

Guide units FEN/FENG for standard cylinders

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Key features

At a glance

The guide units FEN and FENG protect standard cylinders from torsion when these are subjected to high torque loads.

They offer high precision guidance for workpiece handling and other handling applications.

Two guide variants are available:

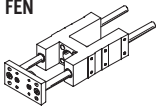
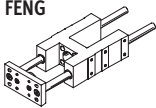
- Plain-bearing guide
- Recirculating ball bearing guide



Note

Guided drive DFP has an integrated guide
→ Internet: dfp

Drive/guide unit combination options

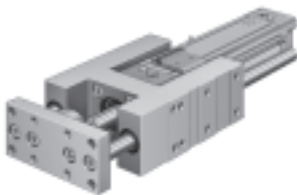
Drive/guide unit	DNC	DNCB	DNG	DSN	DSNU
	—	—	—	■	■
	■	■	■	—	—
→ Page/Internet	dnc	dncb	dng	dsn	dsnu

Position sensing

With standard cylinder DNC:
When installed a mounting kit is required to sense the front end position. The rear end position can be sensed directly via the sensor slot.

With standard cylinder DNCB:
There are sensor slots on the pneumatic connection side of the standard cylinder DNCB, therefore no additional mounting kit is required to sense the end positions.

With standard cylinder DSNU/DNG:
With these standard cylinders, a mounting kit is absolutely necessary for sensing the end positions.



Mounting kits			
Drive	Piston Ø	Part No.	Type
DNG-...-A	32 ... 50	36162	SMB-2-B
	63 ... 100	36163	SMB-3-B
DSNU-...-A	8	175091	SMBR-8-8
	10	175092	SMBR-8-10
	12	175093	SMBR-8-12
	16	175094	SMBR-8-16
	20	175095	SMBR-8-20
	25	175096	SMBR-8-25
DNC-...-A	32, 40	175705	SMB-8-FENG-32/40
	50, 63	175706	SMB-8-FENG-50/63
	80, 100	175707	SMB-8-FENG-80/100

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Technical data

FEN to DIN ISO 6432



- Ø - Diameter
8 ... 25 mm

- I - Stroke length
1 ... 250 mm



FENG to DIN ISO 6432 and VDMA 24 562

- Ø - Diameter
32 ... 100 mm

- I - Stroke length
10 ... 500 mm

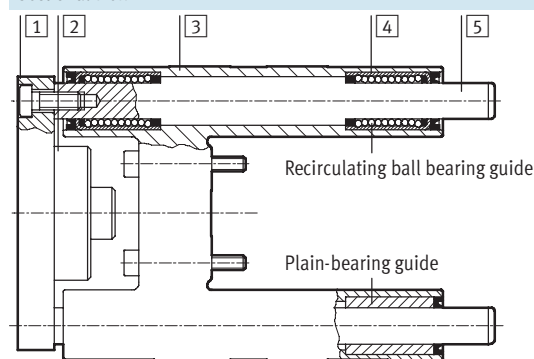


General technical data											
Type	FEN-...					FENG-...					
Piston Ø	8/10	12/16	20	25		32	40	50	63	80	100
Stroke [mm]	1 ... 100	1 ... 200	1 ... 250			1 ... 500					
Guide	Plain-bearing guide, recirculating ball bearing guide										
Type of mounting	Via female thread										
Mounting position	Any										
Ambient temperature [°C]	-20 ... +80 °C										

Weight [g]											
Type	FEN-...					FENG-...					
Piston Ø	8/10	12/16	20	25		32	40	50	63	80	100
With plain-bearing guide											
Basic weight with 0 mm stroke	332	490	873	866		1,570	2,480	4,190	5,540	10,720	13,420
Additional weight per 10 mm stroke	10	13	13	13		17	31	47	48	70	70
With recirculating ball bearing guide											
Basic weight with 0 mm stroke	300	429	828	813		1,530	2,370	4,030	5,410	10,430	12,990
Additional weight per 10 mm stroke	11	14	14	14		18	32	50	49	80	80

Materials

Sectional view



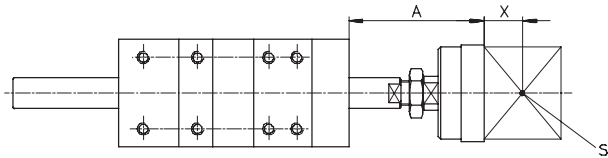
Guide unit		FEN	FENG with plain-bearing guide	FENG with recirculating ball bearing guide
1 Yoke plate	32 ... 63 80, 100	Aluminium Steel	Aluminium Steel	Aluminium Steel
2 Coupling		Steel	Steel	Steel
3 Guide		Aluminium	Aluminium	Aluminium
4 Bearing		Sintered bronze	Sintered bronze	Steel
5 Guide rods		Steel	Steel	Steel
- Note on materials		-	-	Free of copper, PTFE and silicone

Guide units FEN/FENG for standard cylinders

Technical data

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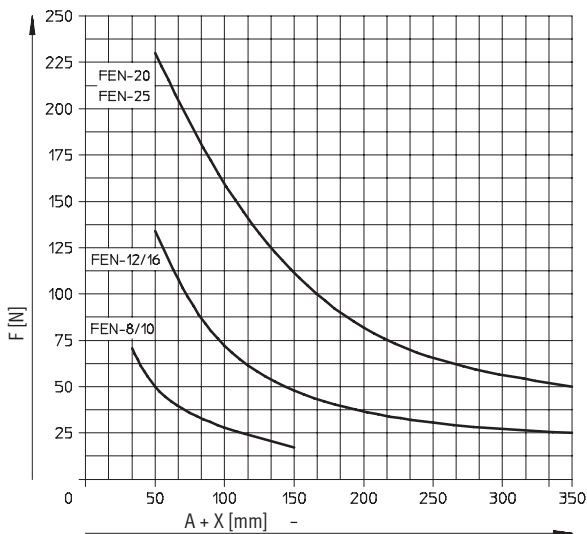
Max. working load F as a function of projection A



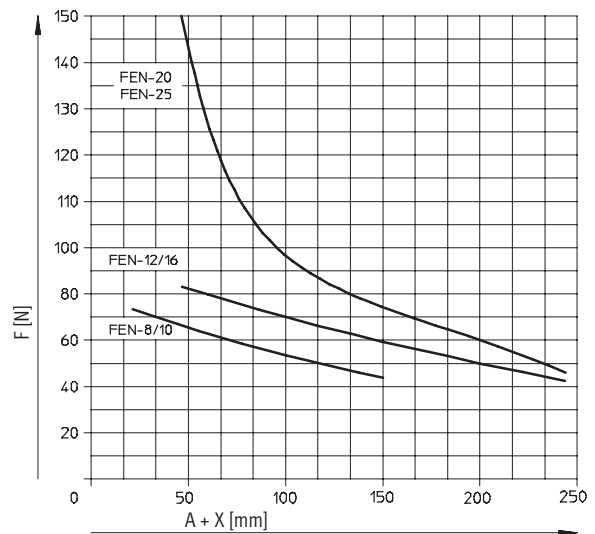
- A = Projection
- X = Distance to centre of gravity of working load
- S = Centre of gravity of working load

FEN-8 ... 25

with plain-bearing guide

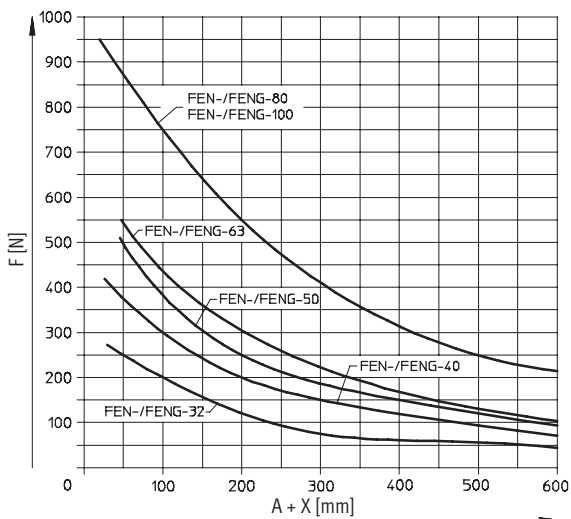


with recirculating ball bearing guide

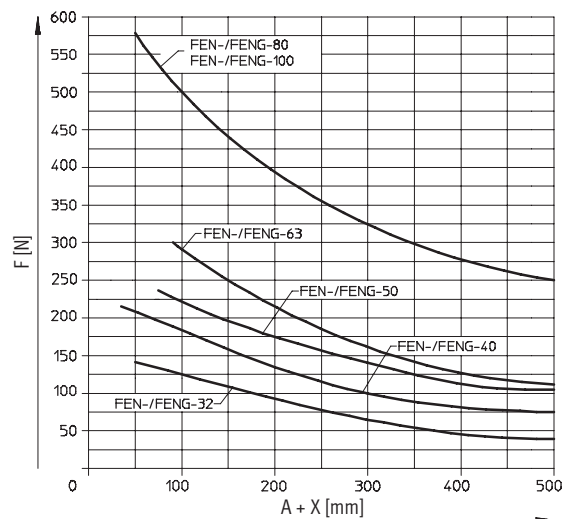


FENG-32 ... 100

with plain-bearing guide

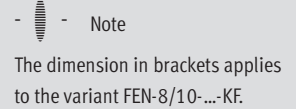


with recirculating ball bearing guide



Technical data

FEN-8/10



Technical drawing of a 4-hole plate (part 1) and its assembly details. The main view shows a rectangular plate with dimensions 28 x 65. It has four mounting holes with a diameter of $\phi 10$ and a center-to-center distance of 32. The plate has a thickness of 5.7. The mounting holes are spaced 16 from the left and right edges and 32 from the top and bottom edges. The plate is shown in a perspective view with dimensions 28, 65, 32, 16, 5.7, and 108+.

Assembly details include:

- A side view showing the plate (1) and a mounting bracket (2) with dimensions 47, $\phi 14$, and 12.
- A top view showing the plate (1) and a mounting bracket (2) with dimensions 13, 6.5, 24, 10, 15, 38⁺⁵, 60, 26, $\phi 10$ f8, and 23.
- A bottom view showing the plate (1) and a mounting bracket (2) with dimensions 30, 68, 12, 23, and M5.

- 1 Cylinders DSN, DSNU
- 2 Compensating coupling for radial and axial alignment

+ = plus stroke length

Guide units FEN/FENG for standard cylinders

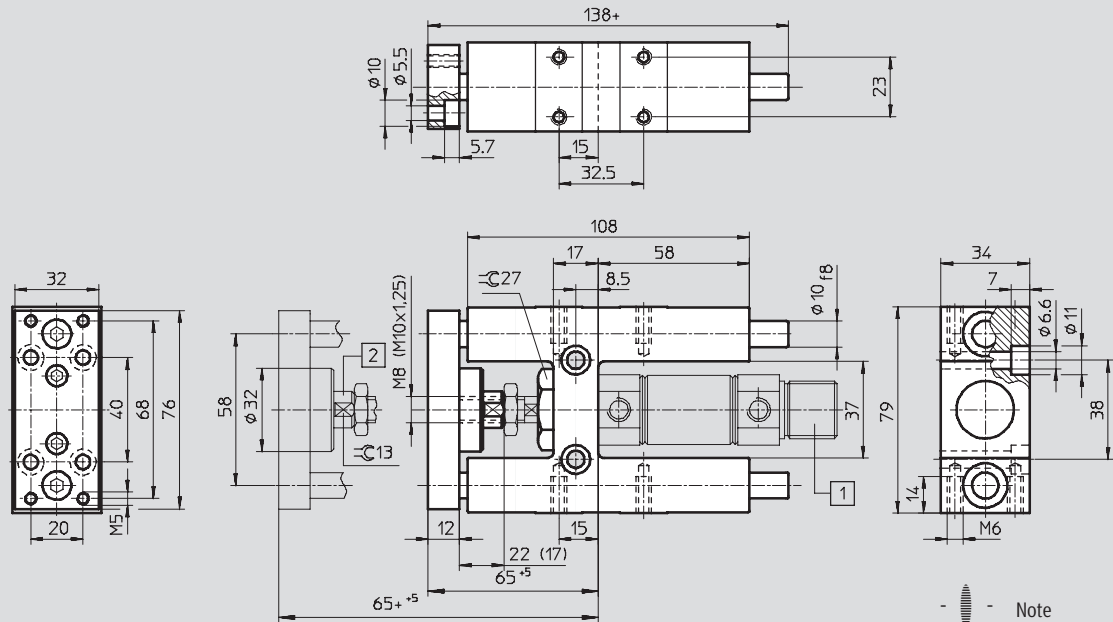
Technical data

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Dimensions

Download CAD data → www.festo.com

FEN-20/25



Note
Dimensions in brackets apply to the size FEN-25.

- 1 Cylinders DSN, DSNU
- 2 Compensating coupling for radial and axial alignment

+ = plus stroke length

Guide units FEN/FENG for standard cylinders

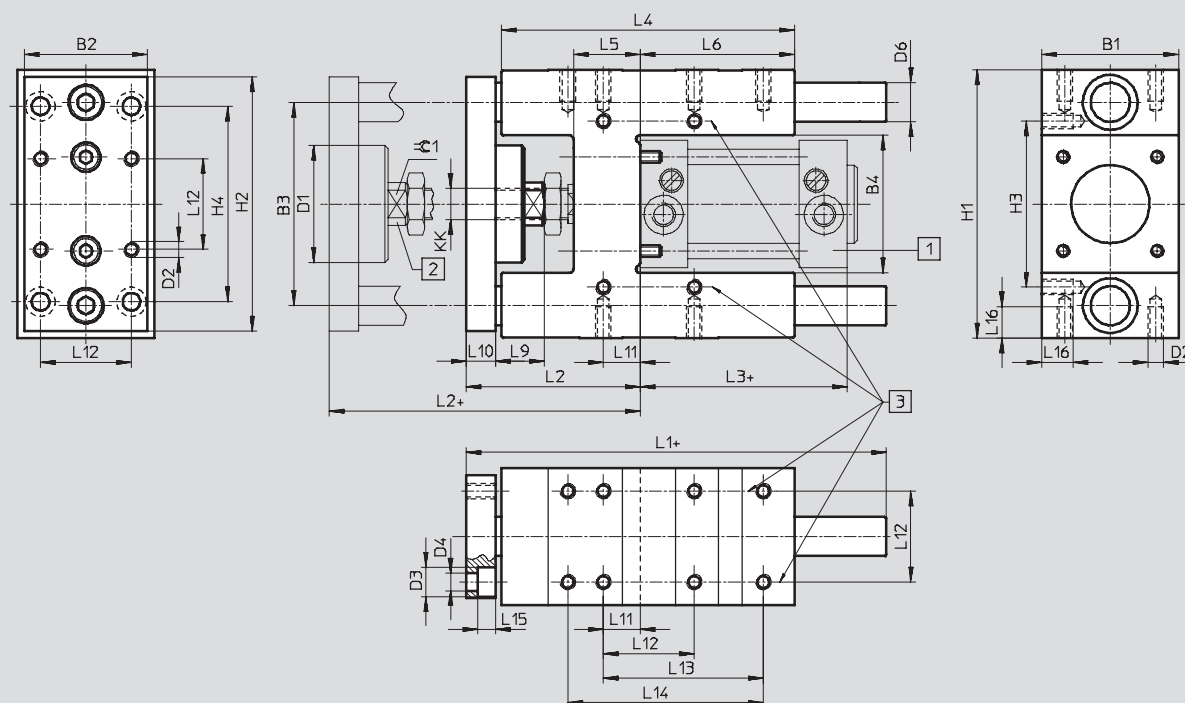
Technical data

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Dimensions

Download CAD data → www.festo.com

FENG-32 ... 100



- 1) Cylinders DNCB, DNC, DNG
2) Compensating coupling for radial and axial alignment

- 3) Users can drill additional mounting holes along these axes as required
+ = plus stroke length

Ø	B1	B2	B3	B4	D1 Ø	D2	D3 Ø	D4 Ø	D6 ¹⁾ Ø	H1	H2	H3	H4	KK
[mm]	-0.3		±0.2									±0.2	±0.2	
32	50	45	74	50.5 ±0.3	44	M6	11	6.6	12	97 -0.4	90	61	78	M10x1.25
40	58	54	87	58.5 ±0.3	44	M6	11	6.6	16	115 -0.4	110	69	84	M12x1.25
50	70	63	104	70.5 ±0.3	60	M8	15	9	20	137 -0.5	130	85	100	M16x1.5
63	85	80	119	85.5 ±0.3	60	M8	15	9	20	152 -0.5	145	100	105	M16x1.5
80	105	100	148	106 ±0.6	78	M10	18	11	25	189 -0.5	180	130	130	M20x1.5
100	130	120	172	131 ±0.6	78	M10	18	11	25	213 -0.5	200	150	150	M20x1.5

Ø	L1	L2	L3	L4	L5	L6	L9	L10	L11	L12	L13	L14	L15	L16	≈C1
[mm]										±0.2	±0.2	±0.2			
32	155	67 +5	94	125	24	76	20	12	4.3	32.5	70.3	78	6.5	12	15
40	170	75 +5	105	140	28	81	22	12	11	38	84	-	6.5	14	15
50	188	89 +10	106	150	34	79	25	15	18.8	46.5	81.8	100	9	16	19
63	220	89 +10	121	182	34	111	25	15	15.3	56.5	105	-	9	16	19
80	258	111 +10	128	215	40	128	32	20	21	72	-	-	11	20	27
100	263	116 +10	138	220	40	128	32	20	24.5	89	-	-	11	20	27

1) FENG-... : Tolerance class f8
FENG-...-KF: Tolerance class h6

Guide units FEN/FENG for standard cylinders

Technical data

Ordering data FEN-... for variable strokes for standard cylinders DSN/DSNU					
Piston Ø [mm]	Stroke [mm]	with plain-bearing guide		with recirculating ball bearing guide	
		Part No.	Type	Part No.	Type
8/10	1 ... 100	35196	FEN-8/10-...	35197	FEN-8/10-...-KF
12/16	1 ... 200	19168	FEN-12/16-...	33481	FEN-12/16-...-KF
20	2 ... 250	19169	FEN-20-...	33482	FEN-20-...-KF
25	2 ... 250	19170	FEN-25-...	33483	FEN-25-...-KF

Ordering data FENG-... for variable strokes for standard cylinders DNC/DNCB/DNCV/DNG					
Piston Ø [mm]	Stroke [mm]	with plain-bearing guide		with recirculating ball bearing guide	
		Part No.	Type	Part No.	Type
32	10 ... 500	34481	FENG-32-...	34487	FENG-32-...-KF
40		34482	FENG-40-...	34488	FENG-40-...-KF
50		34483	FENG-50-...	34489	FENG-50-...-KF
63		34484	FENG-63-...	34490	FENG-63-...-KF
80		34485	FENG-80-...	34491	FENG-80-...-KF
100		34486	FENG-100-...	34492	FENG-100-...-KF

Ordering data FENG-...-KF with recirculating ball bearing for fixed strokes for standard cylinders DNC/DNCB/DNCV/DNG								
Piston Ø [mm]	Part No.	Type	Part No.	Type	Part No.	Type	Part No.	Type
Stroke	50 mm		100 mm		160 mm		200 mm	
32	34493	FENG-32-50-KF	34494	FENG-32-100-KF	34495	FENG-32-160-KF	34496	FENG-32-200-KF
40	34499	FENG-40-50-KF	34500	FENG-40-100-KF	34501	FENG-40-160-KF	34502	FENG-40-200-KF
50	34506	FENG-50-50-KF	34507	FENG-50-100-KF	34508	FENG-50-160-KF	34509	FENG-50-200-KF
63	34513	FENG-63-50-KF	34514	FENG-63-100-KF	34515	FENG-63-160-KF	34516	FENG-63-200-KF
80	34521	FENG-80-50-KF	34522	FENG-80-100-KF	34523	FENG-80-160-KF	34524	FENG-80-200-KF
100	34529	FENG-100-50-KF	34530	FENG-100-100-KF	34531	FENG-100-160-KF	34532	FENG-100-200-KF
Stroke	250 mm		320 mm		400 mm		500 mm	
32	150289	FENG-32-250-KF	34497	FENG-32-320-KF	150290	FENG-32-400-KF	34498	FENG-32-500-KF
40	34503	FENG-40-250-KF	34504	FENG-40-320-KF	150291	FENG-40-400-KF	34505	FENG-40-500-KF
50	34510	FENG-50-250-KF	34511	FENG-50-320-KF	150292	FENG-50-400-KF	34512	FENG-50-500-KF
63	34517	FENG-63-250-KF	34518	FENG-63-320-KF	34519	FENG-63-400-KF	34520	FENG-63-500-KF
80	34525	FENG-80-250-KF	34526	FENG-80-320-KF	34527	FENG-80-400-KF	34528	FENG-80-500-KF
100	34533	FENG-100-250-KF	34534	FENG-100-320-KF	34535	FENG-100-400-KF	34536	FENG-100-500-KF

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