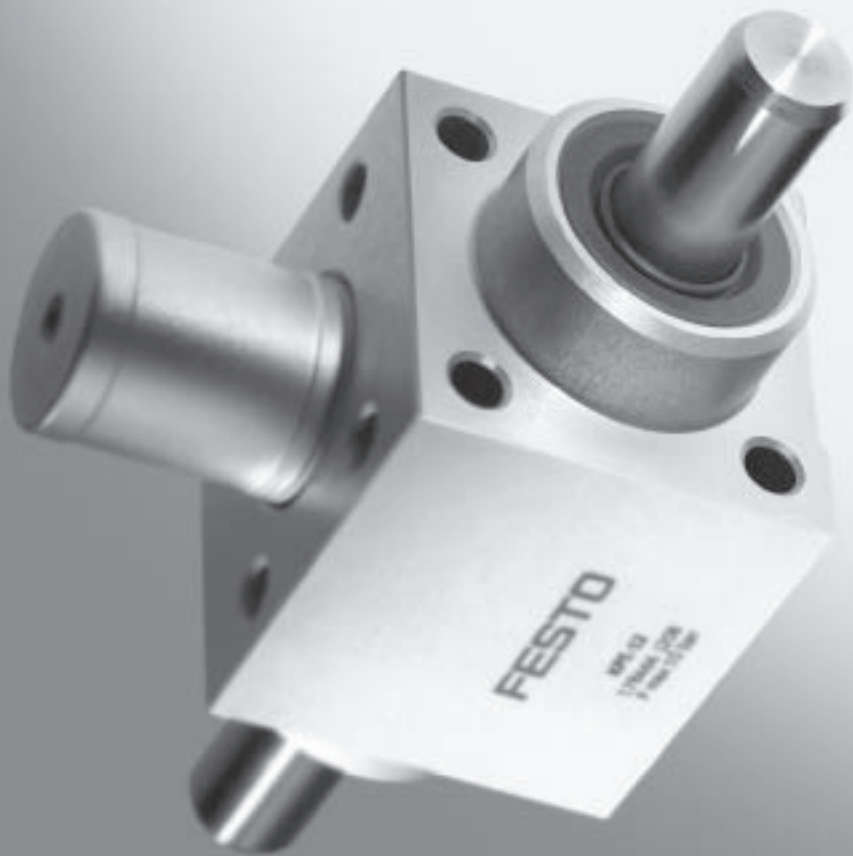


Clamping units/cartridges

FESTO

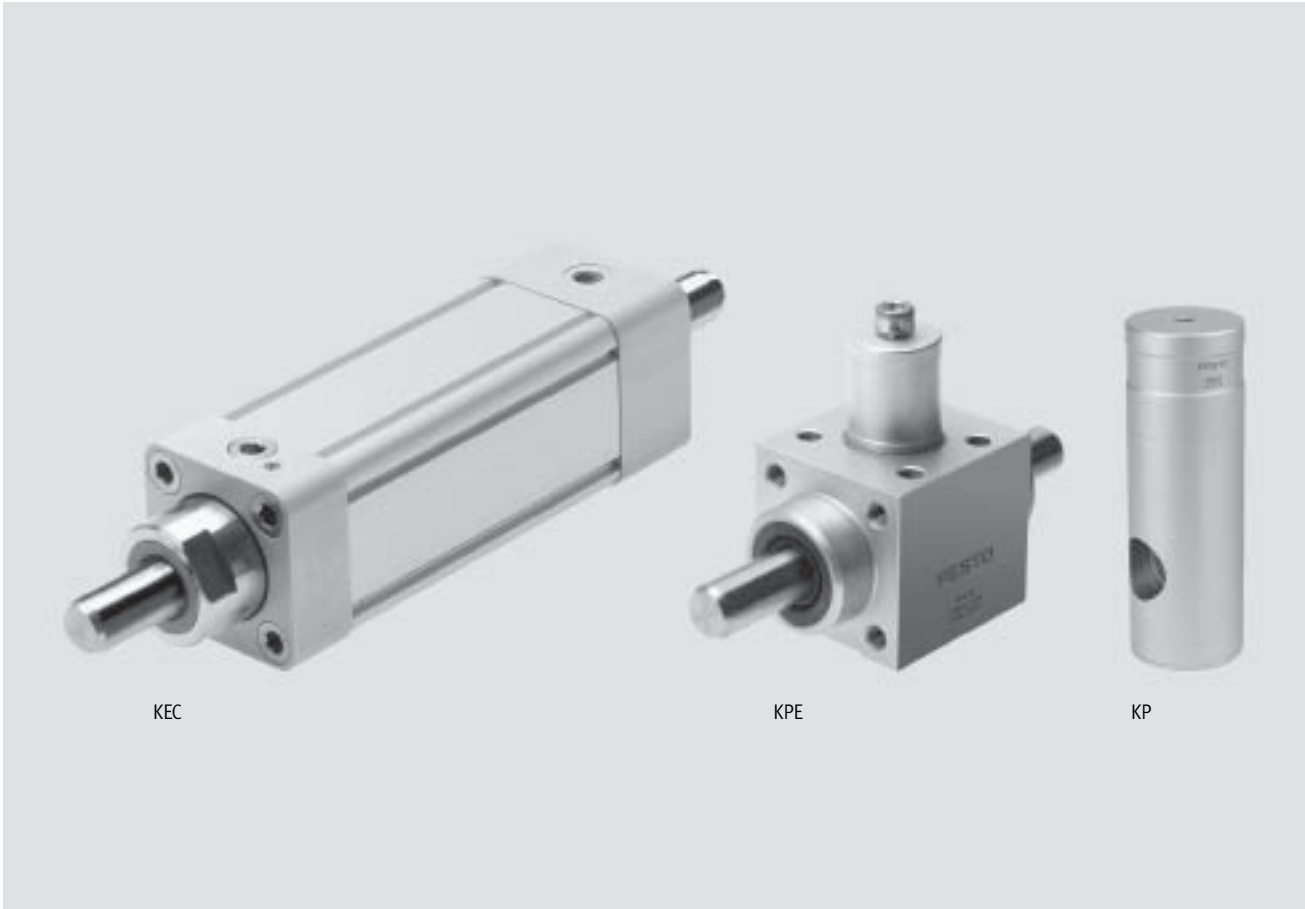


- Holding of round material using spring force
- Holding in the event of power failure
- Any mounting position

Clamping units/cartridges

Key features

FESTO



KEC

KPE

KP

Drive accessories
Clamping cartridges/units

10.5

Holding of round material

- Holding in the event of power failure
- Able to hold and retain material for long periods, even in applications involving varying loads, fluctuating operating pressure and system leaks.
- The clamping units KEC, KPE and clamping cartridge KP are discrete components and are not intended for use as attachments for pneumatic cylinders.
- They use spring force to hold round material in any desired position.
- The clamping force is released by pressurising the clamping cartridge.
- The clamping units and clamping cartridges can be installed in any desired position.
- They are not suitable for use as positioning devices.
- In their clamped state, the clamping units and clamping cartridges are not free of backlash when their piston rods are subjected to alternating loads.

- - Note

Clamping cartridges must not be used in safety devices. When installing clamping cartridges, appropriate clearance must be provided. Dimensions → 1 / 10.5-9

Clamping units/cartridges

Key features and type code

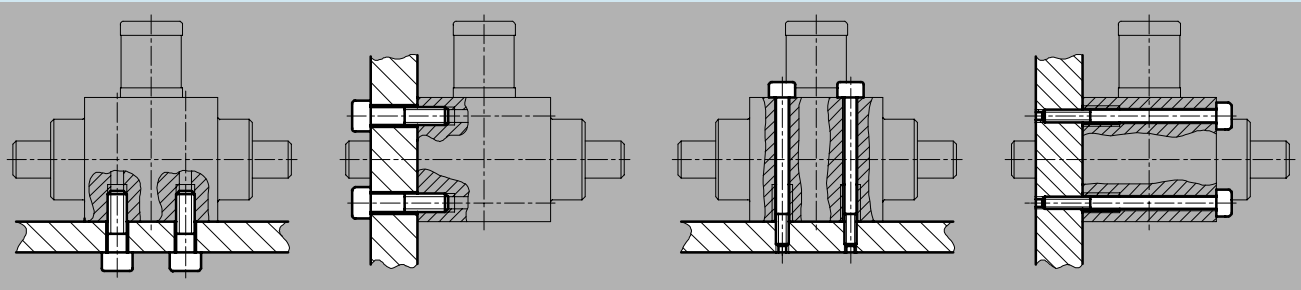
Requirements for round material to be clamped

- Hardened (min. HRC 60) or hard chrome-plated steel (coating thickness min. 20 µm).
- Rolled steel:
Tensile strength > 650 (N/mm²),
hardness (HB30) > 175
- The nominal diameter must lie in the tolerance zone h8.
- The surface roughness R_{max} must not exceed 2.5 µm.
- The specified holding forces refer to a static load. If these values are exceeded, slippage may occur.
- Dynamic forces occurring during operation must not exceed the static holding force.

Mounting options for clamping units KPE

Short screws

Through-screws



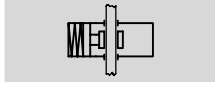
Type codes


	KP	4	80
Type			
KEC	Clamping unit		
KPE			
KP	Clamping cartridge		
Round material to be clamped \varnothing [mm]			
Static holding force with KP [N]			


Clamping units KEC

Technical data

Function



 Diameter of round material to be clamped:
16 ... 25 mm

 Force
1,300 ... 8,000 N



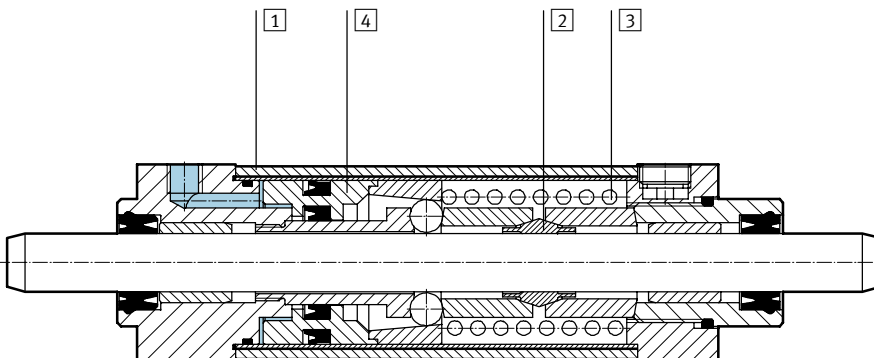
General technical data			
Round material \varnothing	16	20	25
Pneumatic connection	G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{3}{8}$
Operating medium	Filtered compressed air, lubricated or unlubricated		
Clamping type with effective direction	Spring \rightarrow compressed air, both ends		
Type of mounting	Via accessories \rightarrow 1 / 10.5-10		
Mounting position	Any		

Operating and environmental conditions			
Round material \varnothing	16	20	25
Operating pressure [bar]	3.8 ... 10		
Temperature range [°C]	-20 ... +80		
Corrosion resistance class CRC ¹⁾	2		

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Forces [N]			
Round material \varnothing	16	20	25
Static holding force	1,300	3,200	8,000

Materials
Sectional view



Clamping unit	
1 Housing	Wrought aluminium alloy
2 Collet	Tool steel
3 Spring	High-alloy steel
4 Piston	Wrought aluminium alloy
- Seals	Nitrile rubber, polyurethane

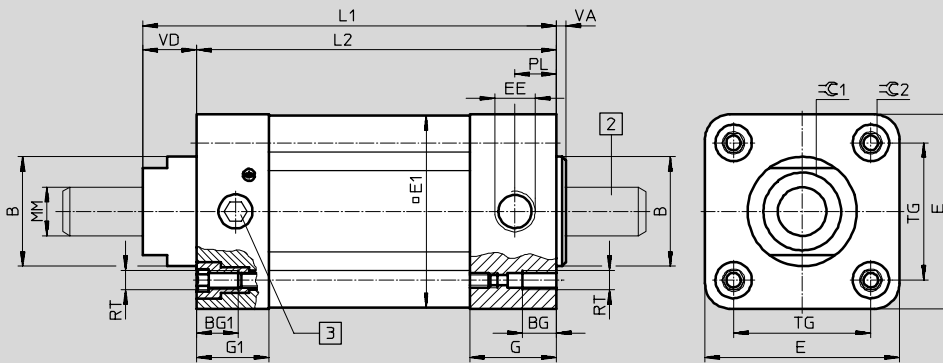
Clamping units KEC

Technical data

Dimensions and ordering data

Download CAD data → www.festo.com/en/engineering




For round material \varnothing 16 ... 25 mm



2 The clamping unit must not be exhausted without round material being present.

3 Locking screw

For \varnothing [mm]	B \varnothing f8	BG	BG1	E	E1	EE	G	G1	L1	L2	MM \varnothing f7-h7
16	35	15	15	54	53	G $\frac{1}{8}$	27	22	178	160	16
20	45	14	17	80	79	G $\frac{1}{4}$	30	29.5	208.5	187	20
25	55	17	17	126	126	G $\frac{3}{8}$	32.5	32.5	287	258	25

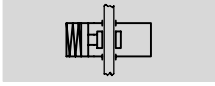
For \varnothing [mm]	PL	RT	TG	VA	VD	\varnothing C1	\varnothing C2	Weight [g]	Part No.	Type
16	13	M6	38	5.5	18	30	6	1,860	527 492	KEC-16 
20	15.5	M8	56.5	6	21.5	36	8	4,515	527 493	KEC-20 
25	17	M10	89	7	29	41	10	15 600	527 494	KEC-25 

Clamping units KPE

Technical data

FESTO

Function



www.festo.com/en/Spare_parts_service



⌀ - Diameter of round material to be clamped:
4 ... 32 mm

≡ - Force
80 ... 7,500 N

General technical data										
Round material Ø	4	6	8	10	12	16	20	25	32	
Pneumatic connection	M5					G1/8				
Operating medium	Filtered compressed air, lubricated or unlubricated									
Clamping type with effective direction	Spring → compressed air, both ends									
Type of mounting	Short screws									
	Through-screws									
Mounting position	Any									

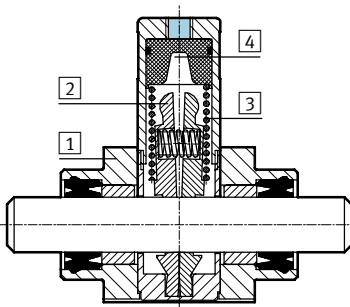
Operating and environmental conditions									
Round material Ø	4	6	8	10	12	16	20	25	32
Operating pressure [bar]	3 ... 10								
Temperature range [°C]	-10 ... +80								
Corrosion resistance class CRC ¹⁾	2								

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Forces [N]									
Round material Ø	4	6	8	10	12	16	20	25	32
Static holding force	80	180	350	350	600	1,000	1,400	5,000	7,500

Materials

Sectional view



Clamping unit	
1	Housing Anodised aluminium
2	Clamping jaws Brass
3	Spring Spring steel
4	Piston Polyacetal
-	Seals Nitrile rubber

Clamping units KPE

Technical data

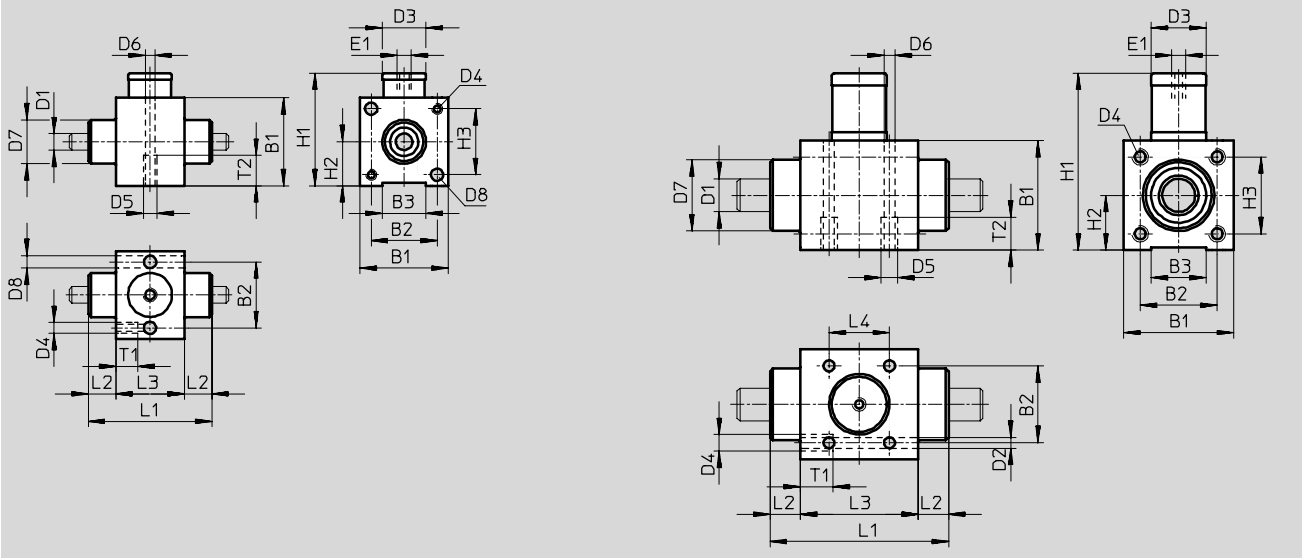


Dimensions and ordering data

Download CAD data → www.festo.com/en/engineering

For round material \varnothing 4 ... 6 mm

For round material \varnothing 8 ... 32 mm



For \varnothing [mm]	B1	B2	B3	D1 \varnothing	D2 \varnothing	D3 \varnothing	D4	D5	D6 \varnothing	D7 \varnothing	D8 \varnothing	E1	H1	H2
4	27	19.5	12	4	-	12	-	M5	4.2	12	4.5	M5	34.5	13.5
6	32	24	16	6	-	16	-	M5	4.2	16	4.5	M5	41	16
8	36	27	20	8	4.2	20	M5	M5	4.2	22	-	M5	62.5	18
10	36	27	20	10	4.2	20	M5	M5	4.2	22	-	M5	62.5	18
12	40	28	20	12	5.2	20	M6	M6	5.2	28	-	M5	64.5	20
16	45	32.5	25	16	5.2	24	M6	M6	5.2	32	-	G $\frac{1}{8}$	83.5	22.5
20	65	50	38	20	6.5	38	M8	M8	6.5	45	-	G $\frac{1}{8}$	118	32.5
25	88	65	50	25	8.5	48	M10	M10	8.5	55	-	G $\frac{1}{8}$	163	44
32	118	90	70	32	10.3	65	M12	M12	10.3	60	-	G $\frac{1}{8}$	199	59

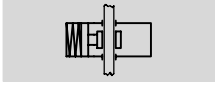
For \varnothing [mm]	H3	L1	L2	L3	L4	T1	T2	Max. axial backlash of clamped round material	Weight [g]	Part No.	Type
4	19.5	33	7.5	18	-	9	11	0.2	100	178 462	KPE-4
6	24	45	10	25	-	9	11	0.2	150	178 463	KPE-6
8	27	58	10	38	20	10	11	0.25	240	178 464	KPE-8
10	27	62	12	38	20	10	11	0.25	260	178 465	KPE-10
12	28	65	11	43	22	12	12	0.25	270	178 466	KPE-12
16	32.5	69	12.5	44	22	12	12	0.25	410	178 467	KPE-16
20	50	83	12.5	58	30	16	16	0.3	930	178 468	KPE-20
25	65	100	15	70	34	20	20	0.3	2,000	178 469	KPE-25
32	90	154	25	104	60	24	24	0.3	4,600	178 470	KPE-32

Clamping cartridges KP

Technical data

FESTO

Function



- \varnothing - Diameter of round material to be clamped:
4 ... 32 mm
- - Force
80 ... 7 500 N



General technical data										
Round material \varnothing	4	6	8	10	12	16	20	25	32	
Pneumatic connection	M5					G $\frac{1}{8}$				
Operating medium	Filtered compressed air, lubricated or unlubricated									
Clamping type with effective direction	Spring \rightarrow compressed air, both ends									
Type of mounting	Via self-configured housing									
Mounting position	Any									

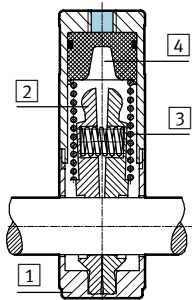
Operating and environmental conditions									
Round material \varnothing	4	6	8	10	12	16	20	25	32
Operating pressure [bar]	3 ... 10								
Temperature range [°C]	-10 ... +80								
Corrosion resistance class CRC ¹⁾	2								

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Forces [N]										
Round material \varnothing	4	6	8	10	12	16	20	25	32	
Static holding force	80	180	350	350	600	1,000	1,400	2,000	5,000	7,500

Materials

Sectional view



Clamping cartridge	
1	Housing Anodised aluminium
2	Clamping jaws Brass
3	Spring Spring steel
4	Piston Polyacetal
-	Seals Nitrile rubber

Clamping cartridges KP

Technical data

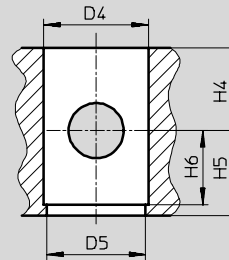
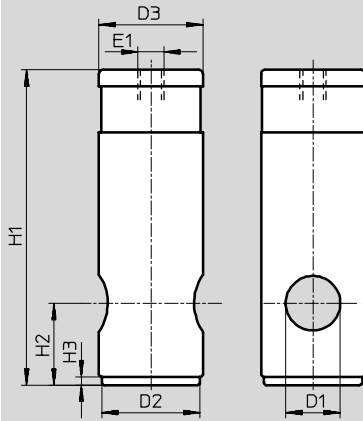
FESTO

Dimensions and ordering data

For round material \varnothing 4 ... 32 mm

Download CAD data → www.festo.com/en/engineering

Housing recess



- Note

The clamping cartridge can also be integrated in a separate housing or component. In this case, it must be ensured that a plain bearing is integrated on both sides of the separate housing.

For \varnothing [mm]	D1 \varnothing	D2 \varnothing h12	D3 \varnothing f9	D4 \varnothing D9	D5 \varnothing	E1	H1	H2
4	4	10	12	12	11	M5	28	7
6	6	14	16	16	15	M5	35	10
8	8	18	20	20	19	M5	62	17.5
10	10	18	20	20	19	M5	62	17.5
12	12	18	20	20	19	M5	62	17.5
16	16	22	24	24	23	G $\frac{1}{8}$	83	22
20	20	28	30	30	29	G $\frac{1}{8}$	100	25
	20	36	38	38	37	G $\frac{1}{8}$	115.5	30
25	25	46	48	48	47	G $\frac{1}{8}$	155	36
32	32	63	65	65	64	G $\frac{1}{8}$	195	55

For \varnothing [mm]	H3	H4 min.	H5 min.	H6	Max. axial backlash of clamped round material	Weight [g]	Part No.	Type
4	2	9	7	6	0.2	10	178 452	KP-4-80
6	3	10	11	8	0.2	15	178 453	KP-6-180
8	3	18	18.5	15.5	0.25	50	178 454	KP-8-350
10	3	18	18.5	15.5	0.25	50	178 455	KP-10-350
12	3	18	18.5	15.5	0.25	50	178 456	KP-12-600
16	3	22	23	20	0.25	90	178 457	KP-16-1000
20	3	25	26	23	0.3	170	178 458	KP-20-1400
	3	30	31	28	0.3	170	178 459	KP-20-2000
25	3	36	37	34	0.3	700	178 460	KP-25-5000
32	3	55	56	53	0.3	1,600	178 461	KP-32-7500

Drive accessories
Clamping cartridges / units

10.5

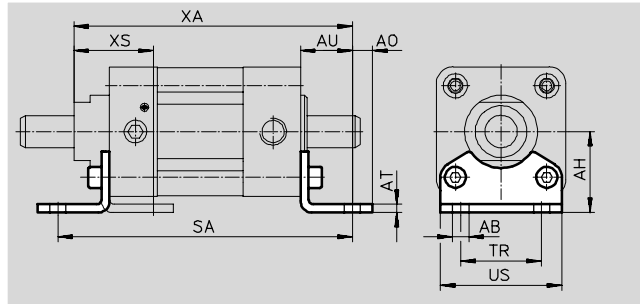
Clamping units KEC

Accessories



Foot mounting HNC

Material:
Galvanised steel
Free of copper, PTFE and silicone

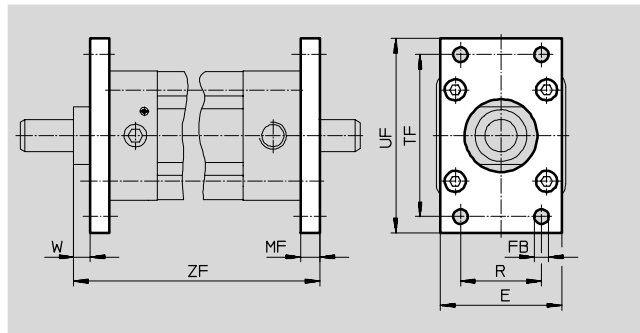


Dimensions and ordering data														
For Ø	AB	AH	AO	AT	AU	SA	TR	US	XA	XS	CRC ¹⁾	Weight	Part No.	Type
[mm]	Ø											[g]		
16	10	36	9	5	28	216	36	54	206	42	2	180	174 370	HNC-40
20	10	50	12.5	6	32	251	50	75	240.5	48.5	2	405	174 372	HNC-63
25	14.5	71	17.5	6	41	340	75	110	328	64	2	1,000	174 374	HNC-100

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Flange mounting FNC

Material:
Galvanised steel
Free of copper, PTFE and silicone



Dimensions and ordering data													
For Ø	E	FB	MF	R	TF	UF	W	ZF	CRC ¹⁾	Weight	Part No.	Type	
[mm]		Ø H13								[g]			
16	54	9	10	36	72	90	8	188	2	280	174 377	FNC-40	
20	75	9	12	50	100	120	9.5	220.5	2	690	174 379	FNC-63	
25	110	14	16	75	150	175	13	303	2	2,400	174 381	FNC-100	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Core Range