

## Clamping-unit cylinders, standard port pattern

**FESTO**



# Clamping-unit cylinders, standard port pattern

Key features

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## At a glance

Clamping units are generally used for the friction locking of longitudinally variable rods at any position. The attachment of a clamping unit to a pneumatic cylinder allows the piston rod to be clamped. This clamping unit is designed to lock the piston rod securely so that the application of

external force on the piston rod does not produce any relative motion. The locking of the piston rod can take place at any position in the stroke, in the end positions as well as the intermediate positions.

- Clamping force is released when compressed air is fed to the clamping unit
- Static holding force of up to 8000 N
- The cylinders comply with ISO 15552, (DIN ISO 6431), except where length is concerned.

## Selection aid

Clamping-unit cylinder DNCKE

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- **For use as holding device (static application):**
  - Holding and clamping in the event of a power failure
  - Protection against pressure failure and pressure drop
  - Securing of the piston rod during intermediate stops for process operations
- Wide selection of mounting options

Cylinder with clamping unit DNCKE-S, for safety-related applications

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- **Pneumatic braking/holding device for use in safety-related parts of control systems.**  
The clamping unit is not a complete safety solution. It can be used as part of a solution.
- Certified by the Institute for Occupational Safety and Health of the German Social Accident Insurance. Testing and Certification Bodies in DGUV Test. Pneumatic braking/holding device with safety function.
- **Use as a holding device (static application):**
  - Holding and clamping in the event of power failure
  - Protection against pressure failure and pressure drop
  - Holding the piston rod during intermediate stops, for operative procedures in a process
- **For use as a braking device (dynamic application):**
  - Braking or stopping a movement
  - Interrupting a movement if a danger area is entered
- Holding force of the clamp is larger than the cylinder's max. permissible feed force
- Suitable for use in safety-related parts of control systems belonging to category 1 to EN ISO 13849-1 (reliable component). Additional control measures are required for use in higher categories.
- When used as a braking device, the overtravel must be checked regularly
- Products intended for use in safety-related applications must be selected, sized and arranged in accordance with the valid standards and regulations.

# Clamping-unit cylinders, standard port pattern

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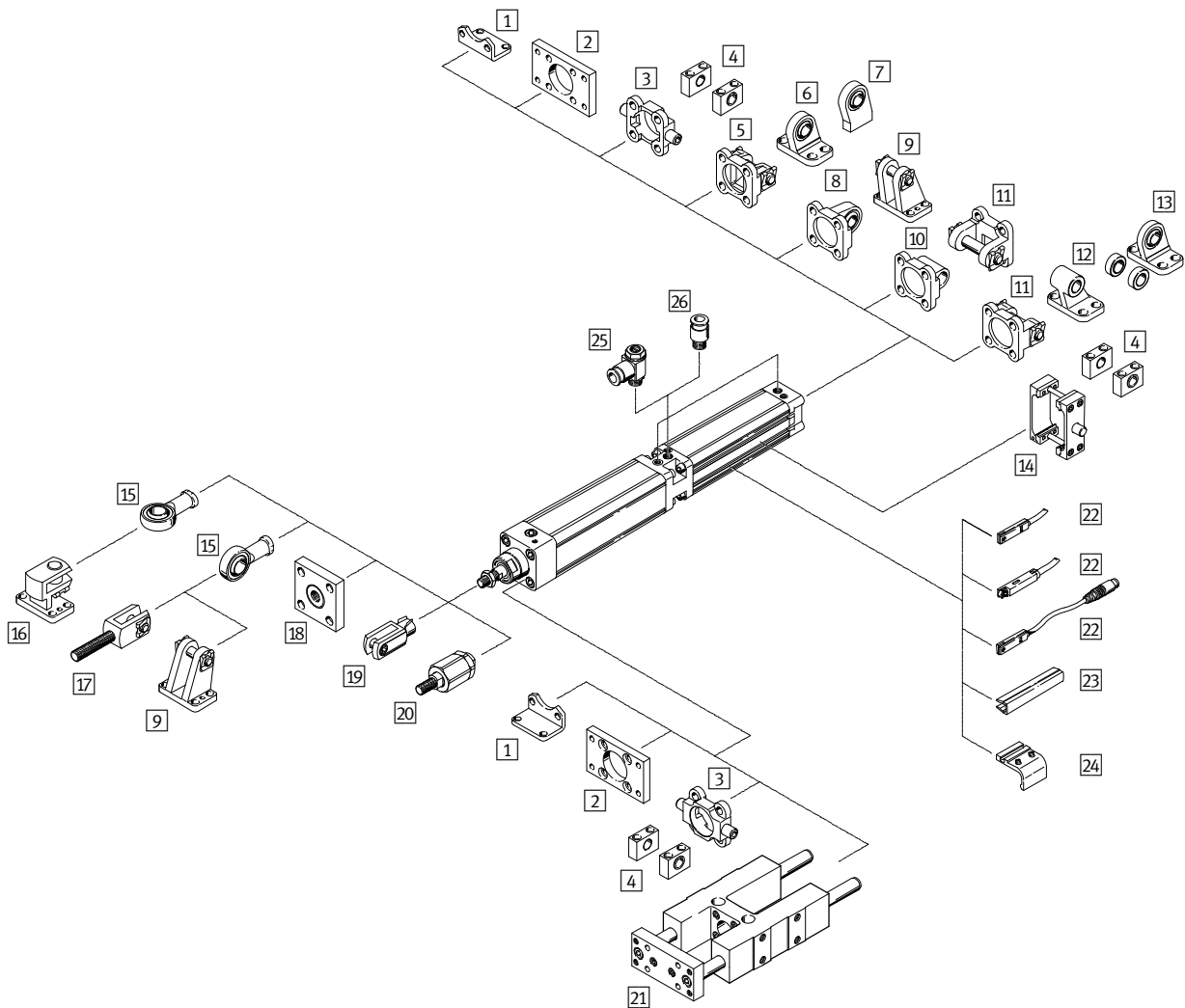
Type codes

		DNCKE	–	63	–	100	–	PPV	–	A	–	S
<b>Type</b>												
Double-acting												
DNCKE	Clamping-unit cylinder											
<b>Piston Ø [mm]</b>												
<b>Stroke [mm]</b>												
<b>Cushioning</b>												
PPV	Adjustable at both ends											
<b>Position sensing</b>												
A	For proximity sensing											
<b>Certification</b>												
S	Certified by the Institute for Occupational Safety and Health of the German Social Accident Insurance. Testing and Certification Bodies in DGUV Test. Pneumatic braking/holding device with safety function.											

# Clamping-unit cylinders, standard port pattern

Peripherals overview

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# Clamping-unit cylinders, standard port pattern

Peripherals overview

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Mounting attachments and accessories				
	Description	DNCKE	DNCKE-S	→ Page/Internet
1	Foot mounting HNC	■	■	13
2	Flange mounting FNC	■	■	13
3	Trunnion flange ZNCF	■	–	14
4	Trunnion support LNZG	■	–	15
5	Swivel flange SNC	■	–	15
6	Clevis foot LSNG	■	–	17
7	Clevis foot LSNSG	■	–	17
8	Swivel flange SNCS	■	–	16
9	Clevis foot LBG	■	–	17
10	Swivel flange SNCL	■	–	17
11	Swivel flange SNCB	■	–	16
12	Clevis foot LNG	■	–	17
13	Clevis foot LSN	■	–	17
14	Trunnion mounting kit DAMT	■	–	14
15	Rod eye SGS	■	–	18
16	Right-angle clevis foot LQG	■	–	17
17	Rod clevis SGA	■	–	18
18	Coupling piece KSG	■	–	18
19	Rod clevis SG	■	–	18
20	Self-aligning rod coupler FK	■	■	18
21	Guide unit FENG	■	■	18
22	Proximity sensor SME/SMT	■	■	19
23	Slot cover ABP-5-S	■	■	20
24	Sensor mounting kit SMB-8-FENG	■	■	19
25	One-way flow control valve GRLA	■	■	20
26	Push-in fitting QS	■	■	qs

# Clamping unit cylinders DNCKE, standard port pattern

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Technical data

Function



- Ø - Diameter  
40, 63, 100 mm
- I - Stroke length  
10 ... 2000 mm



- Note

Additional measures are required for use in safety-related control systems; in Europe, for example, the standards listed under the EC Machinery Directive must be observed. Without

additional measures in accordance with statutory minimum requirements, the product is not suitable for use in safety-related sections of control systems.

General technical data				
Piston Ø		40	63	100
Pneumatic connection	Cylinder	G1/4	G3/8	G1/2
	Clamping unit	G1/8	G1/4	G3/8
Piston rod thread		M12x1.25	M16x1.5	M20x1.5
Design	Piston			
	Piston rod			
	Cylinder barrel			
Cushioning		Adjustable at both ends		
Cushioning length		[mm]	20	22
Position sensing		For proximity sensing		
Type of mounting		Via female thread		
		With accessories		
Clamping type with effective direction		At both ends		
		Clamping via spring force, air to release		
Assembly position		Any		

- Note: This product conforms to ISO 1179-1 and to ISO 228-1

Operating and environmental conditions				
Piston Ø		40	63	100
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:4:4]		
Note on operating/pilot medium		Operation with lubricated medium possible (in which case lubricated operation will always be required)		
Operating pressure		[bar]	0.6 ... 10	
Min. release pressure		[bar]	3.8	
Ambient temperature <sup>1)</sup>		[°C]	-20 ... +80	
ATEX		Specified types → <a href="http://www.festo.com">www.festo.com</a>		

1) Note operating range of proximity sensors


Weights [g]				
Piston Ø		40	63	100
Basic weight with 0 mm stroke		2340	5485	18160
Additional weight per 10 mm stroke		45	73	110
Moving load with 0 mm stroke		500	935	2150
Additional load per 10 mm stroke		16	25	40

# Clamping unit cylinders DNCKE, standard port pattern


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Technical data

Forces [N]			
Piston Ø	40	63	100
Theoretical force at 6 bar, advancing	754	1870	4712
Theoretical force at 6 bar, retracting	633	1682	4418
Static holding force	1300	3200	8000

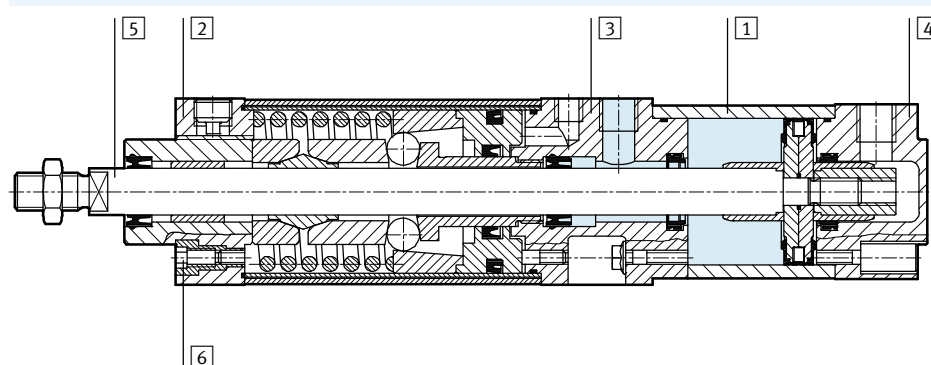
<p> Note</p> <p>The specified holding force refers to a static load. If this value is exceeded, slippage may occur. Dynamic forces occurring during operation must not exceed the static holding force if</p>			
slippage is to be avoided. The clamping unit is backlash-free in the clamped condition when varying loads are applied to the piston rod. Lateral loads and bending moments	on the round material can impair the function. (Make sure that the load on the round material is only in the direction of movement.)	<p>Actuation:</p> <p>The clamping unit may only be released when the forces on the piston have reached an equilibrium. Otherwise the sudden movement of the piston rod could cause an accident. Blocking off the air supply at both ends (e.g. with a 5/3-way valve) does not provide any safety.</p>	

Impact energy [J]			
Piston Ø	40	63	100
Max. impact energy at end positions	0.7	1.3	3

Permissible impact velocity:	$v_{perm.} = \sqrt{\frac{2 \times E_{perm.}}{m_{dead} + m_{load}}}$	<p><math>v_{perm.}</math> Permissible impact velocity</p> <p><math>E_{perm.}</math> Max. impact energy</p> <p><math>m_{dead}</math> Moving load (drive)</p> <p><math>m_{load}</math> Moving work load</p>	<p> Note</p> <p>These specifications represent the maximum values which can be reached. Note the maximum permitted impact energy.</p>
Maximum permissible load:	$m_{load} = \frac{2 \times E_{perm.}}{v^2} - m_{dead}$		

## Materials

### Sectional view



Cylinder		
1	Housing	Wrought aluminium alloy
2	Bearing cap	Wrought aluminium alloy
3	Connector cap	Wrought aluminium alloy
4	End cap	Die-cast aluminium
5	Piston rod	Tempered steel
6	Flange screws	Tempered steel
-	Seals	TPE-U(PU), NBR

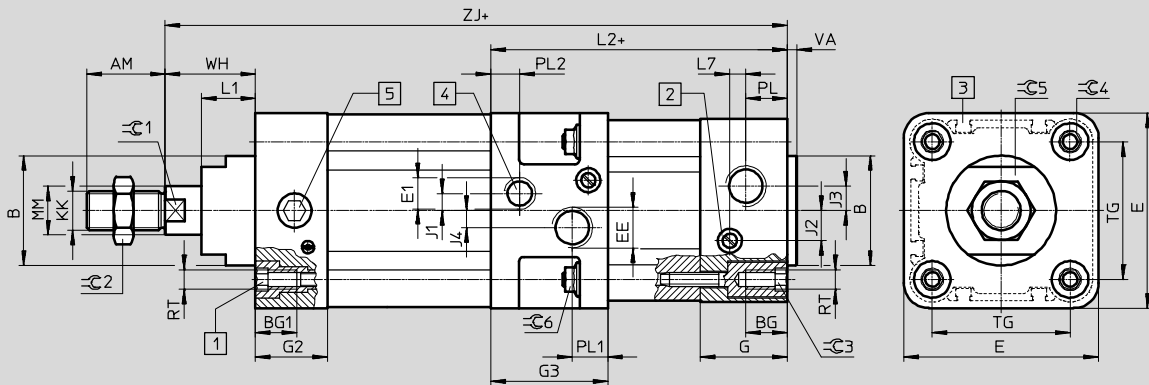
# Clamping unit cylinders DNCKE, standard port pattern

Technical data

FESTO

## Dimensions

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



- 1 Socket head screw with female thread for mounting components
  - 2 Regulating screw for adjustable end-position cushioning
  - 3 Sensor slot for proximity sensor
  - 4 Connection to release clamping function
  - 5 Locking screw
- + = plus stroke length

Ø	AM	B Ø d11	BG	BG1	E	EE	E1	G	G2	G3	J1
[mm]											
40	24	35	16	15	54	G1/4	G1/8	28.8	22	49.6	2
63	32	45	17	17	80	G3/8	G1/4	34.3	29.5	47.9	7
100	42	55	17	17	126	G1/2	G3/8	38	32.5	46.7	15

Ø	J2	J3	J4	KK	L1	L2	L7	MM Ø	PL	PL1	PL2
[mm]											
40	8	6	0	M12x1.25	17.9	114.5	3.6	16	14	21.3	9
63	12.4	10	7	M16x1.5	22.1	121.5	6.6	20	17	14.6	11.8
100	12	10	10	M20x1.5	29.2	131.5	8	25	18.8	16.4	14.4

Ø	RT	TG	VA	WH	ZJ	∅C1	∅C2	∅C3	∅C4	∅C5	∅C6
[mm]											
40	M6	38	4	30	277	13	19	6	6	30	8
63	M8	56.5	4	37	315	17	24	8	8	36	10
100	M10	89	4	51	408	22	30	6	10	41	13

• Note: This product conforms to ISO 1179-1 and to ISO 228-1

## Ordering data

Piston Ø [mm]	Stroke [mm]	Part No.	Type
40	10 ... 2000	526482	DNCKE-40-...-PPV-A
63	10 ... 2000	526483	DNCKE-63-...-PPV-A
100	10 ... 2000	526484	DNCKE-100-...-PPV-A



# Clamping unit cylinders DNCKE-S, standard port pattern

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Technical data

Function



- $\varnothing$  - Diameter  
40, 63, 100 mm
- $\text{I}$  - Stroke length  
10 ... 2000 mm



General technical data				
Piston $\varnothing$		40	63	100
Pneumatic connection	Cylinder	G1/4	G3/8	G1/2
	Clamping unit	G1/8	G1/4	G3/8
Piston rod thread		M12x1.25	M16x1.5	M20x1.5
Design	Piston			
	Piston rod			
	Cylinder barrel			
Cushioning		Adjustable at both ends		
Cushioning length	[mm]	20	22	32
Position sensing		For proximity sensing		
Type of mounting		Via female thread		
		With accessories		
Clamping type with effective direction		At both ends		
		Clamping via spring force, air to release		
Assembly position		Any		
Function		Single-channel to EN ISO 13849-1, category 1		
Safety function		Holding and stopping a movement		
Certification		BIA (Berufsgenossenschaftliches Institut für Arbeitsschutz – BG-Institute for Occupational Safety and Health)		

-  $\parallel$  - Note: This product conforms to ISO 1179-1 and to ISO 228-1

Operating and environmental conditions				
Piston $\varnothing$		40	63	100
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:4:4]		
Note on operating/pilot medium		Operation with lubricated medium possible (in which case lubricated operation will always be required)		
Operating pressure	[bar]	0.6 ... 8		
Min. release pressure	[bar]	3.8		
Max. permissible test pressure	[bar]	10		
Ambient temperature <sup>1)</sup>	[°C]	-10 ... +60		

1) Note operating range of proximity sensors

Weights [g]				
Piston $\varnothing$		40	63	100
Basic weight with 0 mm stroke		2340	5485	18160
Additional weight per 10 mm stroke		45	73	110
Moving load with 0 mm stroke		500	935	2150
Additional load per 10 mm stroke		16	25	40

# Clamping unit cylinders DNCKE-S, standard port pattern

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Technical data

Forces [N]			
Piston $\varnothing$	40	63	100
Theoretical force at 6 bar, advancing	754	1870	4712
Theoretical force at 6 bar, retracting	633	1682	4418
Static holding force	1300	3200	8000

**Note**

The specified holding force refers to a static load. If this value is exceeded, slippage may occur. Dynamic forces occurring during operation must not exceed the static holding force if

slippage is to be avoided. The clamping unit is backlash-free in the clamped condition when varying loads are applied to the piston rod. Lateral loads and bending moments

on the round material can impair the function. (Make sure that the load on the round material is only in the direction of movement.)

**Actuation:**

The clamping unit may only be released when the forces on the piston have reached an equilibrium. Otherwise the sudden movement of the piston rod could cause an accident. Blocking off the air supply at both ends (e.g. with a 5/3-way valve) does not provide any safety.

**Theoretical overtravel  $s$  as a function of the piston speed  $v$  in a vertical assembly position**

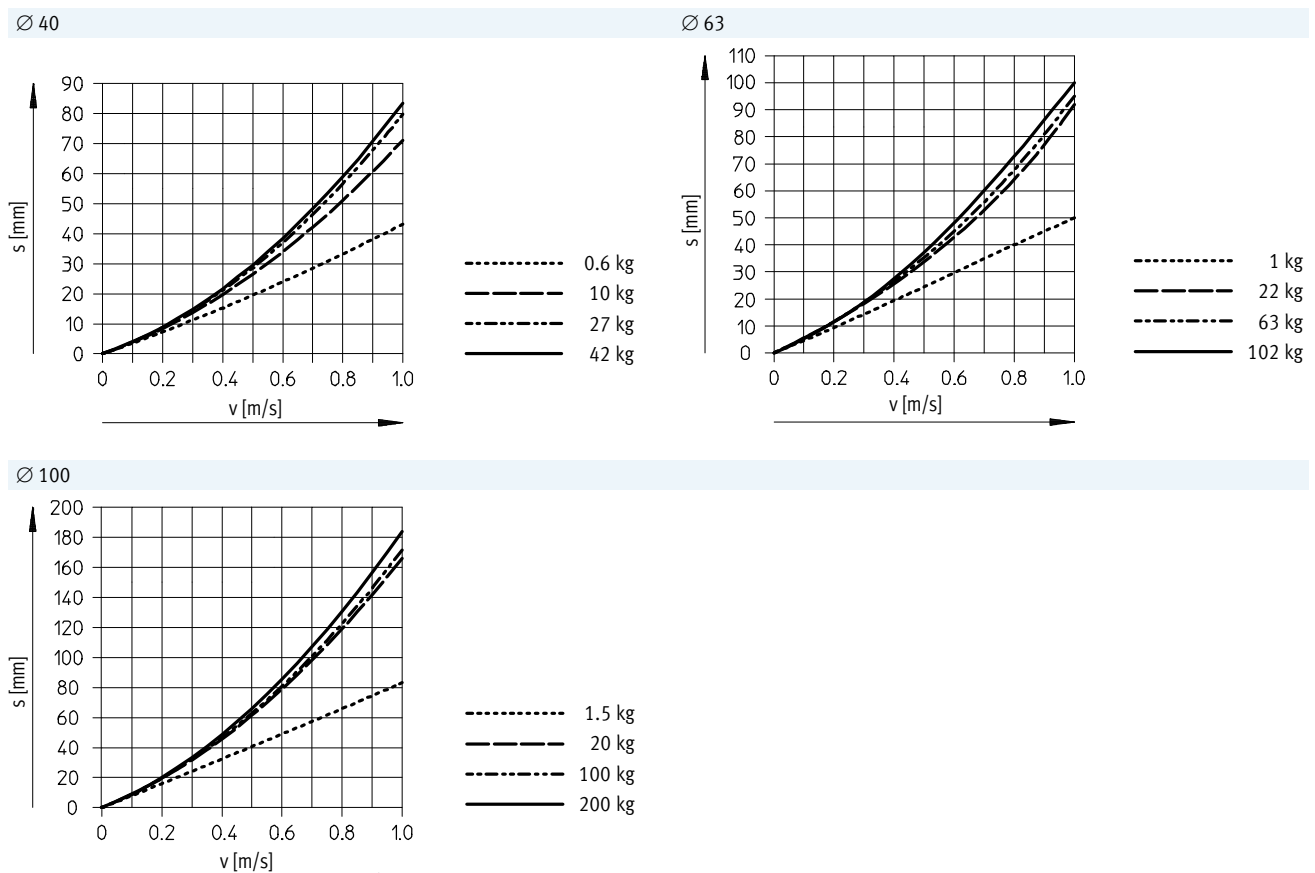
The overtravel is the distance that the piston rod covers between exhausting of the clamping unit and coming to a standstill. It must be determined by the customer when the machine is set up. When the clamping unit is used as a braking device, an increase in the overtravel as a function of the load and the frequency of braking (wear)

must be expected. The clamping unit DNCKE-S can be used in safety-related parts of control systems belonging to category 1 (reliable component) as defined by EN ISO 13849-1. For use in higher categories than category 1 to EN ISO 13849-1, the overtravel must be achieved even in the event of faults. It

is dependent on the environmental conditions and stress, e.g.:

- Operating pressure
- Nominal size of switching valve
- Cable length
- Diameter of the connecting cable to the clamping unit
- Load and speed

The overtravel can be reduced by attaching a quick exhaust valve to the supply port of the clamping unit.



# Clamping unit cylinders DNC-E-S, standard port pattern

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Technical data

Impact energy [J]			
Piston Ø	40	63	100
Max. impact energy at end positions	0.7	1.3	3

Permissible impact velocity:

$$v_{perm.} = \sqrt{\frac{2 \times E_{perm.}}{m_{dead} + m_{load}}}$$

$v_{perm.}$  Permissible impact velocity

$E_{perm.}$  Max. impact energy

$m_{dead}$  Moving load (drive)

$m_{load}$  Moving work load

Maximum permissible load:

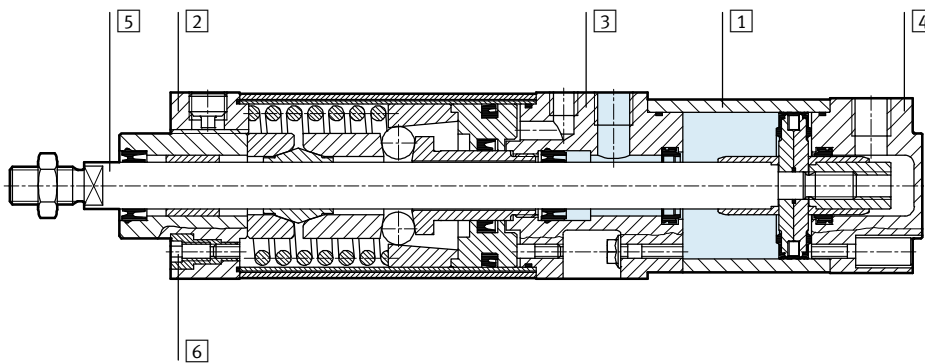
$$m_{load} = \frac{2 \times E_{perm.}}{v^2} - m_{dead}$$

-  - Note

These specifications represent the maximum values which can be reached. Note the maximum permitted impact energy.

## Materials

Sectional view

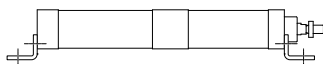


Cylinder		
1	Body	Wrought aluminium alloy
2	Bearing cap	Wrought aluminium alloy
3	Connector cap	Wrought aluminium alloy
4	End cap	Die-cast aluminium
5	Piston rod	Tempered steel
6	Flange screws	Tempered steel
-	Seals	TPE-U(PU), NBR

## Recommendation for mounting

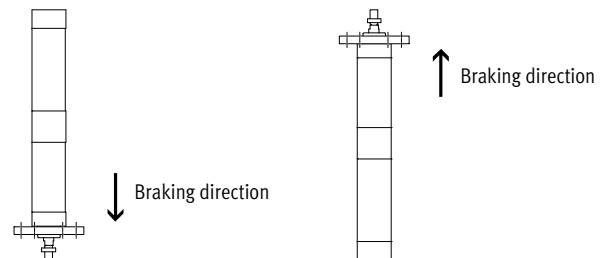
As holding device, horizontal installation

With foot mounting HNC



As braking device, vertical installation

With flange mounting FNC (note braking direction)



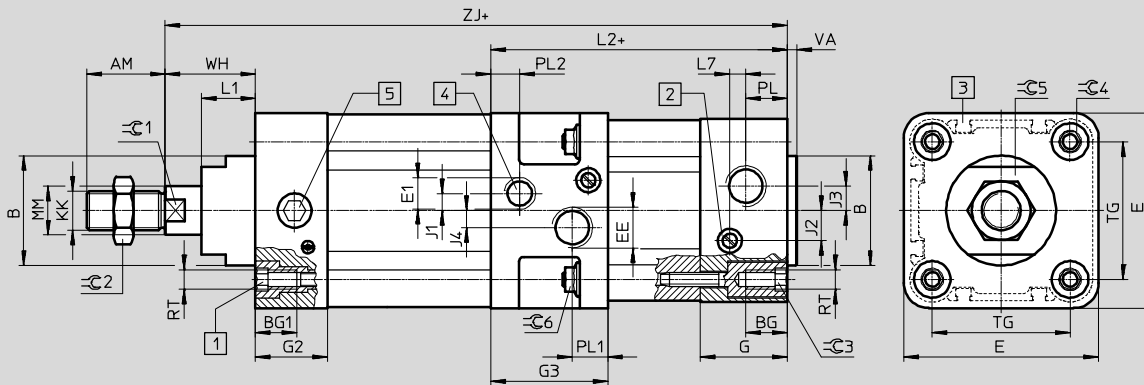
# Clamping unit cylinders DNCKE-S, standard port pattern

Technical data

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## Dimensions

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



- |   |  |   |   |                        |
|---|--|---|---|------------------------|
| 1 | Socket head screw with female thread for mounting components | 3 | Sensor slot for proximity sensor        | + = plus stroke length |
| 2 | Regulating screw for adjustable end-position cushioning      | 4 | Connection to release clamping function |                        |
| 5 | Locking screw  |   |   |                        |

Ø	AM	B Ø d11	BG	BG1	E	EE	E1	G	G2	G3	J1
[mm]											
40	24	35	16	15	54	G1/4	G1/8	28.8	22	49.6	2
63	32	45	17	17	80	G3/8	G1/4	34.3	29.5	47.9	7
100	42	55	17	17	126	G1/2	G3/8	38	32.5	46.7	15

Ø	J2	J3	J4	KK	L1	L2	L7	MM Ø	PL	PL1	PL2
[mm]											
40	8	6	0	M12x1.25	17.9	114.5	3.6	16	14	21.3	9
63	12.4	10	7	M16x1.5	22.1	121.5	6.6	20	17	14.6	11.8
100	12	10	10	M20x1.5	29.2	131.5	8	25	18.8	16.4	14.4

Ø	RT	TG	VA	WH	ZJ	∅C1	∅C2	∅C3	∅C4	∅C5	∅C6
[mm]											
40	M6	38	4	30	277	13	19	6	6	30	8
63	M8	56.5	4	37	315	17	24	8	8	36	10
100	M10	89	4	51	408	22	30	6	10	41	13

• Note: This product conforms to ISO 1179-1 and to ISO 228-1

## Ordering data

Piston Ø [mm]	Stroke [mm]	Part No.	Type
40	10 ... 2000	538239	DNCKE-40-...-PPV-A-S
63	10 ... 2000	538240	DNCKE-63-...-PPV-A-S
100	10 ... 2000	538241	DNCKE-100-...-PPV-A-S

# Clamping-unit cylinders, standard port pattern

Accessories

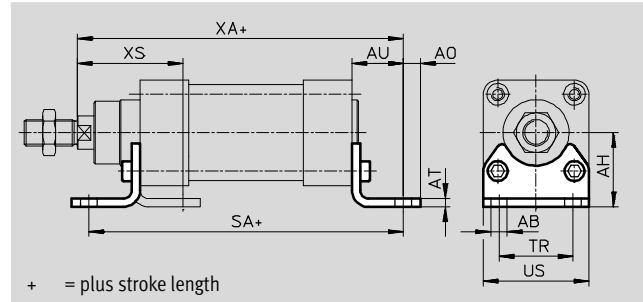
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## Foot mounting HNC

Material:

Galvanised steel

Free of copper and PTFE



Dimensions and ordering data													
For Ø	AB Ø	AH	AO	AT	AU	SA	TR	US	XA	XS	CRC <sup>1)</sup>	Weight [g]	Part No. Type
[mm]													
40	10	36	9	4	28	303	36	54	305	53	2	193	<b>174370 HNC-40</b>
63	10	50	12.5	5	32	342	50	75	347	63	2	436	<b>174372 HNC-63</b>
100	14.5	71	17.5	6	41	439	75	110	449	86	2	1009	<b>174374 HNC-100</b>

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

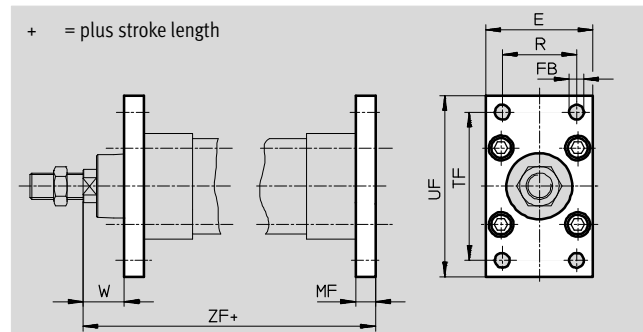
## Flange mounting FNC

Material:

Galvanised steel

Free of copper and PTFE

RoHS-compliant



Dimensions and ordering data												
For Ø	E	FB Ø	MF	R	TF	UF	W	ZF	CRC <sup>1)</sup>	Weight	Part No.	Type
[mm]		H13								[g]		
40	54	9	10	36	72	90	20	287	1	291	174377	FNC-40
63	75	9	12	50	100	120	25	327	1	679	174379	FNC-63
100	110	14	16	75	150	175	35	424	1	2041	174381	FNC-100

1) Corrosion resistance class CRC 1 to Festo standard FN 940070

Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

# Clamping-unit cylinders, standard port pattern

Accessories

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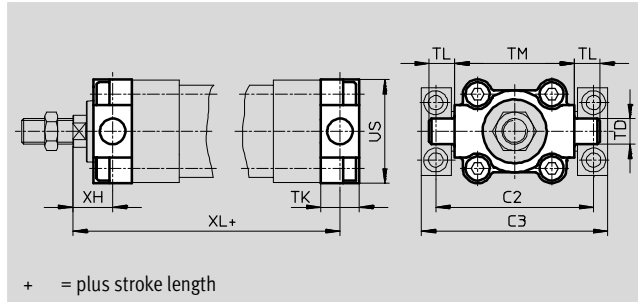
## Trunnion flange ZNCF

Material:

Special steel casting

Free of copper and PTFE

RoHS-compliant



Dimensions and ordering data												
For Ø	C2	C3	TD Ø e9	TK	TL	TM	US	XH	XL	CRC <sup>1)</sup>	Weight [g]	Part No. Type
[mm]												
40	87	105	16	20	16	63	54	20	287	2	285	<b>174412 ZNCF-40</b>
63	116	136	20	24	20	90	75	25	327	2	687	<b>174414 ZNCF-63</b>
100	164	189	25	38	25	132	110	32	427	2	2254	<b>174416 ZNCF-100</b>

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

## Trunnion mounting kit DAMT

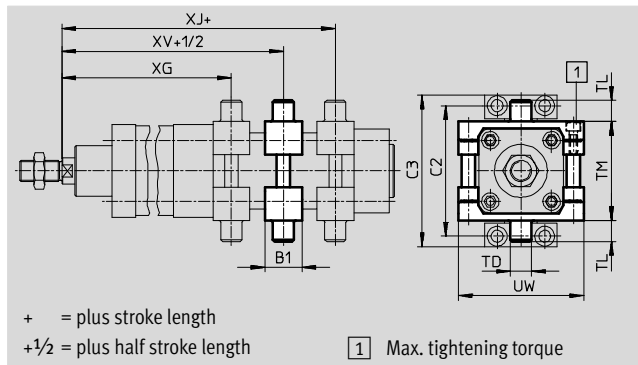
The mounting kit can be attached at any position along the profile barrel of a cylinder.

Material:

Tempered steel

Free of copper and PTFE

RoHS-compliant



Dimensions and ordering data							
For Ø	B1	C2	C3	TD Ø e9	TL	TM	UW
[mm]							
40	32	87	105	16	16	63	75
63	41	116	136	20	20	90	105
100	48	164	189	25	25	132	145

For Ø	XG	XJ	XV	Max. tightening torque [Nm]	CRC <sup>1)</sup>	Weight [g]	Part No.	Type
[mm]								
40	228.1	232.2	230.2	8+1	2	388	<b>2214899</b>	<b>DAMT-V1-40-A</b>
63	261.9	260.2	261	18+2	2	911	<b>2214971</b>	<b>DAMT-V1-63-A</b>
100	347.2	346	346.6	28+2	2	2095	<b>163530</b>	<b>DAMT-V1-100-A</b>

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

# Clamping-unit cylinders, standard port pattern

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Accessories

## Trunnion support LNZG

Material:

Trunnion support:

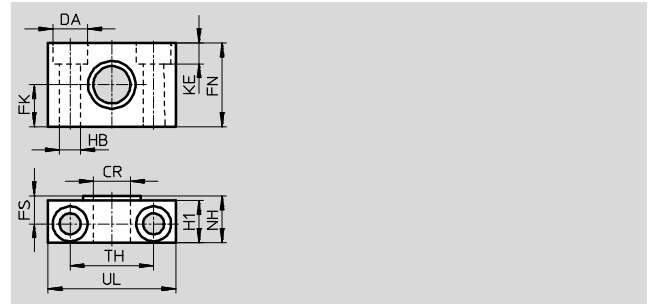
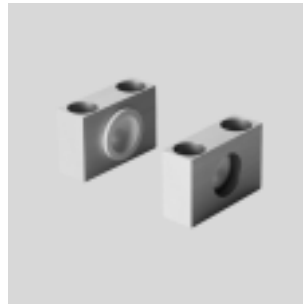
Anodised aluminium

Plain bearing:

Plastic

Free of copper and PTFE

RoHS-compliant



Dimensions and ordering data															
For Ø	CR	DA	FK	FN	FS	H1	HB	KE	NH	TH	UL	CRC <sup>1)</sup>	Weight	Part No.	Type
[mm]	Ø D11	Ø H13	Ø ±0.1				Ø H13			±0.2			[g]		
40	16	15	18	36	12	18	9	9	21	36	55	2	129	32960	LNZG-40/50
63	20	18	20	40	13	20	11	11	23	42	65	2	178	32961	LNZG-63/80
100	25	20	25	50	16	24.5	14	13	28.5	50	75	2	306	32962	LNZG-100/125

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

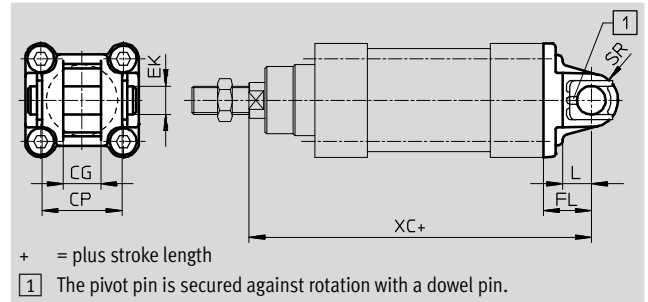
## Swivel flange SNC

Material:

Die-cast aluminium

Free of copper and PTFE

RoHS-compliant



Dimensions and ordering data											
For Ø	CG	CP	EK Ø	FL	L	SR	XC	CRC <sup>1)</sup>	Weight	Part No.	Type
[mm]	H14	d12		±0.2					[g]		
40	16	40	12	25	16	12	302	2	140	<b>174384</b>	<b>SNC-40</b>
63	21	51	16	32	21	16	347	2	331	<b>174386</b>	<b>SNC-63</b>
100	25	75	20	41	27	20	449	2	865	<b>174388</b>	<b>SNC-100</b>

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

# Clamping-unit cylinders, standard port pattern

FESTO

Accessories

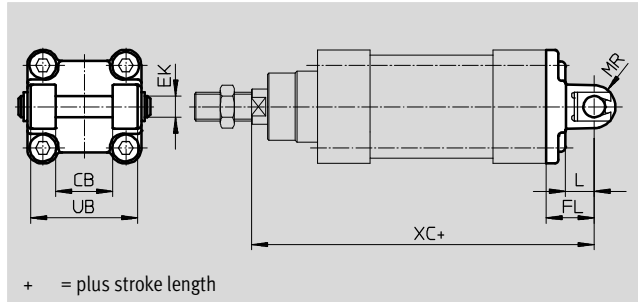
## Swivel flange SNCB

Material:

Die-cast aluminium

Free of copper and PTFE

RoHS-compliant



+ = plus stroke length

Dimensions and ordering data											
For Ø	CB	EK Ø	FL	L	ML	MR	UB	XC	CRC <sup>1)</sup>	Weight	Part No. Type
[mm]	H14	e8	±0.2				h14			[g]	
40	28	12	25	16	63	12	52	302	1	155	<b>174391 SNCB-40</b>
63	40	16	32	21	83	16	70	347	1	375	<b>174393 SNCB-63</b>
100	60	20	41	27	127	20	110	449	1	1035	<b>174395 SNCB-100</b>

1) Corrosion resistance class CRC 1 to Festo standard FN 940070

Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

## Swivel flange SNCS

Material:

SNCS 40:

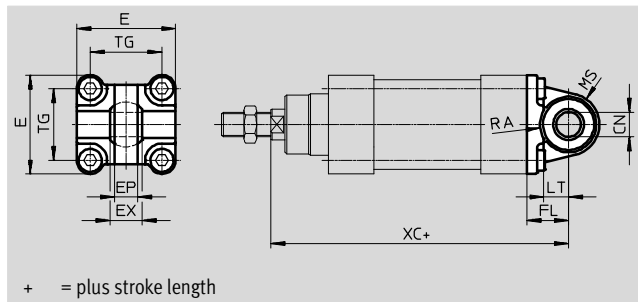
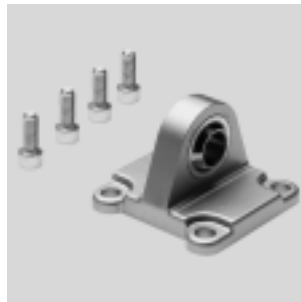
Die-cast aluminium

SNCS 63 ... 100:

Wrought aluminium alloy

Free of copper and PTFE

RoHS-compliant



+ = plus stroke length

Dimensions and ordering data											
For Ø	CN Ø	E	EP	EX	FL	LT	MS	RA	TG	XC	CRC <sup>1)</sup>
[mm]			±0.2		±0.2			+1			
40	12 <sup>+0.015</sup>	54 <sub>-0.5</sub>	12	16	25	16	17 <sup>+0.5</sup>	17.5	38	160	1
63	16 <sup>+0.015</sup>	74,5 <sup>+0.5</sup>	15	21	32	21	23 <sub>-0.5</sub>	23	56.5	190	2
100	20 <sup>+0.018</sup>	109 <sup>+1/-0.7</sup>	18	25	41	27	30 <sup>+0.5</sup>	95	89	230	2

1) Corrosion resistance class CRC 1 to Festo standard FN 940070

Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.



# Clamping-unit cylinders, standard port pattern

Accessories

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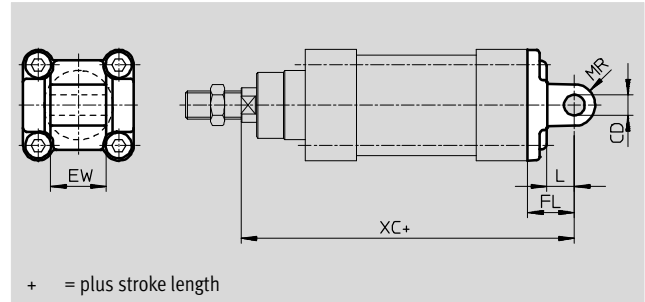
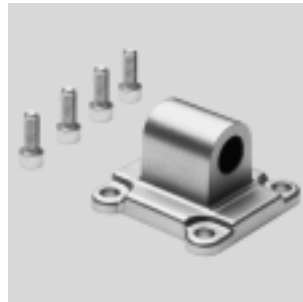
## Swivel flange SNCL

Material:

Die-cast aluminium

Free of copper and PTFE

RoHS-compliant



Dimensions and ordering data										
For Ø	CD	EW	FL	L	MR	XC	CRC <sup>1)</sup>	Weight	Part No.	Type
[mm]	Ø							[g]		
40	12	28	25	16	12	302	2	95	<b>174405</b>	<b>SNCL-40</b>
63	16	40	32	21	16	347	2	225	<b>174407</b>	<b>SNCL-63</b>
100	20	60	41	27	20	449	2	606	<b>174409</b>	<b>SNCL-100</b>

1) Corrosion resistance class CRC 2 to Festo standard FN 940070






Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

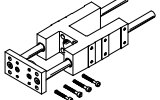
Ordering data – Mounting attachments				Technical data → Internet: mounting attachment			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
<b>Clevis foot LNG</b>				<b>Clevis foot LSN</b>			
	40	<b>33891</b>	<b>LNG-40</b>		40	<b>5562</b>	<b>LSN-40</b>
	63	<b>33893</b>	<b>LNG-63</b>		63	<b>5564</b>	<b>LSN-63</b>
	100	<b>33895</b>	<b>LNG-100</b>		100	<b>5566</b>	<b>LSN-100</b>
<b>Clevis foot LSNG</b>				<b>Clevis foot LSNSG</b>			
	40	<b>31741</b>	<b>LSNG-40</b>		40	<b>31748</b>	<b>LSNSG-40</b>
	63	<b>31743</b>	<b>LSNG-63</b>		63	<b>31750</b>	<b>LSNSG-63</b>
	100	<b>31745</b>	<b>LSNG-100</b>		100	<b>31752</b>	<b>LSNSG-100</b>
<b>Clevis foot LBG</b>				<b>Clevis foot, right-angled LQG</b>			
	40	<b>31762</b>	<b>LBG-40</b>		40	<b>31769</b>	<b>LQG-40</b>
	63	<b>31764</b>	<b>LBG-63</b>		63	<b>31771</b>	<b>LQG-63</b>
	100	<b>31766</b>	<b>LBG-100</b>		100	<b>31773</b>	<b>LQG-100</b>

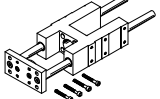
# Clamping-unit cylinders, standard port pattern

Accessories

**FESTO**

Ordering data – Piston rod attachments				Technical data → Internet: piston rod attachment			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
Rod eye SGS				Rod clevis SGA			
	40	9262	SGS-M12x1,25		40	10767	SGA-M12x1,25
	63	9263	SGS-M16x1,5		63	10768	SGA-M16x1,5
	100	9264	SGS-M20x1,5		100	10769	SGA-M20x1,5
Rod clevis SG				Self-aligning rod coupler FK			
	40	6145	SG-M12x1,25		40	6141	FK-M12x1,25
	63	6146	SG-M16x1,5		63	6142	FK-M16x1,5
	100	6147	SG-M20x1,5		100	6143	FK-M20x1,5
Coupling piece KSG							
	40	32964	KSG-M12x1,25				
	63	32965	KSG-M16x1,5				
	100	32966	KSG-M20x1,5				

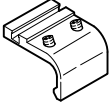
Ordering data – Guide units for fixed strokes (recirculating ball bearing guide only)				Technical data → Internet: feng			
	Stroke [mm]	Part No.	Type		Stroke [mm]	Part No.	Type
	For Ø 40 mm			For Ø 63 mm			
	10 ... 50	34499	FENG-40-50-KF	10 ... 50			
	10 ... 100	34500	FENG-40-100-KF	10 ... 100			
	10 ... 160	34501	FENG-40-160-KF	10 ... 160			
	10 ... 200	34502	FENG-40-200-KF	10 ... 200			
	10 ... 250	34503	FENG-40-250-KF	10 ... 250			
	10 ... 320	34504	FENG-40-320-KF	10 ... 320			
	10 ... 400	150291	FENG-40-400-KF	10 ... 400			
	10 ... 500	34505	FENG-40-500-KF	10 ... 500			
	For Ø 100 mm						
	10 ... 50	34529	FENG-100-50-KF				
	10 ... 100	34530	FENG-100-100-KF				
	10 ... 160	34531	FENG-100-160-KF				
	10 ... 200	34532	FENG-100-200-KF				
	10 ... 250	34533	FENG-100-250-KF				
	10 ... 320	34534	FENG-100-320-KF				
	10 ... 400	34535	FENG-100-400-KF				
	10 ... 500	34536	FENG-100-500-KF				

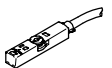
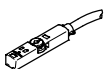
Ordering data – Guide units for variable strokes				Technical data → Internet: feng			
	For Ø [mm]	Stroke [mm]	with recirculating ball bearing guide Part No. Type		with plain bearing guide Part No. Type		
	40	10 ... 500	34488 FENG-40-...-KF		34482	FENG-40-...-GF	
	63	10 ... 500	34490 FENG-63-...-KF		34484	FENG-63-...-GF	
	100	10 ... 500	34492 FENG-100-...-KF		34486	FENG-100-...-GF	

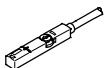
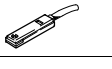

# Clamping-unit cylinders, standard port pattern

Accessories

**FESTO**

Ordering data – Mounting kits for proximity sensors SMT-8				Technical data → Internet: smb	
	For Ø [mm]	Part No.	Type		
	40	175705	SMB-8-FENG-32/40		
	63	175706	SMB-8-FENG-50/63		
	100	175707	SMB-8-FENG-80/100		



Ordering data – Proximity sensors for T-slot, magneto-resistive						Technical data → Internet: <a href="#">smt</a>	
	Type of mounting	Switch output	Electrical connection	Cable length [m]	Part No.	Type	
N/O contact							
	Insertable in the slot from above, flush with cylinder profile, short design	PNP	Cable, 3-wire	2.5	574335	SMT-8M-A-PS-24V-E-2,5-OE	
			Plug M8x1, 3-pin	0.3	574334	SMT-8M-A-PS-24V-E-0,3-M8D	
			Plug M12x1, 3-pin	0.3	574337	SMT-8M-A-PS-24V-E-0,3-M12	
		NPN	Cable, 3-wire	2.5	574338	SMT-8M-A-NS-24V-E-2,5-OE	
			Plug M8x1, 3-pin	0.3	574339	SMT-8M-A-NS-24V-E-0,3-M8D	
N/C contact							
	Insertable in the slot from above, flush with cylinder profile, short design	PNP	Cable, 3-wire	7.5	574340	SMT-8M-A-PO-24V-E-7,5-OE	


Ordering data – Proximity sensors for T-slot, magnetic reed						Technical data → Internet: sme	
	Type of mounting	Switch output	Electrical connection	Cable length [m]	Part No.	Type	
N/O contact							
	Insertable in the slot from above, flush with cylinder profile	Contacting	Cable, 3-wire	2.5	543862	SME-8M-DS-24V-K-2,5-OE	
				5.0	543863	SME-8M-DS-24V-K-5,0-OE	
			Cable, 2-wire	2.5	543872	SME-8M-ZS-24V-K-2,5-OE	
				Plug M8x1, 3-pin	0.3	543861	SME-8M-DS-24V-K-0,3-M8D
	Insertable in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	2.5	150855	SME-8-K-LED-24	
			Plug M8x1, 3-pin	0.3	150857	SME-8-S-LED-24	
N/C contact							
	Insertable in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	7.5	160251	SME-8-O-K-LED-24	


## Clamping-unit cylinders, standard port pattern

Accessories

**FESTO**

Ordering data – Connecting cables				Technical data → Internet: nebu	
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part No.	Type
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	541333	NEBU-M8G3-K-2.5-LE3
			5	541334	NEBU-M8G3-K-5-LE3
	Straight socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	541363	NEBU-M12G5-K-2.5-LE3
			5	541364	NEBU-M12G5-K-5-LE3
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	541338	NEBU-M8W3-K-2.5-LE3
			5	541341	NEBU-M8W3-K-5-LE3
	Angled socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	541367	NEBU-M12W5-K-2.5-LE3
			5	541370	NEBU-M12W5-K-5-LE3

Ordering data – Slot cover for T-slot				Part No.	Type
	Assembly	Length [m]			
	Insertable from above	2x 0.5		151680	ABP-5-S

Ordering data – One-way flow control valves				Technical data → Internet: grla	
	Connection		Material	Part No.	Type
	Thread	For tubing OD			
	G1/8	3	Metal design	193142	GRLA-1/8-QS-3-D
		4		193143	GRLA-1/8-QS-4-D
		6		193144	GRLA-1/8-QS-6-D
		8		193145	GRLA-1/8-QS-8-D
	G1/4	6		193146	GRLA-1/4-QS-6-D
		8		193147	GRLA-1/4-QS-8-D
		10		193148	GRLA-1/4-QS-10-D
	G3/8	6		193149	GRLA-3/8-QS-6-D
		8		193150	GRLA-3/8-QS-8-D
		10		193151	GRLA-3/8-QS-10-D
	G1/2	12		193152	GRLA-1/2-QS-12-D