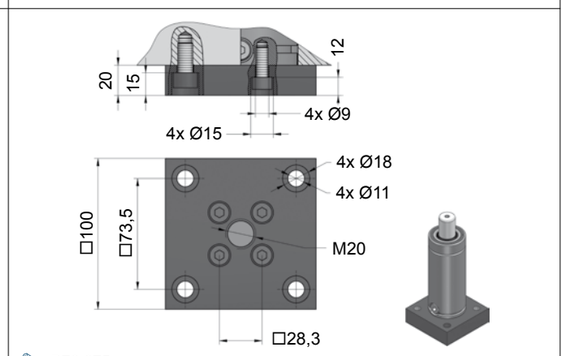

A14-075



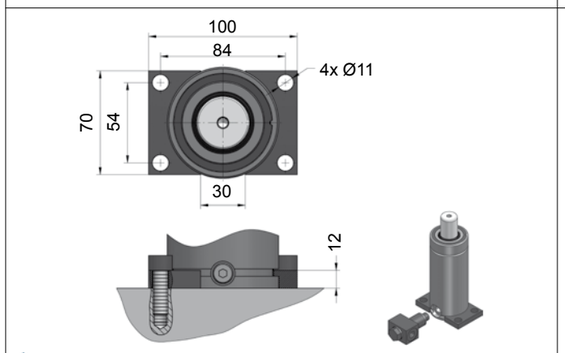

A34-075



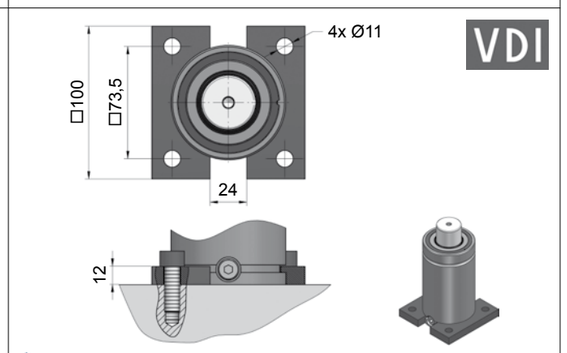

B21-075



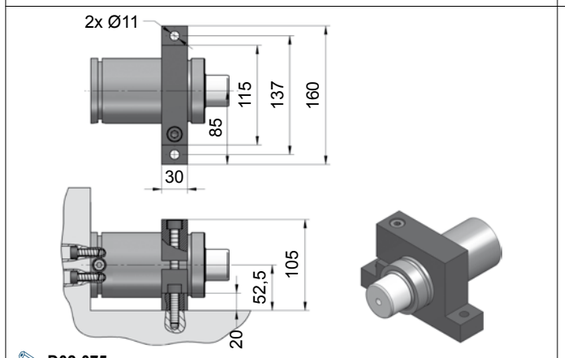

B76-075



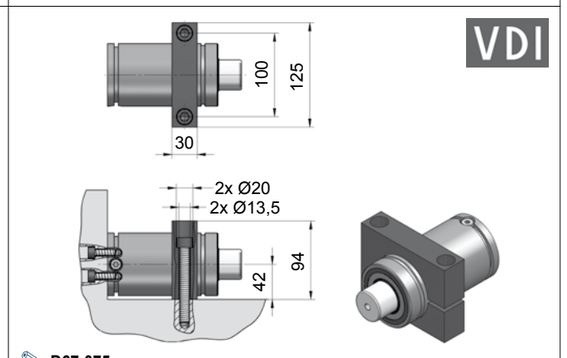

C05-075




C20-075




D02-075




D67-075



[AG]

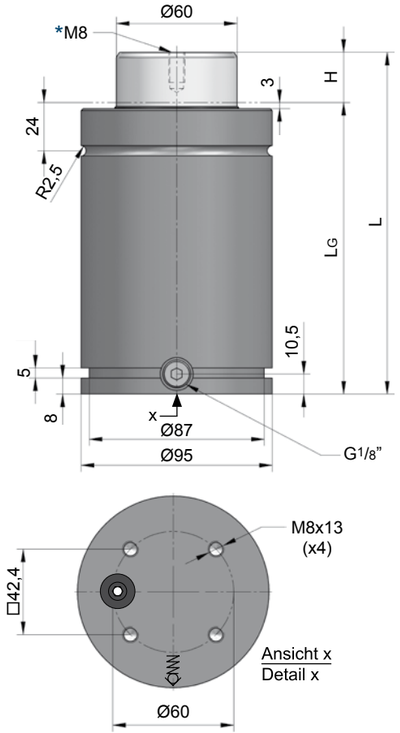
# CD.04200

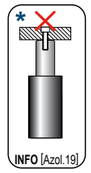
**Technische Data:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |




VDI 3003

> Pmax

> S

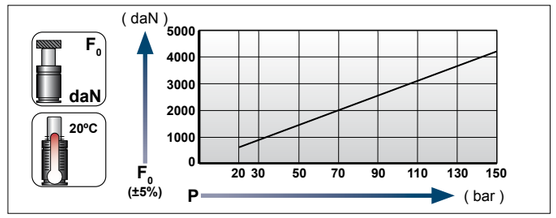
> Vmax

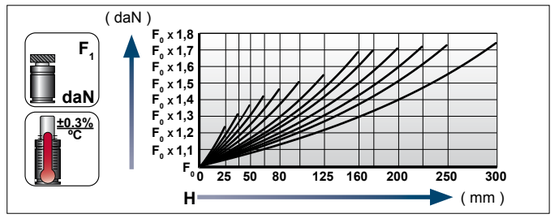
Flex Rod

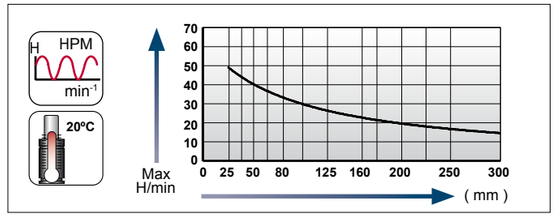
MAIL

**CD.04200.063,5**

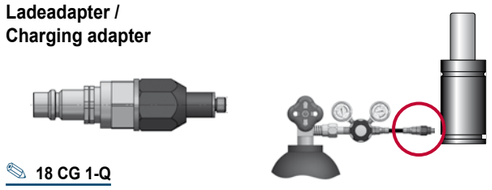
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 170 | 145 | 4240 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **038** | 196 | 158 | 4240 | |
| **050** | 220 | 170 | 4240 | |
| **063,5** | 247 | 183,5 | 4240 | |
| **080** | 280 | 200 | 4240 | |
| **100** | 320 | 220 | 4240 | |
| **125** | 370 | 245 | 4240 | |
| **160** | 440 | 280 | 4240 | |
| **175** | 470 | 295 | 4240 | |
| **200** | 520 | 320 | 4240 | |
| **225** | 570 | 345 | 4240 | |
| **250** | 620 | 370 | 4240 | |
| **300** | 720 | 420 | 4240 | |




**Ladeadapter / Charging adapter**



**18 CG 1-Q**

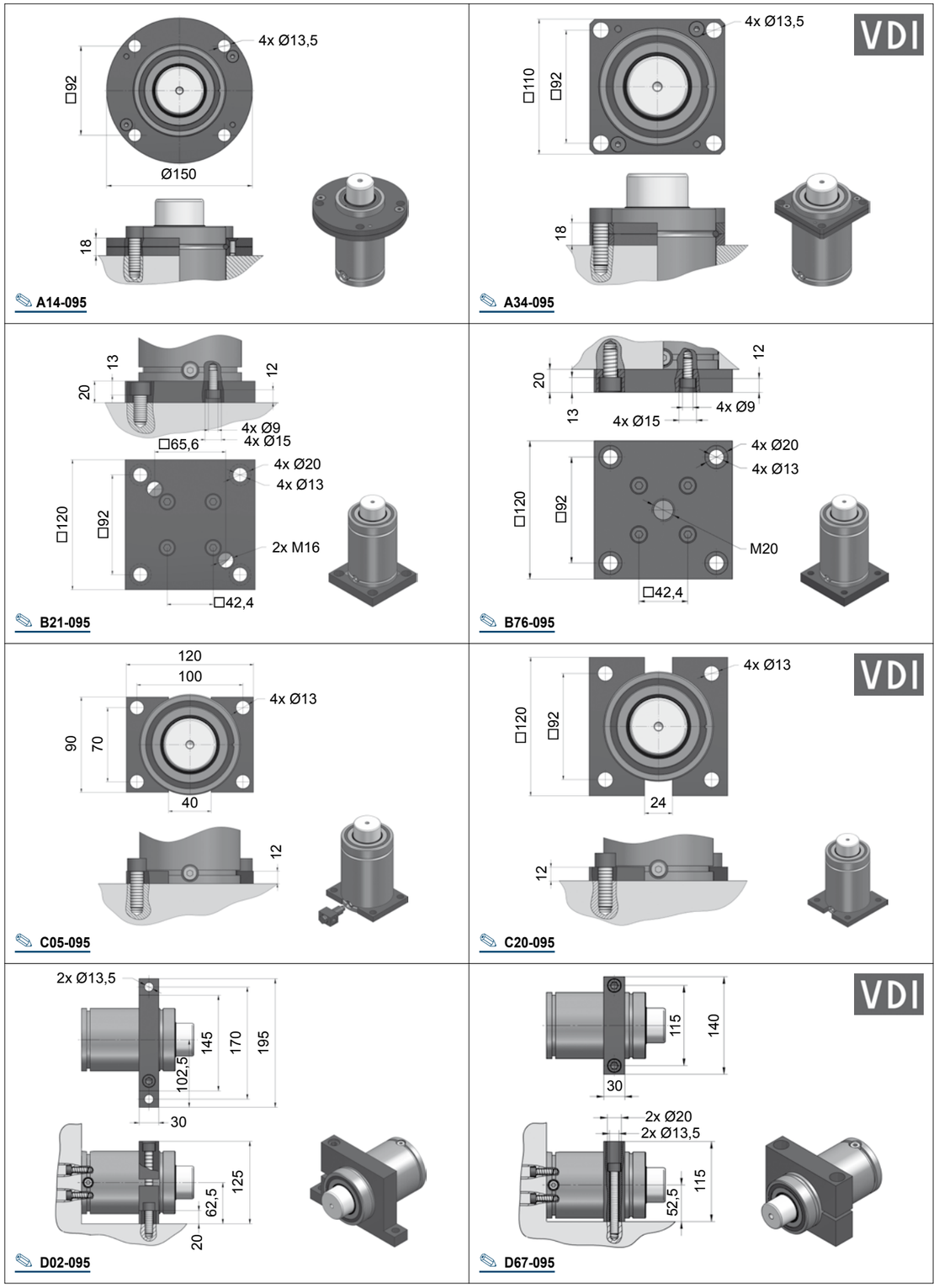


[20.03.2023]

[20.03.2023]



## Flansche für / Flanges for **CD.04200**








[AG]

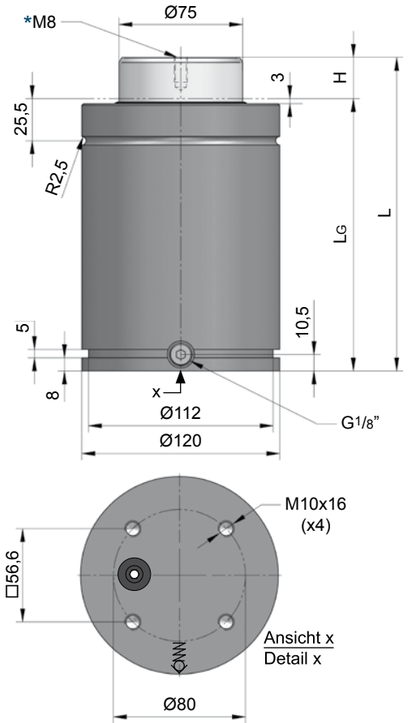
# CD.06600

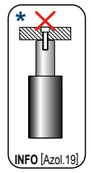
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |




VDI 3003

> Pmax

> S

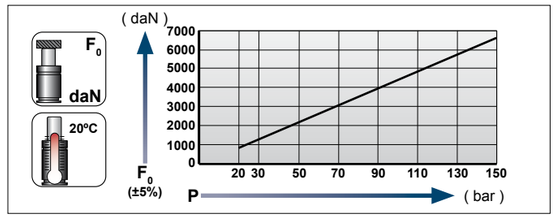
> Vmax

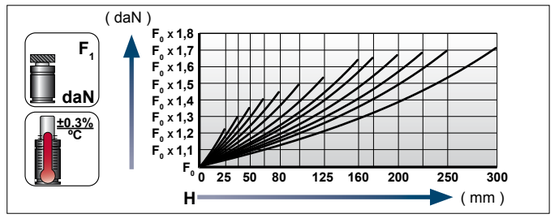
Flex Rod

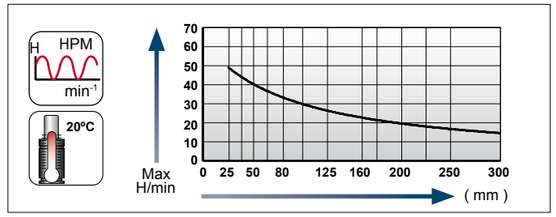
MAIL

CD.06600.200

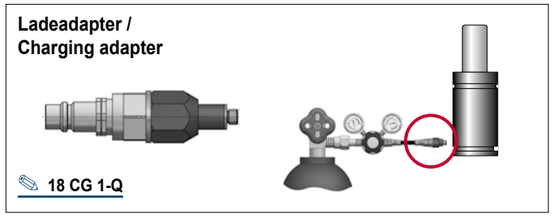
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| 025 | 190 | 165 | 6630 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| 038 | 216 | 178 | 6630 | |
| 050 | 240 | 190 | 6630 | |
| 063,5 | 267 | 203,5 | 6630 | |
| 080 | 300 | 220 | 6630 | |
| 100 | 340 | 240 | 6630 | |
| 125 | 390 | 265 | 6630 | |
| 160 | 460 | 300 | 6630 | |
| 175 | 490 | 315 | 6630 | |
| 200 | 540 | 340 | 6630 | |
| 225 | 590 | 365 | 6630 | |
| 250 | 640 | 390 | 6630 | |
| 300 | 740 | 440 | 6630 | |




**Ladeadapter / Charging adapter**



18 CG 1-Q

[AG]

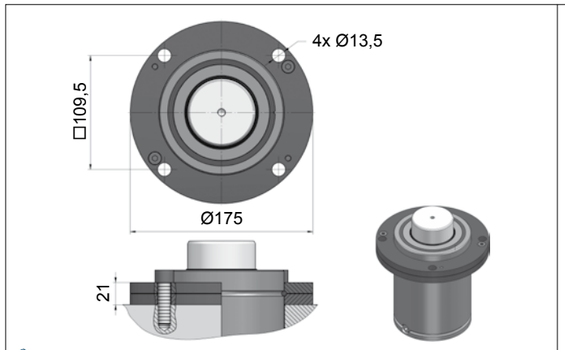
[20.03.2023]

[20.03.2023]

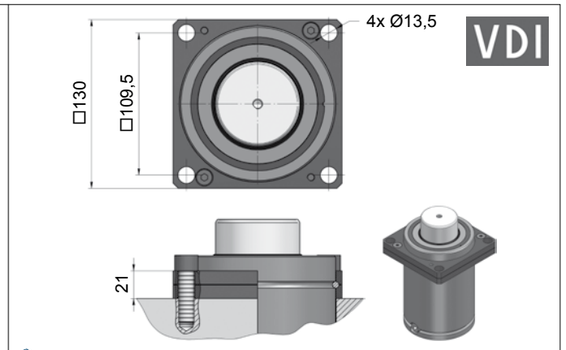


GDF, kompakt, erhöhte Kraft
GS, compact, height force
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

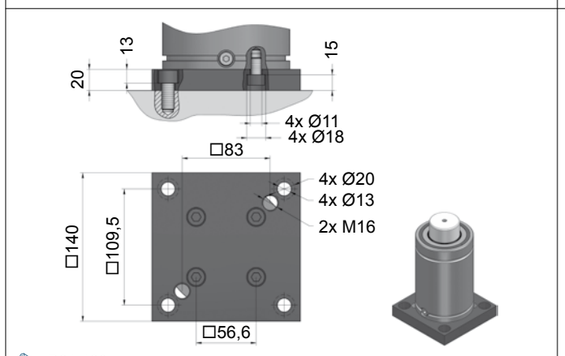
## Flansche für / Flanges for **CD.06600**



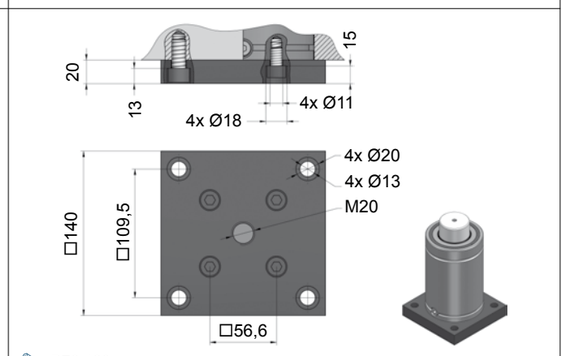

A14-120



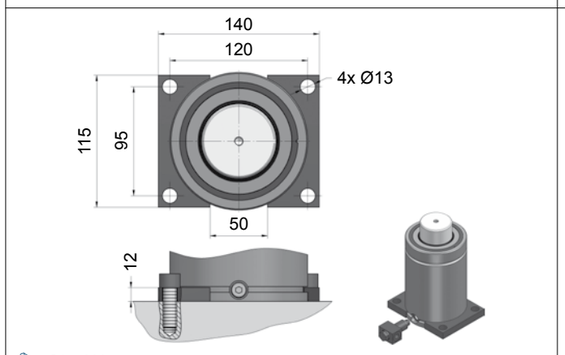

A34-120



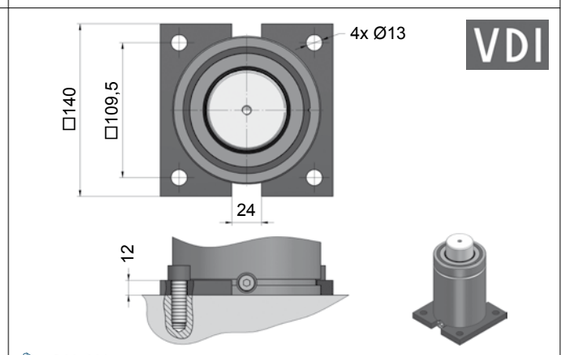

B21-120



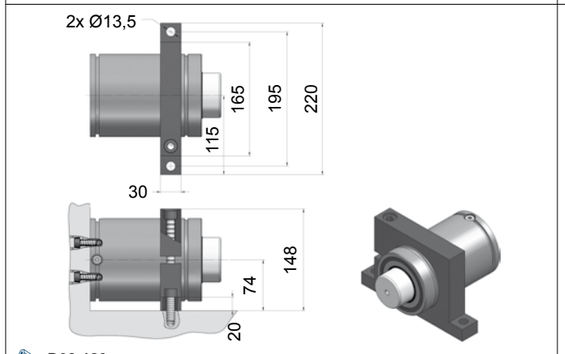

B76-120



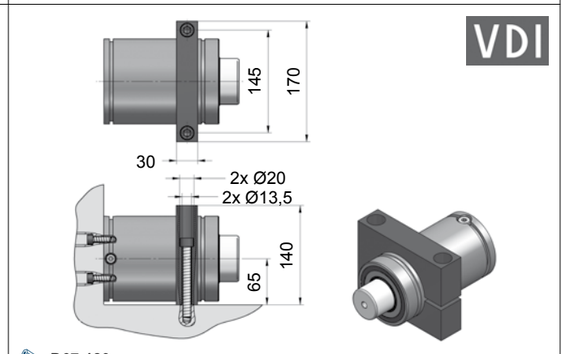

C05-120




C20-120




D02-120




D67-120

[AG]

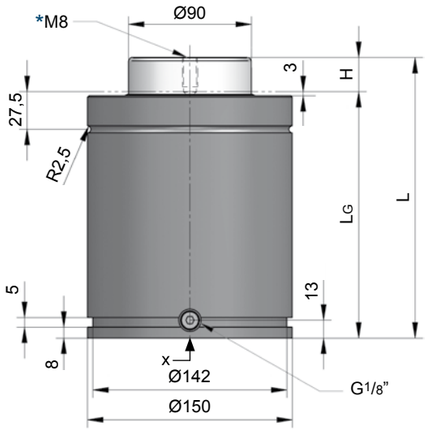
# CD.09600

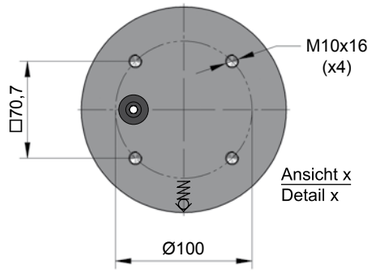
**Technische Data:**

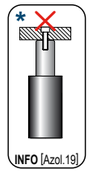
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |




VDI 3003

> Pmax

> S

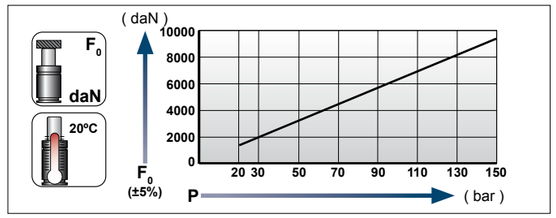
> Vmax

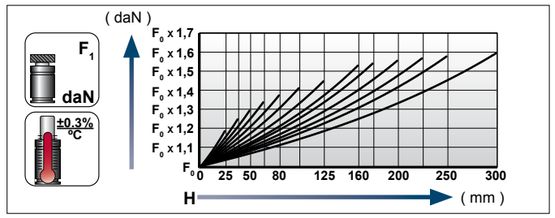
Flex Rod

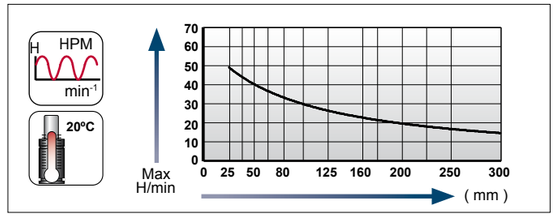
MAIL

**CD.09600.125**

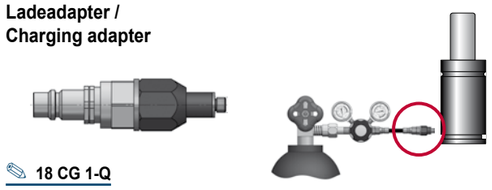
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 205 | 180 | 9540 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **038** | 231 | 193 | 9540 | |
| **050** | 255 | 205 | 9540 | |
| **063,5** | 282 | 218,5 | 9540 | |
| **080** | 315 | 235 | 9540 | |
| **100** | 355 | 255 | 9540 | |
| **125** | 405 | 280 | 9540 | |
| **160** | 475 | 315 | 9540 | |
| **175** | 505 | 330 | 9540 | |
| **200** | 555 | 355 | 9540 | |
| **225** | 605 | 380 | 9540 | |
| **250** | 655 | 405 | 9540 | |
| **300** | 755 | 455 | 9540 | |




**Ladeadapter / Charging adapter**



**18 CG 1-Q**

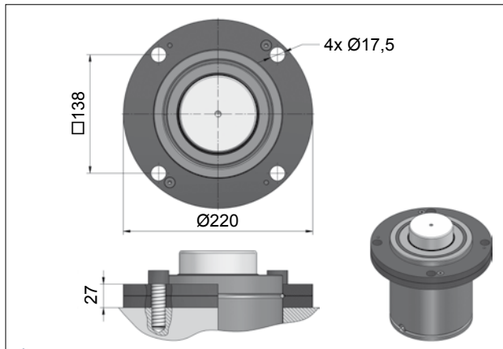


[20.03.2023]

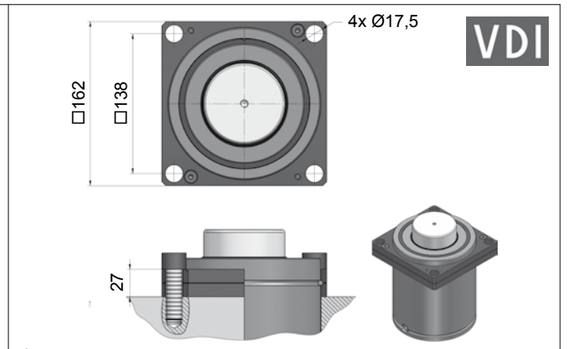
[20.03.2023]



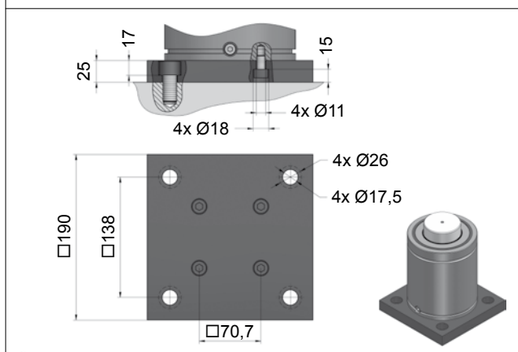
## Flansche für / Flanges for **CD.09600**



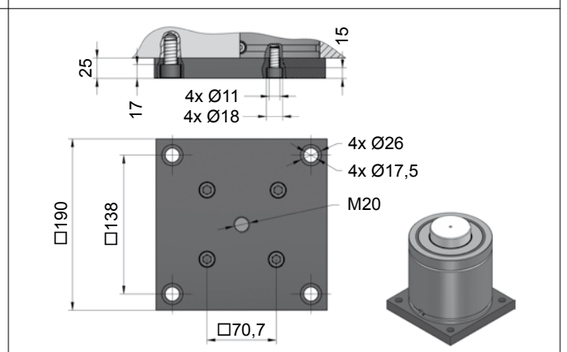

**A14-150**



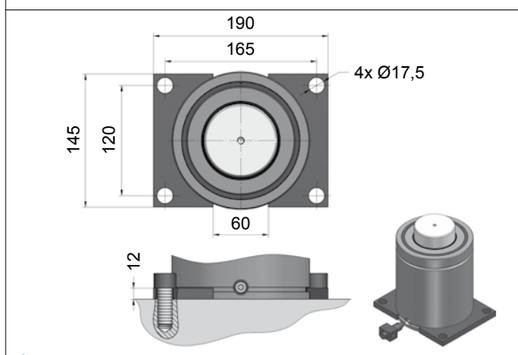

**A34-150**



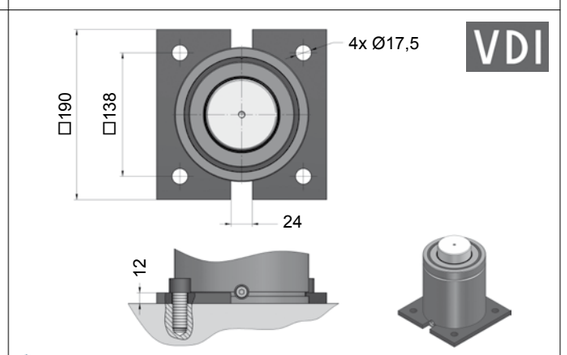

**B21-150**



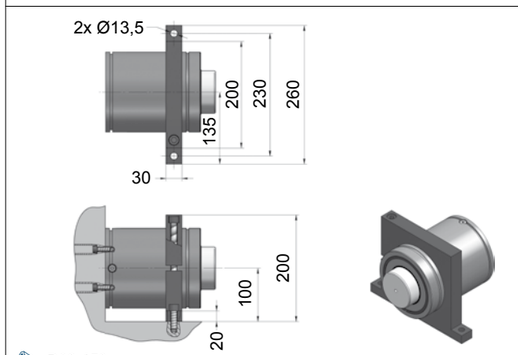

**B76-150**



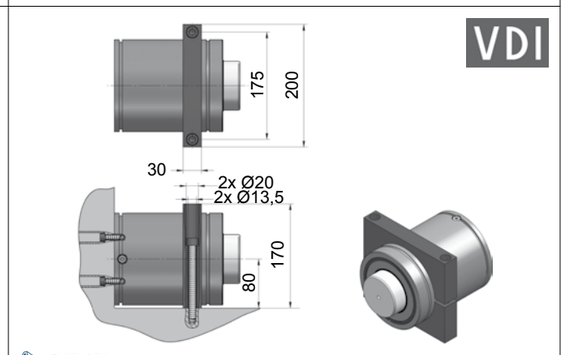

**C05-150**




**C20-150**




**D02-150**




**D67-150**

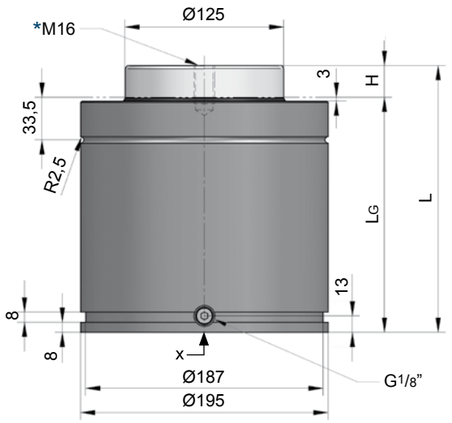
# CD.18500

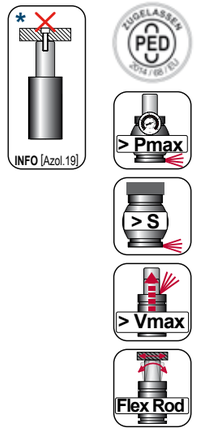
**Technische Data:**

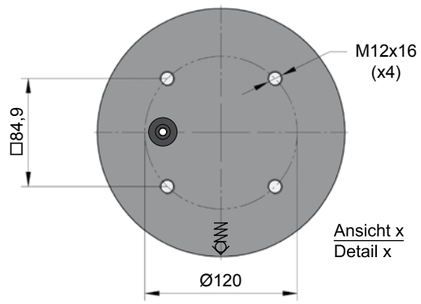
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

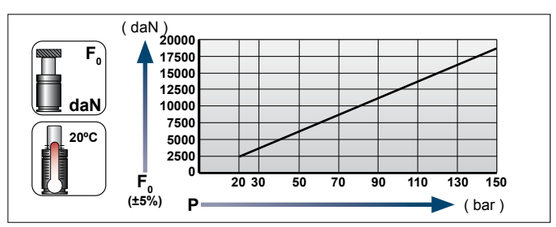


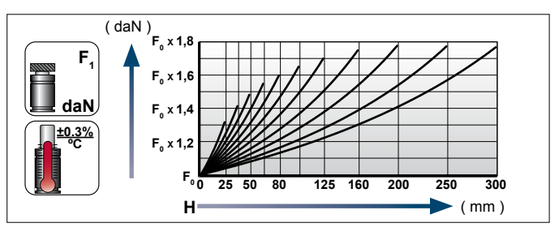



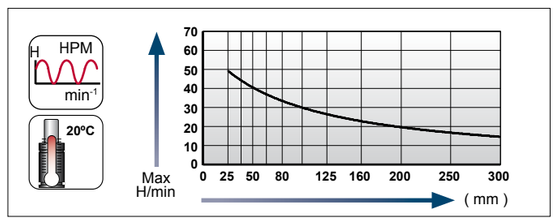




**CD.18500.160**

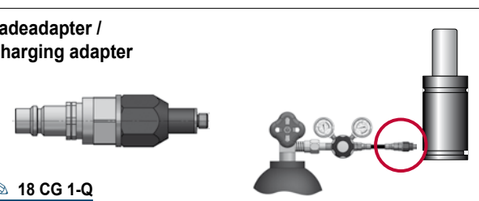
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **025** | 210 | 185 | 18410 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **038** | 236 | 198 | 18410 | |
| **050** | 260 | 210 | 18410 | |
| **063,5** | 287 | 223,5 | 18410 | |
| **080** | 320 | 240 | 18410 | |
| **100** | 360 | 260 | 18410 | |
| **125** | 410 | 285 | 18410 | |
| **160** | 480 | 320 | 18410 | |
| **200** | 560 | 360 | 18410 | |
| **250** | 660 | 410 | 18410 | |
| **300** | 760 | 460 | 18410 | |




**Ladeadapter / Charging adapter**

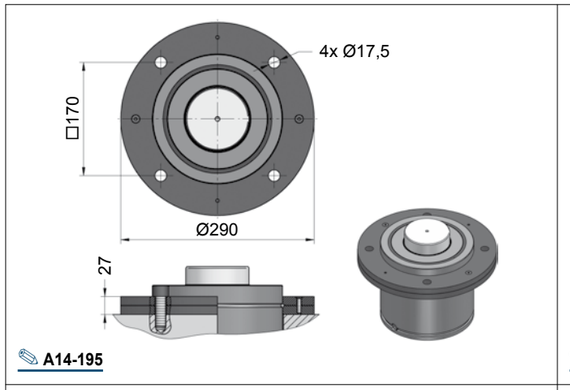


**18 CG 1-Q**

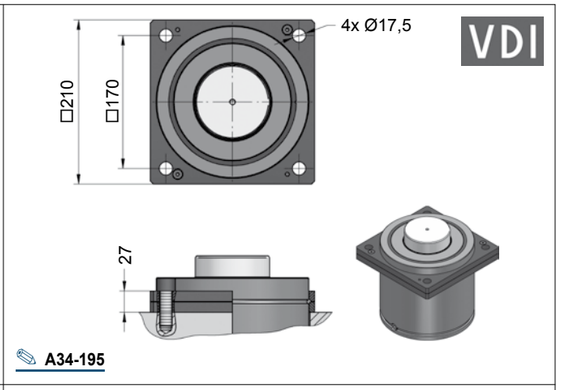




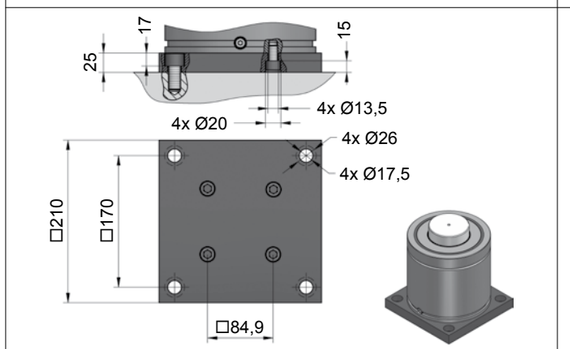
## Flansche für / Flanges for **CD.18500**



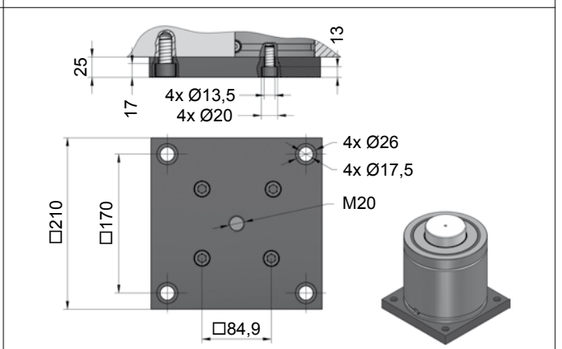

**A14-195**



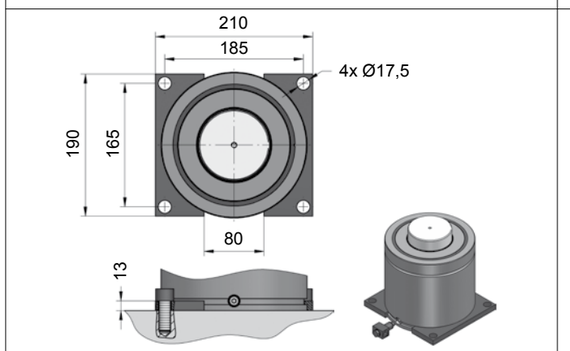

**A34-195**



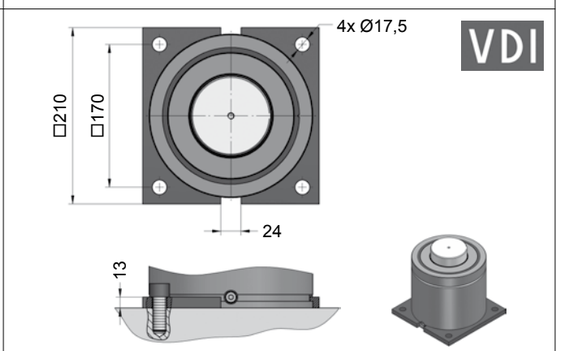

**B21-195**



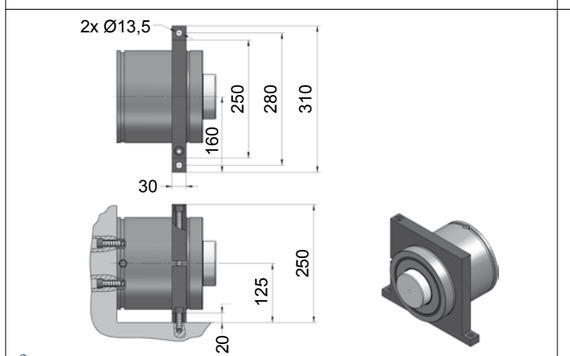

**B76-195**




**C05-195**



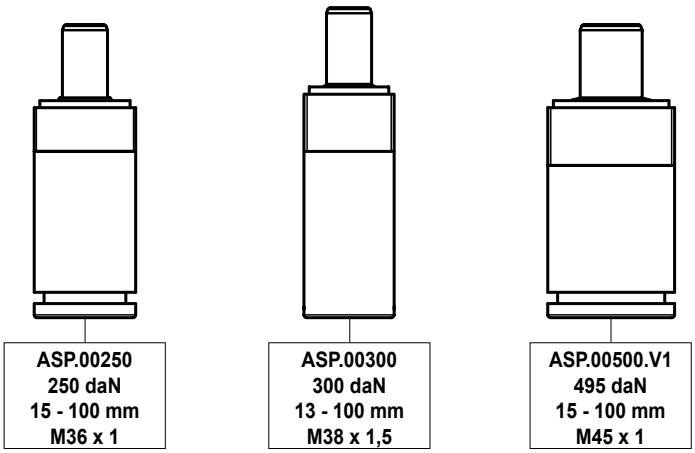

**C20-195**



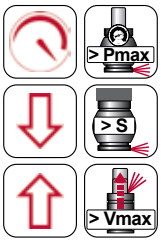

**D02-195**

## Größenübersicht Serie ASP

## Gas spring index ASP series




## SICHERHEITSSYSTEME



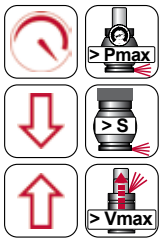

**Überdruck**

**Überhub**

**Freier Rückhub**

Information über die Sicherheitssysteme (Überdruck, Überhub, Freier Rückhub) erhalten Sie im Vorspann auf der Seite Azol.22.

## SAFETY SYSTEMS




**Over-Pressure**

**Over-Stroke**

**Over-Speed**

Information about the safety systems (over-pressure, over-stroke, over-speed) can be found in the introductory part on page Azol.22.

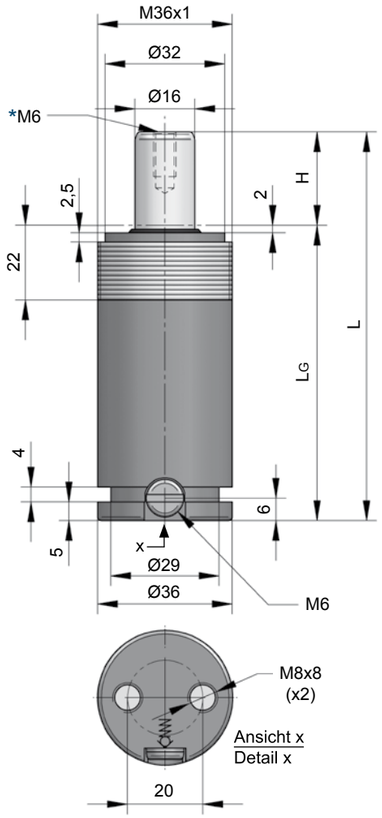
# ASP.00250

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

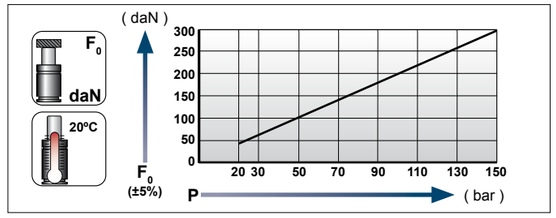


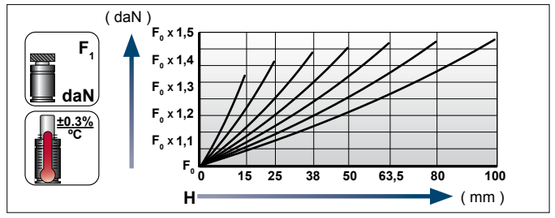

> Vmax

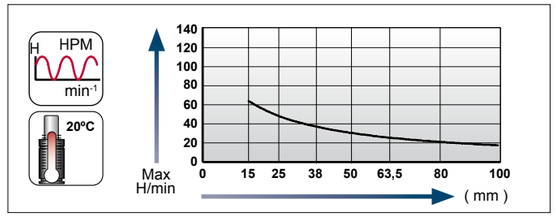
INFO [Azol.19]

## ASP.00250.015

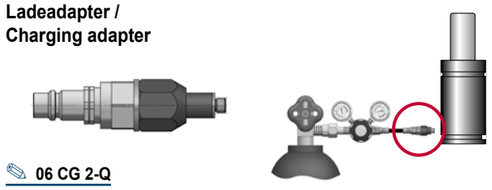
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (125 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **015** | 84 | 69 | 250 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **025** | 104 | 79 | 250 | |
| **038** | 130 | 92 | 250 | |
| **050** | 154 | 104 | 250 | |
| **063,5** | 181 | 117,5 | 250 | |
| **080** | 214 | 134 | 250 | |
| **100** | 254 | 154 | 250 | |




**Ladeadapter / Charging adapter**

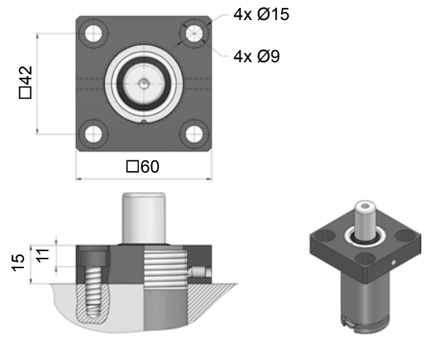


06 CG 2-Q





## Flansche für / Flanges for **ASP.00250**




E03-036

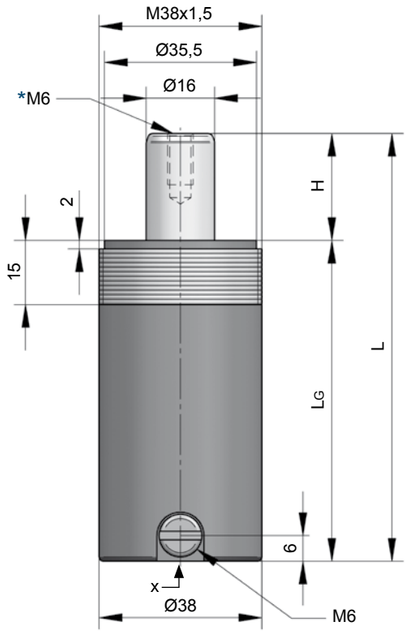
# ASP.00300

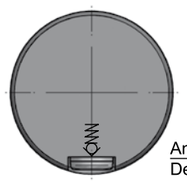
**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

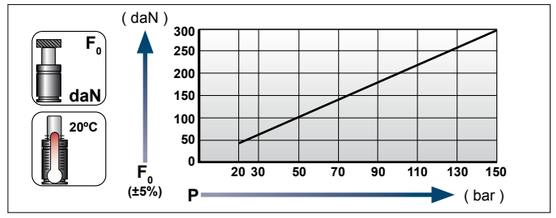
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

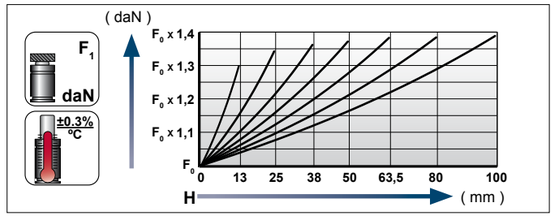


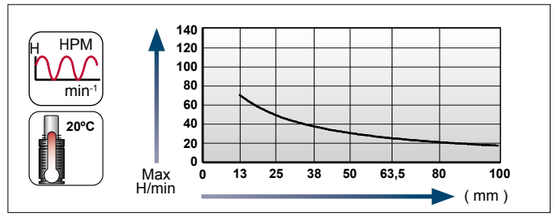




## ASP.00300.038

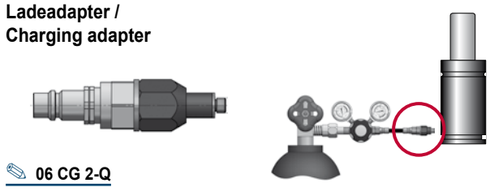
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **013** | 76 | 63 | 300 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **025** | 100 | 75 | 300 | |
| **038** | 126 | 88 | 300 | |
| **050** | 150 | 100 | 300 | |
| **063,5** | 177 | 113,5 | 300 | |
| **080** | 210 | 130 | 300 | |
| **100** | 250 | 150 | 300 | |




**Ladeadapter / Charging adapter**



06 CG 2-Q

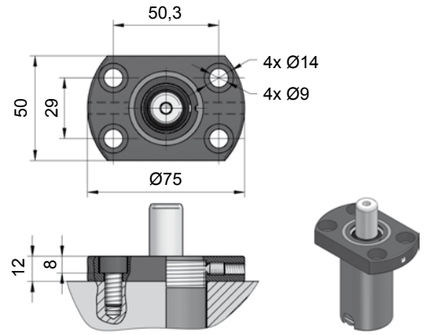


[21.03.2023]

[21.03.2023]



## Flansche für / Flanges for **ASP.00300**




E08-038

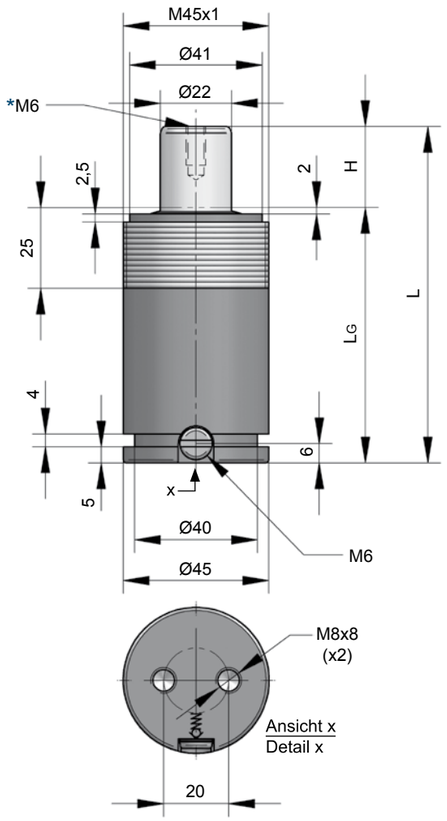
# ASP.00500…V1

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Specifications:**

| | |
|---|---|
| Pressure medium: | N2 |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |



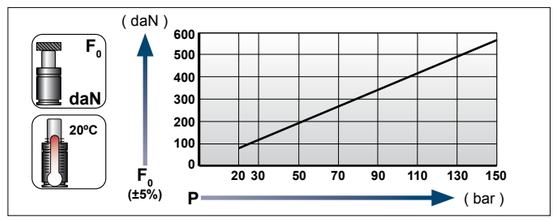

> Vmax

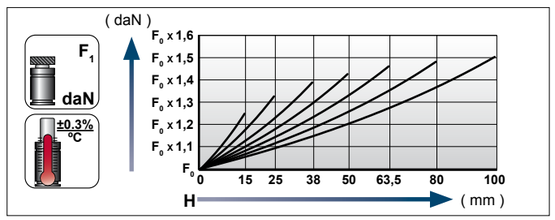
INFO [Azol.19]

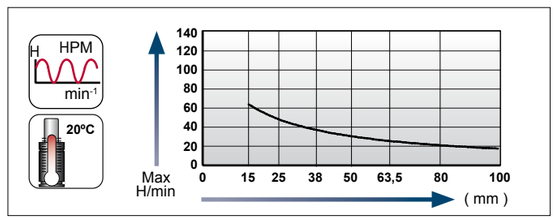
**ASP.00500.050.V1**

CAD MAIL

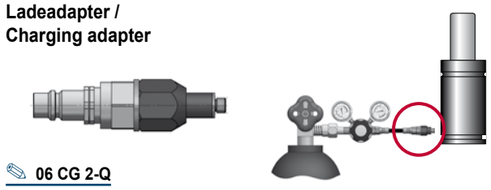
| H Hub / Stroke | L ±0,25 | LG | Kraft / Force (130 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|
| **015** | 84 | 69 | 495 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **025** | 104 | 79 | 495 | |
| **038** | 130 | 92 | 495 | |
| **050** | 154 | 104 | 495 | |
| **063,5** | 181 | 117,5 | 495 | |
| **080** | 214 | 134 | 495 | |
| **100** | 254 | 154 | 495 | |




**Ladeadapter / Charging adapter**



06 CG 2-Q

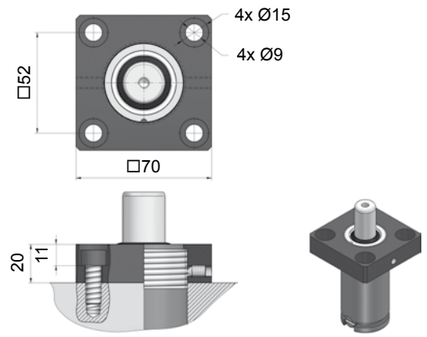


[21.03.2023]

[21.03.2023]



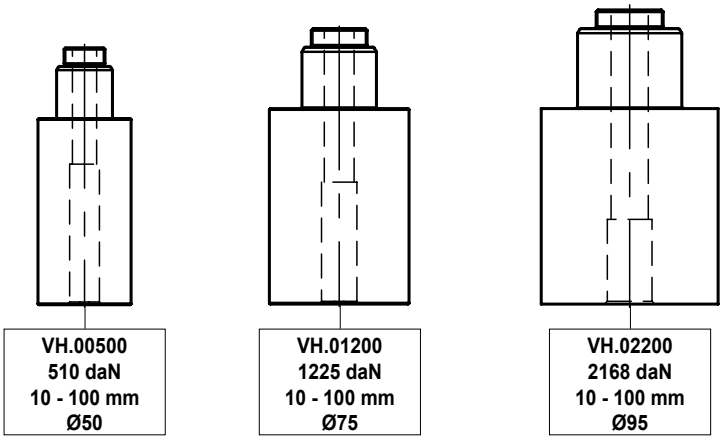
## Flansche für / Flanges for **ASP.00500…V1**




E03-045

## Größenübersicht Serie VH

## Gas spring index VH series



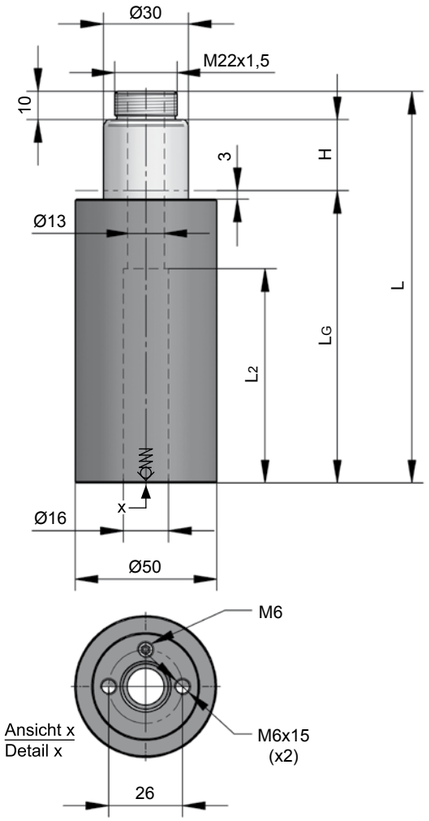
# VH.00500

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

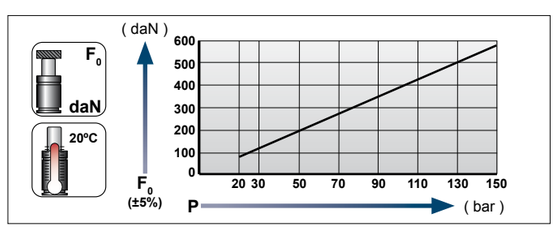
**Specifications:**

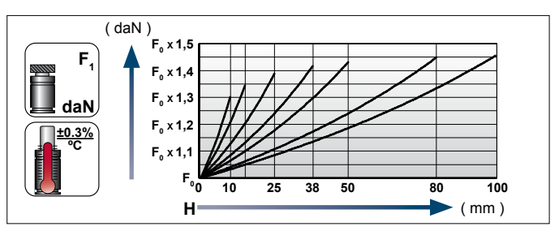
| | |
|---|---|
| Pressure medium: | N2 |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

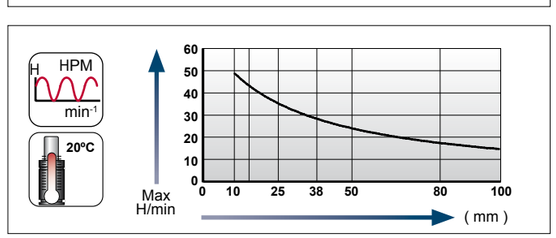



VH.00500.100

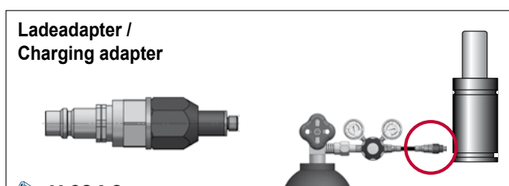
| H Hub / Stroke | L ±0,25 | LG | L2 ±0,1 | Kraft / Force (130 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|---|
| **010** | 108 | 88 | 45,5 | 510 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **015** | 118 | 93 | 55,5 | 510 | |
| **025** | 138 | 103 | 75,5 | 510 | |
| **038** | 164 | 116 | 85,5 | 510 | |
| **050** | 188 | 128 | 97,5 | 510 | |
| **080** | 248 | 158 | 127,5 | 510 | |
| **100** | 288 | 178 | 147,5 | 510 | |




**Ladeadapter / Charging adapter**

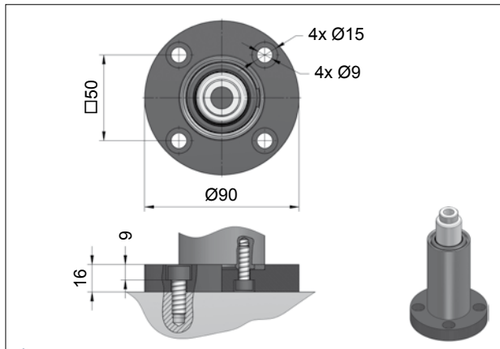


06 CG 2-Q

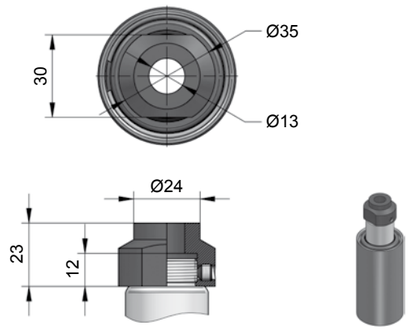




## Flansche für / Flanges for **VH.00500**




B31-050




E33-050

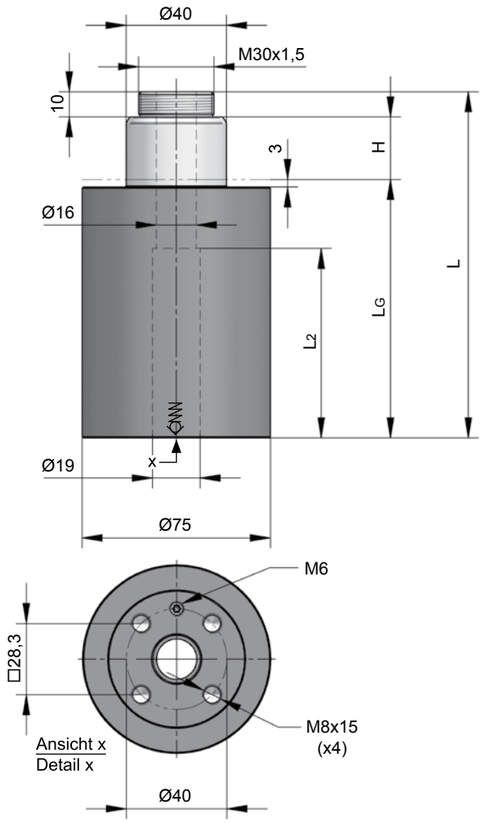
# VH.01200

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 160 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

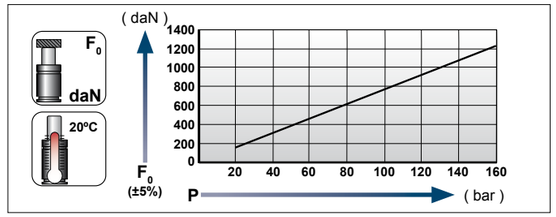
**Specifications:**

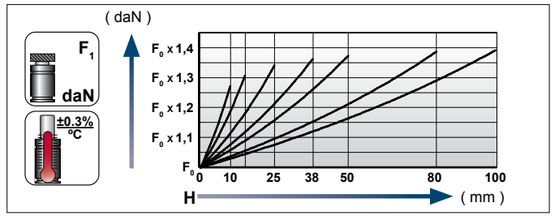
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 160 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

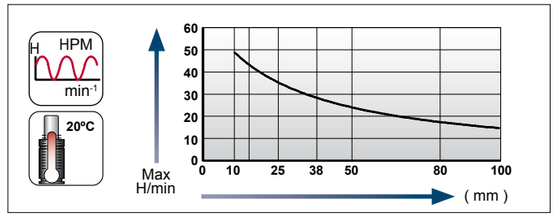



**VH.01200.100**

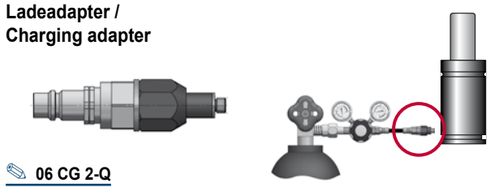
| H Hub / Stroke | L ±0,25 | LG | L2 ±0,1 | Kraft / Force (160 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|---|
| **010** | 108 | 88 | 45,5 | 1225 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **015** | 118 | 93 | 55,5 | 1225 | |
| **025** | 138 | 103 | 75,5 | 1225 | |
| **038** | 164 | 116 | 85,5 | 1225 | |
| **050** | 188 | 128 | 97,5 | 1225 | |
| **080** | 248 | 158 | 127,5 | 1225 | |
| **100** | 288 | 178 | 147,5 | 1225 | |




**Ladeadapter / Charging adapter**



**06 CG 2-Q**

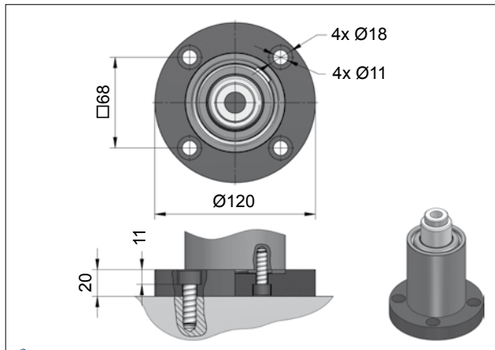


[21.03.2023]

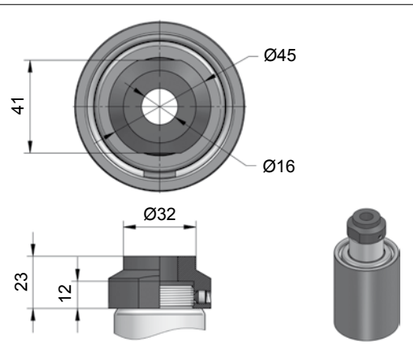
[21.03.2023]

GDF, Standard mit Durchgangsbohrung
GS, Hollowsprings
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

## Flansche für / Flanges for **VH.01200**




**B31-075**




**E33-075**

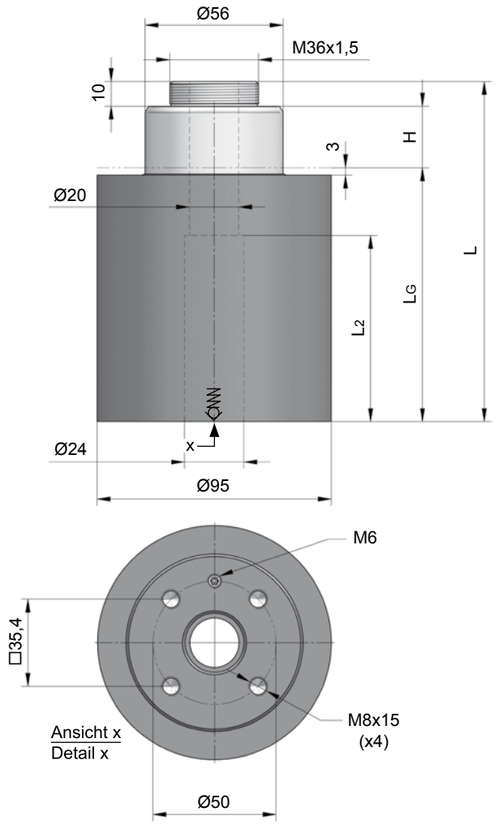
# VH.02200

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 0,5 m/s |

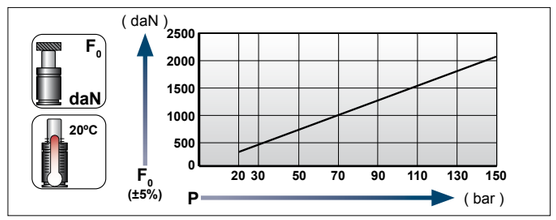
**Specifications:**

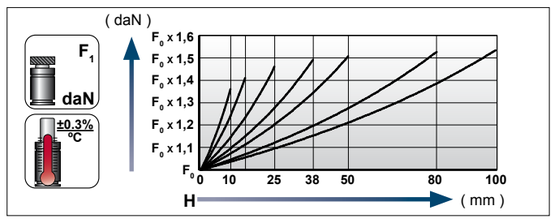
| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 150 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 0,5 m/s |

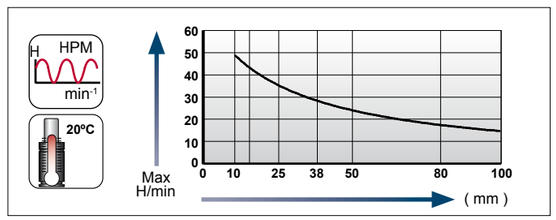



**VH.02200.025**

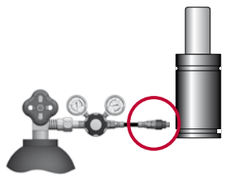
| H Hub / Stroke | L ±0,25 | LG | L2 ±0,1 | Kraft / Force (150 bar) Anfang / Initial [daN] | Ende / Final [daN] |
|---|---|---|---|---|---|
| **010** | 108 | 88 | 45,5 | 2168 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **015** | 118 | 93 | 55,5 | 2168 | |
| **025** | 138 | 103 | 75,5 | 2168 | |
| **038** | 164 | 116 | 85,5 | 2168 | |
| **050** | 188 | 128 | 97,5 | 2168 | |
| **080** | 248 | 158 | 127,5 | 2168 | |
| **100** | 288 | 178 | 147,5 | 2168 | |




**Ladeadapter / Charging adapter**



**06 CG 2-Q**

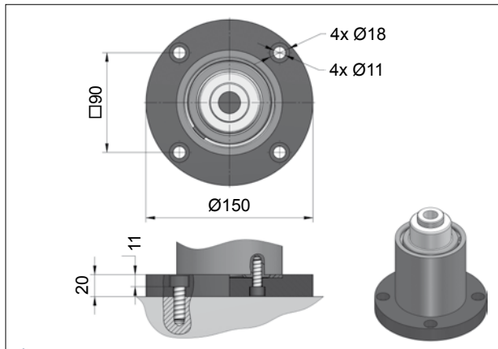


[21.03.2023]

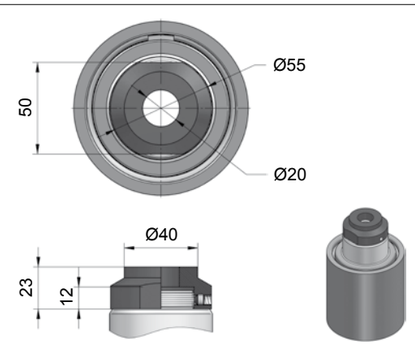
[21.03.2023]



## Flansche für / Flanges for **VH.02200**



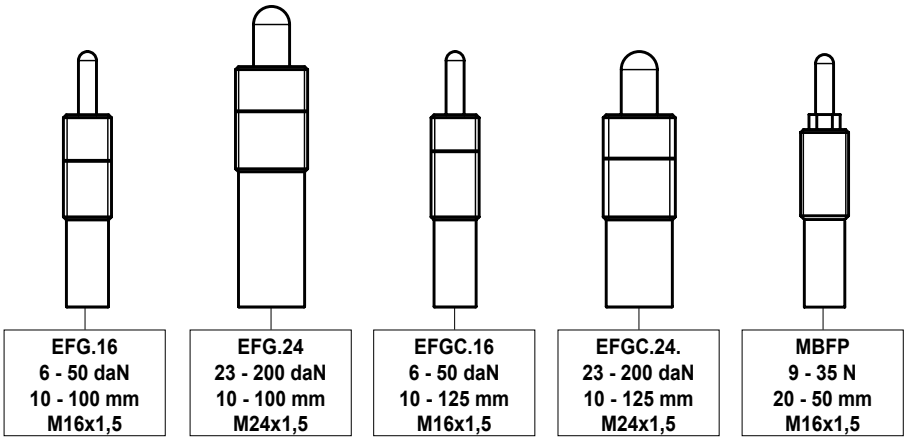

**B31-095**




**E33-095**

## Größenübersicht Serie EFX / MBFP

## Gas spring index EFX / MBFP series



# EFG.16

**Innensechskant**

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

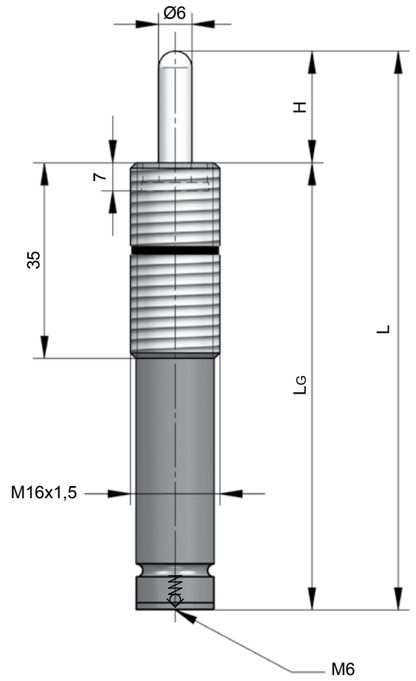
**Einwegfeder ist nicht reparierbar!**

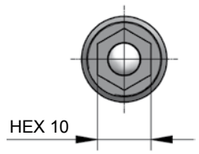
**Hexagon socket**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

**One-way spring is irreparable!**

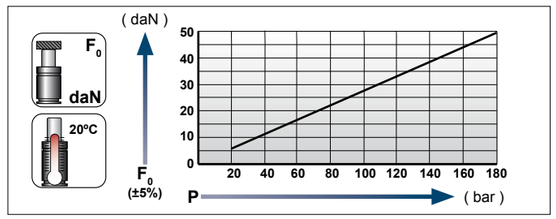


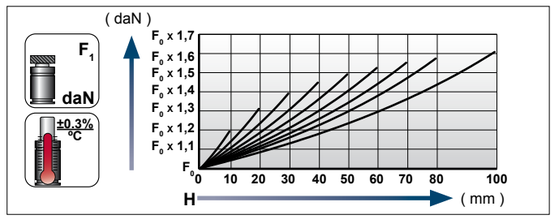



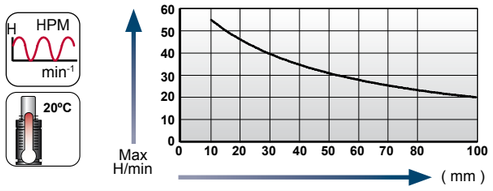

**EFG.16.**
**00011.200.070**

| Typ / Type | Farbe / Color | Fülldruck Loading pressure [bar] | Kraft / Force Anfang / Initial [daN] | Kraft / Force Ende / Final [daN] |
|---|---|---|---|---|
| **EFG.16.00006** | Grün / Green | 20 | 6 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **EFG.16.00011** | Blau / Blue | 40 | 11 | |
| **EFG.16.00021** | Rot / Red | 75 | 21 | |
| **EFG.16.00042** | Gelb / Yellow | 150 | 42 | |
| **EFG.16.000XX** | Schwarz / Black | 20 - 180 | 6 - 50 | |

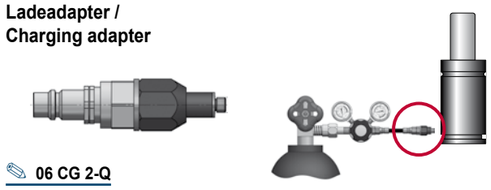
| Hub / Stroke | L ±0,25 | LG |
|---|---|---|
| **010** | **080** | 70 |
| **020** | **100** | 80 |
| **030** | **120** | 90 |
| **040** | **140** | 100 |
| **050** | **160** | 110 |
| **060** | **180** | 120 |
| **070** | **200** | 130 |
| **080** | **220** | 140 |
| **100** | **260** | 160 |




**Ladeadapter /**
**Charging adapter**



**06 CG 2-Q**

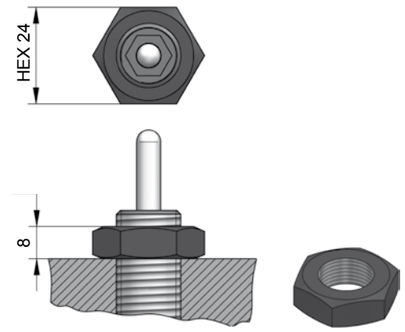


[22.03.2023]

[22.03.2023]

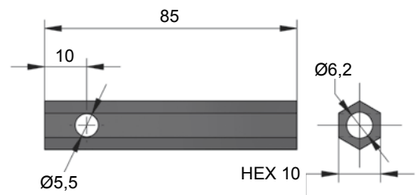
GDF, Abdrückstifte nach VDI 3004
GS, Plungers acc. to VDI 3004
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

## Kontermutter für / Locknut for **EFG.16**




**E23-016**

**Montageschlüssel / Key**




**LPT 10**

# EFG.24

**Innensechskant**

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

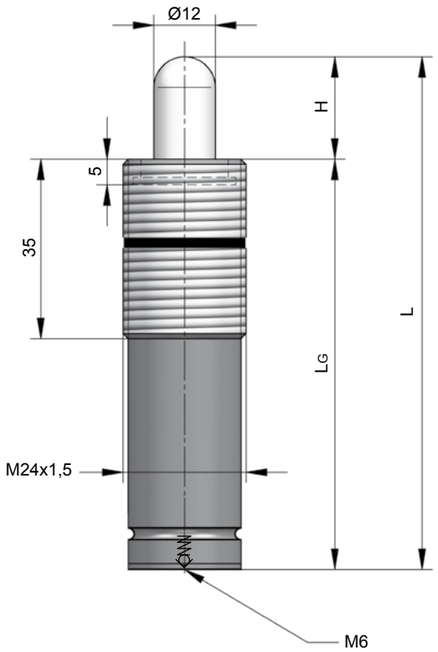
**Einwegfeder ist nicht reparierbar!**

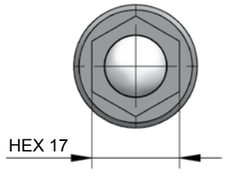
**Hexagon socket**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

**One-way spring is irreparable!**

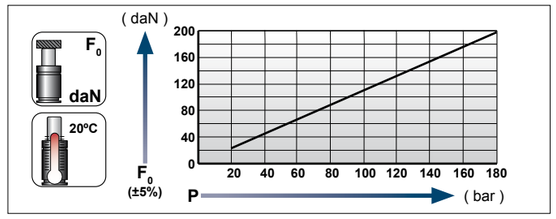


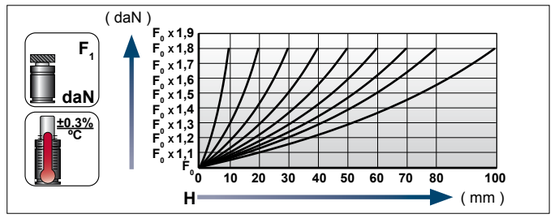



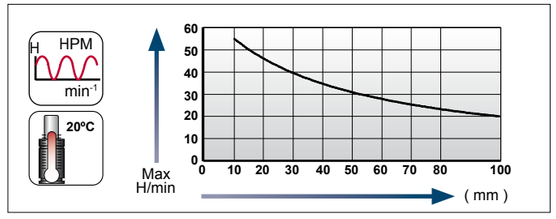

**EFG.24.**
**00045.160.050**

| Typ / Type | Farbe / Color | Fülldruck Loading pressure [bar] | Kraft / Force Anfang / Initial [daN] | Kraft / Force Ende / Final [daN] |
|---|---|---|---|---|
| **EFG.24.00023** | Grün / Green | 20 | 23 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **EFG.24.00045** | Blau / Blue | 40 | 45 | |
| **EFG.24.00085** | Rot / Red | 75 | 85 | |
| **EFG.24.00170** | Gelb / Yellow | 150 | 170 | |
| **EFG.24.00XXX** | Schwarz / Black | 20 - 180 | 23 - 200 | |

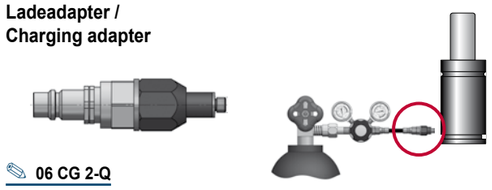
| Hub / Stroke | L ±0,25 | LG |
|---|---|---|
| **010** | **080** | 70 |
| **020** | **100** | 80 |
| **030** | **120** | 90 |
| **040** | **140** | 100 |
| **050** | **160** | 110 |
| **060** | **180** | 120 |
| **070** | **200** | 130 |
| **080** | **220** | 140 |
| **100** | **260** | 160 |




**Ladeadapter /**
**Charging adapter**



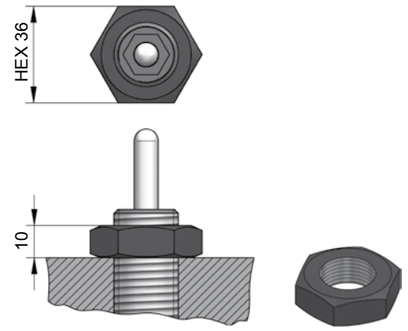
**06 CG 2-Q**





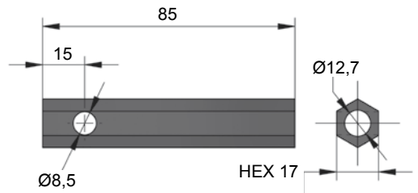
GDF, Abdrückstifte nach VDI 3004
GS, Plungers acc. to VDI 3004
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

## Kontermutter für / Locknut for **EFG.24**




**E23-024**

**Montageschlüssel / Key**




**LPT 17**

# EFGC.16

**Innensechskant**

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

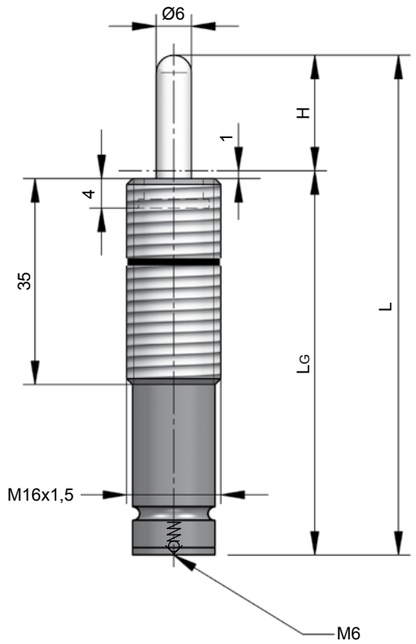
**Einwegfeder ist nicht reparierbar!**

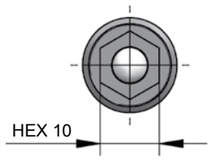
**Hexagon socket**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

**One-way spring is irreparable!**

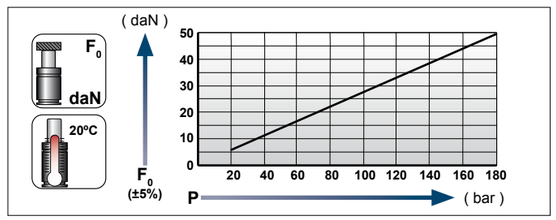


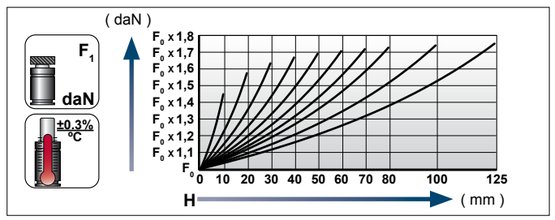



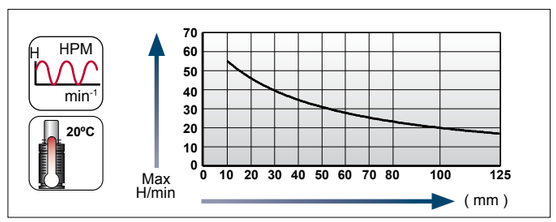

**EFGC.16.**
**00011.105.030**

| Typ / Type | Farbe / Color | Fülldruck Loading pressure [bar] | Kraft / Force Anfang / Initial [daN] | Kraft / Force Ende / Final [daN] |
|---|---|---|---|---|
| **EFGC.16.00006** | Grün / Green | 20 | 6 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **EFGC.16.00011** | Blau / Blue | 40 | 11 | |
| **EFGC.16.00021** | Rot / Red | 75 | 21 | |
| **EFGC.16.00042** | Gelb / Yellow | 150 | 42 | |
| **EFGC.16.000XX** | Schwarz / Black | 20 - 180 | 6 - 50 | |

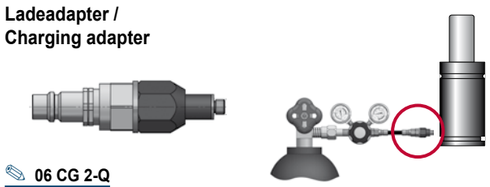
| Hub / Stroke | L ±0,25 | LG |
|---|---|---|
| **010** | **065** | 55 |
| **020** | **085** | 65 |
| **030** | **105** | 75 |
| **040** | **125** | 85 |
| **050** | **145** | 95 |
| **060** | **165** | 105 |
| **070** | **185** | 115 |
| **080** | **205** | 125 |
| **100** | **245** | 145 |
| **125** | **295** | 170 |




**Ladeadapter /**
**Charging adapter**



**06 CG 2-Q**

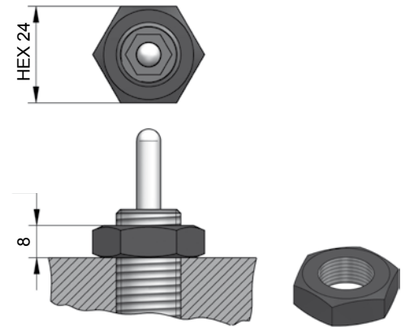


[22.03.2023]

[22.03.2023]

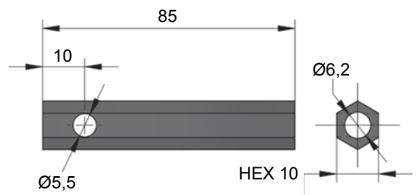


## Kontermutter für / Locknut for **EFGC.16**




**E23-016**

**Montageschlüssel / Key**




**LPT 10**

# EFGC.24

**Innensechskant**

**Technische Daten:**

| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

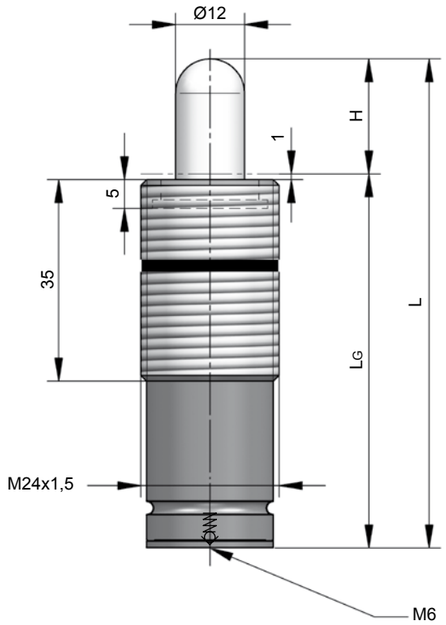
**Einwegfeder ist nicht reparierbar!**

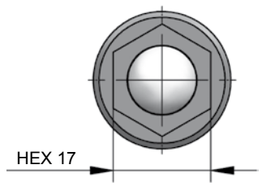
**Hexagon socket**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

**One-way spring is irreparable!**

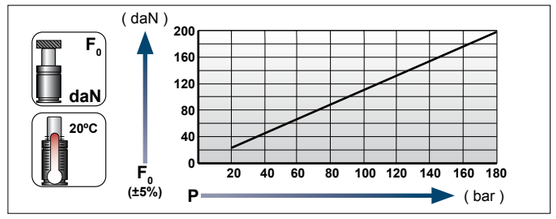


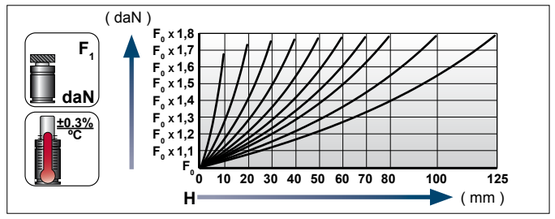



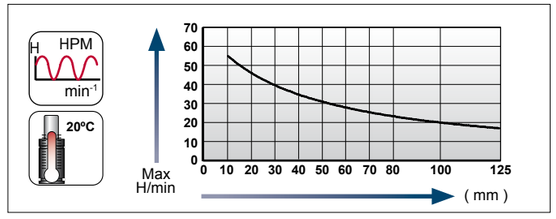

**EFGC.24.**
**00045.145.050**

| Typ / Type | Farbe / Color | Fülldruck Loading pressure [bar] | Kraft / Force Anfang / Initial [daN] | Kraft / Force Ende / Final [daN] |
|---|---|---|---|---|
| **EFGC.24.00023** | Grün / Green | 20 | 23 | Druckanstiegsfaktor (siehe Diagramm unten) / Pressure rising factor (see diagram below) |
| **EFGC.24.00045** | Blau / Blue | 40 | 45 | |
| **EFGC.24.00085** | Rot / Red | 75 | 85 | |
| **EFGC.24.00170** | Gelb / Yellow | 150 | 170 | |
| **EFGC.24.00XXX** | Schwarz / Black | 20 - 180 | 23 - 200 | |

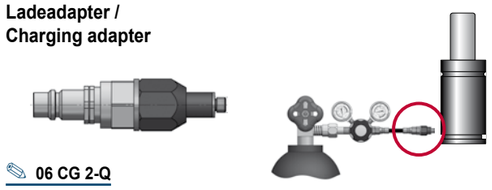
| Hub / Stroke | L ±0,25 | LG |
|---|---|---|
| **010** | **065** | 55 |
| **020** | **085** | 65 |
| **030** | **105** | 75 |
| **040** | **125** | 85 |
| **050** | **145** | 95 |
| **060** | **165** | 105 |
| **070** | **185** | 115 |
| **080** | **205** | 125 |
| **100** | **245** | 145 |
| **125** | **295** | 170 |




**Ladeadapter /**
**Charging adapter**



**06 CG 2-Q**

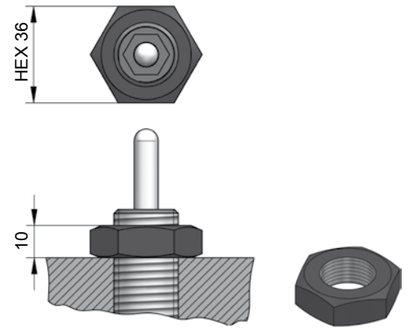


[22.03.2023]

[22.03.2023]

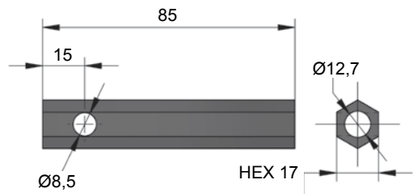


## Kontermutter für / Locknut for **EFGC.24**




**E23-024**

**Montageschlüssel / Key**

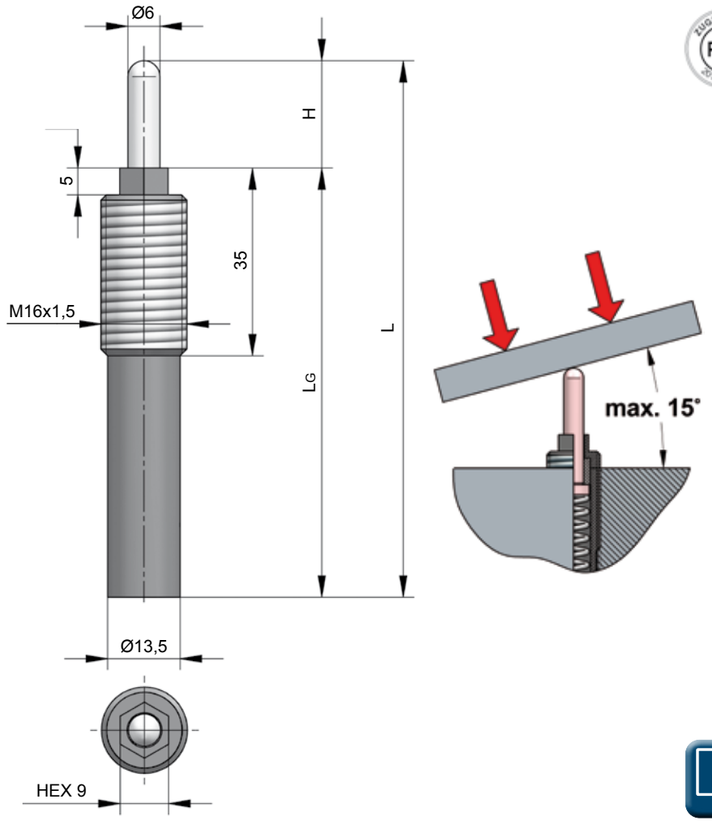



**LPT 17**

# MBFP

**Abdrückstift mit Stahlfeder für den Einsatz bis max. 15°**

**Plungers with steel spring for use up to max. 15°**







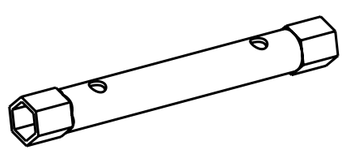
**MBFP.100.020**

| H<br>Hub / Stroke | L<br>±0,25 | LG | Kraft / Force<br>min.<br>[N] | <br>max.<br>[N] |
|---|---|---|---|---|
| **020** | **100** | 80 | 35 | 89 |
| **030** | **120** | 90 | 2 | 27 |
| **050** | **200** | 150 | 9 | 34 |

# LPV 8-9

**Montageschlüssel** **Key**

**LPV 8-9**



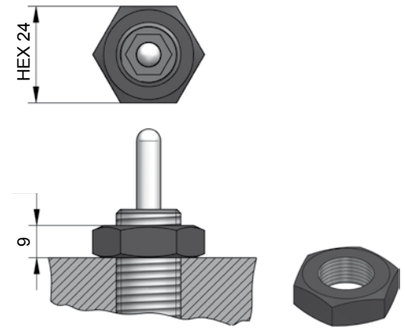




[22.03.2023]

**Abdrückstifte mit Stahlfeder**
**Plungers with steel spring**
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

Kontermutter für / Locknut for **MBFP**




**E23-016**

# EXU

**Teileheber mit Gasdruckfedern (AFNA oder AFC) für vertikalen Einbau**

**Technische Daten:**

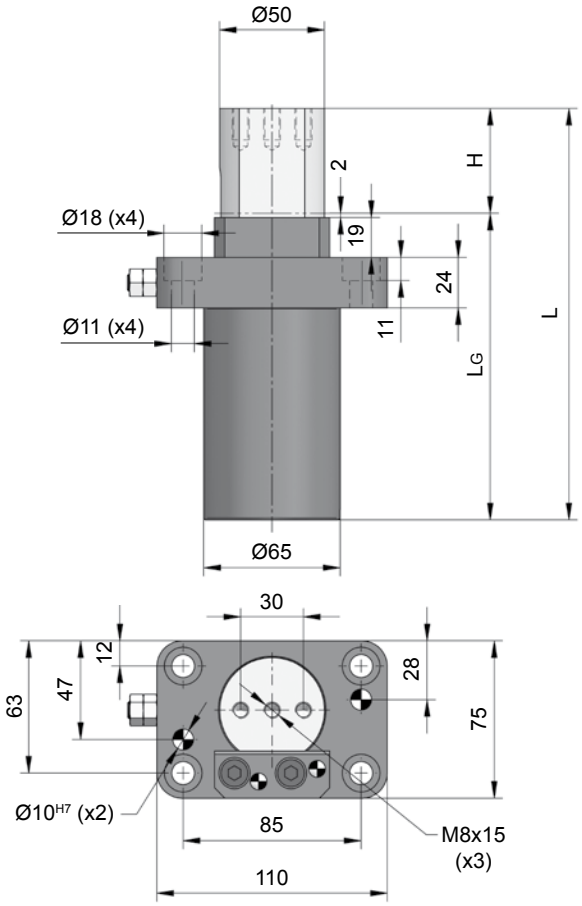
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Lifter with gas springs (AFNA or AFC) for vertical mounting**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

**EXU.00050.050**




| Typ / Type | Farbe / Color | Fülldruck Loading pressure [bar] | Kraft / Force Anfang / Initial [daN] | Ende / Final [daN] bei Hub / at stroke 050 | 080 | 100 |
|---|---|---|---|---|---|---|
| **EXU.00050** | Grün / Green | 45 | 50 | 75 | 84 | 93 |
| **EXU.00100** | Blau / Blue | 90 | 100 | 155 | 167 | 178 |
| **EXU.00150** | Rot / Red | 135 | 150 | 230 | 241 | 252 |
| **EXU.00200** | Gelb / Yellow | 180 | 200 | 305 | 318 | 327 |

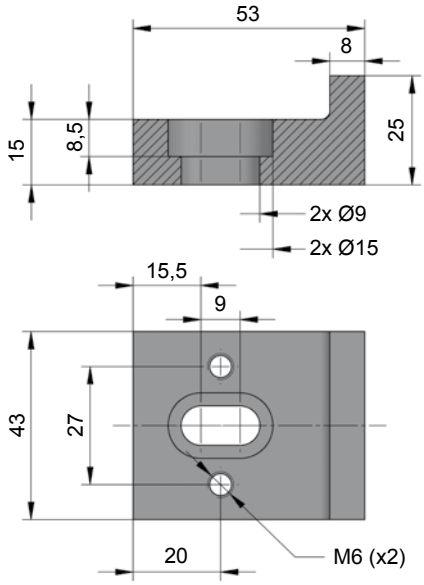
| Hub / Stroke | L ±0,25 | LG |
|---|---|---|
| **050** | 196 | 146 |
| **080** | 256 | 176 |
| **100** | 296 | 196 |

# UEX

**Hebeplatte**

**Liftingplate**

**UEX**



# EXY

**Teileheber mit Gasdruckfeder (AFNA oder AFC) für vertikalen und horizontalen Einbau**

**Technische Daten:**

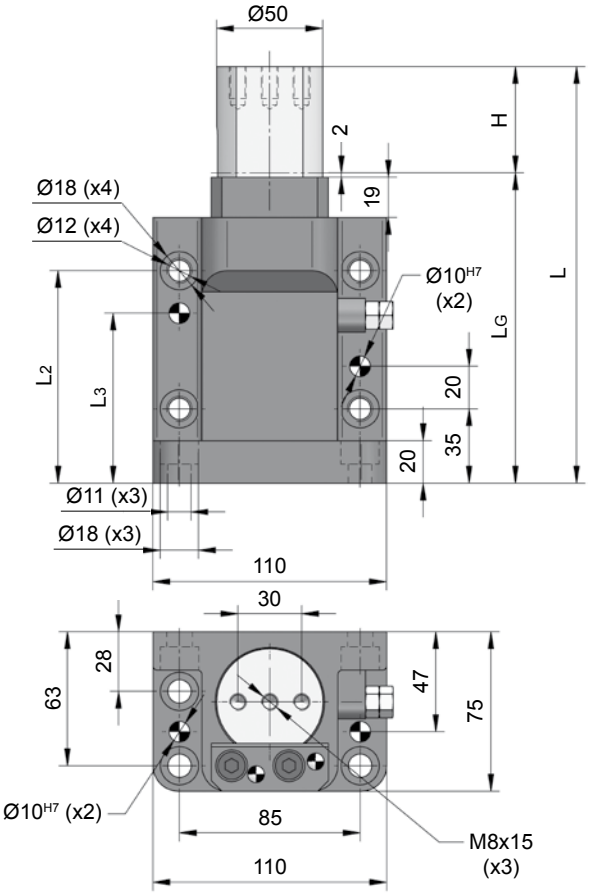
| | |
|---|---|
| Medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Arbeitstemperatur: | 0 - 80 °C |
| Max. Kolbengeschw.: | 1,6 m/s |

**Lifter with gas springs (AFNA or AFC) for vertical and horizontal mounting**

**Specifications:**

| | |
|---|---|
| Pressure medium: | $N_2$ |
| $P_{max.}$ (20 °C): | 180 bar |
| $P_{min.}$ (20 °C): | 20 bar |
| Operating temperature: | 0 - 80 °C |
| Max. piston rod speed: | 1,6 m/s |

**EXY.00100.080**




CAD MAIL

| Typ / Type | Farbe / Color | Fülldruck Loading pressure [bar] | Kraft / Force Anfang / Initial [daN] | Ende / Final [daN] bei Hub / at stroke 050 | 080 | 100 |
|---|---|---|---|---|---|---|
| **EXY.00050** | Grün / Green | 45 | 50 | 75 | 84 | 93 |
| **EXY.00100** | Blau / Blue | 90 | 100 | 155 | 167 | 178 |
| **EXY.00150** | Rot / Red | 135 | 150 | 230 | 241 | 252 |
| **EXY.00200** | Gelb / Yellow | 180 | 200 | 305 | 318 | 327 |

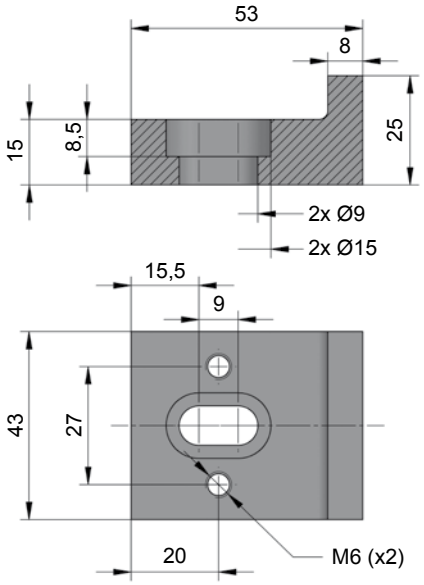
| Hub / Stroke | L ±0,25 | LG | L2 | L3 |
|---|---|---|---|---|
| **050** | 196 | 146 | 100 | 80 |
| **080** | 256 | 176 | 130 | 110 |
| **100** | 296 | 196 | 150 | 130 |

# UEX

**Hebeplatte**

**Liftingplate**

**UEX**




CAD MAIL

# SPVD . . .

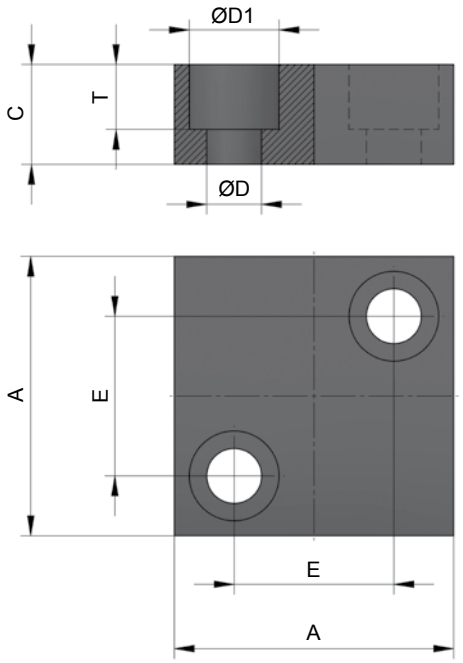
**Druckplatten, VDI 3003**

Mat.: F 125 / gehärtet

**Thrust plates, VDI 3003**

Mat.: F 125 / hardened

## SPVD 002




| Typ<br>Type | max. Kolbenstangen-Ø<br>max. piston rod-Ø | A | E | C | D | D1 | T |
|---|---|---|---|---|---|---|---|
| **SPVD 001** | 15 | 40 | 24 | 15 | 7 | 11 | 7 |
| **SPVD 002** | 50 | 70 | 50 | 15 | 9 | 15 | 9 |
| **SPVD 003** | 80 | 90 | 70 | 15 | 9 | 15 | 9 |

# SPFI . . .
# SPPS . . .

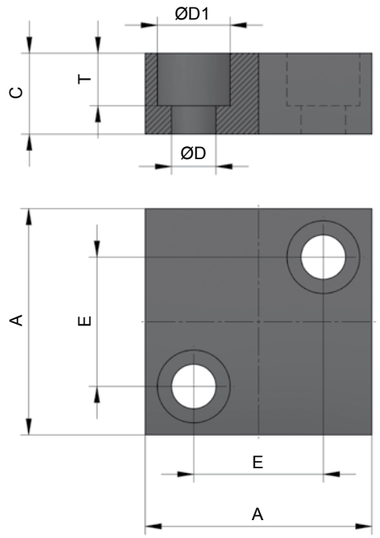
**Druckplatten**

Mat.: F 125 / gehärtet

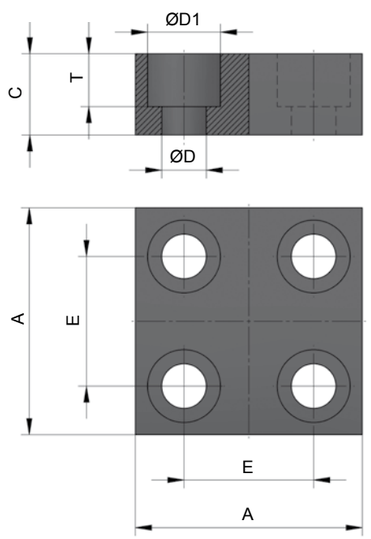
**Thrust plates**

Mat.: F 125 / hardened

**SPPS 003**




**SPFI**




**SPPS**

| Typ<br>Type | max. Kolbenstangen-Ø<br>max. piston rod-Ø | A | E | C | D | D1 | T |
|---|---|---|---|---|---|---|---|
| **SPFI 001** | 15 | 40 | 21 | 15 | 9 | 15 | 10 |
| **SPFI 002** | 25 | 56 | 32 | 20 | 11 | 18 | 13 |
| **SPFI 003** | 50 | 71 | 48 | 20 | 11 | 18 | 13 |
| **SPFI 004** | 65 | 90 | 67 | 20 | 11 | 18 | 13 |
| **SPFI 005** | 95 | 140 | 110 | 20 | 11 | 18 | 13 |

| Typ<br>Type | max. Kolbenstangen-Ø<br>max. piston rod-Ø | A | E | C | D | D1 | T |
|---|---|---|---|---|---|---|---|
| **SPPS 001** | 15 | 40 | 21 | 15 | 9 | 15 | 10 |
| **SPPS 002** | 25 | 56 | 32 | 20 | 11 | 18 | 13 |
| **SPPS 003** | 65 | 90 | 67 | 20 | 11 | 18 | 13 |
| **SPPS 004** | 95 | 140 | 110 | 20 | 11 | 18 | 13 |
| **SPPS 005** | 130 | 155 | 125 | 20 | 11 | 18 | 13 |

[AG]



[01.03.2023]

[01.03.2023]

GDF, Zubehör
GS, Accessories
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

Das Verbinden der Gasdruckfedern (GDF) mit Schläuchen zu einem oder mehreren Federsystemen bietet dem Anwender den Vorteil, dass der benötigte Stickstoffdruck im System über außerhalb am Werkzeug oder an der Maschine angebrachte Kontrollarmaturen überwacht werden kann. Im Bedarfsfall kann der Systemdruck durch Befüllen oder Ablassen den Bedürfnissen des Anwenders angepasst werden.

**Hinweis:** Bei GDF, die im Verbund eingesetzt werden, ist darauf zu achten, dass die Ventile aus den Gasdruckfedern entfernt werden müssen.

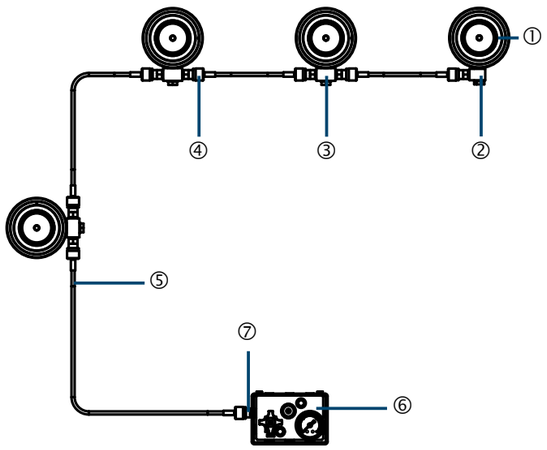
Für die Verschlauchung der GDF-Systeme stehen zwei unterschiedliche Varianten zur Verfügung:
1. Konus-System 24°
   (Seite Azol.39 - 40)
2. Messschlauch-System

The hosing of gas springs gives the operator the advantage and the possibility to easily monitor the pressure by externally - to the die or the press - mounted control units.
By simply loading or discharging nitrogen the pressure can be changed to meet the requirements.

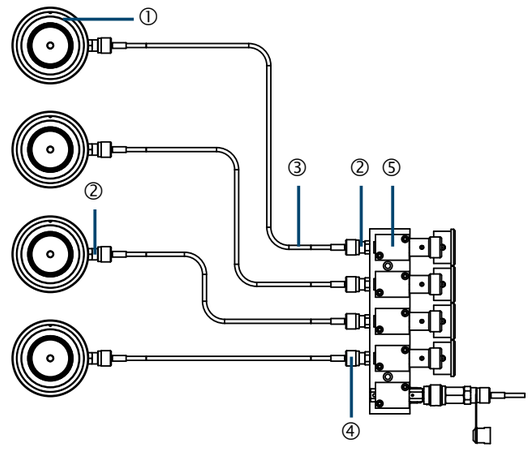
**Attention:** At hosed gas springs the valves have to be taken out first!

For hosing gas springs, we offer two different systems:
1. System 24° tapered
   (please see pages Azol.39-40)
2. „Measuring hoses"-system

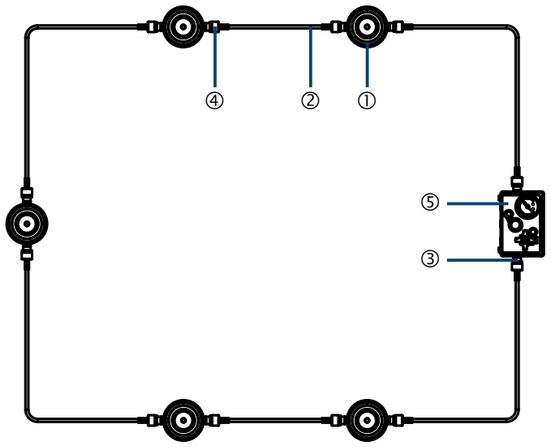
**Vorschläge / Proposals:**



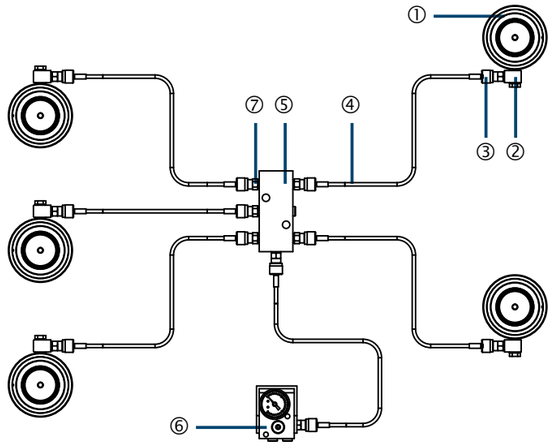

① AG.01500.050
② HS NF 2001-4-G1/8"
③ HS NF 3001-4-G1/8"
④ HS NHP 2
⑤ HS NH 220
⑥ 600-CPLC 01 V1
⑦ HS NF 1001-4-G1/8"




① AG.01500.050
② HS NF 1001-4-G1/8"
③ HS NH 220
④ HS NHP 2
⑤ 400-CPFG 04 01




① AG.01500.050
② HS NH 220
③ HS NF 1001-4-G1/8"
④ HS NHP 5
⑤ 600-CPLC 01 V1

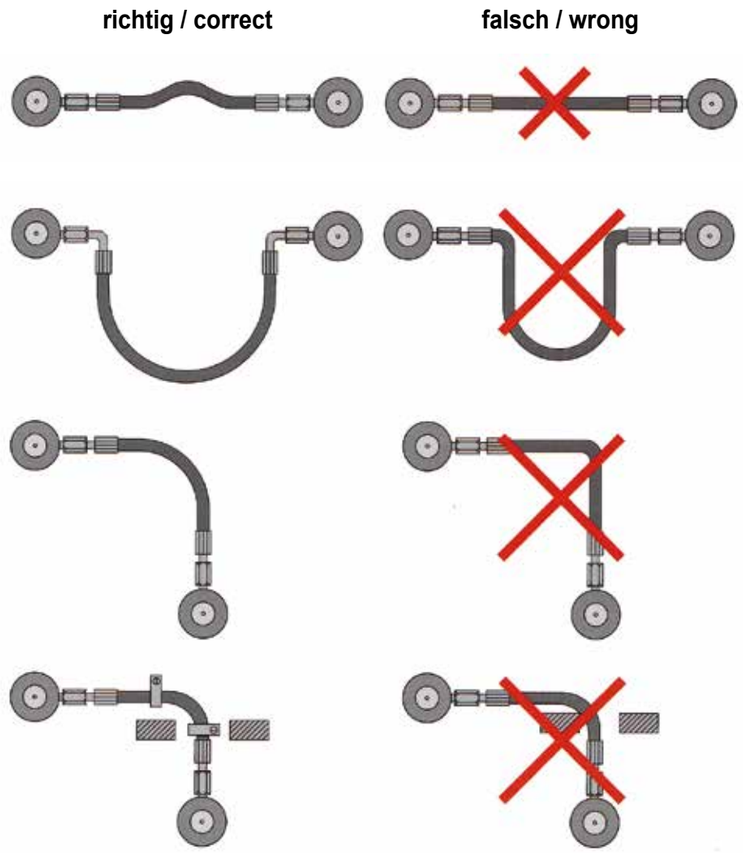



① AG.01500.050
② HS NF 2001-4-G1/8"
③ HS NHP 5
④ HS NH 220
⑤ PLD 4
⑥ 600-CPLC 01 V1
⑦ HS NF 1001-4-G1/8"

[AG]

Die Installation der Schlauchleitungen und die Umgebung in der sie benutzt werden beeinflussen die Lebensdauer einer Schlauchleitung. Die Länge der Schläuche muss so bestimmt werden, dass die Komponenten ohne Spannung verbunden werden können.
Ein wichtiger Faktor für die Lebensdauer des Schlauches ist die Berücksichtigung des Mindestbiegeradius (Biegeradius siehe Schlauchtabelle). Um Beschädigungen zu vermeiden, sollten die Schläuche zwischen den zu verbindenden Elementen auch mit Schlauchschellen befestigt werden.
**Achtung:** Schläuche bei der Montage nicht verdrehen.

The proper hosing and mounting of hosed systems as well as the (clean) environment and surrounding they are being run in, do affect their lifetime significantly.
By calculating the hose lengths, please make sure, the hoses are long enough, that no component has to work under tension.
Another important factor is the minimal bending radius (please see hose-table).
To avoid damaging, please fix hoses with hose clips between gas springs. Do not twist hoses!








## 600-CPLC 01 V1
## 600-CPLC 02 V1

**Kontrollarmaturen**

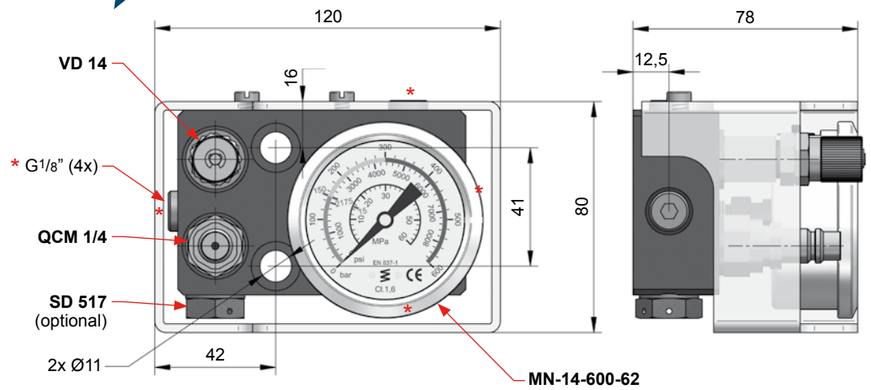
**600.CPLC.01.V1** = ohne Berstscheibe
**600.CPLC.02.V1** = mit Berstscheibe
**SD 517** (517 bar)

**Control-panels**

**600.CPLC.01.V1** = without rupture disk
**600.CPLC.02.V1** = with rupture disk
**SD 517** (517 bar)

**600-CPLC 01 V1**

NEU! NEW!




MAIL

## 600-CPGM 03 V1
## 600-CPGM 05 V1

**Kontrollarmaturen**

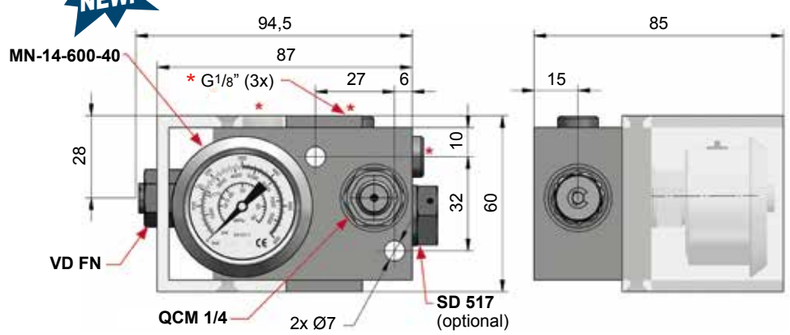
**600.CPGM.03.V1** = ohne Berstscheibe
**600.CPGM.05.V1** = mit Berstscheibe
**SD 517** (517 bar)

**Control-panels**

**600.CPGM.03.V1** = without rupture disk
**600.CPGM.05.V1** = with rupture disk
**SD 517** (517 bar)

**600-CPGM 03 V1**

NEU! NEW!




MAIL

# 400-CPFG...01

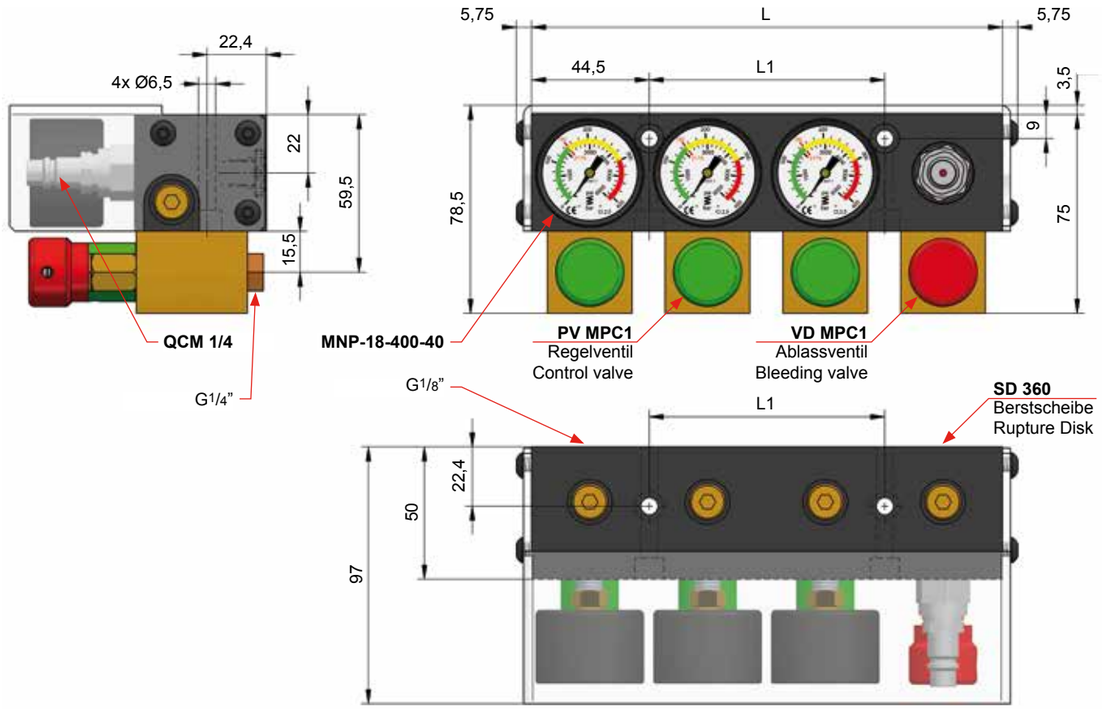
**Multi-Kontrollarmaturen**

**Hinweis:**
Die Multi-Kontrollarmatur kommt zum Einsatz, wenn GDF oder GDF-Gruppen mit unterschiedlichen Fülldrücken benötigt werden.
Über das Einlassventil/Stecknippel können die Federn/Gruppen mit Stickstoff befüllt werden.

**Multi-control-units**

**Note:**
In case gas springs or - groups need to show different pressures, this multi-control-unit is used.
The springs and systems are charged through the filling valves.

**400 CPFG2 01**




| Typ<br>Type | L | L1 | Anschlüsse<br>Connections |
|---|---|---|---|
| **400-CPFG 02 01** | 133,5 | 44,5 | 2 |
| **400-CPFG 03 01** | 178 | 89 | 3 |
| **400-CPFG 04 01** | 222,5 | 133,5 | 4 |
| **400-CPFG 05 01** | 267 | 178 | 5 |
| **400-CPFG 06 01** | 311,5 | 222,5 | 6 |
| **400-CPFG 08 01** | 400,5 | 311,5 | 8 |
| **400-CPFG 10 01** | 489,5 | 400,5 | 10 |



[01.03.2023]



# HS Z 20

Information:
Wird der Druckwächter direkt in eine Kontrollarmatur eingeschraubt benötigten Sie den Adapter **18 HI 1**.

Druckwächter werden im Druckbereich von 40 - 240 bar zur Überwachung des Systemdrucks eingesetzt. Bei Druckabfall wird bei Elektroanschluss die Maschine gestoppt. Bei Stickstoffverlust kann auch über optische oder akustische Signale gewarnt werden.

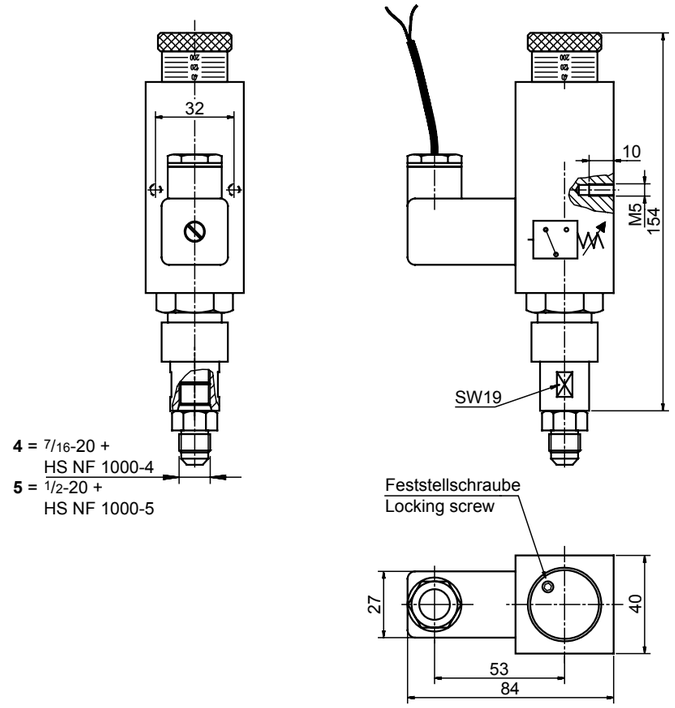
Bei der Bestellnummer ergänzen:
**4 =** Anschluss 7/16 - 20
+ HS NF 1000-4
**5 =** Anschluss 1/2 - 20
+ HS NF 1000-5

Information:
In case the pressure monitor is used in connection with a control panel, the Adapter **18 HI 1** is needed.

These units are being used to monitor the system-pressure (between 40 and 240 bars). In cases of a pressure decrease optical / accustical warnings can be initiated or the press can even be stopped.

**HS Z 20 - 4**

When ordering, please specify:
**4 =** Connection-thread 7/16 - 20
+ HS NF 1000-4
**5 =** Connection-thread 1/2 - 20
+ HS NF 1000-5






[01.03.2023]

## PLD 2

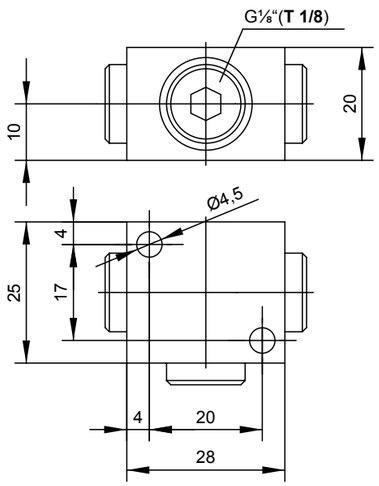
**Verteilerblocks**

**Achtung:**
Benötigte Anschlussstücke siehe Seite Azol.45.

**Distribution blocks**

**Attention:**
For fitting connectors please see page Azol.45.

PLD 2




## PLD 4

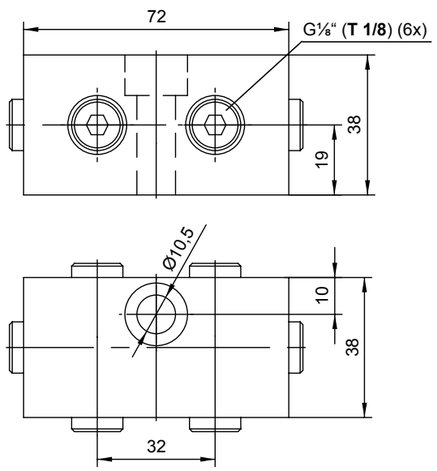
**Verteilerblocks**

**Achtung:**
Benötigte Anschlussstücke siehe Seite Azol.45.

**Distribution blocks**

**Attention:**
For fitting connectors please see page Azol.45.

PLD 4








[01.03.2023]



## PLH 1/8

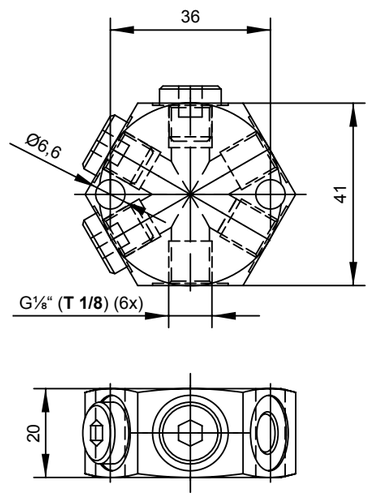
**Verteilerblocks**

**Achtung:**
Benötigte Anschlussstücke siehe Seite Azol.45.

**Distribution blocks**

**Attention:**
For fitting connectors please see page Azol.45.

PLH 1/8




## PLD 7

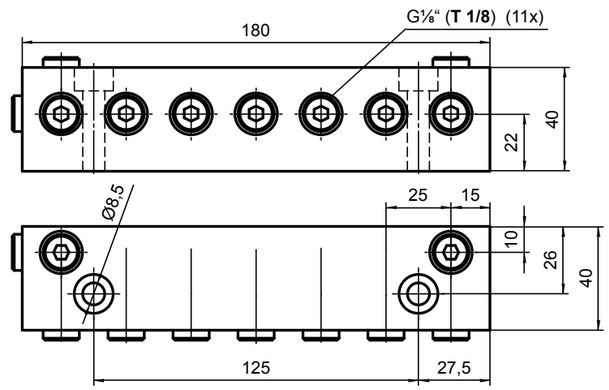
**Verteilerleisten**

**Achtung:**
Benötigte Anschlussstücke siehe Seite Azol.45.

**Distribution blocks**

**Attention:**
For fitting connectors please see page Azol.45.

PLD 7



# PLD 10

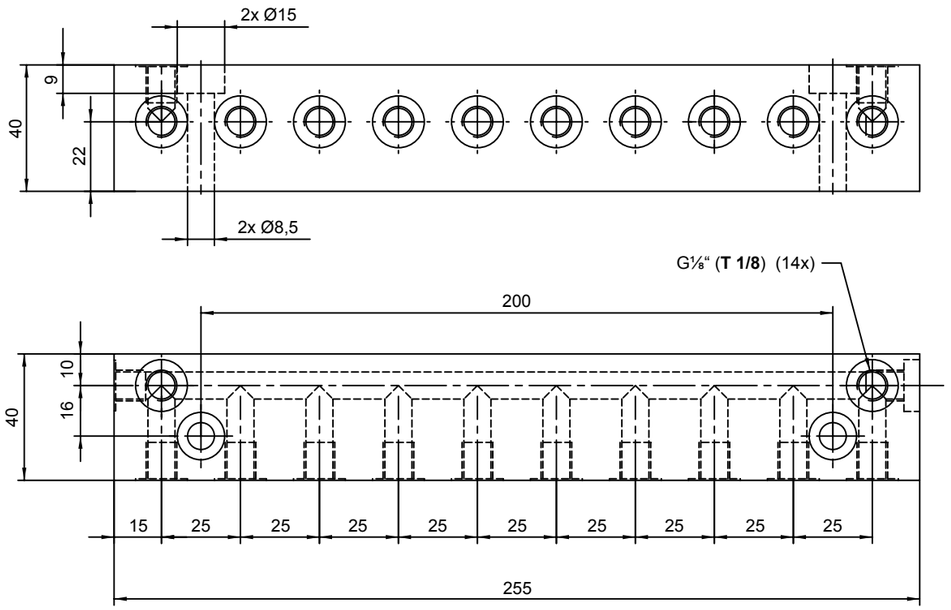
**Verteilerleisten**

**Achtung:**
Benötigte Anschlussstücke siehe Seite Azol.45.

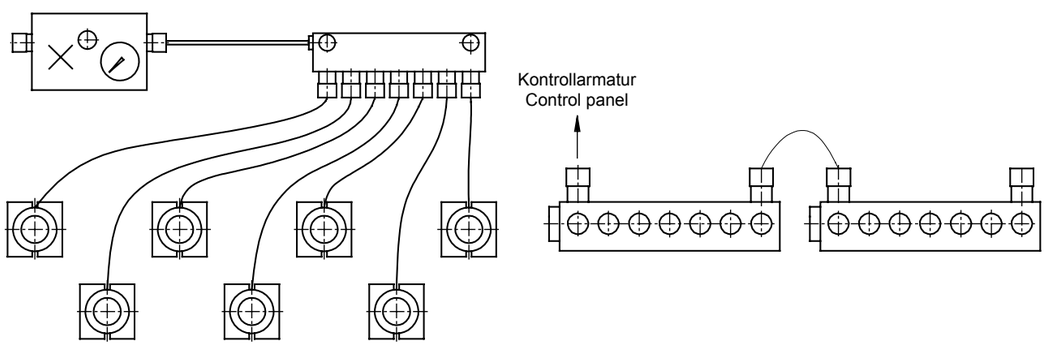
**Distribution blocks**

**Attention:**
For fitting connectors please see page Azol.45.

**PLD 10**




**Beispiel / Example**








[01.03.2023]



# . . . . . .

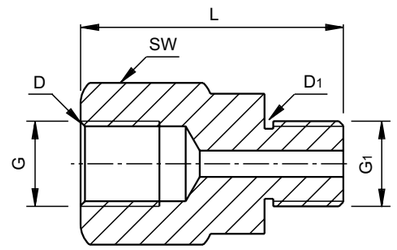
**Ladeadapter**

Dichtung Typ P: flach
Dichtung Typ T: O-Ring

**Charging adapters**

Seal Type P: flat
Seal Type T: O-ring

**18 HI 1**



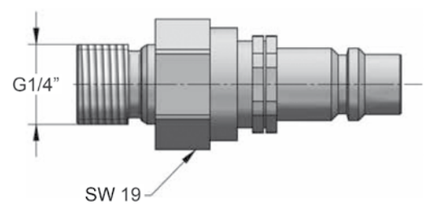

| Typ<br>Type | D | G | G1 | D1 | SW | L |
|---|---|---|---|---|---|---|
| **18 HI 1** | T | 1/2“-20 | G1/8“ | P | 16 | 30 |
| **06 HI 4** | T | 7/16“-20 | M6-lang / long | T-T | 19 | 34 |
| **18 GA 5** | P | G1/8“ | G1/8“ | P | 16 | 25 |
| **18 GA 4** | P | G1/8“ | G1/8“ | P | 17 | 20 |
| **06 GA 11** | P | G1/8“ | M6-lang / long | P | 13 | 28 |
| **06 HI 5** | P | 1/2“-20 | M6-lang / long | T-T | 19 | 34 |
| **18 HI 4** | P | 1/2“-20 | G1/8“ | P | 19 | 30 |

# QCM 1/4

**Stecknippel**

**Male quick release couplings**

**QCM 1/4**

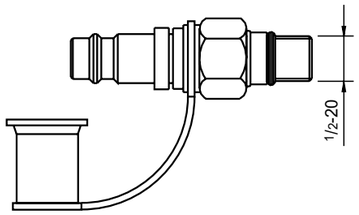


## HS 11-700-8555

**Stecknippel (HS NDZ-22)**

**Male quick release couplings (HS NDZ-22)**

**HS 11-700-8555**



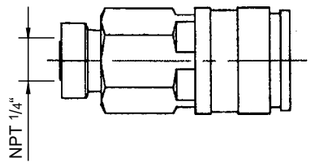

MAIL

## HS 11-770-2700

**Steckkupplungen (HS NDZ-21A)**

**Female quick release couplings (HS NDZ-21A)**

**HS 11-770-2700**




MAIL





Speichertanks können den Druckanstiegs-Faktor signifikant reduzieren und damit unter anderem auch die Wärmeentwicklung, was zusätzlich zu längeren Standzeiten der Gasdruckfedern führt.

Aufgrund der von Fall zu Fall stark voneinander abweichenden Anforderungen sind diese Tanks in unterschiedlichsten Ausführungen und Größen erhältlich. Bei der entsprechenden Auswahl und Spezifikation helfen wir gerne.

Bitte nennen Sie uns in diesem Fall
- die gewünschte Kraft
- die benötigte Hublänge
- die ungefähre Anzahl und maximale Größe der Gasdruckfedern
- den angestrebten Druckanstieg (empfohlen zwischen 5 % und 20 %)

Sollten Sie sich bereits für ein Gasdruckfeder-Modell bzw. eine Abmessung entschieden haben, teilen Sie uns auch dies gerne mit.

Compression tanks can significantly reduce the pressure rise factor and thereby the temperature increase, which additionally results in longer service lives of the gas springs.

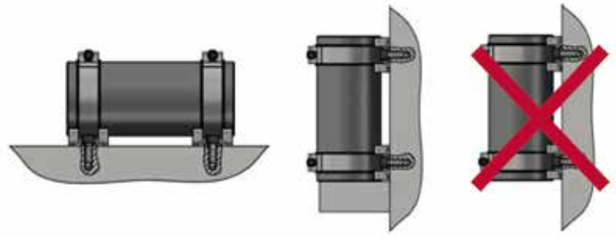
Due to the widely spread requirements in regards to volumes, sizes etc., these tanks are available in different designs, forms and shapes.
We will gladly help you with the appropriate selection and specification.

In that case, please specify
- the desired force
- the required stroke length
- the approximate number and maximum size of the gas springs, and
- the target pressure rise factor (recommended between 5% and 20%)

If you have already decided on a gas spring model or dimension, please let us know as well.

**Speichertanks und Ausführungen auf Anfrage!**

**Compression tanks and designs on demand!**



MAIL

## AZOL Hinweisschild

AZOL Hinweisschild D

Märkische Stanz-Partner Normalien GmbH
Jüngerstraße • D-58515 Lüdenscheid
Tel. +49 (0) 23 51 / 6 61 07-0 • Fax +49 (0) 23 51 / 6 61 07-77

### ACHTUNG

Werkzeug/Presse ist mit Gasdruckfedern bestückt.

Fülldruck max. 150 bar - 180 bar - 200 bar

**Achtung:**
Arbeiten am System nur im drucklosen Zustand.
Bitte Wartungsanleitung lesen.

Druck max. ..... bar Arbeitsdruck ..... bar

Märkische Stanz-Partner Normalien GmbH
Jüngerstraße • D-58515 Lüdenscheid
Tel. +49 (0) 23 51 / 6 61 07-0 • Fax +49 (0) 23 51 / 6 61 07-77

### Attention

This die / this press utilizes nitrogen gas springs with high pressure (150 bar - 180 bar - 200 bar) and the resulting very high forces.

Repair and maintenance must only take place after the unit(s) have been unloaded and unpressured!

Pressure max. ..... bar Working pressure ..... bar





## HS NCA 3000

Abfüllarmaturen | Charging assemblies

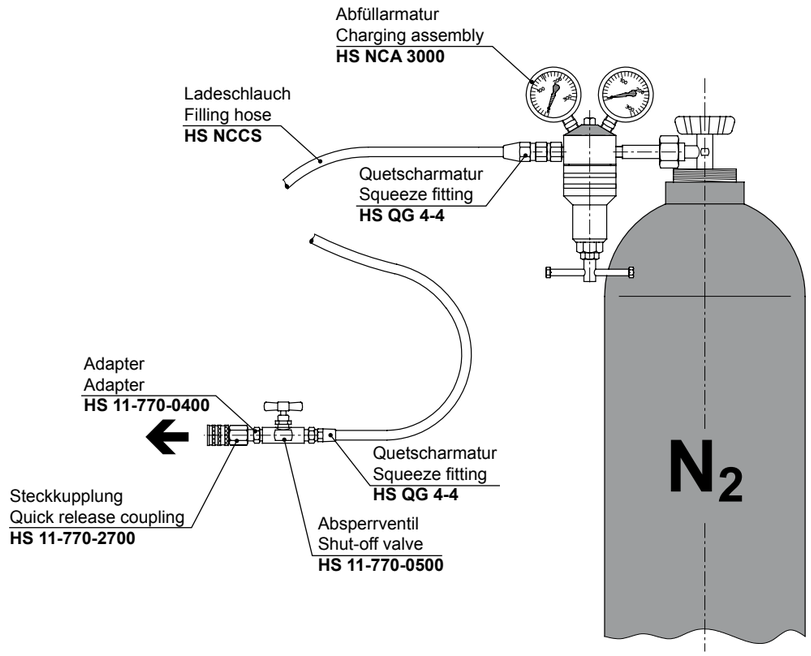
HS NCA 3000

## HS NCCS

Ladeschläuche | Filling hoses

Standardlänge: 3000 mm | Standard length: 3000 mm

HS NCCS



# A 400 C

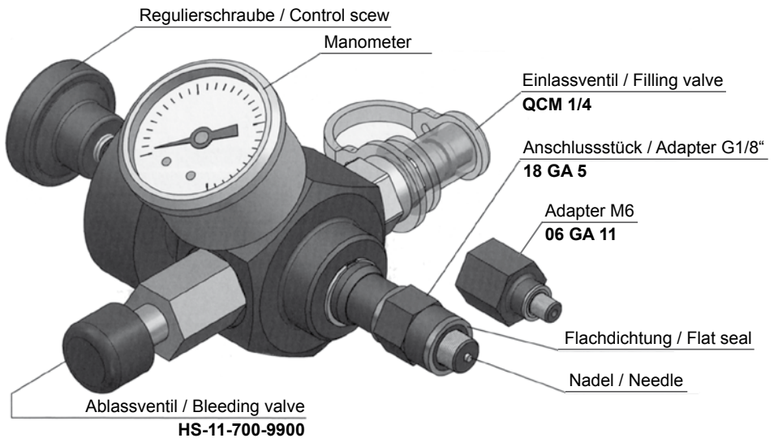
Kontroll- und Ladearmatur zur Druckkontrolle von Stickstoff-Zylindern.
Über das Einlassventil der Armatur kann der Druck erhöht werden.
Über das Ablassventil kann der Druck reduziert oder der Zylinder in einen drucklosen Zustand versetzt werden.

Lieferumfang:
1 x Kontroll-Ladearmatur **A 400 C**
1 x Adapter **06 GA 11** (M6)
1 x Adapter **18 GA 5** (G1/8)

Pressure control unit for pressure monitoring of gas springs.
The filling valve is used to charging the spring and increasing its pressure, while the bleeding valve reduces the load, possibly even down to 1 bar only.

Included are
1 x pressure control unit **A 400 C**
1 x adapter **06 GA 11** (M6)
1 x adapter **18 GA 5** (G1/8)

**A 400 C**

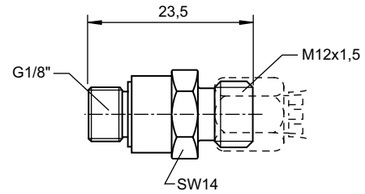





[01.03.2023]
[01.03.2023]

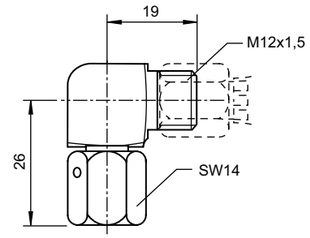


**Anschlussstücke, gerade / Straight Fittings**



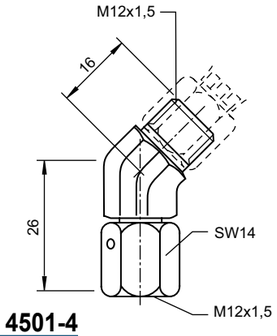

**HS NF 1001-4-G1/8**

**Winkelstücke 90° / Threaded joints, 90°**



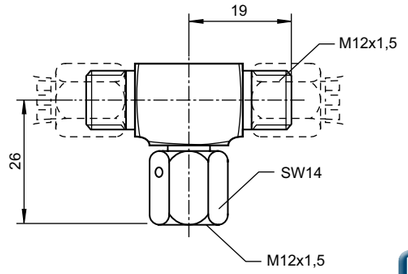

**HS NF 2001-4**

**Winkelstücke 45° / Threaded joints, 45°**



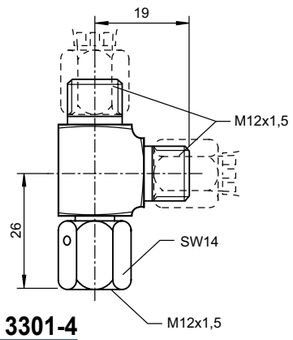

**HS NF 4501-4**

**T-Anschlussstücke / T-Connectors**



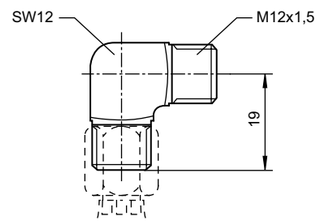

**HS NF 3001-4**

**L-Anschlussstücke / L-Connectors**



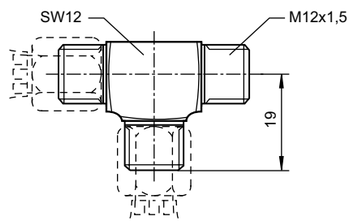

**HS NF 3301-4**

**Winkelstücke 90° / Threaded joints, 90°**



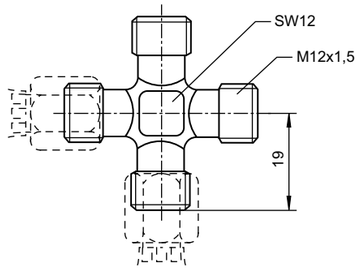

**HS NF 2501-4**

**T-Anschlussstücke / T-Connectors**




**HS NF 3501-4**

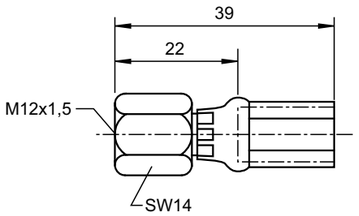
**Anschlussstücke, Kreuz / Adapters cross**




**HS NF 5501-4**

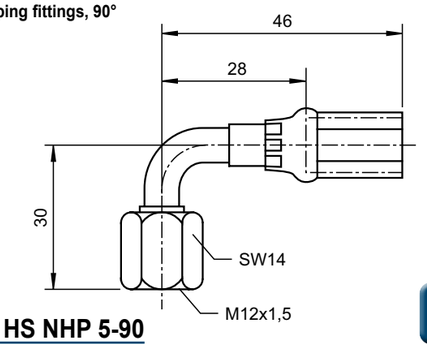
**Hochdruckschläuche komplett mit Pressarmaturen nach Kundenangaben (HS NH 220) /**
**High pressure hoses, complete with pressed-on adapters as per customers' specifications (HS NH 220)**

**Pressarmaturen, gerade /**
**Crimping fittings, straight**



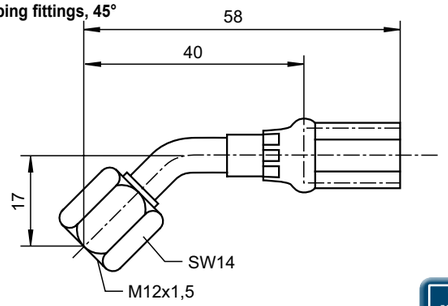

**HS NHP 5**

**Pressarmaturen 90° /**
**Crimping fittings, 90°**



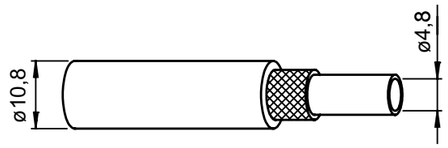

**HS NHP 5-90**

**Pressarmaturen 45° /**
**Crimping fittings, 45°**




**HS NHP 5-45**

**Hochdruckschläuche (Pressschläuche) /**
**High pressure hoses, flexible**



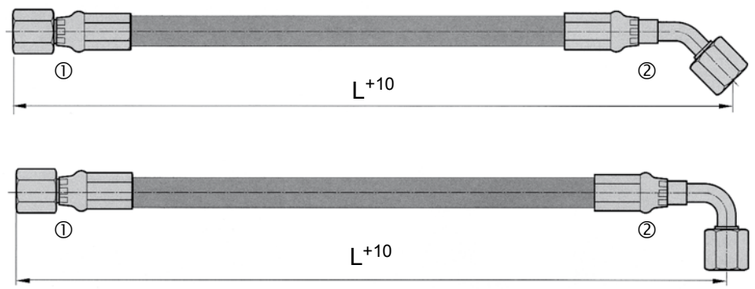

Biegeradius / Bending radius = 38 mm

**HS NH 220**

**Bitte bei Bestellung angeben:**

**L = Gesamtlänge [mm]**
**$L_{min}$ = 200 mm**
**① = Typ Armatur 1**
**② = Typ Armatur 2**
**α = Lage der Anschlüsse bei abgewinkelten Armaturen**

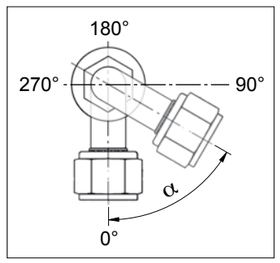
**Hinweis:**
Bei der Festlegung der Gesamtlänge müssen die Verlegehinweise von Seite Azol.26 beachtet werden!




**Please specify when ordering:**

**L = Total length [mm]**
**$L_{min}$ = 200 mm**
**① = Type fitting 1**
**② = Type fitting 2**
**α = When using angled fittings: degrees of angle**

In order to calculate the exact hose-lengths, please follow the instructions on page Azol.26.




**HS NH 220 / 380 / HS NHP 5-45 / HS NHP 5-90 / 60°**

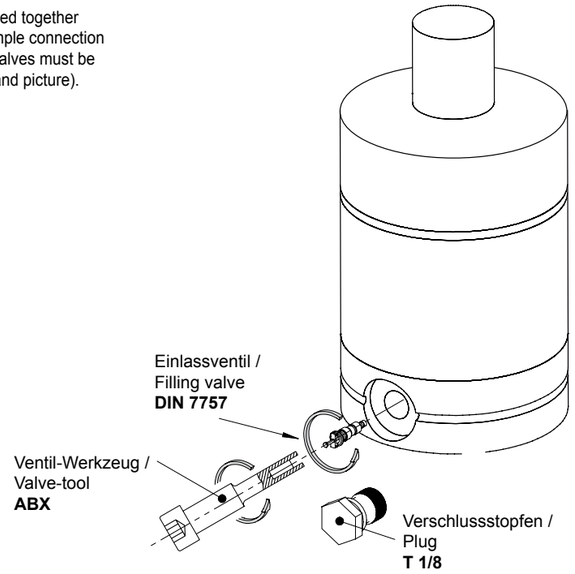



[01.03.2023]

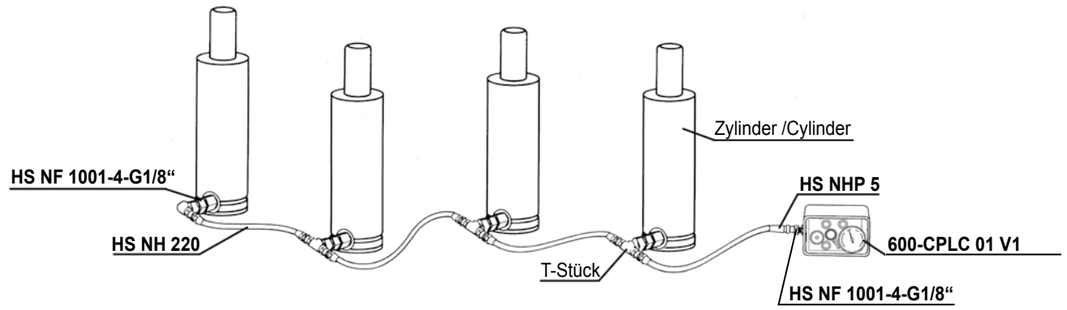


**Hinweis:**
Bei AZOL GAS Gasdruckfedern, die im Verbund eingesetzt werden (siehe Anschlussschema), ist darauf zu achten, dass die Ventile aus den Gasdruckfedern entfernt werden müssen (siehe rechts).

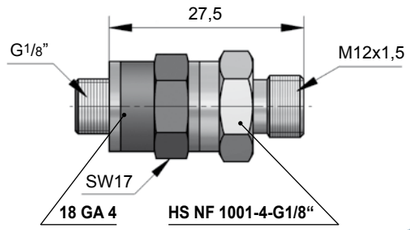
**Attention:**
If gas-springs are hosed together (like shown in the sample connection diagram below), the valves must be removed (see right hand picture).




**Anschlussschema / Connection diagram**

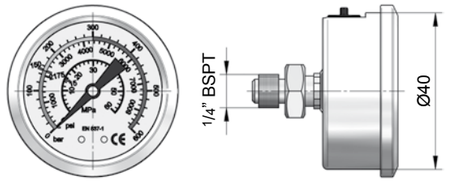


**Anschlussstücke HS NF 1001-4-G1/8“ mit Adapter 18 GA 4 /**
**Straight fittings HS NF 1001-4-G1/8“ with adapter 18 GA 4**



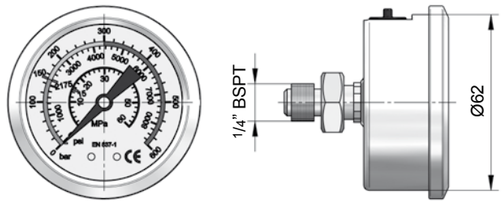

**HS NF 1003-4-G1/8“**

**Kontrollarmaturen 600 bar / Control panels 600 bar**



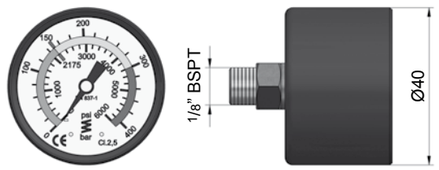

**MN-14-600-40**

**Kontrollarmaturen 600 bar / Control panels 600 bar**



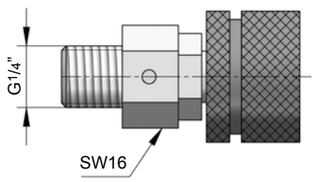

**MN-14-600-62**

**Kontrollarmaturen 400 bar / Control panels 400 bar**



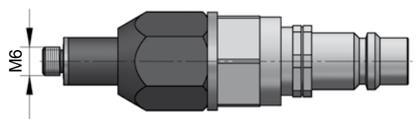

**MNP-18-400-40**

**Ablassventile / Bleeding valves**



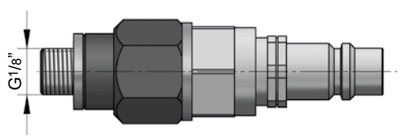

**VD 14**

**Ladeadapter / Charging adapters**



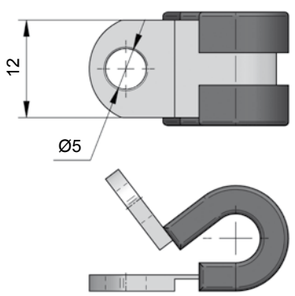

**06 CG 2-Q**

**Ladeadapter / Charging adapters**




**18 CG 1-Q**

**Schlauchschellen / Hose clamps**




**RBP 10**



[01.03.2023]

[01.03.2023]

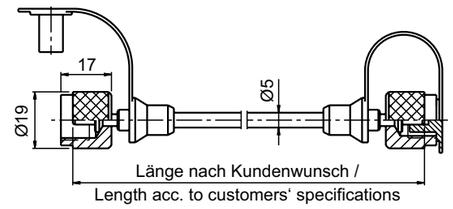


**Schlauchlängen nach Kundenwunsch! /**
**Hose length acc. to customer‘s specifications**

Standardlängen / Standard lengths [mm]:

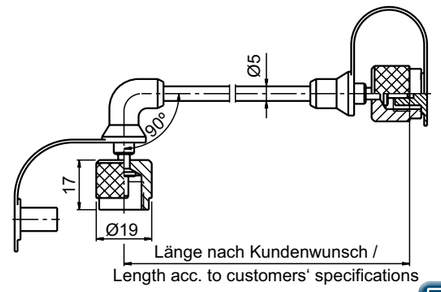
| | | |
|---|---|---|
| 200 | 700 | 2000 |
| 300 | 800 | 2500 |
| 400 | 900 | 3000 |
| 500 | 1000 | |
| 600 | 1500 | |

**Schläuche / Hoses SGS**



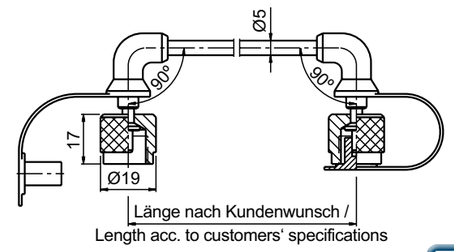

**SGS.00200**

**Schläuche / Hoses RGS**



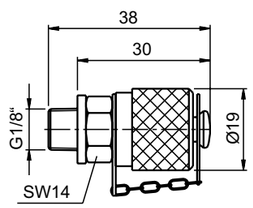

**RGS.00300**

**Schläuche / Hoses RGR**



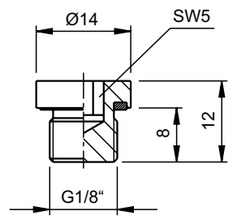

**RGR.00400**

**Anschlussstücke mit Ventil und Schutzkappe SKK 12R 1/8 /**
**Adapters with valve and cover SKK 12R 1/8**



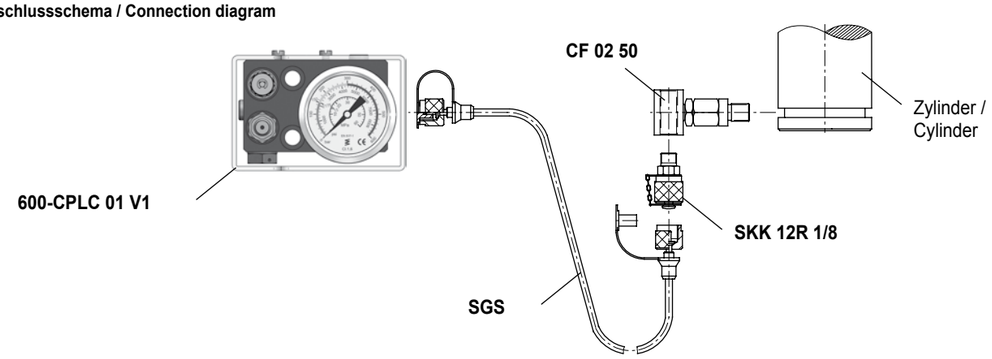

**SKK 12R 1/8**

**Verschlussstopfen / Plugs – T 1/8**




**T 1/8**

**Anschlussschema / Connection diagram**

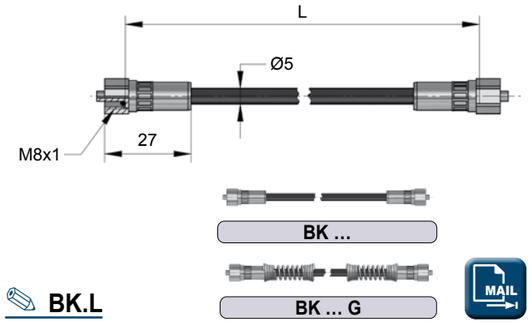


**Schlauchlängen nach Kundenwunsch! /**
**Hose length acc. to customer‘s specifications**

Standardlängen / Standard lengths [mm]:

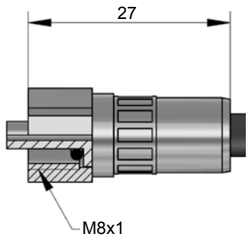
| | | |
|---|---|---|
| 200 | 800 | 2000 |
| 300 | 1000 | 2500 |
| 400 | 1200 | 3000 |
| 500 | 1250 | |
| 630 | 1500 | |

**Schläuche (inkl. Pressarmaturen BKRT) /**
**Hoses (incl. Crimping fittings BKRT)**



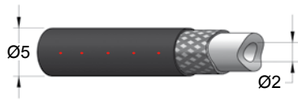

**BK.L**

**Pressarmaturen / Crimping fittings**




**BKRT**

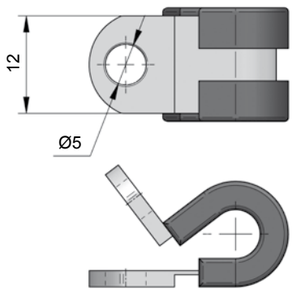
**Hochdruckschläuche / High pressure hoses**




Pmax 400 bar
Tmax 100 °C
Rmin 20 mm

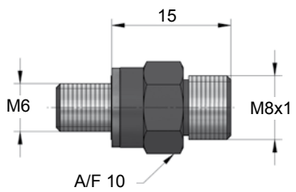
**GF .L**

**Schlauchschellen / Hose clamps**



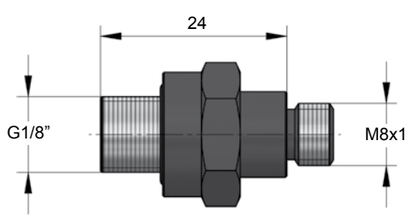

**RBP 5**

**Anschlussstücke / Adapters**




**KRM6**

**Anschlussstücke / Adapters**




**KRM8**

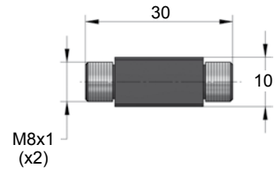


[01.03.2023]

[01.03.2023]

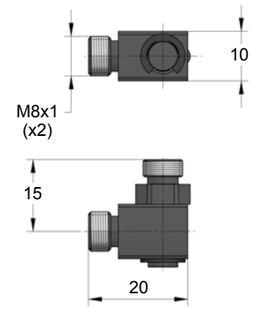
GDF, Zubehör
GS, Accessories
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

**Anschlussstücke / Adapters**



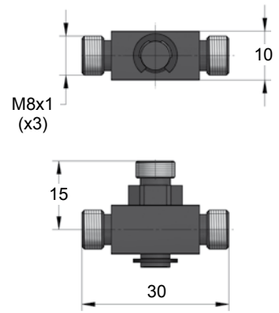

**KRMK1**

**Anschlussstücke / Adapters**



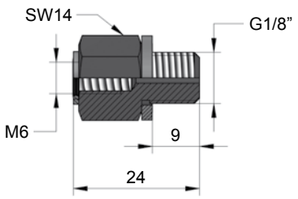

**KCMK1**

**Anschlussstücke / Adapters**



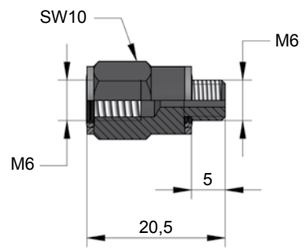

**KTMK1**

**Anschlussstücke / Adapters**



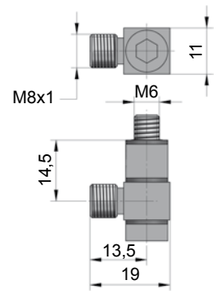

**18 MS 1**

**Anschlussstücke / Adapters**



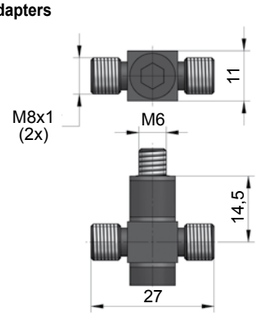

**06 MS 3**

**Anschlussstücke / Adapters**




**90 BK1**

**Anschlussstücke / Adapters**




**TEBK1**



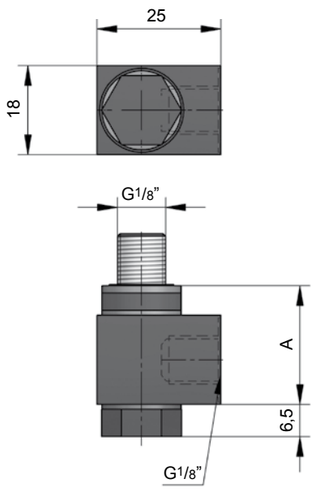
[AG]

[AG]

## CF 01

Anschlussstücke, 1-fach | One way adapters

CF 01 24

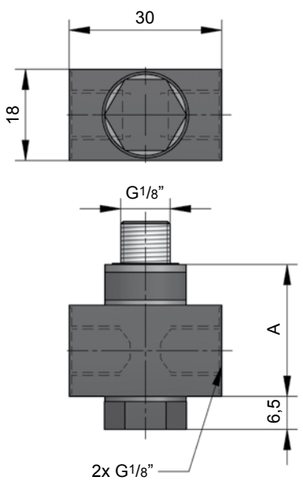



| Typ / Type | A |
|---|---|
| **CF 01 24** | 24 |
| **CF 01 38** | 38 |
| **CF 01 48** | 48 |

## CF 02

Anschlussstücke, 2-fach | Two way adapters

CF 02 40




| Typ / Type | A |
|---|---|
| **CF 02 26** | 26 |
| **CF 02 40** | 40 |
| **CF 02 50** | 50 |





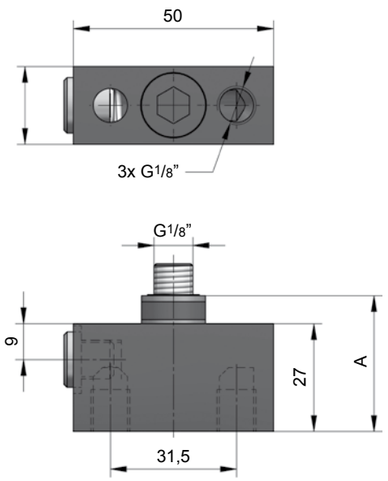


GDF, Zubehör
GS, Accessories
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS

## CF 03

Anschlussstücke, 3-fach | Three way adapters

CF 03 55

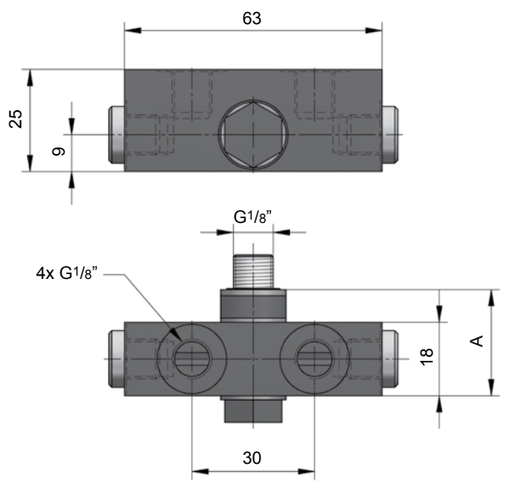



| Typ / Type | A |
|---|---|
| **CF 03 34** | 34 |
| **CF 03 48** | 48 |
| **CF 03 55** | 55 |

## CF 04

Anschlussstücke, 4-fach | Four way adapters

CF 04 26

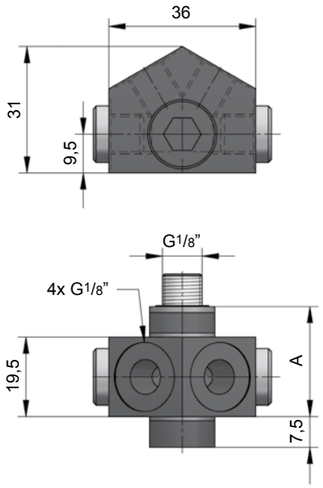



| Typ / Type | A |
|---|---|
| **CF 04 26** | 26 |
| **CF 04 40** | 40 |
| **CF 04 50** | 50 |

# CF 05

Anschlussstücke, 5-fach | Five way Adapters

## CF 05 41



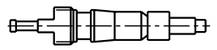

| Typ / Type | A |
|---|---|
| CF 05 27 | 27 |
| CF 05 41 | 41 |
| CF 05 48 | 48 |



[01.03.2023]
[01.03.2023]



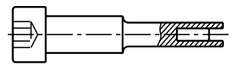
**Ventile / Valves**



Anzugskraft / Torque: 0,8 Nm

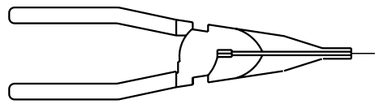
**DIN 7757**

**Ventil-Werkzeuge / Valve-tools**



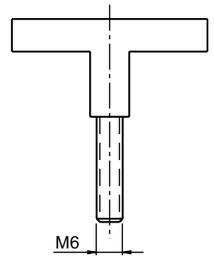
**ABX**

**Ventil-Zangen / Valve-pliers**



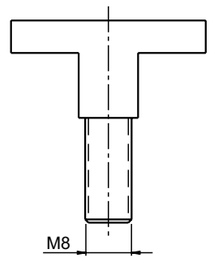
**A 800**

**Montage-Werkzeuge (Kolbenstange) / Assembly tools (Piston rod)**



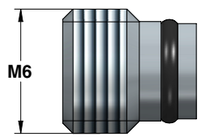

**LM 6**

**Montage-Werkzeuge (Kolbenstange) / Assembly tools (Piston rod)**




**LM 8**

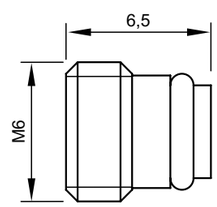
**Ventile / Valves**




**wird für kleine Abmessungen benötigt / needed for small dimensions**

**VKC-M6**

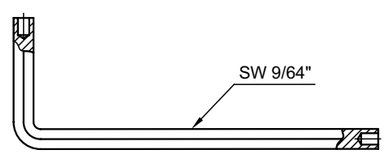
**Ventile / Valves**




Anzugskraft / Torque: 0,5 Nm

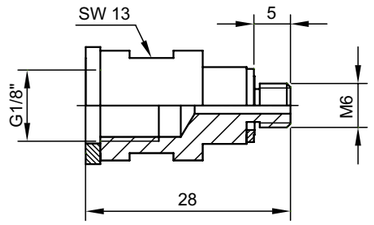
**XTC-M6**

**Sechskantschlüssel / Hexagon socket head wrenches**



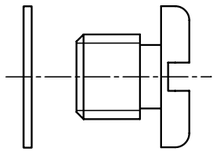

**ALXTC**

### Ladeadapter / Filling adapters



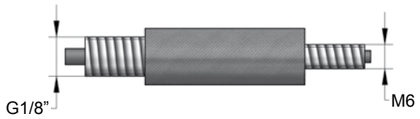

**06 GA 11**

### Stopfen / Plugs



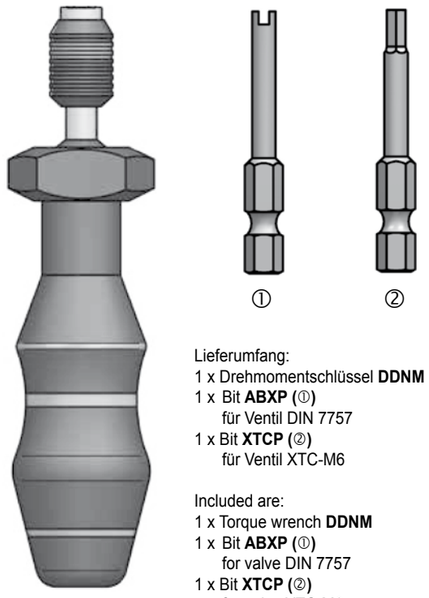
**T M6**

### Entlüftungswerkzeug / Bleeding tools




**A 550 1/8-M6**

### Drehmomentschlüssel / Torque wrenches

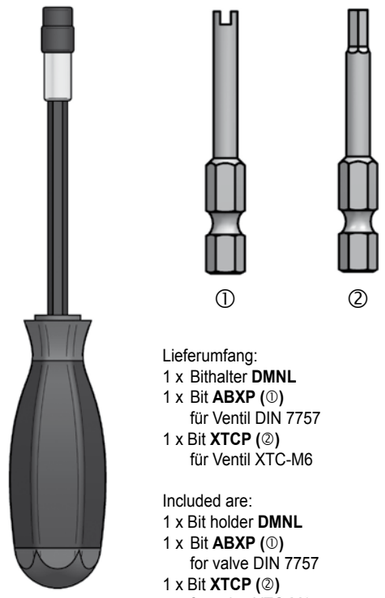



Lieferumfang:
1 x Drehmomentschlüssel **DDNM**
1 x Bit **ABXP** (①)
für Ventil DIN 7757
1 x Bit **XTCP** (②)
für Ventil XTC-M6

Included are:
1 x Torque wrench **DDNM**
1 x Bit **ABXP** (①)
for valve DIN 7757
1 x Bit **XTCP** (②)
for valve XTC-M6

**DDNM**

### Bithalter / Bit holder




Lieferumfang:
1 x Bithalter **DMNL**
1 x Bit **ABXP** (①)
für Ventil DIN 7757
1 x Bit **XTCP** (②)
für Ventil XTC-M6

Included are:
1 x Bit holder **DMNL**
1 x Bit **ABXP** (①)
for valve DIN 7757
1 x Bit **XTCP** (②)
for valve XTC-M6

**DMNL**

[AG]



[01.03.2023]

[01.03.2023]



## BDP 5

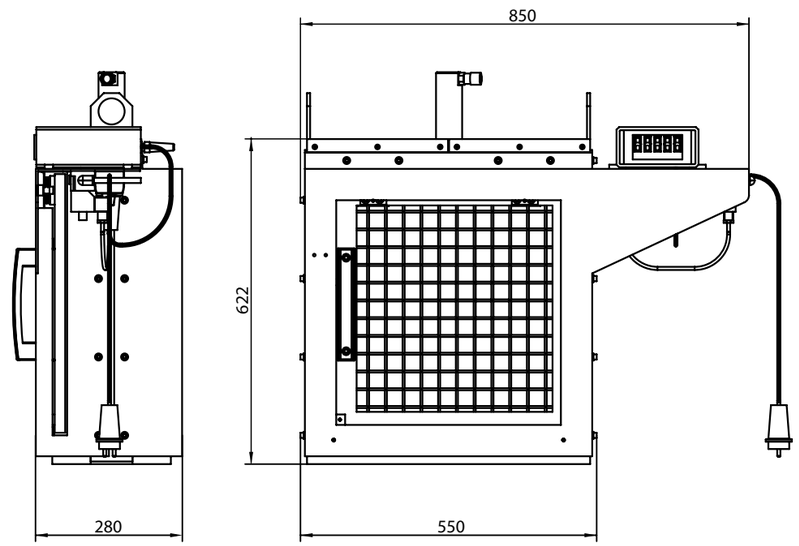
**Kraftmessgerät mit digitaler Anzeige für Gasdruckfedern Tischgerät mit Sicherungskäfig**

**Gas-Spring - Dynamometer with digital display. Table-mounted version with protective metal-housing**

**BDP 5 N**

Ausführung:
**N** = Pneumatik (Luftanschluss)
**M** = manuell (hydraulische Handpumpe, 150 mm Weg)

Options:
**N** = Pneumatic (compressed air required)
**M** = Manual style, hydraulic hand pump with a 150 mm stroke-length




**Das Modell BDP 5 muss vor Inbetriebnahme auf einer stabilen Fläche befestigt werden.**

**ACHTUNG:
Kraftmessgeräte dürfen nur bei geschlossenem Sicherungskäfig in Betrieb genommen werden.**

**Before bringing into service, the BDP 5 - unit must be mounted to a strong, flat surface.**

**IMPORTANT:
The Dynamometer must only be used with the protective metal-housing completely shut!**

| Typ / Type | Messbereich / Range [daN] |
|---|---|
| **BDP 5 N** | 0 - 5000 |
| **BDP 5 M** | 0 - 5000 |

[AG]

# BDP 10 N

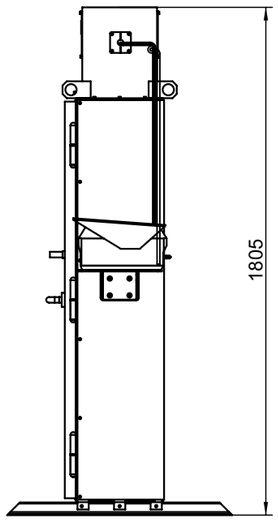
**Kraftmessgerät mit digitaler Anzeige für Gasdruckfedern**
**Standgerät mit Sicherungskäfig**

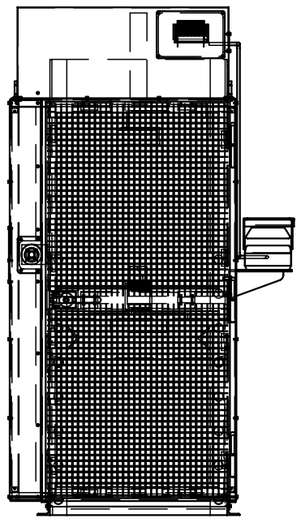
Ausführung:
**N** = Pneumatik (Luftanschluss)
Auf Wunsch auch manuelle Ausführung.

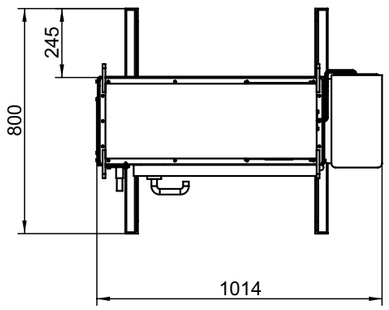
**Gas-Spring - Dynamometer with digital display.**
**Floor-mounted version with protective metal-housing**

**Options:**
**N** = Pneumatic
Manual style upon request

BDP 10 N






**Das Modell BDP 10 N wenn möglich am Boden befestigen.**

**ACHTUNG:**
**Kraftmessgeräte dürfen nur bei geschlossenem Sicherungskäfig in Betrieb genommen werden.**

**Before bringing into service, the BDP 10 N - unit should be mounted to the floor, if possible.**

**IMPORTANT:**
**The Dynamometer must only be used with the protective metal-housing completely shut !**

| Typ / Type | Messbereich / Range [daN] |
|---|---|
| **BDP 10 N** | 0 - 10000 |



[01.03.2023]

[01.03.2023]



# DBNA

Die Druckeinheit **DBNA** wurde entwickelt um die Stickstoffflasche, welche zum Befüllen von Gasdruckfedern, Tanks und Tankerplatten benötigt wird, bis auf ein Minimum von ca. 20 bar entleeren zu können.

**Bitte fordern Sie technische Unterlagen an!**

At a point, where the pressure in the nitrogene bottle reaches values under desired levels (f.e. 120 bars), this accumulator pulls the nitrogene out of the bottle (down to a rest of around 20 bars) and compresses it to the needed higher pressure needed (f.e. 150 bars).

**Please contact us for further information!**

DBNA

# MR

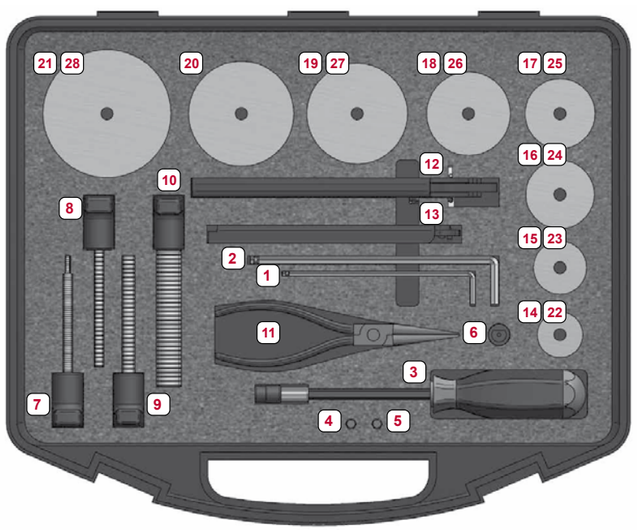
MR

Werkzeugsatz bestehend aus:

| | | |
|---|---|---|
| 1 | **DALL 3** | Sechskantschlüssel 3 |
| 2 | **DALL 5** | Sechskantschlüssel 5 |
| 3 | **DMNL** | Bithalter |
| 4 | **ABXP** | Bit für Ventil **DIN 7757** |
| 5 | **XTCP** | Bit für Ventil **XTC-M6** |
| 6 | **A 550 1/8-M6** | Ventil-Werkzeug R1/8“ / M6 |
| 7 | **LM 3** | Kolbenstangen-Zieher M3 |
| 8 | **LM 6** | Kolbenstangen-Zieher M6 |
| 9 | **LM 8** | Kolbenstangen-Zieher M8 |
| 10 | **LM 16** | Kolbenstangen-Zieher M16 |
| 11 | **A 800** | Ventil-Zange |
| 12 | **LRP 1** | Hebelzange für Sicherungsring |
| 13 | **LRP 2** | Hebelzange für Sicherungsring |
| 14 | **PU 16** | Montagehülse Ø12-16 |
| 15 | **PU 22** | Montagehülse Ø20-22 |
| 16 | **PU 25** | Montagehülse Ø25 |
| 17 | **PU 28** | Montagehülse Ø28 |
| 18 | **PU 36** | Montagehülse Ø36 |
| 19 | **PU 45** | Montagehülse Ø45 |
| 20 | **PU 50** | Montagehülse Ø50 |
| 21 | **PU 60** | Montagehülse Ø60 |
| 22 | **VTL 16** | Werkzeug zur Kolbenstangenmontage Ø16 |
| 23 | **VTL 20** | Werkzeug zur Kolbenstangenmontage Ø20 |
| 24 | **VTL 25** | Werkzeug zur Kolbenstangenmontage Ø25 |
| 25 | **VTL 28** | Werkzeug zur Kolbenstangenmontage Ø28 |
| 26 | **VTL 36** | Werkzeug zur Kolbenstangenmontage Ø36 |
| 27 | **VTL 45** | Werkzeug zur Kolbenstangenmontage Ø45 |
| 28 | **VTL 60** | Werkzeug zur Kolbenstangenmontage Ø60 |

Toolkit consisting of:

| | | |
|---|---|---|
| 1 | **DALL 3** | Hexagon socket head wrench 3 |
| 2 | **DALL 5** | Hexagon socket head wrench 5 |
| 3 | **DMNL** | Bit holder |
| 4 | **ABXP** | Bit für Ventil **DIN 7757** |
| 5 | **XTCP** | Bit für Ventil **XTC-M6** |
| 6 | **A 550 1/8-M6** | Valve-tool R1/8“ / M6 |
| 7 | **LM 3** | Piston rod puller M3 |
| 8 | **LM 6** | Piston rod puller M6 |
| 9 | **LM 8** | Piston rod puller M8 |
| 10 | **LM 16** | Piston rod puller M16 |
| 11 | **A 800** | Valve-pliers |
| 12 | **LRP 1** | Lever pliers for locking ring |
| 13 | **LRP 2** | Lever pliers for locking ring |
| 14 | **PU 16** | Assembly sleeve Ø12-16 |
| 15 | **PU 22** | Assembly sleeve Ø20-22 |
| 16 | **PU 25** | Assembly sleeve Ø25 |
| 17 | **PU 28** | Assembly sleeve Ø28 |
| 18 | **PU 36** | Assembly sleeve Ø36 |
| 19 | **PU 45** | Assembly sleeve Ø45 |
| 20 | **PU 50** | Assembly sleeve Ø50 |
| 21 | **PU 60** | Assembly sleeve Ø60 |
| 22 | **VTL 16** | Piston rod assembly tool Ø16 |
| 23 | **VTL 20** | Piston rod assembly tool Ø20 |
| 24 | **VTL 25** | Piston rod assembly tool Ø25 |
| 25 | **VTL 28** | Piston rod assembly tool Ø28 |
| 26 | **VTL 36** | Piston rod assembly tool Ø36 |
| 27 | **VTL 45** | Piston rod assembly tool Ø45 |
| 28 | **VTL 60** | Piston rod assembly tool Ø60 |

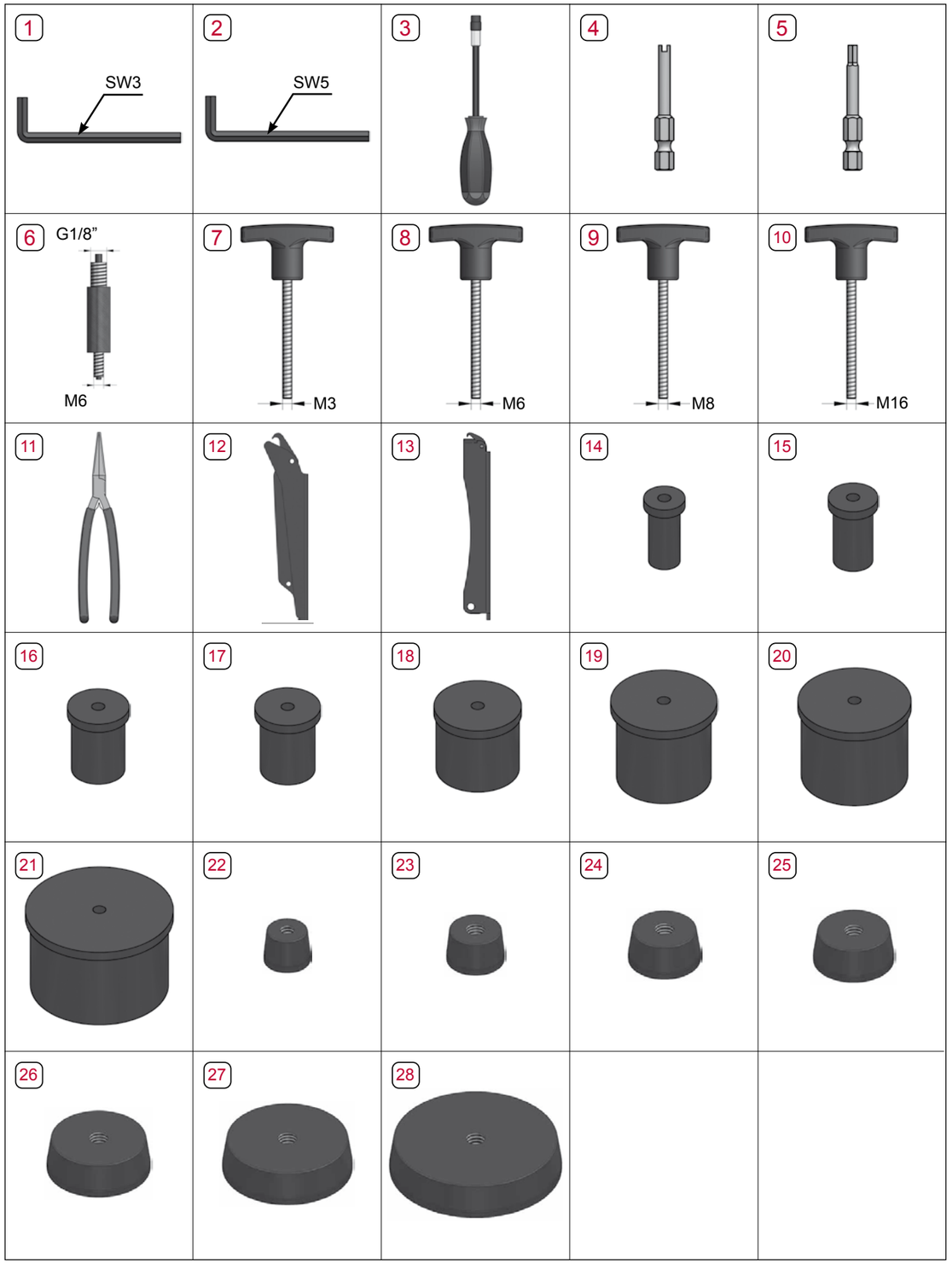


MAIL

[03.08.2023]



GDF, Werkzeugsätze für Montage
GS, Toolkits for assembling
AZOL GAS GASDRUCKFEDERN / AZOL GAS GAS SPRINGS




[03.08.2023]



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# HS KarryKrimp 1

Zum Verpressen von Hydraulikschläuchen mit ein oder zwei Stahldraht- oder Textilgeflechteinlagen im Größenbereich von 4 bis 20 (ID).

Zum Lieferumfang gehören die Presse mit Handpumpe, Schlauchleitung und zwei Pressringe.
Pressbacken müssen unter Angabe der Quetscharmaturtype gesondert bestellt werden.

**Technische Daten**
Maße (HxBxT): 686 x 380 x 305 mm
Gesamtgewicht: 23 kg

**Bitte fordern Sie technische Unterlagen an!**

Schlauchpresse mit Pneumatikantrieb auf Anfrage.

For crimping hydraulic 1- and 2-wire braid hoses in sizes from 4 to 20 mm ID.

Complete with hand pump, hose assembly and 2 die rings.
Dies (sizing based on the fittings to be crimped) need to be ordered separately.

**Technical data:**
Outside measurements (HxBxT): 686 x 380 x 305 mm
Weight: 23 kg

**Please ask for further technical information.**

Pneumatically operated press upon request.

## HS KarryKrimp 1