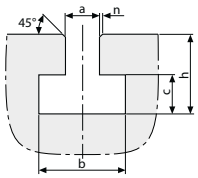
Roller and ball bars for easy and safe die change

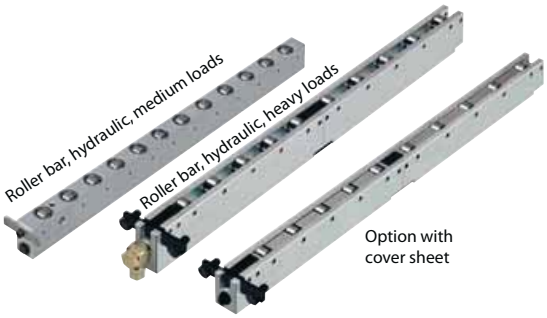
ROEMHELD HILMA ▪ STARK

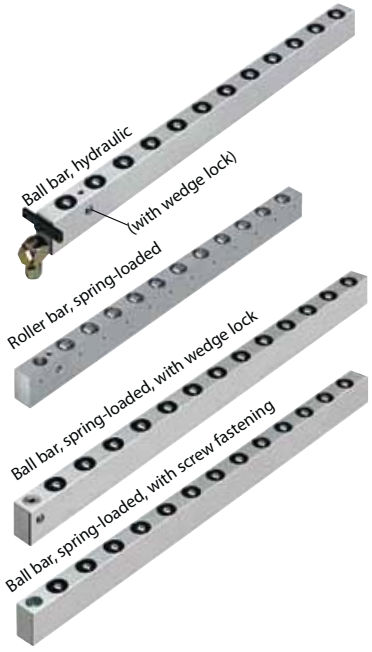
T-slot tolerances acc. to DIN 650

a	b	c	**h min.**	h max.	n max.
18 H12	30^{+2}	12^{+2}	**30**	36	1,6
22 H12	37^{+3}	16^{+2}	**38**	45	1,6
28 H12	46^{+4}	20^{+2}	**48**	56	1,6
36 H12	56^{+4}	25^{+3}	**61**	71	2,5

Dimensions in mm
$\mathbf{h_{min.}}$ = smallest dimension acc. to DIN 650







Load: 20 - 100 kg
Hole: 20 - 40 mm

Load: 40 - 220 kg
Hole: 20 - 40 mm

Applications:

- in T-slots and rectangular slots of press beds for easy die change
- die change streamlining

Roller bar, hydraulically lifted
for heavy loads, for linear movement of dies:
On the underside of the roller bar lifting pistons are provided. Pressure is applied to these pistons using hydraulic pressure generators, which lift then the complete roller bar. The die positioned on the roller bars is not in contact with the table top and can be easily moved and positioned. The basic bodies are made from a high-strength and robust aluminium alloy.
Max. operating pressure: 400 bar
Load-bearing capacity: up to 160 kN/m, roller spacing 50 mm.
Any length up to 2500 mm is possible using modular segments.
Fastening of the roller bar using a fastening plate.

Roller bar, hydraulically lifted
for medium loads, for linear movement of dies:
The lifting pistons are provided below each roller allowing rollers to be lifted individually. The basic bodies are made from a high-strength aluminium alloy. Lifting pistons are provided below each roller allowing each roller to be lifted individually.
Max. operating pressure: 120 bar.
Max. load-bearing capacity: 99 kN/m, flexible roller spacing and orientation.
Any variable length in a single piece design up to 2900 mm.
Fastening of the roller bar using a fastening plate or a wedge lock.

Ball bar, hydraulically lifted for medium loads ,
for flexible horizontal movement of dies:
Oil pressure is applied using a hydraulic pressure generator to lift each ball bar individually. The die positioned on the ball bars is not in contact with the table top and can be easily moved.
Max. operating pressure: 100 bar
Max. load-bearing capacity: 55 kN/m, flexible ball spacing.
Any length in a single piece design up to 2900 mm.
Fastening of the ball bar using a fastening plate or a wedge lock.

Ball bar with spring pack for lightweight loads
for flexible horizontal movement of dies:
When preloaded, the balls project over the table 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 table level.
Max. load-bearing capacity: 27 kN/m, flexible ball spacing.
Any variable length in one-piece design up to 2900 mm.
Fastening of the ball bar using a fastening crossbar or a wedge lock.

Roller bar with spring pack
for medium loads, for linear movement of dies:
Function and design of the roller bar similar to spring-loaded ball bars.
Load-bearing capacity slightly increased thanks to the use of rollers.
Max. load-bearing capacity: 66 kN/m, flexible roller spacing and orientation.
Any variable length in one-piece design up to 2900 mm.
Fastening of the roller bar using a fastening crossbar or a wedge lock.

Ball and roller inserts with spring pack
For installation in tables without T-slots:
The spring-loaded ball and roller inserts are individually inserted into drilled holes. The function is similar to that of ball or roller bars with a spring pack.
Max. load-bearing capacity: 2200 N, stroke up to 3 mm.

Roller bar for medium loads, hydraulic lifting of individual rollers (max. 120 bar)

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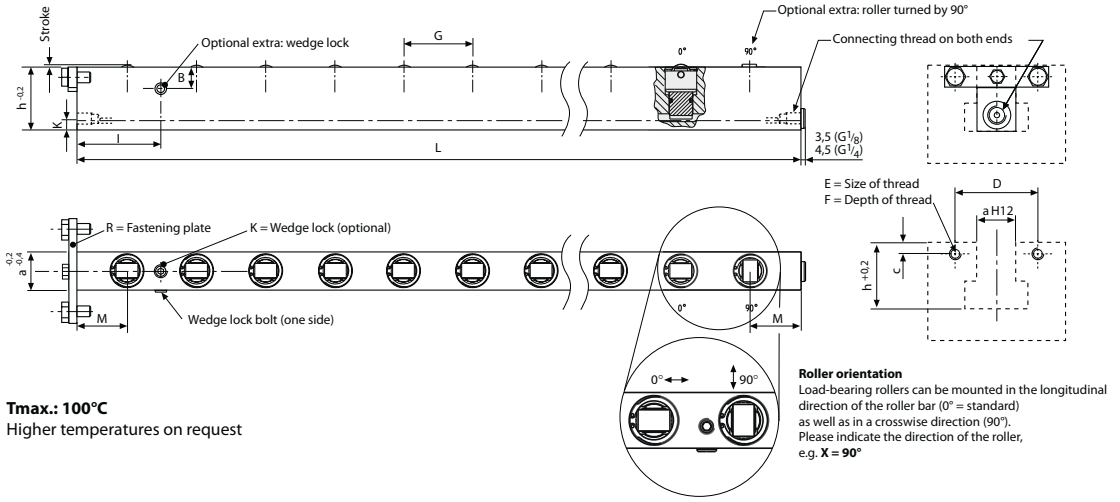

Tmax.: 100°C
Higher temperatures on request

Roller orientation
Load-bearing rollers can be mounted in the longitudinal direction of the roller bar (0° = standard) as well as in a crosswise direction (90°).
Please indicate the direction of the roller, e.g. **X = 90°**

Slot width (a) [mm]	**18**	**22**	**28**	**36**	**13/16"**	**1 1/16"**
Slot height (h) [mm]	29,5	37,5	43	54,5	29,4	38
Standard slot height (h) [mm]	30	38	48	61	29,4	38,9
Roller spacing G min. [mm]	26	32	37	43	26	32
Roller spacing G standard [mm]	**30**	**40**	**45**	**50**	**30**	**40**
Roller spacing G max. [mm]	60	80	90	100	60	80
L min.	*)	*)	*)	*)	*)	*)
L max.	2900	2900	2900	2900	2900	2900
Stroke [mm]	1	2	2	2	1	2
Load-bearing capacity/roller [kN]	1,14	1,85	3,0	4,5	1,14	1,85
Connecting thread	G ⅛	G ⅛	G ¼	G ¼	G ⅛	G ¼
Oil requirement/l roller insert [cm³]	0,10	0,31	0,51	0,76	0,10	0,31
B [mm]	12	16	16	16	12	16
C [mm]	5	7	9	10	5	7
D [mm]	36	40	50	55	36	40
E [mm]	M5	M5	M6	M6	M5	M5
F [mm]	15	15	20	20	15	15
I [mm]	35	46	51	56,5	35	46
K [mm]	8	8,5	11	11	8	11
M [mm]	22,5	30	32,5	35	22,5	30

*) L min. depends on the roller spacing G between at least 3 rollers.
Load-bearing capacity indicated per roller bar.
K = Wedge lock
R = Fastening plate
Fastening plate and 90° elbow coupling are supplied with the bar.

Example of ordering:

8.9215. 7028 L 1415 K — **without suffix**

- 8.9215.: Roller bar, hydraulic
- 7028: Slot width 28 mm
- L 1415: Length 1415 mm
- K: Fastening: wedge lock
- without suffix: Standard Slot height; Standard roller spacing; Standard roller orientation (0°)

Example of ordering:

8.9215. 7028 L 1445 R H43 G60 X

- 8.9215.: Roller bar, hydraulic
- 7028: Slot width 28 mm
- L 1445: Length 1445 mm
- R: Fastening: fastening plate
- H43: Slot height 43 mm
- G60: Roller spacing 60 mm
- X: Roller orientation (90°)

Based on these parameters, we will devise the ball bar for your specific application.
Please contact us, we will be pleased to offer you advice!

Roller bar variations, hydraulically lifted

(max. 120 bar)

If the appropriate roller bar for your specific application is not included in the tables of standard bars, our range of variations offers a solution. Fewer rollers also means that the roller bar will be offered at a lower price. Select the slot height, the ball spacing and the bar length to create a variation for your application.

e.g. **a = 28 mm**
e.g. **fastening plate = R**

Within the limits indicated in the table of dimensions the following parameters can be freely selected:

Slot height (h)

If for your application the slots are not as high as in our standard design, indicate the corresponding dimension.
If for your application the slots are higher than our standard design, spacer bars may be inserted.

e.g. **h = 43 mm**

Spacing of rollers (G) and load-bearing capacity of the roller bar

By changing the spacing of the rollers the load-bearing capacity of the roller bar may be varied. Please note that the load-bearing capacity is indicated for the full length of the roller bar. Therefore, both the load-bearing capacity and the roller spacing must be selected to suit the die weight and the die supporting length.
Please indicate the desired roller spacing or load-bearing capacity of the roller bar, or the maximum die weight and the die dimensions.

e.g. **G = 60 mm**
or **load-bearing capacity per roller bar = 72 kN**
or **number of rollers = 24**
or **die weight and outside dimensions**

Length of the roller bar (L)

The possible length of the bar is obtained from the roller spacing (G) and the parameter (M). Just indicate the theoretical length (e.g. the length of the table) for your roller bar.
Please note that a roller bar must be equipped with at least 3 rollers.

e.g. **L = 1445 mm**

Roller orientation

Load-bearing rollers can be orientated in the longitudinal direction of the roller bar (0° = standard) or in a crosswise direction (90°).
Please indicate the orientation of the rollers required

e.g. **X = 90°**

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Roller bar for medium loads, with hydraulic lifting of individual rollers (120 bar max.)

Selection of roller bars with standard slot height „h“ and roller spacing „G“

For other slot heights, lengths and load-bearing capacities (or roller spacings), see range of variations page 1.

Part no.	Slot (a) [mm]	Length (L) [mm]	Max. load [kN]	Number of rollers
8.9215.7018 L 105 R	18	105	3,4	3
8.9215.7018 L 135 R	18	135	4,5	4
8.9215.7018 L 165 R	18	165	5,7	5
8.9215.7018 L 195 R	18	195	6,8	6
8.9215.7018 L 255 R	18	255	9,1	8
8.9215.7018 L 315 R	18	315	11,4	10
8.9215.7018 L 375 R	18	375	13,6	12
8.9215.7018 L 435 R	18	435	15,9	14
8.9215.7018 L 495 R	18	495	18,2	16
8.9215.7018 L 555 R	18	555	20,5	18
8.9215.7018 L 615 R	18	615	22,8	20
8.9215.7018 L 675 R	18	675	25,0	22
8.9215.7018 L 735 R	18	735	27,3	24
8.9215.7018 L 795 R	18	795	29,6	26
8.9215.7018 L 855 R	18	855	31,9	28
8.9215.7018 L 915 R	18	915	34,2	30
8.9215.7018 L 975 R	18	975	36,4	32
Other intermediate lengths up to max. 2895 are possible.				
8.9215.7018 L 2895 R	18	2895	109,4	96
8.9215.7022 L 140 R	22	140	5,5	3
8.9215.7022 L 180 R	22	180	7,4	4
8.9215.7022 L 220 R	22	220	9,2	5
8.9215.7022 L 260 R	22	260	11,1	6
8.9215.7022 L 340 R	22	340	14,8	8
8.9215.7022 L 420 R	22	420	18,5	10
8.9215.7022 L 500 R	22	500	22,2	12
8.9215.7022 L 580 R	22	580	25,9	14
8.9215.7022 L 660 R	22	660	29,6	16
8.9215.7022 L 740 R	22	740	33,3	18
8.9215.7022 L 820 R	22	820	37,0	20
8.9215.7022 L 900 R	22	900	40,7	22
8.9215.7022 L 980 R	22	980	44,4	24
8.9215.7022 L 1060 R	22	1060	48,1	26
8.9215.7022 L 1140 R	22	1140	51,8	28
8.9215.7022 L 1220 R	22	1220	55,5	30
8.9215.7022 L 1300 R	22	1300	59,2	32
8.9215.7022 L 1380 R	22	1380	62,9	34
Other intermediate lengths up to max. 2900 are possible.				
8.9215.7022 L 2900 R	22	2900	133,2	72
8.9215.7028 L 155 R	28	155	9	3
8.9215.7028 L 200 R	28	200	12	4
8.9215.7028 L 245 R	28	245	15	5
8.9215.7028 L 290 R	28	290	18	6
8.9215.7028 L 380 R	28	380	24	8
8.9215.7028 L 470 R	28	470	30	10
8.9215.7028 L 560 R	28	560	36	12
8.9215.7028 L 650 R	28	650	42	14
8.9215.7028 L 740 R	28	740	48	16
8.9215.7028 L 830 R	28	830	54	18
8.9215.7028 L 920 R	28	920	60	20
8.9215.7028 L 1010 R	28	1010	66	22
8.9215.7028 L 1100 R	28	1100	72	24
8.9215.7028 L 1190 R	28	1190	78	26
8.9215.7028 L 1280 R	28	1280	84	28
8.9215.7028 L 1370 R	28	1370	90	30
Other intermediate lengths up to max. 2900 are possible.				
8.9215.7028 L 2900 R	28	2900	192	64

Part no.	Slot (a) [mm]	Length (L) [mm]	Max. load [kN]	Number of rollers
8.9215.7036 L 170 R	36	170	13,5	3
8.9215.7036 L 220 R	36	220	18	4
8.9215.7036 L 270 R	36	270	22,5	5
8.9215.7036 L 320 R	36	320	27	6
8.9215.7036 L 420 R	36	420	36	8
8.9215.7036 L 520 R	36	520	45	10
8.9215.7036 L 620 R	36	620	54	12
8.9215.7036 L 720 R	36	720	63	14
8.9215.7036 L 820 R	36	820	72	16
8.9215.7036 L 920 R	36	920	81	18
8.9215.7036 L 1020 R	36	1020	90	20
8.9215.7036 L 1120 R	36	1120	99	22
8.9215.7036 L 1220 R	36	1220	108	24
8.9215.7036 L 1320 R	36	1320	117	26
8.9215.7036 L 1420 R	36	1420	126	28
Other intermediate lengths up to max. 2870 are possible.				
8.9215.7036 L 2870 R	36	2870	256,5	57
8.9215.7013 L 105 R	13/16"	105	3,4	3
8.9215.7013 L 135 R	13/16"	135	4,5	4
8.9215.7013 L 165 R	13/16"	165	5,7	5
8.9215.7013 L 195 R	13/16"	195	6,8	6
8.9215.7013 L 255 R	13/16"	255	9,1	8
8.9215.7013 L 315 R	13/16"	315	11,4	10
8.9215.7013 L 375 R	13/16"	375	13,6	12
8.9215.7013 L 435 R	13/16"	435	15,9	14
8.9215.7013 L 495 R	13/16"	495	18,2	16
8.9215.7013 L 555 R	13/16"	555	20,5	18
8.9215.7013 L 615 R	13/16"	615	22,8	20
8.9215.7013 L 675 R	13/16"	675	25.0	22
8.9215.7013 L 735 R	13/16"	735	27,3	24
8.9215.7013 L 795 R	13/16"	795	29,6	26
8.9215.7013 L 855 R	13/16"	855	31,9	28
8.9215.7013 L 915 R	13/16"	915	34,2	30
8.9215.7013 L 975 R	13/16"	975	36,4	32
Other intermediate lengths up to max. 2895 are possible.				
8.9215.7013 L 2895 R	13/16"	2895	109,4	96
8.9215.7017 L 140 R	1 1/16"	140	5,5	3
8.9215.7017 L 180 R	1 1/16"	180	7,4	4
8.9215.7017 L 220 R	1 1/16"	220	9,2	5
8.9215.7017 L 260 R	1 1/16"	260	11,1	6
8.9215.7017 L 340 R	1 1/16"	340	14,8	8
8.9215.7017 L 420 R	1 1/16"	420	18,5	10
8.9215.7017 L 500 R	1 1/16"	500	22,2	12
8.9215.7017 L 580 R	1 1/16"	580	25,9	14
8.9215.7017 L 660 R	1 1/16"	660	29,6	16
8.9215.7017 L 740 R	1 1/16"	740	33,3	18
8.9215.7017 L 820 R	1 1/16"	820	37,0	20
8.9215.7017 L 900 R	1 1/16"	900	40,7	22
8.9215.7017 L 980 R	1 1/16"	980	44,4	24
8.9215.7017 L 1060 R	1 1/16"	1060	48,1	26
8.9215.7017 L 1140 R	1 1/16"	1140	51,8	28
8.9215.7017 L 1220 R	1 1/16"	1220	55,5	30
8.9215.7017 L 1300 R	1 1/16"	1300	59,2	32
8.9215.7017 L 1380 R	1 1/16"	1380	62,9	34
Other intermediate lengths up to max. 2900 are possible.				
8.9215.7017 L 2900 R	1 1/16"	2900	133,2	72

R = fastening plate
K = wedge lock