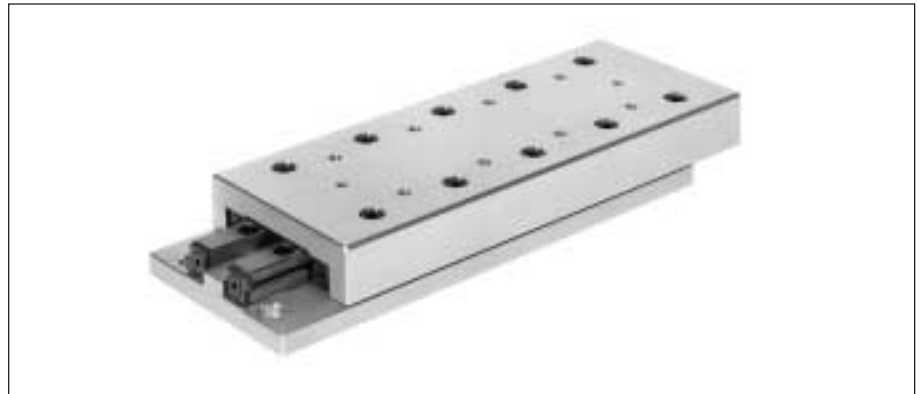


#### 4.1 Frictionless Tables Type NKL



- Single axis model
- Light design, table components in aluminum
- 4 sizes
- With roller cages
- Lengths from 25 to 410 mm
- Strokes from 10 to 280 mm
- For highest accelerations available with FORMULA-S

#### 4.2 Material

Aluminum

#### 4.3 Standard Model

Type NKL frictionless tables consist of equal length upper and lower sections and type R linear bearings. All tables are equipped with type AC roller cages and type GB endpieces and can be mounted vertically or horizontally. In the upper and lower sections there are standardized attaching holes. The sides opposite to the setscrews in the upper and lower sections can be used for mounting purposes. For the standard model stroke limiting is made by means of two screws in the upper section and one screw in the lower section. These screws can withstand only small forces or impacts in the direction of motion and should not be used as stops.

With FORMULA-S these screws are no more necessary due to the cage assist system.

#### 4.4 Special Model

##### **Ball Cages Type AK (-AK)**

For reduced sensitivity to dirt. Lower load carrying capacity

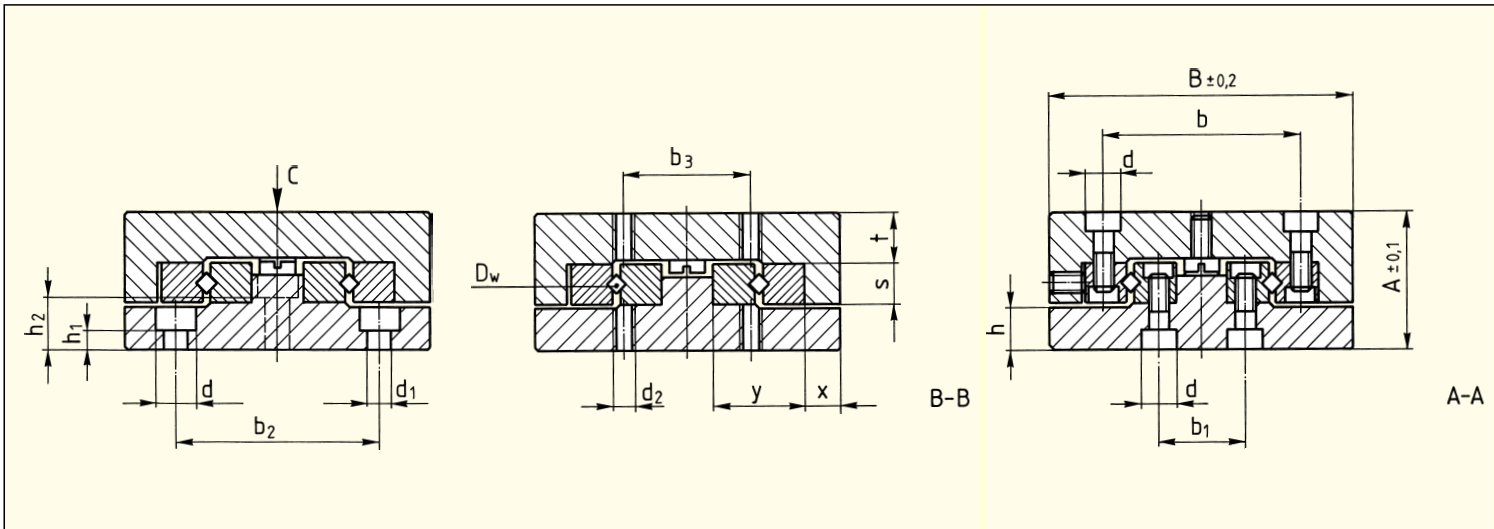
##### **Roller Cages Type EE (-EE)**

Plastic material, only available for size 6. Provides sealing against dirt and dust. Somewhat stiffer motion

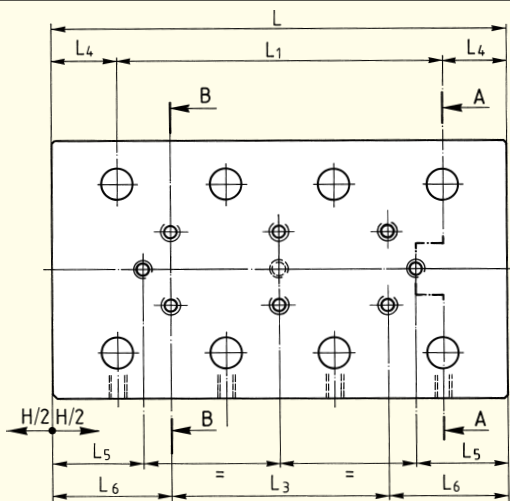
##### **Cage assist integrated (-KS)**

for high dynamics and all assembly orientations for size 3 and 6

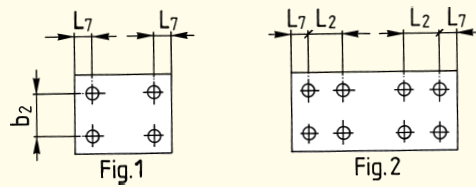
#### 4.5 Specifications



| Order No.        | Dimensions (mm) |           |                |           | L   | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | L <sub>5</sub> | L <sub>6</sub> | L <sub>7</sub> | b    | b <sub>1</sub> | b <sub>2</sub> | b <sub>3</sub> | d   |
|------------------|-----------------|-----------|----------------|-----------|-----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------|----------------|----------------|----------------|-----|
|                  | A               | B         | D <sub>w</sub> | H         |     |                |                |                |                |                |                |                |      |                |                |                |     |
| <b>NKL 1-25</b>  |                 |           |                | <b>10</b> | 25  | 1 × 10         | –              |                |                | 3.0            |                |                |      |                |                |                |     |
| <b>NKL 1-35</b>  |                 |           |                | <b>18</b> | 35  | 2 × 10         | 1 × 10         |                |                | 4.5            |                |                |      |                |                |                |     |
| <b>NKL 1-45</b>  |                 |           |                | <b>25</b> | 45  | 3 × 10         | 2 × 10         |                |                | 6              |                |                |      |                |                |                |     |
| <b>NKL 1-55</b>  | <b>13</b>       | <b>30</b> | 1.5            | <b>32</b> | 55  | 4 × 10         | 10             | 3 × 10         | 7.5            | 7.5            | 12.5           | 3.5            | 18.4 | 8.6            | 22             | 10             | 4.1 |
| <b>NKL 1-65</b>  |                 |           |                | <b>40</b> | 65  | 5 × 10         | 4 × 10         |                |                | 8.5            |                |                |      |                |                |                |     |
| <b>NKL 1-75</b>  |                 |           |                | <b>45</b> | 75  | 6 × 10         | 5 × 10         |                |                | 11             |                |                |      |                |                |                |     |
| <b>NKL 1-85</b>  |                 |           |                | <b>50</b> | 85  | 7 × 10         | 6 × 10         |                |                | 13.5           |                |                |      |                |                |                |     |
| <b>NKL 2-35</b>  |                 |           |                | <b>18</b> | 35  | 1 × 15         | –              |                |                | 3              |                |                |      |                |                |                |     |
| <b>NKL 2-50</b>  |                 |           |                | <b>30</b> | 50  | 2 × 15         | 1 × 15         |                |                | 4.5            |                |                |      |                |                |                |     |
| <b>NKL 2-65</b>  |                 |           |                | <b>40</b> | 65  | 3 × 15         | 2 × 15         |                |                | 7              |                |                |      |                |                |                |     |
| <b>NKL 2-80</b>  | <b>21</b>       | <b>40</b> | 2              | <b>50</b> | 80  | 4 × 15         | 15             | 3 × 15         | 10             | 9.5            | 17.5           | 5              | 25   | 11             | 30             | 15             | 6   |
| <b>NKL 2-95</b>  |                 |           |                | <b>60</b> | 95  | 5 × 15         | 4 × 15         |                |                | 12             |                |                |      |                |                |                |     |
| <b>NKL 2-110</b> |                 |           |                | <b>70</b> | 110 | 6 × 15         | 5 × 15         |                |                | 14.5           |                |                |      |                |                |                |     |
| <b>NKL 2-125</b> |                 |           |                | <b>80</b> | 125 | 7 × 15         | 6 × 15         |                |                | 17             |                |                |      |                |                |                |     |

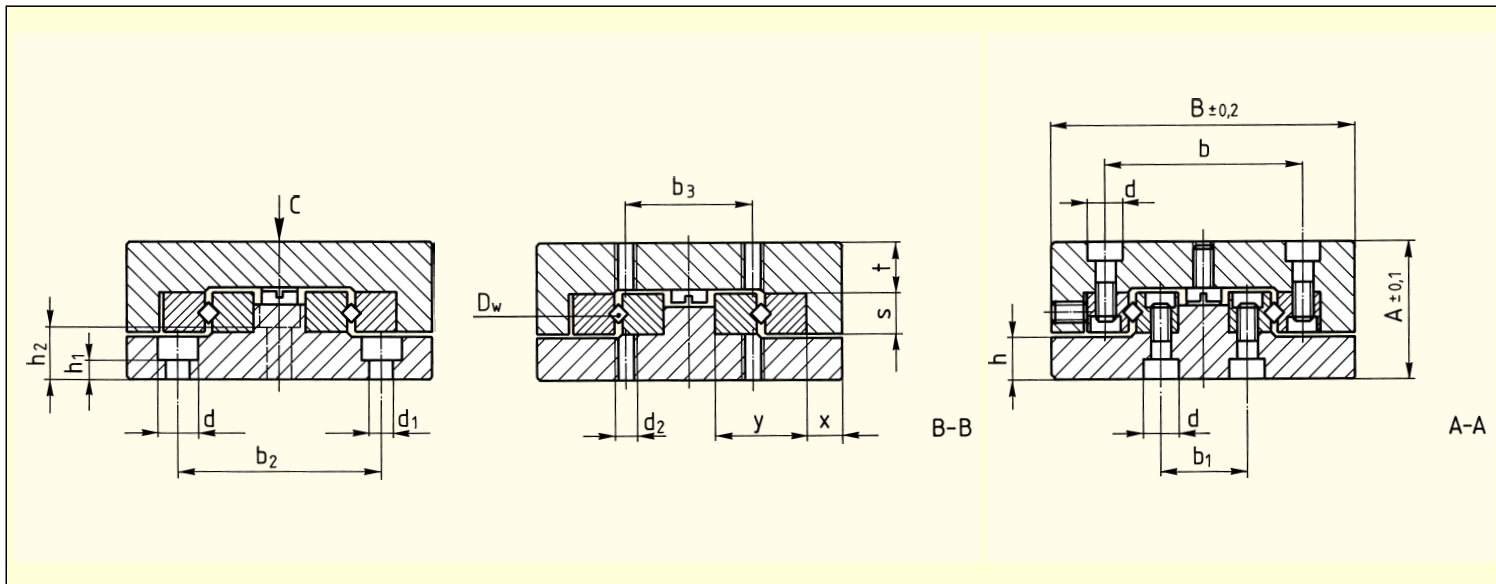


Layout of the standard attaching holes in the lower section

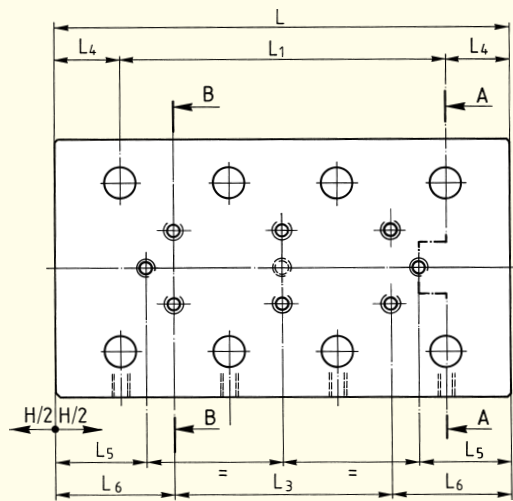


| $d_1$ | $d_2$ | $h$ | $h_1$ | $h_2$ | $s$ | $t$ | $x$ | $y$ | C in N | $M_L$ in Nm | $M_Q$ in Nm | Weight in kg | Fig. |
|-------|-------|-----|-------|-------|-----|-----|-----|-----|--------|-------------|-------------|--------------|------|
|       |       |     |       |       |     |     |     |     | 250    | 1.20        | 1.69        | 0.04         | 1    |
|       |       |     |       |       |     |     |     |     | 350    | 1.80        | 2.36        | 0.05         | 1    |
|       |       |     |       |       |     |     |     |     | 450    | 2.40        | 3.04        | 0.06         | 1    |
| 2.55  | M2    | 4.1 | 1.6   | -     | 4   | 4.5 | 4   | 8.5 | 550    | 3.00        | 3.71        | 0.075        | 2    |
|       |       |     |       |       |     |     |     |     | 650    | 3.60        | 4.39        | 0.09         | 2    |
|       |       |     |       |       |     |     |     |     | 750    | 4.20        | 5.06        | 0.105        | 2    |
|       |       |     |       |       |     |     |     |     | 900    | 5.10        | 6.08        | 0.12         | 2    |
|       |       |     |       |       |     |     |     |     | 425    | 2.72        | 3.83        | 0.11         | 1    |
|       |       |     |       |       |     |     |     |     | 595    | 4.08        | 5.36        | 0.15         | 1    |
|       |       |     |       |       |     |     |     |     | 850    | 6.12        | 7.65        | 0.19         | 1    |
| 3.5   | M3    | 6.7 | 3.2   | -     | 6   | 8   | 5   | 12  | 1020   | 7.48        | 9.18        | 0.23         | 2    |
|       |       |     |       |       |     |     |     |     | 1275   | 9.52        | 11.48       | 0.27         | 2    |
|       |       |     |       |       |     |     |     |     | 1445   | 10.88       | 13.01       | 0.31         | 2    |
|       |       |     |       |       |     |     |     |     | 1700   | 12.92       | 15.30       | 0.35         | 2    |

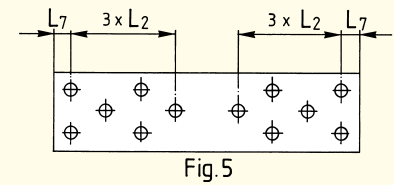
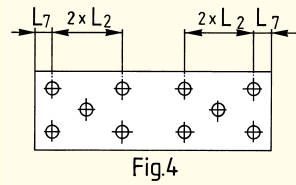
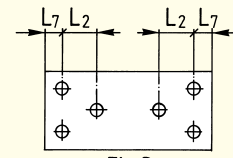
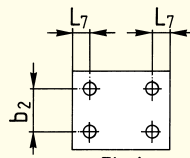
Ordering example: 1 Frictionless table NKL 2-65



| Order No. | Dimensions (mm) |     |                |     | L   | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | L <sub>5</sub> | L <sub>6</sub> | L <sub>7</sub> | b  | b <sub>1</sub> | b <sub>2</sub> |
|-----------|-----------------|-----|----------------|-----|-----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----|----------------|----------------|
|           | A               | B   | D <sub>w</sub> | H   |     |                |                |                |                |                |                |                |    |                |                |
| NKL 3-55  |                 |     |                | 30  | 55  | 1 × 25         |                | –              |                | 5.5            |                |                |    |                |                |
| NKL 3-80  |                 |     |                | 45  | 80  | 2 × 25         |                | 1 × 25         |                | 10.5           |                |                |    |                |                |
| NKL 3-105 |                 |     |                | 60  | 105 | 3 × 25         |                | 2 × 25         |                | 15.5           |                |                |    |                |                |
| NKL 3-130 |                 |     |                | 75  | 130 | 4 × 25         |                | 3 × 25         |                | 20.5           |                |                |    |                |                |
| NKL 3-155 |                 |     |                | 90  | 155 | 5 × 25         |                | 4 × 25         |                | 25.5           |                |                |    |                |                |
| NKL 3-180 | 25              | 60  | 3              | 105 | 180 | 6 × 25         | 25             | 5 × 25         | 15             | 30.5           | 27.5           | 10             | 39 | 17             | 40             |
| NKL 3-205 |                 |     |                | 130 | 205 | 7 × 25         |                | 6 × 25         |                | 30.5           |                |                |    |                |                |
| NKL 3-230 |                 |     |                | 155 | 230 | 8 × 25         |                | 7 × 25         |                | 30.5           |                |                |    |                |                |
| NKL 3-255 |                 |     |                | 180 | 255 | 9 × 25         |                | 8 × 25         |                | 30.5           |                |                |    |                |                |
| NKL 6-110 |                 |     |                | 60  | 110 | 1 × 50         |                | –              |                | 16             |                |                |    |                |                |
| NKL 6-160 |                 |     |                | 95  | 160 | 2 × 50         |                | 1 × 50         |                | 23.5           |                |                |    |                |                |
| NKL 6-210 |                 |     |                | 130 | 210 | 3 × 50         |                | 2 × 50         |                | 31             |                |                |    |                |                |
| NKL 6-260 | 40              | 100 | 6              | 165 | 260 | 4 × 50         | 50             | 3 × 50         | 30             | 38.5           | 55             | 10             | 64 | 26             | 60             |
| NKL 6-310 |                 |     |                | 200 | 310 | 5 × 50         |                | 4 × 50         |                | 46             |                |                |    |                |                |
| NKL 6-360 |                 |     |                | 265 | 360 | 6 × 50         |                | 5 × 50         |                | 38.5           |                |                |    |                |                |
| NKL 6-410 |                 |     |                | 280 | 410 | 7 × 50         |                | 6 × 50         |                | 56             |                |                |    |                |                |



Layout of the standard attaching holes in the lower section



| $b_3$ | $d$ | $d_1$ | $d_2$ | $h$  | $h_1$ | $h_2$ | $s$ | $t$ | $x$ | $y$ | C in N | $M_L$ in Nm | $M_Q$ in Nm | Weight in kg | Fig. |
|-------|-----|-------|-------|------|-------|-------|-----|-----|-----|-----|--------|-------------|-------------|--------------|------|
|       |     |       |       |      |       |       |     |     |     |     | 910    | 7.80        | 12.74       | 0.29         | 1    |
|       |     |       |       |      |       |       |     |     |     |     | 1300   | 11.70       | 18.20       | 0.42         | 1    |
|       |     |       |       |      |       |       |     |     |     |     | 1820   | 16.90       | 25.48       | 0.55         | 1    |
|       |     |       |       |      |       |       |     |     |     |     | 2210   | 20.80       | 30.94       | 0.68         | 1    |
| 25    | 7.5 | 4.5   | M4    | 8.2  | 3.2   | 7.5   | 8   | 8.5 | 7   | 18  | 2730   | 26.00       | 38.22       | 0.81         | 3    |
|       |     |       |       |      |       |       |     |     |     |     | 3120   | 29.90       | 43.68       | 0.94         | 3    |
|       |     |       |       |      |       |       |     |     |     |     | 3510   | 33.80       | 49.14       | 1.07         | 4    |
|       |     |       |       |      |       |       |     |     |     |     | 3770   | 36.40       | 52.78       | 1.2          | 4    |
|       |     |       |       |      |       |       |     |     |     |     | 4160   | 40.30       | 58.24       | 1.33         | 5    |
|       |     |       |       |      |       |       |     |     |     |     | 3710   | 57.24       | 83.48       | 1.5          | 1    |
|       |     |       |       |      |       |       |     |     |     |     | 5830   | 95.40       | 131.18      | 2.25         | 1    |
|       |     |       |       |      |       |       |     |     |     |     | 7420   | 124.02      | 166.95      | 3            | 3    |
| 50    | 11  | 7     | M6    | 11.5 | 4.5   | 12.5  | 15  | 13  | 12  | 31  | 9540   | 162.18      | 214.65      | 3.75         | 3    |
|       |     |       |       |      |       |       |     |     |     |     | 11660  | 200.34      | 262.35      | 4.5          | 3    |
|       |     |       |       |      |       |       |     |     |     |     | 12720  | 219.42      | 286.20      | 5.25         | 3    |
|       |     |       |       |      |       |       |     |     |     |     | 14840  | 257.58      | 333.90      | 6            | 3    |

Ordering example: 1 Frictionless table NKL 6-260