

# Micro5

## Technical data

|                                       |                               |
|---------------------------------------|-------------------------------|
| Tool changer                          | Tower magazine                |
| Travel X – Y – Z max.                 | 78 – 56 – 50 mm               |
| Chip-to-chip time                     | 3.5 s                         |
| Number of milling spindles            | 1                             |
| Milling spindle speed max.            | 60,000 rpm                    |
| Milling spindle torque max.           | 10 Ncm                        |
| Tool taper                            | HSK-EZ15                      |
| Number of tools max.                  | 60                            |
| Ø Tool max.                           | 18 mm                         |
| Ø Tool max. with free secondary space | 40 mm                         |
| Rapid feed X – Y – Z max.             | 30 – 30 – 30 m/min            |
| Axis acceleration X – Y – Z max.      | 25 – 25 – 25 m/s <sup>2</sup> |



# Micro5 XL

## Technical data

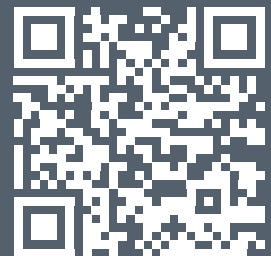
|                                       |                               |
|---------------------------------------|-------------------------------|
| Tool changer                          | Tower magazine                |
| Travel X – Y – Z max.                 | 170 – 140 – 120 mm            |
| Chip-to-chip time                     | 3.5 s                         |
| Number of milling spindles            | 1                             |
| Milling spindle speed                 | 40,000   50,000 rpm           |
| Milling spindle torque max.           | 1.4 Nm                        |
| Tool taper                            | HSK-E25                       |
| Number of tools max.                  | 60   100                      |
| Ø Tool max.                           | 30 mm                         |
| Ø Tool max. with free secondary space | 65 mm                         |
| Rapid feed X – Y – Z max.             | 30 – 30 – 30 m/min            |
| Axis acceleration X – Y – Z max.      | 15 – 15 – 20 m/s <sup>2</sup> |



# 08 Series

## Technical data

|                                       | FZ 08                         | DZ 08                         |
|---------------------------------------|-------------------------------|-------------------------------|
| Tool changer                          | Chain magazine                | Chain magazine                |
| Travel X – Y – Z max.                 | 450 – 270 – 310 mm            | 450 – 270 – 310 mm            |
| Chip-to-chip time                     | 2.3 s                         | 2.8 s                         |
| Number of milling spindles            | 1                             | 2                             |
| Spindle distance                      |                               | 200 mm                        |
| Milling spindle speed                 | 15,000 – 40,000 rpm           | 18,000 – 40,000 rpm           |
| Milling spindle torque                | 9 – 23 Nm                     | 9 – 11 Nm                     |
| Tool taper                            | HSK-A40<br>HSK-E40            | HSK-A40<br>HSK-E40            |
| Number of tools max.                  | 80                            | 2 x 16                        |
| Ø Tool max.                           | 47 mm                         | 63 mm                         |
| Ø Tool max. with free secondary space | 100 mm                        |                               |
| Tool length max.                      | 200 mm                        | 160 mm                        |
| Tool weight max.                      | 1.2 kg                        | 1.2 kg                        |
| Rapid feed X – Y – Z max.             | 75 – 75 – 75 m/min            | 75 – 75 – 75 m/min            |
| Axis acceleration X – Y – Z max.      | 10 – 15 – 20 m/s <sup>2</sup> | 10 – 15 – 20 m/s <sup>2</sup> |

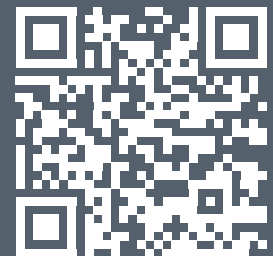


# 08 Series

## Technical data

|                                       |                               |
|---------------------------------------|-------------------------------|
| Tool changer                          | Chain magazine                |
| Travel X – Y – Z max.                 | 210 – 270 – 360 mm            |
| Chip-to-chip time                     | 2.9 s                         |
| Number of milling spindles            | 2                             |
| Spindle distance                      | 200 mm                        |
| Milling spindle speed                 | 37.500 – 40,000 rpm           |
| Milling spindle torque max.           | 7 Nm                          |
| Tool taper                            | HSK-E40                       |
| Number of tools max.                  | 2 x 48                        |
| Ø Tool max.                           | 45 mm                         |
| Ø Tool max. with free secondary space | 100 mm                        |
| Tool length max.                      | 200 mm                        |
| Tool weight max.                      | 1.2 kg                        |
| Rapid feed X – Y – Z max.             | 75 – 75 – 100 m/min           |
| Axis acceleration X – Y – Z max.      | 10 – 17 – 20 m/s <sup>2</sup> |

## DZ 08 precision<sup>+</sup>



# 08 Series

## Technical data

|                                       |
|---------------------------------------|
| Tool changer                          |
| Travel X – Y – Z max.                 |
| Bar diameter                          |
| Chip-to-chip time                     |
| Number of milling spindles            |
| Swivel range milling spindle          |
| Milling spindle speed                 |
| Milling spindle torque                |
| Tool taper                            |
| Number of tools max.                  |
| Ø Tool max.                           |
| Ø Tool max. with free secondary space |
| Tool length max.                      |
| Tool weight max.                      |
| Rapid feed X – Y – Z max.             |
| Axis acceleration X – Y – Z max.      |
| Main turning spindle speed max.       |
| Main turning spindle torque max.      |
| Counter turning spindle speed max.    |
| Counter turning spindle torque max.   |

## FZ 08 mill turn precision<sup>+</sup>

|                              |
|------------------------------|
| Chain magazine               |
| 210 – 200 – 360 mm           |
| 32   42   65 mm              |
| 2.5 s                        |
| 1                            |
| -10°   +100°                 |
| 30,000 – 54,000 rpm          |
| 2 – 19.5 Nm                  |
| HSK-E32                      |
| HSK-A40                      |
| 96                           |
| 45 mm                        |
| 100 mm                       |
| 200 mm                       |
| 1.2 kg                       |
| 75 – 75 – 75 m/min           |
| 9 – 13 – 14 m/s <sup>2</sup> |
| 8,000   6,500   4,500 rpm    |
| 14.3   15   90 Nm            |
| 6,000 rpm                    |
| 8 Nm                         |



# 12 Series

## Technical data

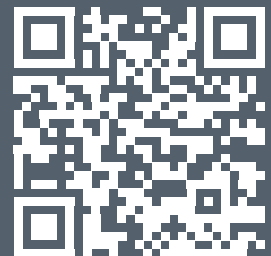
|                                       | FZ 12                         | DZ 12                         |
|---------------------------------------|-------------------------------|-------------------------------|
| Tool changer                          | Chain magazine                | Chain magazine                |
| Travel X – Y – Z max.                 | 550 – 400 – 400 mm            | 550 – 400 – 400 mm            |
| Chip-to-chip time                     | 2.7 s                         | 3.1 s                         |
| Number of milling spindles            | 1                             | 2                             |
| Spindle distance                      |                               | 250 mm                        |
| Milling spindle speed                 | 12,000 – 30,000 rpm           | 15,000 – 24,000 rpm           |
| Milling spindle torque                | 11 – 110 Nm                   | 29 – 59 Nm                    |
| Tool taper                            | HSK-A40                       | HSK-A50                       |
|                                       | HSK-A50                       | HSK-A63                       |
|                                       | HSK-A63                       |                               |
| Number of tools max.                  | 24 – 128                      | 2 x 12 – 2 x 104              |
| Ø Tool max.                           | 85 mm                         | 85 mm                         |
| Ø Tool max. with free secondary space | 125 mm                        | 100                           |
| Tool length max.                      | 250 mm                        | 250 mm                        |
| Tool weight max.                      | 5.0 kg                        | 5.0 kg                        |
| Rapid feed X – Y – Z max.             | 75 – 75 – 75 m/min            | 75 – 75 – 75 m/min            |
| Axis acceleration X – Y – Z max.      | 10 – 15 – 20 m/s <sup>2</sup> | 10 – 15 – 15 m/s <sup>2</sup> |



# 15 Series

## Technical data

|                                       | FZ 15                         | FZ 15                        |
|---------------------------------------|-------------------------------|------------------------------|
| Tool changer                          | Basket tool changer           | Chain magazine               |
| Travel X – Y – Z max.                 | 730 – 400 – 425 mm            | 730 – 400 – 360 mm           |
| Chip-to-chip time                     | 1.7 s                         | 2.3 s                        |
| Number of milling spindles            | 1                             | 1                            |
| Milling spindle speed                 | 12,000 – 20,000 rpm           | 12,000 – 15,000 rpm          |
| Milling spindle torque                | 90 – 180 Nm                   | 95 – 180 Nm                  |
| Tool taper                            | SK-40<br>HSK-A63              | HSK-A63                      |
| Number of tools max.                  | 20                            | 48   64                      |
| Ø Tool max.                           | 65 mm                         | 78 mm                        |
| Ø Tool max. with free secondary space | 175 mm                        | 140 mm                       |
| Tool length max.                      | ca. 220 mm                    | 300 mm                       |
| Tool weight max.                      | 2.5 kg                        | 5.0 kg                       |
| Rapid feed X – Y – Z max.             | 75 – 75 – 75 m/min            | 75 – 75 – 75 m/min           |
| Axis acceleration X – Y – Z max.      | 10 – 10 – 10 m/s <sup>2</sup> | 7 – 12 – 15 m/s <sup>2</sup> |



# 15 Series

## Technical data

|                                       | DZ 15                         | DZ 15                        |
|---------------------------------------|-------------------------------|------------------------------|
| Tool changer                          | Basket tool changer           | Chain magazine               |
| Travel X – Y – Z max.                 | 400 – 400 – 425 mm            | 630 – 400 – 360 mm           |
| Chip-to-chip time                     | 1.7 s                         | 2.6 s                        |
| Number of milling spindles            | 2                             | 2                            |
| Spindle distance                      | 320 mm                        | 320 mm                       |
| Milling spindle speed                 | 12,000 – 20,000 rpm           | 12,000 – 15,000 rpm          |
| Milling spindle torque                | 90 – 180 Nm                   | 95 – 180 Nm                  |
| Tool taper                            | SK-40<br>HSK-A63              | HSK-A63                      |
| Number of tools max.                  | 2 x 12                        | 2 x 24   2 x 32              |
| Ø Tool max.                           | 65 mm                         | 78 mm                        |
| Ø Tool max. with free secondary space | 175 mm                        | 140 mm                       |
| Tool length max.                      | ca. 220 mm                    | 300 mm                       |
| Tool weight max.                      | 2.5 kg                        | 5.0 kg                       |
| Rapid feed X – Y – Z max.             | 75 – 75 – 75 m/min            | 75 – 75 – 75 m/min           |
| Axis acceleration X – Y – Z max.      | 10 – 10 – 10 m/s <sup>2</sup> | 7 – 10 – 12 m/s <sup>2</sup> |



# 16 Series

## Technical data

|                                       | FZ 16                         | DZ 16                         |
|---------------------------------------|-------------------------------|-------------------------------|
| Tool changer                          | Chain magazine                | Chain magazine                |
| Travel X – Y – Z max.                 | 660 – 660 – 500 mm            | 340 – 660 – 400 mm            |
| Chip-to-chip time                     | 2.1 s                         | 2.0 s                         |
| Number of milling spindles            | 1                             | 2                             |
| Spindle distance                      |                               | 320 mm                        |
| Milling spindle speed                 | 12,500 – 20,000 rpm           | 12,500 – 20,000 rpm           |
| Milling spindle torque                | 86 – 208 Nm                   | 86 – 208 Nm                   |
| Tool taper                            | HSK-A63                       | HSK-A63                       |
| Number of tools max.                  | 42 – 162                      | 2 x 28 – 2 x 80               |
| Ø Tool max.                           | 78 mm                         | 78 mm                         |
| Ø Tool max. with free secondary space | 160 mm                        | 160 mm                        |
| Tool length max.                      | 450 mm                        | 450 mm                        |
| Tool weight max.                      | 10.0 kg                       | 10.0 kg                       |
| Rapid feed X – Y – Z max.             | 75 – 75 – 75 m/min            | 75 – 75 – 75 m/min            |
| Axis acceleration X – Y – Z max.      | 15 – 13 – 18 m/s <sup>2</sup> | 13 – 13 – 15 m/s <sup>2</sup> |



# 18 Series

## Technical data

|                                       | FZ 18                         | FZ 18                             |
|---------------------------------------|-------------------------------|-----------------------------------|
| Tool changer                          | Basket tool changer           | Chain magazine                    |
| Travel X – Y – Z max.                 | 730 – 565 – 630 mm            | 800 – 530 – 450 mm                |
| Chip-to-chip time                     | 1.7 s                         | 2.5 s                             |
| Number of milling spindles            | 1                             | 1                                 |
| Milling spindle speed                 | 10,500 – 15,000 rpm           | 12,000   15,000 min <sup>-1</sup> |
| Milling spindle torque                | 140 – 290 Nm                  | 140   180 Nm                      |
| Tool taper                            | SK-40<br>HSK-A63              | HSK-A63                           |
| Number of tools max.                  | 12 – 20                       | 70                                |
| Ø Tool max.                           | 65 mm                         | 78 mm                             |
| Ø Tool max. with free secondary space | 180 mm                        | 160 mm                            |
| Tool length max.                      | ca. 220 mm                    | 380 mm                            |
| Tool weight max.                      | 5.0 kg                        | 8.0 kg                            |
| Rapid feed X – Y – Z max.             | 75 – 75 – 75 m/min            | 75 – 75 – 75 m/min                |
| Axis acceleration X – Y – Z max.      | 10 – 10 – 10 m/s <sup>2</sup> | 10 – 14 – 18 m/s <sup>2</sup>     |



## 18 Series

### Technical data

### DZ 18

|                                       |                              |
|---------------------------------------|------------------------------|
| Tool changer                          | Chain magazine               |
| Travel X – Y – Z max.                 | 630 – 530 – 450 mm           |
| Chip-to-chip time                     | 2,5 s                        |
| Number of milling spindles            | 2                            |
| Spindle distance                      | 400 mm                       |
| Milling spindle speed                 | 12.000   15.000 rpm          |
| Milling spindle torque                | 140   180 Nm                 |
| Tool taper                            | HSK-A63                      |
| Number of tools max.                  | 2 x 35                       |
| Ø Tool max.                           | 78 mm                        |
| Ø Tool max. with free secondary space | 160 mm                       |
| Tool length max.                      | 380 mm                       |
| Tool weight max.                      | 8,0 kg                       |
| Rapid feed X – Y – Z max.             | 75 – 75 – 75 m/min           |
| Axis acceleration X – Y – Z max.      | 8 – 14 – 16 m/s <sup>2</sup> |



# 19 Series

## Technical data

|                                       | FZ 19                         | FZ 19 (HSK-A100)              |
|---------------------------------------|-------------------------------|-------------------------------|
| Tool changer                          | Chain magazine                | Chain magazine                |
| Travel X – Y – Z max.                 | 850 – 960 – 700 mm            | 850 – 960 – 700 mm            |
| Chip-to-chip time                     | 2.2 s                         | 2.9 s                         |
| Number of milling spindles            | 1                             | 1                             |
| Milling spindle speed                 | 12,500 – 20,000 rpm           | 10,000 rpm                    |
| Milling spindle torque                | 110 – 208 Nm                  | 408 Nm                        |
| Tool taper                            | HSK-A63                       | HSK-A100                      |
| Number of tools max.                  | 84   154                      | 36 – 104                      |
| Ø Tool max.                           | 84 mm                         | 130 mm                        |
| Ø Tool max. with free secondary space | 160 mm                        | 300 mm                        |
| Tool length max.                      | 450 mm                        | 500 mm                        |
| Tool weight max.                      | 10.0 kg                       | 25.0 kg                       |
| Rapid feed X – Y – Z max.             | 75 – 75 – 75 m/min            | 75 – 75 – 75 m/min            |
| Axis acceleration X – Y – Z max.      | 10 – 10 – 18 m/s <sup>2</sup> | 10 – 10 – 17 m/s <sup>2</sup> |



# 22 Series

## Technical data

|                                       | FZ 22                         | FZ 22 (HSK-A100)              |
|---------------------------------------|-------------------------------|-------------------------------|
| Tool changer                          | Chain magazine                | Chain magazine                |
| Travel X – Y – Z max.                 | 1,220 – 960 – 600 mm          | 1,220 – 960 – 600 mm          |
| Chip-to-chip time                     | 2.2 s                         | 2.9 s                         |
| Number of milling spindles            | 1                             | 1                             |
| Milling spindle speed                 | 12,500 – 20,000 rpm           | 10,000 rpm                    |
| Milling spindle torque                | 86 – 208 Nm                   | 408 Nm                        |
| Tool taper                            | HSK-A63                       | HSK-A100                      |
| Number of tools max.                  | 84   154                      | 36 – 104                      |
| Ø Tool max.                           | 84 mm                         | 130 mm                        |
| Ø Tool max. with free secondary space | 160 mm                        | 300 mm                        |
| Tool length max.                      | 450 mm                        | 500 mm                        |
| Tool weight max.                      | 10.0 kg                       | 25.0 kg                       |
| Rapid feed X – Y – Z max.             | 75 – 75 – 75 m/min            | 75 – 75 – 75 m/min            |
| Axis acceleration X – Y – Z max.      | 10 – 10 – 17 m/s <sup>2</sup> | 10 – 10 – 17 m/s <sup>2</sup> |



# 22 Series

## Technical data

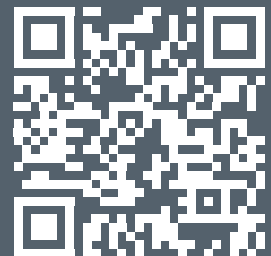
|                                       | DZ 22                         | DZ 22                         |
|---------------------------------------|-------------------------------|-------------------------------|
| Tool changer                          | Chain magazine                | Chain magazine                |
| Travel X – Y – Z max.                 | 620 – 960 – 600 mm            | 620 – 960 – 600 mm            |
| Chip-to-chip time                     | 2.0 s                         | 2.9 s                         |
| Number of milling spindles            | 2                             | 2                             |
| Spindle distance                      | 600 mm                        | 600 mm                        |
| Milling spindle speed                 | 12,500 – 20,000 rpm           | 10,000 rpm                    |
| Milling spindle torque                | 86 – 208 Nm                   | 408 Nm                        |
| Tool taper                            | HSK-A63                       | HSK-A100                      |
| Number of tools max.                  | 2 x 42   2 x 77               | 2 x 36   2 x 52               |
| Ø Tool max.                           | 84 mm                         | 130 mm                        |
| Ø Tool max. with free secondary space | 160 mm                        | 300 mm                        |
| Tool length max.                      | 450 mm                        | 500 mm                        |
| Tool weight max.                      | 10.0 kg                       | 25.0 kg                       |
| Rapid feed X – Y – Z max.             | 75 – 80 – 75 m/min            | 75 – 75 – 75 m/min            |
| Axis acceleration X – Y – Z max.      | 10 – 12 – 21 m/s <sup>2</sup> | 10 – 10 – 17 m/s <sup>2</sup> |



# 25 Series

## Technical data

|                                       | FZ 25                         | DZ 25                         |
|---------------------------------------|-------------------------------|-------------------------------|
| Tool changer                          | Chain magazine                | Chain magazine                |
| Travel X – Y – Z max.                 | 1,600 – 1,100 – 800 mm        | 800 – 1,100 – 800 mm          |
| Chip-to-chip time                     | 3.3 s                         | 2.9 s                         |
| Number of milling spindles            | 1                             | 2                             |
| Spindle distance                      |                               | 800 mm                        |
| Milling spindle speed                 | 12,500 – 20,000 rpm           | 12,500 – 20,000 rpm           |
| Milling spindle torque                | 85 – 208 Nm                   | 85 – 208 Nm                   |
| Tool taper                            | HSK-A63                       | HSK-A63                       |
| Number of tools max.                  | 36   60                       | 2 x 36   2 x 60               |
| Ø Tool max.                           | 78 mm                         | 78 mm                         |
| Ø Tool max. with free secondary space | 160 mm                        | 160 mm                        |
| Tool length max.                      | 450 mm                        | 450 mm                        |
| Tool weight max.                      | 10.0 kg                       | 10.0 kg                       |
| Rapid feed X – Y – Z max.             | 120 – 75 – 75 m/min           | 120 – 75 – 75 m/min           |
| Axis acceleration X – Y – Z max.      | 10 – 10 – 15 m/s <sup>2</sup> | 10 – 10 – 15 m/s <sup>2</sup> |

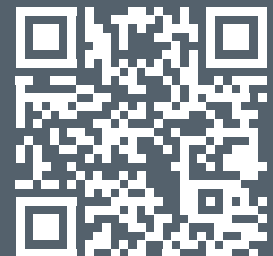


# 28 Series

## Technical data

### DZ 28

|                                       |                              |
|---------------------------------------|------------------------------|
| Tool changer                          | Chain magazine               |
| Travel X – Y – Z max.                 | 1,200 – 1,100 – 800 mm       |
| Chip-to-chip time                     | 3.4 s                        |
| Number of milling spindles            | 2                            |
| Spindle distance                      | 1,200 mm                     |
| Milling spindle speed                 | 12,500 – 20,000 rpm          |
| Milling spindle torque                | 85 – 208 Nm                  |
| Tool taper                            | HSK-A63                      |
| Number of tools max.                  | 2 x 36   2 x 60              |
| Ø Tool max.                           | 78 mm                        |
| Ø Tool max. with free secondary space | 160 mm                       |
| Tool length max.                      | 450 mm                       |
| Tool weight max.                      | 10.0 kg                      |
| Rapid feed X – Y – Z max.             | 120 – 75 – 75 m/min          |
| Axis acceleration X – Y – Z max.      | 10 – 8 – 15 m/s <sup>2</sup> |

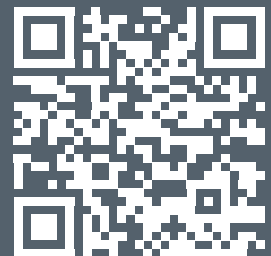


# 715 Series

## Technical data

### MT 715

|                                          |                               |
|------------------------------------------|-------------------------------|
| Tool changer                             | Tower magazine                |
| Travel X – Y – Z max.                    | 1,550 – 210 – 480 mm          |
| Bar diameter                             | 65   80   102 mm              |
| Chip-to-chip time                        | 3.9 s                         |
| Number of milling spindles               | 1                             |
| Swivel range milling spindle             | ± 110°                        |
| Milling spindle speed max.               | 20,000 rpm                    |
| Milling spindle torque max.              | 100 Nm                        |
| Tool taper                               | HSK-T63                       |
| Number of tools max.                     | 64 – 176                      |
| Ø Tool max.                              | 80 mm                         |
| Ø Tool max. with free secondary space    | 160 mm                        |
| Tool length max.                         | 450 mm                        |
| Tool weight max.                         | 5.0 kg                        |
| Rapid feed X – Y – Z max.                | 60 – 40 – 60 m/min            |
| Axis acceleration X – Y – Z max.         | 10 – 10 – 10 m/s <sup>2</sup> |
| Main turning spindle speed max.          | 4,800   3,500 rpm             |
| Main turning spindle torque max.         | 270   495 Nm                  |
| Main turning spindle DIN ISO 702-1 A2    | Nr. 6   Nr. 8                 |
| Counter turning spindle speed max.       | 3,500   4,800   3,500 rpm     |
| Counter turning spindle torque max.      | 495   270   495 Nm            |
| Counter turning spindle DIN ISO 702-1 A2 | Nr. 8   Nr. 6   Nr. 8         |
| Number of tools additional unit max.     | 08   12                       |



# MILL Series

## Technical data

## MILL

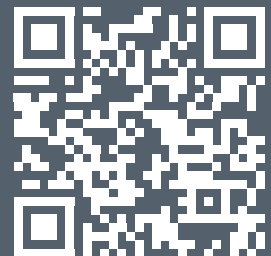
|                                       |                               |
|---------------------------------------|-------------------------------|
| Tool changer                          | Chain magazine                |
| Travel X – Y – Z max.                 | 8,000 – 895 – 715 mm          |
| Chip-to-chip time                     | 3.5 s                         |
| Number of milling spindles            | 1                             |
| Milling spindle speed                 | 12,000   20,000 rpm           |
| Milling spindle torque                | 78.5 – 180 Nm                 |
| Tool taper                            | SK-40<br>HSK-A63              |
| Number of tools max.                  | 24 – 170                      |
| Ø Tool max.                           | 75 mm                         |
| Ø Tool max. with free secondary space | 160 mm                        |
| Tool length max.                      | 370 mm                        |
| Tool weight max.                      | 8.0 kg                        |
| Rapid feed X – Y – Z max.             | 75 – 75 – 75 m/min            |
| Axis acceleration X – Y – Z max.      | 11 – 12 – 17 m/s <sup>2</sup> |



# 831 Series

## Technical data

|                                  | MT 831                       | MT 831 TWIN                  |
|----------------------------------|------------------------------|------------------------------|
| Tool changer                     | Chain magazine               | Chain magazine               |
| Travel X – Y – Z max.            | 780 – 400 – 400 mm           | 700 – 400 – 400 mm           |
| Chip-to-chip time                | 2.9 s                        | 3.0 s                        |
| Number of milling spindles       | 1                            | 2                            |
| Spindle distance                 |                              | 400 mm                       |
| Milling spindle speed max.       | 10,000 – 15,000 rpm          | 10,000 – 15,000 rpm          |
| Milling spindle torque max.      | 118 Nm                       | 118 Nm                       |
| Tool taper                       | HSK-A63                      | HSK-A63                      |
| Number of tools max.             | 48   60                      | 2 x 35                       |
| Rapid feed X – Y – Z max.        | 75 – 75 – 75 m/min           | 75 – 75 – 75 m/min           |
| Axis acceleration X – Y – Z max. | 9 – 14 – 18 m/s <sup>2</sup> | 8 – 13 – 14 m/s <sup>2</sup> |



# Micro5

## Technische Daten

|                                         |                               |
|-----------------------------------------|-------------------------------|
| Werkzeugwechsler                        | Turmmagazin                   |
| Verfahrwege X – Y – Z max.              | 78 – 56 – 50 mm               |
| Span-zu-Span Zeit                       | 3,5 s                         |
| Anzahl Frässpindeln                     | 1                             |
| Frässpindel Drehzahl max.               | 60.000 min <sup>-1</sup>      |
| Frässpindel Drehmoment max.             | 10 Ncm                        |
| Werkzeugaufnahme                        | HSK-EZ15                      |
| Anzahl Werkzeuge max.                   | 60                            |
| Ø Werkzeug max.                         | 18 mm                         |
| Ø Werkzeug max. bei freien Nebenplätzen | 40 mm                         |
| Eilgang X – Y – Z max.                  | 30 – 30 – 30 m/min            |
| Achsbeschleunigung X – Y – Z max.       | 25 – 25 – 25 m/s <sup>2</sup> |



# Micro5 XL

## Technische Daten

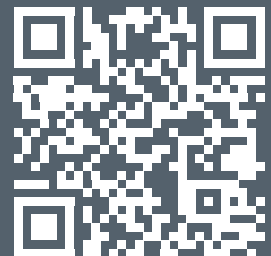
|                                         |                                   |
|-----------------------------------------|-----------------------------------|
| Werkzeugwechsler                        | Turmmagazin                       |
| Verfahrwege X – Y – Z max.              | 170 – 140 – 120 mm                |
| Span-zu-Span Zeit                       | 3,5 s                             |
| Anzahl Frässpindeln                     | 1                                 |
| Frässpindel Drehzahl                    | 40.000   50.000 min <sup>-1</sup> |
| Frässpindel Drehmoment max.             | 1,4 Nm                            |
| Werkzeugaufnahme                        | HSK-E25                           |
| Anzahl Werkzeuge                        | 60   100                          |
| Ø Werkzeug max.                         | 30 mm                             |
| Ø Werkzeug max. bei freien Nebenplätzen | 65 mm                             |
| Eilgang X – Y – Z max.                  | 30 – 30 – 30 m/min                |
| Achsbeschleunigung X – Y – Z max.       | 15 – 15 – 20 m/s <sup>2</sup>     |



# Baureihe 08

## Technische Daten

|                                         | FZ 08                             | DZ 08                             |
|-----------------------------------------|-----------------------------------|-----------------------------------|
| Werkzeugwechsler                        | Kettenmagazin                     | Kettenmagazin                     |
| Verfahrwege X – Y – Z max.              | 450 – 270 – 310 mm                | 450 – 270 – 310 mm                |
| Span-zu-Span Zeit                       | 2,3 s                             | 2,8 s                             |
| Anzahl Frässpindeln                     | 1                                 | 2                                 |
| Spindelabstand                          |                                   | 200 mm                            |
| Frässpindel Drehzahl                    | 15.000 – 40.000 min <sup>-1</sup> | 18.000 – 40.000 min <sup>-1</sup> |
| Frässpindel Drehmoment                  | 9 – 23 Nm                         | 9 – 11 Nm                         |
| Werkzeugaufnahme                        | HSK-A40                           | HSK-A40                           |
|                                         | HSK-E40                           | HSK-E40                           |
| Anzahl Werkzeuge max.                   | 80                                | 2 x 16                            |
| Ø Werkzeug max.                         | 47 mm                             | 63 mm                             |
| Ø Werkzeug max. bei freien Nebenplätzen | 100 mm                            |                                   |
| Werkzeuglänge max.                      | 200 mm                            | 160 mm                            |
| Werkzeuggewicht max.                    | 1,2 kg                            | 1,2 kg                            |
| Eilgang X – Y – Z max.                  | 75 – 75 – 75 m/min                | 75 – 75 – 75 m/min                |
| Achsbeschleunigung X – Y – Z max.       | 10 – 15 – 20 m/s <sup>2</sup>     | 10 – 15 – 20 m/s <sup>2</sup>     |



# Baureihe 08

## Technische Daten

|                                         |
|-----------------------------------------|
| Werkzeugwechsler                        |
| Verfahrwege X – Y – Z max.              |
| Span-zu-Span Zeit                       |
| Anzahl Frässpindeln                     |
| Spindelabstand                          |
| Frässpindel Drehzahl                    |
| Frässpindel Drehmoment max.             |
| Werkzeugaufnahme                        |
| Anzahl Werkzeuge max.                   |
| Ø Werkzeug max.                         |
| Ø Werkzeug max. bei freien Nebenplätzen |
| Werkzeuglänge max.                      |
| Werkzeuggewicht max.                    |
| Eilgang X – Y – Z max.                  |
| Achsbeschleunigung X – Y – Z max.       |

## DZ 08 precision<sup>+</sup>

|                                   |
|-----------------------------------|
| Kettenmagazin                     |
| 210 – 270 – 360 mm                |
| 2,9 s                             |
| 2                                 |
| 200 mm                            |
| 37.500 – 40.000 min <sup>-1</sup> |
| 7 Nm                              |
| HSK-E40                           |
| 2 x 48                            |
| 45 mm                             |
| 100 mm                            |
| 200 mm                            |
| 1,2 kg                            |
| 75 – 75 – 100 m/min               |
| 10 – 17 – 20 m/s <sup>2</sup>     |



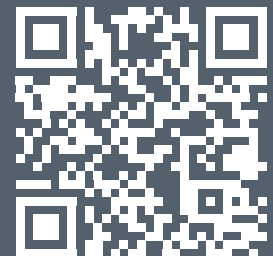
# Baureihe 08

## Technische Daten

|                                         |
|-----------------------------------------|
| Werkzeugwechsler                        |
| Verfahrwege X – Y – Z max.              |
| Stangendurchmesser                      |
| Span-zu-Span Zeit                       |
| Anzahl Frässpindeln                     |
| Schwenkbereich Frässpindel              |
| Frässpindel Drehzahl                    |
| Frässpindel Drehmoment                  |
| Werkzeugaufnahme                        |
| Anzahl Werkzeuge max.                   |
| Ø Werkzeug max.                         |
| Ø Werkzeug max. bei freien Nebenplätzen |
| Werkzeuglänge max.                      |
| Werkzeuggewicht max.                    |
| Eilgang X – Y – Z max.                  |
| Achsbeschleunigung X – Y – Z max.       |
| Hauptdrehspindel Drehzahl max.          |
| Hauptdrehspindel Drehmoment max.        |
| Gegendrehspindel Drehzahl max.          |
| Gegendrehspindel Drehmoment max.        |

## FZ 08 mill turn precision<sup>+</sup>

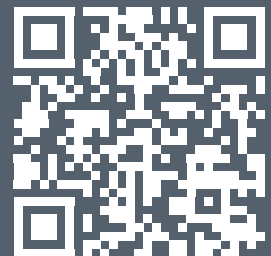
|                                         |
|-----------------------------------------|
| Kettenmagazin                           |
| 210 – 200 – 360 mm                      |
| 32   42   65 mm                         |
| 2,5 s                                   |
| 1                                       |
| -10°   +100°                            |
| 30.000 – 54.000 min <sup>-1</sup>       |
| 2 – 19,5 Nm                             |
| HSK-E32                                 |
| HSK-A40                                 |
| 96                                      |
| 45 mm                                   |
| 100 mm                                  |
| 200 mm                                  |
| 1,2 kg                                  |
| 75 – 75 – 75 m/min                      |
| 9 – 13 – 14 m/s <sup>2</sup>            |
| 8.000   6.500   4.500 min <sup>-1</sup> |
| 14,3   15   90 Nm                       |
| 6.000 min <sup>-1</sup>                 |
| 8 Nm                                    |



# Baureihe 12

## Technische Daten

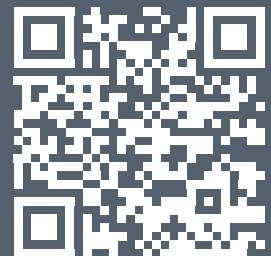
|                                         | FZ 12                             | DZ 12                             |
|-----------------------------------------|-----------------------------------|-----------------------------------|
| Werkzeugwechsler                        | Kettenmagazin                     | Kettenmagazin                     |
| Verfahrwege X – Y – Z max.              | 550 – 400 – 400 mm                | 550 – 400 – 400 mm                |
| Span-zu-Span Zeit                       | 2,7 s                             | 3,1 s                             |
| Anzahl Frässpindeln                     | 1                                 | 2                                 |
| Spindelabstand                          |                                   | 250 mm                            |
| Frässpindel Drehzahl                    | 12.000 – 30.000 min <sup>-1</sup> | 15.000 – 24.000 min <sup>-1</sup> |
| Frässpindel Drehmoment                  | 11 – 110 Nm                       | 29 – 59 Nm                        |
| Werkzeugaufnahme                        | HSK-A40                           | HSK-A50                           |
|                                         | HSK-A50                           | HSK-A63                           |
|                                         | HSK-A63                           |                                   |
| Anzahl Werkzeuge                        | 24 – 128                          | 2 x 12 – 2 x 104                  |
| Ø Werkzeug max.                         | 85 mm                             | 85 mm                             |
| Ø Werkzeug max. bei freien Nebenplätzen | 125 mm                            | 100                               |
| Werkzeuglänge max.                      | 250 mm                            | 250 mm                            |
| Werkzeuggewicht max.                    | 5,0 kg                            | 5,0 kg                            |
| Eilgang X – Y – Z max.                  | 75 – 75 – 75 m/min                | 75 – 75 – 75 m/min                |
| Achsbeschleunigung X – Y – Z max.       | 10 – 15 – 20 m/s <sup>2</sup>     | 10 – 15 – 15 m/s <sup>2</sup>     |



# Baureihe 15

## Technische Daten

|                                         | FZ 15                             | FZ 15                             |
|-----------------------------------------|-----------------------------------|-----------------------------------|
| Werkzeugwechsler                        | Korb Werkzeugwechsler             | Kettenmagazin                     |
| Verfahrwege X – Y – Z max.              | 730 – 400 – 425 mm                | 730 – 400 – 360 mm                |
| Span-zu-Span Zeit                       | 1,7 s                             | 2,3 s                             |
| Anzahl Frässpindeln                     | 1                                 | 1                                 |
| Frässpindel Drehzahl                    | 12.000 – 20.000 min <sup>-1</sup> | 12.000 – 15.000 min <sup>-1</sup> |
| Frässpindel Drehmoment                  | 90 – 180 Nm                       | 95 – 180 Nm                       |
| Werkzeugaufnahme                        | SK-40<br>HSK-A63                  | HSK-A63                           |
| Anzahl Werkzeuge max.                   | 20                                | 48   64                           |
| Ø Werkzeug max.                         | 65 mm                             | 78 mm                             |
| Ø Werkzeug max. bei freien Nebenplätzen | 175 mm                            | 140 mm                            |
| Werkzeuglänge max.                      | ca. 220 mm                        | 300 mm                            |
| Werkzeuggewicht max.                    | 2,5 kg                            | 5,0 kg                            |
| Eilgang X – Y – Z max.                  | 75 – 75 – 75 m/min                | 75 – 75 – 75 m/min                |
| Achsbeschleunigung X – Y – Z max.       | 10 – 10 – 10 m/s <sup>2</sup>     | 7 – 12 – 15 m/s <sup>2</sup>      |



# Baureihe 15

## Technische Daten

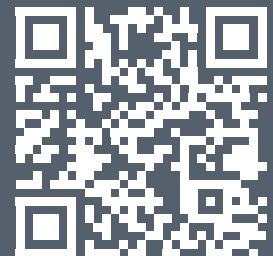
|                                         | DZ 15                             | DZ 15                             |
|-----------------------------------------|-----------------------------------|-----------------------------------|
| Werkzeugwechsler                        | Korb Werkzeugwechsler             | Kettenmagazin                     |
| Verfahrwege X – Y – Z max.              | 400 – 400 – 425 mm                | 630 – 400 – 360 mm                |
| Span-zu-Span Zeit                       | 1,7 s                             | 2,6 s                             |
| Anzahl Frässpindeln                     | 2                                 | 2                                 |
| Spindelabstand                          | 320 mm                            | 320 mm                            |
| Frässpindel Drehzahl                    | 12.000 – 20.000 min <sup>-1</sup> | 12.000 – 15.000 min <sup>-1</sup> |
| Frässpindel Drehmoment                  | 90 – 180 Nm                       | 95 – 180 Nm                       |
| Werkzeugaufnahme                        | SK-40<br>HSK-A63                  | HSK-A63                           |
| Anzahl Werkzeuge max.                   | 2 x 12                            | 2 x 24   2 x 32                   |
| Ø Werkzeug max.                         | 65 mm                             | 78 mm                             |
| Ø Werkzeug max. bei freien Nebenplätzen | 175 mm                            | 140 mm                            |
| Werkzeuglänge max.                      | ca. 220 mm                        | 300 mm                            |
| Werkzeuggewicht max.                    | 2,5 kg                            | 5,0 kg                            |
| Eilgang X – Y – Z max.                  | 75 – 75 – 75 m/min                | 75 – 75 – 75 m/min                |
| Achsbeschleunigung X – Y – Z max.       | 10 – 10 – 10 m/s <sup>2</sup>     | 7 – 10 – 12 m/s <sup>2</sup>      |



# Baureihe 16

## Technische Daten

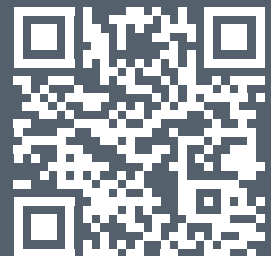
|                                         | FZ 16                             | DZ 16                             |
|-----------------------------------------|-----------------------------------|-----------------------------------|
| Werkzeugwechsler                        | Kettenmagazin                     | Kettenmagazin                     |
| Verfahrwege X – Y – Z max.              | 660 – 660 – 500 mm                | 340 – 660 – 400 mm                |
| Span-zu-Span Zeit                       | 2,1 s                             | 2,0 s                             |
| Anzahl Frässpindeln                     | 1                                 | 2                                 |
| Spindelabstand                          |                                   | 320 mm                            |
| Frässpindel Drehzahl                    | 12.500 – 20.000 min <sup>-1</sup> | 12.500 – 20.000 min <sup>-1</sup> |
| Frässpindel Drehmoment                  | 86 – 208 Nm                       | 86 – 208 Nm                       |
| Werkzeugaufnahme                        | HSK-A63                           | HSK-A63                           |
| Anzahl Werkzeuge                        | 42 – 162                          | 2 x 28 – 2 x 80                   |
| Ø Werkzeug max.                         | 78 mm                             | 78 mm                             |
| Ø Werkzeug max. bei freien Nebenplätzen | 160 mm                            | 160 mm                            |
| Werkzeuglänge max.                      | 450 mm                            | 450 mm                            |
| Werkzeuggewicht max.                    | 10,0 kg                           | 10,0 kg                           |
| Eilgang X – Y – Z max.                  | 75 – 75 – 75 m/min                | 75 – 75 – 75 m/min                |
| Achsbeschleunigung X – Y – Z max.       | 15 – 13 – 18 m/s <sup>2</sup>     | 13 – 13 – 15 m/s <sup>2</sup>     |



# Baureihe 18

## Technische Daten

|                                         | FZ 18                             | FZ 18                             |
|-----------------------------------------|-----------------------------------|-----------------------------------|
| Werkzeugwechsler                        | Korb Werkzeugwechsler             | Kettenmagazin                     |
| Verfahrwege X – Y – Z max.              | 730 – 565 – 630 mm                | 800 – 530 – 450 mm                |
| Span-zu-Span Zeit                       | 1,7 s                             | 2,5 s                             |
| Anzahl Frässpindeln                     | 1                                 | 1                                 |
| Frässpindel Drehzahl                    | 10.500 – 15.000 min <sup>-1</sup> | 12.000   15.000 min <sup>-1</sup> |
| Frässpindel Drehmoment                  | 140 – 290 Nm                      | 140   180 Nm                      |
| Werkzeugaufnahme                        | SK-40<br>HSK-A63                  | HSK-A63                           |
| Anzahl Werkzeuge max.                   | 12 – 20                           | 70                                |
| Ø Werkzeug max.                         | 65 mm                             | 78 mm                             |
| Ø Werkzeug max. bei freien Nebenplätzen | 180 mm                            | 160 mm                            |
| Werkzeuglänge max.                      | ca. 220 mm                        | 380 mm                            |
| Werkzeuggewicht max.                    | 5,0 kg                            | 8,0 kg                            |
| Eilgang X – Y – Z max.                  | 75 – 75 – 75 m/min                | 75 – 75 – 75 m/min                |
| Achsbeschleunigung X – Y – Z max.       | 10 – 10 – 10 m/s <sup>2</sup>     | 10 – 14 – 18 m/s <sup>2</sup>     |

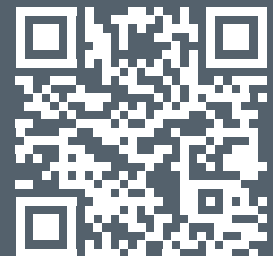


# Baureihe 18

## Technische Daten

### DZ 18

|                                         |                                   |
|-----------------------------------------|-----------------------------------|
| Werkzeugwechsler                        | Kettenmagazin                     |
| Verfahrwege X – Y – Z max.              | 630 – 530 – 450 mm                |
| Span-zu-Span Zeit                       | 2,5 s                             |
| Anzahl Frässpindeln                     | 2                                 |
| Spindelabstand                          | 400 mm                            |
| Frässpindel Drehzahl                    | 12.000   15.000 min <sup>-1</sup> |
| Frässpindel Drehmoment                  | 140   180 Nm                      |
| Werkzeugaufnahme                        | HSK-A63                           |
| Anzahl Werkzeuge max.                   | 2 x 35                            |
| Ø Werkzeug max.                         | 78 mm                             |
| Ø Werkzeug max. bei freien Nebenplätzen | 160 mm                            |
| Werkzeuglänge max.                      | 380 mm                            |
| Werkzeuggewicht max.                    | 8,0 kg                            |
| Eilgang X – Y – Z max.                  | 75 – 75 – 75 m/min                |
| Achsbeschleunigung X – Y – Z max.       | 8 – 14 – 16 m/s <sup>2</sup>      |



# Baureihe 19

## Technische Daten

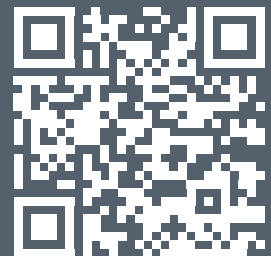
|                                         | FZ 19                             | FZ 19 (HSK-A100)              |
|-----------------------------------------|-----------------------------------|-------------------------------|
| Werkzeugwechsler                        | Kettenmagazin                     | Kettenmagazin                 |
| Verfahrwege X – Y – Z max.              | 850 – 960 – 700 mm                | 850 – 960 – 700 mm            |
| Span-zu-Span Zeit                       | 2,2 s                             | 2,9 s                         |
| Anzahl Frässpindeln                     | 1                                 | 1                             |
| Frässpindel Drehzahl                    | 12.500 – 20.000 min <sup>-1</sup> | 10.000 min <sup>-1</sup>      |
| Frässpindel Drehmoment                  | 110 – 208 Nm                      | 408 Nm                        |
| Werkzeugaufnahme                        | HSK-A63                           | HSK-A100                      |
| Anzahl Werkzeuge max.                   | 84   154                          | 36 – 104                      |
| Ø Werkzeug max.                         | 84 mm                             | 130 mm                        |
| Ø Werkzeug max. bei freien Nebenplätzen | 160 mm                            | 300 mm                        |
| Werkzeuglänge max.                      | 450 mm                            | 500 mm                        |
| Werkzeuggewicht max.                    | 10,0 kg                           | 25,0 kg                       |
| Eilgang X – Y – Z max.                  | 75 – 75 – 75 m/min                | 75 – 75 – 75 m/min            |
| Achsbeschleunigung X – Y – Z max.       | 10 – 10 – 18 m/s <sup>2</sup>     | 10 – 10 – 17 m/s <sup>2</sup> |



# Baureihe 22

## Technische Daten

|                                         | FZ 22                             | FZ 22 (HSK-A100)              |
|-----------------------------------------|-----------------------------------|-------------------------------|
| Werkzeugwechsler                        | Kettenmagazin                     | Kettenmagazin                 |
| Verfahrwege X – Y – Z max.              | 1.220 – 960 – 600 mm              | 1.220 – 960 – 600 mm          |
| Span-zu-Span Zeit                       | 2,2 s                             | 2,9 s                         |
| Anzahl Frässpindeln                     | 1                                 | 1                             |
| Frässpindel Drehzahl                    | 12.500 – 20.000 min <sup>-1</sup> | 10.000 min <sup>-1</sup>      |
| Frässpindel Drehmoment                  | 86 – 208 Nm                       | 408 Nm                        |
| Werkzeugaufnahme                        | HSK-A63                           | HSK-A100                      |
| Anzahl Werkzeuge max.                   | 84   154                          | 36 – 104                      |
| Ø Werkzeug max.                         | 84 mm                             | 130 mm                        |
| Ø Werkzeug max. bei freien Nebenplätzen | 160 mm                            | 300 mm                        |
| Werkzeuglänge max.                      | 450 mm                            | 500 mm                        |
| Werkzeuggewicht max.                    | 10,0 kg                           | 25,0 kg                       |
| Eilgang X – Y – Z max.                  | 75 – 75 – 75 m/min                | 75 – 75 – 75 m/min            |
| Achsbeschleunigung X – Y – Z max.       | 10 – 10 – 17 m/s <sup>2</sup>     | 10 – 10 – 17 m/s <sup>2</sup> |



# Baureihe 22

## Technische Daten

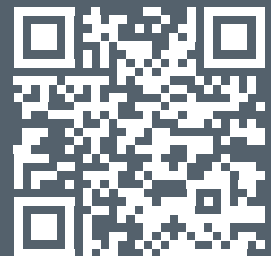
|                                         | DZ 22                             | DZ 22 (HSK-A100)              |
|-----------------------------------------|-----------------------------------|-------------------------------|
| Werkzeugwechsler                        | Kettenmagazin                     | Kettenmagazin                 |
| Verfahrwege X – Y – Z max.              | 620 – 960 – 600 mm                | 620 – 960 – 600 mm            |
| Span-zu-Span Zeit                       | 2,0 s                             | 2,9 s                         |
| Anzahl Frässpindeln                     | 2                                 | 2                             |
| Spindelabstand                          | 600 mm                            | 600 mm                        |
| Frässpindel Drehzahl max.               | 12.500 – 20.000 min <sup>-1</sup> | 10.000 min <sup>-1</sup>      |
| Frässpindel Drehmoment max.             | 86 – 208 Nm                       | 408 Nm                        |
| Werkzeugaufnahme                        | HSK-A63                           | HSK-A100                      |
| Anzahl Werkzeuge max.                   | 2 x 42   2 x 77                   | 2 x 36   2 x 52               |
| Ø Werkzeug max.                         | 84 mm                             | 130 mm                        |
| Ø Werkzeug max. bei freien Nebenplätzen | 160 mm                            | 300 mm                        |
| Werkzeuglänge max.                      | 450 mm                            | 500 mm                        |
| Werkzeuggewicht max.                    | 10,0 kg                           | 25,0 kg                       |
| Eilgang X – Y – Z max.                  | 75 – 80 – 75 m/min                | 75 – 75 – 75 m/min            |
| Achsbeschleunigung X – Y – Z max.       | 10 – 12 – 21 m/s <sup>2</sup>     | 10 – 10 – 17 m/s <sup>2</sup> |



# Baureihe 25

## Technische Daten

|                                         | FZ 25                             | DZ 25                             |
|-----------------------------------------|-----------------------------------|-----------------------------------|
| Werkzeugwechsler                        | Kettenmagazin                     | Kettenmagazin                     |
| Verfahrwege X – Y – Z max.              | 1.600 – 1.100 – 800 mm            | 800 – 1.100 – 800 mm              |
| Span-zu-Span Zeit                       | 3,3 s                             | 2,9 s                             |
| Anzahl Frässpindeln                     | 1                                 | 2                                 |
| Spindelabstand                          |                                   | 800 mm                            |
| Frässpindel Drehzahl                    | 12.500 – 20.000 min <sup>-1</sup> | 12.500 – 20.000 min <sup>-1</sup> |
| Frässpindel Drehmoment                  | 85 – 208 Nm                       | 85 – 208 Nm                       |
| Werkzeugaufnahme                        | HSK-A63                           | HSK-A63                           |
| Anzahl Werkzeuge max.                   | 36   60                           | 2 x 36   2 x 60                   |
| Ø Werkzeug max.                         | 78 mm                             | 78 mm                             |
| Ø Werkzeug max. bei freien Nebenplätzen | 160 mm                            | 160 mm                            |
| Werkzeuglänge max.                      | 450 mm                            | 450 mm                            |
| Werkzeuggewicht max.                    | 10,0 kg                           | 10,0 kg                           |
| Eilgang X – Y – Z max.                  | 120 – 75 – 75 m/min               | 120 – 75 – 75 m/min               |
| Achsbeschleunigung X – Y – Z max.       | 10 – 10 – 15 m/s <sup>2</sup>     | 10 – 10 – 15 m/s <sup>2</sup>     |

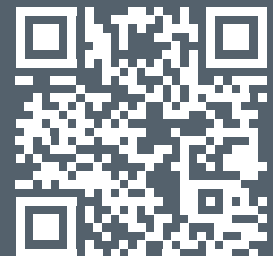


# Baureihe 28

## Technische Daten

### DZ 28

|                                         |                                   |
|-----------------------------------------|-----------------------------------|
| Werkzeugwechsler                        | Kettenmagazin                     |
| Verfahrwege X – Y – Z max.              | 1.200 – 1.100 – 800 mm            |
| Span-zu-Span Zeit                       | 3,4 s                             |
| Anzahl Frässpindeln                     | 2                                 |
| Spindelabstand                          | 1.200 mm                          |
| Frässpindel Drehzahl                    | 12.500 – 20.000 min <sup>-1</sup> |
| Frässpindel Drehmoment max.             | 85 – 208 Nm                       |
| Werkzeugaufnahme                        | HSK-A63                           |
| Anzahl Werkzeuge max.                   | 2 x 36   2 x 60                   |
| Ø Werkzeug max.                         | 78 mm                             |
| Ø Werkzeug max. bei freien Nebenplätzen | 160 mm                            |
| Werkzeuglänge max.                      | 450 mm                            |
| Werkzeuggewicht max.                    | 10,0 kg                           |
| Eilgang X – Y – Z max.                  | 120 – 75 – 75 m/min               |
| Achsbeschleunigung X – Y – Z max.       | 10 – 8 – 15 m/s <sup>2</sup>      |



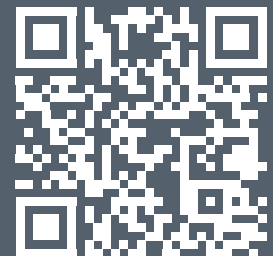
# Baureihe 715

## Technische Daten

|                                         |
|-----------------------------------------|
| Werkzeugwechsler                        |
| Verfahrwege X – Y – Z max.              |
| Stangendurchmesser                      |
| Span-zu-Span Zeit                       |
| Anzahl Frässpindeln                     |
| Schwenkbereich Frässpindel              |
| Frässpindel Drehzahl max.               |
| Frässpindel Drehmoment max.             |
| Werkzeugaufnahme                        |
| Anzahl Werkzeuge                        |
| Ø Werkzeug max.                         |
| Ø Werkzeug max. bei freien Nebenplätzen |
| Werkzeuglänge max.                      |
| Werkzeuggewicht max.                    |
| Eilgang X – Y – Z                       |
| Achsbeschleunigung X – Y – Z            |
| Hauptdrehspindel Drehzahl max.          |
| Hauptdrehspindel Drehmoment max.        |
| Hauptdrehspindel DIN ISO 702-1 A2       |
| Gegendrehspindel Drehzahl max.          |
| Gegendrehspindel Drehmoment max.        |
| Gegendrehspindel DIN ISO 702-1 A2       |
| Anzahl Werkzeuge Zusatzeinheit          |

## MT 715

|                                         |
|-----------------------------------------|
| Turmmagazin                             |
| 1.550 – 210 – 480 mm                    |
| 65   80   102 mm                        |
| 3,9 s                                   |
| 1                                       |
| ± 110°                                  |
| 20.000 min <sup>-1</sup>                |
| 100 Nm                                  |
| HSK-T63                                 |
| 64 – 176                                |
| 80 mm                                   |
| 160 mm                                  |
| 450 mm                                  |
| 5,0 kg                                  |
| 60 – 40 – 60 m/min                      |
| 10 – 10 – 10 m/s <sup>2</sup>           |
| 4.800   3.500 min <sup>-1</sup>         |
| 270   495 Nm                            |
| Nr. 6   Nr. 8                           |
| 3.500   4.800   3.500 min <sup>-1</sup> |
| 495   270   495 Nm                      |
| Nr. 8   Nr. 6   Nr. 8                   |
| 08   12                                 |



# Baureihe MILL

## Technische Daten

## MILL

|                                   |                                   |
|-----------------------------------|-----------------------------------|
| Werkzeugwechsler                  | Kettenmagazin                     |
| Verfahrwege X – Y – Z max.        | 8.000 – 895 – 715 mm              |
| Span-zu-Span Zeit                 | 3,5 s                             |
| Anzahl Frässpindeln               | 1                                 |
| Frässpindel Drehzahl              | 12.000   20.000 min <sup>-1</sup> |
| Frässpindel Drehmoment            | 78,5 – 180 Nm                     |
| Werkzeugaufnahme                  | SK-40<br>HSK-A63                  |
| Anzahl Werkzeuge                  | 24 – 170                          |
| Werkzeugdurchmesser max.          | 75 mm                             |
| Werkzeugdurchmesser 2 max.        | 160 mm                            |
| Werkzeuglänge max.                | 370 mm                            |
| Werkzeuggewicht max.              | 8,0 kg                            |
| Eilgang X – Y – Z max.            | 75 – 75 – 75 m/min                |
| Achsbeschleunigung X – Y – Z max. | 11 – 12 – 17 m/s <sup>2</sup>     |



# Baureihe 831

## Technische Daten

|                                   | MT 831                            | MT 831 TWIN                       |
|-----------------------------------|-----------------------------------|-----------------------------------|
| Werkzeugwechsler                  | Kettenmagazin                     | Kettenmagazin                     |
| Verfahrwege X – Y – Z max.        | 780 – 400 – 400 mm                | 700 – 400 – 400 mm                |
| Span-zu-Span Zeit                 | 2,9 s                             | 3,0 s                             |
| Anzahl Frässpindeln               | 1                                 | 2                                 |
| Spindelabstand                    |                                   | 400 mm                            |
| Frässpindel Drehzahl              | 10.000 – 15.000 min <sup>-1</sup> | 10.000 – 15.000 min <sup>-1</sup> |
| Frässpindel Drehmoment max.       | 118 Nm                            | 118 Nm                            |
| Werkzeugaufnahme                  | HSK-A63                           | HSK-A63                           |
| Anzahl Werkzeuge max.             | 48   60                           | 2 x 35                            |
| Eilgang X – Y – Z max.            | 75 – 75 – 75 m/min                | 75 – 75 – 75 m/min                |
| Achsbeschleunigung X – Y – Z max. | 9 – 14 – 18 m/s <sup>2</sup>      | 8 – 13 – 14 m/s <sup>2</sup>      |

