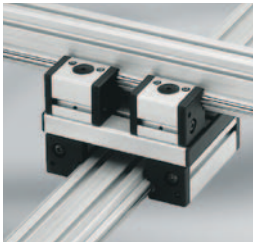


## Roller Guides



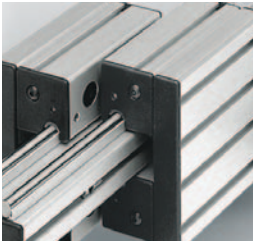
Roller Guide 5 D6 as a compound slide



Roller Guide 8 D6



Roller Guide 8 D14



Two Roller Guides on one Profile



Roller Guide 8 D25



Roller Guide unit with Double-Bearing Unit



The Roller Guides can be extended to any length

### Service

The modular roller guides are easy to assemble and offer high load-bearing capacity, virtually any stroke length and high travelling speed.

The low resistance and generous dimensions contribute to the long service life. Roller Guides consist of a slide and guide profile.

The slides are of modular design constructed from Bearing Units with ball-bearing mounted, prismatic rollers from roller bearing steel, End Cap and Lubricating Systems, and a carriage plate from a construction profile.

The Roller Guides are mounted on Line 5 or 8 Profiles using Shaft-Clamp Profiles, which are simply and cost-effectively clipped or screwed (Roller Guides D25) into the profile grooves. The hardened and polished steel shafts are then pressed into the Shaft-Clamp Profiles along the entire length of the guide. By selecting appropriate lengths and offset section joints for the supporting profile, the Shaft-Clamp Profile and the shaft, it is possible to construct virtually any

length of Roller Guide. Shaft-Clamp Profiles must not be used on profile grooves of types "light" and "E", because sufficient clamping will not be achieved.

The various available diameters of the guiding shafts together with suitable dimensioning of the supporting profile mean that a wide variety of permissible loads can be accommodated.

In addition, any number of Bearing Units can be used and, if necessary, they can be adjusted free from play by means of eccentric bolts.

The Bearing Units offer a range of fastening options via Line 5 or 8 grooves, which makes it far easier to mount or align them on profiles and carriage plates.

## Calculation of service life for all linear slides mounted on rolling elements

$$L = \left(\frac{C}{P}\right)^3 \cdot 100$$

$$L_h = \left(\frac{C}{P}\right)^3 \cdot \frac{1666}{\bar{v}}$$

$$S_0 = \frac{C_0}{P}$$

L = Service life in km

L<sub>h</sub> = Service life in h

C = Dynamic load rating in N

P = Load in N

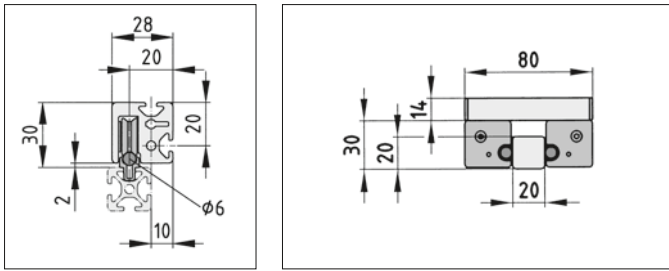
$\bar{v}$  = Mean slide speed in m/min

S<sub>0</sub> = Static load safety factor > 3

C<sub>0</sub> = Static load rating in N

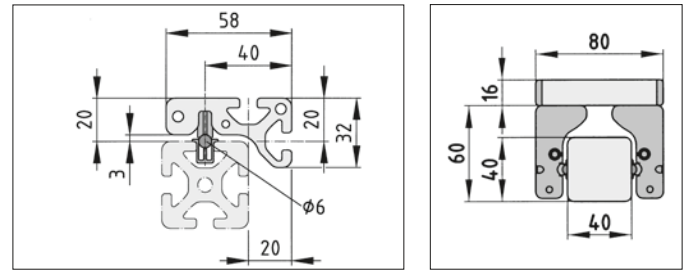
## Guide Alternatives

### 5 D6



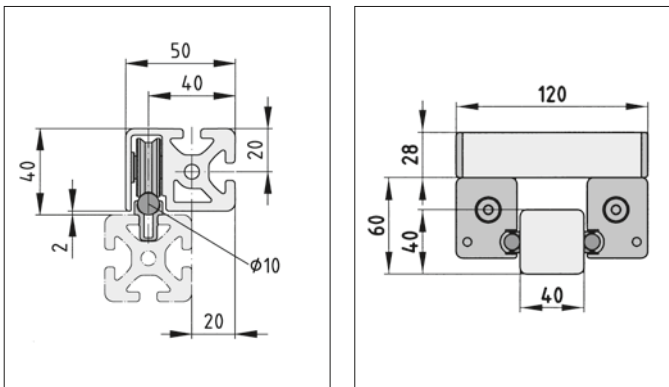
Basic construction of Profiles 5 with Roller Guide 5 on Shaft D6.

### 8 D6



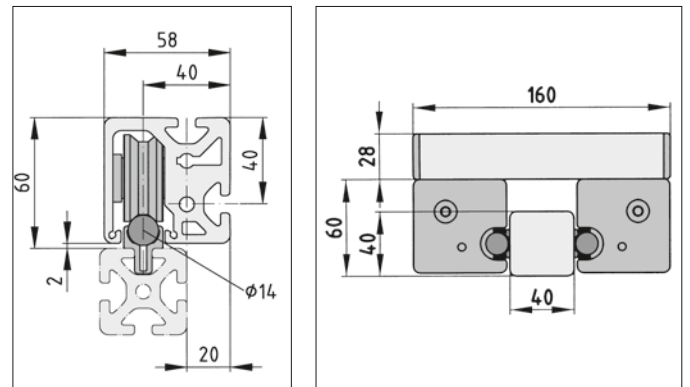
Basic construction of Profiles 8 with Roller Guide 8 on Shaft D6.

### 8 D10



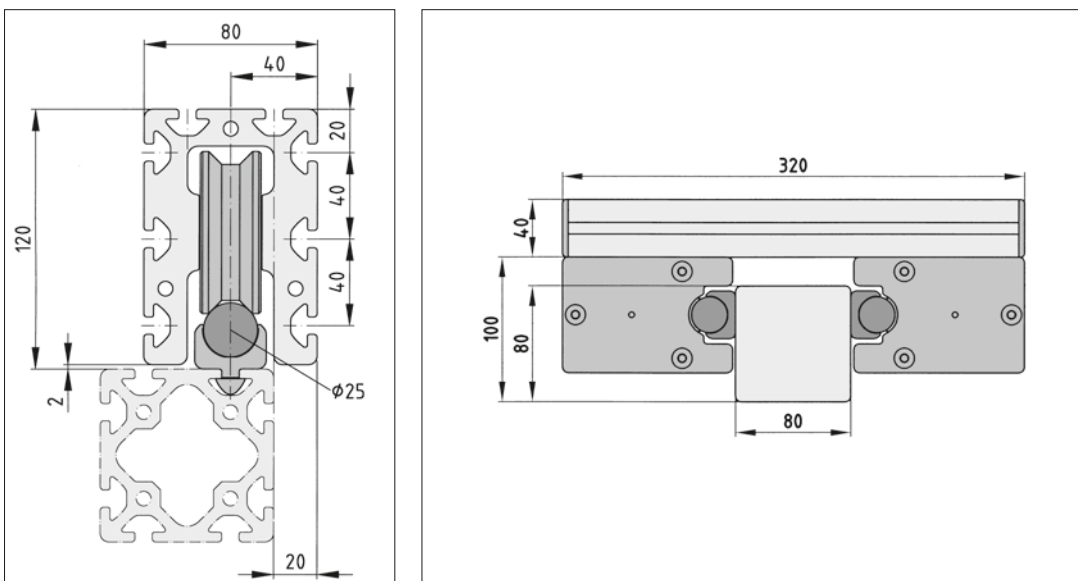
Basic construction of Profiles 8 with Roller Guide 8 on Shaft D10.

### 8 D14



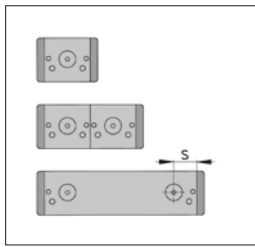
Basic construction of Profiles 8 with Roller Guide 8 on Shaft D14.

### 8 D25



Basic construction of Profiles 8 with Roller Guide 8 on Shaft D25.

## Minimum Stroke Lengths



Possible arrangement of the End Cap and Lubricating Systems which are required in every instance. The spring-loaded end cap and lubricating felt can be re-lubricated via the hole provided. Recommended re-lubricating cycle: every six months. In order to ensure adequate lubrication, the minimum stroke lengths required for the slides must be observed.

	5 D6	8 D6	8 D10	8 D14	8 D25
Bearing Unit	28 mm	60 mm	60 mm	60 mm	120 mm
Double-Bearing Unit	68 mm	80 mm	140 mm	140 mm	300 mm
Special Bearing Unit	s + 50 mm	s + 50 mm	s + 85 mm	s + 120 mm	s + 235 mm

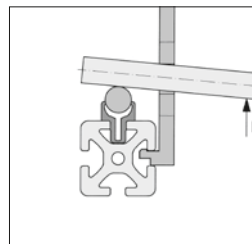
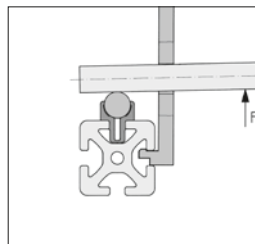
s = distance between centre of Roller and felt in mm

## Frictional Forces

Frictional losses must be taken into consideration when designing drive units. The quoted values refer to slides, each with 4 Rollers and 4 End Cap and Lubrication Systems.

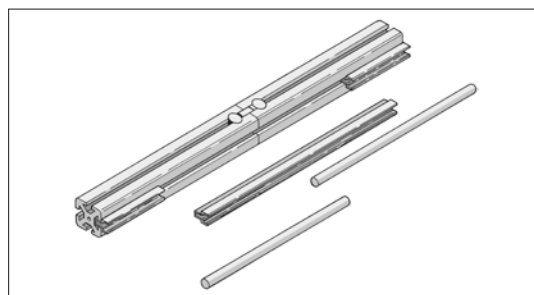
Roller Guides 5 D6 and 8 D6	Roller Guide 8 D10	Roller Guide 8 D14	Roller Guide 8 D25 and 12 D25
$F_R = 5 \text{ N}$	$F_R = 10 \text{ N}$	$F_R = 15 \text{ N}$	$F_R = 25 \text{ N}$

## Assembly of Guiding Shafts



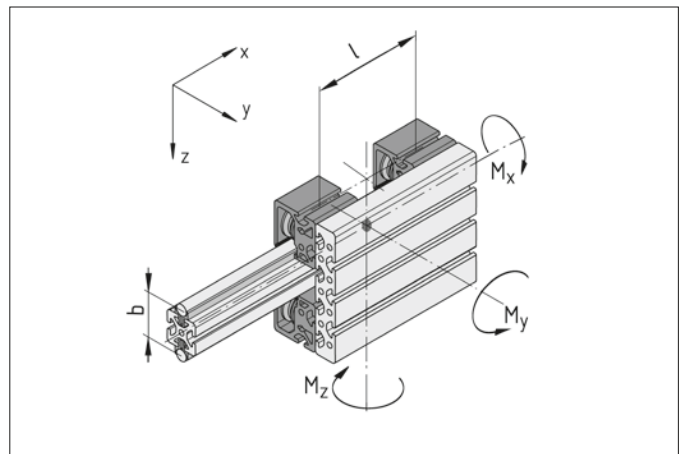
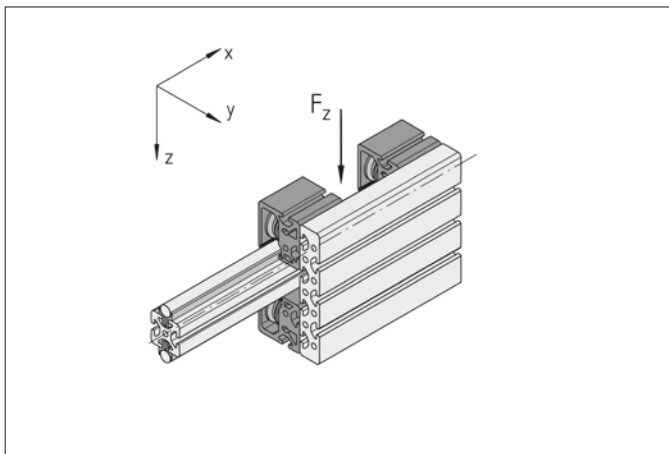
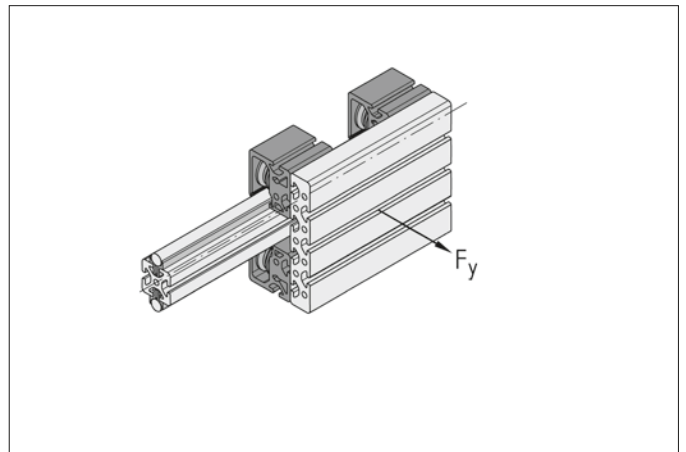
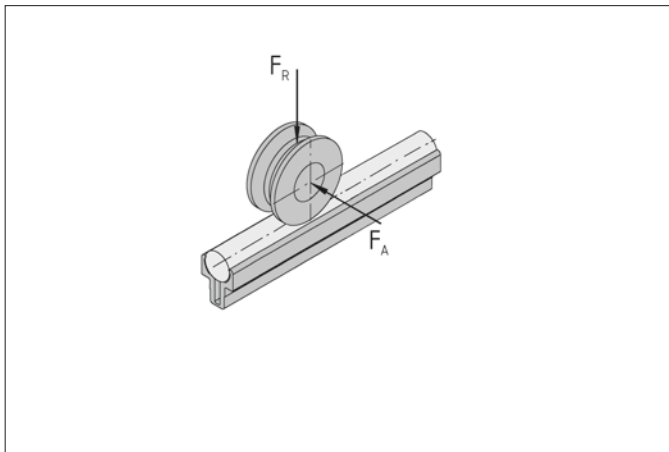
Assembly of Guiding Shafts proceed as follows when mounting the guiding shafts:

- In order to prepare Shafts D10, D14 or D25 for pinning, drill blind holes into the Shaft and Shaft-Clamp Profile (for further details, see the note below).
- Clean the Shaft-Clamp Profiles and the groove in the supporting profile.
- Grease the contact faces of the Shaft-Clamp Profiles, supporting profile and guiding shafts with roller bearing grease.
- Press in the Shaft-Clamp Profiles as far as they will go.
- Press in the guiding shafts using the mounting aid.



Note: Where Roller Guides are longer than 3 m, the Shafts, the Shaft-Clamp Profile and the supporting profile should be assembled with joints offset to each other.

## Load Specifications



	5 D6 / 8 D6	8 D10	8 D14	8 D25
$F_A$	80 N	220 N	400 N	1300 N
$F_R$	200 N	650 N	1200 N	3800 N
$F_y$	320 N	880 N	1600 N	5200 N
$F_z$	400 N	1300 N	2400 N	7600 N
$M_x$	160 N × b	440 N × b	800 N × b	2600 N × b
$M_y$	200 N × l	650 N × l	1200 N × l	3800 N × l
$M_z$	160 N × l	440 N × l	800 N × l	2600 N × l

Performance at max. load: 10,000 km

Max. speed: 10 m/s

Lengths  $b$  and  $l$  quoted in m

When using stainless steel shafts and rollers, the permissible loading values must be reduced by 25%!