

**Guide units FEN/FENG for standard cylinders**



# Guide units FEN/FENG for standard cylinders

Key features



## At a glance

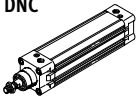
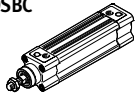
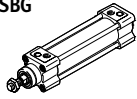
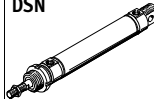
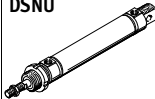
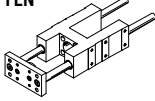
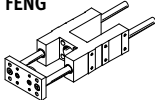
The guide units FEN and FENG protect standard cylinders from torsion when these are subjected to high torque loads.

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

Two guide variants are available:

- Plain-bearing guide (GF)
- Recirculating ball bearing guide (KF)

## Drive/guide unit combination options

Drive/guide unit	DNC 	DSBC 	DSBG 	DSN 	DSNU 
FEN 	-	-	-	■	■
FENG 	■	■	■	-	-
→ Page/Internet	dnc	dsbc	dsbg	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.

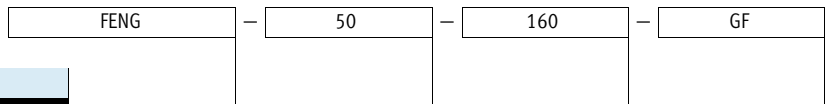
With standard cylinder DSNU:  
With these standard cylinders, a mounting kit is absolutely necessary for sensing the end positions.



Mounting kits			
Drive	Piston Ø	Part No.	Type
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

# Guided units FEN/FENG for standard cylinders

Type codes



**Type**

FEN	Guided unit to ISO 6432
FENG	Guided unit to ISO 15552

**PistonØ [mm]**

**Stroke [mm]**

**Guide**

GF	Plain-bearing guide
KF	Recirculating ball bearing guide

# Guide units FEN/FENG for standard cylinders

Technical data



## FEN to ISO 6432



- - Diameter  
8 ... 25 mm

- - Stroke length  
1 ... 250 mm



## FENG to ISO 15552

- - Diameter  
32 ... 100 mm

- - Stroke length  
10 ... 500 mm

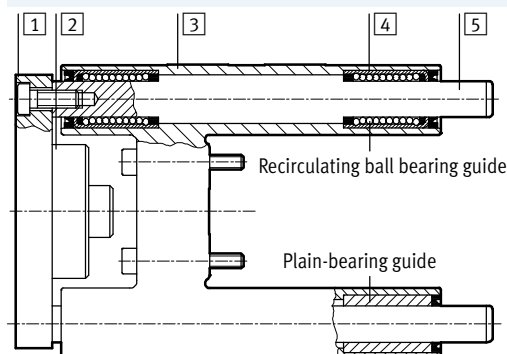


General technical data										
Type	FEN-...				FENG-...					
Piston $\varnothing$	8, 10	12, 16	20	25	32	40	50	63	80	100
Stroke [mm]	1 ... 100	1 ... 200	1 ... 250		1 ... 500					
Guide										
FEN/FENG-...-GF	Plain-bearing guide									
FEN/FENG-...-KF	Recirculating ball bearing guide									
Type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

Weight [g]										
Type	FEN-...				FENG-...					
Piston $\varnothing$	8, 10	12, 16	20	25	32	40	50	63	80	100
Plain-bearing guide (GF)										
Basic weight with 0 mm stroke	332	490	873	866	1570	2480	4190	5540	10720	13420
Additional weight per 10 mm stroke	10	13	13	13	17	31	47	48	70	70
Recirculating ball bearing guide (KF)										
Basic weight with 0 mm stroke	300	429	828	813	1530	2370	4030	5410	10430	12990
Additional weight per 10 mm stroke	11	14	14	14	18	32	50	49	80	80

## Materials

Sectional view

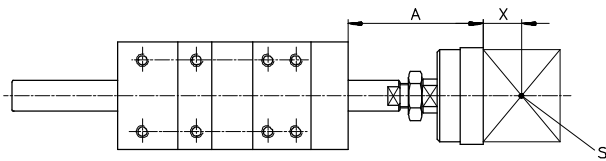


Guide unit	FEN/FENG-...-GF	FEN/FENG-...-KF
1 Yoke plate	32 ... 63 80, 100	Aluminium Steel
2 Coupling	Steel	Steel
3 Guide	Aluminium	Aluminium
4 Bearing	Sintered bronze	Steel
5 Guide rods	Steel	Steel
- Note on materials	-	Free of copper and PTFE
	RoHS-compliant	

# Guide units FEN/FENG for standard cylinders

Technical data

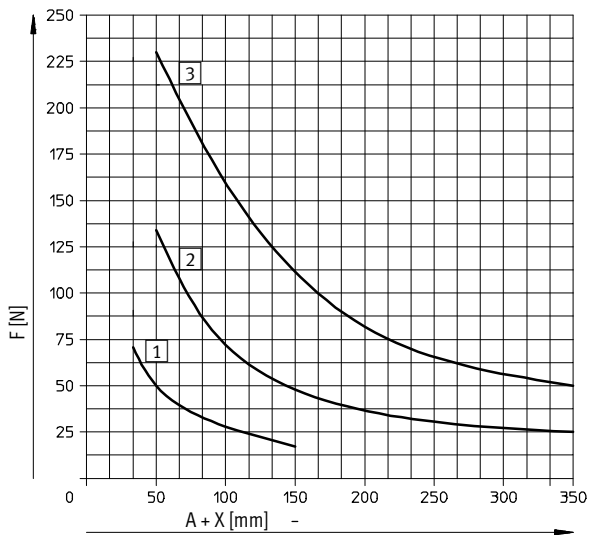
## Max. working load F as a function of projection A



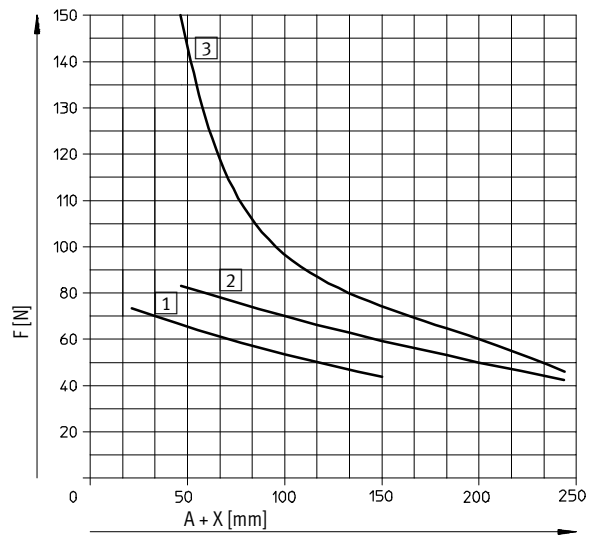
A = Projection  
 X = Distance to centre of gravity of working load  
 S = Centre of gravity of working load

∅ 8 ... 25

FEN-...-GF



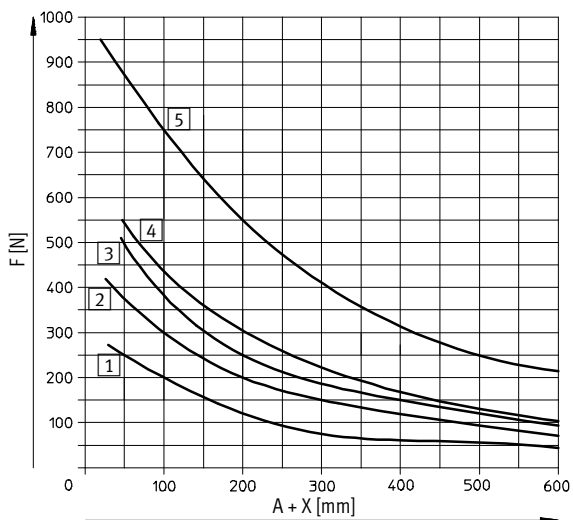
FEN-...-KF



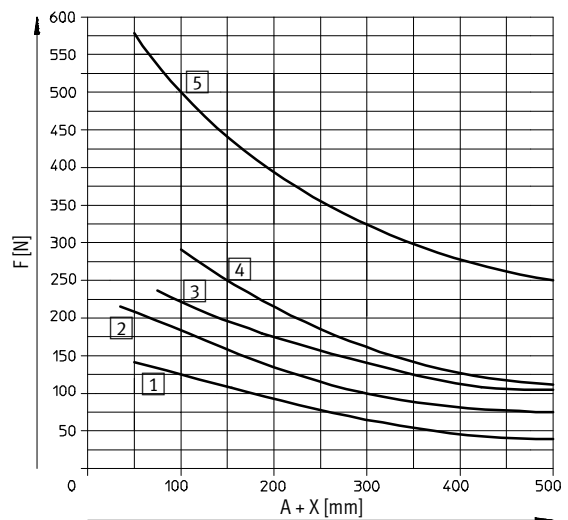
- 1 ∅ 8, 10
- 2 ∅ 12, 16
- 3 ∅ 20, 25

∅ 32 ... 100

FENG-...-GF



FENG-...-KF



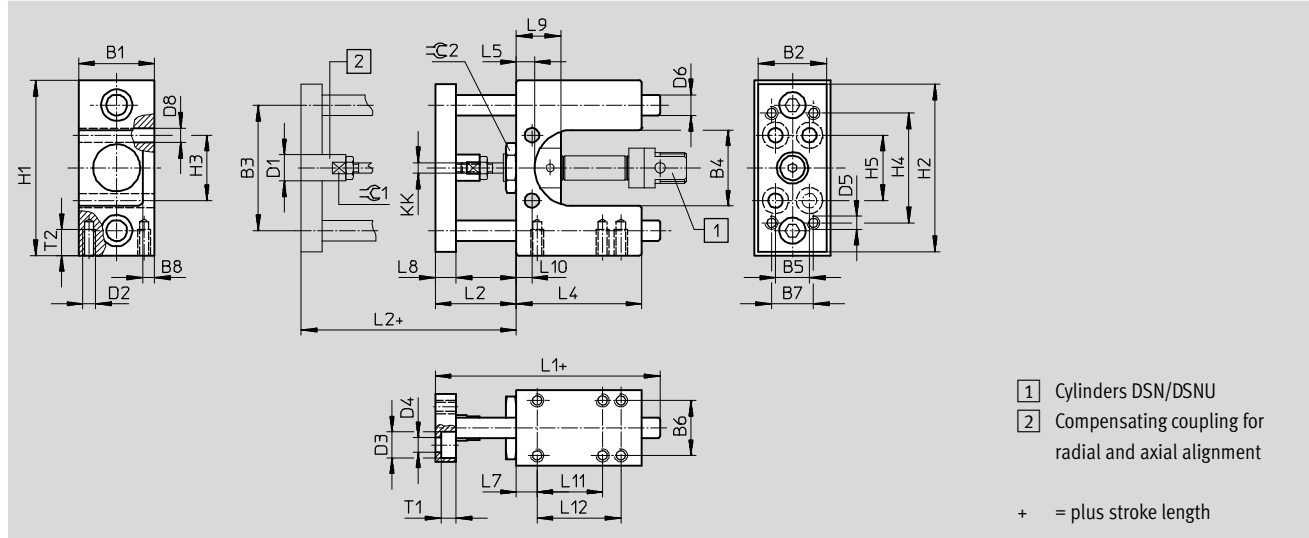
- 1 ∅ 32
- 2 ∅ 40
- 3 ∅ 50
- 4 ∅ 63
- 5 ∅ 80, 100

# Guide units FEN/FENG for standard cylinders

Technical data

Dimensions Download CAD data → [www.festo.com](http://www.festo.com)

FEN-8, 10



∅	B1	B2	B3	B4	B5	B6	B7	B8	D1	D2	D3	D4	D5	D6 <sup>1)</sup>	D8	H1	H2
[mm]	-0.3		±0.15						∅		∅	∅		∅	∅	-0.4	
8	29	26	48	29	13	21	16	4.5	10	M5	10	5,5	M5	8	5.5	67	64
10																	

∅	H3	H4	H5	KK	L1	L2	L4	L5	L7	L8	L9	L10	L11	L12	T1	T2	≈C1	≈C2
[mm]						+2												
8	25	42	25	M4	86	31	48	7	8	8	17	6	25	32	5.7	10	9	19
10																		

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

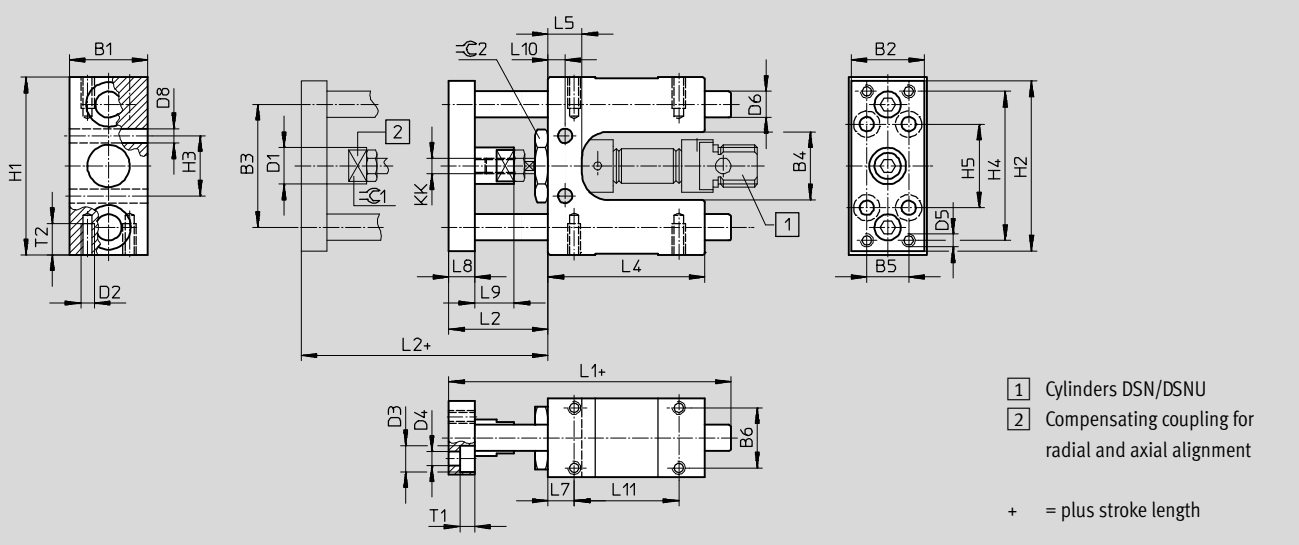
# Guide units FEN/FENG for standard cylinders

Technical data

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

FEN-12, 16



∅	B1	B2	B3	B4	B5	B6	D1	D2	D3	D4	D5	D6 <sup>1)</sup>	D8	H1	H2	H3
[mm]	-0.3		±0.15			±0.15	∅		∅	∅		∅	∅	-0.4		±0.15
12	30	28	47	26	16	23	14	M5	10	5.5	M5	10	5.5	68	65	23
16																

∅	H4	H5	KK	L1	L2	L4	L5	L7	L8	L9	L10	L11	T1	T2	∅C1	∅C2
[mm]					+5							±0.15				
12	57	32	M6	108	38	60	13	10	10	15	6.5	40	5.7	12	12	24
16																

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

# Guide units FEN/FENG for standard cylinders

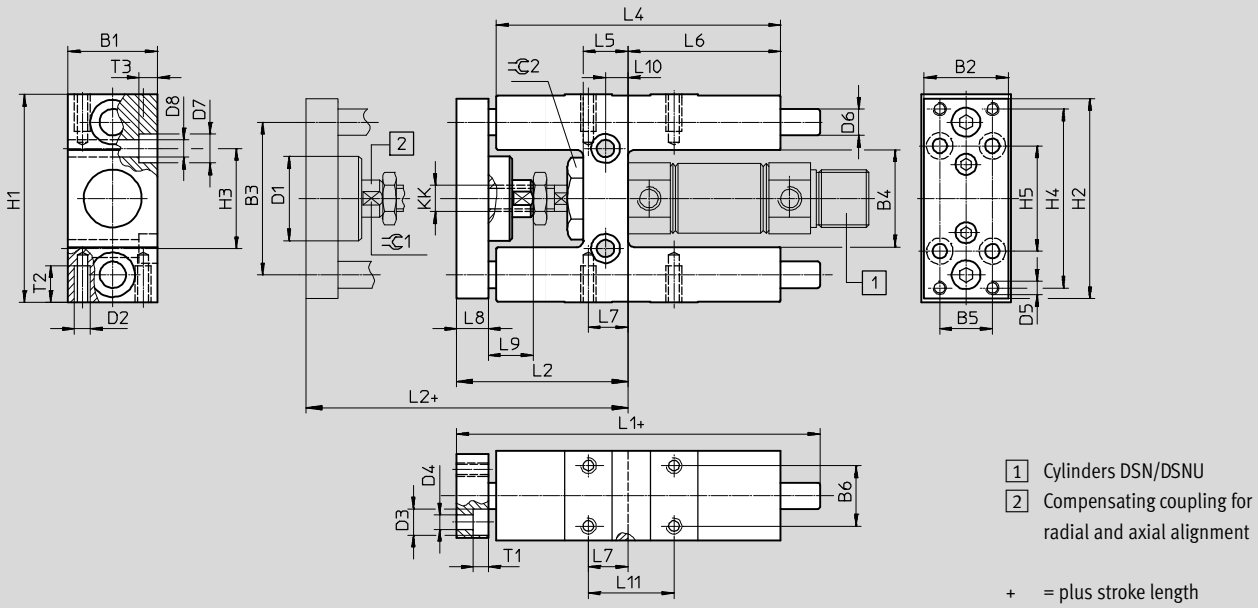
Technical data



## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

FEN-20, 25



∅	B1	B2	B3	B4	B5	B6	D1	D2	D3	D4	D5	D6 <sup>1)</sup>	D7	D8	H1	H2	H3	H4	
[mm]	-0.3		±0.2				∅		∅	∅		∅	∅	∅	-0.4		±0.2		
20	34	32	58	37	20	23	32	M6	10	5,5	M5	10	11	6.6	79	76	38	68	
25																			

∅	H5	KK	L1	L2	L4	L5	L6	L7	L8	L9	L10	L11	T1	T2	T3	⊖C1	⊖C2
[mm]				+5								±0.2					
20		M8										22	5.7	14	6.8	13	27
25	40	M8x1.25	138	65	108	17	58	15	12		8.5	32.5	5.7	14	6.8	13	27

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



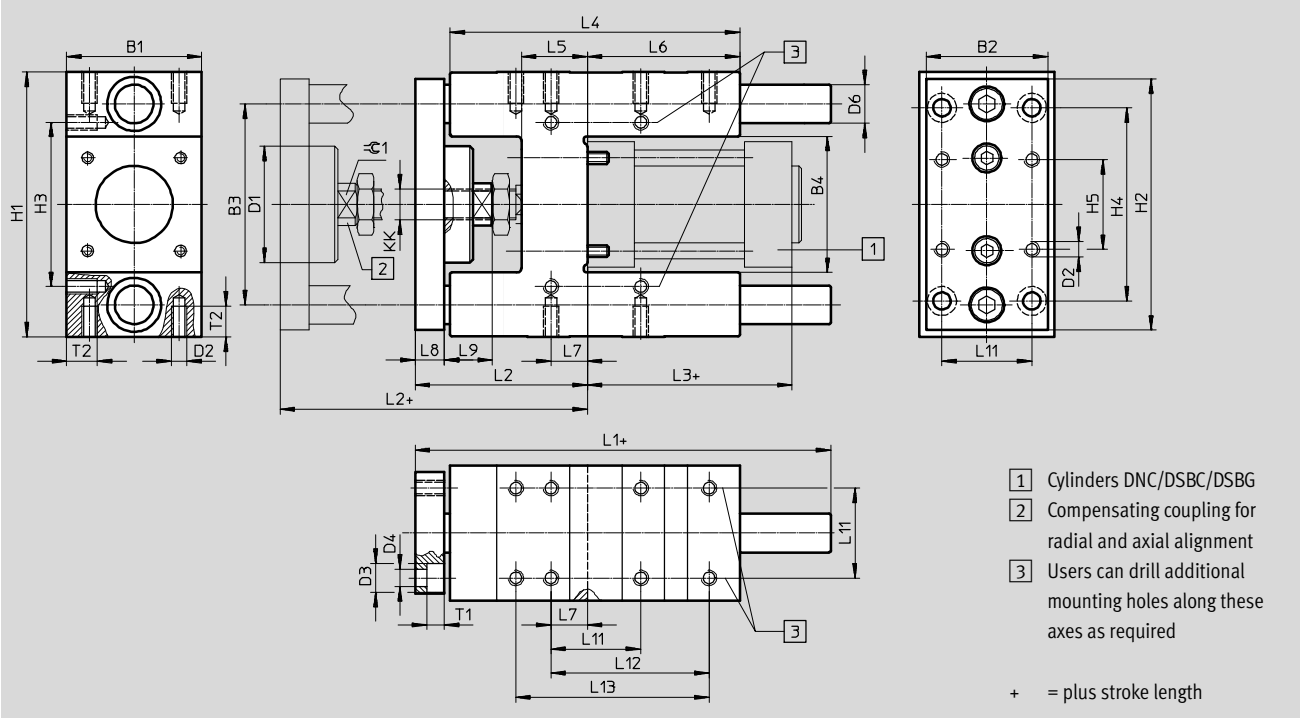
# Guide units FEN/FENG for standard cylinders

Technical data

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

FENG-32 ... 100



∅	B1	B2	B3	B4	D1	D2	D3	D4	D6 <sup>1)</sup>	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

∅	L1	L2	L3	L4	L5	L6	L7	L8	L9	L11	L12	L13	T1	T2	≈C1
[mm]										±0.2	±0.2	±0.2		max.	
32	155	67 +5	94	125	24	76	4.3	12	20	32.5	70.3	78	6.5	14	15
40	170	75 +5	105	140	28	81	11	12	22	38	84	-	6.5	14	15
50	188	89 +10	106	150	34	79	18.8	15	25	46.5	81.8	100	9	16	19
63	220	89 +10	121	182	34	111	15.3	15	25	56.5	105	-	9	16	19
80	258	111 +10	128	215	40	128	21	20	32	72	-	-	11	20	27
100	263	116 +10	138	220	40	128	24.5	20	32	89	-	-	11	20	27

1) FENG-...-GF: 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-...-GF	35197	FEN-8/10-...-KF
12, 16	1 ... 200	19168	FEN-12/16-...-GF	33481	FEN-12/16-...-KF
20	2 ... 250	19169	FEN-20-...-GF	33482	FEN-20-...-KF
25	2 ... 250	19170	FEN-25-...-GF	33483	FEN-25-...-KF

Ordering data FENG... for variable strokes for standard cylinders DNC/DSBC/DSBG					
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-...-GF	34487	FENG-32-...-KF
40		34482	FENG-40-...-GF	34488	FENG-40-...-KF
50		34483	FENG-50-...-GF	34489	FENG-50-...-KF
63		34484	FENG-63-...-GF	34490	FENG-63-...-KF
80		34485	FENG-80-...-GF	34491	FENG-80-...-KF
100		34486	FENG-100-...-GF	34492	FENG-100-...-KF

Ordering data FENG-...-KF with recirculating ball bearing for fixed strokes for standard cylinders DNC/DSBC/DSBG								
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