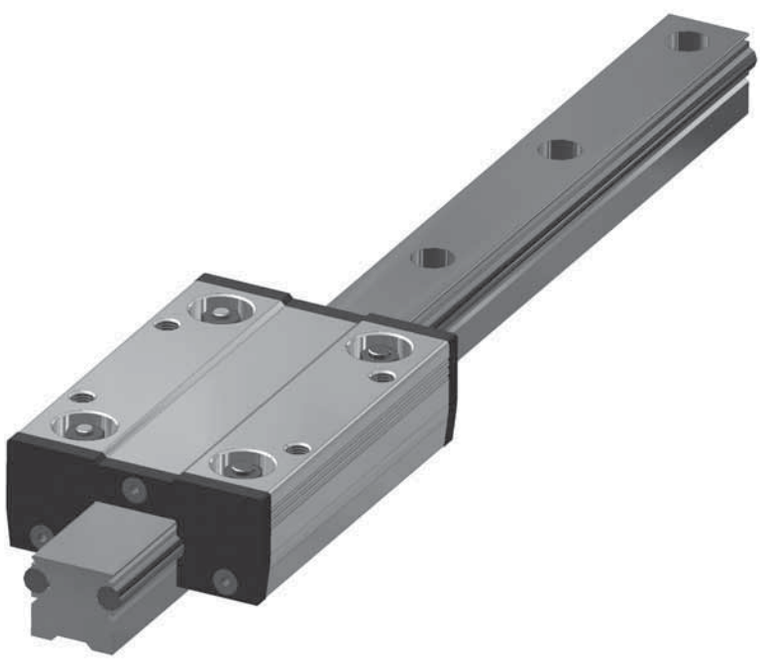
Flexi-Line 645

FWN System



Flexi-Line 645

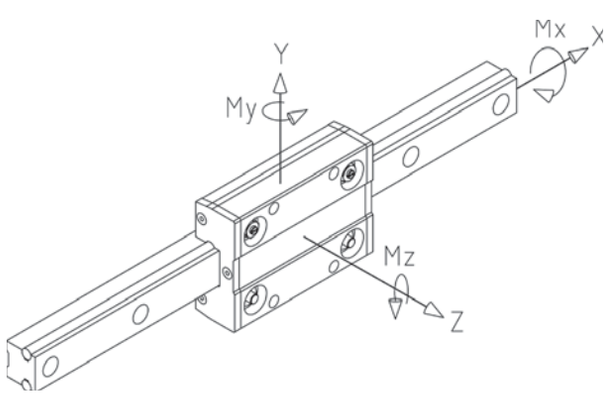
System Flexi-Line 645

Aluminium guide rails FWN as well as carriages TA4 and TB4 are the components of this line.
In addition to the standard dimensions that are ISO 645 compatible, the guide system can be adapted to customers' requirements.
Bore holes and threads on the guide rails can be made in any distance required, the carriages may have over-lengths and a special hole pattern and all this is also available as corrosion resistance type "NX".

Compared to linear guides made of steel these guide rails and carriages weigh up to 45% less and stand out due to their excellent running performance which minimises the driving power and reduces significantly the cost for motors and controls.

With eccentric bolts the guide rollers of the carriages are kept free from play. However the user also has the possibility to change the settings, for example in case of vibrations, and to apply an individual preload on the guide system. On both sides of the carriages can be mounted end plates with oil-soaked felt seals to ensure low-wear operation.

The following graph applies to the loads indicated in the tables:



MAXIMUM LOAD ON INDIVIDUAL CARRIAGES

The table below shows the maximum load that can be applied to an individual carriage.

Carriage	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
TA4GLA17.06 TB4GLA17.06	600	400	5	15	20
TA4GLA19.06 TB4GLA19.06	1 700	960	19	33	70

DYNAMIC LOAD OF THE INDIVIDUAL CARRIAGE

The table below shows the load corresponding to the nominal working life of 100 km.

The nominal working life of the carriage can be determined by the standard bearing formula.

$$L10 = (Ci/Pi)^3 \times 100 \text{ km}$$

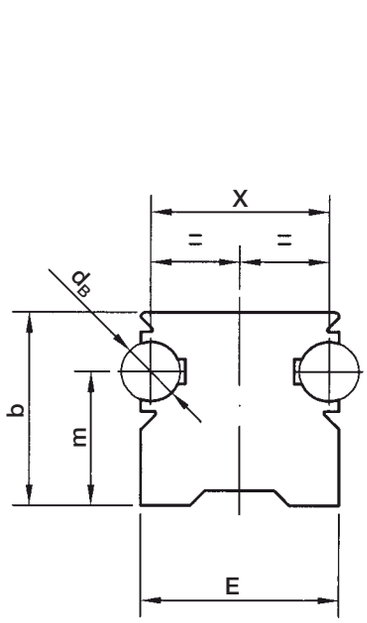
Ci is the carrying capacity in a specific direction and Pi is the load applied in the same direction.

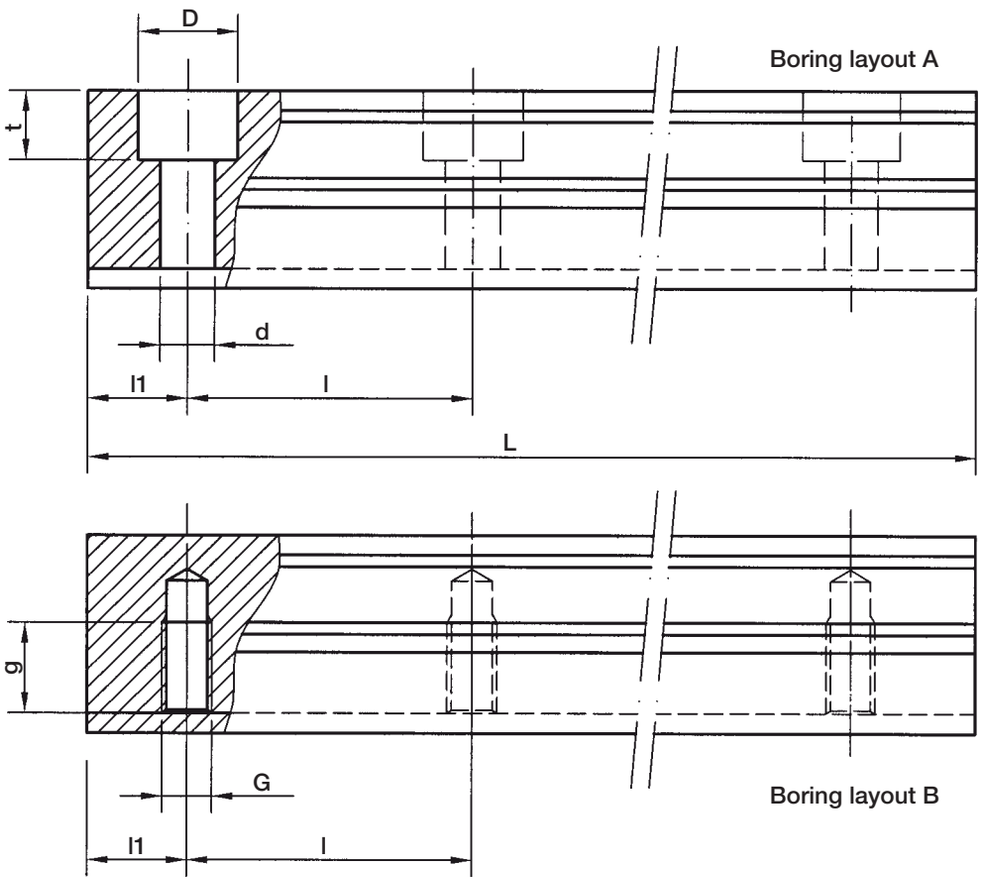
Carriage	Cy (N)	Cz (N)	CMx (Nm)	CMy (Nm)	CMz (Nm)
TA4GLA17.06 TB4GLA17.06	2 596	1 445	13	46	84
TA4GLA19.06 TB4GLA19.06	4 920	2 700	30	100	180

Important:
- Values are calculated on the basis of lubricated rails
- For combined loads please proceed as indicated in the calculation examples at the beginning of the catalogue. In case of questions our application engineers will be pleased to assist you.

Flexi-Line 645

Guide rails FWN Dimensions according to DIN 645





Type	Dimensions (mm)												Weight (kg/m)
	d_B	E	X	D	d	G	g	m	t	b	l_1	l	
FWN 20	6	20	18	10	5.5	M6	12	13.5	7	19.5	30	60	1.3
FWN 25	6	23	21	11	6.6	M6	12	18	8.5	25.5	30	60	1.8
Max length of single guide element L=5 800 mm (1)													

1) Longer rails are supplied in sections with ground butt-joints

Hole layout
- holes according to DIN (**A** or **B**)
- finishes to drawing (**NZ**)
- without holes (**NF**)

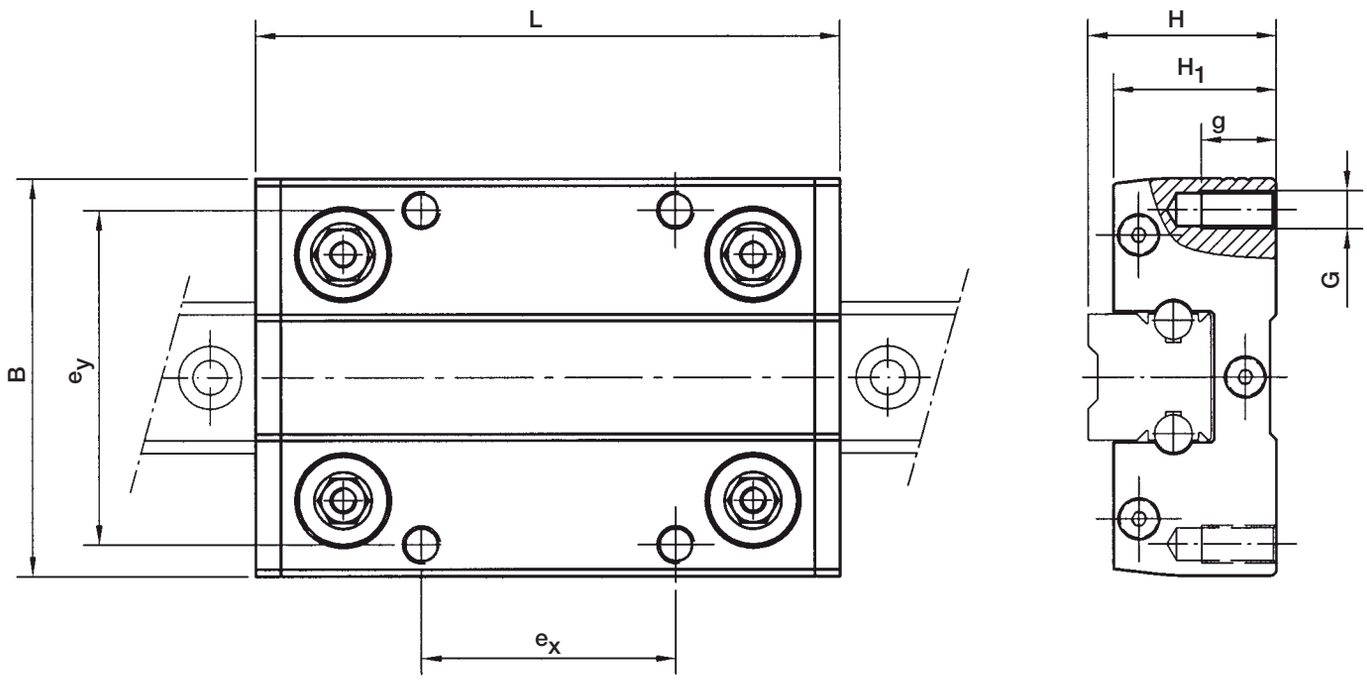
Optional features
- ground one end (**R**)
- ground both ends (**RR**)
- stainless steel shafts (**NX**)

Example of standard designation: **FWN20/1000 A**

See page 17 for standard codification

Flexi-Line 645

Carriage TA4 Dimensions according to DIN 645

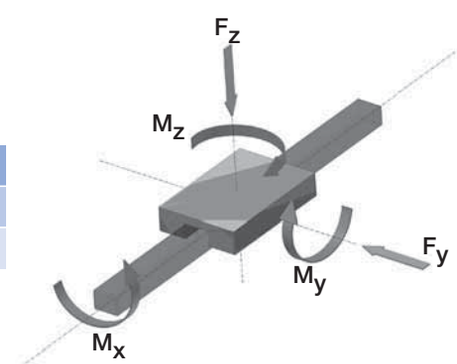


Type	Dimensions (mm)								Weight (kg)	Suggested combinations
	B	G	H	H_1	L	e_x	e_y	g		
TA4GLA 17.06	63	M6	30	26	92	40	53	12	0.3	**FWN 20**
TA4GLA 19.06	70	M8	36	31	104	45	57	16	0.4	**FWN 25**

Longer carriages on request

Max load on a single carriage

Carriage	F_y (N)	F_z (N)	M_x (Nm)	M_y (Nm)	M_z (Nm)
TA4GLA 17.06	600	400	5	15	20
TA4GLA 19.06	1 700	960	19	33	70

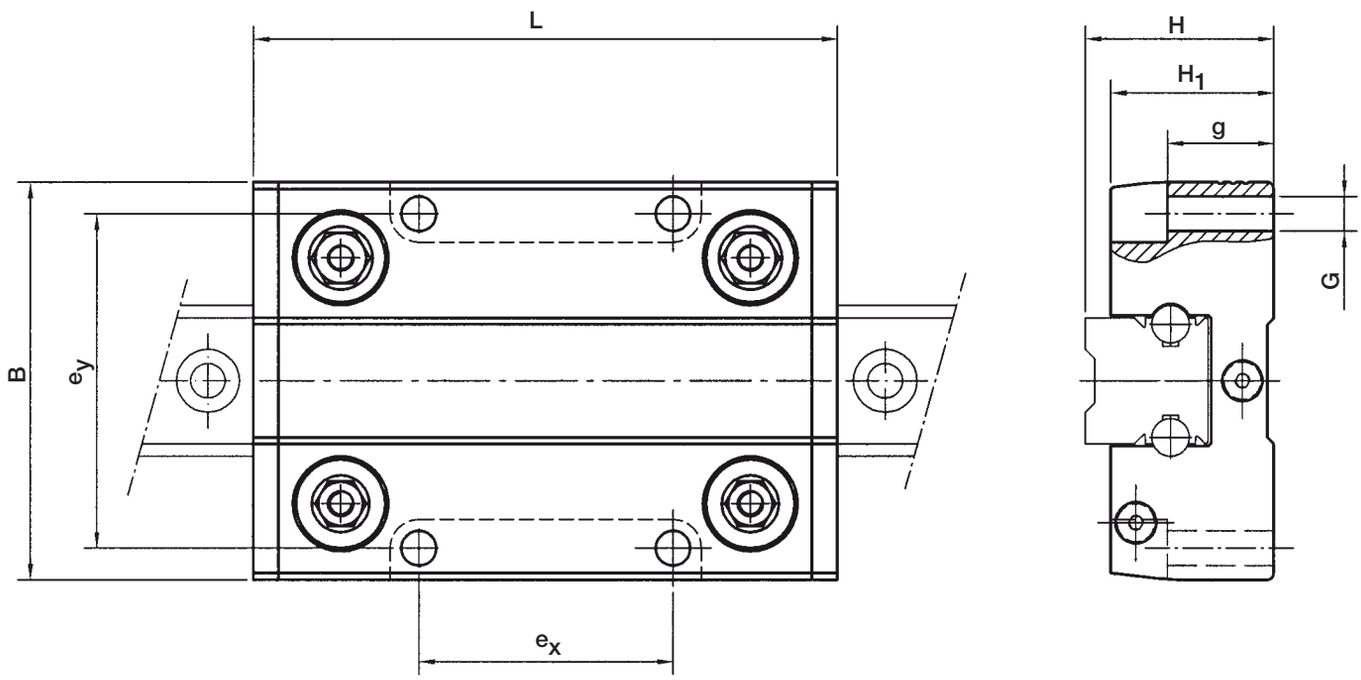


Optional features

- available with stainless steel guide rollers (**NX**)
- available with felts for lubrication (**UU**)

Flexi-Line 645

Carriage TB4 Dimensions according to DIN 645

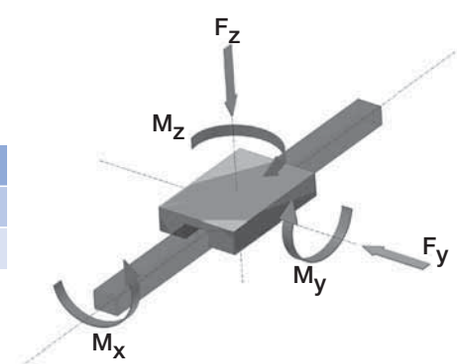


Type	Dimensions (mm)								Weight (kg)	Suggested combinations
	B	G	H	H_1	L	e_x	e_y	g		
TB4GLA 17.06	63	5.5	30	26	92	40	53	17	0.25	**FWN 20**
TB4GLA 19.06	70	6.6	36	31	104	45	57	23.5	0.35	**FWN 25**

Longer carriages on request

Max load on a single carriage

Carriage	F_y (N)	F_z (N)	M_x (Nm)	M_y (Nm)	M_z (Nm)
TB4GLA 17.06	600	400	5	15	20
TB4GLA 19.06	1 700	960	19	33	70



Optional features

- available with stainless steel guide rollers (**NX**)
- available with felts for lubrication (**UU**)

Flexi-Line 645

Mounting examples

Medical equipment
Flexi-Line