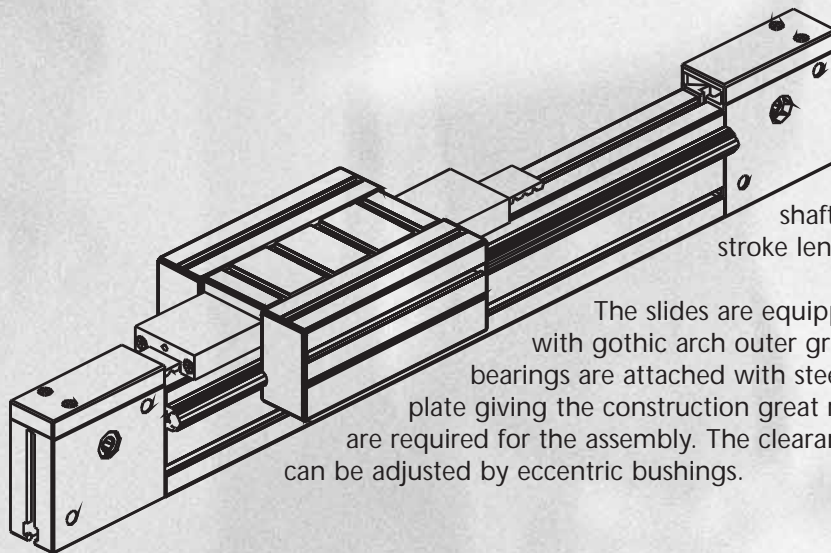


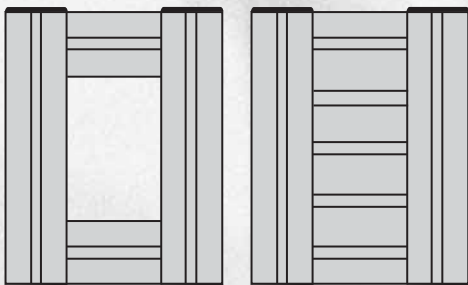
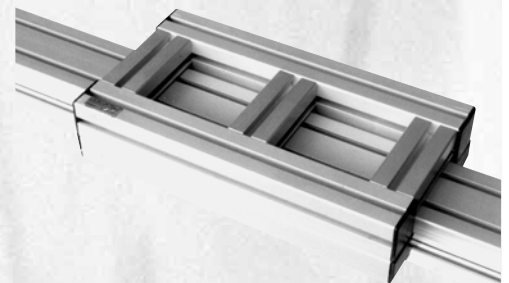
## LINEAR SYSTEM LR



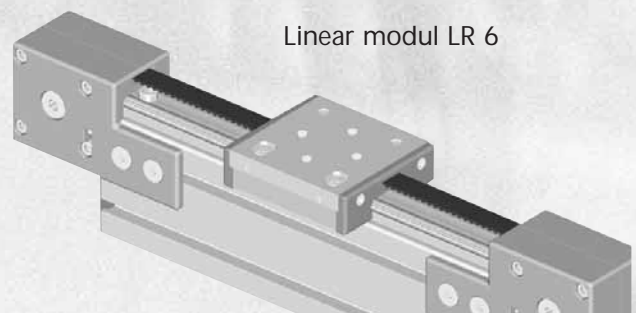
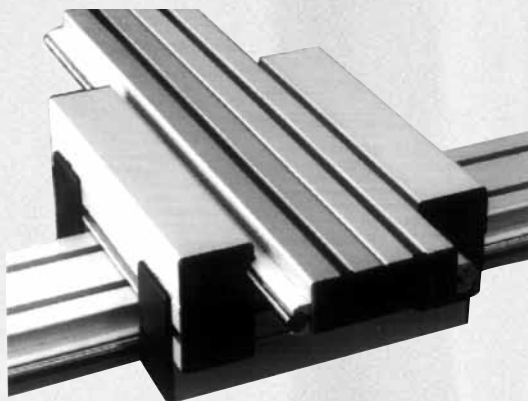
The linear system LR is based on double-row angular contact bearings made of bearing steel and hardened and ground precision shafts  $\varnothing$  12 mm / Cf 53. Any required stroke length can be implemented.

The slides are equipped with double-row roller bearings with gothic arch outer grooves. For very high loads multiple bearings are attached with steel-T-Slot bars directly to the slide-plate giving the construction great rigidity. No special bearing profiles are required for the assembly. The clearance between bearings and shafts can be adjusted by eccentric bushings.

The slides are completely covered, lubrication felts are fitted in the endcaps which clean and grease the shafts. For maintenance purposes the felts can be exchanged quickly and easily without tools. This advantage is important for applications in rough working conditions



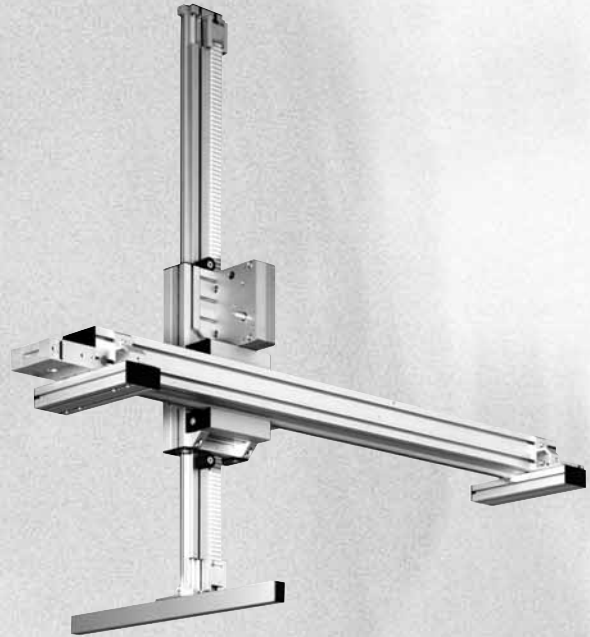
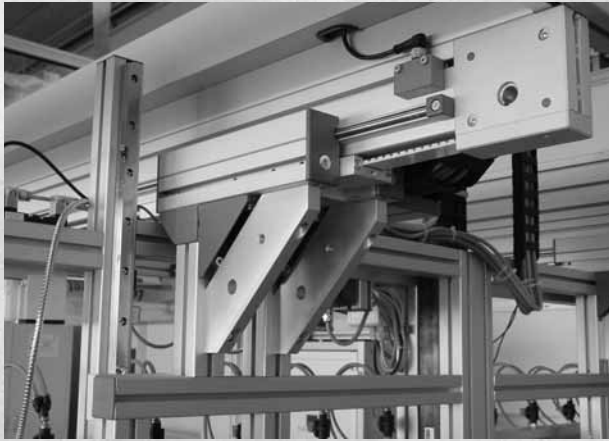
Both closed and open-frame slides with any desired length or width can be fabricated.



Linear modul LR 6

X/Y-tables are easily constructed by the attachment of 4 bearings on to the top of the slide. The guide rails for this configuration are made from profile 45 x 32. End caps LR and cover profile AL also fit the y-axis.

# LINEAR SYSTEM LR



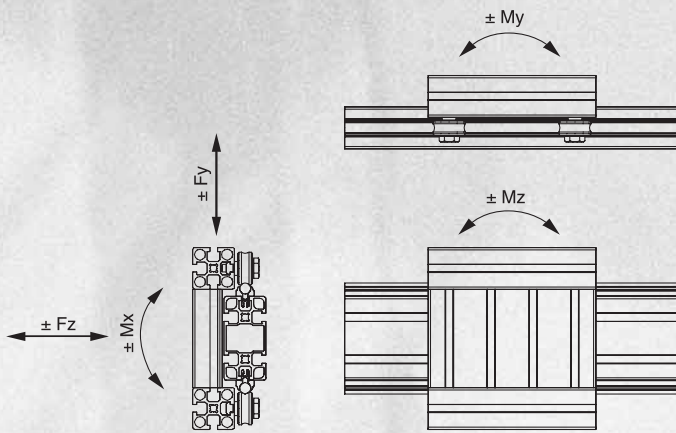
## Load capacity

Calculation of max. moment loads as function of the slide length:

$$M_y \text{ max.} = 0,89 \cdot (L-45) \text{ Nm}$$

$$M_z \text{ max.} = 1,50 \cdot (L-45) \text{ Nm}$$

L = length of slide



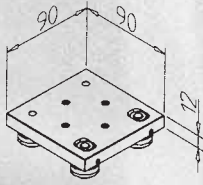
Linear system Slides	LR6	LR 12			Slide 135	Slide 180	Slide 180
	Slide LR 6 4 bearings L = 90 mm	Slide 45 4 bearings L = 180 mm	Slide 90 4 bearings L = 180 mm		Slide 135 4 bearings L = 180 mm	Slide 180 4 bearings L = 180 mm	Slide 180 8 bearings L = 360 mm
Mx max.	30 Nm	79 Nm	107 Nm	130 Nm	165 Nm	240 Nm	
My max.	75 Nm	120 Nm	120 Nm	120 Nm	120 Nm	275 Nm	
Mz max.	40 Nm	202 Nm	202 Nm	202 Nm	202 Nm	470 Nm	
Fy max.	800 N	3500 N	3500 N	3500 N	3500 N	7000 N	
Fz max.	640 N	1500 N	1500 N	1500 N	1500 N	3000 N	

Linear system Slides	LR 16	Slides LR 16-45	Slides LR 16-90
	Mx max.	158 Nm	
My max.	288 Nm		288 Nm
Mz max.	323 Nm		323 Nm
Fy max.	7000 N		7000 N
Fz max.	3000 N		3000 N

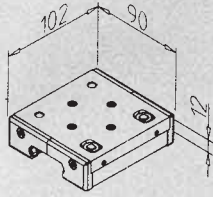
Maximal speed slide 45 - 180: 10 m/sec.  
 Maximal speed slide LR 6: 5 m/sec.

# EXAMPLES OF SLIDES

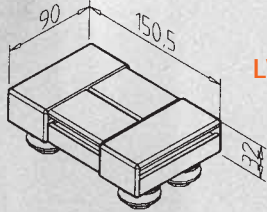
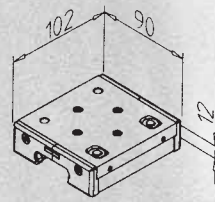
LR 6



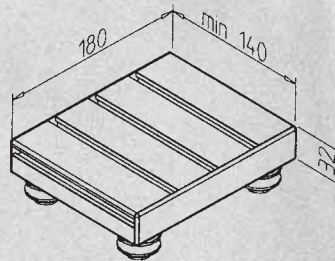
LR 6 Z with cover



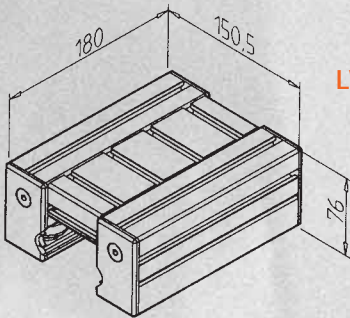
LR 6 Z



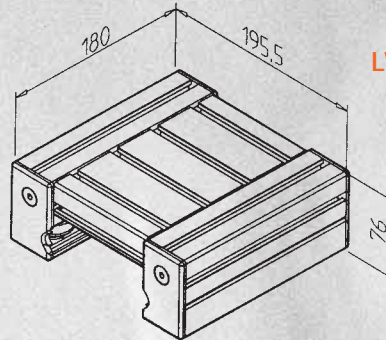
LW 32



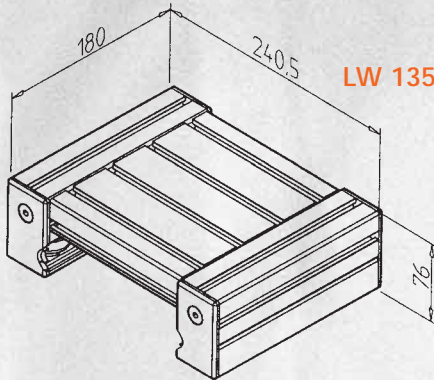
LW 32 E



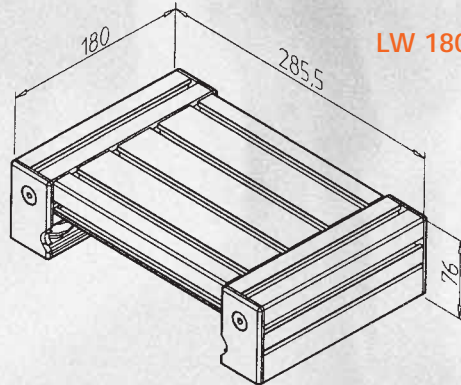
LW 45



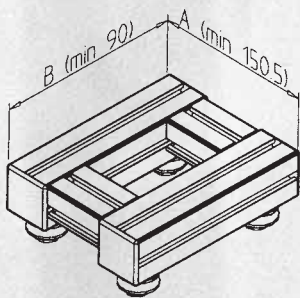
LW 90



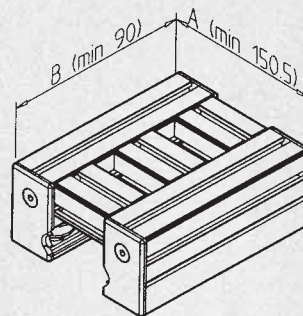
LW 135



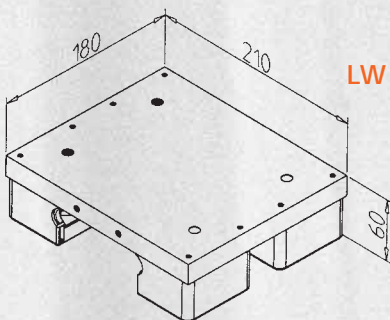
LW 180



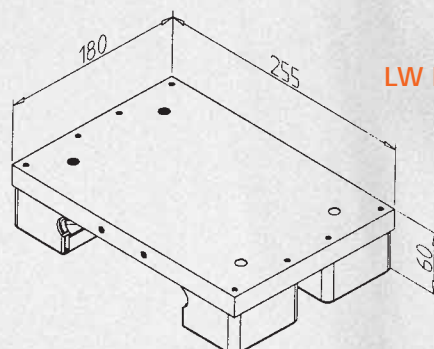
Open



Open



LW LR 16-45



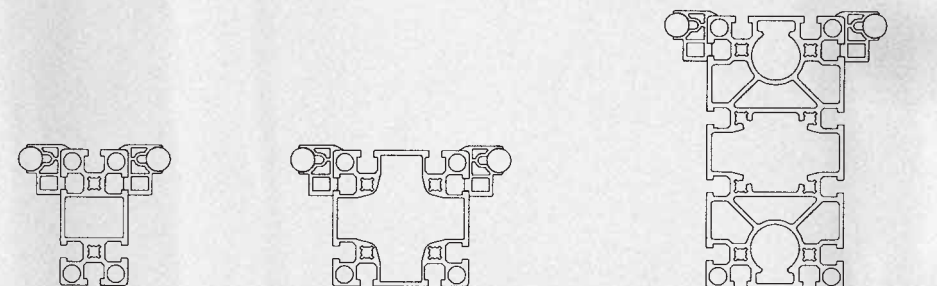
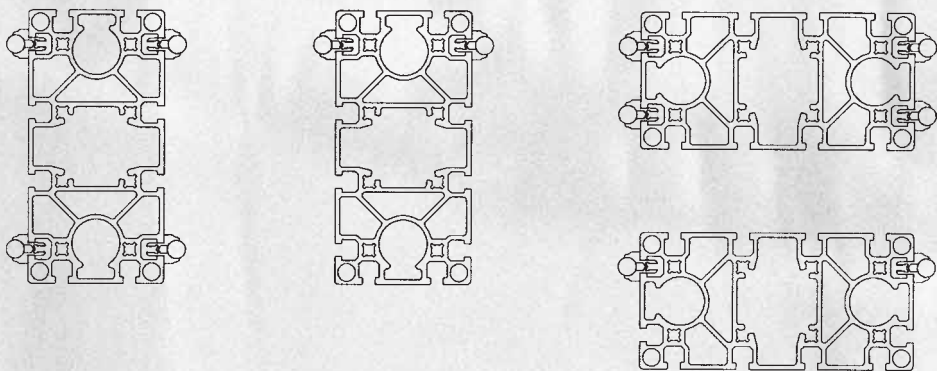
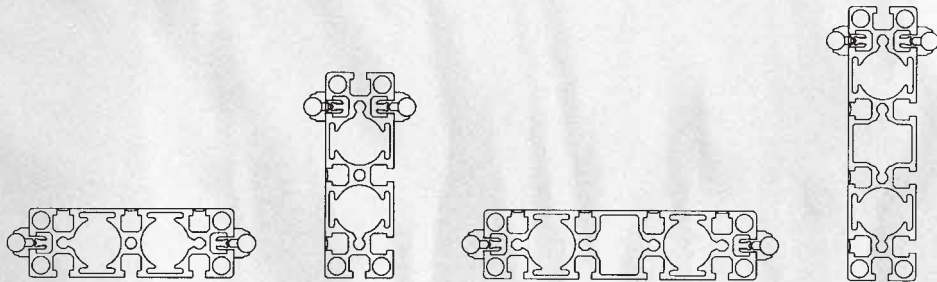
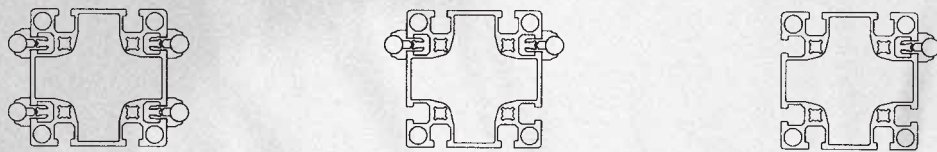
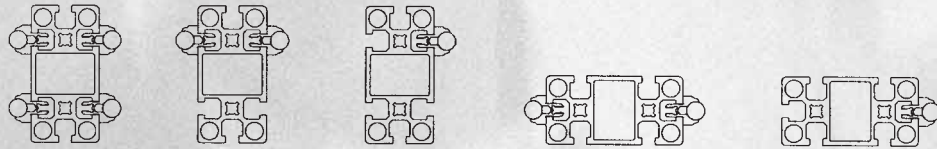
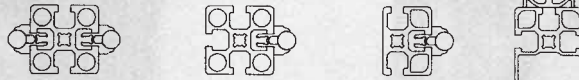
LW LR 16-90

## POSSIBLE DESIGNS OF RAILS

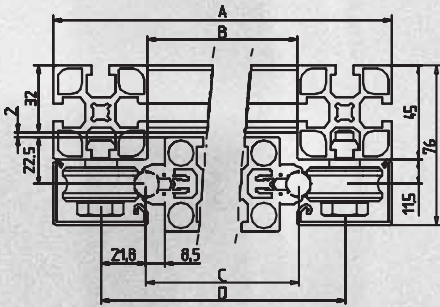
Calculation of rail length LR 12 + LR 16  
(not for LR6)

- Travel
- + Slide length
- + 2 x Belt tensioner
- + 40 mm Security distance

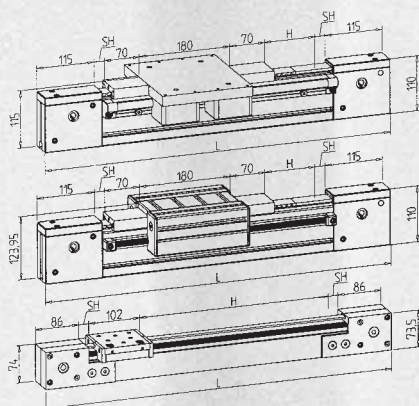
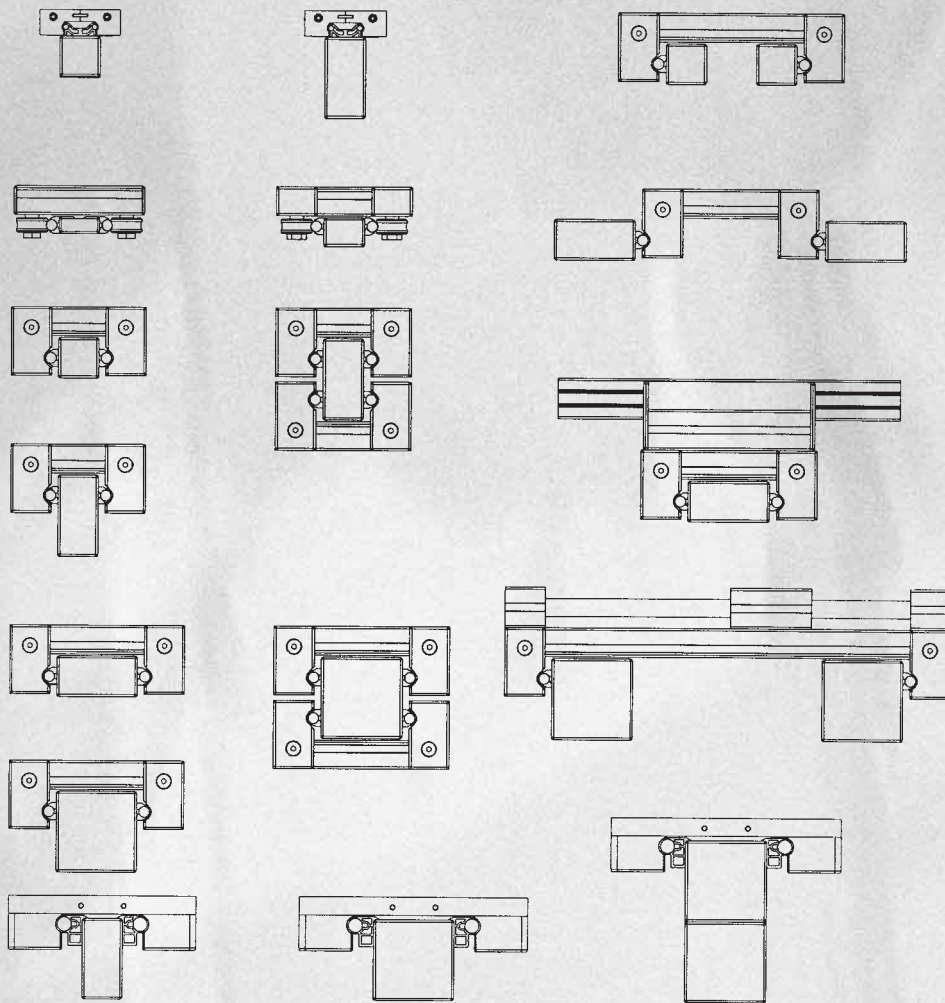
- = Travel
- + Slide length
- + 180 mm



# POSSIBLE COMBINATIONS OF RAILS AND SLIDES



Slide-type	LR 6	LW 45	LW 90	LW 135	LW 180	LR 16-45	LR 16-90
A	90	150,5	195,5	240,5	285,5	210	255
B	-	60,5	105,5	150,5	195,5	-	-
C	32	62	107	152	197	85	130
D	60	105,5	150,5	195,5	240,5	149,5	194,5



### LR 12 + LR 16

Calculation of total length L:  
 Travel H  
 + Slide length  
 + 2 x Reverse unit  
 + 2 x Belt tensioner  
 + 40 mm Security distance SH  
 = Travel + slide length + 410 mm

### LR 6

Calculation of total length L:  
 Travel H  
 + Slide length (102)  
 + 2 x Belt tensioner  
 + 40 mm Security distance SH  
 = Travel + 314 mm\*

\*Please note: This is just a reference value, as the belt tension is brought up by the timing belt pulley.