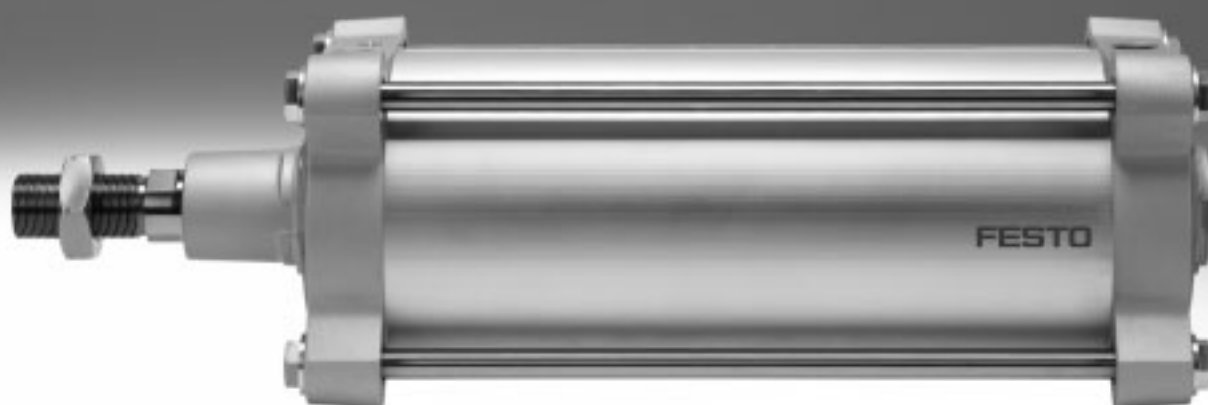


Cylinders DSBG to ISO 15552

FESTO



Cylinders DSBG to ISO 15552

Key features

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At a glance



DIN



- Cylinders to ISO 15552 (corresponds to the withdrawn standards ISO 6431, DIN ISO 6431, VDMA 24562, NF E 49 003.1 and UNI 10290)

- Sturdy tie rod design
- Double-acting
- For contactless position sensing
- EX4: for use in potentially explosive areas
- Extensive range of accessories makes it possible to install the cylinder virtually anywhere

- Choice of two cushioning types:
 - P cushioning: elastic cushioning rings/pads at both ends
 - PPV cushioning: pneumatic cushioning, adjustable at both ends

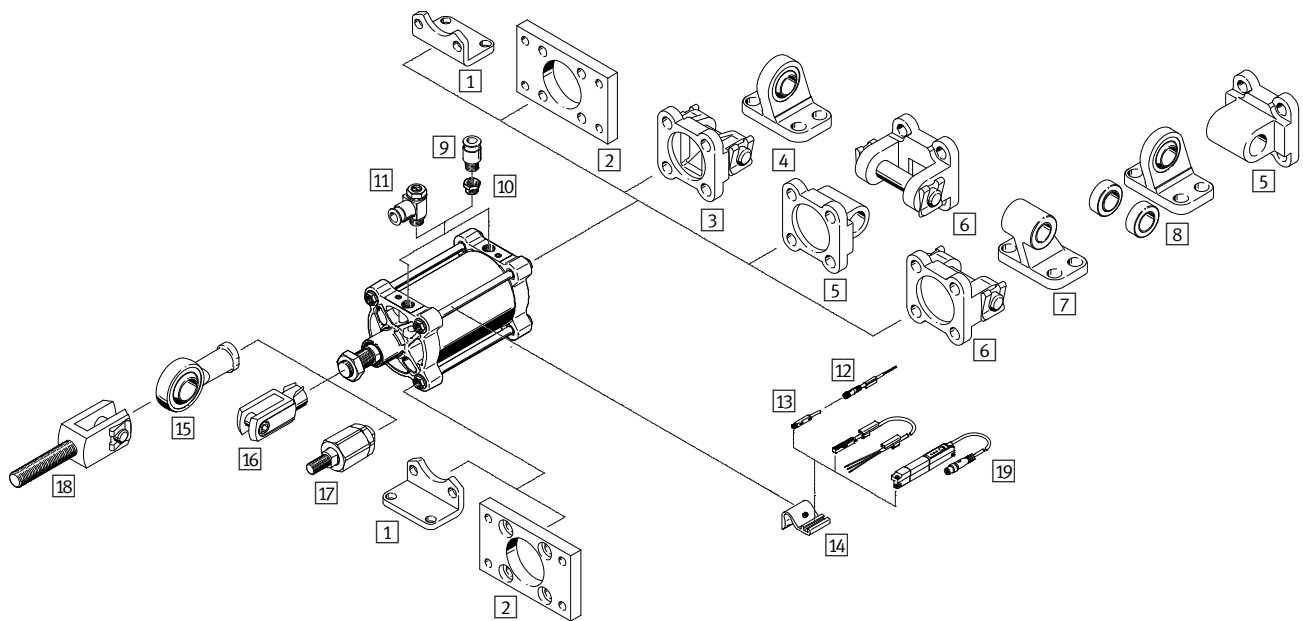
- The variants can be configured according to individual needs using a modular product system
- High flexibility thanks to the wide range of variants

Variants from the modular product system		
Symbol	Features	Description
	T Through piston rod	For working at both ends, equal force in the forward and return stroke, for attaching external stops
	R3 High corrosion protection	All external cylinder surfaces comply with corrosion resistance class 3 to Festo standard 940 070. The piston rod is made from corrosion and acid-resistant steel
	T1 Heat-resistant seals	Temperature range 0 ... +120 °C
	T4 Heat-resistant seals	Temperature range 0 ... +150 °C
	...E Piston rod extension	1 ... 500 mm
	...L Piston rod thread extension	1 ... 100 mm
	M36 Piston rod thread	Piston rod thread version M36 (standard: precision thread M36x2)
	M42 Piston rod thread	Piston rod thread version M42 (standard: precision thread M42x2)
	M48 Piston rod thread	Piston rod thread version M48 (standard: precision thread M48x2)
	A6 Wiper seal variant	Metal wiper seal: The cylinder is fitted with a hard-chrome plated piston rod and metal wiper seal which scrapes off hard particles (e.g. welding spatter) that stick to the piston rod. For use in welding systems, for example
	V Central swivel mounting	• For piston Ø 160/200 • Swivel mounting, clamped centrally between the end caps • Position can be moved at any time
	...Y Swivel mounting position	• For piston Ø 250/320 • Swivel mounting, position freely selectable, positive-locking screw connection • Position cannot be changed subsequently
	B Integrated stud bolts	• B1: At both ends • B2: On the bearing cap • B3: On the end cap

Cylinders DSBG to ISO 15552

Peripherals overview

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Mounting components and accessories			
	For Ø	Description	→ Page/ Internet
1	160 ... 320	Foot mounting HNG	15
2	160 ... 320	Flange mounting FNG	15
3	160, 200	Swivel flange SNG	16
4	160, 200	Clevis foot LSNG	18
5	160, 200	Swivel flange SNGL	17
6	160 ... 320	Swivel flange SNGB	16
7	160 ... 320	Clevis foot LN/LNG	18
8	160 ... 320	Clevis foot LSN	18
9	160, 200	Push-in fitting QS	18
10	160, 200	Reducing nipple NPFC	18
	250, 320	Reducing nipple D	
11	160, 200	One-way flow control valve GRLA	gria
12	160 ... 320	Connecting cable NEBU	19
13	160 ... 320	Proximity sensor SME/SMT-8	19
14	160 ... 320	Sensor bracket DASP	20
15	160 ... 320	Rod eye SGS	18
16	160 ... 320	Rod clevis SG	18
17	160, 200	Self-aligning rod coupler FK	18
18	160, 200	Rod clevis SGA	18
19	160, 200	Position transmitter SDAT	20
–	160 ... 320	Trunnion support LNZG	17

Cylinders DSBG to ISO 15552

Type codes

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		DSBG	-		-	160	-	50	-		-	PPV		A
Type														
Double-acting														
DSBG	ISO cylinder													
Central swivel mounting														
-	Without													
V	Centrally clamped													
Piston Ø [mm]														
Stroke [mm]														
Piston rod type														
-	Single-ended piston rod													
T	Through piston rod													
Cushioning														
P	Elastic cushioning rings/pads at both ends													
PPV	Pneumatic cushioning, adjustable at both ends													
Position sensing														
A	Via proximity sensor													

Cylinders DSBG to ISO 15552

Type codes

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-		N3					-		-		-		-		-	
Standard																
N3	Corresponds to ISO 15552															
Corrosion protection																
-	Standard															
R3	High corrosion protection															
Temperature range																
-	Standard															
T1	0 ... +120 °C															
T4	0 ... +150 °C															
Wiper seal variant																
-	None															
A6	Metal wiper seal															
EU certification																
-	None															
EX4	II 2GD															
Swivel mounting position																
-	Without															
...Y	Positive-locking screw connection															
Piston rod extension																
-	Without															
...E	1 ... 500 mm															
Piston rod thread extension																
-	Standard															
...L	1 ... 70 mm															
Piston rod thread																
-	Standard															
M36	M36															
M42	M42															
M48	M48															
Integrated stud bolts																
-	Without															
B1	At both ends															
B2	On bearing cap															
B3	On end cap															

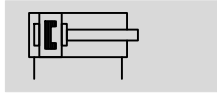
Cylinders DSBG to ISO 15552

Technical data

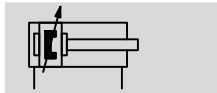
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Function

P cushioning



PPV cushioning



DIN



- Ø - Diameter
160 ... 320 mm

- | - Stroke length
1 ... 2700 mm

- T - www.festo.com



General technical data				
Piston Ø	160	200	250	320
Design	Piston/piston rod/cylinder barrel			
Mode of operation	Double-acting			
Pneumatic connection	G3/4	G3/4	G1	G1
Stroke ¹⁾				
DSBG-... [mm]	1 ... 2700		1 ... 2250	
DSBG-...-...E [mm]	1 ... 2000			
DSBG-...-...L [mm]	1 ... 2000			
Cushioning				
DSBG-...-P	Elastic cushioning rings/pads at both ends			
DSBG-...-PPV	Pneumatic cushioning, adjustable at both ends			
Cushioning length [mm]	48		55	65
Position sensing	Via proximity sensor			
Type of mounting	Via internal thread/accessories			
Mounting position	Any			

1) In combination with the position sensing option, the minimum stroke is 10 mm

Operating and environmental conditions	
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)
Operating pressure [bar]	0.6 ... 10
Ambient temperature ¹⁾	
DSBG-... [°C]	-20 ... +80
DSBG-...-T1 [°C]	0 ... +120
DSBG-...-T4 [°C]	0 ... +150
DSBG-...-EX4 [°C]	-20 ... +60
Corrosion resistance class CRC	
DSBG-... 2 ²⁾	
DSBG-...-R3 3 ³⁾	

1) Note operating range of proximity sensors

2) 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.

3) Corrosion resistance class CRC 3 to Festo standard FN 940070

High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional requirements for the surface and which are in direct contact with a normal industrial environment.

Cylinders DSBG to ISO 15552

Technical data

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ATEX ¹⁾	
ATEX category for gas	II 2G
Type of (ignition) protection for gas	c T4
ATEX category for dust	II 2D
Type of (ignition) protection for dust	c T120°C
Explosion-proof ambient temperature	−20°C ≤ Ta ≤ +60°C
CE marking (see declaration of conformity)	As per EU Explosion Protection Directive (ATEX)

1) Note the ATEX certification of the accessories.

Forces [N] and impact energy [J]				
Piston Ø	160	200	250	320
Theoretical force at 6 bar, advancing	12064	18850	29452	48255
Theoretical force at 6 bar, retracting	11310	18096	28274	46385
Max. impact energy in the end positions				
DSBG-...	3.3	4.8	7.2	12.6
DSBG-...-T1/-T4	2.3	4	4.2	6

Permissible impact velocity

$$v_{\text{perm.}} = \sqrt{\frac{2 \times E_{\text{perm.}}}{m_{\text{Intrinsic}} + m_{\text{Load}}}}$$

Maximum permissible load:

$$m_{\text{Load}} = \frac{2 \times E_{\text{perm.}}}{v^2} - m_{\text{Intrinsic}}$$

$v_{\text{perm.}}$ Permissible impact velocity
 $E_{\text{perm.}}$ Maximum impact energy
 $m_{\text{Intrinsic}}$ Moving mass (drive)
 m_{Load} Moving payload

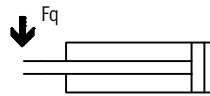
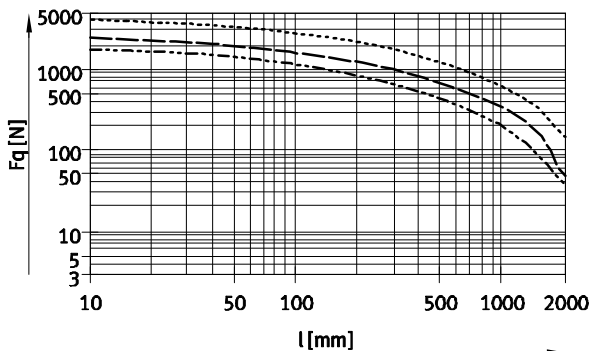
Weight [g]				
Piston Ø	160	200	250	320
DSBG-...				
Product weight with 0 mm stroke	11751	15493	29313	50231
Additional weight per 10 mm stroke	208	246	384	623
Moving mass with 0 mm stroke	4292	5348	9978	16912
Moving mass per 10 mm stroke	97	97	157	249
DSBG-...-T				
Product weight with 0 mm stroke	13487	17356	31979	54775
Additional weight per 10 mm stroke	304	343	541	872
Moving mass with 0 mm stroke	6028	7210	12,643	21455
Moving mass per 10 mm stroke	194	194	314	499

Cylinders DSBG to ISO 15552

Technical data

FESTO

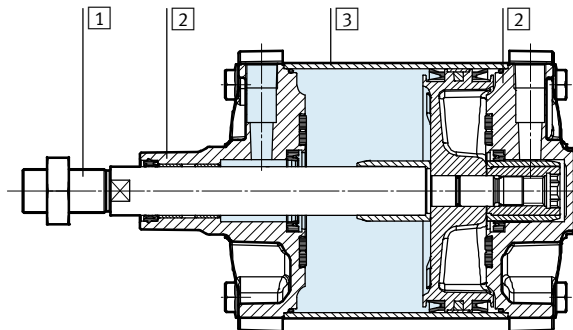
Max. lateral force F_q as a function of stroke length l



- $\varnothing 160/200$
- $\varnothing 250$
- $\varnothing 320$

Materials

Sectional view



ISO cylinder

1	Piston rod, tie rod	
	DSBG-...	High-alloy steel
	DSBG-...-R3	High-alloy stainless steel
	DSBG-...-A6	Hard-chromium plated tempered steel
2	Cover	Coated die-cast aluminium
3	Cylinder barrel	Anodised wrought aluminium alloy
-	Piston rod seal	
	DSBG-...	NBR
	DSBG-...-T1/-T4	FPM
	Piston rod wiper seal	
	DSBG-...-A6	CuZn
	Cushioning seal	
	DSBG-...	PUR
	DSBG-...-T1/-T4	FPM
	Cushioning boss	
	DSBG-...	POM
	DSBG-...-T1/-T4	Wrought aluminium alloy
-	Note on materials	
	DSBG-...	RoHS-compliant
	DSBG-...-T4	Contains PWIS (paint-wetting impairment substances)

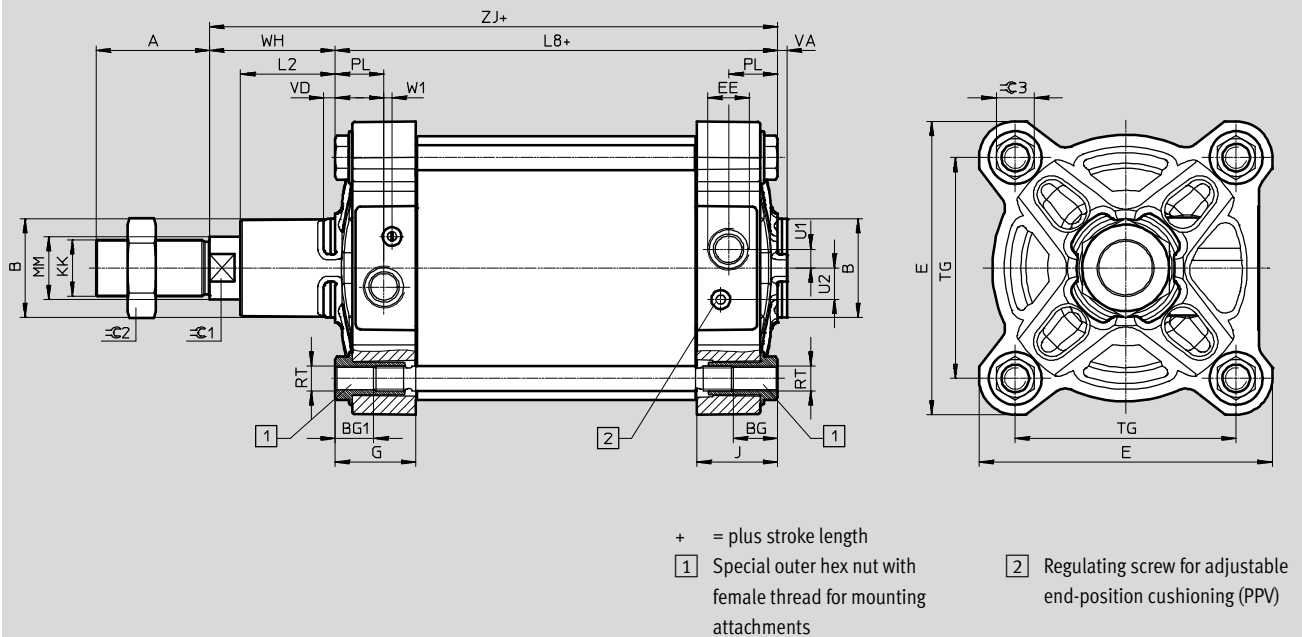
Cylinders DSBG to ISO 15552

Technical data

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Dimensions

Download CAD data → www.festo.com



Ø	A	B Ø d11	BG	BG1	E	EE	G	J
[mm]	-0.5		min.	±0.5	±0.9			
160	72	65	24	25	186	G3/4	50.7	50.7
200	72	75	24	25	230	G3/4	46.9	46.7
250	84	90	25	26	284	G1	51.2	51.2
320	96	110	28	29	347	G1	58.2	58.2

Ø	KK		L2	L8	MM	PL	RT	TG	U1
	DSBG-...	-M...							
[mm]								±1.1	
160	M36x2	M36	60	180±1	40	31	M16	140	12
200	M36x2	M36	70	180±1.2	40	30	M16	175	12
250	M42x2	M42	80	200±1.6	50	32	M20	220	25
320	M48x2	M48	90	220±2.2	63	37.5	M24	270	25

Ø	U2	VA	VD	W1	WH	ZJ	Ø1	Ø2	Ø3
[mm]		-1				±1			
160	20	6	7	5	80±1.3	260	36	55	24 _{h13}
200	20	6	6.5	5	95±1.4	275	36	55	24 _{h13}
250	25	10	13.7	3	105±1.5	305	46	65	41 _{h14}
320	25	10	10.7	1.5	120±1.5	340	55	75	50 _{h14}

Cylinders DSBG to ISO 15552

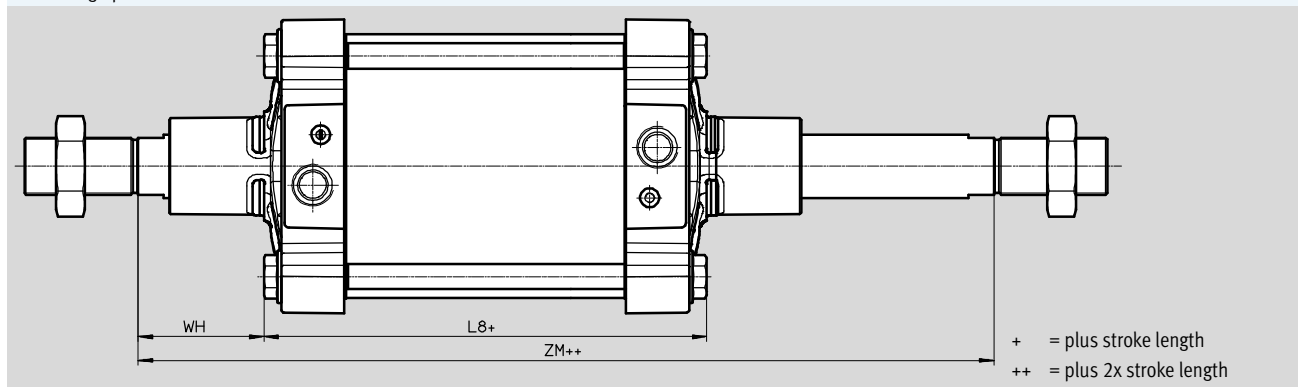
Technical data

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Dimensions – Variants

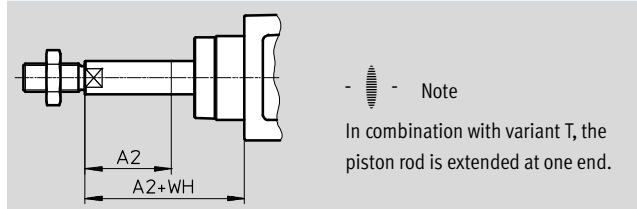
Download CAD data → www.festo.com

T – Through piston rod

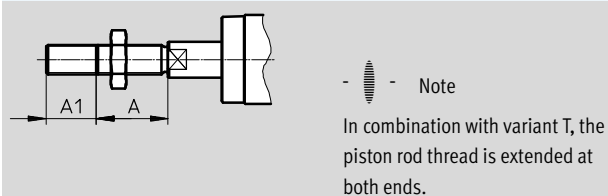


Ø	L8	WH	ZM
[mm]			
160	180±1.1	80±1.3	342±1
200	180±1	95±1.4	372±1.2
250	200±1	105±1.5	410±1.6
320	220±2.2	120±1.5	462±1

...E – Piston rod extension



...L – Piston rod thread extension



Ø	A	A1		A2		WH
[mm]		min.	max.	min.	max.	
160	72	1	70	1	500	80±1.3
200	72	1	70	1	500	95±1.4
250	84	1	100	1	500	105±1.5
320	96	1	100	1	500	120±1.5

Cylinders DSBG to ISO 15552

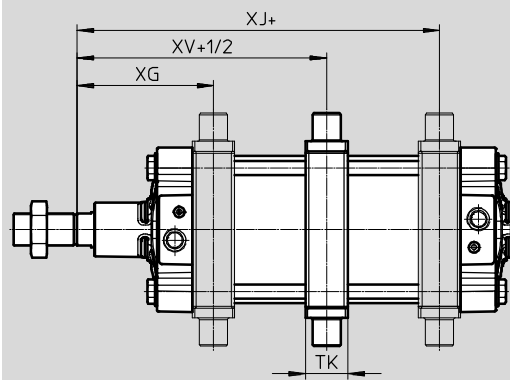
Technical data

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Dimensions – Variants

Download CAD data → www.festo.com

V – Central swivel mounting



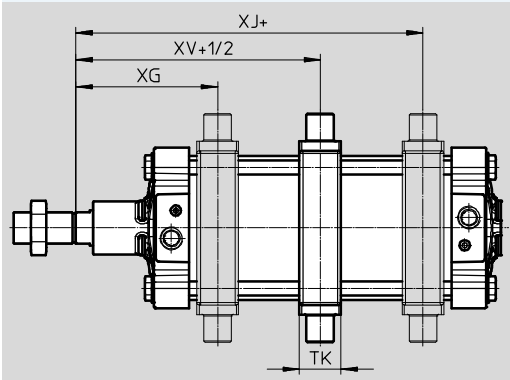
-  - Note

The swivel mounting is mounted centrally on delivery but can be moved at any time.

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

Ø	TD	TK	TL	TM	UW	XG	XJ	XV
[mm]	Ø e8		h14	h14		±0.5	±0.5	
160	32	48	32	200	200	157.5	182.5	170
200	32	48	32	250	240	169	200.5	185

...Y – Swivel mounting position



-  - Note

The dimensions for the trunnion flange mounting position (...Y) refer to the basic design without piston rod extension.

The swivel mounting has a positive-locking screw connection. This means that the position cannot be changed subsequently.

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

Ø	TD	TK	TL	TM	UW	XG	XJ	XV
[mm]	Ø e8		h14	h14		±2.4	±2.4	±2.4
250	40	60	40	320	319	198	209	205
320	50	70	50	400	385	226	233	230

Cylinders DSBG to ISO 15552

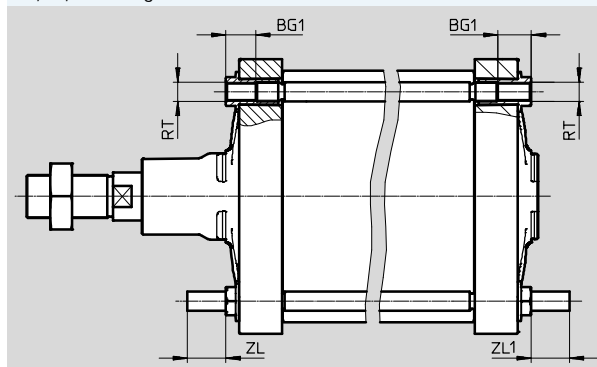
Technical data

FESTO

Dimensions – Variants

Download CAD data → www.festo.com

B1/B2/B3 – Integrated stud bolt



Ø	BG	BG1	RT	ZL	ZL1 ¹⁾
[mm]	min.	±0.5		±0.5	
160	24	25	M16	32	32
200	24	25	M16	32	32
250	25	26	M20	40	40
320	28	29	M24	50	50

1) Tolerances depending on variant:
B1: ZL1 = +1/-2; B3: ZL1 = ±0.5

Cylinders DSBG to ISO 15552

Technical data

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Ordering data					
Piston Ø [mm]	Stroke [mm]	With PPV cushioning		With P cushioning	
		Part No.	Type	Part No.	Type
160	25	2029462	DSBG-160-25-PPVA-N3	2536747	DSBG-160-25-P-N3
	40	2029463	DSBG-160-40-PPVA-N3	2536748	DSBG-160-40-P-N3
	50	2029464	DSBG-160-50-PPVA-N3	2536749	DSBG-160-50-P-N3
	80	2029465	DSBG-160-80-PPVA-N3	2536750	DSBG-160-80-P-N3
	100	2029466	DSBG-160-100-PPVA-N3	2536751	DSBG-160-100-P-N3
	125	2029467	DSBG-160-125-PPVA-N3	2536752	DSBG-160-125-P-N3
	160	2029468	DSBG-160-160-PPVA-N3	2536753	DSBG-160-160-P-N3
	200	2029469	DSBG-160-200-PPVA-N3	2536754	DSBG-160-200-P-N3
	250	2029470	DSBG-160-250-PPVA-N3	2536755	DSBG-160-250-P-N3
	320	2029471	DSBG-160-320-PPVA-N3	2536756	DSBG-160-320-P-N3
	400	2029472	DSBG-160-400-PPVA-N3	2536758	DSBG-160-400-P-N3
	500	2029473	DSBG-160-500-PPVA-N3	2536759	DSBG-160-500-P-N3
	1 ... 2700 ¹⁾	2035926	DSBG-160-...-PPVA-N3	2537196	DSBG-160-...-P-N3
200	25	2390139	DSBG-200-25-PPVA-N3	2537448	DSBG-200-25-P-N3
	40	2390140	DSBG-200-40-PPVA-N3	2537449	DSBG-200-40-P-N3
	50	2390141	DSBG-200-50-PPVA-N3	2537450	DSBG-200-50-P-N3
	80	2390142	DSBG-200-80-PPVA-N3	2537451	DSBG-200-80-P-N3
	100	2390143	DSBG-200-100-PPVA-N3	2537452	DSBG-200-100-P-N3
	125	2390144	DSBG-200-125-PPVA-N3	2537454	DSBG-200-125-P-N3
	160	2390145	DSBG-200-160-PPVA-N3	2537455	DSBG-200-160-P-N3
	200	2390146	DSBG-200-200-PPVA-N3	2537456	DSBG-200-200-P-N3
	250	2390147	DSBG-200-250-PPVA-N3	2537457	DSBG-200-250-P-N3
	320	2390148	DSBG-200-320-PPVA-N3	2537458	DSBG-200-320-P-N3
	400	2390149	DSBG-200-400-PPVA-N3	2537459	DSBG-200-400-P-N3
	500	2390150	DSBG-200-500-PPVA-N3	2537460	DSBG-200-500-P-N3
	1 ... 2700 ¹⁾	2389803	DSBG-200-...-PPVA-N3	2537445	DSBG-200-...-P-N3
250	1 ... 2250 ¹⁾	2865078	DSBG-250-...-PPVA-N3	2865145	DSBG-250-...-P-N3
320	1 ... 2250 ¹⁾	3150987	DSBG-320-...-PPVA-N3	3178601	DSBG-320-...-P-N3

1) In combination with the position sensing option, the minimum stroke is 10 mm.



Note

Other variants in the modular product system → page 14

Cylinders DSBG to ISO 15552

Ordering data – Modular products

FESTO

Ordering table									
Size		160	200	250	320	Condi- tions	Code	Enter code	
M	Module No.	2036032	2344936	2732003	2776472			DSBG	
	Function	ISO cylinder, double-acting, based on ISO 15552					DSBG		
O	Central swivel mounting	Without						-V	
		Centrally clamped		–					
M	Piston Ø [mm]	160	200	250	320		-...	1	
	Stroke [mm]	1 ... 2700		1 ... 2250			-...		
O	Piston rod type	Single-ended piston rod						-T	
		Through piston rod							
M	Cushioning	Elastic cushioning rings/pads at both ends					-P	-PPV	
		Pneumatic cushioning, adjustable at both ends							
O	Position sensing	Without						A	
		Via proximity sensor							
	Standard	Corresponds to ISO 15552					-N3	N3	
	Corrosion protection	Standard							
			High corrosion protection				2	R3	
	Temperature range	Standard						T1	
		°C	Heat-resistant seals up to max. 120						
		°C	0 ... +150		–				T4
	Wiper seal variant	None						A6	
		Metal wiper seal		–					
	EU certification	None						EX4	
		II 2GD				3			
	Swivel mounting position [mm]	Without						-...Y	
		–		198 ... 2459	226 ... 2483				
	Piston rod extension [mm]	Without						-...E	
		1 ... 500				4			
	Piston rod thread extension [mm]	Without						-...L	
		1 ... 70		1 ... 100		4			
	Piston rod thread	Standard						-M36	
		M36		–					
		–		M42	–				-M42
		–			M48				-M48
	Integrated stud bolts	Without						-B1	
		At both ends							
		On bearing cap					-B2		
		On end cap					-B3		

- 1** ... In combination with the position sensing option A, the minimum stroke is 10 mm
2 **R3** Not with V, ...Y
3 **EX4** Not with V, P, T1, T4, B1, B2, B3
4 **...E, ...L** Only up to strokes of 2000 mm

M	Mandatory data
O	Options

Transfer order code

DSBG - - - - - - - - **N3** - - - - -

Standard cylinders DSBG, to ISO 15552

FESTO

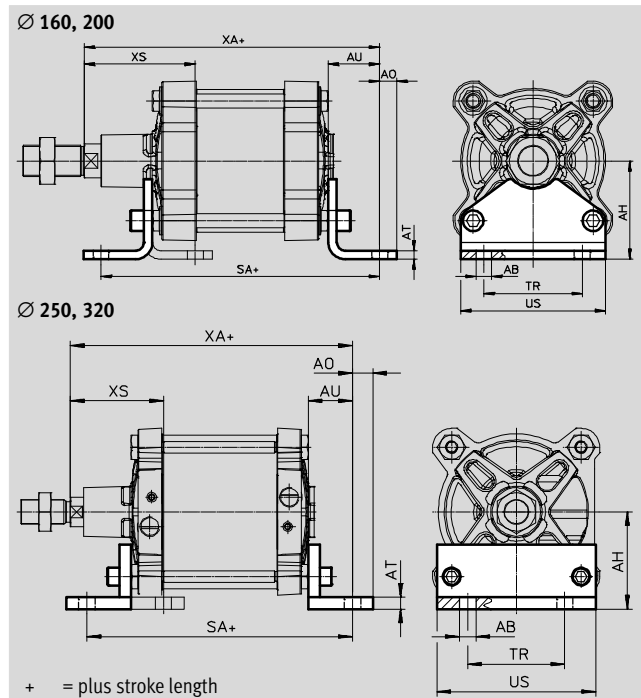
Accessories

Foot mounting HNG

Material:

Galvanised steel

Free of copper and PTFE



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]		
160	18.5	115	20	10	60	300	115	169	320	130	2	3931	34476	HNG-160
200	24	135	30	12	70	320	135	214	345	153	2	6896	34477	HNG-200
250	28	165	35	20	75	350	165	270	380	160	2	17084	157510	HNG-250
320	35	200	40	25	85	390	200	340	425	180	2	29968	157511	HNG-320

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.

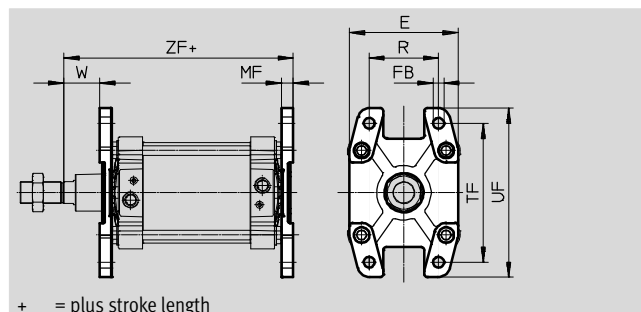
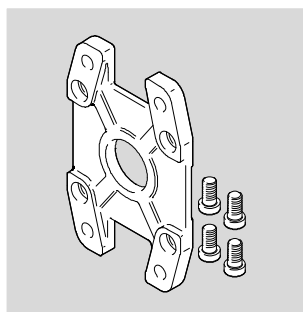
Flange mounting FNG

Material:

Painted spheroidal graphite cast iron

Free of copper and PTFE

RoHS-compliant



Dimensions and ordering data												
For Ø	E	FB Ø	MF	R	TF	UF	W	ZF	CRC ¹⁾	Weight	Part No.	Type
[mm]		H13								[g]		
160	180	18	20	115	230	280	60	280	1	3550	34478	FNG-160
200	220	22	25	135	270	320	70	300	1	5321	34479	FNG-200
250	270	26	25	165	330	390	80	330	1	8657	157508	FNG-250
320	340	33	30	200	400	470	90	370	1	15109	157509	FNG-320

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).

Standard cylinders DSBG, to ISO 15552

Accessories

FESTO

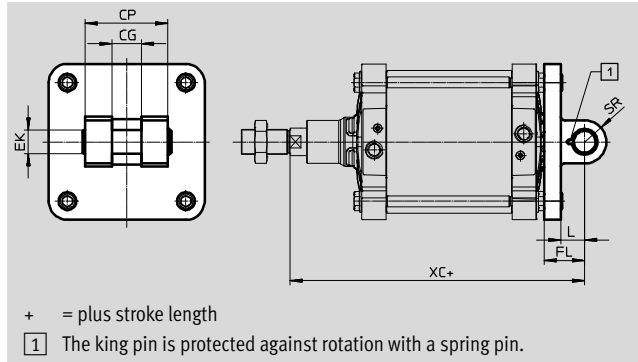
Swivel flange SNG

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 ¹⁾	Weight	Part No.	Type	
[mm]	H14	d12	F7 h9	±0.2		max.			[g]			
160	43	122	35	55	35	32	315	2	3577	152597	SNG-160	
200	43	122	35	60	35	32	335	2	5160	152598	SNG-200	

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 SNGB

Material:

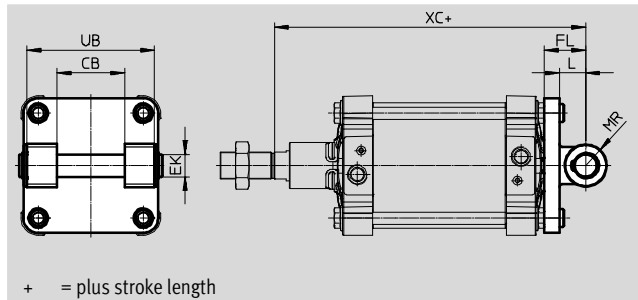
Ø160: Die-cast aluminium

Ø200: Galvanised steel

Ø250/320: Spheroidal graphite cast iron

Free of copper and PTFE

RoHS-compliant



Dimensions and ordering data												
For Ø	CB	EK	FL	L	MR	UB	XC	CRC ¹⁾	Weight	Part No.	Type	
[mm]	Ø H14	Ø E10	±0.2			h14			[g]			
160	90	30	55	37	30	170	315	2	3445	34547	SNGB-160	
200	90	30	60	40	25	170	335	2	10020	562455	SNGB-200-B	
250	110	40	70	47	40	200	375	1	16141	157512	SNGB-250	
320	120	45	80	52	45	220	420	1	26636	157513	SNGB-320	

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.

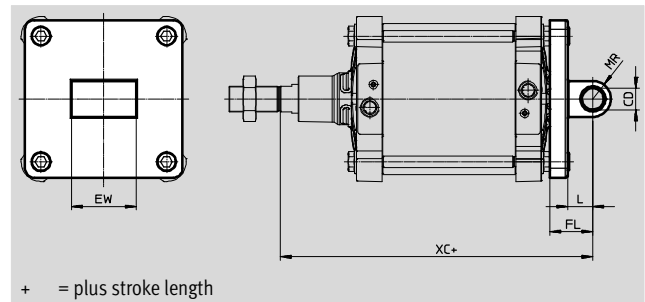
Standard cylinders DSBG, to ISO 15552

FESTO

Accessories

Swivel flange SNGL

Material:
Die-cast aluminium
Free of copper and PTFE

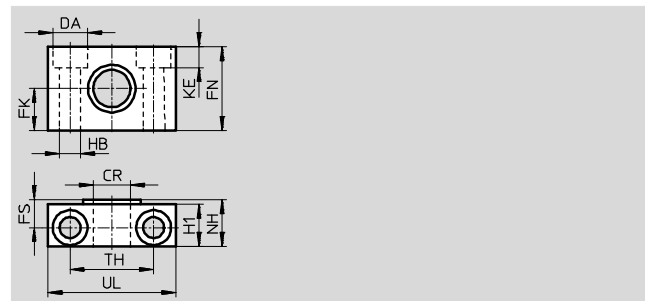
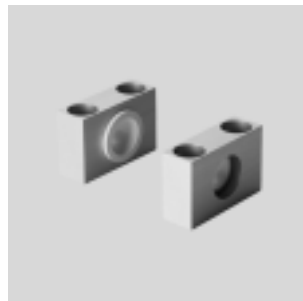


Dimensions and ordering data									
For Ø	CD Ø	EW	FL	L	MR	XC	CRC ¹⁾	Weight [g]	Part No. Type
[mm]	H9	-0.5/-1.2	±0.2						
160	30	90	55	35	25	315	2	2358	151534 SNGL-160
200	30	90	60	35	25	335	2	3713	151535 SNGL-200

- 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 support LN2G

Material:
Mounting: Galvanised steel
Plain bearing: Plastic
Free of copper and PTFE
RoHS-compliant



Dimensions and ordering data								
For Ø	CR Ø	DA Ø	FK Ø	FN	FS	H1	HB Ø	KE
[mm]	H13	H13	±0.2				H13	
160, 200	32 ^{D11}	26	30	60	22.5	36	18	17
250	40 ^{G7}	33	35	70	27.5	45	22	21.5
320	50 ^{G7}	40	40	80	32.5	55	26	25.5

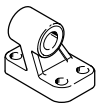
For Ø	NH	TH	UL	CRC ¹⁾	Weight	Part No. Type
[mm]		±0.3			[g]	
160, 200	40	60	92	2	659	35780 LN2G-160/200
250	50	90	140	2	2218	157516 LN2G-250
320	60	100	150	2	2934	157517 LN2G-320

- 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.

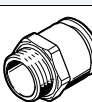
Standard cylinders DSBG, to ISO 15552

Accessories

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Ordering data – Mounting components				Technical data → Internet: mounting component			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
Clevis foot LN/LNG				Clevis foot LSN			
	160	9037	LN-160		160	6988	LSN-160
	200	33898	LNG-200		200	6989	LSN-200
	250	9039	LN-250		250	6990	LSN-250
	320	9040	LN-320		320	6991	LSN-320
Clevis foot LSNG							
	160	152599	LSNG-160				
	200	152600	LSNG-200				

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			
	160, 200	10775	SGS-M36x2		160, 200	10771	SGA-M36x2
	250	10776	SGS-M42x2				
	320	10777	SGS-M48x2				
Rod eye SG				Self-aligning rod coupler FK			
	160, 200	9581	SG-M36x2		160, 200	10746	FK-M36x2
	250	9582	SG-M42x2				
	320	9583	SG-M48x2				

Ordering data – Push-in fittings				Technical data ➔ Internet: qs		
	For diameter	Connection		Part No.	Type	PU ¹⁾
		Thread	Tubing O.D.			
G thread with external hexagon						
	160, 200	G3/4	22	8040613	QS-G3/4-22	1

1) Packaging unit

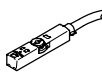
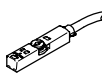
Ordering data – Reducing nipple					
	For diameter	Description	Part No.	Type	PU ¹⁾
	Reducing nipple NPFC				
	160, 200	For connecting QS fittings with thread G1/2 to cylinders with thread G3/4	8030313	NPFC-R-G34-G12-MF	1
	Reducing nipple D				
	250, 320	For connecting QS fittings with thread G1/2 to cylinders with thread G1	197634	D-1/2I-1A	1

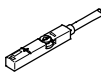
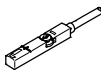
1) Packaging unit

Standard cylinders DSBG, to ISO 15552

Accessories

FESTO

Ordering data – Proximity sensor for T-slot, magneto-resistive					Technical data → Internet: smt	
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part No.	Type
N/O contact						
	Inserted in the slot from above, flush with the cylinder profile, short design	PNP	Cable, 3-wire	2.5	574335	SMT-8M-A-PS-24V-E-2,5-OE
			Plug connector M8x1, 3-pin	0.3	574334	SMT-8M-A-PS-24V-E-0,3-M8D
			Plug connector 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 connector M8x1, 3-pin	0.3	574339	SMT-8M-A-NS-24V-E-0,3-M8D	
N/C contact						
	Inserted in the slot from above, flush with the 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	Switching output	Electrical connection	Cable length [m]	Part No.	Type
N/O contact						
	Inserted in the slot from above, flush with the 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 connector M8x1, 3-pin	0.3	543861	SME-8M-DS-24V-K-0,3-M8D
N/C contact						
	Insertable in the slot from above, flush with the cylinder profile	Contacting	Cable, 3-wire	7.5	546799	SME-8M-DO-24V-K-7,5-OE

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

Standard cylinders DSBG, to ISO 15552

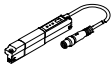
Accessories

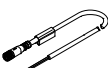
FESTO

Position sensor

The position sensor continuously senses the position of the piston.

It has an analogue output with an output signal in proportion to the piston position.

Ordering data – Position sensor for T-slot							Technical data → Internet: position sensor	
	For diameter	Position measuring range	Analogue output [mA]	Type of mounting	Electrical connection	Cable length [m]	Part No.	Type
	160, 200	0 ... 50	4 ... 20	Inserted in the slot from above	Plug connector M8x1, 4-pin, in-line	0.3	1531265	SDAT-MHS-M50-1L-SA-E-0.3-M8
		0 ... 80					1531266	SDAT-MHS-M80-1L-SA-E-0.3-M8
		0 ... 100					1531267	SDAT-MHS-M100-1L-SA-E-0.3-M8
		0 ... 125					1531268	SDAT-MHS-M125-1L-SA-E-0.3-M8
		0 ... 160					1531269	SDAT-MHS-M160-1L-SA-E-0.3-M8

Ordering data – Connecting cables					Technical data → Internet: nebu	
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part No.	Type	
	Straight socket, M8x1, 4-pin	Cable, open end, 4-wire	2.5	541342	NEBU-M8G4-K-2.5-LE4	
			5	541343	NEBU-M8G4-K-5-LE4	
	Angled socket, M8x1, 4-pin	Cable, open end, 4-wire	2.5	541344	NEBU-M8W4-K-2.5-LE4	
			5	541345	NEBU-M8W4-K-5-LE4	

Ordering data – Sensor bracket for proximity sensor				Part No.	Type
	For diameter	Materials			
	160, 200	Rail: Anodised wrought aluminium alloy		1553813	DASP-M4-160-A
	250	Screws: High-alloy stainless steel		1456781	DASP-M4-250-A
	320			3015256	DASP-M4-320-A