

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

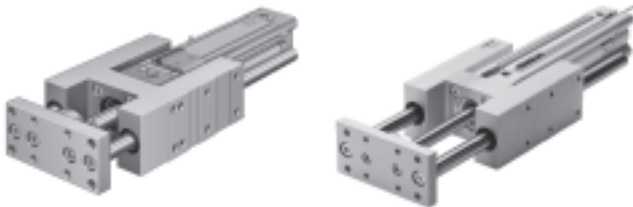
| Drive/guide unit | DNC | DNCB | DNG | DSN | DSNU |
|------------------|-----|------|-----|-----|------|
| | - | - | - | ■ | ■ |
| | ■ | ■ | ■ | - | - |
| → Page/Internet | dnc | dncb | dng | dsn | dsnu |

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 |

Guide units FEN/FENG for standard cylinders

Technical data

FEN to DIN ISO 6432



- - Diameter
8 ... 25 mm

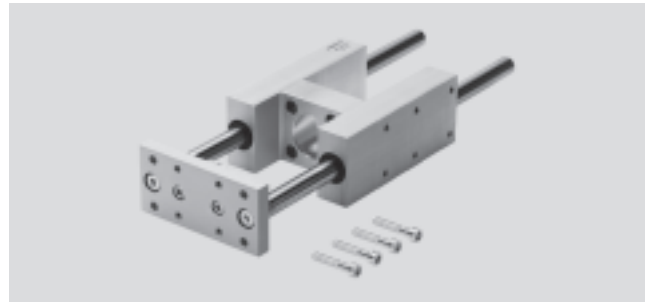
- - Stroke length
1 ... 250 mm



FENG to DIN ISO 6432 and VDMA 24 562

- - Diameter
32 ... 100 mm

- - Stroke length
10 ... 500 mm

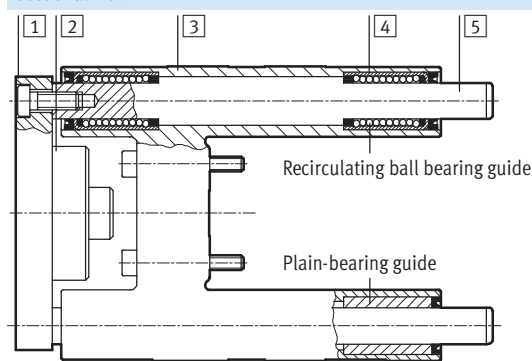


| General technical data | | | | | | | | | | |
|--------------------------|---|-----------|-----------|----|-----------|----|----|----|----|-----|
| Type | FEN-... | | | | FENG-... | | | | | |
| Piston Ø | 8/10 | 12/16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| Stroke [mm] | 1 ... 100 | 1 ... 200 | 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



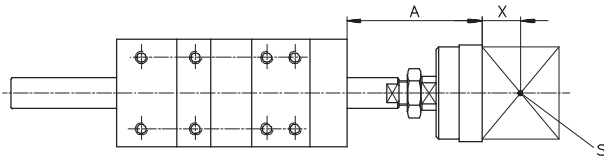
| Guide unit | FEN | FENG with plain-bearing guide | FENG with recirculating ball bearing guide |
|---------------------|----------------------|-------------------------------|--|
| 1 Yoke plate | 32 ... 63 80, 100 | Aluminium Steel | Aluminium Steel |
| 2 Coupling | Steel | Steel | Steel |
| 3 Guide | 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

FESTO

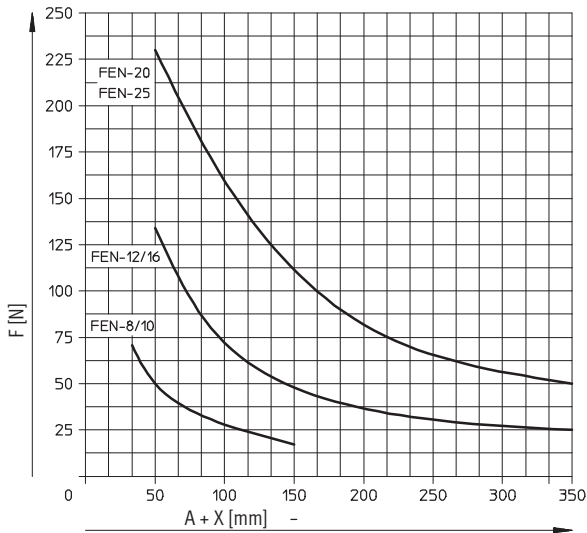
Max. working load F as a function of projection A



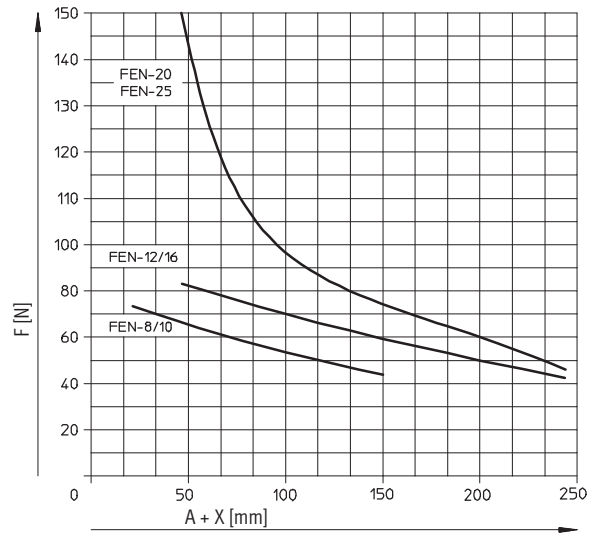
- A = Projection
- X = Distance to centre of gravity of working load
- S = Centre of gravity of working load

FEN-8 ... 25

with plain-bearing guide

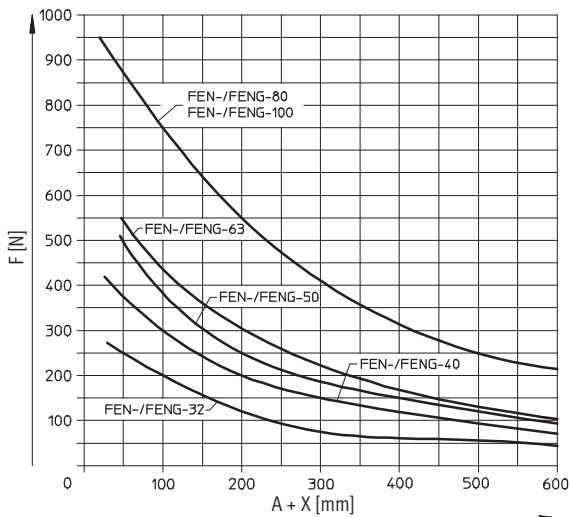


with recirculating ball bearing guide

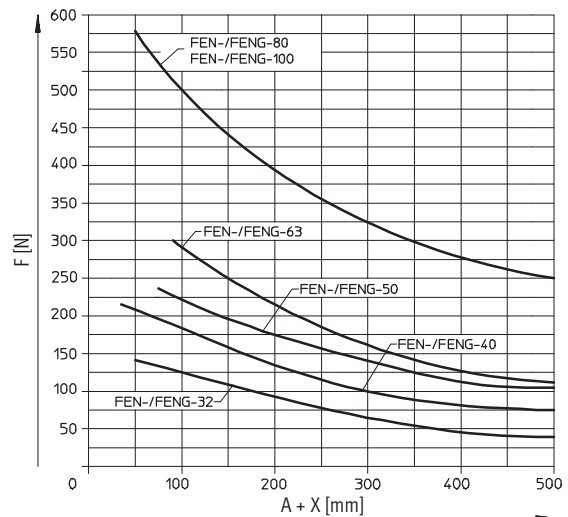


FENG-32 ... 100

with plain-bearing guide



with recirculating ball bearing guide



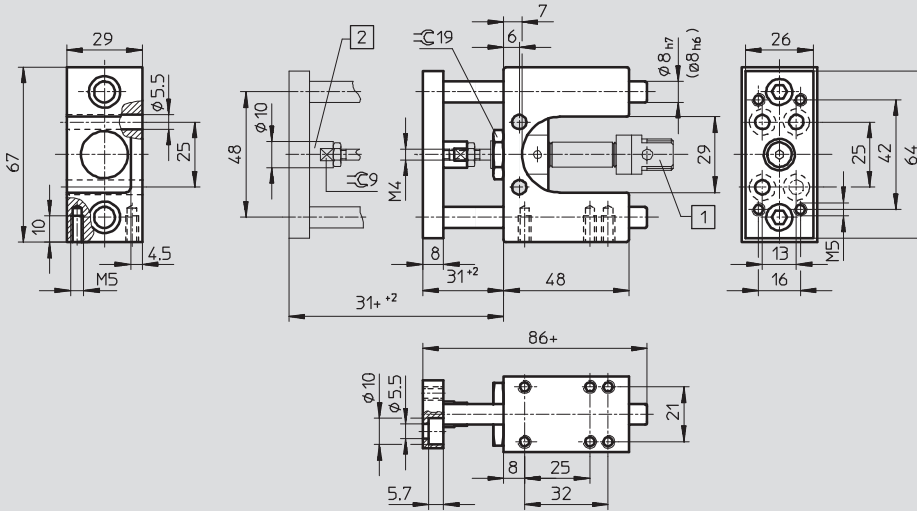
Guide units FEN/FENG for standard cylinders

Technical data

Dimensions

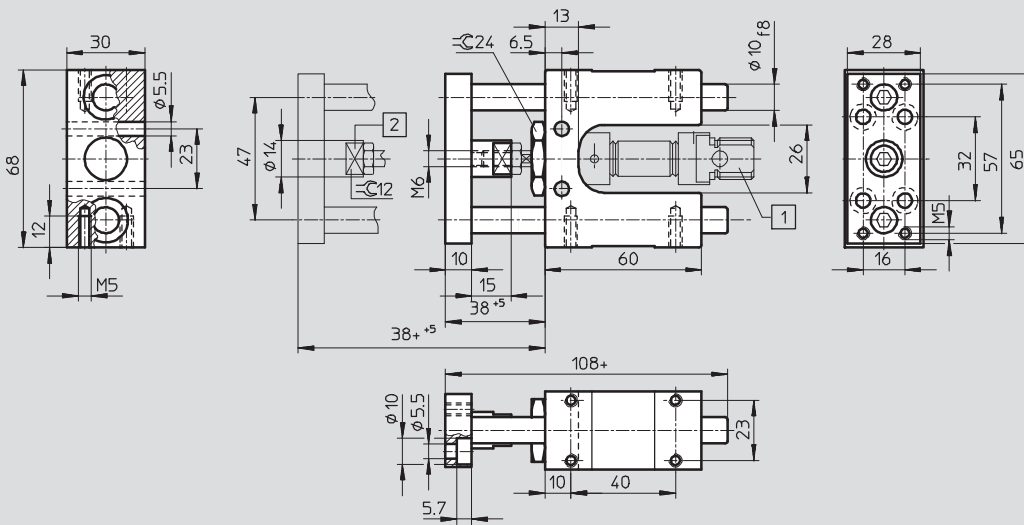
Download CAD data → www.festo.com

FEN-8/10



- Note
The dimension in brackets applies to the variant FEN-8/10-...-KF.

FEN-12/16



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

+ = plus stroke length

Guide units FEN/FENG for standard cylinders

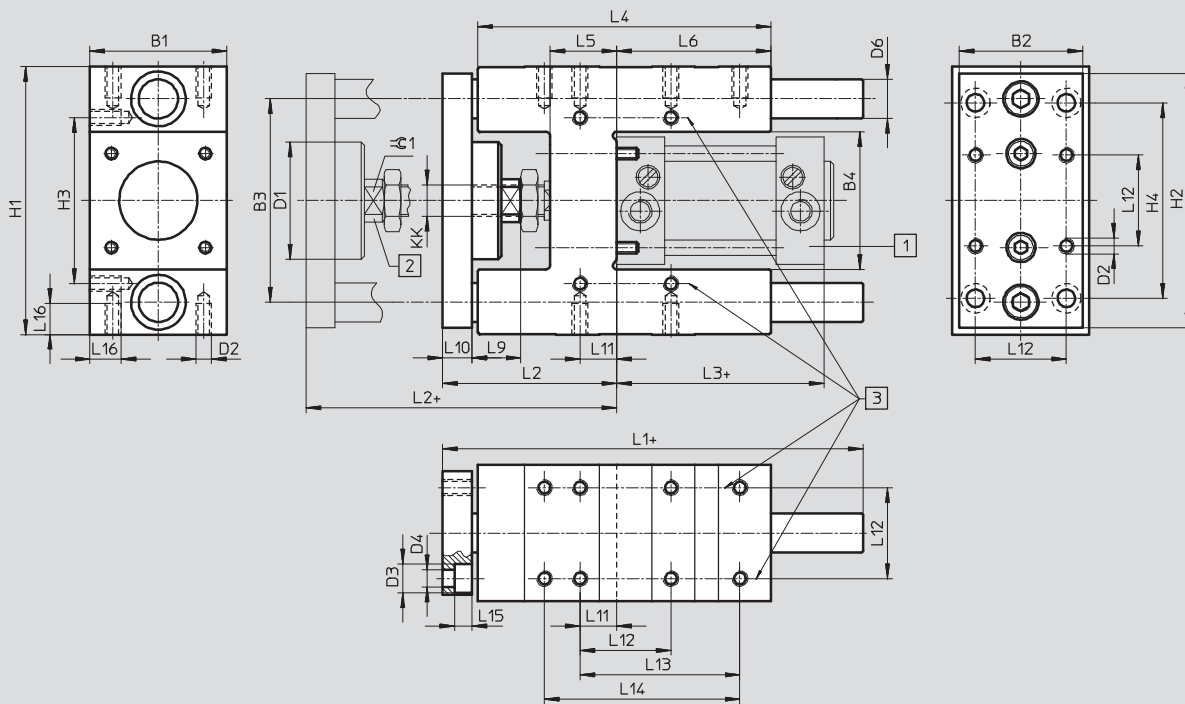
Technical data

FESTO

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

| ∅ | B1 | B2 | B3 | B4 | D1 | D2 | D3 | D4 | D6 ¹⁾ | 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 | 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/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/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 |