

Clamping-unit cylinders, standard port pattern



# Clamping-unit cylinders, standard port pattern

Key features

FESTO

## 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

Clamping-unit cylinder DNCKE-S, for safety-related applications

9



- **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
- **For use as a braking device (dynamic application):**
  - Braking or stopping of movements
  - Suspension of movement upon entering a danger area
- Holding force of the clamping unit is greater than the max. permissible feed force of the cylinder
- Suitable for use in safety-related parts of control systems belonging to category 1 to EN ISO 13849-1 (reliable component). For use in higher categories, additional control measures are required.
- Certified for use in safety-relevant control systems by the BG-Institute for Occupational Safety and Health (Berufsgenossenschaftlichen Institut für Arbeitsschutz – BIA) in Germany
- When used as a braking device, the overtravel must be checked regularly
- CE marking as per EC machinery directive
- Products intended for use in safety-related applications must be selected, sized and arranged in accordance with the risk assessment (EN ISO 14121-1) as well as any other valid standards and regulations

# Clamping-unit cylinders, standard port pattern

Type codes

DNCKE – 63 – 100 – PPV – A – S

**Type**

Double-acting	
DNCKE	Clamping-unit cylinder

**Piston Ø [mm]**

**Stroke [mm]**

**Cushioning**

PPV	Adjustable at both ends
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**Position sensing**

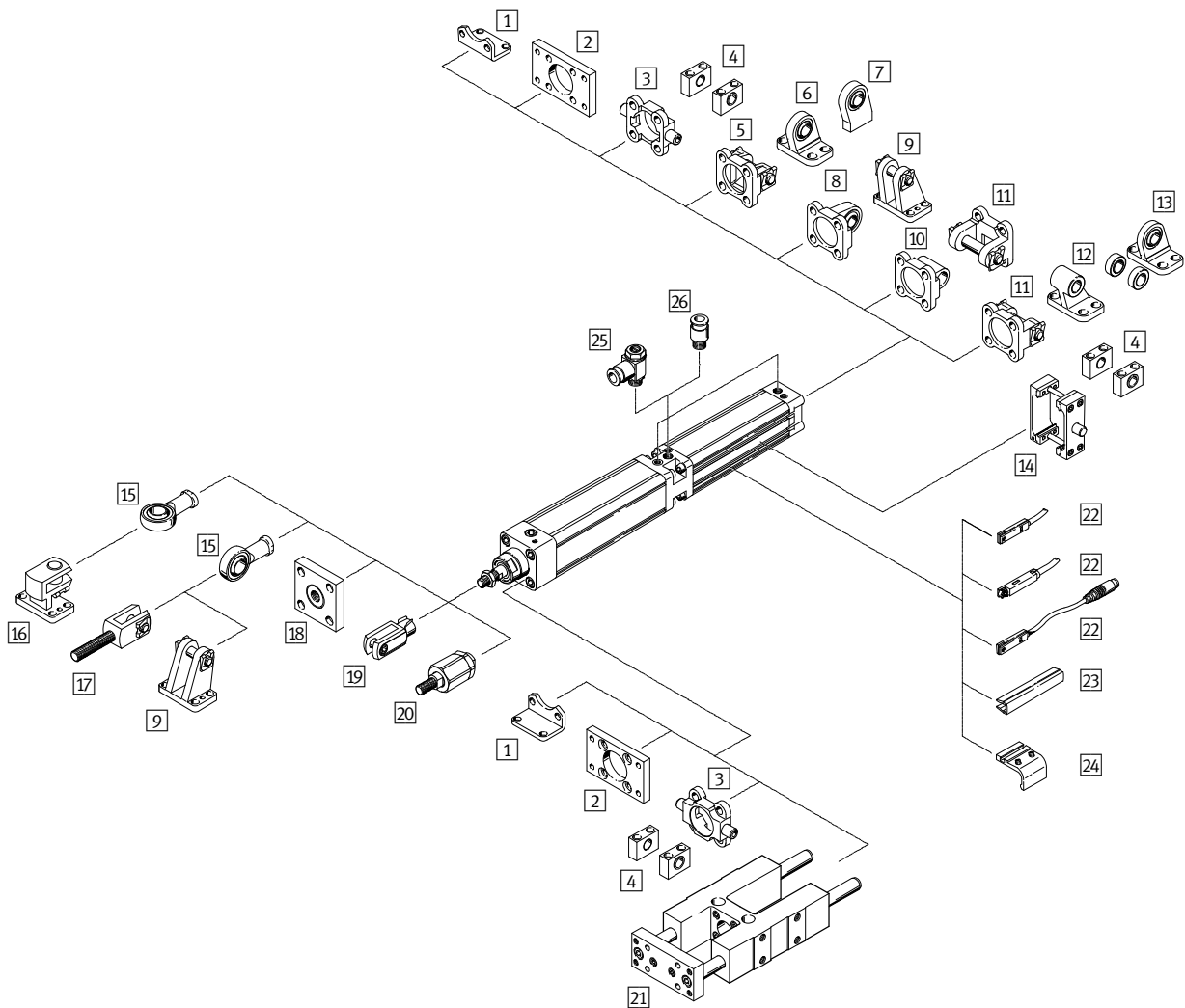
A	For proximity sensing
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**Certification**

S	Safety component to Machinery Directive 2006/42/EC. Approved for use in safety-related parts of control systems. Certified by the Institute for Occupational Safety and Health (Berufsgenossenschaftlichen Institut für Arbeitsschutz - BIA) in Germany.
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# Clamping-unit cylinders, standard port pattern

Peripherals overview



# Clamping-unit cylinders, standard port pattern

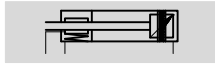
Peripherals overview

Mounting attachments and accessories					
	Brief description	DNCKE	DNCKE-S	→ Page/Internet	
1	Foot mounting HNC	For bearing or end cap	■	■	13
2	Flange mounting FNC	For bearing or end cap	■	■	13
3	Trunnion flange ZNCF	For bearing or end cap	■	–	14
4	Trunnion support LNZG	For trunnion flange ZNCF	■	–	15
5	Swivel flange SNC	For end cap	■	–	15
6	Clevis foot LSNG	With spherical bearing	■	–	17
7	Clevis foot LSNSG	Weld-on, with spherical bearing	■	–	17
8	Swivel flange SNCS	With spherical bearing for end cap	■	–	16
9	Clevis foot LBG	For swivel flange SNCS	■	–	17
10	Swivel flange SNCL	For end cap	■	–	17
11	Swivel flange SNCB	For end cap	■	–	16
12	Clevis foot LNG	For swivel flange SNCB	■	–	17
13	Clevis foot LSN	With spherical bearing	■	–	17
14	Trunnion mounting kit DAMT	For mounting anywhere along the cylinder profile barrel	■	–	14
15	Rod eye SGS	With spherical bearing	■	–	18
16	Right-angle clevis foot LQG	For rod eye SGS	■	–	17
17	Rod clevis SGA	With male thread	■	–	18
18	Coupling piece KSG	For compensating radial deviations	■	–	18
19	Rod clevis SG	Permits a swivelling movement of the cylinder in one plane	■	–	18
20	Self-aligning rod coupler FK	For compensating radial and angular deviations	■	■	18
21	Guide unit FENG	For protecting standard cylinders from torsion at high torque loads	■	■	18
22	Proximity sensor SME/SMT	Can be integrated in the cylinder profile barrel	■	■	19
23	Slot cover ABP-5-S	To protect the sensor cable and keep dirt out of the sensor slots	■	■	20
24	Sensor mounting kit SMB-8-FENG	For proximity sensor SMT-8 when attaching to cylinders in combination with guide unit FENG	■	■	19
25	One-way flow control valve GRLA	For speed regulation	■	■	20
26	Push-in fitting QS	For connecting compressed air tubing with standard external diameters	■	■	quick star

# Clamping unit cylinders DNCKE, standard port pattern

Technical data

Function



- - Diameter  
40, 63, 100 mm
- - 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		40	63	100
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	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		

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

Operating and environmental conditions		40	63	100
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]		40	63	100
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

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

**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 if varying loads are applied to the piston rod.

**Activation:**  
The clamping unit may only be released when equilibrium of forces is present on the piston rod. Otherwise there is a risk of accidents due to the sudden movement of the piston rod. Blocking off the air supply at both ends (e.g. with a 5/3-way valve) does not provide any safety.

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

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

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

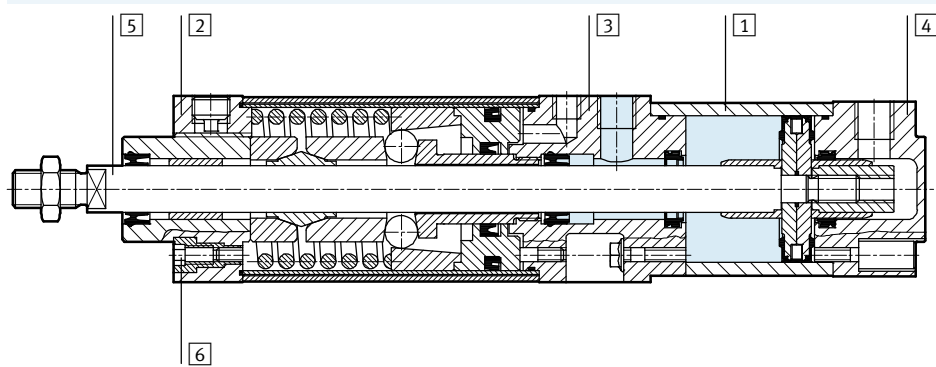
$v_{perm.}$  Permissible impact velocity  
 $E_{perm.}$  Max. impact energy  
 $m_{dead}$  Moving load (drive)  
 $m_{load}$  Moving work load

**Note**

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

## 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	Polyurethane, nitrile rubber

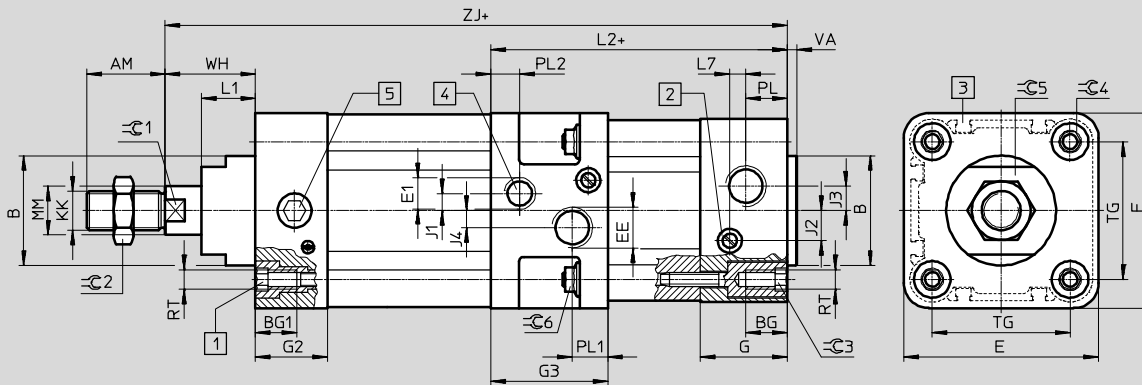
# Clamping unit cylinders DNCKE, standard port pattern

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

∅	AM	B ∅ d11	BG	BG1	E	EE	E1	G	G2	G3	J1
40	24	35	16	15	54	G <sup>1</sup> / <sub>4</sub>	G <sup>1</sup> / <sub>8</sub>	28.8	22	49.6	2
63	32	45	17	17	80	G <sup>3</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>4</sub>	34.3	29.5	47.9	7
100	42	55	17	17	126	G <sup>1</sup> / <sub>2</sub>	G <sup>3</sup> / <sub>8</sub>	38	32.5	46.7	15

∅	J2	J3	J4	KK	L1	L2	L7	MM ∅	PL	PL1	PL2
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

∅	RT	TG	VA	WH	ZJ	∅C1	∅C2	∅C3	∅C4	∅C5	∅C6
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 ∅ [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

Technical data

## Function



- $\varnothing$  - Diameter  
40, 63, 100 mm
- | - 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		
Certification		BIA (Berufsgenossenschaftliches Institut für Arbeitsschutz – BG-Institute for Occupational Safety and Health)		
CE marking (see declaration of conformity)		To EU Machinery Directive		

- | - 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

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 if varying loads are applied to the piston rod.

**Activation:**  
The clamping unit may only be released when equilibrium of forces is present on the piston rod. Otherwise there is a risk of accidents due to the sudden movement of the piston rod. 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

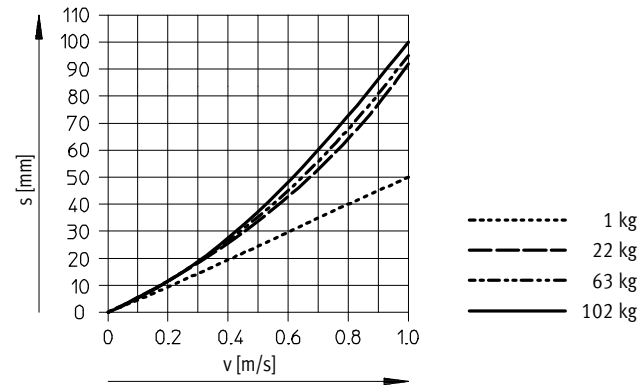
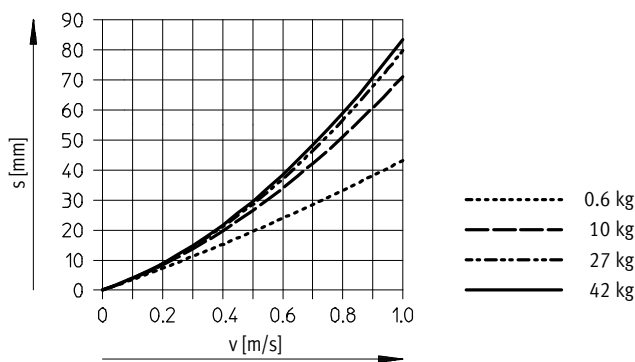
The overtravel is the distance that the piston rod covers between exhausting of the clamping unit and coming to a standstill. It must be determined by the customer when setting up the machine and be compared with the calculated overtravel → DIN EN 999/EN ISO 13849-2. The clamping unit DNCKE-S can be 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.:

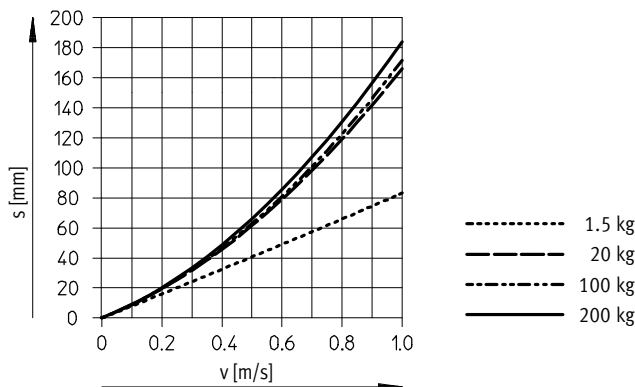
- Operating pressure
- Nominal size of switching valve
- Line length
- Diameter of connecting cable to clamping unit
- Load and speed

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

### $\varnothing 40$ $\varnothing 63$



### $\varnothing 100$



# Clamping unit cylinders DNCKE-S, standard port pattern


Technical data

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

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

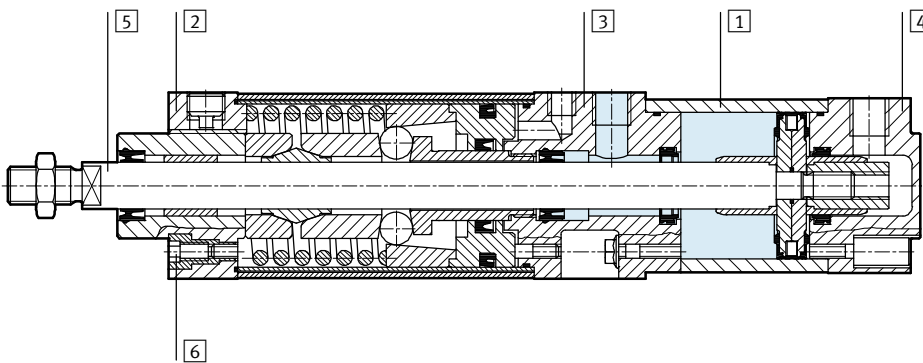
$v_{perm.}$  Permissible impact velocity  
 $E_{perm.}$  Max. impact energy  
 $m_{dead}$  Moving load (drive)  
 $m_{load}$  Moving work load

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

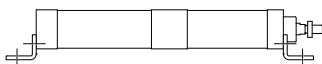


Cylinder		
1	Body	Wrought aluminium alloy
2	Bearing cap	Wrought aluminium alloy
3	Connector cap	Wrought aluminium alloy
4	End cap	Die-cast aluminium
5	Piston rod	Tempered steel
6	Flange screws	Tempered steel
-	Seals	Polyurethane, nitrile rubber

## Recommendation for mounting

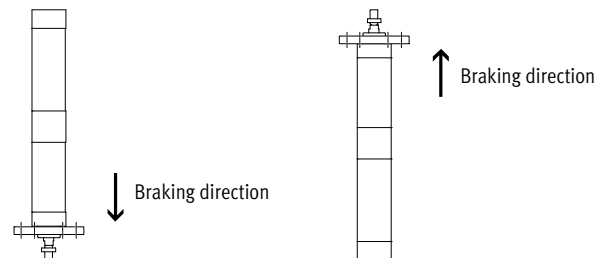
As holding device, horizontal installation

With foot mounting HNC



As braking device, vertical installation

With flange mounting FNC (note braking direction)



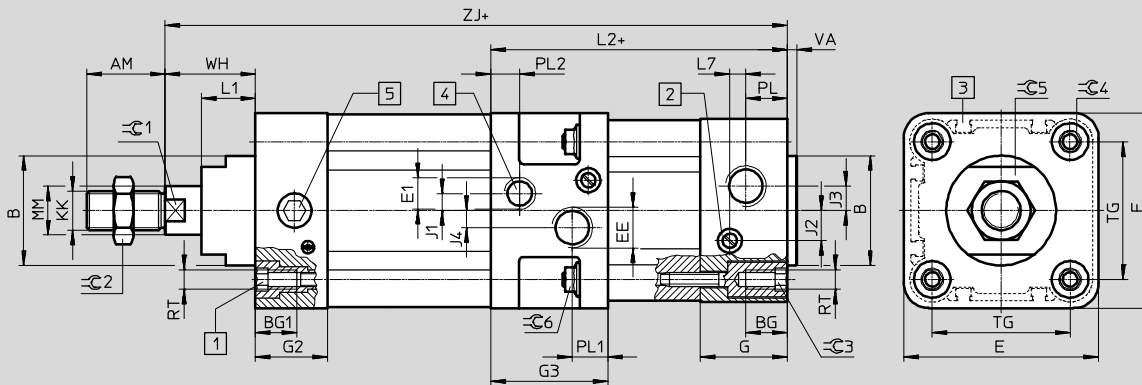
# Clamping unit cylinders DNCKE-S, standard port pattern

Technical data

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

∅	AM	B ∅ d11	BG	BG1	E	EE	E1	G	G2	G3	J1
40	24	35	16	15	54	G <sup>1</sup> / <sub>4</sub>	G <sup>1</sup> / <sub>8</sub>	28.8	22	49.6	2
63	32	45	17	17	80	G <sup>3</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>4</sub>	34.3	29.5	47.9	7
100	42	55	17	17	126	G <sup>1</sup> / <sub>2</sub>	G <sup>3</sup> / <sub>8</sub>	38	32.5	46.7	15

∅	J2	J3	J4	KK	L1	L2	L7	MM ∅	PL	PL1	PL2
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

∅	RT	TG	VA	WH	ZJ	∅C1	∅C2	∅C3	∅C4	∅C5	∅C6
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

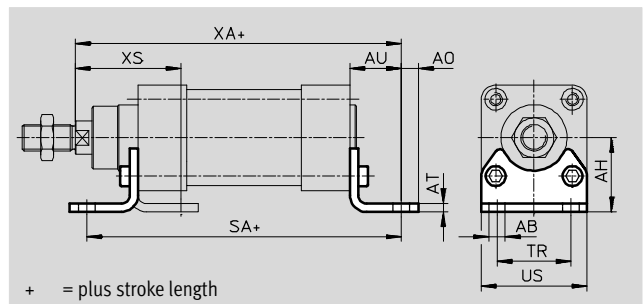
Piston ∅ [mm]	Stroke [mm]	Part No.	Type
40	10 ... 2000	538239	DNCKE-40-...-PPV-A-S
63	10 ... 2000	538240	DNCKE-63-...-PPV-A-S
100	10 ... 2000	538241	DNCKE-100-...-PPV-A-S

# Clamping-unit cylinders, standard port pattern

Accessories

## Foot mounting HNC

Material:  
Galvanised steel  
Free of copper and PTFE



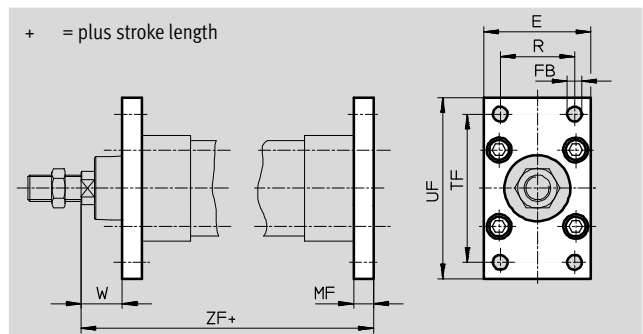
### Dimensions and ordering data

For $\varnothing$	AB $\varnothing$	AH	AO	AT	AU	SA	TR	US	XA	XS	CRC <sup>1)</sup>	Weight [g]	Part No.	Type
40	10	36	9	4	28	303	36	54	305	53	2	193	<b>174370</b>	<b>HNC-40</b>
63	10	50	12.5	5	32	342	50	75	347	63	2	436	<b>174372</b>	<b>HNC-63</b>
100	14.5	71	17.5	6	41	439	75	110	449	86	2	1009	<b>174374</b>	<b>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 $\varnothing$	E	FB $\varnothing$ H13	MF	R	TF	UF	W	ZF	CRC <sup>1)</sup>	Weight [g]	Part No.	Type
40	54	9	10	36	72	90	20	287	1	291	<b>174377</b>	<b>FNC-40</b>
63	75	9	12	50	100	120	25	327	1	679	<b>174379</b>	<b>FNC-63</b>
100	110	14	16	75	150	175	35	424	1	2041	<b>174381</b>	<b>FNC-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).

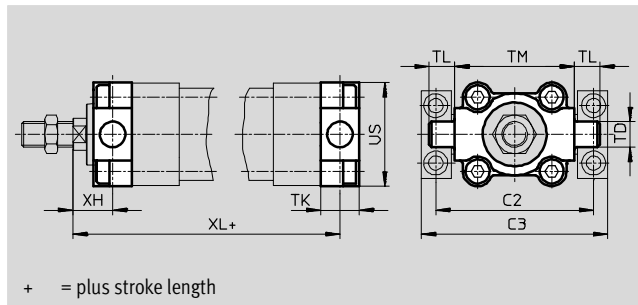
# Clamping-unit cylinders, standard port pattern



Accessories

## Trunnion flange ZNCF

Material:  
Special steel casting  
Free of copper and PTFE  
RoHS-compliant



+ = plus stroke length

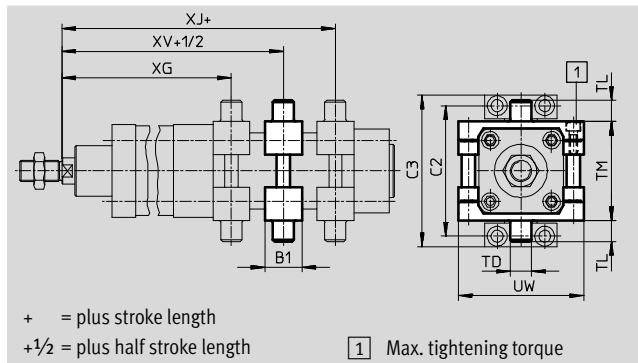
Dimensions and ordering data													
For Ø	C2	C3	TD	TK	TL	TM	US	XH	XL	CRC <sup>1)</sup>	Weight	Part No.	Type
[mm]			Ø								[g]		
40	87	105	16	20	16	63	54	20	287	2	285	<b>174412</b>	<b>ZNCF-40</b>
63	116	136	20	24	20	90	75	25	327	2	687	<b>174414</b>	<b>ZNCF-63</b>
100	164	189	25	38	25	132	110	32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



+ = plus stroke length  
+1/2 = plus half stroke length

1 Max. tightening torque

Dimensions and ordering data							
For Ø	B1	C2	C3	TD	TL	TM	UW
[mm]				Ø			
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	CRC <sup>1)</sup>	Weight	Part No.	Type
[mm]				[Nm]		[g]		
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>

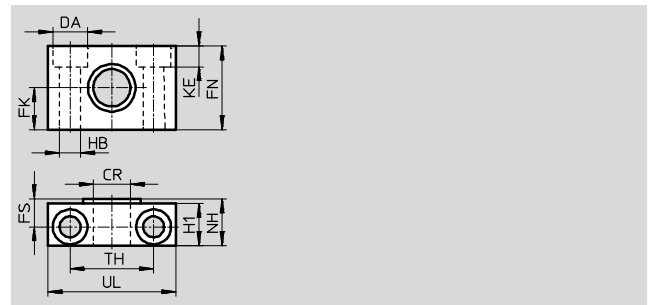
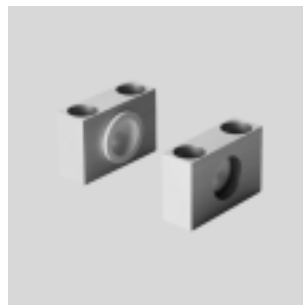
1) Corrosion resistance class CRC 2 to Festo standard FN 940070  
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

# Clamping-unit cylinders, standard port pattern

Accessories

## Trunnion support LNZG

Material:  
 Trunnion support:  
 Anodised aluminium  
 Plain bearing:  
 Plastic  
 Free of copper and PTFE  
 RoHS-compliant

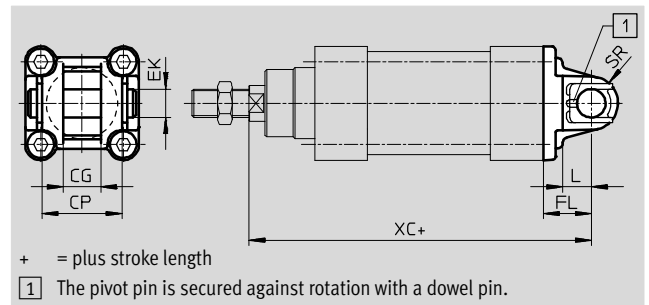


Dimensions and ordering data														Weight	Part No.	Type
For $\varnothing$	CR	DA	FK	FN	FS	H1	HB	KE	NH	TH	UL	CRC <sup>1)</sup>				
[mm]	$\varnothing$ D11	$\varnothing$ H13	$\varnothing$ $\pm 0.1$				$\varnothing$ H13			$\pm 0.2$			[g]			
40	16	15	18	36	12	18	9	9	21	36	55	2	129	<b>32960</b>	<b>LNZG-40/50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

## Swivel flange SNC

Material:  
 Die-cast aluminium  
 Free of copper and PTFE  
 RoHS-compliant



Dimensions and ordering data											Weight	Part No.	Type
For $\varnothing$	CG	CP	EK	FL	L	SR	XC	CRC <sup>1)</sup>					
[mm]	H14	d12	$\varnothing$	$\pm 0.2$					[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.

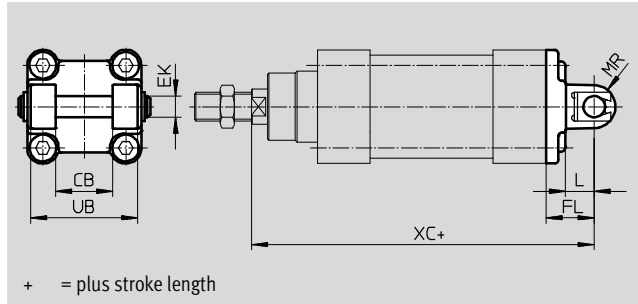
# Clamping-unit cylinders, standard port pattern

Accessories



## Swivel flange SNCB

Material:  
Die-cast aluminium  
Free of copper and PTFE  
RoHS-compliant

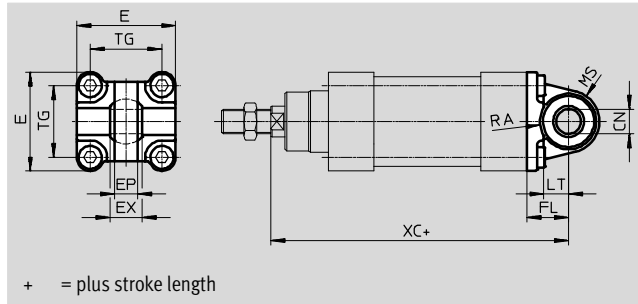
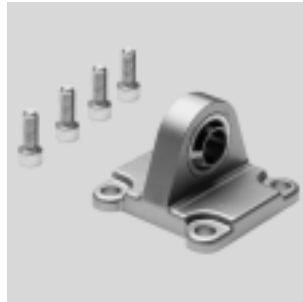


Dimensions and ordering data												
For $\varnothing$	CB	EK	FL	L	ML	MR	UB	XC	CRC <sup>1)</sup>	Weight	Part No.	Type
[mm]	H14	$\varnothing$ e8	$\pm 0.2$				h14			[g]		
40	28	12	25	16	63	12	52	302	2	155	<b>174391</b>	<b>SNCB-40</b>
63	40	16	32	21	83	16	70	347	2	375	<b>174393</b>	<b>SNCB-63</b>
100	60	20	41	27	127	20	110	449	2	1035	<b>174395</b>	<b>SNCB-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.

## Swivel flange SNCS

Material:  
SNCS 40 ... 63:  
Die-cast aluminium  
SNCS 100:  
Wrought aluminium alloy  
Free of copper and PTFE  
RoHS-compliant



Dimensions and ordering data														
For $\varnothing$	CN	E	EP	EX	FL	LT	MS	RA	TG	XC	CRC <sup>1)</sup>	Weight	Part No.	Type
[mm]	$\varnothing$		$\pm 0.2$		$\pm 0.2$			+1				[g]		
40	12 <sup>+0.015</sup>	54 <sub>-0.5</sub>	12	16	25	16	17 <sup>+0.5</sup>	17.5	38	160	2	122	<b>174398</b>	<b>SNCS-40</b>
63	16 <sup>+0.015</sup>	75 <sub>-0.6</sub>	15	21	32	21	23 <sub>-0.5</sub>	23	56.5	190	2	281	<b>174400</b>	<b>SNCS-63</b>
100	20 <sup>+0.018</sup>	109 <sup>+1/-0.7</sup>	18	25	41	27	30 $\pm 0.5$	95	89	230	2	683	<b>174402</b>	<b>SNCS-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.

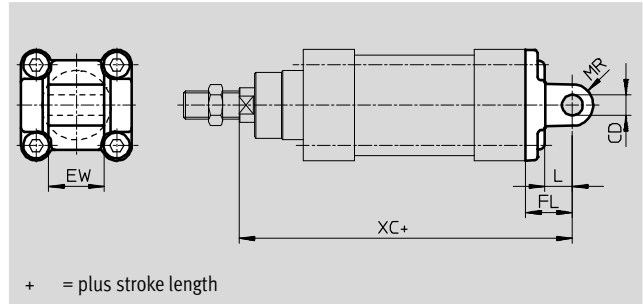


# Clamping-unit cylinders, standard port pattern

Accessories

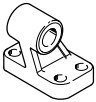
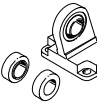



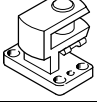
## Swivel flange SNCL

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	-0.2/-0.6	±0.2					[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.

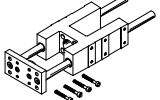
Ordering data – Mounting attachments				Technical data → Internet: mounting attachment			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
<b>Clevis foot LNG</b>				<b>Clevis foot LSN</b>			
	40	<b>33891</b>	<b>LNG-40</b>		40	<b>5562</b>	<b>LSN-40</b>
	63	<b>33893</b>	<b>LNG-63</b>		63	<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>

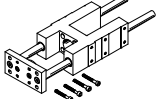
# Clamping-unit cylinders, standard port pattern

Accessories

FESTO

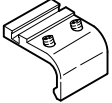
Ordering data – Piston rod attachments				Technical data → Internet: piston rod attachment			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
<b>Rod eye SGS</b>				<b>Rod clevis SGA</b>			
	40	9262	SGS-M12x1,25		40	10767	SGA-M12x1,25
	63	9263	SGS-M16x1,5		63	10768	SGA-M16x1,5
	100	9264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

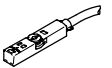
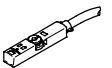
Ordering data – Guide units for fixed strokes (recirculating ball bearing guide only)				Technical data → Internet: feng			
	Stroke [mm]	Part No.	Type	Stroke [mm]	Part No.	Type	
	For Ø 40 mm			For Ø 63 mm			
	10 ... 50	34499	FENG-40-50-KF	10 ... 50	34513	FENG-63-50-KF	
	10 ... 100	34500	FENG-40-100-KF	10 ... 100	34514	FENG-63-100-KF	
	10 ... 160	34501	FENG-40-160-KF	10 ... 160	34515	FENG-63-160-KF	
	10 ... 200	34502	FENG-40-200-KF	10 ... 200	34516	FENG-63-200-KF	
	10 ... 250	34503	FENG-40-250-KF	10 ... 250	34517	FENG-63-250-KF	
	10 ... 320	34504	FENG-40-320-KF	10 ... 320	34518	FENG-63-320-KF	
	10 ... 400	150291	FENG-40-400-KF	10 ... 400	34519	FENG-63-400-KF	
	10 ... 500	34505	FENG-40-500-KF	10 ... 500	34520	FENG-63-500-KF	
	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				

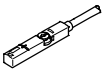
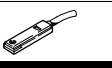
Ordering data – Guide units for variable strokes					Technical data → Internet: feng	
	For Ø [mm]	Stroke [mm]	with recirculating ball bearing guide		with plain bearing guide	
			Part No.	Type	Part No.	Type
	40	10 ... 500	34488	FENG-40-...-KF	34482	FENG-40-...-GF
	63	10 ... 500	34490	FENG-63-...-KF	34484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

# Clamping-unit cylinders, standard port pattern

Accessories

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: smt	
	Type of mounting	Switch output	Electrical connection	Cable length [m]	Part No.	Type
<b>N/O contact</b>						
	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
<b>N/C contact</b>						
	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		
<b>N/O contact</b>								
	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		
			Plug M8x1, 3-pin	Cable, 2-wire	2.5	543872	SME-8M-ZS-24V-K-2,5-OE	
				Plug M8x1, 3-pin	Cable, 3-wire	2.5	150855	SME-8-K-LED-24
					Plug M8x1, 3-pin	0.3	150857	SME-8-S-LED-24
<b>N/C contact</b>								
	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