



**Märkische Stanz-Partner**



**[säulengestelle]**

**[diesets]**

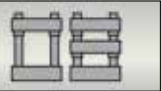
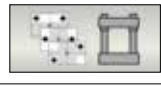
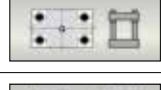
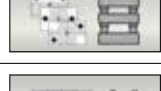
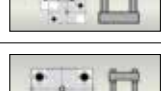
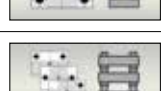
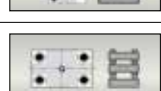
**Stand / Revision Status 30.10.2020**

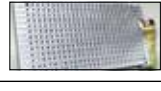
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SÄULENGESTELLE / DIE SETS



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Toleranzangaben für Säulengestelle aus Stahl

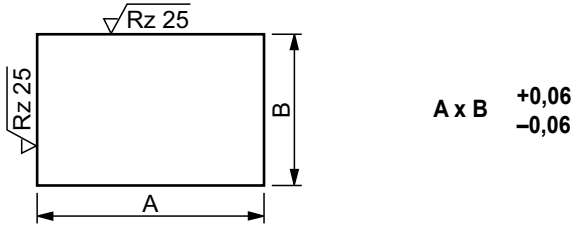
Tolerance - information regarding steel die sets

SÄULENGESTELLE / DIE SETS

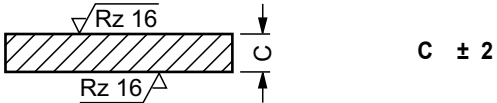


Mat.: C45

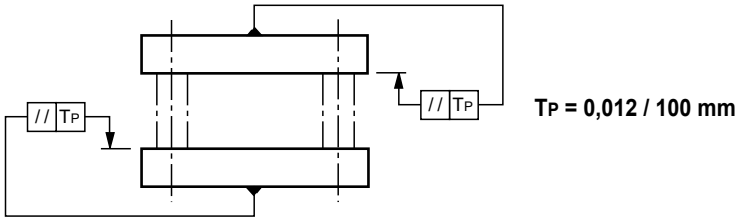
Toleranz Außenmaße /  
Tolerance of length and width



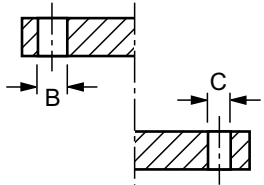
Toleranz Plattenstärke /  
Tolerance of thickness



Parallelität der Flächenpaare /  
Parallelism of two surfaces



Bohrungstoleranzen /  
Hole tolerances



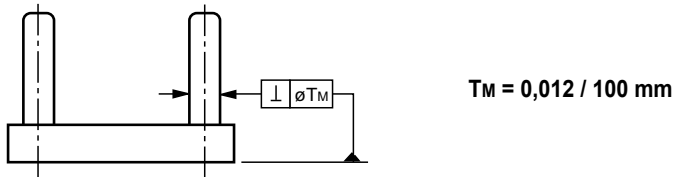
B = Aufnahmebohrung Buchse/ Mounting hole for bushing:

FS 468 = K7  
FS 4 .. = H6  
FS 6 .. = H6  
FS 7 .. = H6

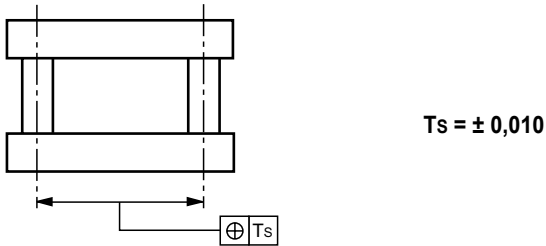
C = Aufnahmebohrung Säule/ Mounting hole for leader pin:

FS 420 = R7  
FS 419 = JS6  
FS 400/403 = H6

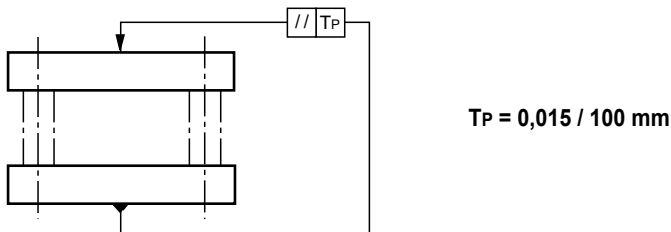
Winkelgenauigkeit der Führungssäulen /  
Angular accuracy of leader pins



Toleranz Systemabstände /  
Tolerance of dimensions between leader-  
pin (and bushing) - holes



Planparallelität im  
zusammgebauten Zustand /  
Parallelism after mounting

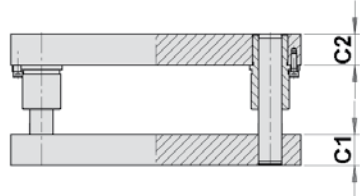
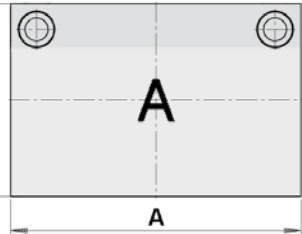
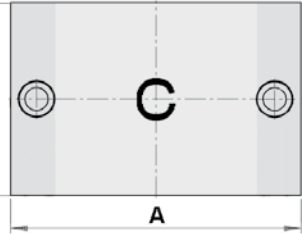
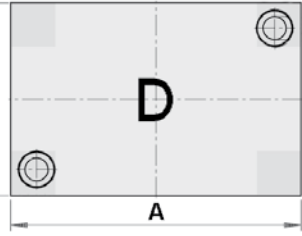
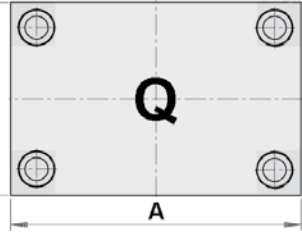
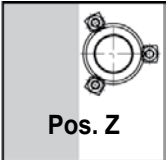
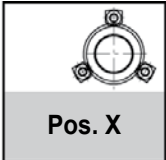


# Säulen-Buchsen-Kombination für 2-Plattengestelle

## Combination of leader-pin and -bushing in 2-plate-die-sets

SÄULENGESTELLE / DIE SETS

Bestellbeispiel / Order-example

| 2 C                                                                                                                                                                                                                                                                                                                                                                                                                                        | 643                           | P                               | 41                            | Z                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------|-------------------------------|--------------------------------------------------------|
| Gestelltyp<br>Type of die set                                                                                                                                                                                                                                                                                                                                                                                                              | Kataloggröße<br>Catalog sizes | Säulentyp<br>Type of leader pin | Buchsentyp<br>Type of bushing | Position der Haltestücke<br>Position of holding clamps |
| Gestelltyp / Type of die set                                                                                                                                                                                                                                                                                                                                                                                                               |                               |                                 |                               |                                                        |
| <br><br><br><br> |                               |                                 |                               |                                                        |
| Position der Haltestücke / Position of holding clamps                                                                                                                                                                                                                                                                                                                                                                                      |                               |                                 |                               |                                                        |
| <br>                                                                                                                                                                                                                                                                 |                               |                                 |                               |                                                        |

[SG.2]

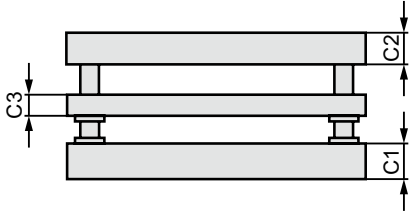
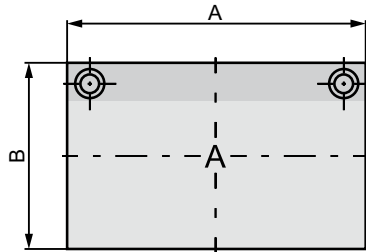
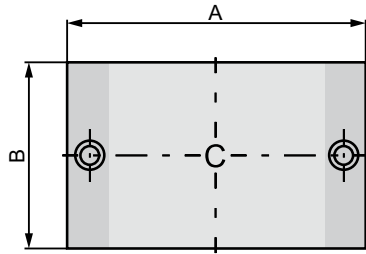
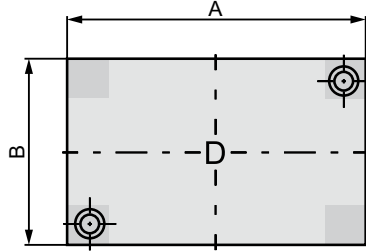
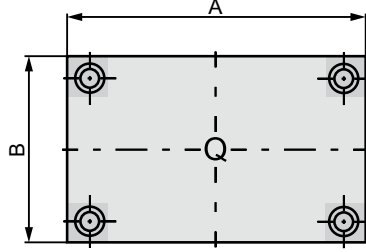
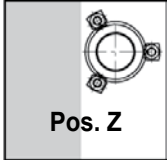
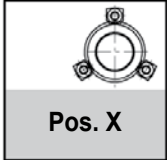


# Säulen-Buchsen-Kombination für 3-Plattengestelle

## Combination of leader-pin and -bushing in 3-plate-die-sets

SÄULENGESTELLE / DIE SETS

Bestellbeispiel / Order-example

| 3 C                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 643                           | P                               | 71                            | Z                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------|-------------------------------|--------------------------------------------------------|
| Gestelltyp<br>Type of die set                                                                                                                                                                                                                                                                                                                                                                                                                        | Kataloggröße<br>Catalog sizes | Säulentyp<br>Type of leader pin | Buchsentyp<br>Type of bushing | Position der Haltestücke<br>Position of holding clamps |
| Gestelltyp / Type of die set                                                                                                                                                                                                                                                                                                                                                                                                                         |                               |                                 |                               |                                                        |
| <br><br><br><br> |                               |                                 |                               |                                                        |
| Position der Haltestücke / Position of holding clamps                                                                                                                                                                                                                                                                                                                                                                                                |                               |                                 |                               |                                                        |
| <br>                                                                                                                                                                                                                                                                       |                               |                                 |                               |                                                        |

[SG.3]



## Bestellbeispiel Sondergrößen

## Order-example specials

## SÄULENGESTELLE / DIE SETS

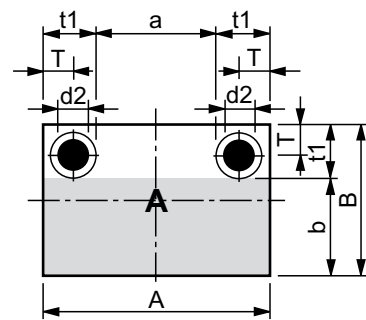
| Position | Platten-<br>maße<br>Plate length<br>and width | Platten-<br>stärke<br>Plate<br>thickness |    |    | Säulentyp in C1<br>oder C2*<br>Type of leader pin<br>in C1 or C2* |             | Buchsentyp in C1<br>oder C2**<br>Type of bushing<br>in C1 or C2** |            | Buchsentyp<br>in C3<br>Type of bushing<br>in C3 |            | Haltestück-<br>position<br>Position of hol-<br>ding clamps |
|----------|-----------------------------------------------|------------------------------------------|----|----|-------------------------------------------------------------------|-------------|-------------------------------------------------------------------|------------|-------------------------------------------------|------------|------------------------------------------------------------|
| Position | A x B                                         | C1                                       | C2 | C3 | FS ...                                                            | d1 x l      | FS ...                                                            | d x l      | FS ...                                          | d x l      |                                                            |
| Q        | 610 x 494                                     | 78                                       | 48 | 38 | 420                                                               | 40/42 x 250 | 632                                                               | 40/42 x 67 | 631                                             | 40/42 x 51 | X                                                          |

\* = Säulentyp in C1 oder C2 bitte angeben. / Please fill in type of leader pin in C1 or C2.

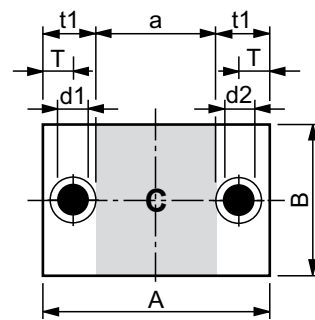
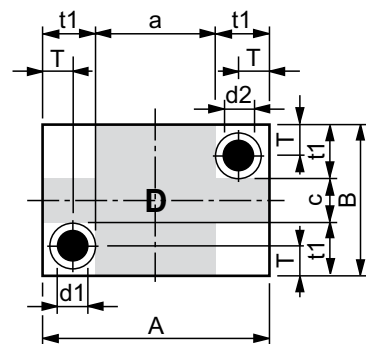
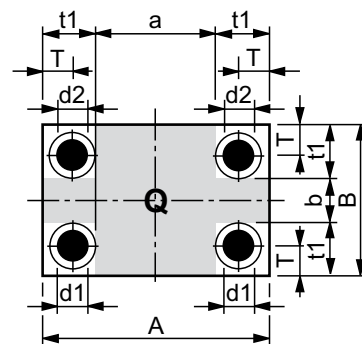
\*\* = Buchsentyp in C1 oder C2 bitte angeben. / Please fill in type of bushing in C1 or C2.

## Arbeitsflächen / Working areas

b = B - t1

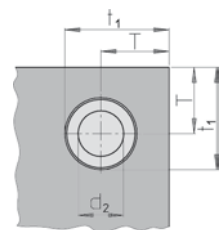


a = A - (2 x t1)

a = A - (2 x t1)  
c = B - (2 x t1)a = A - (2 x t1)  
b = B - (2 x t1)

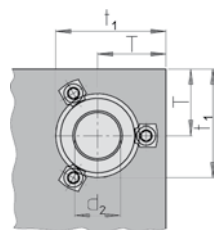
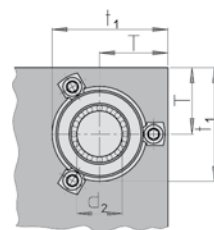
## Zylindrische Führungsbuchsen

Leader pin bushings, cylindrical



## Führungsbuchsen mit Bund

Leader pin bushings, with collar

Führungsbuchsen mit Bund  
für Kugelführung  
Leader pin bushings, with collar  
for ball-bearings

| d <sub>1</sub> /d <sub>2</sub> | T  | t <sub>1</sub> | d <sub>1</sub> /d <sub>2</sub> | T  | t <sub>1</sub> | d <sub>1</sub> /d <sub>2</sub> | T  | t <sub>1</sub> |
|--------------------------------|----|----------------|--------------------------------|----|----------------|--------------------------------|----|----------------|
| 18/19                          | 25 | 40             | 18/19                          | 32 | 49             | 18/19                          | 35 | 55             |
| 24/25                          | 29 | 46             | 24/25                          | 37 | 59             | 24/25                          | 40 | 65             |
| 30/32                          | 37 | 60             | 30/32                          | 44 | 71             | 30/32                          | 48 | 79             |
| 40/42                          | 45 | 74             | 40/42                          | 49 | 81             | 40/42                          | 53 | 89             |
| 50/52                          | 52 | 87             | 50/52                          | 57 | 97             | 50/52                          | 61 | 105            |
| 63                             | —  | —              | 63                             | 64 | 117            | 63                             | —  | —              |
| 80                             | —  | —              | 80                             | 73 | 135            | 80                             | —  | —              |



## Säulengestelle aus Stahl, 2 Platten, 2 Säulen, Typ A-C-D

## Steel die sets, 2 plates, 2 posts, types A-C-D

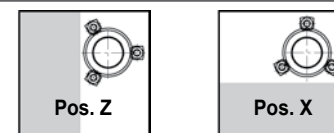
## SÄULENGESTELLE / DIE SETS

| Buchsentyp / Type of bushing                                           |                       |                       |
|------------------------------------------------------------------------|-----------------------|-----------------------|
| Sinterbuchse<br>Leader pin bushing, sintered                           |                       |                       |
| FS 741<br>46                                                           | FS 751<br>47          | FS 755<br>48          |
| Stahlbuchse mit Bronzeplattierung<br>Leader pin bushing, bronze plated |                       |                       |
| FS 641<br>41                                                           | FS 651<br>42          | FS 655<br>43          |
| Stahlbuchse mit Ms-Käfig<br>Leader pin bushing with ball cage          |                       |                       |
| FS 453 + FS 425<br>51                                                  | FS 457 + FS 425<br>52 | FS 458 + FS 425<br>53 |

| Säulentyp / Type of leader pin |                                                         |
|--------------------------------|---------------------------------------------------------|
| eingepresst<br>press-fitted    | Schnellwechselsäule mit Bund<br>Leader pin, with collar |
| L1<br>FS 420<br>P              | L2<br>FS 419<br>R                                       |

| Gestelltyp / Type of die set |  |
|------------------------------|--|
| CAD                          |  |
|                              |  |
|                              |  |
|                              |  |

## Position der Haltestücke / Position of holding clamps



| Abmessungen / Dimensions |                 |                                          |    |    |            |                                             |     |     | Arbeitsflächen / Working area |             |             |                 |                 |                 |                 |                 |                | Gewicht / Weight [kg] |
|--------------------------|-----------------|------------------------------------------|----|----|------------|---------------------------------------------|-----|-----|-------------------------------|-------------|-------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|-----------------------|
| Größe / Size             | A<br>X<br>B     | Platten-<br>stärke<br>Plate<br>thickness |    |    | Ø<br>d1/d2 | Säulen-<br>länge<br>Length of<br>leader pin |     |     |                               |             |             | 46<br>41        | 47<br>42        | 48<br>43        | 51              | 52              | 53             |                       |
|                          |                 | C1                                       | C2 | C3 |            | L1                                          | L2  | L3  | a<br>X<br>B                   | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B     | b<br>X<br>A     | c<br>X<br>A     | a<br>X<br>B     | b<br>X<br>A     | c<br>X<br>A    |                       |
|                          |                 |                                          |    |    |            |                                             |     |     |                               |             |             |                 |                 |                 |                 |                 |                |                       |
| 601                      | 125<br>X<br>125 | 28                                       | 23 | –  | 18/19      | 130                                         | 100 | –   |                               |             |             | 27<br>X<br>125  | 76<br>X<br>125  | 27<br>X<br>125  |                 | 70<br>X<br>125  |                | 7,0                   |
| 602                      |                 | 28                                       | 28 | –  |            | 140                                         | 110 | –   |                               |             |             |                 |                 |                 |                 |                 | 7,7            |                       |
| 603                      |                 | 38                                       | 28 | –  |            | 150                                         | 110 | 100 |                               |             |             |                 |                 |                 |                 |                 | 8,9            |                       |
| 604                      | 160<br>X<br>125 | 28                                       | 23 | –  | 18/19      | 130                                         | 100 | –   |                               |             |             | 62<br>X<br>125  | 76<br>X<br>160  | 27<br>X<br>160  | 50<br>X<br>125  | 70<br>X<br>160  |                | 8,8                   |
| 605                      |                 | 28                                       | 28 | –  |            | 140                                         | 110 | –   |                               |             |             |                 |                 |                 |                 |                 | 9,6            |                       |
| 606                      |                 | 38                                       | 28 | –  |            | 150                                         | 110 | 100 |                               |             |             |                 |                 |                 |                 |                 | 11,2           |                       |
| 607                      | 160<br>X<br>160 | 28                                       | 23 | –  | 18/19      | 130                                         | 100 | –   |                               |             |             | 62<br>X<br>160  | 111<br>X<br>160 | 62<br>X<br>160  | 50<br>X<br>160  | 105<br>X<br>160 | 50<br>X<br>160 | 11,0                  |
| 608                      |                 | 28                                       | 28 | –  |            | 140                                         | 110 | –   |                               |             |             |                 |                 |                 |                 |                 | 12,0           |                       |
| 609                      |                 | 38                                       | 28 | –  |            | 150                                         | 110 | 100 |                               |             |             |                 |                 |                 |                 |                 | 14,0           |                       |
| 610                      | 200<br>X<br>125 | 28                                       | 23 | –  | 18/19      | 130                                         | 100 | –   |                               |             |             | 102<br>X<br>125 | 76<br>X<br>200  | 27<br>X<br>200  | 90<br>X<br>125  | 70<br>X<br>200  |                | 10,8                  |
| 611                      |                 | 28                                       | 28 | –  |            | 140                                         | 110 | –   |                               |             |             |                 |                 |                 |                 |                 | 11,8           |                       |
| 612                      |                 | 38                                       | 28 | –  |            | 150                                         | 110 | 100 |                               |             |             |                 |                 |                 |                 |                 | 13,7           |                       |
| 613                      | 200<br>X<br>160 | 33                                       | 28 | –  | 24/25      | 150                                         | 110 | –   |                               |             |             | 82<br>X<br>160  | 101<br>X<br>200 | 42<br>X<br>200  | 70<br>X<br>160  | 95<br>X<br>200  | 30<br>X<br>200 | 16,4                  |
| 614                      |                 | 33                                       | 33 | –  |            | 160                                         | 120 | –   |                               |             |             |                 |                 |                 |                 |                 | 17,6           |                       |
| 615                      |                 | 48                                       | 38 | –  |            | 180                                         | 130 | 120 |                               |             |             |                 |                 |                 |                 |                 | 22,6           |                       |
| 616                      | 200<br>X<br>200 | 33                                       | 28 | –  | 24/25      | 150                                         | 110 | –   |                               |             |             | 82<br>X<br>200  | 141<br>X<br>200 | 82<br>X<br>200  | 70<br>X<br>200  | 135<br>X<br>200 | 70<br>X<br>200 | 20,2                  |
| 617                      |                 | 33                                       | 33 | –  |            | 160                                         | 120 | –   |                               |             |             |                 |                 |                 |                 |                 | 21,8           |                       |
| 618                      |                 | 48                                       | 38 | –  |            | 180                                         | 130 | 120 |                               |             |             |                 |                 |                 |                 |                 | 28,0           |                       |
| 619                      | 250<br>X<br>125 | 33                                       | 28 | –  | 24/25      | 150                                         | 110 | –   |                               |             |             | 132<br>X<br>125 | 66<br>X<br>250  |                 | 120<br>X<br>125 | 60<br>X<br>250  |                | 16,0                  |
| 620                      |                 | 33                                       | 33 | –  |            | 160                                         | 120 | –   |                               |             |             |                 |                 |                 |                 |                 | 17,3           |                       |
| 621                      |                 | 48                                       | 38 | –  |            | 180                                         | 130 | 120 |                               |             |             |                 |                 |                 |                 |                 | 22,1           |                       |
| 622                      | 250<br>X<br>160 | 33                                       | 28 | –  | 24/25      | 150                                         | 110 | –   |                               |             |             | 132<br>X<br>160 | 101<br>X<br>250 | 42<br>X<br>250  | 120<br>X<br>160 | 95<br>X<br>250  | 30<br>X<br>250 | 20,2                  |
| 623                      |                 | 33                                       | 33 | –  |            | 160                                         | 120 | –   |                               |             |             |                 |                 |                 |                 |                 | 21,8           |                       |
| 624                      |                 | 48                                       | 38 | –  |            | 180                                         | 130 | 120 |                               |             |             |                 |                 |                 |                 |                 | 28,0           |                       |
| 625                      | 250<br>X<br>200 | 33                                       | 28 | –  | 24/25      | 150                                         | 110 | –   |                               |             |             | 132<br>X<br>200 | 141<br>X<br>250 | 82<br>X<br>250  | 120<br>X<br>200 | 135<br>X<br>250 | 70<br>X<br>250 | 25,0                  |
| 626                      |                 | 33                                       | 33 | –  |            | 160                                         | 120 | –   |                               |             |             |                 |                 |                 |                 |                 | 27,0           |                       |
| 627                      |                 | 48                                       | 38 | –  |            | 180                                         | 130 | 120 |                               |             |             |                 |                 |                 |                 |                 | 34,8           |                       |
| 628                      | 250<br>X<br>250 | 38                                       | 33 | –  | 30/32      | 160                                         | 120 | –   |                               |             |             | 108<br>X<br>250 | 179<br>X<br>250 | 108<br>X<br>250 | 92<br>X<br>250  | 171<br>X<br>250 | 92<br>X<br>250 | 36,4                  |
| 629                      |                 | 38                                       | 38 | –  |            | 170                                         | 130 | –   |                               |             |             |                 |                 |                 |                 |                 | 38,8           |                       |
| 630                      |                 | 48                                       | 38 | –  |            | 180                                         | 130 | 120 |                               |             |             |                 |                 |                 |                 |                 | 43,7           |                       |

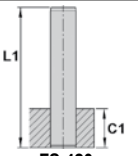
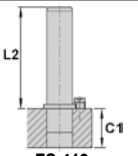
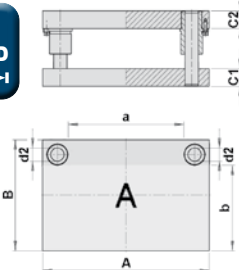
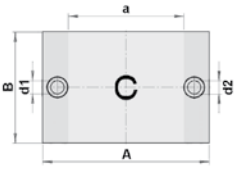
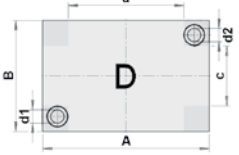
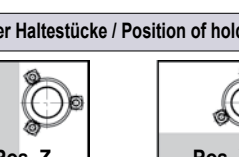
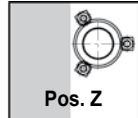
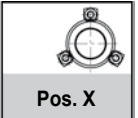




## Säulengestelle aus Stahl, 2 Platten, 2 Säulen, Typ A-C-D

## Steel die sets, 2 plates, 2 posts, types A-C-D

SÄULENGESTELLE / DIE SETS

| Buchsentyp / Type of bushing                                                        |                 |  | Abmessungen / Dimensions |                                          |    |    |            |                                             |    |    |             | Arbeitsflächen / Working area                                                      |             |             |             |             |             |             |             |          | Gewicht / Weight [kg] |  |    |  |  |  |
|-------------------------------------------------------------------------------------|-----------------|--|--------------------------|------------------------------------------|----|----|------------|---------------------------------------------|----|----|-------------|------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------|-----------------------|--|----|--|--|--|
| Sinterbuchse<br>Leader pin bushing, sintered                                        |                 |  | A<br>X<br>B              | Platten-<br>stärke<br>Plate<br>thickness |    |    | Ø<br>d1/d2 | Säulen-<br>länge<br>Length of<br>leader pin |    |    | 46<br>41    |                                                                                    |             | 47<br>42    |             |             | 48<br>43    |             |             | 51<br>52 |                       |  | 53 |  |  |  |
|                                                                                     |                 |  |                          | C1                                       | C2 | C3 |            | L1                                          | L2 | L3 | a<br>X<br>B | b<br>X<br>A                                                                        | c<br>X<br>A | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A |          |                       |  |    |  |  |  |
|                                                                                     |                 |  |                          |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
|    | FS 741          |  | 46                       |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
|    | FS 751          |  | 47                       |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
|    | FS 755          |  | 48                       |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
| Stahlbuchse mit Bronzeplattierung<br>Leader pin bushing, bronze plated              |                 |  |                          |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
|    | FS 641          |  | 41                       |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
|    | FS 651          |  | 42                       |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
|    | FS 655          |  | 43                       |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
| Stahlbuchse mit Ms-Käfig<br>Leader pin bushing with ball cage                       |                 |  |                          |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
|    | FS 453 + FS 425 |  | 51                       |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
|    | FS 457 + FS 425 |  | 52                       |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
|    | FS 458 + FS 425 |  | 53                       |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
| Säulentyp / Type of leader pin                                                      |                 |  |                          |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
| eingepresst<br>press-fitted                                                         |                 |  |                          |                                          |    |    |            |                                             |    |    |             | Schnellwechsel-<br>säule mit Bund<br>Leader pin,<br>with collar                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
|   |                 |  |                          |                                          |    |    |            |                                             |    |    |             |  |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
| P                                                                                   |                 |  |                          |                                          |    |    |            |                                             |    |    |             | R                                                                                  |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
| Gestelltyp / Type of die set                                                        |                 |  |                          |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
|   |                 |  |                          |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
|  |                 |  |                          |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
|  |                 |  |                          |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
|  |                 |  |                          |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
|  |                 |  |                          |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
| Position der Haltestücke / Position of holding clamps                               |                 |  |                          |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
|  |                 |  |                          |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
|  |                 |  |                          |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
| Pos. Z                                                                              |                 |  |                          |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |
| Pos. X                                                                              |                 |  |                          |                                          |    |    |            |                                             |    |    |             |                                                                                    |             |             |             |             |             |             |             |          |                       |  |    |  |  |  |

## Säulengestelle aus Stahl, 2 Platten, 2 Säulen, Typ A-C-D

## Steel die sets, 2 plates, 2 posts, types A-C-D

SÄULENGESTELLE / DIE SETS

| Buchsentyp / Type of bushing                                           |                       |                       |
|------------------------------------------------------------------------|-----------------------|-----------------------|
| Sinterbuchse<br>Leader pin bushing, sintered                           |                       |                       |
|                                                                        |                       |                       |
| FS 741<br>46                                                           | FS 751<br>47          | FS 755<br>48          |
| Stahlbuchse mit Bronzeplattierung<br>Leader pin bushing, bronze plated |                       |                       |
|                                                                        |                       |                       |
| FS 641<br>41                                                           | FS 651<br>42          | FS 655<br>43          |
| Stahlbuchse mit Ms-Käfig<br>Leader pin bushing with ball cage          |                       |                       |
|                                                                        |                       |                       |
| FS 453 + FS 425<br>51                                                  | FS 457 + FS 425<br>52 | FS 458 + FS 425<br>53 |

| Säulentyp / Type of leader pin |                                                         |
|--------------------------------|---------------------------------------------------------|
| eingepresst<br>press-fitted    | Schnellwechselsäule mit Bund<br>Leader pin, with collar |
|                                |                                                         |
| FS 420<br>P                    | FS 419<br>R                                             |

| Gestelltyp / Type of die set |
|------------------------------|
|                              |
|                              |
|                              |
|                              |

| Position der Haltestücke / Position of holding clamps |        |
|-------------------------------------------------------|--------|
|                                                       |        |
| Pos. Z                                                | Pos. X |



## Säulengestelle aus Stahl, 3 Platten, 2 Säulen, Typ A-C-D

## Steel die sets, 3 plates, 2 posts, types A-C-D

SÄULENGESTELLE / DIE SETS

| Buchsentyp / Type of bushing                                           |                                                  |
|------------------------------------------------------------------------|--------------------------------------------------|
|                                                                        |                                                  |
| Sinterbuchse<br>Leader pin bushing, sintered                           |                                                  |
| C1: FS 741<br>C3: FS 731<br>88                                         | C1: FS 732<br>C3: FS 731<br>87                   |
| Stahlbuchse mit Bronzeplattierung<br>Leader pin bushing, bronze plated |                                                  |
| C1: FS 641<br>C3: FS 631<br>71                                         | C1: FS 632<br>C3: FS 631<br>72                   |
| Stahlbuchse mit Ms-Käfig<br>Leader pin bushing with ball cage          |                                                  |
| C1: FS 458 + FS 425<br>C3: FS 457 + FS 425<br>91                       | C1: FS 453 + FS 425<br>C3: FS 457 + FS 425<br>92 |

| Säulentyp / Type of leader pin |                                                         |
|--------------------------------|---------------------------------------------------------|
| eingepresst<br>press-fitted    | Schnellwechselsäule mit Bund<br>Leader pin, with collar |
|                                |                                                         |
| FS 420<br>P                    | FS 419<br>R                                             |

| Gestelltyp / Type of die set |
|------------------------------|
|                              |
|                              |
|                              |
|                              |

| Position der Haltestücke / Position of holding clamps |        |
|-------------------------------------------------------|--------|
|                                                       |        |
| Pos. Z                                                | Pos. X |



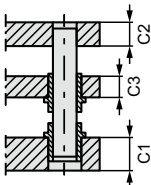
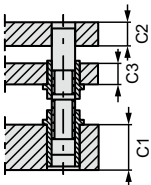
| Abmessungen / Dimensions |                 |                                          |    |    |       |                                             |     |     | Arbeitsflächen / Working area |             |             |                 |                 |                 |                 |                 |                | Gewicht / Weight [kg] |
|--------------------------|-----------------|------------------------------------------|----|----|-------|---------------------------------------------|-----|-----|-------------------------------|-------------|-------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|-----------------------|
| Größe / Size             | A<br>X<br>B     | Platten-<br>stärke<br>Plate<br>thickness |    |    | Ø     | Säulen-<br>länge<br>Length of<br>leader pin |     |     |                               |             |             | 88<br>71        | 87<br>72        | 91 92           |                 |                 |                |                       |
|                          |                 | C1                                       | C2 | C3 |       | d1/d2                                       | L1  | L2  | L3                            | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A     | a<br>X<br>B     | b<br>X<br>A     | c<br>X<br>A     | a<br>X<br>B     | b<br>X<br>A    |                       |
| 601                      | 125<br>X<br>125 | 28                                       | 23 | 18 | 18/19 | 140                                         | 120 | –   |                               |             |             | 27<br>X<br>125  | 76<br>X<br>125  | 27<br>X<br>125  |                 | 70<br>X<br>125  |                | 9,4                   |
| 602                      |                 | 38                                       | 28 |    |       | 160                                         | 130 | –   |                               |             |             |                 |                 |                 |                 |                 |                | 11,2                  |
| 603                      |                 | 38                                       | 38 |    |       | 170                                         | 130 | 120 |                               |             |             |                 |                 |                 |                 |                 |                | 12,4                  |
| 604                      | 160<br>X<br>125 | 28                                       | 23 | 18 | 18/19 | 140                                         | 120 | –   |                               |             |             | 62<br>X<br>125  | 76<br>X<br>160  | 27<br>X<br>160  | 50<br>X<br>125  | 70<br>X<br>160  |                | 11,7                  |
| 605                      |                 | 38                                       | 28 |    |       | 160                                         | 130 | –   |                               |             |             |                 |                 |                 |                 |                 |                | 14,2                  |
| 606                      |                 | 38                                       | 38 |    |       | 170                                         | 130 | 120 |                               |             |             |                 |                 |                 |                 |                 |                | 15,8                  |
| 607                      | 160<br>X<br>160 | 28                                       | 23 | 18 | 18/19 | 140                                         | 120 | –   |                               |             |             | 62<br>X<br>160  | 111<br>X<br>160 | 62<br>X<br>160  | 50<br>X<br>160  | 105<br>X<br>160 | 50<br>X<br>160 | 14,8                  |
| 608                      |                 | 38                                       | 28 |    |       | 160                                         | 130 | –   |                               |             |             |                 |                 |                 |                 |                 |                | 17,8                  |
| 609                      |                 | 38                                       | 38 |    |       | 170                                         | 130 | 120 |                               |             |             |                 |                 |                 |                 |                 |                | 19,8                  |
| 610                      | 200<br>X<br>125 | 28                                       | 23 | 18 | 18/19 | 140                                         | 120 | –   |                               |             |             | 102<br>X<br>125 | 76<br>X<br>200  | 27<br>X<br>200  | 90<br>X<br>125  | 70<br>X<br>200  |                | 14,4                  |
| 611                      |                 | 38                                       | 28 |    |       | 160                                         | 130 | –   |                               |             |             |                 |                 |                 |                 |                 |                | 17,4                  |
| 612                      |                 | 38                                       | 38 |    |       | 170                                         | 130 | 120 |                               |             |             |                 |                 |                 |                 |                 |                | 19,4                  |
| 613                      | 200<br>X<br>160 | 33                                       | 28 | 23 | 24/25 | 160                                         | 130 | –   |                               |             |             | 82<br>X<br>160  | 101<br>X<br>200 | 42<br>X<br>200  | 70<br>X<br>160  | 95<br>X<br>200  |                | 22,3                  |
| 614                      |                 | 48                                       | 38 |    |       | 190                                         | 150 | –   |                               |             |             |                 |                 |                 |                 |                 |                | 28,4                  |
| 615                      |                 | 48                                       | 48 |    |       | 200                                         | 150 | 140 |                               |             |             |                 |                 |                 |                 |                 |                | 30,9                  |
| 616                      | 200<br>X<br>200 | 33                                       | 28 | 23 | 24/25 | 160                                         | 130 | –   |                               |             |             | 82<br>X<br>200  | 141<br>X<br>200 | 82<br>X<br>200  | 70<br>X<br>200  | 135<br>X<br>200 | 70<br>X<br>200 | 27,5                  |
| 617                      |                 | 48                                       | 38 |    |       | 190                                         | 150 | –   |                               |             |             |                 |                 |                 |                 |                 |                | 35,2                  |
| 618                      |                 | 48                                       | 48 |    |       | 200                                         | 150 | 140 |                               |             |             |                 |                 |                 |                 |                 |                | 38,4                  |
| 619                      | 250<br>X<br>125 | 33                                       | 28 | 23 | 24/25 | 160                                         | 130 | –   |                               |             |             | 132<br>X<br>125 | 66<br>X<br>250  |                 | 120<br>X<br>125 | 60<br>X<br>250  |                | 21,8                  |
| 620                      |                 | 48                                       | 38 |    |       | 190                                         | 150 | –   |                               |             |             |                 |                 |                 |                 |                 |                | 27,8                  |
| 621                      |                 | 48                                       | 48 |    |       | 200                                         | 150 | 140 |                               |             |             |                 |                 |                 |                 |                 |                | 30,2                  |
| 622                      | 250<br>X<br>160 | 33                                       | 28 | 23 | 24/25 | 160                                         | 130 | –   |                               |             |             | 132<br>X<br>160 | 101<br>X<br>250 | 42<br>X<br>250  | 120<br>X<br>160 | 95<br>X<br>250  |                | 27,5                  |
| 623                      |                 | 48                                       | 38 |    |       | 190                                         | 150 | –   |                               |             |             |                 |                 |                 |                 |                 |                | 35,2                  |
| 624                      |                 | 48                                       | 48 |    |       | 200                                         | 150 | 140 |                               |             |             |                 |                 |                 |                 |                 |                | 38,4                  |
| 625                      | 250<br>X<br>200 | 33                                       | 28 | 23 | 24/25 | 160                                         | 130 | –   |                               |             |             | 132<br>X<br>200 | 141<br>X<br>250 | 82<br>X<br>250  | 120<br>X<br>200 | 135<br>X<br>250 | 70<br>X<br>250 | 34,2                  |
| 626                      |                 | 48                                       | 38 |    |       | 190                                         | 150 | –   |                               |             |             |                 |                 |                 |                 |                 |                | 43,8                  |
| 627                      |                 | 48                                       | 48 |    |       | 200                                         | 150 | 140 |                               |             |             |                 |                 |                 |                 |                 |                | 47,7                  |
| 628                      | 250<br>X<br>250 | 38                                       | 33 | 28 | 30/32 | 170                                         | 140 | –   |                               |             |             | 108<br>X<br>250 | 179<br>X<br>250 | 108<br>X<br>250 | 92<br>X<br>250  | 171<br>X<br>250 | 92<br>X<br>250 | 50,5                  |
| 629                      |                 | 48                                       | 38 |    |       | 190                                         | 150 | –   |                               |             |             |                 |                 |                 |                 |                 |                | 57,5                  |
| 630                      |                 | 48                                       | 48 |    |       | 200                                         | 150 | 140 |                               |             |             |                 |                 |                 |                 |                 |                | 62,5                  |

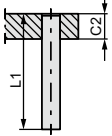
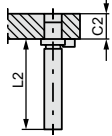
## Säulengestelle aus Stahl, 3 Platten, 2 Säulen, Typ A-C-D

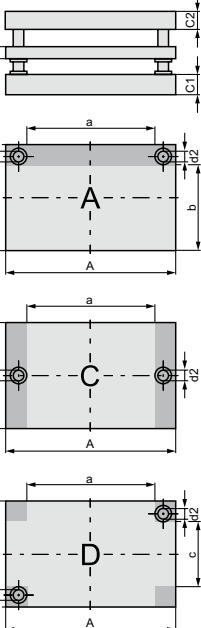
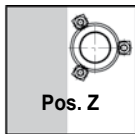
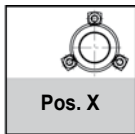


## Steel die sets, 3 plates, 2 posts, types A-C-D

SÄULENGESTELLE / DIE SETS

| Buchsentyp / Type of bushing                                                      |                                                                                   |  |  |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--|--|
|  |  |  |  |
| <b>Sinterbuchse<br/>Leader pin bushing, sintered</b>                              |                                                                                   |  |  |
| C1: FS 741<br>C3: FS 731<br>88                                                    | C1: FS 732<br>C3: FS 731<br>87                                                    |  |  |
| <b>Stahlbuchse mit Bronzeplattierung<br/>Leader pin bushing, bronze plated</b>    |                                                                                   |  |  |
| C1: FS 641<br>C3: FS 631<br>71                                                    | C1: FS 632<br>C3: FS 631<br>72                                                    |  |  |
| <b>Stahlbuchse mit Ms-Käfig<br/>Leader pin bushing with ball cage</b>             |                                                                                   |  |  |
| C1: FS 458 + FS 425<br>C3: FS 457 + FS 425<br>91                                  | C1: FS 453 + FS 425<br>C3: FS 457 + FS 425<br>92                                  |  |  |

| Säulentyp / Type of leader pin                                                     |                                                                                    |  |  |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--|--|
| eingepresst<br>press-fitted                                                        | Schnellwechsel-<br>säule mit Bund<br>Leader pin,<br>with collar                    |  |  |
|  |  |  |  |
| FS 420<br>P                                                                        | FS 419<br>R                                                                        |  |  |

| Gestelltyp / Type of die set                                                        |                                                                                     |  |  |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|--|
|   |  |  |  |
| <b>Position der Haltestücke / Position of holding clamps</b>                        |                                                                                     |  |  |
|  |  |  |  |
| Pos. Z                                                                              | Pos. X                                                                              |  |  |

| Abmessungen / Dimensions |                 |                                          |    |    |            | Arbeitsflächen / Working area               |     |     |             |             |             |             |             |             |          |          |          | Gewicht / Weight [kg] |       |       |
|--------------------------|-----------------|------------------------------------------|----|----|------------|---------------------------------------------|-----|-----|-------------|-------------|-------------|-------------|-------------|-------------|----------|----------|----------|-----------------------|-------|-------|
| Größe / Size             | A<br>X<br>B     | Platten-<br>stärke<br>Plate<br>thickness |    |    | Ø<br>d1/d2 | Säulen-<br>länge<br>Length of<br>leader pin |     |     |             |             |             | 88<br>71    | 87<br>72    |             |          |          |          |                       |       |       |
|                          |                 | C1                                       | C2 | C3 |            | L1                                          | L2  | L3  | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A |          |          |          |                       |       |       |
| 631                      | 300<br>X<br>160 | 33                                       | 28 | 23 | 24/25      | 160                                         | 130 | –   |             |             |             | 182<br>X    | 101<br>X    | 42<br>X     | 170<br>X | 95<br>X  |          |                       | 32,8  |       |
| 632                      |                 | 48                                       | 38 |    |            | 190                                         | 150 | –   |             |             |             |             |             |             |          |          |          |                       | 42,1  |       |
| 633                      |                 | 48                                       | 48 |    |            | 200                                         | 150 | 140 |             |             |             |             |             |             |          |          |          |                       |       | 45,9  |
| 634                      | 300<br>X<br>200 | 33                                       | 28 | 23 | 24/25      | 160                                         | 130 | –   |             |             |             | 182<br>X    | 141<br>X    | 82<br>X     | 170<br>X | 135<br>X | 76<br>X  |                       | 40,7  |       |
| 635                      |                 | 48                                       | 38 |    |            | 190                                         | 150 | –   |             |             |             |             |             |             |          |          |          |                       | 52,5  |       |
| 636                      |                 | 48                                       | 48 |    |            | 200                                         | 150 | 140 |             |             |             |             |             |             |          |          |          |                       |       | 57,5  |
| 637                      | 300<br>X<br>250 | 38                                       | 33 | 28 | 30/32      | 170                                         | 140 | –   |             |             |             | 158<br>X    | 179<br>X    | 108<br>X    | 142<br>X | 171<br>X | 92<br>X  |                       | 60,0  |       |
| 638                      |                 | 48                                       | 38 |    |            | 190                                         | 150 | –   |             |             |             |             |             |             |          |          |          |                       | 69,0  |       |
| 639                      |                 | 48                                       | 48 |    |            | 200                                         | 150 | 140 |             |             |             |             |             |             |          |          |          |                       |       | 74,5  |
| 640                      | 300<br>X<br>300 | 38                                       | 33 | 28 | 30/32      | 170                                         | 140 | –   |             |             |             | 158<br>X    | 229<br>X    | 158<br>X    | 142<br>X | 221<br>X | 142<br>X |                       | 71,5  |       |
| 641                      |                 | 48                                       | 38 |    |            | 190                                         | 150 | –   |             |             |             |             |             |             |          |          |          |                       | 82,5  |       |
| 642                      |                 | 48                                       | 48 |    |            | 200                                         | 150 | 140 |             |             |             |             |             |             |          |          |          |                       |       | 89,5  |
| 643                      | 350<br>X<br>200 | 33                                       | 28 | 23 | 24/25      | 160                                         | 130 | –   |             |             |             | 232<br>X    | 141<br>X    | 82<br>X     | 220<br>X | 135<br>X | 70<br>X  |                       | 47,3  |       |
| 644                      |                 | 48                                       | 38 |    |            | 190                                         | 150 | –   |             |             |             |             |             |             |          |          |          |                       | 60,5  |       |
| 645                      |                 | 48                                       | 48 |    |            | 200                                         | 150 | 140 |             |             |             |             |             |             |          |          |          |                       |       | 66,5  |
| 646                      | 350<br>X<br>250 | 38                                       | 33 | 28 | 30/32      | 170                                         | 140 | –   |             |             |             | 208<br>X    | 179<br>X    | 108<br>X    | 192<br>X | 171<br>X | 92<br>X  |                       | 69,5  |       |
| 647                      |                 | 48                                       | 38 |    |            | 190                                         | 150 | –   |             |             |             |             |             |             |          |          |          |                       | 80,0  |       |
| 648                      |                 | 48                                       | 48 |    |            | 200                                         | 150 | 140 |             |             |             |             |             |             |          |          |          |                       |       | 87,0  |
| 649                      | 350<br>X<br>300 | 48                                       | 38 | 33 | 40/42      | 200                                         | 160 | –   |             |             |             | 188<br>X    | 219<br>X    | 138<br>X    | 172<br>X | 211<br>X | 122<br>X |                       | 101,0 |       |
| 650                      |                 | 58                                       | 48 |    |            | 220                                         | 170 | –   |             |             |             |             |             |             |          |          |          |                       | 118,0 |       |
| 651                      |                 | 58                                       | 58 |    |            | 230                                         | 170 | 160 |             |             |             |             |             |             |          |          |          |                       |       | 126,0 |
| 652                      | 350<br>X<br>350 | 48                                       | 38 | 33 | 40/42      | 200                                         | 160 | –   |             |             |             | 188<br>X    | 269<br>X    | 188<br>X    | 172<br>X | 261<br>X | 172<br>X |                       | 118,0 |       |
| 653                      |                 | 58                                       | 48 |    |            | 220                                         | 170 | –   |             |             |             |             |             |             |          |          |          |                       | 137,0 |       |
| 654                      |                 | 58                                       | 58 |    |            | 230                                         | 170 | 160 |             |             |             |             |             |             |          |          |          |                       |       | 147,0 |
| 655                      | 400<br>X<br>200 | 33                                       | 28 | 23 | 24/25      | 160                                         | 130 | –   |             |             |             | 282<br>X    | 141<br>X    | 82<br>X     | 270<br>X | 135<br>X | 70<br>X  |                       | 54,0  |       |
| 656                      |                 | 48                                       | 38 |    |            | 190                                         | 150 | –   |             |             |             |             |             |             |          |          |          |                       |       | 69,5  |
| 657                      |                 | 48                                       | 48 |    |            | 200                                         | 150 | 130 |             |             |             |             |             |             |          |          |          |                       |       |       |
| 658                      | 400<br>X<br>250 | 38                                       | 33 | 28 | 30/32      | 170                                         | 140 | –   |             |             |             | 258<br>X    | 179<br>X    | 108<br>X    | 242<br>X | 171<br>X | 92<br>X  |                       | 79,5  |       |
| 659                      |                 | 48                                       | 38 |    |            | 190                                         | 150 | –   |             |             |             |             |             |             |          |          |          |                       |       | 91,0  |
| 660                      |                 | 48                                       | 48 |    |            | 200                                         | 150 | 140 |             |             |             |             |             |             |          |          |          |                       |       |       |

[SG.10]

## Säulengestelle aus Stahl, 3 Platten, 2 Säulen, Typ A-C-D



## Steel die sets, 3 plates, 2 posts, types A-C-D

SÄULENGESTELLE / DIE SETS

| Buchsentyp / Type of bushing                                                   |                                                  |  |  |
|--------------------------------------------------------------------------------|--------------------------------------------------|--|--|
|                                                                                |                                                  |  |  |
| <b>Sinterbuchse<br/>Leader pin bushing, sintered</b>                           |                                                  |  |  |
| C1: FS 741<br>C3: FS 731<br>88                                                 | C1: FS 732<br>C3: FS 731<br>87                   |  |  |
| <b>Stahlbuchse mit Bronzeplattierung<br/>Leader pin bushing, bronze plated</b> |                                                  |  |  |
| C1: FS 641<br>C3: FS 631<br>71                                                 | C1: FS 632<br>C3: FS 631<br>72                   |  |  |
| <b>Stahlbuchse mit Ms-Käfig<br/>Leader pin bushing with ball cage</b>          |                                                  |  |  |
| C1: FS 458 + FS 425<br>C3: FS 457 + FS 425<br>91                               | C1: FS 453 + FS 425<br>C3: FS 457 + FS 425<br>92 |  |  |

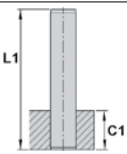
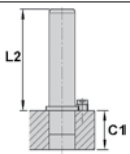
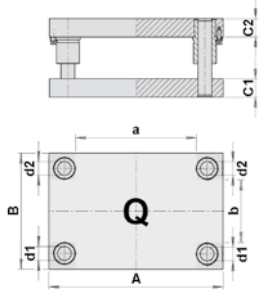
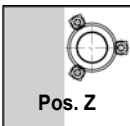
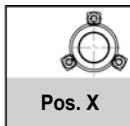
| Säulentyp / Type of leader pin |                                                         |  |  |
|--------------------------------|---------------------------------------------------------|--|--|
| eingespresst<br>press-fitted   | Schnellwechselsäule mit Bund<br>Leader pin, with collar |  |  |
|                                |                                                         |  |  |
| FS 420<br>P                    | FS 419<br>R                                             |  |  |

| Gestelltyp / Type of die set |  |  |  |
|------------------------------|--|--|--|
|                              |  |  |  |
|                              |  |  |  |
|                              |  |  |  |
|                              |  |  |  |

| Position der Haltestücke / Position of holding clamps |        |  |  |
|-------------------------------------------------------|--------|--|--|
|                                                       |        |  |  |
| Pos. Z                                                | Pos. X |  |  |



[illegible]

| Buchsentyp / Type of bushing                                                                           |  |  |  | Abmessungen / Dimensions                                                                               |                                          |    |    |                                                                                                        |                                             |    |    |                                                                                                 |             | Arbeitsflächen / Working area |                    |                    |                    |              |              |              |  |  | Gewicht / Weight [kg] |
|--------------------------------------------------------------------------------------------------------|--|--|--|--------------------------------------------------------------------------------------------------------|------------------------------------------|----|----|--------------------------------------------------------------------------------------------------------|---------------------------------------------|----|----|-------------------------------------------------------------------------------------------------|-------------|-------------------------------|--------------------|--------------------|--------------------|--------------|--------------|--------------|--|--|-----------------------|
| Sinterbuchse<br>Leader pin bushing, sintered                                                           |  |  |  | A<br>X<br>B                                                                                            | Platten-<br>stärke<br>Plate<br>thickness |    |    | Ø<br>d1/d2                                                                                             | Säulen-<br>länge<br>Length of<br>leader pin |    |    |                                                                                                 |             |                               |                    |                    |                    |              |              |              |  |  |                       |
|                                                                                                        |  |  |  |                                                                                                        | C1                                       | C2 | C3 |                                                                                                        | L1                                          | L2 | L3 | a<br>X<br>B                                                                                     | b<br>X<br>A | c<br>X<br>A                   | 46<br>41<br>X<br>B | 47<br>42<br>X<br>A | 48<br>43<br>X<br>A | 51<br>X<br>B | 52<br>X<br>A | 53<br>X<br>A |  |  |                       |
|                                                                                                        |  |  |  |                                                                                                        |                                          |    |    |                                                                                                        |                                             |    |    |                                                                                                 |             |                               |                    |                    |                    |              |              |              |  |  |                       |
| <br>FS 741          |  |  |  | <br>FS 751          |                                          |    |    | <br>FS 755          |                                             |    |    |                                                                                                 |             |                               |                    |                    |                    |              |              |              |  |  |                       |
| 46                                                                                                     |  |  |  | 47                                                                                                     |                                          |    |    | 48                                                                                                     |                                             |    |    |                                                                                                 |             |                               |                    |                    |                    |              |              |              |  |  |                       |
| Stahlbuchse mit Bronzeplattierung<br>Leader pin bushing, bronze plated                                 |  |  |  |                                                                                                        |                                          |    |    |                                                                                                        |                                             |    |    |                                                                                                 |             |                               |                    |                    |                    |              |              |              |  |  |                       |
| <br>FS 641          |  |  |  | <br>FS 651          |                                          |    |    | <br>FS 655          |                                             |    |    |                                                                                                 |             |                               |                    |                    |                    |              |              |              |  |  |                       |
| 41                                                                                                     |  |  |  | 42                                                                                                     |                                          |    |    | 43                                                                                                     |                                             |    |    |                                                                                                 |             |                               |                    |                    |                    |              |              |              |  |  |                       |
| Stahlbuchse mit Ms-Käfig<br>Leader pin bushing with ball cage                                          |  |  |  |                                                                                                        |                                          |    |    |                                                                                                        |                                             |    |    |                                                                                                 |             |                               |                    |                    |                    |              |              |              |  |  |                       |
| <br>FS 453 + FS 425 |  |  |  | <br>FS 457 + FS 425 |                                          |    |    | <br>FS 458 + FS 425 |                                             |    |    |                                                                                                 |             |                               |                    |                    |                    |              |              |              |  |  |                       |
| 51                                                                                                     |  |  |  | 52                                                                                                     |                                          |    |    | 53                                                                                                     |                                             |    |    |                                                                                                 |             |                               |                    |                    |                    |              |              |              |  |  |                       |
| Säulentyp / Type of leader pin                                                                         |  |  |  |                                                                                                        |                                          |    |    |                                                                                                        |                                             |    |    |                                                                                                 |             |                               |                    |                    |                    |              |              |              |  |  |                       |
| eingepresst<br>press-fitted                                                                            |  |  |  |                                                                                                        |                                          |    |    |                                                                                                        |                                             |    |    | Schnellwechselsäule mit Bund<br>Leader pin, with collar                                         |             |                               |                    |                    |                    |              |              |              |  |  |                       |
| <br>FS 420         |  |  |  |                                                                                                        |                                          |    |    |                                                                                                        |                                             |    |    | <br>FS 419  |             |                               |                    |                    |                    |              |              |              |  |  |                       |
| P                                                                                                      |  |  |  |                                                                                                        |                                          |    |    |                                                                                                        |                                             |    |    | R                                                                                               |             |                               |                    |                    |                    |              |              |              |  |  |                       |
| Gestelltyp / Type of die set                                                                           |  |  |  |                                                                                                        |                                          |    |    |                                                                                                        |                                             |    |    |                                                                                                 |             |                               |                    |                    |                    |              |              |              |  |  |                       |
|                   |  |  |  |                                                                                                        |                                          |    |    |                                                                                                        |                                             |    |    |                                                                                                 |             |                               |                    |                    |                    |              |              |              |  |  |                       |
|                   |  |  |  |                                                                                                        |                                          |    |    |                                                                                                        |                                             |    |    |                                                                                                 |             |                               |                    |                    |                    |              |              |              |  |  |                       |
| Position der Haltestücke / Position of holding clamps                                                  |  |  |  |                                                                                                        |                                          |    |    |                                                                                                        |                                             |    |    |                                                                                                 |             |                               |                    |                    |                    |              |              |              |  |  |                       |
| <br>Pos. Z        |  |  |  |                                                                                                        |                                          |    |    |                                                                                                        |                                             |    |    | <br>Pos. X |             |                               |                    |                    |                    |              |              |              |  |  |                       |

| Größe / Size | A<br>X<br>B     | C1 | C2 | C3 | d1/d2 | L1  | L2  | L3  | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A | 46<br>41<br>X<br>B | 47<br>42<br>X<br>A | 48<br>43<br>X<br>A | 51<br>X<br>B    | 52<br>X<br>A    | 53<br>X<br>A | Gewicht / Weight [kg] |
|--------------|-----------------|----|----|----|-------|-----|-----|-----|-------------|-------------|-------------|--------------------|--------------------|--------------------|-----------------|-----------------|--------------|-----------------------|
| 601          | 125<br>X<br>125 | 28 | 23 | –  | 18/19 | 130 | 100 | –   |             |             |             | 27<br>X<br>125     | 27<br>X<br>125     |                    |                 |                 |              | 7,8                   |
| 602          |                 | 28 | 28 | –  |       | 140 | 110 | –   |             |             |             |                    |                    |                    |                 |                 |              | 8,9                   |
| 603          |                 | 38 | 28 | –  |       | 150 | 110 | 100 |             |             |             |                    |                    |                    |                 |                 |              |                       |
| 604          | 160<br>X<br>125 | 28 | 23 | –  | 18/19 | 130 | 100 | –   |             |             |             | 62<br>X<br>125     | 27<br>X<br>160     |                    | 50<br>X<br>125  |                 |              | 9,9                   |
| 605          |                 | 28 | 28 | –  |       | 140 | 110 | –   |             |             |             |                    |                    |                    |                 |                 |              | 10,4                  |
| 606          |                 | 38 | 28 | –  |       | 150 | 110 | 100 |             |             |             |                    |                    |                    |                 |                 |              |                       |
| 607          | 160<br>X<br>160 | 28 | 23 | –  | 18/19 | 130 | 100 | –   |             |             |             | 62<br>X<br>160     | 62<br>X<br>160     |                    | 50<br>X<br>160  | 50<br>X<br>160  |              | 11,9                  |
| 608          |                 | 28 | 28 | –  |       | 140 | 110 | –   |             |             |             |                    |                    |                    |                 |                 |              | 12,9                  |
| 609          |                 | 38 | 28 | –  |       | 150 | 110 | 100 |             |             |             |                    |                    |                    |                 |                 |              |                       |
| 610          | 200<br>X<br>125 | 28 | 23 | –  | 18/19 | 130 | 100 | –   |             |             |             | 102<br>X<br>125    | 27<br>X<br>200     |                    | 90<br>X<br>125  |                 |              | 11,9                  |
| 611          |                 | 28 | 28 | –  |       | 140 | 110 | –   |             |             |             |                    |                    |                    |                 |                 |              | 12,9                  |
| 612          |                 | 38 | 28 | –  |       | 150 | 110 | 100 |             |             |             |                    |                    |                    |                 |                 |              |                       |
| 613          | 200<br>X<br>160 | 28 | 23 | –  | 18/19 | 130 | 100 | –   |             |             |             | 102<br>X<br>160    | 62<br>X<br>200     |                    | 90<br>X<br>160  | 50<br>X<br>200  |              | 14,9                  |
| 614          |                 | 28 | 28 | –  |       | 140 | 110 | –   |             |             |             |                    |                    |                    |                 |                 |              | 15,9                  |
| 615          |                 | 38 | 28 | –  |       | 150 | 110 | 100 |             |             |             |                    |                    |                    |                 |                 |              |                       |
| 616          | 200<br>X<br>200 | 28 | 23 | –  | 18/19 | 130 | 100 | –   |             |             |             | 102<br>X<br>200    | 102<br>X<br>200    |                    | 90<br>X<br>200  | 90<br>X<br>200  |              | 17,9                  |
| 617          |                 | 28 | 28 | –  |       | 140 | 110 | –   |             |             |             |                    |                    |                    |                 |                 |              | 19,9                  |
| 618          |                 | 38 | 28 | –  |       | 150 | 110 | 100 |             |             |             |                    |                    |                    |                 |                 |              |                       |
| 619          | 250<br>X<br>125 | 28 | 23 | –  | 18/19 | 130 | 100 | –   |             |             |             | 152<br>X<br>125    | 27<br>X<br>250     |                    | 140<br>X<br>125 |                 |              | 14,9                  |
| 620          |                 | 28 | 28 | –  |       | 140 | 110 | –   |             |             |             |                    |                    |                    |                 |                 |              | 15,9                  |
| 621          |                 | 38 | 28 | –  |       | 150 | 110 | 100 |             |             |             |                    |                    |                    |                 |                 |              |                       |
| 622          | 250<br>X<br>160 | 28 | 23 | –  | 18/19 | 130 | 100 | –   |             |             |             | 152<br>X<br>160    | 60<br>X<br>250     |                    | 140<br>X<br>160 | 50<br>X<br>250  |              | 17,9                  |
| 623          |                 | 28 | 28 | –  |       | 140 | 110 | –   |             |             |             |                    |                    |                    |                 |                 |              | 19,9                  |
| 624          |                 | 38 | 28 | –  |       | 150 | 110 | 100 |             |             |             |                    |                    |                    |                 |                 |              |                       |
| 625          | 250<br>X<br>200 | 33 | 28 | –  | 24/25 | 150 | 110 | –   |             |             |             | 132<br>X<br>200    | 82<br>X<br>250     |                    | 120<br>X<br>200 | 70<br>X<br>250  |              | 26,9                  |
| 626          |                 | 33 | 33 | –  |       | 160 | 120 | –   |             |             |             |                    |                    |                    |                 |                 |              | 27,9                  |
| 627          |                 | 48 | 38 | –  |       | 180 | 130 | 120 |             |             |             |                    |                    |                    |                 |                 |              |                       |
| 628          | 250<br>X<br>250 | 33 | 28 | –  | 24/25 | 150 | 110 | –   |             |             |             | 132<br>X<br>250    | 132<br>X<br>250    |                    | 120<br>X<br>250 | 120<br>X<br>250 |              | 32,9                  |
| 629          |                 | 33 | 33 | –  |       | 160 | 120 | –   |             |             |             |                    |                    |                    |                 |                 |              | 34,9                  |
| 630          |                 | 48 | 38 | –  |       | 170 | 130 | 120 |             |             |             |                    |                    |                    |                 |                 |              |                       |

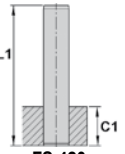
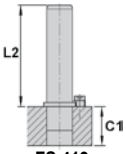
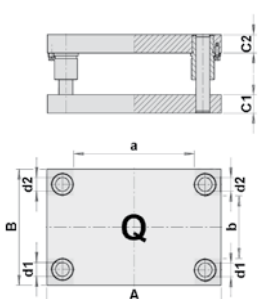
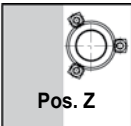
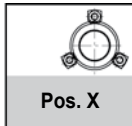


## Säulengestelle aus Stahl, 2 Platten, 4 Säulen, Typ Q

## Steel die sets, 2 plates, 4 posts, type Q



## SÄULENGESTELLE / DIE SETS

| Buchsentyp / Type of bushing                                                        |                                                                                   |                                                                                   | Abmessungen / Dimensions |                 |                                          |    |    |    |                                             |    |                                                                                     |    | Arbeitsflächen / Working area |             |             |             |             |                |             |             |             |  | Gewicht / Weight [kg] |  |  |  |  |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------|-----------------|------------------------------------------|----|----|----|---------------------------------------------|----|-------------------------------------------------------------------------------------|----|-------------------------------|-------------|-------------|-------------|-------------|----------------|-------------|-------------|-------------|--|-----------------------|--|--|--|--|
| Sinterbuchse<br>Leader pin bushing, sintered                                        |                                                                                   |                                                                                   | Größe / Size             | A<br>X<br>B     | Platten-<br>stärke<br>Plate<br>thickness |    |    | Ø  | Säulen-<br>länge<br>Length of<br>leader pin |    |                                                                                     |    |                               |             | 46<br>41    | 47<br>42    | 48<br>43    | 51<br>52<br>53 |             |             |             |  |                       |  |  |  |  |
|                                                                                     |                                                                                   |                                                                                   |                          |                 | C1                                       | C2 | C3 |    | d1/d2                                       | L1 | L2                                                                                  | L3 | a<br>X<br>B                   | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A    | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A |  |                       |  |  |  |  |
|                                                                                     |                                                                                   |                                                                                   |                          |                 |                                          |    |    |    |                                             |    |                                                                                     |    |                               |             |             |             |             |                |             |             |             |  |                       |  |  |  |  |
|    |  |  | FS 741                   | FS 751          | FS 755                                   | 46 | 47 | 48 |                                             |    |                                                                                     |    |                               |             |             |             |             |                |             |             |             |  |                       |  |  |  |  |
| Stahlbuchse mit Bronzeplattierung<br>Leader pin bushing, bronze plated              |                                                                                   |                                                                                   |                          |                 |                                          |    |    |    |                                             |    |                                                                                     |    |                               |             |             |             |             |                |             |             |             |  |                       |  |  |  |  |
|    |  |  | FS 641                   | FS 651          | FS 655                                   | 41 | 42 | 43 |                                             |    |                                                                                     |    |                               |             |             |             |             |                |             |             |             |  |                       |  |  |  |  |
| Stahlbuchse mit Ms-Käfig<br>Leader pin bushing with ball cage                       |                                                                                   |                                                                                   |                          |                 |                                          |    |    |    |                                             |    |                                                                                     |    |                               |             |             |             |             |                |             |             |             |  |                       |  |  |  |  |
|    |  |  | FS 453 + FS 425          | FS 457 + FS 425 | FS 458 + FS 425                          | 51 | 52 | 53 |                                             |    |                                                                                     |    |                               |             |             |             |             |                |             |             |             |  |                       |  |  |  |  |
| Säulentyp / Type of leader pin                                                      |                                                                                   |                                                                                   |                          |                 |                                          |    |    |    |                                             |    |                                                                                     |    |                               |             |             |             |             |                |             |             |             |  |                       |  |  |  |  |
| eingepresst<br>press-fitted                                                         |                                                                                   |                                                                                   |                          |                 |                                          |    |    |    |                                             |    | Schnellwechsel-<br>säule mit Bund<br>Leader pin,<br>with collar                     |    |                               |             |             |             |             |                |             |             |             |  |                       |  |  |  |  |
|   |                                                                                   |                                                                                   |                          |                 |                                          |    |    |    |                                             |    |   |    |                               |             |             |             |             |                |             |             |             |  |                       |  |  |  |  |
| FS 420<br>P                                                                         |                                                                                   |                                                                                   |                          |                 |                                          |    |    |    |                                             |    | FS 419<br>R                                                                         |    |                               |             |             |             |             |                |             |             |             |  |                       |  |  |  |  |
| Gestelltyp / Type of die set                                                        |                                                                                   |                                                                                   |                          |                 |                                          |    |    |    |                                             |    |                                                                                     |    |                               |             |             |             |             |                |             |             |             |  |                       |  |  |  |  |
|   |                                                                                   |                                                                                   |                          |                 |                                          |    |    |    |                                             |    |                                                                                     |    |                               |             |             |             |             |                |             |             |             |  |                       |  |  |  |  |
|  |                                                                                   |                                                                                   |                          |                 |                                          |    |    |    |                                             |    |                                                                                     |    |                               |             |             |             |             |                |             |             |             |  |                       |  |  |  |  |
| Position der Haltestücke / Position of holding clamps                               |                                                                                   |                                                                                   |                          |                 |                                          |    |    |    |                                             |    |                                                                                     |    |                               |             |             |             |             |                |             |             |             |  |                       |  |  |  |  |
|  |                                                                                   |                                                                                   |                          |                 |                                          |    |    |    |                                             |    |  |    |                               |             |             |             |             |                |             |             |             |  |                       |  |  |  |  |
| Pos. Z                                                                              |                                                                                   |                                                                                   |                          |                 |                                          |    |    |    |                                             |    | Pos. X                                                                              |    |                               |             |             |             |             |                |             |             |             |  |                       |  |  |  |  |

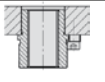
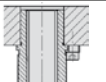
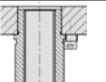
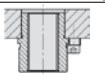
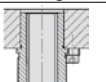
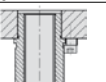
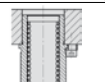
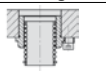
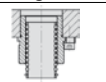
|     |                 |    |    |   |       |     |     |     |  |  |  |  |                 |                 |  |                 |                 |  |      |
|-----|-----------------|----|----|---|-------|-----|-----|-----|--|--|--|--|-----------------|-----------------|--|-----------------|-----------------|--|------|
| 631 | 300<br>X<br>160 | 33 | 28 | – | 24/25 | 150 | 110 | –   |  |  |  |  | 182<br>X<br>160 | 42<br>X<br>300  |  | 170<br>X<br>160 | 30<br>X<br>300  |  | 25,0 |
| 632 |                 | 33 | 33 | – |       | 160 | 120 | –   |  |  |  |  |                 |                 |  |                 |                 |  | 26,9 |
| 633 |                 | 48 | 38 | – |       | 180 | 130 | 120 |  |  |  |  |                 |                 |  |                 |                 |  |      |
| 634 | 300<br>X<br>200 | 33 | 28 | – | 24/25 | 150 | 110 | –   |  |  |  |  | 182<br>X<br>200 | 82<br>X<br>300  |  | 170<br>X<br>200 | 70<br>X<br>300  |  | 30,8 |
| 635 |                 | 33 | 33 | – |       | 160 | 120 | –   |  |  |  |  |                 |                 |  |                 |                 |  | 33,1 |
| 636 |                 | 48 | 38 | – |       | 180 | 130 | 120 |  |  |  |  |                 |                 |  |                 |                 |  |      |
| 637 | 300<br>X<br>250 | 38 | 33 | – | 30/32 | 160 | 120 | –   |  |  |  |  | 158<br>X<br>250 | 108<br>X<br>300 |  | 142<br>X<br>250 | 92<br>X<br>300  |  | 44,8 |
| 638 |                 | 38 | 38 | – |       | 170 | 130 | –   |  |  |  |  |                 |                 |  |                 |                 |  | 47,8 |
| 639 |                 | 48 | 38 | – |       | 180 | 130 | 120 |  |  |  |  |                 |                 |  |                 |                 |  |      |
| 640 | 300<br>X<br>300 | 38 | 33 | – | 30/32 | 160 | 120 | –   |  |  |  |  | 158<br>X<br>300 | 158<br>X<br>300 |  | 142<br>X<br>300 | 142<br>X<br>300 |  | 53,5 |
| 641 |                 | 38 | 38 | – |       | 170 | 130 | –   |  |  |  |  |                 |                 |  |                 |                 |  | 57,0 |
| 642 |                 | 48 | 38 | – |       | 180 | 130 | 120 |  |  |  |  |                 |                 |  |                 |                 |  |      |
| 643 | 350<br>X<br>200 | 33 | 28 | – | 24/25 | 150 | 110 | –   |  |  |  |  | 232<br>X<br>200 | 82<br>X<br>350  |  | 220<br>X<br>200 | 70<br>X<br>350  |  | 35,6 |
| 644 |                 | 33 | 33 | – |       | 160 | 120 | –   |  |  |  |  |                 |                 |  |                 |                 |  | 38,3 |
| 645 |                 | 48 | 38 | – |       | 180 | 130 | 120 |  |  |  |  |                 |                 |  |                 |                 |  |      |
| 646 | 350<br>X<br>250 | 38 | 33 | – | 30/32 | 160 | 120 | –   |  |  |  |  | 208<br>X<br>250 | 108<br>X<br>350 |  | 192<br>X<br>250 | 92<br>X<br>350  |  | 52,5 |
| 647 |                 | 38 | 38 | – |       | 170 | 130 | –   |  |  |  |  |                 |                 |  |                 |                 |  | 55,5 |
| 648 |                 | 48 | 38 | – |       | 180 | 130 | 120 |  |  |  |  |                 |                 |  |                 |                 |  |      |
| 649 | 350<br>X<br>300 | 38 | 33 | – | 30/32 | 160 | 120 | –   |  |  |  |  | 208<br>X<br>300 | 158<br>X<br>350 |  | 192<br>X<br>300 | 142<br>X<br>350 |  | 61,5 |
| 650 |                 | 38 | 38 | – |       | 170 | 130 | –   |  |  |  |  |                 |                 |  |                 |                 |  | 66,0 |
| 651 |                 | 48 | 38 | – |       | 180 | 130 | 120 |  |  |  |  |                 |                 |  |                 |                 |  |      |
| 652 | 350<br>X<br>350 | 38 | 33 | – | 30/32 | 160 | 120 | –   |  |  |  |  | 208<br>X<br>350 | 208<br>X<br>350 |  | 192<br>X<br>350 | 192<br>X<br>350 |  | 71,5 |
| 653 |                 | 38 | 38 | – |       | 170 | 130 | –   |  |  |  |  |                 |                 |  |                 |                 |  | 76,5 |
| 654 |                 | 48 | 38 | – |       | 180 | 130 | 120 |  |  |  |  |                 |                 |  |                 |                 |  |      |
| 655 | 400<br>X<br>200 | 33 | 28 | – | 24/25 | 150 | 110 | –   |  |  |  |  | 282<br>X<br>200 | 82<br>X<br>400  |  | 270<br>X<br>200 | 70<br>X<br>400  |  | 40,4 |
| 656 |                 | 33 | 33 | – |       | 160 | 120 | –   |  |  |  |  |                 |                 |  |                 |                 |  | 43,5 |
| 657 |                 | 48 | 38 | – |       | 180 | 130 | 120 |  |  |  |  |                 |                 |  |                 |                 |  |      |
| 658 | 400<br>X<br>250 | 38 | 33 | – | 30/32 | 160 | 120 | –   |  |  |  |  | 258<br>X<br>250 | 108<br>X<br>400 |  | 242<br>X<br>250 | 92<br>X<br>400  |  | 59,0 |
| 659 |                 | 38 | 38 | – |       | 170 | 130 | –   |  |  |  |  |                 |                 |  |                 |                 |  | 63,0 |
| 660 |                 | 48 | 38 | – |       | 180 | 130 | 120 |  |  |  |  |                 |                 |  |                 |                 |  |      |

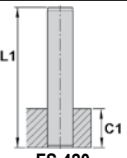
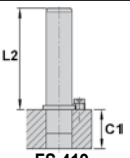
## Säulengestelle aus Stahl, 2 Platten, 4 Säulen, Typ Q

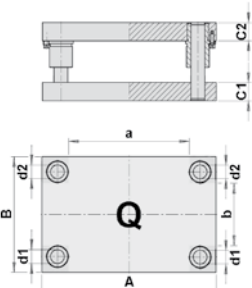
## Steel die sets, 2 plates, 4 posts, type Q

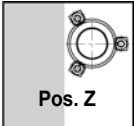
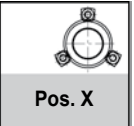


## SÄULENGESTELLE / DIE SETS

| Buchsentyp / Type of bushing                                                        |  |                                                                                     |  |                                                                                     |  | Abmessungen / Dimensions |             |                                          |    |    |   |                                             |    |    |    |             |             |             |             |             | Arbeitsflächen / Working area |             |             |             |  |  |  |  |  | Gewicht / Weight [kg] |
|-------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|--------------------------|-------------|------------------------------------------|----|----|---|---------------------------------------------|----|----|----|-------------|-------------|-------------|-------------|-------------|-------------------------------|-------------|-------------|-------------|--|--|--|--|--|-----------------------|
| Sinterbuchse<br>Leader pin bushing, sintered                                        |  |                                                                                     |  |                                                                                     |  | Größe / Size             | A<br>X<br>B | Platten-<br>stärke<br>Plate<br>thickness |    |    | Ø | Säulen-<br>länge<br>Length of<br>leader pin |    |    |    |             |             | 46<br>41    | 47<br>42    | 48<br>43    | 51                            | 52          | 53          |             |  |  |  |  |  |                       |
|                                                                                     |  |                                                                                     |  |                                                                                     |  |                          |             | C1                                       | C2 | C3 |   | d1/d2                                       | L1 | L2 | L3 | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A                   | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A |  |  |  |  |  |                       |
|                                                                                     |  |                                                                                     |  |                                                                                     |  |                          |             |                                          |    |    |   |                                             |    |    |    |             |             |             |             |             |                               |             |             |             |  |  |  |  |  |                       |
|  |  |  |  |  |  |                          |             |                                          |    |    |   |                                             |    |    |    |             |             |             |             |             |                               |             |             |             |  |  |  |  |  |                       |
| FS 741                                                                              |  | FS 751                                                                              |  | FS 755                                                                              |  |                          |             |                                          |    |    |   |                                             |    |    |    |             |             |             |             |             |                               |             |             |             |  |  |  |  |  |                       |
| 46                                                                                  |  | 47                                                                                  |  | 48                                                                                  |  |                          |             |                                          |    |    |   |                                             |    |    |    |             |             |             |             |             |                               |             |             |             |  |  |  |  |  |                       |
| Stahlbuchse mit Bronzeplattierung<br>Leader pin bushing, bronze plated              |  |                                                                                     |  |                                                                                     |  |                          |             |                                          |    |    |   |                                             |    |    |    |             |             |             |             |             |                               |             |             |             |  |  |  |  |  |                       |
|  |  |  |  |  |  |                          |             |                                          |    |    |   |                                             |    |    |    |             |             |             |             |             |                               |             |             |             |  |  |  |  |  |                       |
| FS 641                                                                              |  | FS 651                                                                              |  | FS 655                                                                              |  |                          |             |                                          |    |    |   |                                             |    |    |    |             |             |             |             |             |                               |             |             |             |  |  |  |  |  |                       |
| 41                                                                                  |  | 42                                                                                  |  | 43                                                                                  |  |                          |             |                                          |    |    |   |                                             |    |    |    |             |             |             |             |             |                               |             |             |             |  |  |  |  |  |                       |
| Stahlbuchse mit Ms-Käfig<br>Leader pin bushing with ball cage                       |  |                                                                                     |  |                                                                                     |  |                          |             |                                          |    |    |   |                                             |    |    |    |             |             |             |             |             |                               |             |             |             |  |  |  |  |  |                       |
|  |  |  |  |  |  |                          |             |                                          |    |    |   |                                             |    |    |    |             |             |             |             |             |                               |             |             |             |  |  |  |  |  |                       |
| FS 453 + FS 425                                                                     |  | FS 457 + FS 425                                                                     |  | FS 458 + FS 425                                                                     |  |                          |             |                                          |    |    |   |                                             |    |    |    |             |             |             |             |             |                               |             |             |             |  |  |  |  |  |                       |
| 51                                                                                  |  | 52                                                                                  |  | 53                                                                                  |  |                          |             |                                          |    |    |   |                                             |    |    |    |             |             |             |             |             |                               |             |             |             |  |  |  |  |  |                       |

| Säulentyp / Type of leader pin                                                       |  |  |                                                                                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------------------------------------------------------------------------|--|--|--------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| eingepresst<br>press-fitted                                                          |  |  | Schnellwechsel-<br>säule mit Bund<br>Leader pin,<br>with collar                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FS 420                                                                               |  |  | FS 419                                                                               |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P                                                                                    |  |  | R                                                                                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

| Gestelltyp / Type of die set                                                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

| Position der Haltestücke / Position of holding clamps                                 |  |  |  |  |  |                                                                                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---------------------------------------------------------------------------------------|--|--|--|--|--|---------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Pos. Z                                                                                |  |  |  |  |  | Pos. X                                                                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|     |                 |    |    |   |       |     |     |     |  |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |  |       |
|-----|-----------------|----|----|---|-------|-----|-----|-----|--|--|--|--|--|--|--|--|-----------------|-----------------|--|-----------------|-----------------|--|--|-------|
| 661 | 400<br>X<br>300 | 48 | 38 | – | 40/42 | 190 | 140 | –   |  |  |  |  |  |  |  |  | 238<br>X<br>300 | 138<br>X<br>400 |  | 222<br>X<br>300 | 122<br>X<br>400 |  |  | 87,0  |
| 662 |                 | 48 | 48 | – |       | 200 | 150 | –   |  |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |  | 96,5  |
| 663 |                 | 58 | 48 | – |       | 210 | 150 | 140 |  |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |  |       |
| 664 | 400<br>X<br>350 | 48 | 38 | – | 40/42 | 190 | 140 | –   |  |  |  |  |  |  |  |  | 238<br>X<br>350 | 188<br>X<br>400 |  | 222<br>X<br>350 | 172<br>X<br>400 |  |  | 101,0 |
| 665 |                 | 48 | 48 | – |       | 200 | 150 | –   |  |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |  | 112,0 |
| 666 |                 | 58 | 48 | – |       | 210 | 150 | 140 |  |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |  |       |
| 667 | 400<br>X<br>400 | 48 | 38 | – | 40/42 | 190 | 140 | –   |  |  |  |  |  |  |  |  | 238<br>X<br>400 | 238<br>X<br>400 |  | 222<br>X<br>400 | 222<br>X<br>400 |  |  | 114,0 |
| 668 |                 | 48 | 48 | – |       | 200 | 150 | –   |  |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |  | 127,0 |
| 669 |                 | 58 | 48 | – |       | 210 | 150 | 140 |  |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |  |       |
| 670 | 500<br>X<br>250 | 38 | 33 | – | 30/32 | 160 | 120 | –   |  |  |  |  |  |  |  |  | 358<br>X<br>250 | 108<br>X<br>500 |  | 342<br>X<br>250 | 92<br>X<br>500  |  |  | 73,0  |
| 671 |                 | 38 | 38 | – |       | 170 | 130 | –   |  |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |  | 78,0  |
| 672 |                 | 48 | 38 | – |       | 180 | 130 | 120 |  |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |  |       |
| 673 | 500<br>X<br>300 | 48 | 38 | – | 40/42 | 190 | 140 | –   |  |  |  |  |  |  |  |  | 338<br>X<br>300 | 138<br>X<br>500 |  | 322<br>X<br>300 | 122<br>X<br>500 |  |  | 108,0 |
| 674 |                 | 48 | 48 | – |       | 200 | 150 | –   |  |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |  | 119,0 |
| 675 |                 | 58 | 48 | – |       | 210 | 150 | 140 |  |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |  |       |
| 676 | 500<br>X<br>350 | 48 | 38 | – | 40/42 | 190 | 140 | –   |  |  |  |  |  |  |  |  | 338<br>X<br>350 | 188<br>X<br>500 |  | 322<br>X<br>350 | 172<br>X<br>500 |  |  | 125,0 |
| 677 |                 | 48 | 48 | – |       | 200 | 150 | –   |  |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |  | 138,0 |
| 678 |                 | 58 | 48 | – |       | 210 | 150 | 140 |  |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |  |       |
| 679 | 500<br>X<br>400 | 48 | 38 | – | 40/42 | 190 | 140 | –   |  |  |  |  |  |  |  |  | 338<br>X<br>400 | 238<br>X<br>500 |  | 322<br>X<br>400 | 222<br>X<br>500 |  |  | 141,0 |
| 680 |                 | 48 | 48 | – |       | 200 | 150 | –   |  |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |  | 157,0 |
| 681 |                 | 58 | 48 | – |       | 210 | 150 | 140 |  |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |  |       |
| 682 | 500<br>X<br>500 | 48 | 38 | – | 40/42 | 190 | 140 | –   |  |  |  |  |  |  |  |  | 338<br>X<br>500 | 338<br>X<br>500 |  | 322<br>X<br>500 | 322<br>X<br>500 |  |  | 175,0 |
| 683 |                 | 48 | 48 | – |       | 200 | 150 | –   |  |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |  | 195,0 |
| 684 |                 | 58 | 48 | – |       | 210 | 150 | 140 |  |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |  |       |
| 685 | 600<br>X<br>300 | 48 | 38 | – | 40/42 | 190 | 140 | –   |  |  |  |  |  |  |  |  | 438<br>X<br>300 | 138<br>X<br>600 |  | 422<br>X<br>300 | 122<br>X<br>600 |  |  | 128,0 |
| 686 |                 | 48 | 48 | – |       | 200 | 150 | –   |  |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |  | 142,0 |
| 687 |                 | 58 | 48 | – |       | 210 | 150 | 140 |  |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |  |       |
| 688 | 600<br>X<br>350 | 48 | 38 | – | 40/42 | 190 | 140 | –   |  |  |  |  |  |  |  |  | 438<br>X<br>350 | 188<br>X<br>600 |  | 422<br>X<br>350 | 172<br>X<br>600 |  |  | 148,0 |
| 689 |                 | 48 | 48 | – |       | 200 | 150 | –   |  |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |  | 165,0 |
| 690 |                 | 58 | 48 | – |       | 210 | 150 | 140 |  |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |  |       |

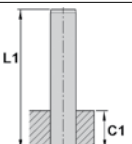
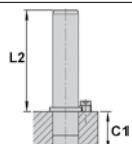
## Säulengestelle aus Stahl, 2 Platten, 4 Säulen, Typ Q

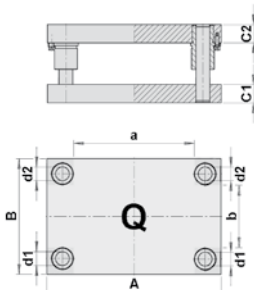


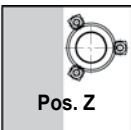
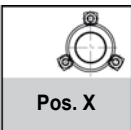
## Steel die sets, 2 plates, 4 posts, type Q

SÄULENGESTELLE / DIE SETS

| Buchsentyp / Type of bushing                                                      |                                                                                   |                                                                                   | Abmessungen / Dimensions |                                          |    |    |            |                                             | Arbeitsflächen / Working area |    |             |             |             |             |             |             |             | Gewicht / Weight [kg] |             |             |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------|------------------------------------------|----|----|------------|---------------------------------------------|-------------------------------|----|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|-------------|-------------|
| Sinterbuchse<br>Leader pin bushing, sintered                                      |                                                                                   |                                                                                   | A<br>X<br>B              | Platten-<br>stärke<br>Plate<br>thickness |    |    | Ø<br>d1/d2 | Säulen-<br>länge<br>Length of<br>leader pin |                               |    | 46<br>41    |             |             | 47<br>42    | 48<br>43    | 51          | 52          |                       | 53          |             |
|  |  |  |                          | C1                                       | C2 | C3 |            | L1                                          | L2                            | L3 | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B |                       | b<br>X<br>A | c<br>X<br>A |
|                                                                                   |                                                                                   |                                                                                   |                          |                                          |    |    |            |                                             |                               |    |             |             |             |             |             |             |             |                       |             |             |
| Stahlbuchse mit Bronzeplattierung<br>Leader pin bushing, bronze plated            |                                                                                   |                                                                                   |                          |                                          |    |    |            |                                             |                               |    |             |             |             |             |             |             |             |                       |             |             |
|  |  |  |                          |                                          |    |    |            |                                             |                               |    |             |             |             |             |             |             |             |                       |             |             |
| FS 641<br>41                                                                      | FS 651<br>42                                                                      | FS 655<br>43                                                                      |                          |                                          |    |    |            |                                             |                               |    |             |             |             |             |             |             |             |                       |             |             |
| Stahlbuchse mit Ms-Käfig<br>Leader pin bushing with ball cage                     |                                                                                   |                                                                                   |                          |                                          |    |    |            |                                             |                               |    |             |             |             |             |             |             |             |                       |             |             |
|  |  |  |                          |                                          |    |    |            |                                             |                               |    |             |             |             |             |             |             |             |                       |             |             |
| FS 453 + FS 425<br>51                                                             | FS 457 + FS 425<br>52                                                             | FS 458 + FS 425<br>53                                                             |                          |                                          |    |    |            |                                             |                               |    |             |             |             |             |             |             |             |                       |             |             |

| Säulentyp / Type of leader pin                                                     |                                                                                    |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| eingepresst<br>press-fitted                                                        | Schnellwechsel-<br>säule mit Bund<br>Leader pin,<br>with collar                    |
|  |  |
| FS 420<br>P                                                                        | FS 419<br>R                                                                        |

| Gestelltyp / Type of die set                                                        |  |
|-------------------------------------------------------------------------------------|--|
|   |  |
|  |  |

| Position der Haltestücke / Position of holding clamps                               |                                                                                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |
| Pos. Z                                                                              | Pos. X                                                                              |

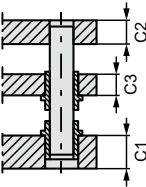
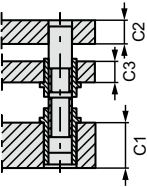
[SG.16]

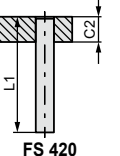
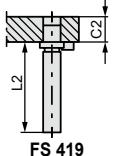
## Säulengestelle aus Stahl, 3 Platten, 4 Säulen, Typ Q

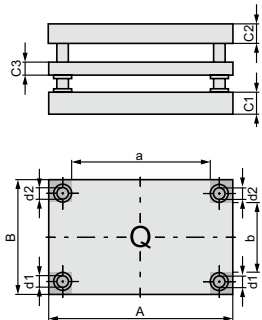


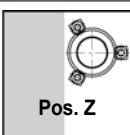
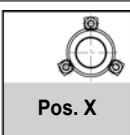
## Steel die sets, 3 plates, 4 posts, type Q

SÄULENGESTELLE / DIE SETS

| Buchsentyp / Type of bushing                                                        |                                                                                     |  |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|
|  |  |  |
| <b>Sinterbuchse<br/>Leader pin bushing, sintered</b>                                |                                                                                     |  |
| C1: FS 741                                                                          | C1: FS 732                                                                          |  |
| C3: FS 731                                                                          | C3: FS 731                                                                          |  |
| 88                                                                                  | 87                                                                                  |  |
| <b>Stahlbuchse mit Bronzeplattierung<br/>Leader pin bushing, bronze plated</b>      |                                                                                     |  |
| C1: FS 641                                                                          | C1: FS 632                                                                          |  |
| C3: FS 631                                                                          | C3: FS 631                                                                          |  |
| 71                                                                                  | 72                                                                                  |  |
| <b>Stahlbuchse mit Ms-Käfig<br/>Leader pin bushing with ball cage</b>               |                                                                                     |  |
| C1: FS 458 + FS 425                                                                 | C1: FS 453 + FS 425                                                                 |  |
| C3: FS 457 + FS 425                                                                 | C3: FS 457 + FS 425                                                                 |  |
| 91                                                                                  | 92                                                                                  |  |

| Säulentyp / Type of leader pin                                                       |                                                                                      |  |
|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--|
| eingepresst<br>press-fitted                                                          | Schnellwechselsäule mit Bund<br>Leader pin, with collar                              |  |
|  |  |  |
| FS 420                                                                               | FS 419                                                                               |  |
| P                                                                                    | R                                                                                    |  |

| Gestelltyp / Type of die set                                                          |  |  |
|---------------------------------------------------------------------------------------|--|--|
|  |  |  |
|  |  |  |

| Position der Haltestücke / Position of holding clamps                                 |                                                                                       |  |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--|
|  |  |  |
| Pos. Z                                                                                | Pos. X                                                                                |  |

## Säulengestelle aus Stahl, 3 Platten, 4 Säulen, Typ Q

## Steel die sets, 3 plates, 4 posts, type Q



## SÄULENGESTELLE / DIE SETS

| Buchsentyp / Type of bushing                                                   |                     |  |  |
|--------------------------------------------------------------------------------|---------------------|--|--|
|                                                                                |                     |  |  |
|                                                                                |                     |  |  |
| <b>Sinterbuchse<br/>Leader pin bushing, sintered</b>                           |                     |  |  |
| C1: FS 741                                                                     | C1: FS 732          |  |  |
| C3: FS 731                                                                     | C3: FS 731          |  |  |
| 88                                                                             | 87                  |  |  |
| <b>Stahlbuchse mit Bronzeplattierung<br/>Leader pin bushing, bronze plated</b> |                     |  |  |
| C1: FS 641                                                                     | C1: FS 632          |  |  |
| C3: FS 631                                                                     | C3: FS 631          |  |  |
| 71                                                                             | 72                  |  |  |
| <b>Stahlbuchse mit Ms-Käfig<br/>Leader pin bushing with ball cage</b>          |                     |  |  |
| C1: FS 458 + FS 425                                                            | C1: FS 453 + FS 425 |  |  |
| C3: FS 457 + FS 425                                                            | C3: FS 457 + FS 425 |  |  |
| 91                                                                             | 92                  |  |  |

| Säulentyp / Type of leader pin |                                                                 |  |  |
|--------------------------------|-----------------------------------------------------------------|--|--|
| eingepresst<br>press-fitted    | Schnellwechsel-<br>säule mit Bund<br>Leader pin,<br>with collar |  |  |
|                                |                                                                 |  |  |
| FS 420<br>P                    | FS 419<br>R                                                     |  |  |

| Gestelltyp / Type of die set |  |  |  |
|------------------------------|--|--|--|
|                              |  |  |  |
|                              |  |  |  |
|                              |  |  |  |

| Position der Haltestücke / Position of holding clamps |        |  |  |
|-------------------------------------------------------|--------|--|--|
|                                                       |        |  |  |
| Pos. Z                                                | Pos. X |  |  |

| Abmessungen / Dimensions |                 |                                          |    | Arbeitsflächen / Working area |            |                                             |     |     |             |             |             |             |             |             |     | Gewicht / Weight [kg] |       |      |
|--------------------------|-----------------|------------------------------------------|----|-------------------------------|------------|---------------------------------------------|-----|-----|-------------|-------------|-------------|-------------|-------------|-------------|-----|-----------------------|-------|------|
| Größe / Size             | A<br>X<br>B     | Platten-<br>stärke<br>Plate<br>thickness |    |                               | Ø<br>d1/d2 | Säulen-<br>länge<br>Length of<br>leader pin |     |     |             |             |             | 88<br>71 72 |             | 91 92       |     |                       |       |      |
|                          |                 | C1                                       | C2 | C3                            |            | L1                                          | L2  | L3  | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A |     |                       |       |      |
| 631                      | 300<br>X<br>160 | 33                                       | 28 | 23                            | 24/25      | 160                                         | 130 | –   |             |             |             | 182         | 42          |             | 170 | 30                    |       | 33,7 |
| 632                      |                 | 48                                       | 38 |                               |            | 190                                         | 150 | –   |             |             |             | X           | X           |             | X   | X                     | 43,1  |      |
| 633                      |                 | 48                                       | 48 |                               |            | 200                                         | 150 | 140 |             |             |             | 160         | 300         |             | 160 | 300                   | 46,9  |      |
| 634                      | 300<br>X<br>200 | 33                                       | 28 | 23                            | 24/25      | 160                                         | 130 | –   |             |             |             | 182         | 82          |             | 170 | 70                    |       | 41,6 |
| 635                      |                 | 48                                       | 38 |                               |            | 190                                         | 150 | –   |             |             |             | X           | X           |             | X   | X                     | 53,5  |      |
| 636                      |                 | 48                                       | 48 |                               |            | 200                                         | 150 | 140 |             |             |             | 200         | 300         |             | 200 | 300                   | 58,5  |      |
| 637                      | 300<br>X<br>250 | 38                                       | 33 | 28                            | 30/32      | 170                                         | 140 | –   |             |             |             | 158         | 108         |             | 142 | 92                    |       | 61,5 |
| 638                      |                 | 48                                       | 38 |                               |            | 190                                         | 150 | –   |             |             |             | X           | X           |             | X   | X                     | 70,5  |      |
| 639                      |                 | 48                                       | 48 |                               |            | 200                                         | 150 | 140 |             |             |             | 250         | 300         |             | 250 | 300                   | 76,0  |      |
| 640                      | 300<br>X<br>300 | 38                                       | 33 | 28                            | 30/32      | 170                                         | 140 | –   |             |             |             | 158         | 158         |             | 142 | 142                   |       | 73,0 |
| 641                      |                 | 48                                       | 38 |                               |            | 190                                         | 150 | –   |             |             |             | X           | X           |             | X   | X                     | 83,5  |      |
| 642                      |                 | 48                                       | 48 |                               |            | 200                                         | 150 | 140 |             |             |             | 300         | 300         |             | 300 | 300                   | 90,5  |      |
| 643                      | 350<br>X<br>200 | 33                                       | 28 | 23                            | 24/25      | 160                                         | 130 | –   |             |             |             | 232         | 82          |             | 220 | 70                    |       | 48,2 |
| 644                      |                 | 48                                       | 38 |                               |            | 190                                         | 150 | –   |             |             |             | X           | X           |             | X   | X                     | 62,0  |      |
| 645                      |                 | 48                                       | 48 |                               |            | 200                                         | 150 | 140 |             |             |             | 200         | 350         |             | 200 | 350                   | 67,5  |      |
| 646                      | 350<br>X<br>250 | 38                                       | 33 | 28                            | 30/32      | 170                                         | 140 | –   |             |             |             | 208         | 108         |             | 192 | 92                    |       | 71,0 |
| 647                      |                 | 48                                       | 38 |                               |            | 190                                         | 150 | –   |             |             |             | X           | X           |             | X   | X                     | 81,5  |      |
| 648                      |                 | 48                                       | 48 |                               |            | 200                                         | 150 | 140 |             |             |             | 250         | 350         |             | 250 | 350                   | 88,5  |      |
| 649                      | 350<br>X<br>300 | 38                                       | 33 | 28                            | 30/32      | 170                                         | 140 | –   |             |             |             | 208         | 158         |             | 192 | 142                   |       | 85,0 |
| 650                      |                 | 48                                       | 38 |                               |            | 190                                         | 150 | –   |             |             |             | X           | X           |             | X   | X                     | 97,0  |      |
| 651                      |                 | 48                                       | 48 |                               |            | 200                                         | 150 | 140 |             |             |             | 300         | 350         |             | 300 | 350                   | 105,0 |      |
| 652                      | 350<br>X<br>350 | 38                                       | 33 | 28                            | 30/32      | 170                                         | 140 | –   |             |             |             | 208         | 208         |             | 192 | 192                   |       | 98,5 |
| 653                      |                 | 48                                       | 38 |                               |            | 190                                         | 150 | –   |             |             |             | X           | X           |             | X   | X                     | 113,0 |      |
| 654                      |                 | 48                                       | 48 |                               |            | 200                                         | 150 | 140 |             |             |             | 350         | 350         |             | 350 | 350                   | 123,0 |      |
| 655                      | 400<br>X<br>200 | 33                                       | 28 | 23                            | 24/25      | 160                                         | 130 | –   |             |             |             | 282         | 82          |             | 270 | 70                    |       | 55,0 |
| 656                      |                 | 48                                       | 38 |                               |            | 190                                         | 150 | –   |             |             |             | X           | X           |             | X   | X                     | 70,5  |      |
| 657                      |                 | 48                                       | 48 |                               |            | 200                                         | 150 | 130 |             |             |             | 200         | 400         |             | 200 | 400                   | 77,0  |      |
| 658                      | 400<br>X<br>250 | 38                                       | 33 | 28                            | 30/32      | 170                                         | 140 | –   |             |             |             | 258         | 108         |             | 242 | 92                    |       | 81,0 |
| 659                      |                 | 48                                       | 38 |                               |            | 190                                         | 150 | –   |             |             |             | X           | X           |             | X   | X                     | 92,5  |      |
| 660                      |                 | 48                                       | 48 |                               |            | 200                                         | 150 | 140 |             |             |             | 250         | 400         |             | 250 | 400                   | 101,0 |      |

## Säulengestelle aus Stahl, 3 Platten, 4 Säulen, Typ Q

## Steel die sets, 3 plates, 4 posts, type Q



## SÄULENGESTELLE / DIE SETS

| Buchsentyp / Type of bushing                                                   |                     |  |  |
|--------------------------------------------------------------------------------|---------------------|--|--|
|                                                                                |                     |  |  |
| <b>Sinterbuchse<br/>Leader pin bushing, sintered</b>                           |                     |  |  |
| C1: FS 741                                                                     | C1: FS 732          |  |  |
| C3: FS 731                                                                     | C3: FS 731          |  |  |
| 88                                                                             | 87                  |  |  |
| <b>Stahlbuchse mit Bronzeplattierung<br/>Leader pin bushing, bronze plated</b> |                     |  |  |
| C1: FS 641                                                                     | C1: FS 632          |  |  |
| C3: FS 631                                                                     | C3: FS 631          |  |  |
| 71                                                                             | 72                  |  |  |
| <b>Stahlbuchse mit Ms-Käfig<br/>Leader pin bushing with ball cage</b>          |                     |  |  |
| C1: FS 458 + FS 425                                                            | C1: FS 453 + FS 425 |  |  |
| C3: FS 457 + FS 425                                                            | C3: FS 457 + FS 425 |  |  |
| 91                                                                             | 92                  |  |  |

| Säulentyp / Type of leader pin |                                                         |  |  |
|--------------------------------|---------------------------------------------------------|--|--|
| eingepresst<br>press-fitted    | Schnellwechselsäule mit Bund<br>Leader pin, with collar |  |  |
|                                |                                                         |  |  |
| FS 420                         | FS 419                                                  |  |  |
| P                              | R                                                       |  |  |

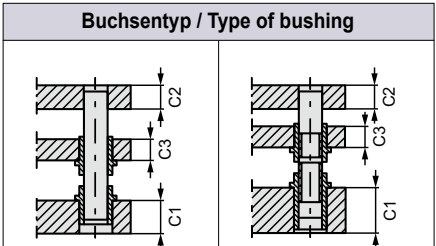
| Gestelltyp / Type of die set |  |  |  |
|------------------------------|--|--|--|
|                              |  |  |  |
|                              |  |  |  |

| Position der Haltestücke / Position of holding clamps |        |  |  |
|-------------------------------------------------------|--------|--|--|
|                                                       |        |  |  |
| Pos. Z                                                | Pos. X |  |  |

Säulengestelle aus Stahl, 3 Platten, 4 Säulen, Typ Q

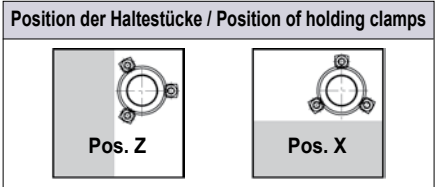
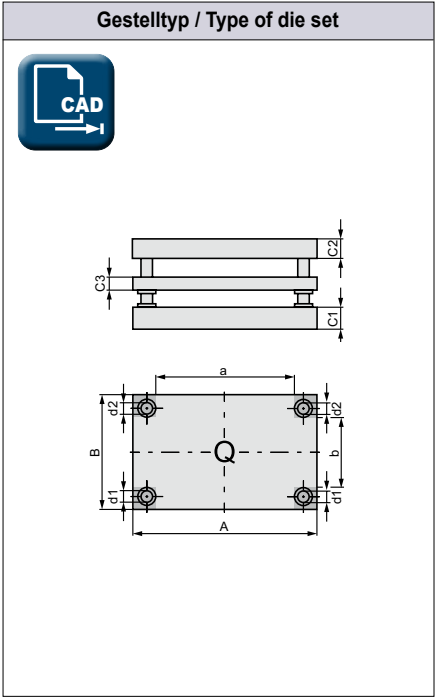
Steel die sets, 3 plates, 4 posts, type Q

SÄULENGESTELLE / DIE SETS



| Sinterbuche<br>Leader pin bushing, sintered                           |                     |
|-----------------------------------------------------------------------|---------------------|
| C1: FS 741                                                            | C1: FS 732          |
| C3: FS 731                                                            | C3: FS 731          |
| 88                                                                    | 87                  |
| Stahlbuche mit Bronzeplattierung<br>Leader pin bushing, bronze plated |                     |
| C1: FS 641                                                            | C1: FS 632          |
| C3: FS 631                                                            | C3: FS 631          |
| 71                                                                    | 72                  |
| Stahlbuche mit Ms-Käfig<br>Leader pin bushing with ball cage          |                     |
| C1: FS 458 + FS 425                                                   | C1: FS 453 + FS 425 |
| C3: FS 457 + FS 425                                                   | C3: FS 457 + FS 425 |
| 91                                                                    | 92                  |

| Säulentyp / Type of leader pin |                                                         |
|--------------------------------|---------------------------------------------------------|
| eingepresst<br>press-fitted    | Schnellwechselsäule mit Bund<br>Leader pin, with collar |
|                                |                                                         |
| FS 420                         | FS 419                                                  |
| P                              | R                                                       |



| Abmessungen / Dimensions |                 |                                          |    |    |            |                                             |     |     | Arbeitsflächen / Working area |             |             |                 |                 |             |                 |                 |             |       | Gewicht / Weight [kg] |
|--------------------------|-----------------|------------------------------------------|----|----|------------|---------------------------------------------|-----|-----|-------------------------------|-------------|-------------|-----------------|-----------------|-------------|-----------------|-----------------|-------------|-------|-----------------------|
| Größe / Size             | A<br>X<br>B     | Platten-<br>stärke<br>Plate<br>thickness |    |    | Ø<br>d1/d2 | Säulen-<br>länge<br>Length of<br>leader pin |     |     |                               |             |             | 88<br>71        | 87<br>72        | 91 92       |                 |                 |             |       |                       |
|                          |                 | C1                                       | C2 | C3 |            | L1                                          | L2  | L3  | a<br>X<br>B                   | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B     | b<br>X<br>A     | c<br>X<br>A | a<br>X<br>B     | b<br>X<br>A     | c<br>X<br>A |       |                       |
| 691                      | 600<br>X<br>400 | 48                                       | 38 | 33 | 40/42      | 200                                         | 160 | —   |                               |             |             | 438<br>X<br>400 | 238<br>X<br>600 |             | 422<br>X<br>400 | 222<br>X<br>600 |             | 230,0 |                       |
| 692                      |                 | 58                                       | 48 |    |            | 220                                         | 170 | —   |                               |             |             |                 |                 |             |                 |                 |             |       | 268,0                 |
| 693                      |                 | 58                                       | 58 |    |            | 230                                         | 170 | 160 |                               |             |             |                 |                 |             |                 |                 |             |       |                       |
| 694                      | 600<br>X<br>500 | 58                                       | 48 | 38 | 50/52      | 230                                         | 180 | —   |                               |             |             | 406<br>X<br>500 | 306<br>X<br>600 |             | 390<br>X<br>500 | 290<br>X<br>600 |             | 348,0 |                       |
| 695                      |                 | 68                                       | 58 |    |            | 250                                         | 200 | —   |                               |             |             |                 |                 |             |                 |                 |             |       | 395,0                 |
| 696                      |                 | 68                                       | 68 |    |            | 260                                         | 200 | 180 |                               |             |             |                 |                 |             |                 |                 |             |       |                       |
| 697                      | 600<br>X<br>600 | 58                                       | 48 | 38 | 50/52      | 230                                         | 180 | —   |                               |             |             | 406<br>X<br>600 | 406<br>X<br>600 |             | 390<br>X<br>600 | 390<br>X<br>600 |             | 416,0 |                       |
| 698                      |                 | 68                                       | 58 |    |            | 250                                         | 200 | —   |                               |             |             |                 |                 |             |                 |                 |             |       | 473,0                 |
| 699                      |                 | 68                                       | 68 |    |            | 260                                         | 200 | 180 |                               |             |             |                 |                 |             |                 |                 |             |       |                       |
| 700                      | 700<br>X<br>350 | 48                                       | 38 | 33 | 40/42      | 200                                         | 160 | —   |                               |             |             | 538<br>X<br>350 | 188<br>X<br>700 |             | 522<br>X<br>350 | 172<br>X<br>700 |             | 235,0 |                       |
| 701                      |                 | 58                                       | 48 |    |            | 220                                         | 170 | —   |                               |             |             |                 |                 |             |                 |                 |             |       | 274,0                 |
| 702                      |                 | 58                                       | 58 |    |            | 230                                         | 170 | 160 |                               |             |             |                 |                 |             |                 |                 |             |       |                       |
| 703                      | 700<br>X<br>400 | 58                                       | 48 | 38 | 50/52      | 230                                         | 180 | —   |                               |             |             | 506<br>X<br>400 | 206<br>X<br>700 |             | 490<br>X<br>400 | 190<br>X<br>700 |             | 326,0 |                       |
| 704                      |                 | 68                                       | 58 |    |            | 250                                         | 200 | —   |                               |             |             |                 |                 |             |                 |                 |             |       | 370,0                 |
| 705                      |                 | 68                                       | 68 |    |            | 260                                         | 200 | 180 |                               |             |             |                 |                 |             |                 |                 |             |       |                       |
| 706                      | 700<br>X<br>500 | 58                                       | 48 | 38 | 50/52      | 230                                         | 180 | —   |                               |             |             | 506<br>X<br>500 | 306<br>X<br>700 |             | 490<br>X<br>500 | 290<br>X<br>700 |             | 405,0 |                       |
| 707                      |                 | 68                                       | 58 |    |            | 250                                         | 200 | —   |                               |             |             |                 |                 |             |                 |                 |             |       | 460,0                 |
| 708                      |                 | 68                                       | 68 |    |            | 260                                         | 200 | 180 |                               |             |             |                 |                 |             |                 |                 |             |       |                       |
| 709                      | 700<br>X<br>600 | 58                                       | 48 | 38 | 50/52      | 230                                         | 180 | —   |                               |             |             | 506<br>X<br>600 | 406<br>X<br>700 |             | 490<br>X<br>600 | 390<br>X<br>700 |             | 484,0 |                       |
| 710                      |                 | 68                                       | 58 |    |            | 250                                         | 200 | —   |                               |             |             |                 |                 |             |                 |                 |             |       | 540,0                 |
| 711                      |                 | 68                                       | 68 |    |            | 260                                         | 200 | 180 |                               |             |             |                 |                 |             |                 |                 |             |       |                       |
| 712                      | 800<br>X<br>400 | 58                                       | 48 | 38 | 50/52      | 230                                         | 180 | —   |                               |             |             | 606<br>X<br>400 | 206<br>X<br>800 |             | 590<br>X<br>400 | 190<br>X<br>800 |             | 371,0 |                       |
| 713                      |                 | 68                                       | 58 |    |            | 250                                         | 200 | —   |                               |             |             |                 |                 |             |                 |                 |             |       | 421,0                 |
| 714                      |                 | 68                                       | 68 |    |            | 260                                         | 200 | 180 |                               |             |             |                 |                 |             |                 |                 |             |       |                       |
| 715                      | 800<br>X<br>500 | 58                                       | 48 | 38 | 50/52      | 230                                         | 180 | —   |                               |             |             | 606<br>X<br>500 | 306<br>X<br>800 |             | 590<br>X<br>500 | 290<br>X<br>800 |             | 461,0 |                       |
| 716                      |                 | 68                                       | 58 |    |            | 250                                         | 200 | —   |                               |             |             |                 |                 |             |                 |                 |             |       | 524,0                 |
| 717                      |                 | 68                                       | 68 |    |            | 260                                         | 200 | 180 |                               |             |             |                 |                 |             |                 |                 |             |       |                       |
| 718                      | 800<br>X<br>600 | 58                                       | 48 | 38 | 50/52      | 230                                         | 180 | —   |                               |             |             | 606<br>X<br>600 | 406<br>X<br>800 |             | 590<br>X<br>600 | 390<br>X<br>800 |             | 552,0 |                       |
| 719                      |                 | 68                                       | 58 |    |            | 250                                         | 200 | —   |                               |             |             |                 |                 |             |                 |                 |             |       | 627,0                 |
| 720                      |                 | 68                                       | 68 |    |            | 260                                         | 200 | 180 |                               |             |             |                 |                 |             |                 |                 |             |       |                       |

Toleranzangaben für Säulengestelle aus Stahl, M-Line

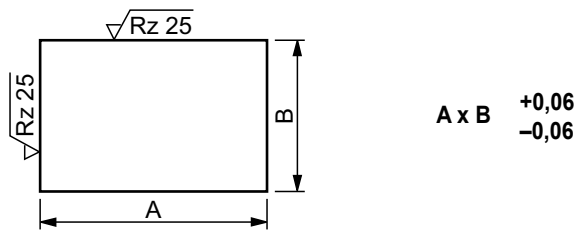
Tolerance - information regarding steel die sets, M-Line

SÄULENGESTELLE / DIE SETS

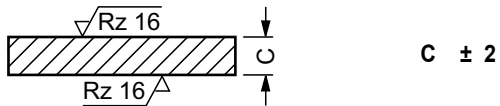


Mat.: C45

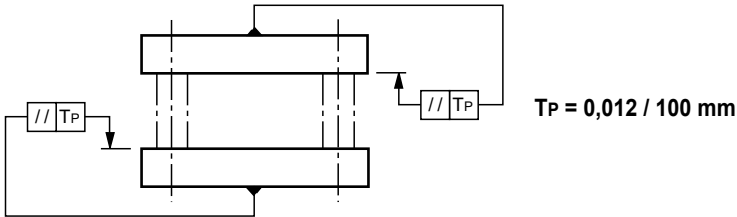
Toleranz Außenmaße /  
Tolerance of length and width



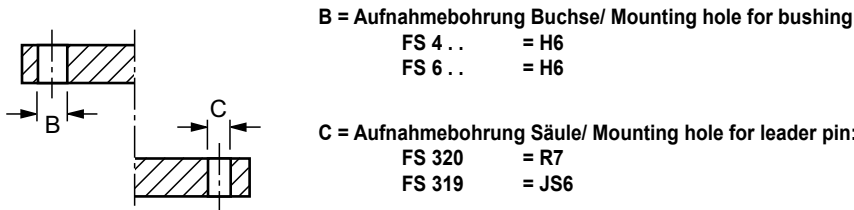
Toleranz Plattenstärke /  
Tolerance of thickness



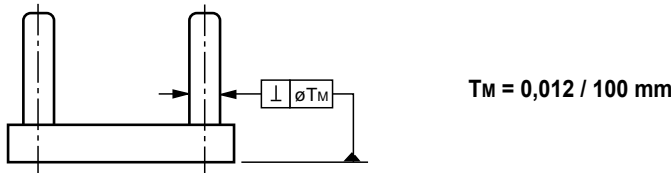
Parallelität der Flächenpaare /  
Parallelism of two surfaces



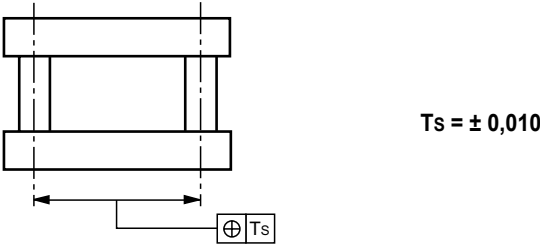
Bohrungstoleranzen /  
Hole tolerances



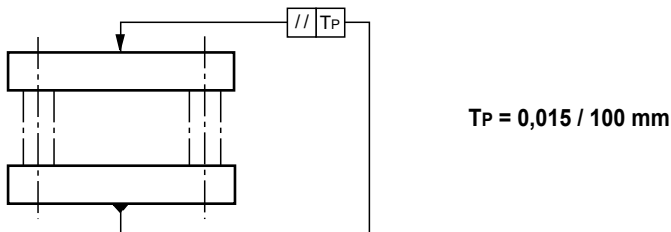
Winkelgenauigkeit der Führungssäulen /  
Angular accuracy of leader pins



Toleranz Systemabstände /  
Tolerance of dimensions between leader-pin (and bushing) - holes

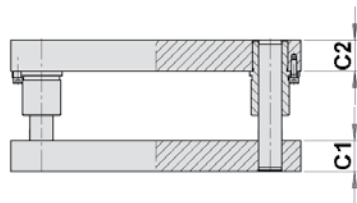
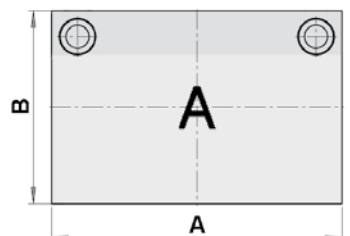
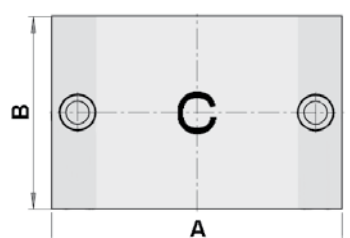
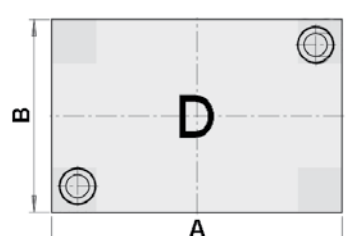
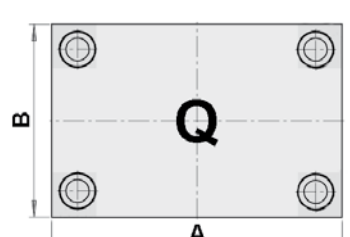
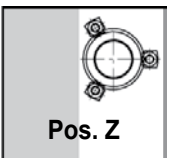
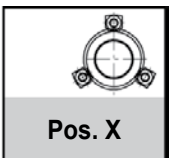


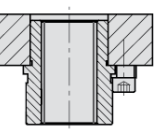
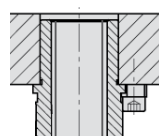
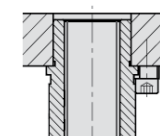
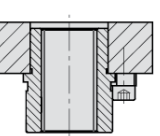
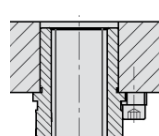
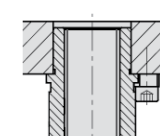
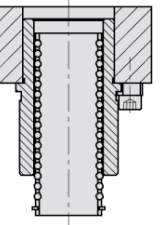
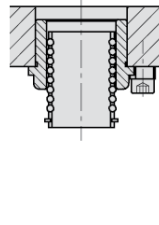
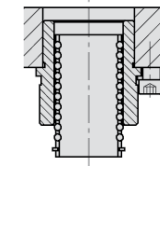
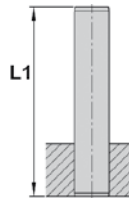
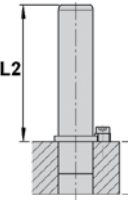
Planparallelität im  
zusammgebauten Zustand /  
Parallelism after mounting



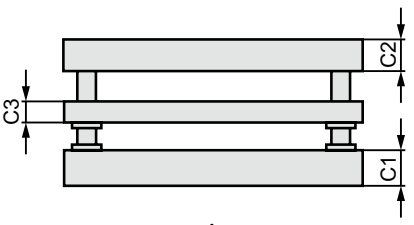
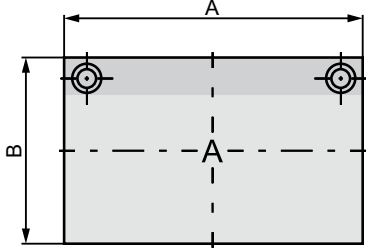
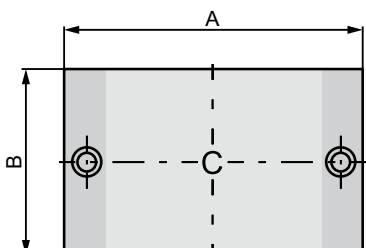
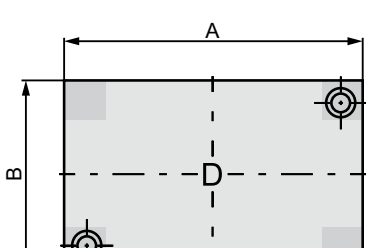
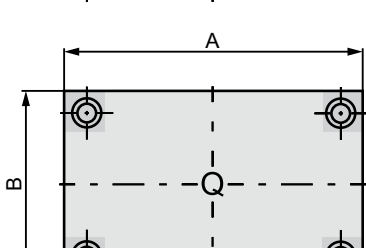
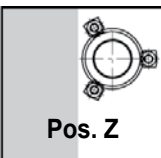
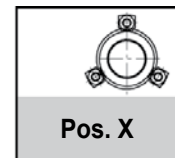


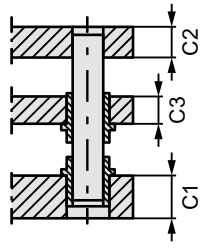
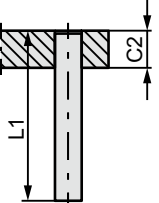
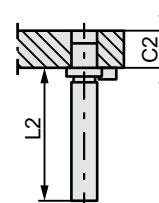
## Bestellbeispiel / Order-example

| 2 C                                                                                 | 343                           | IEP                             | 141                           | Z                                                      |
|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------|-------------------------------|--------------------------------------------------------|
| Gestelltyp<br>Type of die set                                                       | Kataloggröße<br>Catalog sizes | Säulentyp<br>Type of leader pin | Buchsentyp<br>Type of bushing | Position der Haltestücke<br>Position of holding clamps |
| <b>Gestelltyp / Type of die set</b>                                                 |                               |                                 |                               |                                                        |
|    |                               |                                 |                               |                                                        |
|    |                               |                                 |                               |                                                        |
|   |                               |                                 |                               |                                                        |
|  |                               |                                 |                               |                                                        |
|  |                               |                                 |                               |                                                        |
| <b>Position der Haltestücke / Position of holding clamps</b>                        |                               |                                 |                               |                                                        |
|  |                               |                                 |                               |                                                        |
|  |                               |                                 |                               |                                                        |

| Buchsentyp / Type of bushing                                                        |                                                                                       |                                                                                       |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Stahlbuchse, RM-beschichtet<br>Leader pin bushing, RM plated                        |                                                                                       |                                                                                       |
|    |     |    |
| FS 330 RM                                                                           | FS 340 RM                                                                             | FS 350 RM                                                                             |
| 141                                                                                 | 142                                                                                   | 143                                                                                   |
| Stahlbuchse mit Bronzeplattierung<br>Leader pin bushing, bronze plated              |                                                                                       |                                                                                       |
|   |    |   |
| FS 331                                                                              | FS 351                                                                                | FS 355                                                                                |
| 131                                                                                 | 132                                                                                   | 133                                                                                   |
| Stahlbuchse mit Ms-Käfig<br>Leader pin bushing with ball cage                       |                                                                                       |                                                                                       |
|  |   |  |
| FS 353 + FS 325                                                                     | FS 357 + FS 325                                                                       | FS 358 + FS 325                                                                       |
| 151                                                                                 | 152                                                                                   | 153                                                                                   |
| Säulentyp / Type of leader pin                                                      |                                                                                       |                                                                                       |
| eingepresst<br>press-fitted                                                         | Schnellwechsel-<br>säule mit Bund<br>Leader pin with collar                           |                                                                                       |
|  |  |                                                                                       |
| FS 320                                                                              | FS 319                                                                                |                                                                                       |
| IEP                                                                                 | IER                                                                                   |                                                                                       |

## Bestellbeispiel / Order-example

| 3 C                                                                                   | 343                           | IEP                             | 182                           | Z                                                      |
|---------------------------------------------------------------------------------------|-------------------------------|---------------------------------|-------------------------------|--------------------------------------------------------|
| Gestelltyp<br>Type of die set                                                         | Kataloggröße<br>Catalog sizes | Säulentyp<br>Type of leader pin | Buchsentyp<br>Type of bushing | Position der Haltestücke<br>Position of holding clamps |
| <b>Gestelltyp / Type of die set</b>                                                   |                               |                                 |                               |                                                        |
|    |                               |                                 |                               |                                                        |
|    |                               |                                 |                               |                                                        |
|   |                               |                                 |                               |                                                        |
|  |                               |                                 |                               |                                                        |
|  |                               |                                 |                               |                                                        |
| <b>Position der Haltestücke / Position of holding clamps</b>                          |                               |                                 |                               |                                                        |
|  |                               |                                 |                               |                                                        |
|  |                               |                                 |                               |                                                        |

| Buchsentyp / Type of bushing                                                          |                                                                                       |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|    |                                                                                       |
| Stahlbuchse, RM-beschichtet<br>Leader pin bushing, RM plated                          |                                                                                       |
| C1 = FS 340 RM<br>C3 = FS 330 RM                                                      | C1 = FS 350 RM<br>C3 = FS 330 RM                                                      |
| 182                                                                                   | 183                                                                                   |
| Stahlbuchse mit Bronzeplattierung<br>Leader pin bushing, bronze plated                |                                                                                       |
| C1 = FS 351<br>C3 = FS 331                                                            | C1 = FS 355<br>C3 = FS 331                                                            |
| 172                                                                                   | 173                                                                                   |
| Stahlbuchse mit Ms-Käfig<br>Leader pin bushing with ball cage                         |                                                                                       |
| C1 = FS 358 + FS 325<br>C3 = FS 357 + FS 325                                          | C1 = FS 353 + FS 325<br>C3 = FS 357 + FS 325                                          |
| 192                                                                                   | 193                                                                                   |
| Säulentyp / Type of leader pin                                                        |                                                                                       |
| eingepresst<br>press-fitted                                                           | Schnellwechsel-<br>säule mit Bund<br>Leader pin with collar                           |
|  |  |
| FS 420                                                                                | FS 419                                                                                |
| IEP                                                                                   | IER                                                                                   |

Bestellbeispiel Sondergrößen, M-Line

Order-example specials, M-Line



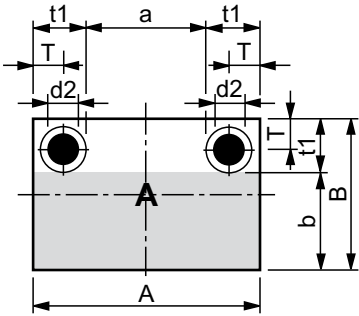
SÄULENGESTELLE / DIE SETS

| Position | Platten-<br>maße<br>Plate length<br>and width | Platten-<br>stärke<br>Plate<br>thickness |    |    | Säulentyp in C1<br>oder C2*<br>Type of leader pin<br>in C1 or C2* |             | Buchsentyp in C1<br>oder C2**<br>Type of bushing<br>in C1 or C2** |            | Buchsentyp<br>in C3<br>Type of bushing<br>in C3 |            | Haltestück-<br>position<br>Position of hol-<br>ding clamps |
|----------|-----------------------------------------------|------------------------------------------|----|----|-------------------------------------------------------------------|-------------|-------------------------------------------------------------------|------------|-------------------------------------------------|------------|------------------------------------------------------------|
| Position | A x B                                         | C1                                       | C2 | C3 | FS ...                                                            | d1 x l      | FS ...                                                            | d x l      | FS ...                                          | d x l      |                                                            |
| Q        | 610 x 494                                     | 78                                       | 48 | 38 | 320                                                               | 40/42 x 250 | 351                                                               | 40/42 x 67 | 331                                             | 40/42 x 51 | X                                                          |

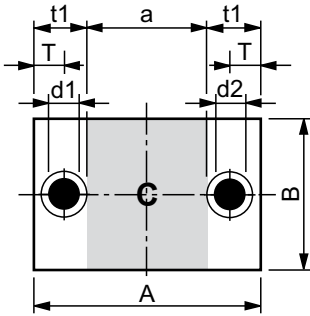
\* = Säulentyp in C1 oder C2 bitte angeben. / Please fill in type of leader pin in C1 or C2.  
\*\* = Buchsentyp in C1 oder C2 bitte angeben. / Please fill in type of bushing in C1 or C2.

Arbeitsflächen / Working areas

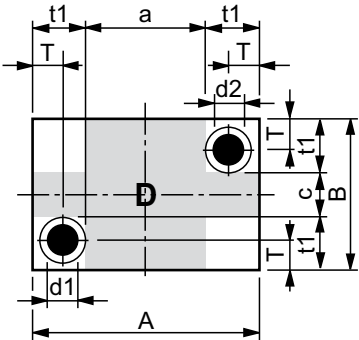
b = B - t1



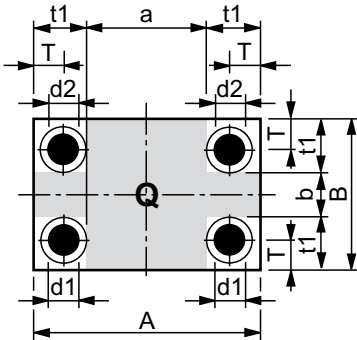
a = A - (2 x t1)



a = A - (2 x t1)  
c = B - (2 x t1)

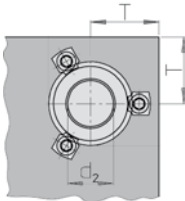


a = A - (2 x t1)  
b = B - (2 x t1)



Führungsbuchsen mit Bund

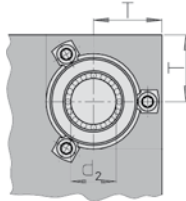
Leader pin bushings, with collar



| d <sub>1</sub> /d <sub>2</sub> | T    |
|--------------------------------|------|
| 19/20                          | 35   |
| 24/25                          | 40   |
| 30/32                          | 43,5 |
| 38/40                          | 51   |
| 48/50                          | 57   |
| 60/63                          | 68   |
| 80                             | 76   |

Führungsbuchsen mit Bund

für Kugelführung  
Leader pin bushings, with collar  
for ball-bearings



| d <sub>1</sub> /d <sub>2</sub> | T    |
|--------------------------------|------|
| 19/20                          | 35   |
| 24/25                          | 40   |
| 30/32                          | 43,5 |
| 38/40                          | 51   |
| 48/50                          | 57   |
| 60/63                          | 68   |
| 80                             | 76   |

Größen Systemplatten, M-Line

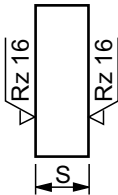
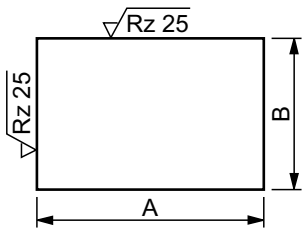
Sizes systemplates, M-Line



SÄULENGESTELLE / DIE SETS

Mat.: C45

Toleranz Außenmaße /  
Tolerance of length and width



A x B +0,06  
-0,06  
S ± 2

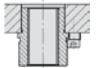
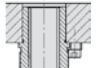
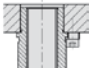
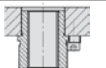
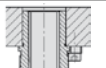
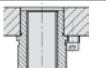
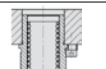
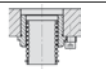
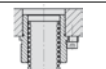
Parallelität S / Parallelism S: 0,012 / 100 mm

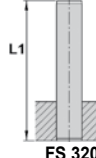
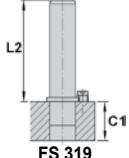
| A x B     | S  |    |    |    |    |    |    |    |
|-----------|----|----|----|----|----|----|----|----|
|           | 18 | 23 | 28 | 33 | 38 | 48 | 58 | 68 |
| 125 x 125 | •  | •  | •  |    | •  |    |    |    |
| 160 x 125 | •  | •  | •  |    | •  |    |    |    |
| 160 x 160 | •  | •  | •  |    | •  |    |    |    |
| 200 x 125 | •  | •  | •  |    | •  |    |    |    |
| 200 x 160 | •  | •  | •  | •  | •  | •  |    |    |
| 200 x 200 | •  | •  | •  | •  | •  | •  |    |    |
| 250 x 125 | •  | •  | •  | •  | •  | •  |    |    |
| 250 x 160 | •  | •  | •  | •  | •  | •  |    |    |
| 250 x 200 |    | •  | •  | •  | •  | •  |    |    |
| 250 x 250 |    | •  | •  | •  | •  | •  |    |    |
| 300 x 160 |    | •  | •  | •  | •  | •  |    |    |
| 300 x 200 |    | •  | •  | •  | •  | •  |    |    |
| 300 x 250 |    |    | •  | •  | •  | •  |    |    |
| 300 x 300 |    |    | •  | •  | •  | •  |    |    |
| 350 x 200 |    | •  | •  | •  | •  | •  |    |    |
| 350 x 250 |    |    | •  | •  | •  | •  |    |    |
| 350 x 300 |    |    | •  | •  | •  | •  | •  |    |
| 350 x 350 |    |    | •  | •  | •  | •  | •  |    |
| 400 x 200 |    | •  | •  | •  | •  | •  |    |    |
| 400 x 250 |    |    | •  | •  | •  | •  |    |    |
| 400 x 300 |    |    |    | •  | •  | •  | •  |    |
| 400 x 350 |    |    |    | •  | •  | •  | •  |    |
| 400 x 400 |    |    |    | •  | •  | •  | •  |    |
| 500 x 250 |    |    | •  | •  | •  | •  |    |    |
| 500 x 300 |    |    |    | •  | •  | •  | •  |    |
| 500 x 350 |    |    |    | •  | •  | •  | •  |    |
| 500 x 400 |    |    |    | •  | •  | •  | •  |    |
| 500 x 500 |    |    |    | •  | •  | •  | •  | •  |
| 600 x 300 |    |    |    | •  | •  | •  | •  | •  |
| 600 x 350 |    |    |    | •  | •  | •  | •  | •  |
| 600 x 400 |    |    |    | •  | •  | •  | •  | •  |
| 600 x 500 |    |    |    |    | •  | •  | •  | •  |
| 600 x 600 |    |    |    |    | •  | •  | •  | •  |
| 700 x 350 |    |    |    | •  | •  | •  | •  | •  |
| 700 x 400 |    |    |    |    | •  | •  | •  | •  |
| 700 x 500 |    |    |    |    | •  | •  | •  | •  |
| 700 x 600 |    |    |    |    | •  | •  | •  | •  |
| 800 x 400 |    |    |    |    | •  | •  | •  | •  |
| 800 x 500 |    |    |    |    | •  | •  | •  | •  |
| 800 x 600 |    |    |    |    | •  | •  | •  | •  |

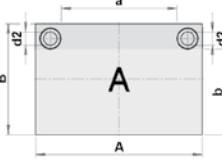
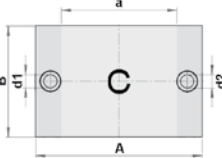
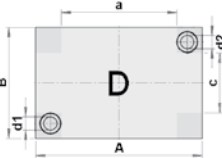
## Säulengest. a. Stahl, 2 Platten, 2 Säulen, Typ A-C-D, M-Line

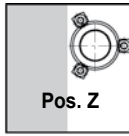
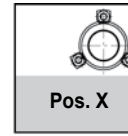
## Steel die sets, 2 plates, 2 posts, types A-C-D, M-Line

SÄULENGESTELLE / DIE SETS

| Buchsentyp / Type of bushing                                                      |                                                                                   |                                                                                   | Abmessungen / Dimensions |             |                                          |    |    |            | Arbeitsflächen / Working area               |    |    |             |             |             |             |             |             | Gewicht / Weight [kg] |             |             |             |                   |  |  |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------|-------------|------------------------------------------|----|----|------------|---------------------------------------------|----|----|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|-------------|-------------|-------------|-------------------|--|--|
| Stahlbuchse, RM-beschichtet<br>Leader pin bushing, RM plated                      |                                                                                   |                                                                                   | Größe / Size             | A<br>X<br>B | Platten-<br>stärke<br>Plate<br>thickness |    |    | Ø<br>d1/d2 | Säulen-<br>länge<br>Length of<br>leader pin |    |    | 141<br>131  |             |             | 142<br>132  |             |             |                       | 143<br>133  |             |             | 151<br>152<br>153 |  |  |
|  |  |  |                          |             | C1                                       | C2 | C3 |            | L1                                          | L2 | L3 | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A |                       | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A |                   |  |  |
|                                                                                   |                                                                                   |                                                                                   |                          |             |                                          |    |    |            |                                             |    |    |             |             |             |             |             |             |                       |             |             |             |                   |  |  |
| FS 330 RM                                                                         | FS 340 RM                                                                         | FS 350 RM                                                                         |                          |             |                                          |    |    |            |                                             |    |    |             |             |             |             |             |             |                       |             |             |             |                   |  |  |
| 141                                                                               | 142                                                                               | 143                                                                               |                          |             |                                          |    |    |            |                                             |    |    |             |             |             |             |             |             |                       |             |             |             |                   |  |  |
| Stahlbuchse mit Bronzeplattierung<br>Leader pin bushing, bronze plated            |                                                                                   |                                                                                   |                          |             |                                          |    |    |            |                                             |    |    |             |             |             |             |             |             |                       |             |             |             |                   |  |  |
|  |  |  |                          |             |                                          |    |    |            |                                             |    |    |             |             |             |             |             |             |                       |             |             |             |                   |  |  |
| FS 331                                                                            | FS 351                                                                            | FS 355                                                                            |                          |             |                                          |    |    |            |                                             |    |    |             |             |             |             |             |             |                       |             |             |             |                   |  |  |
| 131                                                                               | 132                                                                               | 133                                                                               |                          |             |                                          |    |    |            |                                             |    |    |             |             |             |             |             |             |                       |             |             |             |                   |  |  |
| Stahlbuchse mit Ms-Käfig<br>Leader pin bushing with ball cage                     |                                                                                   |                                                                                   |                          |             |                                          |    |    |            |                                             |    |    |             |             |             |             |             |             |                       |             |             |             |                   |  |  |
|  |  |  |                          |             |                                          |    |    |            |                                             |    |    |             |             |             |             |             |             |                       |             |             |             |                   |  |  |
| FS 353 + FS 325                                                                   | FS 357 + FS 325                                                                   | FS 358 + FS 325                                                                   |                          |             |                                          |    |    |            |                                             |    |    |             |             |             |             |             |             |                       |             |             |             |                   |  |  |
| 151                                                                               | 152                                                                               | 153                                                                               |                          |             |                                          |    |    |            |                                             |    |    |             |             |             |             |             |             |                       |             |             |             |                   |  |  |

| Säulentyp / Type of leader pin                                                     |                                                                                    |  |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--|
| eingepresst<br>press-fitted                                                        | Schnellwechsel-<br>säule mit Bund<br>Leader pin,<br>with collar                    |  |
|  |  |  |
| FS 320                                                                             | FS 319                                                                             |  |
| IEP                                                                                | IER                                                                                |  |

| Gestelltyp / Type of die set                                                       |                                                                                     |  |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|
|  |  |  |
|                                                                                    |  |  |
|                                                                                    |  |  |
|                                                                                    |  |  |

| Position der Haltestücke / Position of holding clamps                               |                                                                                     |  |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|
|  |  |  |
| Pos. Z                                                                              | Pos. X                                                                              |  |

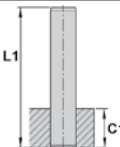
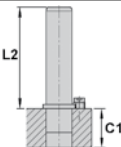
[SG.26]

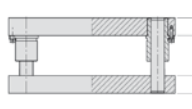
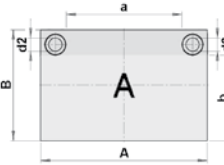
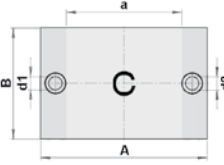
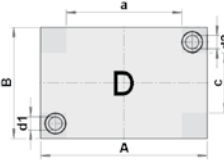
## Säulengest. a. Stahl, 2 Platten, 2 Säulen, Typ A-C-D, M-Line

## Steel die sets, 2 plates, 2 posts, types A-C-D, M-Line

SÄULENGESTELLE / DIE SETS

| Buchsentyp / Type of bushing                                                        |                                                                                     |                                                                                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Stahlbuchse, RM-beschichtet<br>Leader pin bushing, RM plated                        |                                                                                     |                                                                                     |
|  |  |  |
| FS 330 RM                                                                           | FS 340 RM                                                                           | FS 350 RM                                                                           |
| 141                                                                                 | 142                                                                                 | 143                                                                                 |
| Stahlbuchse mit Bronzeplattierung<br>Leader pin bushing, bronze plated              |                                                                                     |                                                                                     |
|  |  |  |
| FS 331                                                                              | FS 351                                                                              | FS 355                                                                              |
| 131                                                                                 | 132                                                                                 | 133                                                                                 |
| Stahlbuchse mit Ms-Käfig<br>Leader pin bushing with ball cage                       |                                                                                     |                                                                                     |
|  |  |  |
| FS 353 + FS 325                                                                     | FS 357 + FS 325                                                                     | FS 358 + FS 325                                                                     |
| 151                                                                                 | 152                                                                                 | 153                                                                                 |

| Säulentyp / Type of leader pin                                                       |                                                                                      |
|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| eingepresst<br>press-fitted                                                          | Schnellwechsel-<br>säule mit Bund<br>Leader pin,<br>with collar                      |
|  |  |
| FS 320                                                                               | FS 319                                                                               |
| IEP                                                                                  | IER                                                                                  |

| Gestelltyp / Type of die set                                                          |                                                                                       |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |
|                                                                                       |  |
|                                                                                       |  |
|                                                                                       |  |

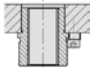
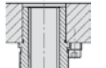
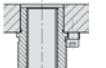
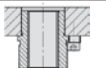
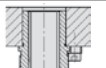
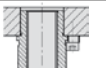
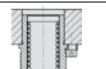
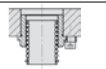
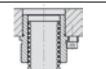
| Position der Haltestücke / Position of holding clamps                                 |                                                                                       |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |
| Pos. Z                                                                                | Pos. X                                                                                |

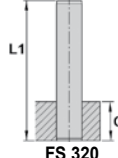
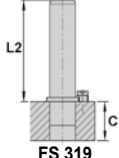
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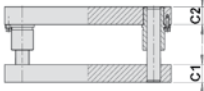
## Säulengest. a. Stahl, 2 Platten, 2 Säulen, Typ A-C-D, M-Line

## Steel die sets, 2 plates, 2 posts, types A-C-D, M-Line

SÄULENGESTELLE / DIE SETS

| Buchsentyp / Type of bushing                                                      |                                                                                   |                                                                                   | Abmessungen / Dimensions |             |                                          |    |    |            |                                             |    |    | Arbeitsflächen / Working area |             |             |             |             |             |             |             |             | Gewicht / Weight [kg] |                   |  |  |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------|-------------|------------------------------------------|----|----|------------|---------------------------------------------|----|----|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|-------------------|--|--|
| Stahlbuchse, RM-beschichtet<br>Leader pin bushing, RM plated                      |                                                                                   |                                                                                   | Größe / Size             | A<br>X<br>B | Platten-<br>stärke<br>Plate<br>thickness |    |    | Ø<br>d1/d2 | Säulen-<br>länge<br>Length of<br>leader pin |    |    | 141<br>131                    |             |             | 142<br>132  |             |             | 143<br>133  |             |             |                       | 151<br>152<br>153 |  |  |
|  |  |  |                          |             | C1                                       | C2 | C3 |            | L1                                          | L2 | L3 | a<br>X<br>B                   | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A |                       |                   |  |  |
|                                                                                   |                                                                                   |                                                                                   |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
| FS 330 RM                                                                         | FS 340 RM                                                                         | FS 350 RM                                                                         |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
| 141                                                                               | 142                                                                               | 143                                                                               |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
| Stahlbuchse mit Bronzeplattierung<br>Leader pin bushing, bronze plated            |                                                                                   |                                                                                   |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
|  |  |  |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
| FS 331                                                                            | FS 351                                                                            | FS 355                                                                            |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
| 131                                                                               | 132                                                                               | 133                                                                               |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
| Stahlbuchse mit Ms-Käfig<br>Leader pin bushing with ball cage                     |                                                                                   |                                                                                   |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
|  |  |  |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
| FS 353 + FS 325                                                                   | FS 357 + FS 325                                                                   | FS 358 + FS 325                                                                   |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
| 151                                                                               | 152                                                                               | 153                                                                               |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |

| Säulentyp / Type of leader pin                                                     |                                                                                    |                                                                 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| eingepresst<br>press-fitted                                                        |                                                                                    | Schnellwechsel-<br>säule mit Bund<br>Leader pin,<br>with collar |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |                                                                 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FS 320                                                                             | FS 319                                                                             |                                                                 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IEP                                                                                | IER                                                                                |                                                                 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

| Gestelltyp / Type of die set                                                        |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
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|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                     |                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

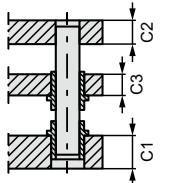
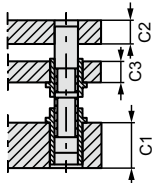


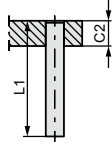
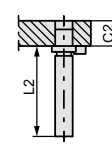
| Buchsentyp / Type of bushing                                                         |                                            |
|--------------------------------------------------------------------------------------|--------------------------------------------|
|                                                                                      |                                            |
| <b>Stahlbuchse, RM-beschichtet</b><br><b>Leader pin bushing, RM plated</b>           |                                            |
| C1: FS 340 RM<br>C3: FS 330 RM                                                       | C1: FS 350 RM<br>C3: FS 330 RM             |
| 182                                                                                  | 183                                        |
| <b>Stahlbuchse mit Bronzeplattierung</b><br><b>Leader pin bushing, bronze plated</b> |                                            |
| C1: FS 351<br>C3: FS 331                                                             | C1: FS 355<br>C3: FS 331                   |
| 172                                                                                  | 173                                        |
| <b>Stahlbuchse mit Ms-Käfig</b><br><b>Leader pin bushing with ball cage</b>          |                                            |
| C1: FS 358 + FS 325<br>C3: FS 357 + FS 325                                           | C1: FS 353 + FS 325<br>C3: FS 357 + FS 325 |
| 192                                                                                  | 193                                        |

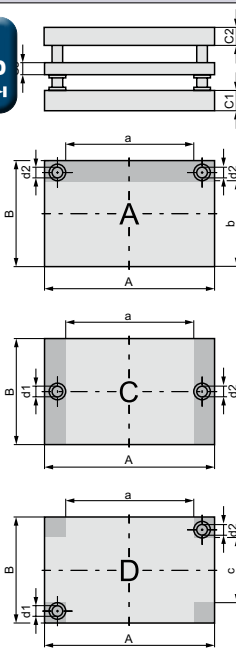
| Säulentyp / Type of leader pin |                                                         |
|--------------------------------|---------------------------------------------------------|
| eingepresst<br>press-fitted    | Schnellwechselsäule mit Bund<br>Leader pin, with collar |
|                                |                                                         |
| FS 320<br>IEP                  | FS 319<br>IER                                           |

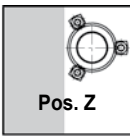
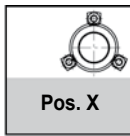
| Gestelltyp / Type of die set |  |
|------------------------------|--|
|                              |  |
|                              |  |
|                              |  |
|                              |  |
|                              |  |

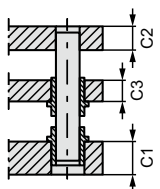
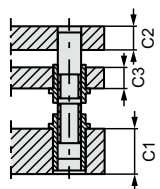
| Abmessungen / Dimensions |                 |                                  |    | Arbeitsflächen / Working area |            |                                     |     |    |             |             |             |             |             |             |             | Gewicht / Weight [kg] |             |             |      |
|--------------------------|-----------------|----------------------------------|----|-------------------------------|------------|-------------------------------------|-----|----|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|-------------|-------------|------|
| Größe / Size             | A<br>X<br>B     | Plattenstärke<br>Plate thickness |    |                               | Ø<br>d1/d2 | Säulenlänge<br>Length of leader pin |     |    |             |             |             | 182<br>172  |             | 183<br>173  |             |                       | 192<br>193  |             |      |
|                          |                 | C1                               | C2 | C3                            |            | L1                                  | L2  | L3 | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B |                       | b<br>X<br>A | c<br>X<br>A |      |
| 301                      | 125<br>X<br>125 | 28                               | 23 | 23                            | 19/20      | 140                                 | 125 | -  |             |             |             |             | 15          | 70          | 15          | 15                    | 70          | 15          | 9,4  |
| 302                      |                 | 38                               | 28 |                               |            | 160                                 | 140 | -  |             |             |             | X           | X           | X           | X           | X                     | X           | 11,2        |      |
| 303                      |                 | 38                               | 38 |                               |            | 180                                 | 140 | -  |             |             |             | 125         | 125         | 125         | 125         | 125                   | 125         | 125         |      |
| 304                      | 160<br>X<br>125 | 28                               | 23 | 23                            | 19/20      | 140                                 | 125 | -  |             |             |             |             | 50          | 70          | 15          | 50                    | 70          | 15          | 11,7 |
| 305                      |                 | 38                               | 28 |                               |            | 160                                 | 140 | -  |             |             |             | X           | X           | X           | X           | X                     | X           | 14,2        |      |
| 306                      |                 | 38                               | 38 |                               |            | 180                                 | 140 | -  |             |             |             | 125         | 160         | 160         | 125         | 160                   | 160         | 160         |      |
| 307                      | 160<br>X<br>160 | 28                               | 23 | 23                            | 19/20      | 140                                 | 125 | -  |             |             |             |             | 50          | 105         | 50          | 50                    | 105         | 50          | 14,8 |
| 308                      |                 | 38                               | 28 |                               |            | 160                                 | 140 | -  |             |             |             | X           | X           | X           | X           | X                     | X           | 17,8        |      |
| 309                      |                 | 38                               | 38 |                               |            | 180                                 | 140 | -  |             |             |             | 160         | 160         | 160         | 160         | 160                   | 160         | 160         |      |
| 310                      | 200<br>X<br>125 | 28                               | 23 | 23                            | 19/20      | 140                                 | 125 | -  |             |             |             |             | 90          | 70          | 15          | 90                    | 70          | 15          | 14,4 |
| 311                      |                 | 38                               | 28 |                               |            | 160                                 | 140 | -  |             |             |             | X           | X           | X           | X           | X                     | X           | 17,4        |      |
| 312                      |                 | 38                               | 38 |                               |            | 180                                 | 140 | -  |             |             |             | 125         | 200         | 200         | 125         | 200                   | 200         | 200         |      |
| 313                      | 200<br>X<br>160 | 33                               | 28 | 23                            | 24/25      | 160                                 | 125 | -  |             |             |             |             | 72          | 96          | 32          | 72                    | 96          | 32          | 22,3 |
| 314                      |                 | 48                               | 38 |                               |            | 180                                 | 160 | -  |             |             |             | X           | X           | X           | X           | X                     | X           | 28,4        |      |
| 315                      |                 | 48                               | 48 |                               |            | 200                                 | 160 | -  |             |             |             | 160         | 200         | 200         | 160         | 200                   | 200         | 200         |      |
| 316                      | 200<br>X<br>200 | 33                               | 28 | 23                            | 24/25      | 160                                 | 125 | -  |             |             |             |             | 72          | 136         | 72          | 72                    | 136         | 72          | 27,5 |
| 317                      |                 | 48                               | 38 |                               |            | 180                                 | 160 | -  |             |             |             | X           | X           | X           | X           | X                     | X           | 35,2        |      |
| 318                      |                 | 48                               | 48 |                               |            | 200                                 | 160 | -  |             |             |             | 200         | 200         | 200         | 200         | 200                   | 200         | 200         |      |
| 319                      | 250<br>X<br>125 | 33                               | 28 | 23                            | 24/25      | 160                                 | 125 | -  |             |             |             |             | 122         | 61          |             | 122                   | 61          |             | 21,8 |
| 320                      |                 | 48                               | 38 |                               |            | 180                                 | 160 | -  |             |             |             | X           | X           |             | X           | X                     |             | 27,8        |      |
| 321                      |                 | 48                               | 48 |                               |            | 200                                 | 160 | -  |             |             |             | 125         | 250         |             | 125         | 250                   |             | 250         |      |
| 322                      | 250<br>X<br>160 | 33                               | 28 | 23                            | 24/25      | 160                                 | 125 | -  |             |             |             |             | 122         | 96          | 32          | 122                   | 96          | 32          | 27,5 |
| 323                      |                 | 48                               | 38 |                               |            | 180                                 | 160 | -  |             |             |             | X           | X           | X           | X           | X                     | X           | 35,2        |      |
| 324                      |                 | 48                               | 48 |                               |            | 200                                 | 160 | -  |             |             |             | 160         | 250         | 250         | 160         | 250                   | 250         |             |      |
| 325                      | 250<br>X<br>200 | 33                               | 28 | 23                            | 24/25      | 160                                 | 125 | -  |             |             |             |             | 122         | 136         | 72          | 122                   | 136         | 72          | 34,2 |
| 326                      |                 | 48                               | 38 |                               |            | 180                                 | 160 | -  |             |             |             | X           | X           | X           | X           | X                     | X           | 43,8        |      |
| 327                      |                 | 48                               | 48 |                               |            | 200                                 | 160 | -  |             |             |             | 200         | 250         | 250         | 200         | 250                   | 250         |             |      |
| 328                      | 250<br>X<br>250 | 38                               | 33 | 33                            | 30/32      | 180                                 | 125 | -  |             |             |             |             | 106         | 178         | 106         | 106                   | 178         | 106         | 50,5 |
| 329                      |                 | 48                               | 38 |                               |            | 200                                 | 160 | -  |             |             |             | X           | X           | X           | X           | X                     | X           | 57,5        |      |
| 330                      |                 | 48                               | 48 |                               |            | 200                                 | 160 | -  |             |             |             | 250         | 250         | 250         | 250         | 250                   | 250         |             |      |

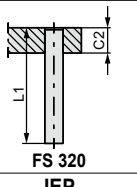
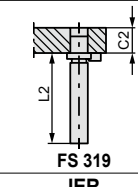
| Buchsentyp / Type of bushing                                                         |                                                                                     |  |  |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|--|
|   |  |  |  |
| <b>Stahlbuchse, RM-beschichtet</b><br><b>Leader pin bushing, RM plated</b>           |                                                                                     |  |  |
| C1: FS 340 RM<br>C3: FS 330 RM                                                       | C1: FS 350 RM<br>C3: FS 330 RM                                                      |  |  |
| 182                                                                                  | 183                                                                                 |  |  |
| <b>Stahlbuchse mit Bronzeplattierung</b><br><b>Leader pin bushing, bronze plated</b> |                                                                                     |  |  |
| C1: FS 351<br>C3: FS 331                                                             | C1: FS 355<br>C3: FS 331                                                            |  |  |
| 172                                                                                  | 173                                                                                 |  |  |
| <b>Stahlbuchse mit Ms-Käfig</b><br><b>Leader pin bushing with ball cage</b>          |                                                                                     |  |  |
| C1: FS 358 + FS 325<br>C3: FS 357 + FS 325                                           | C1: FS 353 + FS 325<br>C3: FS 357 + FS 325                                          |  |  |
| 192                                                                                  | 193                                                                                 |  |  |

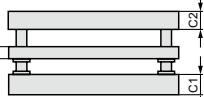
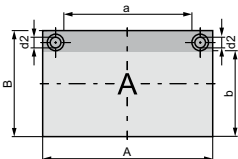
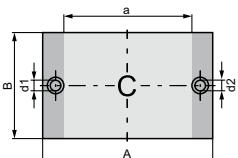
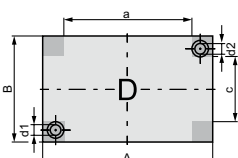
| Säulentyp / Type of leader pin                                                       |                                                                                      |  |  |
|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--|--|
| eingepresst<br>press-fitted                                                          | Schnellwechselsäule mit Bund<br>Leader pin, with collar                              |  |  |
|  |  |  |  |
| FS 320<br>IEP                                                                        | FS 319<br>IER                                                                        |  |  |

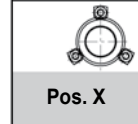
| Gestelltyp / Type of die set                                                          |                                                                                       |  |  |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--|--|
|  |  |  |  |

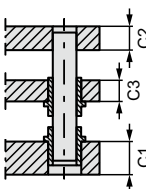
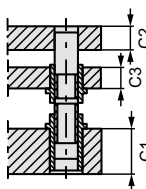
| Position der Haltestücke / Position of holding clamps                                 |                                                                                       |  |  |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--|--|
|  |  |  |  |
| Pos. Z                                                                                | Pos. X                                                                                |  |  |

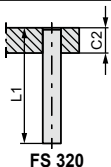
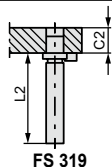
| Buchsentyp / Type of bushing                                                         |                                                                                   |  |  |
|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--|--|
|     |  |  |  |
| <b>Stahlbuchse, RM-beschichtet</b><br><b>Leader pin bushing, RM plated</b>           |                                                                                   |  |  |
| C1: FS 340 RM                                                                        | C1: FS 350 RM                                                                     |  |  |
| C3: FS 330 RM                                                                        | C3: FS 330 RM                                                                     |  |  |
| 182                                                                                  | 183                                                                               |  |  |
| <b>Stahlbuchse mit Bronzeplattierung</b><br><b>Leader pin bushing, bronze plated</b> |                                                                                   |  |  |
| C1: FS 351                                                                           | C1: FS 355                                                                        |  |  |
| C3: FS 331                                                                           | C3: FS 331                                                                        |  |  |
| 172                                                                                  | 173                                                                               |  |  |
| <b>Stahlbuchse mit Ms-Käfig</b><br><b>Leader pin bushing with ball cage</b>          |                                                                                   |  |  |
| C1: FS 358 + FS 325                                                                  | C1: FS 353 + FS 325                                                               |  |  |
| C3: FS 357 + FS 325                                                                  | C3: FS 357 + FS 325                                                               |  |  |
| 192                                                                                  | 193                                                                               |  |  |

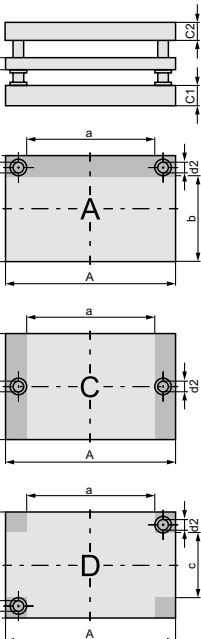
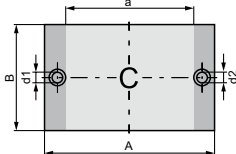
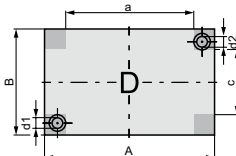
| Säulentyp / Type of leader pin                                                     |                                                                                    |  |  |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--|--|
| eingepresst<br>press-fitted                                                        | Schnellwechsel-<br>säule mit Bund<br>Leader pin,<br>with collar                    |  |  |
|  |  |  |  |
| FS 320<br>IEP                                                                      | FS 319<br>IER                                                                      |  |  |

| Gestelltyp / Type of die set                                                        |                                                                                     |  |  |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|--|
|   |  |  |  |
|  |                                                                                     |  |  |
|  |                                                                                     |  |  |
|  |                                                                                     |  |  |

| Position der Haltestücke / Position of holding clamps                               |                                                                                     |  |  |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|--|
|  |  |  |  |
| Pos. Z                                                                              | Pos. X                                                                              |  |  |

| Buchsentyp / Type of bushing                                                         |                                                                                     |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|   |  |
| <b>Stahlbuchse, RM-beschichtet</b><br><b>Leader pin bushing, RM plated</b>           |                                                                                     |
| C1: FS 340 RM<br>C3: FS 330 RM<br>182                                                | C1: FS 350 RM<br>C3: FS 330 RM<br>183                                               |
| <b>Stahlbuchse mit Bronzeplattierung</b><br><b>Leader pin bushing, bronze plated</b> |                                                                                     |
| C1: FS 351<br>C3: FS 331<br>172                                                      | C1: FS 355<br>C3: FS 331<br>173                                                     |
| <b>Stahlbuchse mit Ms-Käfig</b><br><b>Leader pin bushing with ball cage</b>          |                                                                                     |
| C1: FS 358 + FS 325<br>C3: FS 357 + FS 325<br>192                                    | C1: FS 353 + FS 325<br>C3: FS 357 + FS 325<br>193                                   |

| Säulentyp / Type of leader pin                                                       |                                                                                      |
|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| <b>eingepresst</b><br><b>press-fitted</b>                                            | <b>Schnellwechselsäule mit Bund</b><br><b>Leader pin, with collar</b>                |
|  |  |
| FS 320<br>IEP                                                                        | FS 319<br>IER                                                                        |

| Gestelltyp / Type of die set                                                          |                                                                                       |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |
|                                                                                       |  |
|                                                                                       |  |

| Position der Haltestücke / Position of holding clamps                                 |                                                                                       |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |
| <b>Pos. Z</b>                                                                         | <b>Pos. X</b>                                                                         |

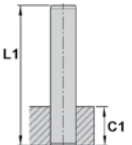
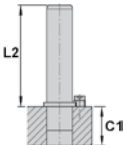
## Säulengest. a. Stahl, 2 Platten, 4 Säulen, Typ Q, M-Line

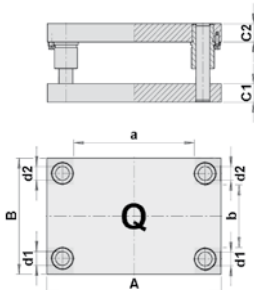
## Steel die sets, 2 plates, 4 posts, type Q, M-Line

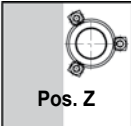
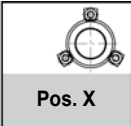


## SÄULENGESTELLE / DIE SETS

| Buchsentyp / Type of bushing                                                      |                                                                                   |                                                                                   | Abmessungen / Dimensions |                 |                                          |     |     |            |                                             |    |    | Arbeitsflächen / Working area |             |             |             |             |             |                   |             |             | Gewicht / Weight [kg] |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------|-----------------|------------------------------------------|-----|-----|------------|---------------------------------------------|----|----|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------------|-------------|-------------|-----------------------|
| Stahlbuchse, RM-beschichtet<br>Leader pin bushing, RM plated                      |                                                                                   |                                                                                   | Größe / Size             | A<br>X<br>B     | Platten-<br>stärke<br>Plate<br>thickness |     |     | Ø<br>d1/d2 | Säulen-<br>länge<br>Length of<br>leader pin |    |    |                               |             |             | 141<br>131  | 142<br>132  | 143<br>133  | 151<br>152<br>153 |             |             |                       |
|  |  |  |                          |                 | C1                                       | C2  | C3  |            | L1                                          | L2 | L3 | a<br>X<br>B                   | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B       | b<br>X<br>A | c<br>X<br>A |                       |
|                                                                                   |                                                                                   |                                                                                   |                          |                 |                                          |     |     |            |                                             |    |    |                               |             |             |             |             |             |                   |             |             |                       |
| FS 330 RM                                                                         | FS 340 RM                                                                         | FS 350 RM                                                                         | 141                      | 142             | 143                                      |     |     |            |                                             |    |    |                               |             |             |             |             |             |                   |             |             |                       |
| Stahlbuchse mit Bronzeplattierung<br>Leader pin bushing, bronze plated            |                                                                                   |                                                                                   |                          |                 |                                          |     |     |            |                                             |    |    |                               |             |             |             |             |             |                   |             |             |                       |
|  |  |  | FS 331                   | FS 351          | FS 355                                   | 131 | 132 | 133        |                                             |    |    |                               |             |             |             |             |             |                   |             |             |                       |
| Stahlbuchse mit Ms-Käfig<br>Leader pin bushing with ball cage                     |                                                                                   |                                                                                   |                          |                 |                                          |     |     |            |                                             |    |    |                               |             |             |             |             |             |                   |             |             |                       |
|  |  |  | FS 353 + FS 325          | FS 357 + FS 325 | FS 358 + FS 325                          | 151 | 152 | 153        |                                             |    |    |                               |             |             |             |             |             |                   |             |             |                       |

| Säulentyp / Type of leader pin                                                     |                                                                                    |  |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--|
| eingepresst<br>press-fitted                                                        | Schnellwechselsäule mit Bund<br>Leader pin, with collar                            |  |
|  |  |  |
| FS 320<br>IEP                                                                      | FS 319<br>IER                                                                      |  |

| Gestelltyp / Type of die set                                                        |  |  |
|-------------------------------------------------------------------------------------|--|--|
|   |  |  |
|  |  |  |

| Position der Haltestücke / Position of holding clamps                               |                                                                                     |  |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|
|  |  |  |
| Pos. Z                                                                              | Pos. X                                                                              |  |

|     |                 |    |    |   |       |     |     |   |  |  |  |  |                 |                 |  |                 |                 |  |      |      |
|-----|-----------------|----|----|---|-------|-----|-----|---|--|--|--|--|-----------------|-----------------|--|-----------------|-----------------|--|------|------|
| 301 | 125<br>X<br>125 | 28 | 23 | – | 19/20 | 125 | 100 | – |  |  |  |  | 15<br>X<br>125  | 15<br>X<br>125  |  |                 |                 |  |      | 7,8  |
| 302 |                 | 28 | 28 | – |       | 140 | 112 | – |  |  |  |  |                 |                 |  |                 |                 |  |      | 8,4  |
| 303 |                 | 38 | 28 | – |       | 160 | 112 | – |  |  |  |  |                 |                 |  |                 |                 |  |      | 9,7  |
| 304 | 160<br>X<br>125 | 28 | 23 | – | 19/20 | 125 | 100 | – |  |  |  |  | 50<br>X<br>125  | 15<br>X<br>160  |  | 50<br>X<br>125  |                 |  |      | 9,5  |
| 305 |                 | 28 | 28 | – |       | 140 | 112 | – |  |  |  |  |                 |                 |  |                 |                 |  | 10,4 |      |
| 306 |                 | 38 | 28 | – |       | 150 | 112 | – |  |  |  |  |                 |                 |  |                 |                 |  | 11,9 |      |
| 307 | 160<br>X<br>160 | 28 | 23 | – | 19/20 | 125 | 100 | – |  |  |  |  | 50<br>X<br>160  | 50<br>X<br>160  |  | 50<br>X<br>160  | 50<br>X<br>160  |  |      | 11,9 |
| 308 |                 | 28 | 28 | – |       | 140 | 112 | – |  |  |  |  |                 |                 |  |                 |                 |  | 12,8 |      |
| 309 |                 | 38 | 28 | – |       | 160 | 112 | – |  |  |  |  |                 |                 |  |                 |                 |  | 14,8 |      |
| 310 | 200<br>X<br>125 | 28 | 23 | – | 19/20 | 125 | 100 | – |  |  |  |  | 90<br>X<br>125  | 15<br>X<br>200  |  | 90<br>X<br>125  |                 |  |      | 11,5 |
| 311 |                 | 28 | 28 | – |       | 140 | 112 | – |  |  |  |  |                 |                 |  |                 |                 |  | 12,5 |      |
| 312 |                 | 38 | 28 | – |       | 160 | 112 | – |  |  |  |  |                 |                 |  |                 |                 |  | 14,5 |      |
| 313 | 200<br>X<br>160 | 28 | 23 | – | 19/20 | 125 | 100 | – |  |  |  |  | 90<br>X<br>160  | 50<br>X<br>200  |  | 90<br>X<br>160  | 50<br>X<br>200  |  |      | 14,3 |
| 314 |                 | 28 | 28 | – |       | 140 | 112 | – |  |  |  |  |                 |                 |  |                 |                 |  | 15,6 |      |
| 315 |                 | 38 | 28 | – |       | 160 | 112 | – |  |  |  |  |                 |                 |  |                 |                 |  | 18,1 |      |
| 316 | 200<br>X<br>200 | 28 | 23 | – | 19/20 | 125 | 100 | – |  |  |  |  | 90<br>X<br>200  | 90<br>X<br>200  |  | 90<br>X<br>200  | 90<br>X<br>200  |  |      | 17,5 |
| 317 |                 | 28 | 28 | – |       | 140 | 112 | – |  |  |  |  |                 |                 |  |                 |                 |  | 19,1 |      |
| 318 |                 | 38 | 28 | – |       | 160 | 112 | – |  |  |  |  |                 |                 |  |                 |                 |  | 22,3 |      |
| 319 | 250<br>X<br>125 | 28 | 23 | – | 19/20 | 125 | 100 | – |  |  |  |  | 140<br>X<br>125 | 15<br>X<br>250  |  | 140<br>X<br>125 |                 |  |      | 14,0 |
| 320 |                 | 28 | 28 | – |       | 140 | 112 | – |  |  |  |  |                 |                 |  |                 |                 |  | 15,3 |      |
| 321 |                 | 38 | 28 | – |       | 160 | 112 | – |  |  |  |  |                 |                 |  |                 |                 |  | 17,7 |      |
| 322 | 250<br>X<br>160 | 28 | 23 | – | 19/20 | 125 | 100 | – |  |  |  |  | 140<br>X<br>160 | 50<br>X<br>250  |  | 140<br>X<br>160 | 50<br>X<br>250  |  |      | 17,5 |
| 323 |                 | 28 | 28 | – |       | 140 | 112 | – |  |  |  |  |                 |                 |  |                 |                 |  | 19,1 |      |
| 324 |                 | 38 | 28 | – |       | 160 | 112 | – |  |  |  |  |                 |                 |  |                 |                 |  | 22,3 |      |
| 325 | 250<br>X<br>200 | 33 | 28 | – | 24/25 | 160 | 112 | – |  |  |  |  | 122<br>X<br>200 | 72<br>X<br>250  |  | 122<br>X<br>200 | 70<br>X<br>250  |  |      | 26,0 |
| 326 |                 | 33 | 33 | – |       | 160 | 125 | – |  |  |  |  |                 |                 |  |                 |                 |  | 27,9 |      |
| 327 |                 | 48 | 38 | – |       | 180 | 140 | – |  |  |  |  |                 |                 |  |                 |                 |  | 35,8 |      |
| 328 | 250<br>X<br>250 | 33 | 28 | – | 24/25 | 160 | 112 | – |  |  |  |  | 122<br>X<br>250 | 122<br>X<br>250 |  | 122<br>X<br>250 | 120<br>X<br>250 |  |      | 32,0 |
| 329 |                 | 33 | 33 | – |       | 160 | 125 | – |  |  |  |  |                 |                 |  |                 |                 |  | 34,4 |      |
| 330 |                 | 48 | 38 | – |       | 180 | 140 | – |  |  |  |  |                 |                 |  |                 |                 |  | 44,2 |      |

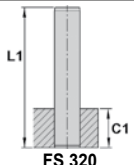
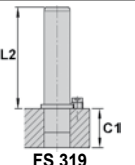
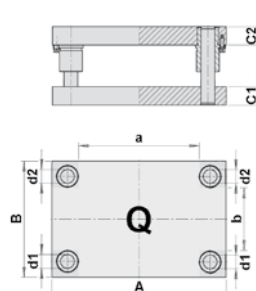
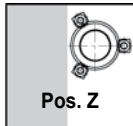
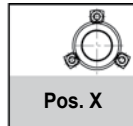
## Säulengest. a. Stahl, 2 Platten, 4 Säulen, Typ Q, M-Line

## Steel die sets, 2 plates, 4 posts, type Q, M-Line

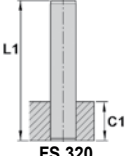
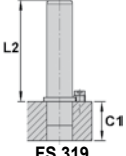
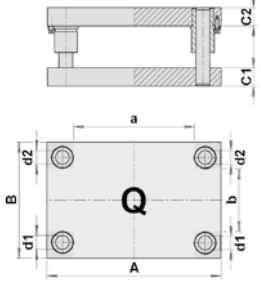
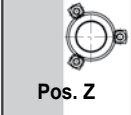


## SÄULENGESTELLE / DIE SETS

| Buchsentyp / Type of bushing                                                        |                                                                                     |                                                                                     | Abmessungen / Dimensions |             |                                          |    |    |            |                                             |    |    | Arbeitsflächen / Working area |             |             |             |             |             |             |             |             | Gewicht / Weight [kg] |                   |  |  |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------|-------------|------------------------------------------|----|----|------------|---------------------------------------------|----|----|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|-------------------|--|--|
| Stahlbuchse, RM-beschichtet<br>Leader pin bushing, RM plated                        |                                                                                     |                                                                                     | Größe / Size             | A<br>X<br>B | Platten-<br>stärke<br>Plate<br>thickness |    |    | Ø<br>d1/d2 | Säulen-<br>länge<br>Length of<br>leader pin |    |    | 141<br>131                    |             |             | 142<br>132  |             |             | 143<br>133  |             |             |                       | 151<br>152<br>153 |  |  |
|                                                                                     |                                                                                     |                                                                                     |                          |             | C1                                       | C2 | C3 |            | L1                                          | L2 | L3 | a<br>X<br>B                   | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A |                       |                   |  |  |
|                                                                                     |                                                                                     |                                                                                     |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
|  |  |  | FS 330 RM                |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
| 141                                                                                 | 142                                                                                 | 143                                                                                 |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
| Stahlbuchse mit Bronzeplattierung<br>Leader pin bushing, bronze plated              |                                                                                     |                                                                                     |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
|  |  |  | FS 331                   |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
| 131                                                                                 | 132                                                                                 | 133                                                                                 |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
| Stahlbuchse mit Ms-Käfig<br>Leader pin bushing with ball cage                       |                                                                                     |                                                                                     |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
|  |  |  | FS 353 + FS 325          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
| 151                                                                                 | 152                                                                                 | 153                                                                                 |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |

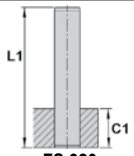
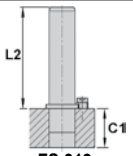
| Säulentyp / Type of leader pin                                                        |                                                                                      |  | Abmessungen / Dimensions |             |                                          |    |    |            |                                             |    |    | Arbeitsflächen / Working area |             |             |             |             |             |             |             |             | Gewicht / Weight [kg] |                   |  |  |
|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--|--------------------------|-------------|------------------------------------------|----|----|------------|---------------------------------------------|----|----|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|-------------------|--|--|
| eingepresst<br>press-fitted                                                           |                                                                                      |  | Größe / Size             | A<br>X<br>B | Platten-<br>stärke<br>Plate<br>thickness |    |    | Ø<br>d1/d2 | Säulen-<br>länge<br>Length of<br>leader pin |    |    | 141<br>131                    |             |             | 142<br>132  |             |             | 143<br>133  |             |             |                       | 151<br>152<br>153 |  |  |
|                                                                                       |                                                                                      |  |                          |             | C1                                       | C2 | C3 |            | L1                                          | L2 | L3 | a<br>X<br>B                   | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A |                       |                   |  |  |
|                                                                                       |                                                                                      |  |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
|   |  |  | FS 320                   |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
| IEP                                                                                   | IER                                                                                  |  |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
| Gestelltyp / Type of die set                                                          |                                                                                      |  |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
|  |                                                                                      |  |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
|  |                                                                                      |  |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
| Position der Haltestücke / Position of holding clamps                                 |                                                                                      |  |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
|  |                                                                                      |  |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
| Pos. Z                                                                                |                                                                                      |  |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
|  |                                                                                      |  |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |
| Pos. X                                                                                |                                                                                      |  |                          |             |                                          |    |    |            |                                             |    |    |                               |             |             |             |             |             |             |             |             |                       |                   |  |  |

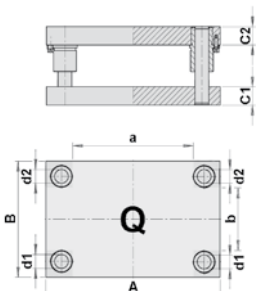
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|-----|-----------------|----|----|---|-------|-----|-----|---|--|--|--|--|--|--|--|-----------------|-----------------|--|-----------------|-----------------|--|------|
| 331 | 300<br>X<br>160 | 33 | 28 | – | 24/25 | 160 | 112 | – |  |  |  |  |  |  |  | 172<br>X<br>160 | 32<br>X<br>300  |  | 172<br>X<br>160 | 32<br>X<br>300  |  | 25,0 |
| 332 |                 | 33 | 33 | – |       | 160 | 125 | – |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  | 26,9 |
| 333 |                 | 48 | 38 | – |       | 180 | 140 | – |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |      |
| 334 | 300<br>X<br>200 | 33 | 28 | – | 24/25 | 160 | 112 | – |  |  |  |  |  |  |  | 172<br>X<br>200 | 72<br>X<br>300  |  | 172<br>X<br>200 | 72<br>X<br>300  |  | 30,8 |
| 335 |                 | 33 | 33 | – |       | 160 | 125 | – |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  | 33,1 |
| 336 |                 | 48 | 38 | – |       | 180 | 140 | – |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |      |
| 337 | 300<br>X<br>250 | 38 | 33 | – | 30/32 | 160 | 125 | – |  |  |  |  |  |  |  | 156<br>X<br>250 | 106<br>X<br>300 |  | 156<br>X<br>250 | 106<br>X<br>300 |  | 44,8 |
| 338 |                 | 38 | 38 | – |       | 180 | 140 | – |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  | 47,8 |
| 339 |                 | 48 | 38 | – |       | 180 | 140 | – |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |      |
| 340 | 300<br>X<br>300 | 38 | 33 | – | 30/32 | 160 | 125 | – |  |  |  |  |  |  |  | 156<br>X<br>300 | 156<br>X<br>300 |  | 156<br>X<br>300 | 156<br>X<br>300 |  | 53,5 |
| 341 |                 | 38 | 38 | – |       | 180 | 140 | – |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  | 57,0 |
| 342 |                 | 48 | 38 | – |       | 180 | 130 | – |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |      |
| 343 | 350<br>X<br>200 | 33 | 28 | – | 24/25 | 160 | 112 | – |  |  |  |  |  |  |  | 222<br>X<br>200 | 72<br>X<br>350  |  | 222<br>X<br>200 | 72<br>X<br>350  |  | 35,6 |
| 344 |                 | 33 | 33 | – |       | 160 | 125 | – |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  | 38,3 |
| 345 |                 | 48 | 38 | – |       | 180 | 140 | – |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |      |
| 346 | 350<br>X<br>250 | 38 | 33 | – | 30/32 | 160 | 125 | – |  |  |  |  |  |  |  | 206<br>X<br>250 | 106<br>X<br>350 |  | 206<br>X<br>250 | 106<br>X<br>350 |  | 52,5 |
| 347 |                 | 38 | 38 | – |       | 180 | 140 | – |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  | 55,5 |
| 348 |                 | 48 | 38 | – |       | 180 | 140 | – |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |      |
| 349 | 350<br>X<br>300 | 38 | 33 | – | 30/32 | 160 | 125 | – |  |  |  |  |  |  |  | 206<br>X<br>300 | 206<br>X<br>350 |  | 206<br>X<br>300 | 206<br>X<br>350 |  | 61,5 |
| 350 |                 | 38 | 38 | – |       | 180 | 140 | – |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  | 66,0 |
| 351 |                 | 48 | 38 | – |       | 180 | 140 | – |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |      |
| 352 | 350<br>X<br>350 | 38 | 33 | – | 30/32 | 160 | 125 | – |  |  |  |  |  |  |  | 206<br>X<br>350 | 206<br>X<br>350 |  | 206<br>X<br>350 | 206<br>X<br>350 |  | 71,5 |
| 353 |                 | 38 | 38 | – |       | 180 | 140 | – |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  | 76,5 |
| 354 |                 | 48 | 38 | – |       | 180 | 140 | – |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |      |
| 355 | 400<br>X<br>200 | 33 | 28 | – | 24/25 | 160 | 112 | – |  |  |  |  |  |  |  | 272<br>X<br>200 | 72<br>X<br>400  |  | 272<br>X<br>200 | 72<br>X<br>400  |  | 40,4 |
| 356 |                 | 33 | 33 | – |       | 160 | 125 | – |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  | 43,5 |
| 357 |                 | 48 | 38 | – |       | 180 | 140 | – |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |      |
| 358 | 400<br>X<br>250 | 38 | 33 | – | 30/32 | 160 | 125 | – |  |  |  |  |  |  |  | 256<br>X<br>250 | 106<br>X<br>400 |  | 256<br>X<br>250 | 106<br>X<br>400 |  | 59,0 |
| 359 |                 | 38 | 38 | – |       | 180 | 140 | – |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  | 63,0 |
| 360 |                 | 48 | 38 | – |       | 180 | 140 | – |  |  |  |  |  |  |  |                 |                 |  |                 |                 |  |      |

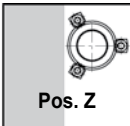
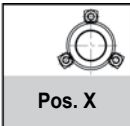
| Buchsentyp / Type of bushing                                                        |  |  |                                                                                    |    |    | Abmessungen / Dimensions                                                            |                                          |    |    |                |                                             |             |             |            | Arbeitsflächen / Working area |            |     |     |     |  |  |  |  | Gewicht / Weight [kg] |
|-------------------------------------------------------------------------------------|--|--|------------------------------------------------------------------------------------|----|----|-------------------------------------------------------------------------------------|------------------------------------------|----|----|----------------|---------------------------------------------|-------------|-------------|------------|-------------------------------|------------|-----|-----|-----|--|--|--|--|-----------------------|
| Stahlbuchse, RM-beschichtet<br>Leader pin bushing, RM plated                        |  |  |                                                                                    |    |    | A<br>X<br>B                                                                         | Platten-<br>stärke<br>Plate<br>thickness |    |    | Ø<br><br>d1/d2 | Säulen-<br>länge<br>Length of<br>leader pin |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
|                                                                                     |  |  | C1                                                                                 | C2 | C3 |                                                                                     | L1                                       | L2 | L3 |                | a<br>X<br>B                                 | b<br>X<br>A | c<br>X<br>A | 141<br>131 | 142<br>132                    | 143<br>133 | 151 | 152 | 153 |  |  |  |  |                       |
|                                                                                     |  |  |                                                                                    |    |    |                                                                                     |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
|    |  |  |   |    |    |    |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
| FS 330 RM                                                                           |  |  | FS 340 RM                                                                          |    |    | FS 350 RM                                                                           |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
| 141                                                                                 |  |  | 142                                                                                |    |    | 143                                                                                 |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
| Stahlbuchse mit Bronzeplattierung<br>Leader pin bushing, bronze plated              |  |  |                                                                                    |    |    |                                                                                     |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
|    |  |  |   |    |    |    |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
| FS 331                                                                              |  |  | FS 351                                                                             |    |    | FS 355                                                                              |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
| 131                                                                                 |  |  | 132                                                                                |    |    | 133                                                                                 |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
| Stahlbuchse mit Ms-Käfig<br>Leader pin bushing with ball cage                       |  |  |                                                                                    |    |    |                                                                                     |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
|    |  |  |   |    |    |    |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
| FS 353 + FS 325                                                                     |  |  | FS 357 + FS 325                                                                    |    |    | FS 358 + FS 325                                                                     |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
| 151                                                                                 |  |  | 152                                                                                |    |    | 153                                                                                 |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
| Säulentyp / Type of leader pin                                                      |  |  |                                                                                    |    |    |                                                                                     |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
| eingepresst<br>press-fitted                                                         |  |  | Schnellwechsel-<br>säule mit Bund<br>Leader pin,<br>with collar                    |    |    |                                                                                     |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
|   |  |  |  |    |    |                                                                                     |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
| FS 320                                                                              |  |  | FS 319                                                                             |    |    |                                                                                     |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
| IEP                                                                                 |  |  | IER                                                                                |    |    |                                                                                     |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
| Gestelltyp / Type of die set                                                        |  |  |                                                                                    |    |    |                                                                                     |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
|   |  |  |                                                                                    |    |    |                                                                                     |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
|  |  |  |                                                                                    |    |    |                                                                                     |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
| Position der Haltestücke / Position of holding clamps                               |  |  |                                                                                    |    |    |                                                                                     |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
|  |  |  |                                                                                    |    |    |  |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |
| Pos. Z                                                                              |  |  |                                                                                    |    |    | Pos. X                                                                              |                                          |    |    |                |                                             |             |             |            |                               |            |     |     |     |  |  |  |  |                       |

| Größe / Size | A<br>X<br>B     | Platten-<br>stärke<br>Plate<br>thickness |    |    | Ø<br><br>d1/d2 | Säulen-<br>länge<br>Length of<br>leader pin |     |    | Arbeitsflächen / Working area |             |             |            |                 |                 |               |                 |                 | Gewicht / Weight [kg] |       |
|--------------|-----------------|------------------------------------------|----|----|----------------|---------------------------------------------|-----|----|-------------------------------|-------------|-------------|------------|-----------------|-----------------|---------------|-----------------|-----------------|-----------------------|-------|
|              |                 | C1                                       | C2 | C3 |                | L1                                          | L2  | L3 | a<br>X<br>B                   | b<br>X<br>A | c<br>X<br>A | 141<br>131 | 142<br>132      | 143<br>133      | 151<br>X<br>B | 152<br>X<br>A   | 153<br>X<br>A   |                       |       |
| 361          | 400<br>X<br>300 | 48                                       | 38 | —  | 38/40          | 180                                         | 140 | —  |                               |             |             |            | 232<br>X<br>300 | 132<br>X<br>400 |               | 232<br>X<br>300 | 132<br>X<br>400 |                       | 87,0  |
| 362          |                 | 48                                       | 48 | —  |                | 200                                         | 160 | —  |                               |             |             |            |                 |                 |               |                 |                 |                       | 96,5  |
| 363          |                 | 58                                       | 48 | —  |                | 224                                         | 160 | —  |                               |             |             |            |                 |                 |               |                 |                 |                       |       |
| 364          | 400<br>X<br>350 | 48                                       | 38 | —  | 38/40          | 180                                         | 140 | —  |                               |             |             |            | 232<br>X<br>350 | 182<br>X<br>400 |               | 232<br>X<br>350 | 182<br>X<br>400 |                       | 101,0 |
| 365          |                 | 48                                       | 48 | —  |                | 200                                         | 160 | —  |                               |             |             |            |                 |                 |               |                 |                 |                       | 112,0 |
| 366          |                 | 58                                       | 48 | —  |                | 224                                         | 160 | —  |                               |             |             |            |                 |                 |               |                 |                 |                       | 123,0 |
| 367          | 400<br>X<br>400 | 48                                       | 38 | —  | 38/40          | 180                                         | 140 | —  |                               |             |             |            | 232<br>X<br>400 | 232<br>X<br>400 |               | 232<br>X<br>400 | 232<br>X<br>400 |                       | 114,0 |
| 368          |                 | 48                                       | 48 | —  |                | 200                                         | 160 | —  |                               |             |             |            |                 |                 |               |                 |                 |                       | 127,0 |
| 369          |                 | 58                                       | 48 | —  |                | 224                                         | 160 | —  |                               |             |             |            |                 |                 |               |                 |                 |                       | 140,0 |
| 370          | 500<br>X<br>250 | 38                                       | 33 | —  | 30/32          | 160                                         | 125 | —  |                               |             |             |            | 356<br>X<br>250 | 106<br>X<br>500 |               | 356<br>X<br>250 | 106<br>X<br>500 |                       | 73,0  |
| 371          |                 | 38                                       | 38 | —  |                | 180                                         | 140 | —  |                               |             |             |            |                 |                 |               |                 |                 |                       | 78,0  |
| 372          |                 | 48                                       | 38 | —  |                | 180                                         | 140 | —  |                               |             |             |            |                 |                 |               |                 |                 |                       | 87,5  |
| 373          | 500<br>X<br>300 | 48                                       | 38 | —  | 38/40          | 180                                         | 140 | —  |                               |             |             |            | 332<br>X<br>300 | 132<br>X<br>500 |               | 332<br>X<br>300 | 132<br>X<br>500 |                       | 108,0 |
| 374          |                 | 48                                       | 48 | —  |                | 200                                         | 160 | —  |                               |             |             |            |                 |                 |               |                 |                 |                       | 119,0 |
| 375          |                 | 58                                       | 48 | —  |                | 224                                         | 160 | —  |                               |             |             |            |                 |                 |               |                 |                 |                       | 131,0 |
| 376          | 500<br>X<br>350 | 48                                       | 38 | —  | 38/40          | 180                                         | 140 | —  |                               |             |             |            | 332<br>X<br>350 | 182<br>X<br>500 |               | 332<br>X<br>350 | 182<br>X<br>500 |                       | 125,0 |
| 377          |                 | 48                                       | 48 | —  |                | 200                                         | 160 | —  |                               |             |             |            |                 |                 |               |                 |                 |                       | 138,0 |
| 378          |                 | 58                                       | 48 | —  |                | 224                                         | 160 | —  |                               |             |             |            |                 |                 |               |                 |                 |                       | 152,0 |
| 379          | 500<br>X<br>400 | 48                                       | 38 | —  | 38/40          | 180                                         | 140 | —  |                               |             |             |            | 332<br>X<br>400 | 232<br>X<br>500 |               | 332<br>X<br>400 | 232<br>X<br>500 |                       | 141,0 |
| 380          |                 | 48                                       | 48 | —  |                | 200                                         | 160 | —  |                               |             |             |            |                 |                 |               |                 |                 |                       | 157,0 |
| 381          |                 | 58                                       | 48 | —  |                | 224                                         | 160 | —  |                               |             |             |            |                 |                 |               |                 |                 |                       | 173,0 |
| 382          | 500<br>X<br>500 | 48                                       | 38 | —  | 38/40          | 180                                         | 140 | —  |                               |             |             |            | 332<br>X<br>500 | 332<br>X<br>500 |               | 332<br>X<br>500 | 332<br>X<br>500 |                       | 175,0 |
| 383          |                 | 48                                       | 48 | —  |                | 200                                         | 160 | —  |                               |             |             |            |                 |                 |               |                 |                 |                       | 195,0 |
| 384          |                 | 58                                       | 48 | —  |                | 224                                         | 160 | —  |                               |             |             |            |                 |                 |               |                 |                 |                       | 214,0 |
| 385          | 600<br>X<br>300 | 48                                       | 38 | —  | 38/40          | 180                                         | 140 | —  |                               |             |             |            | 432<br>X<br>300 | 132<br>X<br>600 |               | 432<br>X<br>300 | 132<br>X<br>600 |                       | 128,0 |
| 386          |                 | 48                                       | 48 | —  |                | 200                                         | 160 | —  |                               |             |             |            |                 |                 |               |                 |                 |                       | 142,0 |
| 387          |                 | 58                                       | 48 | —  |                | 224                                         | 160 | —  |                               |             |             |            |                 |                 |               |                 |                 |                       | 156,0 |
| 388          | 600<br>X<br>350 | 48                                       | 38 | —  | 38/40          | 180                                         | 140 | —  |                               |             |             |            | 432<br>X<br>350 | 182<br>X<br>600 |               | 432<br>X<br>350 | 182<br>X<br>600 |                       | 148,0 |
| 389          |                 | 48                                       | 48 | —  |                | 200                                         | 160 | —  |                               |             |             |            |                 |                 |               |                 |                 |                       | 165,0 |
| 390          |                 | 58                                       | 48 | —  |                | 224                                         | 160 | —  |                               |             |             |            |                 |                 |               |                 |                 |                       | 181,0 |

| Buchsentyp / Type of bushing                                                        |                                                                                     |                                                                                     |  |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|
| Stahlbuchse, RM-beschichtet<br>Leader pin bushing, RM plated                        |                                                                                     |                                                                                     |  |
|  |  |  |  |
| FS 330 RM<br>141                                                                    | FS 340 RM<br>142                                                                    | FS 350 RM<br>143                                                                    |  |
| Stahlbuchse mit Bronzeplattierung<br>Leader pin bushing, bronze plated              |                                                                                     |                                                                                     |  |
|  |  |  |  |
| FS 331<br>131                                                                       | FS 351<br>132                                                                       | FS 355<br>133                                                                       |  |
| Stahlbuchse mit Ms-Käfig<br>Leader pin bushing with ball cage                       |                                                                                     |                                                                                     |  |
|  |  |  |  |
| FS 353 + FS 325<br>151                                                              | FS 357 + FS 325<br>152                                                              | FS 358 + FS 325<br>153                                                              |  |

| Säulentyp / Type of leader pin                                                       |                                                                                      |                                                         |  |
|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------|--|
| eingepresst<br>press-fitted                                                          |                                                                                      | Schnellwechselsäule mit Bund<br>Leader pin, with collar |  |
|  |  |                                                         |  |
| FS 320<br>IEP                                                                        | FS 319<br>IER                                                                        |                                                         |  |

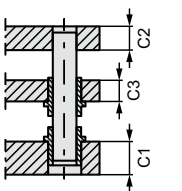
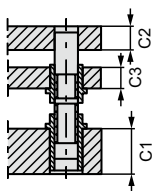
| Gestelltyp / Type of die set                                                          |  |  |  |
|---------------------------------------------------------------------------------------|--|--|--|
|  |  |  |  |
|  |  |  |  |

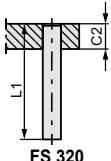
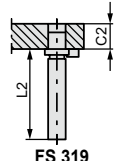
| Position der Haltestücke / Position of holding clamps                                 |                                                                                       |  |  |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--|--|
|  |  |  |  |
| Pos. Z                                                                                | Pos. X                                                                                |  |  |

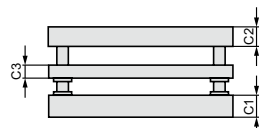
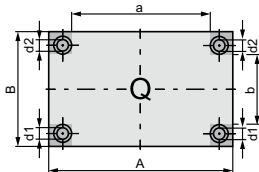
| Abmessungen / Dimensions |                 |                                  |    |    |            | Arbeitsflächen / Working area       |     |    |             |             |             |             |                 |                 | Gewicht / Weight [kg] |                 |                 |             |       |
|--------------------------|-----------------|----------------------------------|----|----|------------|-------------------------------------|-----|----|-------------|-------------|-------------|-------------|-----------------|-----------------|-----------------------|-----------------|-----------------|-------------|-------|
| Größe / Size             | A<br>X<br>B     | Plattenstärke<br>Plate thickness |    |    | Ø<br>d1/d2 | Säulenlänge<br>Length of leader pin |     |    |             |             |             | 141<br>131  | 142<br>132      | 143<br>133      |                       | 151             | 152             | 153         |       |
|                          |                 | C1                               | C2 | C3 |            | L1                                  | L2  | L3 | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B | b<br>X<br>A     | c<br>X<br>A     |                       | a<br>X<br>B     | b<br>X<br>A     | c<br>X<br>A |       |
|                          |                 |                                  |    |    |            |                                     |     |    |             |             |             |             |                 |                 |                       |                 |                 |             |       |
| 391                      | 600<br>X<br>400 | 48                               | 38 | —  | 38/40      | 180                                 | 140 | —  |             |             |             |             | 432<br>X<br>400 | 232<br>X<br>600 |                       | 432<br>X<br>400 | 232<br>X<br>600 |             | 168,0 |
| 392                      |                 | 48                               | 48 | —  |            | 200                                 | 160 | —  |             |             |             |             |                 |                 |                       |                 |                 | 187,0       |       |
| 393                      |                 | 58                               | 48 | —  |            | 224                                 | 160 | —  |             |             |             |             |                 |                 |                       |                 |                 | 206,0       |       |
| 394                      | 600<br>X<br>500 | 58                               | 48 | —  | 48/50      | 224                                 | 160 | —  |             |             |             |             | 406<br>X<br>500 | 306<br>X<br>600 |                       | 406<br>X<br>500 | 306<br>X<br>600 |             | 259,0 |
| 395                      |                 | 58                               | 58 | —  |            | 250                                 | 180 | —  |             |             |             |             |                 |                 |                       |                 |                 | 283,0       |       |
| 396                      |                 | 68                               | 58 | —  |            | 250                                 | 180 | —  |             |             |             |             |                 |                 |                       |                 |                 | 306,0       |       |
| 397                      | 600<br>X<br>600 | 58                               | 48 | —  | 48/50      | 224                                 | 160 | —  |             |             |             |             | 406<br>X<br>600 | 406<br>X<br>600 |                       | 406<br>X<br>600 | 406<br>X<br>600 |             | 309,0 |
| 398                      |                 | 58                               | 58 | —  |            | 250                                 | 180 | —  |             |             |             |             |                 |                 |                       |                 |                 | 337,0       |       |
| 399                      |                 | 68                               | 58 | —  |            | 250                                 | 180 | —  |             |             |             |             |                 |                 |                       |                 |                 | 365,0       |       |
| 400                      | 700<br>X<br>350 | 48                               | 38 | —  | 38/40      | 180                                 | 140 | —  |             |             |             |             | 532<br>X<br>350 | 182<br>X<br>700 |                       | 532<br>X<br>350 | 182<br>X<br>700 |             | 172,0 |
| 401                      |                 | 48                               | 48 | —  |            | 200                                 | 160 | —  |             |             |             |             |                 |                 |                       |                 |                 | 191,0       |       |
| 402                      |                 | 58                               | 48 | —  |            | 224                                 | 160 | —  |             |             |             |             |                 |                 |                       |                 |                 | 210,0       |       |
| 403                      | 700<br>X<br>400 | 58                               | 48 | —  | 48/50      | 224                                 | 160 | —  |             |             |             |             | 506<br>X<br>400 | 206<br>X<br>700 |                       | 506<br>X<br>400 | 206<br>X<br>700 |             | 242,0 |
| 404                      |                 | 58                               | 58 | —  |            | 250                                 | 180 | —  |             |             |             |             |                 |                 |                       |                 |                 | 264,0       |       |
| 405                      |                 | 68                               | 58 | —  |            | 250                                 | 180 | —  |             |             |             |             |                 |                 |                       |                 |                 | 286,0       |       |
| 406                      | 700<br>X<br>500 | 58                               | 48 | —  | 48/50      | 224                                 | 160 | —  |             |             |             |             | 506<br>X<br>500 | 306<br>X<br>700 |                       | 506<br>X<br>500 | 306<br>X<br>700 |             | 300,0 |
| 407                      |                 | 58                               | 58 | —  |            | 250                                 | 180 | —  |             |             |             |             |                 |                 |                       |                 |                 | 328,0       |       |
| 408                      |                 | 68                               | 58 | —  |            | 250                                 | 180 | —  |             |             |             |             |                 |                 |                       |                 |                 | 356,0       |       |
| 409                      | 700<br>X<br>600 | 58                               | 48 | —  | 48/50      | 224                                 | 160 | —  |             |             |             |             | 506<br>X<br>600 | 406<br>X<br>700 |                       | 506<br>X<br>600 | 406<br>X<br>700 |             | 359,0 |
| 410                      |                 | 58                               | 58 | —  |            | 250                                 | 180 | —  |             |             |             |             |                 |                 |                       |                 |                 | 392,0       |       |
| 411                      |                 | 68                               | 58 | —  |            | 250                                 | 180 | —  |             |             |             |             |                 |                 |                       |                 |                 | 425,0       |       |
| 412                      | 800<br>X<br>400 | 58                               | 48 | —  | 48/50      | 224                                 | 160 | —  |             |             |             |             | 606<br>X<br>400 | 206<br>X<br>800 |                       | 606<br>X<br>400 | 206<br>X<br>800 |             | 276,0 |
| 413                      |                 | 58                               | 58 | —  |            | 250                                 | 180 | —  |             |             |             |             |                 |                 |                       |                 |                 | 301,0       |       |
| 414                      |                 | 68                               | 58 | —  |            | 250                                 | 180 | —  |             |             |             |             |                 |                 |                       |                 |                 | 326,0       |       |
| 415                      | 800<br>X<br>500 | 58                               | 48 | —  | 48/50      | 224                                 | 160 | —  |             |             |             |             | 606<br>X<br>500 | 306<br>X<br>800 |                       | 606<br>X<br>500 | 306<br>X<br>800 |             | 342,0 |
| 416                      |                 | 58                               | 58 | —  |            | 250                                 | 180 | —  |             |             |             |             |                 |                 |                       |                 |                 | 374,0       |       |
| 417                      |                 | 68                               | 58 | —  |            | 250                                 | 180 | —  |             |             |             |             |                 |                 |                       |                 |                 | 405,0       |       |
| 418                      | 800<br>X<br>600 | 58                               | 48 | —  | 48/50      | 224                                 | 160 | —  |             |             |             |             | 606<br>X<br>600 | 406<br>X<br>800 |                       | 606<br>X<br>600 | 406<br>X<br>800 |             | 409,0 |
| 419                      |                 | 58                               | 58 | —  |            | 250                                 | 180 | —  |             |             |             |             |                 |                 |                       |                 |                 | 447,0       |       |
| 420                      |                 | 68                               | 58 | —  |            | 250                                 | 180 | —  |             |             |             |             |                 |                 |                       |                 |                 | 484,0       |       |

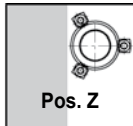
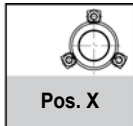


| Buchsentyp / Type of bushing                                                         |  |                                                                       |  |
|--------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------|--|
|                                                                                      |  |                                                                       |  |
| <b>Stahlbuchse, RM-beschichtet</b><br><b>Leader pin bushing, RM plated</b>           |  |                                                                       |  |
| C1: FS 340 RM                                                                        |  | C1: FS 350 RM                                                         |  |
| C3: FS 330 RM                                                                        |  | C3: FS 330 RM                                                         |  |
| 182                                                                                  |  | 183                                                                   |  |
| <b>Stahlbuchse mit Bronzeplattierung</b><br><b>Leader pin bushing, bronze plated</b> |  |                                                                       |  |
| C1: FS 351                                                                           |  | C1: FS 355                                                            |  |
| C3: FS 331                                                                           |  | C3: FS 331                                                            |  |
| 172                                                                                  |  | 173                                                                   |  |
| <b>Stahlbuchse mit Ms-Käfig</b><br><b>Leader pin bushing with ball cage</b>          |  |                                                                       |  |
| C1: FS 358 + FS 325                                                                  |  | C1: FS 353 + FS 325                                                   |  |
| C3: FS 357 + FS 325                                                                  |  | C3: FS 357 + FS 325                                                   |  |
| 192                                                                                  |  | 193                                                                   |  |
| Säulentyp / Type of leader pin                                                       |  |                                                                       |  |
| <b>eingepresst</b><br><b>press-fitted</b>                                            |  | <b>Schnellwechselsäule mit Bund</b><br><b>Leader pin, with collar</b> |  |
|                                                                                      |  |                                                                       |  |
| FS 320                                                                               |  | FS 319                                                                |  |
| IEP                                                                                  |  | IER                                                                   |  |
| Gestelltyp / Type of die set                                                         |  |                                                                       |  |
|                                                                                      |  |                                                                       |  |
|                                                                                      |  |                                                                       |  |
| Position der Haltestücke / Position of holding clamps                                |  |                                                                       |  |
|                                                                                      |  |                                                                       |  |
|                                                                                      |  |                                                                       |  |
| <b>Pos. Z</b>                                                                        |  |                                                                       |  |
| <b>Pos. X</b>                                                                        |  |                                                                       |  |

| Buchsentyp / Type of bushing                                                        |                                                                                     |  |  |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|--|
|  |  |  |  |
| <b>Stahlbuchse, RM-beschichtet</b><br>Leader pin bushing, RM plated                 |                                                                                     |  |  |
| C1: FS 340 RM<br>C3: FS 330 RM                                                      | C1: FS 350 RM<br>C3: FS 330 RM                                                      |  |  |
| 182                                                                                 | 183                                                                                 |  |  |
| <b>Stahlbuchse mit Bronzeplattierung</b><br>Leader pin bushing, bronze plated       |                                                                                     |  |  |
| C1: FS 351<br>C3: FS 331                                                            | C1: FS 355<br>C3: FS 331                                                            |  |  |
| 172                                                                                 | 173                                                                                 |  |  |
| <b>Stahlbuchse mit Ms-Käfig</b><br>Leader pin bushing with ball cage                |                                                                                     |  |  |
| C1: FS 358 + FS 325<br>C3: FS 357 + FS 325                                          | C1: FS 353 + FS 325<br>C3: FS 357 + FS 325                                          |  |  |
| 192                                                                                 | 193                                                                                 |  |  |

| Säulentyp / Type of leader pin                                                       |                                                                                      |  |  |
|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--|--|
| eingepresst<br>press-fitted                                                          | Schnellwechselsäule mit Bund<br>Leader pin, with collar                              |  |  |
|  |  |  |  |
| FS 320<br>IEP                                                                        | FS 319<br>IER                                                                        |  |  |

| Gestelltyp / Type of die set                                                          |  |  |  |
|---------------------------------------------------------------------------------------|--|--|--|
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

| Position der Haltestücke / Position of holding clamps                                 |                                                                                       |  |  |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--|--|
|  |  |  |  |
| Pos. Z                                                                                | Pos. X                                                                                |  |  |

| Abmessungen / Dimensions |                 |                                  |    |    |            |                                     |     | Arbeitsflächen / Working area |             |             |             |             |             |             |             |             |             |       |      | Gewicht / Weight [kg] |
|--------------------------|-----------------|----------------------------------|----|----|------------|-------------------------------------|-----|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------|------|-----------------------|
| Größe / Size             | A<br>X<br>B     | Plattenstärke<br>Plate thickness |    |    | Ø<br>d1/d2 | Säulenlänge<br>Length of leader pin |     |                               |             |             |             | 182<br>172  |             | 183<br>173  |             | 192<br>193  |             |       |      |                       |
|                          |                 | C1                               | C2 | C3 |            | L1                                  | L2  | L3                            | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A | a<br>X<br>B | b<br>X<br>A | c<br>X<br>A |       |      |                       |
|                          |                 |                                  |    |    |            |                                     |     |                               |             |             |             |             |             |             |             |             |             |       |      |                       |
| 331                      | 300<br>X<br>160 | 33                               | 28 | 23 | 24/25      | 160                                 | 125 | -                             |             |             |             |             | 172         | 32          |             | 172         | 32          |       | 33,7 |                       |
| 332                      |                 | 48                               | 38 |    |            | 180                                 | 140 | -                             |             |             |             | X           | X           |             | X           | X           |             | 43,1  |      |                       |
| 333                      |                 | 48                               | 48 |    |            | 200                                 | 140 | -                             |             |             |             | 160         | 300         |             | 160         | 300         |             | 46,9  |      |                       |
| 334                      | 300<br>X<br>200 | 33                               | 28 | 23 | 24/25      | 160                                 | 125 | -                             |             |             |             |             | 172         | 72          |             | 172         | 72          |       | 41,6 |                       |
| 335                      |                 | 48                               | 38 |    |            | 180                                 | 140 | -                             |             |             |             | X           | X           |             | X           | X           |             | 53,5  |      |                       |
| 336                      |                 | 48                               | 48 |    |            | 200                                 | 140 | -                             |             |             |             | 200         | 300         |             | 200         | 300         |             | 58,5  |      |                       |
| 337                      | 300<br>X<br>250 | 38                               | 33 | 33 | 30/32      | 180                                 | 140 | -                             |             |             |             |             | 156         | 106         |             | 152         | 106         |       | 61,5 |                       |
| 338                      |                 | 48                               | 38 |    |            | 200                                 | 160 | -                             |             |             |             | X           | X           |             | X           | X           |             | 70,5  |      |                       |
| 339                      |                 | 48                               | 48 |    |            | 200                                 | 160 | -                             |             |             |             | 250         | 300         |             | 250         | 300         |             | 76,0  |      |                       |
| 340                      | 300<br>X<br>300 | 38                               | 33 | 33 | 30/32      | 180                                 | 140 | -                             |             |             |             |             | 156         | 156         |             | 156         | 156         |       | 73,0 |                       |
| 341                      |                 | 48                               | 38 |    |            | 200                                 | 160 | -                             |             |             |             | X           | X           |             | X           | X           |             | 83,5  |      |                       |
| 342                      |                 | 48                               | 48 |    |            | 200                                 | 160 | -                             |             |             |             | 300         | 300         |             | 300         | 300         |             | 90,5  |      |                       |
| 343                      | 350<br>X<br>200 | 33                               | 28 | 23 | 24/25      | 160                                 | 125 | -                             |             |             |             |             | 222         | 72          |             | 222         | 72          |       | 48,2 |                       |
| 344                      |                 | 48                               | 38 |    |            | 180                                 | 160 | -                             |             |             |             | X           | X           |             | X           | X           |             | 62,0  |      |                       |
| 345                      |                 | 48                               | 48 |    |            | 200                                 | 160 | -                             |             |             |             | 200         | 350         |             | 200         | 350         |             | 67,5  |      |                       |
| 346                      | 350<br>X<br>250 | 38                               | 33 | 33 | 30/32      | 180                                 | 140 | -                             |             |             |             |             | 206         | 106         |             | 206         | 106         |       | 71,0 |                       |
| 347                      |                 | 48                               | 38 |    |            | 200                                 | 160 | -                             |             |             |             | X           | X           |             | X           | X           |             | 81,5  |      |                       |
| 348                      |                 | 48                               | 48 |    |            | 200                                 | 160 | -                             |             |             |             | 250         | 350         |             | 250         | 350         |             | 88,5  |      |                       |
| 349                      | 350<br>X<br>300 | 38                               | 33 | 33 | 30/32      | 180                                 | 140 | -                             |             |             |             |             | 206         | 156         |             | 206         | 156         |       | 85,0 |                       |
| 350                      |                 | 48                               | 38 |    |            | 200                                 | 160 | -                             |             |             |             | X           | X           |             | X           | X           |             | 97,0  |      |                       |
| 351                      |                 | 48                               | 48 |    |            | 200                                 | 160 | -                             |             |             |             | 300         |             |             | 300         | 350         |             | 105,0 |      |                       |
| 352                      | 350<br>X<br>350 | 38                               | 33 | 33 | 30/32      | 180                                 | 140 | -                             |             |             |             |             | 206         | 206         |             | 206         | 206         |       | 98,5 |                       |
| 353                      |                 | 48                               | 38 |    |            | 200                                 | 160 | -                             |             |             |             | X           | X           |             | X           | X           |             | 113,0 |      |                       |
| 354                      |                 | 48                               | 48 |    |            | 200                                 | 160 | -                             |             |             |             | 350         | 350         |             | 350         | 350         |             | 123,0 |      |                       |
| 355                      | 400<br>X<br>200 | 33                               | 28 | 23 | 24/25      | 160                                 | 125 | -                             |             |             |             |             | 272         | 72          |             | 272         | 72          |       | 55,0 |                       |
| 356                      |                 | 48                               | 38 |    |            | 180                                 | 140 | -                             |             |             |             | X           | X           |             | X           | X           |             | 70,5  |      |                       |
| 357                      |                 | 48                               | 48 |    |            | 200                                 | 140 | -                             |             |             |             | 200         | 400         |             | 200         | 400         |             | 77,0  |      |                       |
| 358                      | 400<br>X<br>250 | 38                               | 33 | 33 | 30/32      | 180                                 | 140 | -                             |             |             |             |             | 256         | 106         |             | 256         | 106         |       | 81,0 |                       |
| 359                      |                 | 48                               | 38 |    |            | 200                                 | 160 | -                             |             |             |             | X           | X           |             | X           | X           |             | 92,5  |      |                       |
| 360                      |                 | 48                               | 48 |    |            | 200                                 | 160 | -                             |             |             |             | 250         | 400         |             | 250         | 400         |             | 101,0 |      |                       |

## Säulengest. a. Stahl, 3 Platten, 4 Säulen, Typ Q, M-Line

## Steel die sets, 3 plates, 4 posts, type Q, M-Line



SÄULENGESTELLE / DIE SETS

| Buchsentyp / Type of bushing                                                  |                     |  |  |
|-------------------------------------------------------------------------------|---------------------|--|--|
|                                                                               |                     |  |  |
| <b>Stahlbuchse, RM-beschichtet</b><br>Leader pin bushing, RM plated           |                     |  |  |
| C1: FS 340 RM                                                                 | C1: FS 350 RM       |  |  |
| C3: FS 330 RM                                                                 | C3: FS 330 RM       |  |  |
| 182                                                                           | 183                 |  |  |
| <b>Stahlbuchse mit Bronzeplattierung</b><br>Leader pin bushing, bronze plated |                     |  |  |
| C1: FS 351                                                                    | C1: FS 355          |  |  |
| C3: FS 331                                                                    | C3: FS 331          |  |  |
| 172                                                                           | 173                 |  |  |
| <b>Stahlbuchse mit Ms-Käfig</b><br>Leader pin bushing with ball cage          |                     |  |  |
| C1: FS 358 + FS 325                                                           | C1: FS 353 + FS 325 |  |  |
| C3: FS 357 + FS 325                                                           | C3: FS 357 + FS 325 |  |  |
| 192                                                                           | 193                 |  |  |

| Säulentyp / Type of leader pin |                                                                 |  |  |
|--------------------------------|-----------------------------------------------------------------|--|--|
| eingepresst<br>press-fitted    | Schnellwechsel-<br>säule mit Bund<br>Leader pin,<br>with collar |  |  |
|                                |                                                                 |  |  |
| FS 320<br>IEP                  | FS 319<br>IER                                                   |  |  |

| Gestelltyp / Type of die set |  |
|------------------------------|--|
|                              |  |
|                              |  |

| Position der Haltestücke / Position of holding clamps |        |
|-------------------------------------------------------|--------|
|                                                       |        |
| Pos. Z                                                | Pos. X |







CNC - Brennschneiden  
CNC - flame cutting

Glühen  
Annealing

Stahlkies strahlen  
Steel shot blasting

Richten  
Flattening

Farbgebung - Grundierung  
Coloring - priming

CNC - Diskusschleifen  
CNC - rotary grinding

CNC - Feinschleifen  
CNC - finish grinding

Materiallager ST 52-3, Blechdicken 10 – 600 mm  
Stock ST 52-3, sheet thickness 10 – 600 mm

Abmessungen 6.000 x 3.000 x 2.000 mm, bis 25 t Stückgewicht  
Dimensions 6.000 x 3.000 x 2.000 mm, up to 25 t unit weight

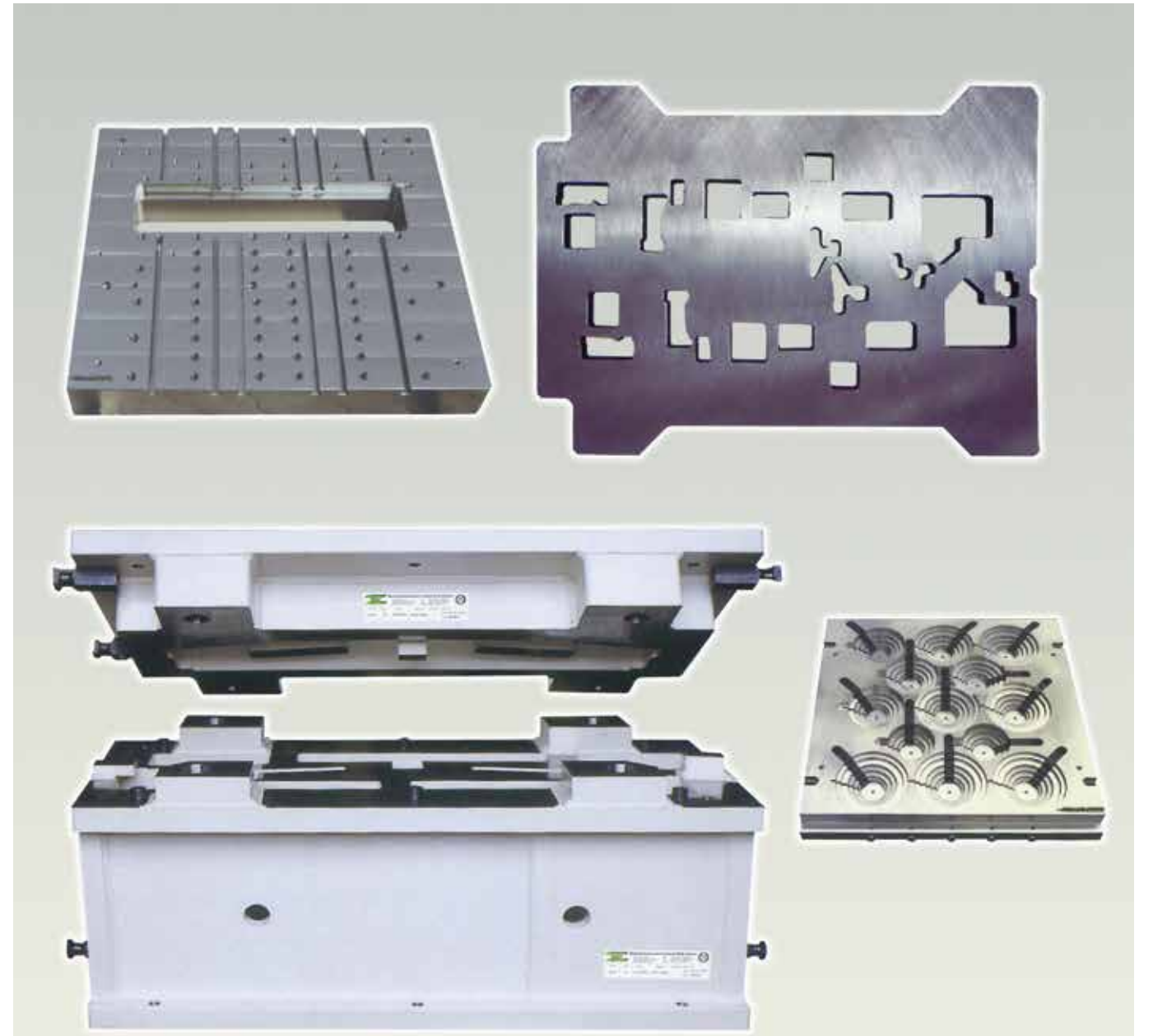
Abmessungen 6.000 x 3.000 x 2.000 mm, bis 25 t Stückgewicht  
Dimensions 6.000 x 3.000 x 2.000 mm, up to 25 t unit weight

Abmessungen 6.000 x 3.000 x 2.000 mm, bis 25 t Stückgewicht  
Dimensions 6.000 x 3.000 x 2.000 mm, up to 25 t unit weight

Abmessungen 6.000 x 3.000 x 2.000 mm, bis 25 t Stückgewicht  
Dimensions 6.000 x 3.000 x 2.000 mm, up to 25 t unit weight

Verfahrweg  
Travelling distance 4.000 x 1.250 x 300 mm

Verfahrweg  
Travelling distance 3.000 x 1.600 x 600 mm



CNC - Lehrenbohren  
CNC - jig boring

CNC - Portalfräsen  
CNC - portal milling

CNC - Fräsen und Bohren  
CNC - milling and -drilling

CNC - Portalmessen  
CNC - portal measuring

CNC - Tieflochbohren  
CNC - gun drilling

Verfahrweg  
Travelling distance 3.000 x 1.600 x 600 mm

Verfahrweg  
Travelling distance 7.000 x 3.000 x 1.400 mm

Verfahrweg  
Travelling distance 4.900 x 2.400 x 800 mm

Verfahrweg  
Travelling distance 3.000 x 1.600 x 800 mm

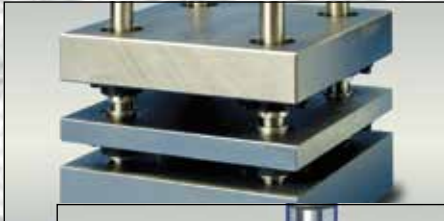
Durchmesser 30 – 120 mm / Diameter 30 – 120 mm  
bis 1.500 mm als Sacklochbohrung / Blind holes up to 1.500 mm deep  
bis 3.000 mm als Durchgangsbohrung / Through holes up to 3.000 mm long

Die Herstellung/Bearbeitung der Produkte erfolgt nach Kundenzeichnung oder nach CAD-Datei im DXF-, DWG-, IGES-, VDA- oder Catia-Format. / Basis for the manufacturing process are drawings supplied by the customer, printed or as DXF-, DWG-, IGES-, VDA- or Catia - CAD - data files.





# [lieferprogramm] [productrange]

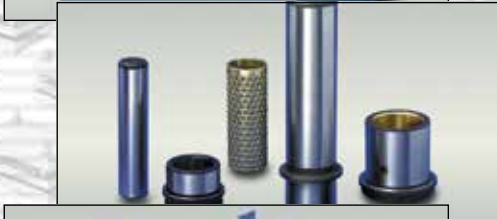


## [säulengestelle]

in Standard- und Sonder-  
Abmessungen ab 125 x 125 mm  
bis 3.000 x 6.000 mm

## [diesets]

in standard and custom sizes  
between 125 x 125 mm up to  
3.000 x 6.000 mm



## [führungssysteme]

in den verschiedensten  
Ausführungen

## [guidingsystems]

available in various designs



## [schneidelemente]

mit unterschiedlichsten  
Schneidgeometrien

## [cuttingelements]

with countless cutting-tip  
geometries



## [technischeHilfsmittel]

umfangreiche Auswahl von  
Schrauben bis zu kleinen  
Schiebern

## [generaldiecomponents]

huge selection ranging from  
screws to small cam units



## [federelemente]

umfassendes Programm an ISO-,  
Elastomer- und ähnlichen Federn

## [springs]

extensive program of ISO-,  
elastomer- and similar springs



## [nitrocy]Gasdruckfedern]

umfangreiches Programm für  
unterschiedliche Anwendungen

## [nitrocy]GasSprings]

large program for all commonly  
used applications



## [hysonStickstoffSysteme]

große Auswahl aus dem Programm  
eines der Weltmarktführer

## [hysonNitrogenSystems]

huge program from one of the  
world market leaders

**Märkische Stanz-Partner Normalien GmbH**

Jüngerstrasse 17 • D-58515 Lüdenscheid

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