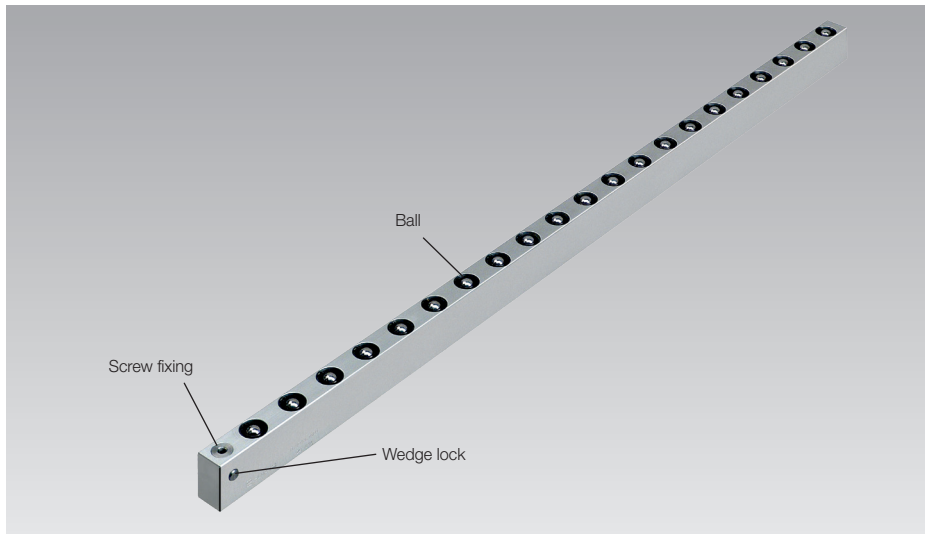




## Ball Bars, Mechanical

### with spring pack

### loads up to 27 kN/m



#### Advantages

- Easy and safe die change
- No hydraulic supply required
- Variant program with many selection possibilities
- Variable length in a single piece design up to 2900 mm
- Slot depth, ball spacing and bar length configurable for every application
- Low weight (version in aluminium)

#### Application

- In T-slots and rectangular slots of the press bed for easy die change without any problems
- Die change streamlining

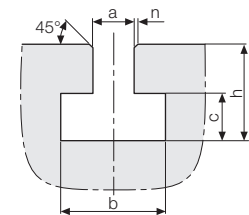
#### Delivery

- Ball bar
- Wedge lock (option)

#### Description

Ball bar with spring pack for light loads and flexible horizontal movement of the dies. When preloaded, the balls project over the bed level by up to 2 mm. When the die is clamped, the balls are pressed into the bar body against the spring force until they are flush with the bed level.

#### T-slot tolerances as per DIN 650



#### Technical data

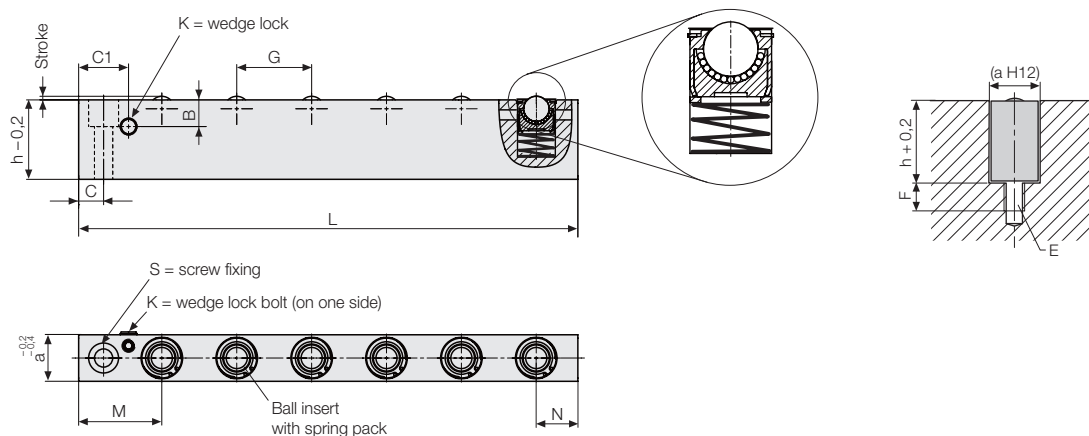
|                     |        |  |
|---------------------|--------|--|
| Max. load           | [kN/m] | 27   |
| Ball spacing        |        | flexible   |
| Material of the bar |        | aluminium or steel                               |
| Max. temperature    | [°C]   | with aluminium bars: 100<br>with steel bars: 250 |
| Fixing of the bar   |        | Screw fixing or wedge lock                       |
| Max. bar length*    | [mm]   | variable* up to 2900                             |

\* The minimum bar lengths depends on the ball spacing G with at least 3 balls (see page 2)

| a             | b                | c                | h<br>min. | h<br>max. | n<br>max. |
|---------------|------------------|------------------|-----------|-----------|-----------|
| <b>14 H12</b> | 23 <sup>+2</sup> | 9 <sup>+2</sup>  | <b>23</b> | 28        | 1,6       |
| <b>18 H12</b> | 30 <sup>+2</sup> | 12 <sup>+2</sup> | <b>30</b> | 36        | 1,6       |
| <b>22 H12</b> | 37 <sup>+3</sup> | 16 <sup>+2</sup> | <b>38</b> | 45        | 1,6       |
| <b>28 H12</b> | 46 <sup>+4</sup> | 20 <sup>+2</sup> | <b>48</b> | 56        | 1,6       |
| <b>36 H12</b> | 56 <sup>+4</sup> | 25 <sup>+3</sup> | <b>61</b> | 71        | 2,5       |

Dimensions in mm

**h<sub>min.</sub>** = minimum dimension as per DIN 650



Technical data

| Slot width (a)          | [mm] | 18   | 22   | 28   | 36   | 13/16" | 1 1/16" |
|-------------------------|------|------|------|------|------|--------|---------|
| Slot depth min. (h)     | [mm] | 25   | 31   | 35   | 46   | 25     | 31      |
| Slot depth standard (h) | [mm] | 30   | 38   | 48   | 61   | 29.4   | 38.9    |
| Slot depth max.** (h)   | [mm] | 45   | 55   | 60   | 75   | 40     | 58      |
| Ball spacing G min.     | [mm] | 20   | 23   | 28   | 34   | 20     | 23      |
| Ball spacing G standard | [mm] | 30   | 40   | 45   | 50   | 30     | 40      |
| Ball spacing G max.     | [mm] | 60   | 80   | 90   | 100  | 60     | 80      |
| L min.                  | [mm] | *)   | *)   | *)   | *)   | *)     | *)      |
| L max.                  | [mm] | 2900 | 2900 | 2900 | 2900 | 2900   | 2900    |
| Stroke                  | [mm] | 1    | 2    | 2    | 2    | 1      | 2       |
| Load/ball               | [kN] | 0.22 | 0.42 | 0.63 | 1.00 | 0.22   | 0.42    |
| B                       | [mm] | 12   | 16   | 16   | 16   | 12     | 16      |
| C                       | [mm] | 10   | 12.5 | 15   | 20   | 10     | 12.5    |
| C1                      | [mm] | 10   | 24.5 | 30   | 35   | 10     | 24.5    |
| E                       | [mm] | M6   | M8   | M10  | M10  | M6     | M8      |
| F                       | [mm] | 11   | 13   | 15   | 15   | 11     | 13      |
| M                       | [mm] | 27.5 | 40   | 50   | 57.5 | 27.5   | 40      |
| N                       | [mm] | 12.5 | 15   | 25   | 27.5 | 12.5   | 15      |

\*) L min. depends on the ball spacing G with at least 3 balls  
 \*\*) only with steel bars

Product configurator

For the selection and configuration of roller and ball bars, a product configurator is available on our website. After entering the parameters, the configurator determines the desired roller or ball bars with all technical data and the identification number of the characteristics which are identical with the order number. In addition, a drawing with all dimensions will be provided.

Link to the configurator:

[www.roemheld-gruppe.de/productconfigurator/?lang=en](http://www.roemheld-gruppe.de/productconfigurator/?lang=en)



## Code for part numbers Variant program

Ball bars with spring pack are individually configured and manufactured depending on the application.

Within the limits specified in the measurement chart, the following parameters can be selected based on a code for part numbers:

**bar material, slot width, bar lengths, fixation, slot depth and ball spacing.**

• **Bar material/ operating temperature**

Aluminium or steel can be selected as bar material. For operating temperatures >100 °C, a steel version is required. Depending on the temperature range, the admissible carrying force of the ball bars is reduced:

- up to 100 °C: 100 % of the carrying force
- >100 – 150 °C: 95 % of the carrying force
- >150 – 200 °C: 70 % of the carrying force
- >200 – 250 °C: 60 % of the carrying force

**e.g. steel up to 200 °C with 70 % of the carrying force**

• **Slot width (a)**

Selection from the table on page 2

**e.g. a = 36 mm**

• **Bar lengths (L)**

Depending on the ball spacing (G) and the parameter (M) results the possible bar length. Indicate the desired length (e.g. bed length) for your ball bar. Please note that a ball bar must be equipped with at least 3 balls.

**e.g. L = 1380 mm**

• **Fixation**

K = wedge lock

S = screw fixing

**e.g. screw fixing = S**

• **Ball spacing (G) or load of the bar**

By changing the spacing of the balls, the load of the ball bar can be varied. Please note that the load is indicated for the full length of the bar. Therefore, both the load and the ball spacing must be selected to suit the die weight and the die supporting length.

Please indicate the desired ball spacing or load of the ball bar, or the maximum die weight and the die dimensions.

**e.g. G = 35 mm**

or **load per bar = 38 kN**

or **number of balls = 38**

or **die weight and exterior dimensions**

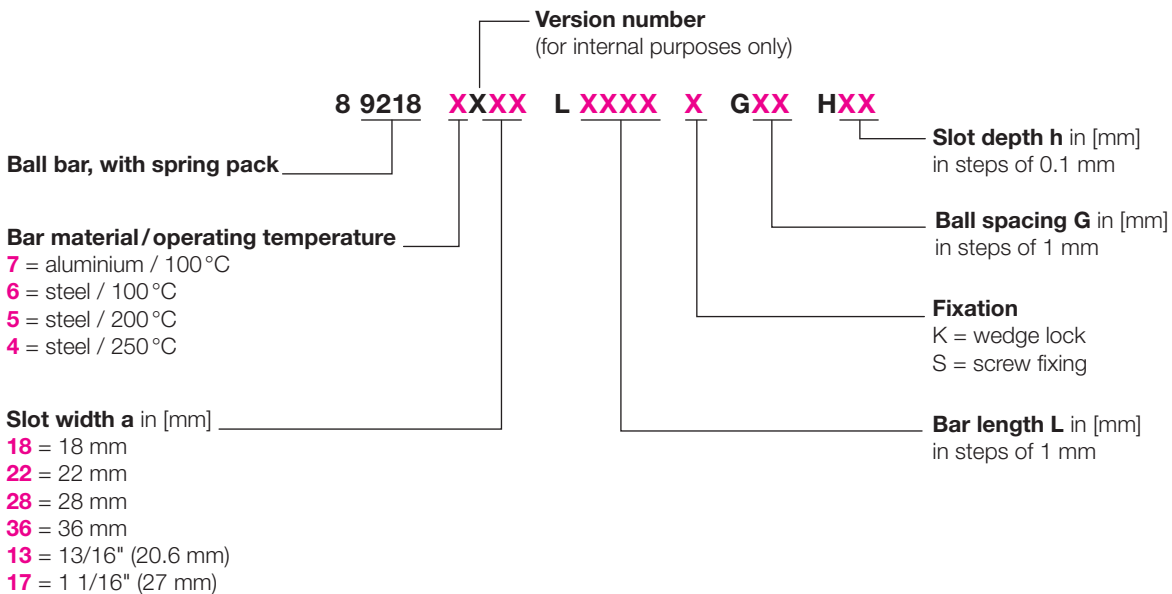
• **Slot depth (h)**

If the slots in your application are lower than the default value, specify the corresponding dimension (up to h min.) For slots which are deeper than the default value, spacer bars can be inserted. For steel versions, specify the corresponding dimension (up to h max.).

**e.g. h = 50 mm**

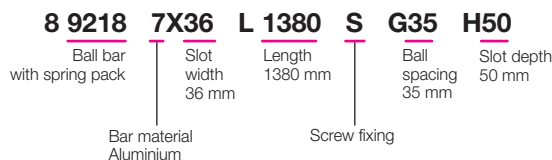
### Code for part numbers

Variant program



Page 4 shows an example of the part numbers for aluminium bars with standard ball spacing "G" and standard slot depth "h".

### Example of ordering



**Extract from the possible variants for ball bars  
with standard ball spacing "G", standard slot depth "h" and bar material aluminium**

**for slot width a = 18 mm**

| Length (L) [mm]                            | Load [kN] | Number of balls | Part no.                  |
|--|-----------|-----------------|---------------------------|
| 100  | 0.6       | 3               | <b>892187218 L 100 S</b>  |
| 130  | 0.8       | 4               | <b>892187218 L 130 S</b>  |
| 160  | 1.1       | 5               | <b>892187218 L 160 S</b>  |
| 190  | 1.3       | 6               | <b>892187218 L 190 S</b>  |
| 250  | 1.7       | 8               | <b>892187218 L 250 S</b>  |
| 310  | 2.2       | 10              | <b>892187218 L 310 S</b>  |
| 370  | 2.6       | 12              | <b>892187218 L 370 S</b>  |
| 430  | 3         | 14              | <b>892187218 L 430 S</b>  |
| 490  | 3.5       | 16              | <b>892187218 L 490 S</b>  |
| 550  | 3.9       | 18              | <b>892187218 L 550 S</b>  |
| 610  | 4.4       | 20              | <b>892187218 L 610 S</b>  |
| 670  | 4.8       | 22              | <b>892187218 L 670 S</b>  |
| 730  | 5.2       | 24              | <b>892187218 L 730 S</b>  |
| other lengths are possible up to max. 2890 |           |                 |                           |
| 2890                                       | 21.1      | 96              | <b>892187218 L 2890 S</b> |

**for slot width a = 22 mm**

| Length (L) [mm]                            | Load [kN] | Number of balls | Part no.                  |
|--|-----------|-----------------|---------------------------|
| 135  | 1.2       | 3               | <b>892187222 L 135 S</b>  |
| 175  | 1.6       | 4               | <b>892187222 L 175 S</b>  |
| 215  | 2.1       | 5               | <b>892187222 L 215 S</b>  |
| 255  | 2.5       | 6               | <b>892187222 L 255 S</b>  |
| 335  | 3.3       | 8               | <b>892187222 L 335 S</b>  |
| 415  | 4.2       | 10              | <b>892187222 L 415 S</b>  |
| 495  | 5         | 12              | <b>892187222 L 495 S</b>  |
| 575  | 5.8       | 14              | <b>892187222 L 575 S</b>  |
| 655  | 6.7       | 16              | <b>892187222 L 655 S</b>  |
| 735  | 7.5       | 18              | <b>892187222 L 735 S</b>  |
| 815  | 8.4       | 20              | <b>892187222 L 815 S</b>  |
| 895  | 9.2       | 22              | <b>892187222 L 895 S</b>  |
| 975  | 10        | 24              | <b>892187222 L 975 S</b>  |
| 1055                                       | 10.9      | 26              | <b>892187222 L 1055 S</b> |
| 1135                                       | 11.7      | 28              | <b>892187222 L 1135 S</b> |
| 1215                                       | 12.6      | 30              | <b>892187222 L 1215 S</b> |
| 1295                                       | 13.4      | 32              | <b>892187222 L 1295 S</b> |
| other lengths are possible up to max. 2895 |           |                 |                           |
| 2895                                       | 30.2      | 72              | <b>892187222 L 2895 S</b> |

**for slot width a = 28 mm**

| Length (L) [mm]                            | Load [kN] | Number of balls | Part no.                  |
|--|-----------|-----------------|---------------------------|
| 165  | 1.8       | 3               | <b>892187228 L 165 S</b>  |
| 210  | 2.5       | 4               | <b>892187228 L 210 S</b>  |
| 255  | 3.1       | 5               | <b>892187228 L 255 S</b>  |
| 300  | 3.7       | 6               | <b>892187228 L 300 S</b>  |
| 390  | 5         | 8               | <b>892187228 L 390 S</b>  |
| 480  | 6.3       | 10              | <b>892187228 L 480 S</b>  |
| 570  | 7.5       | 12              | <b>892187228 L 570 S</b>  |
| 660  | 8.8       | 14              | <b>892187228 L 660 S</b>  |
| 750  | 10        | 16              | <b>892187228 L 750 S</b>  |
| 840  | 11.3      | 18              | <b>892187228 L 840 S</b>  |
| 930  | 12.6      | 20              | <b>892187228 L 930 S</b>  |
| 1020                                       | 13.8      | 22              | <b>892187228 L 1020 S</b> |
| other lengths are possible up to max. 2865 |           |                 |                           |
| 2865                                       | 39.6      | 63              | <b>892187228 L 2865 S</b> |

**for slot width a = 36 mm**

| Length (L) [mm]                            | Load [kN] | Number of balls | Part no.                  |
|--|-----------|-----------------|---------------------------|
| 185  | 3         | 3               | <b>892187236 L 185 S</b>  |
| 235  | 4         | 4               | <b>892187236 L 235 S</b>  |
| 285  | 5         | 5               | <b>892187236 L 285 S</b>  |
| 335  | 6         | 6               | <b>892187236 L 335 S</b>  |
| 435  | 8         | 8               | <b>892187236 L 435 S</b>  |
| 535  | 10        | 10              | <b>892187236 L 535 S</b>  |
| 635  | 12        | 12              | <b>892187236 L 635 S</b>  |
| 735  | 14        | 14              | <b>892187236 L 735 S</b>  |
| 835  | 16        | 16              | <b>892187236 L 835 S</b>  |
| 935  | 18        | 18              | <b>892187236 L 935 S</b>  |
| 1035                                       | 20        | 20              | <b>892187236 L 1035 S</b> |
| 1135                                       | 22        | 22              | <b>892187236 L 1135 S</b> |
| other lengths are possible up to max. 2885 |           |                 |                           |
| 2885                                       | 57        | 57              | <b>892187236 L 2985 S</b> |

**for slot width a = 13/16"**

| Length (L) [mm]                            | Load [kN] | Number of balls | Part no.                  |
|--|-----------|-----------------|---------------------------|
| 100  | 0.6       | 3               | <b>892187213 L 100 S</b>  |
| 130  | 0.8       | 4               | <b>892187213 L 130 S</b>  |
| 160  | 1.1       | 5               | <b>892187213 L 160 S</b>  |
| 190  | 1.3       | 6               | <b>892187213 L 190 S</b>  |
| 250  | 1.7       | 8               | <b>892187213 L 250 S</b>  |
| 310  | 2.2       | 10              | <b>892187213 L 310 S</b>  |
| 370  | 2.6       | 12              | <b>892187213 L 370 S</b>  |
| 430  | 3         | 14              | <b>892187213 L 430 S</b>  |
| 490  | 3.5       | 16              | <b>892187213 L 490 S</b>  |
| 550  | 3.9       | 18              | <b>892187213 L 550 S</b>  |
| 610  | 4.4       | 20              | <b>892187213 L 610 S</b>  |
| 670  | 4.8       | 22              | <b>892187213 L 670 S</b>  |
| 730  | 5.2       | 24              | <b>892187213 L 730 S</b>  |
| other lengths are possible up to max. 2890 |           |                 |                           |
| 2890                                       | 21.1      | 96              | <b>892187213 L 2890 S</b> |

**for slot width a = 1 1/16"**

| Length (L) [mm]                            | Load [kN] | Number of balls | Part no.                  |
|--|-----------|-----------------|---------------------------|
| 135  | 1.2       | 3               | <b>892187217 L 135 S</b>  |
| 175  | 1.6       | 4               | <b>892187217 L 175 S</b>  |
| 215  | 2.1       | 5               | <b>892187217 L 215 S</b>  |
| 255  | 2.5       | 6               | <b>892187217 L 255 S</b>  |
| 335  | 3.3       | 8               | <b>892187217 L 335 S</b>  |
| 415  | 4.2       | 10              | <b>892187217 L 415 S</b>  |
| 495  | 5         | 12              | <b>892187217 L 495 S</b>  |
| 575  | 5.8       | 14              | <b>892187217 L 575 S</b>  |
| 655  | 6.7       | 16              | <b>892187217 L 655 S</b>  |
| 735  | 7.5       | 18              | <b>892187217 L 735 S</b>  |
| 815  | 8.4       | 20              | <b>892187217 L 815 S</b>  |
| 895  | 9.2       | 22              | <b>892187217 L 895 S</b>  |
| 975  | 10        | 24              | <b>892187217 L 975 S</b>  |
| 1055                                       | 10.9      | 26              | <b>892187217 L 1055 S</b> |
| 1135                                       | 11.7      | 28              | <b>892187217 L 1135 S</b> |
| 1215                                       | 12.6      | 30              | <b>892187217 L 1215 S</b> |
| 1295                                       | 13.4      | 32              | <b>892187217 L 1295 S</b> |
| other lengths are possible up to max. 2895 |           |                 |                           |
| 2895                                       | 30.2      | 72              | <b>892187217 L 2895 S</b> |

Screw fixing = **S**  
Wedge lock = **K**