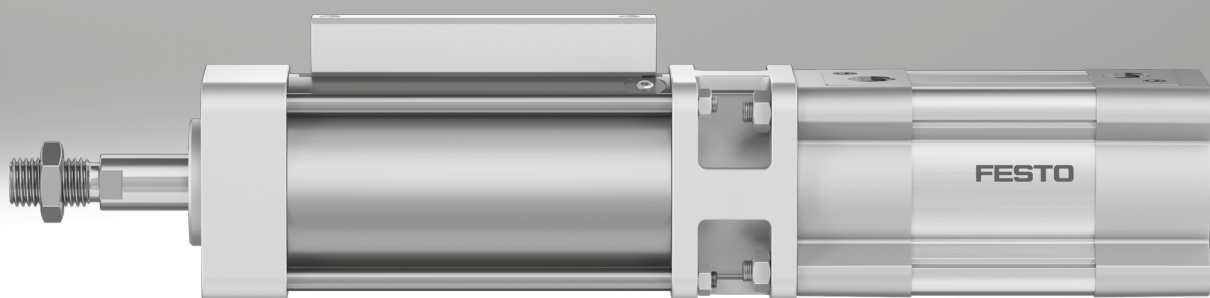


Cylinder with holding brake DFLC/G

FESTO



Key features

At a glance

Holding brakes are generally used to dynamically brake a movement or to prevent round rods of different lengths from starting up at any position. The double-acting cylinders with holding brake DFLC/G can brake or clamp the piston rod. During clamping, the piston

rod is securely locked so that the application of external force does not produce any relative motion. A rod can be locked at any position along the stroke, whether in the end positions or the intermediate positions. This provides protection in the event of a pressure fail-

ure and secures the piston rod during intermediate stops for process operations.

- The clamping force is released when compressed air is supplied to the holding brake
- Static holding force up to 17000 N

- The cylinders with holding brake are based on ISO 15552 (previously also VDMA 24562, ISO 6431, NF E49 003.1, UNI 10290)

Note

The cylinders with holding brake DFLC/G-...-S are a safety device as defined in the Machinery Directive 2006/42/EC and have been tested and certified to relevant standards. More information: www.festo.com/sp → Certificates.

The cylinders with holding brake DFLC/G-...-EX4-S are suitable for use in ATEX zones in "static holding" mode.

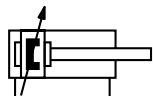
Possible safety functions:

- Holding function: retains the piston rod by clamping with frictional locking
- Emergency braking function: the movement of the piston rod is stopped by clamping with frictional locking

The safety functions are triggered by switching off the compressed air supply or by the failure of the compressed air supply.

Cushioning

[PPV] Pneumatic cushioning, adjustable at both ends



- The drive is fitted with pneumatic end-position cushioning, which can be adjusted by the operator for maximum performance according to the moved mass and speed.
- Very powerful

Corrosion protection

[R3] High corrosion protection



- Protects the drive against corrosion

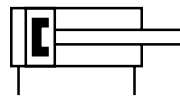
Certification

[S] Safety device

- To Machinery Directive 2006/42/EC

Position sensing

[A] Via proximity switch



- For monitoring the switching status of the holding brake

EU certification

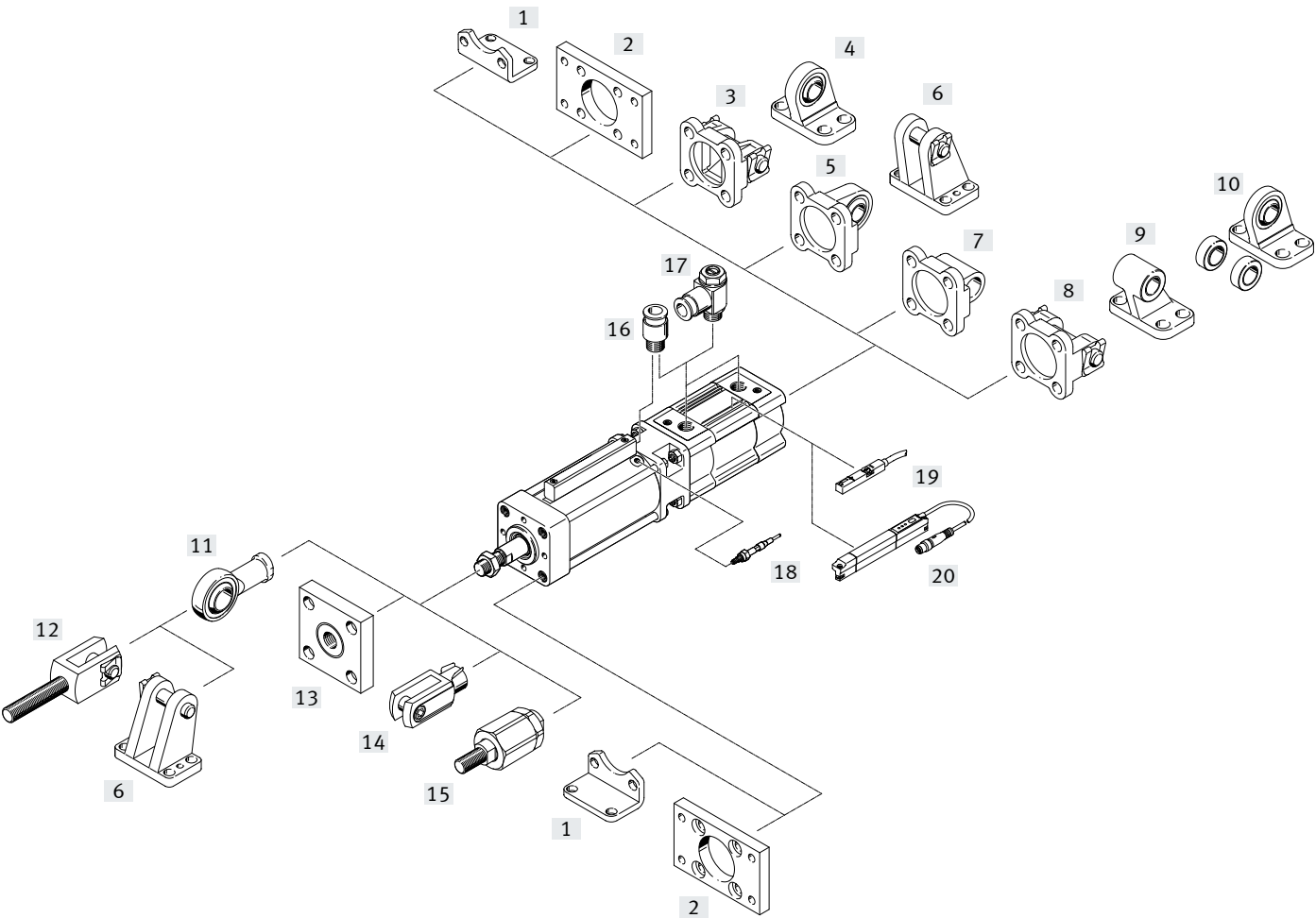
[EX4] II 2GD

- ATEX category for gas II 2G
- ATEX category for dust II 2D
- Ex ignition protection type for gas Ex h IIC T4 Gb
- Ex ignition protection type for dust Ex h IIIC T120°C Db
- Explosion-proof ambient temperature $-20 \leq T_a \leq +60$

Type codes

001	Series		005	Position sensing	
DFLC	Cylinder with holding brake		A	For proximity sensor	
002	Piston diameter		006	Corrosion protection	
40	40			Standard	
63	63		R3	High corrosion protection	
100	100		007	EU certification	
003	Stroke			None	
...	10 ... 2000		EX4	II 2GD	
004	Cushioning		008	Certification	
PPV	Pneumatic cushioning, adjustable at both ends		S	Safety component to Machinery Directive 2006/42/EC	

Peripherals overview



Peripherals overview

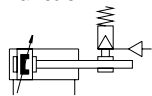
Accessories			
	Type/order code	Description	→ Page/Internet
[1]	Foot mounting HNC/CRHNC	For bearing or end caps	22
[2]	Flange mounting FNC/CRFNG	- For bearing or end caps - Suitable for emergency stop applications/dynamic braking	24
[3]	Swivel flange SNC	For end caps	26
[4]	Clevis foot LSNG	Weld-on, with spherical bearing	32
[5]	Swivel flange SNCS/SNCS-...-R3	With spherical bearing for end caps	27
[6]	Clevis foot LBG/LBG-...-R3	–	32
[7]	Swivel flange SNCL	For end caps	28
[8]	Swivel flange SNCB/SNCB-...-R3	For end caps	29
[9]	Clevis foot LNG/CRLNG	–	32
[10]	Clevis foot LSN	With spherical bearing	32
[11]	Rod eye SGS/CRSGS	With spherical bearing	33
[12]	Rod clevis SGA	With male thread	33
[13]	Coupling piece KSG	To compensate for radial deviations	33
[14]	Rod clevis SG/CRSG	Permits a swivelling movement of the cylinder in one plane	33
[15]	Self-aligning rod coupler FK, CRFK	To compensate for radial and angular deviations	33
[16]	Push-in fitting QS	For connecting tubing with standard O.D.	qs
[17]	One-way flow control valve GRLA	For regulating speed	37
[18]	Sensor kit DADG	- Inductive sensor kit for status sensing of the clamping function - Not included in the scope of delivery	34
[19]	Proximity switch SMT-8M-A	- For sensing the piston position - Not included in the scope of delivery	35
	Proximity switch SDBT-MS	- For sensing the piston position - Not included in the scope of delivery	35
[20]	Position transmitter SDAT-MHS	- Continuously senses the position of the piston - Has an analogue output - Not included in the scope of delivery	36

 Note

Only the flange mounting FNC/CRFNG is permissible for emergency stop applications/dynamic braking. Additional accessories for this application are available on request.

Datasheet

Function



-  - Diameter
40 ... 100 mm
-  - Stroke length
10 ... 2000 mm



General technical data			
Piston Ø	40	63	100
Design	Piston		
	Piston rod		
	Profile barrel		
Variants	Piston rod at one end		
Operating mode	Double-acting		
Pneumatic connection			
Cylinders	G1/4	G3/8	G1/2
Holding brake	G1/8	G1/8	G3/8
Piston rod thread	M12x1.25	M16x1.5	M20x1.5
Piston rod end	Male thread		
Cushioning	Pneumatic cushioning adjustable at both ends		
Cushioning length [mm]	19	22	31
Position sensing	Via proximity switch		
Type of mounting	With female thread		
	With accessories		
Clamping type with operating di- rection	On both sides		
	Clamping via spring force, released via compressed air		
Mounting position	Any		

Operating and environmental conditions			
Piston Ø	40	63	100
Cylinders			
Operating pressure [bar]	0.6 ... 8		
Holding brake			
Min. release pressure [bar]	3.8		
Max. permissible test pressure [bar]	8		
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]		
Note on the operating/ pilot medium	Lubricated operation not possible		
Ambient temperature ¹⁾ [°C]	−20 ... +80		−10 ... +80
Corrosion resistance class CRC ²⁾			
[] Standard	1		
[R3] High corrosion protection	3		

1) Note operating range of proximity switches.

2) More information: www.festo.com/x/topic/crc

Datasheet

Safety characteristics			
Piston Ø	40	63	100
Conforms to standard	This product is based on ISO 15552 (previously also VDMA 24562, ISO 6431, NF E49 003.1, UNI 10290)		
Safety function	Holding and stopping a movement		
Performance level (PL)	Stopping, holding, blocking a movement/category 1, Performance Level c		
Certification	German Technical Control Board (TÜV)		
Certificate-issuing authority	German Technical Control Board (TÜV) CA 697		
CE marking (see declaration of conformity) ¹⁾	To EU Machinery Directive		
UKCA marking (see declaration of conformity) ¹⁾	To UK explosion regulations		

1) More information www.festo.com/catalogue/qs → Support/Downloads

ATEX			
Piston Ø	40	63	100
ATEX category for gas	II 2G		
Type of (ignition) protection for gas	Ex h IIC T4 Gb		
ATEX category for dust	II 2D		
Type of (ignition) protection for dust	Ex h IIIC T120°C Db		
Explosion-proof ambient temperature [°C]	-20 ≤ Ta ≤ +60		

Weight [g]			
Piston Ø	40	63	100
Basic weight with 0 mm stroke	2930	6185	19120
Additional weight per 10 mm stroke	37	62	101
Moving mass with 0 mm stroke	502	955	1940
Additional moving mass per 10 mm stroke	16	25	40

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	1350	3300	8200

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 holding brake is backlash-free in the clamped condition when varying loads are applied to the piston rod.

Lateral loads and bending moments on the piston rod can impair the function. (Make sure that the load on the piston rod is only in the direction of movement.)

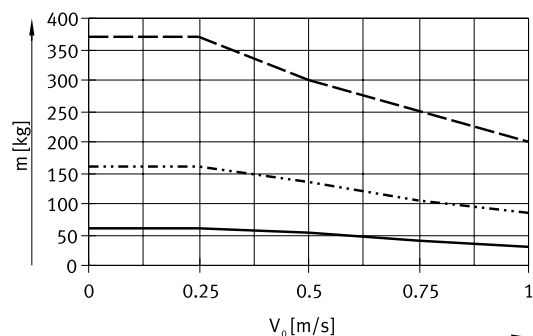
When the holding brake is released and force is applied internally or externally, there is a risk of accidents caused by jerky movements of the drive. There is also increased wear on the holding brake.

Internal forces occur, for example, because of different pressures in the piston chambers. External forces are generated, for example, by the gravitational force of vertical axes.

The actuator is not expected to move when used as intended and when sufficiently pressurised.

More information
→ User documentation

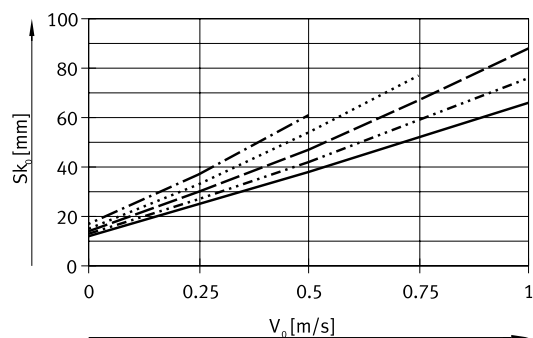
Datasheet

Load mass m as a function of piston speed v_0 

- DFLC-100
- DFLC-63
- DFLC-40

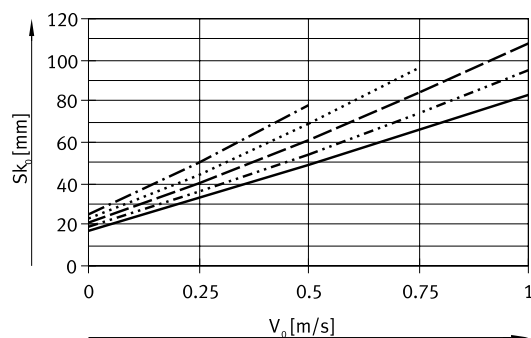
Stopping distance s_{k_0} as a function of piston speed v_0

Ø 40



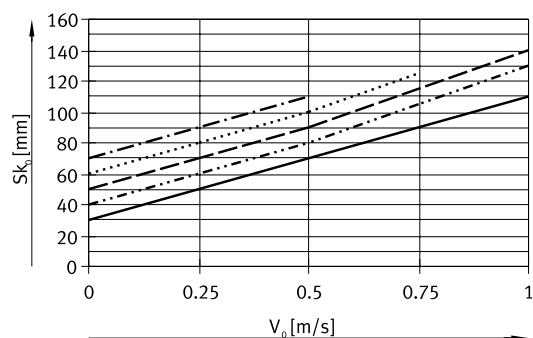
- 50 kg
- 40 kg
- 30 kg
- 20 kg
- 10 kg

Ø 63



- 125 kg
- 100 kg
- 75 kg
- 50 kg
- 25 kg

Ø 100



- 300 kg
- 250 kg
- 200 kg
- 150 kg
- 100 kg

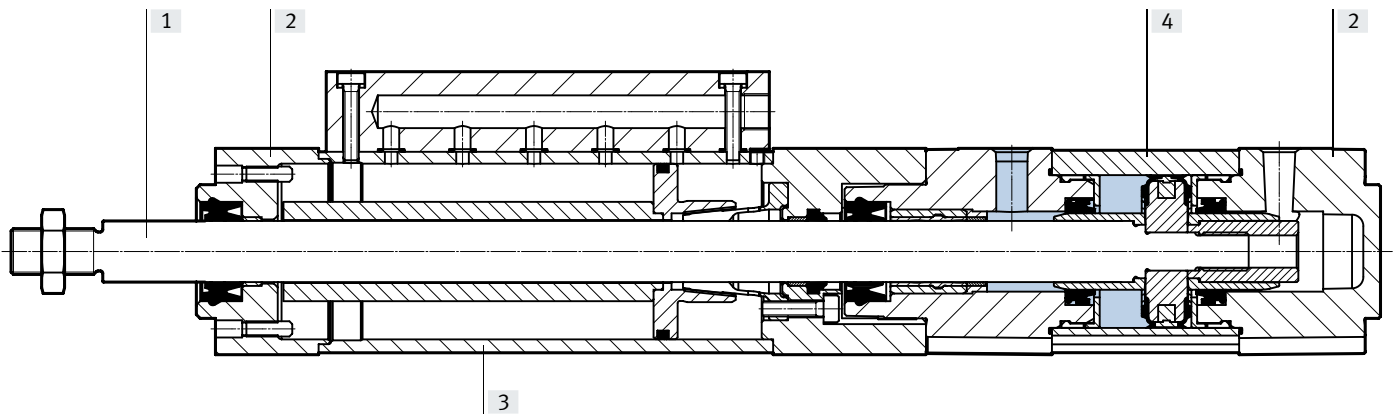
 Note

All data in the graphs is intended exclusively for the purposes of preselection when configuring the emergency braking function and must be checked mathematically and in practice prior to commissioning. More information www.festo.com/sp → User documentation.

Datasheet

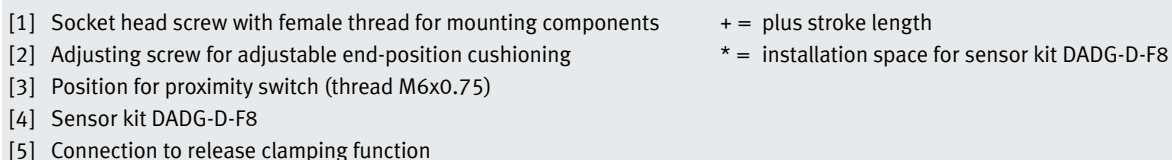
Materials

Sectional view



Cylinder with holding brake	
[1] Piston rod	Hard-chrome-plated steel
[2] Cover	Die-cast aluminium
	Wrought aluminium alloy
[3] Housing	
DFLC-...	Steel
DFLC-...-R3	High-alloy stainless steel
[4] Cylinder barrel	
DFLC-...	Smooth-anodised wrought aluminium alloy
DFLC-...-R3	High-alloy stainless steel
- Seals	NBR
	TPE-U(PU)
	VDMA24364-B2-L
	RoHS-compliant
LABS (PWIS) conformity	
Note on materials	

Download CAD data → www.festo.com



Datasheet

∅ [mm]	A -0.5	B ∅ d11	BG min.	BG1	BG2	E ±0.8	E1 +0.5	E2 ±1	E3	EE
40	24	35	16	8	13.2	54	54	74.1	15	G1/4
63	32	45	16	9	14.8	78	75	98.1	15	G3/8
100	40	55	17	10	14.8	124	110	152.1	22	G1/2

∅ [mm]	EE1	G	G1	G2	J1	J2	KK	L2 ±1	L3	L4
40	G1/8	33	27	40	4	8	M12x1.25	186	29	116
63	G1/8	40.5	30	44	6.25	12.75	M16x1.5	210	38.4	122.5
100	G3/8	48	35	54	10	13.5	M20x1.5	255	47.1	148.5

∅ [mm]	L5	L6	L8+ ±0.4	L9	MM ∅	PL	PL1	PL2	R1	RN
40	6.5	5.5	105	49.4	16	22.5	7.5	9.6	R8	98
63	6.5	6	121	53.6	20	27.5	9	9.6	R10	100
100	8	—	138	65.3	25	31.5	7.5	13.6	R15	120

∅ [mm]	RT	TG ±0.3	VA -0.2	VD ±0.2	W1	WH +3.2/-1	ZJ+ +2.6/-0.4	≈G1	≈G2	≈G3
40	M6	38	4	5	27°	28.7	319.7	13	19	6
63	M8	56.5	4	5	20°	35.9	366.9	17	24	8
100	M10	89	4	5	20°	49.3	442.3	22	30	6

Ordering data – Modular product system

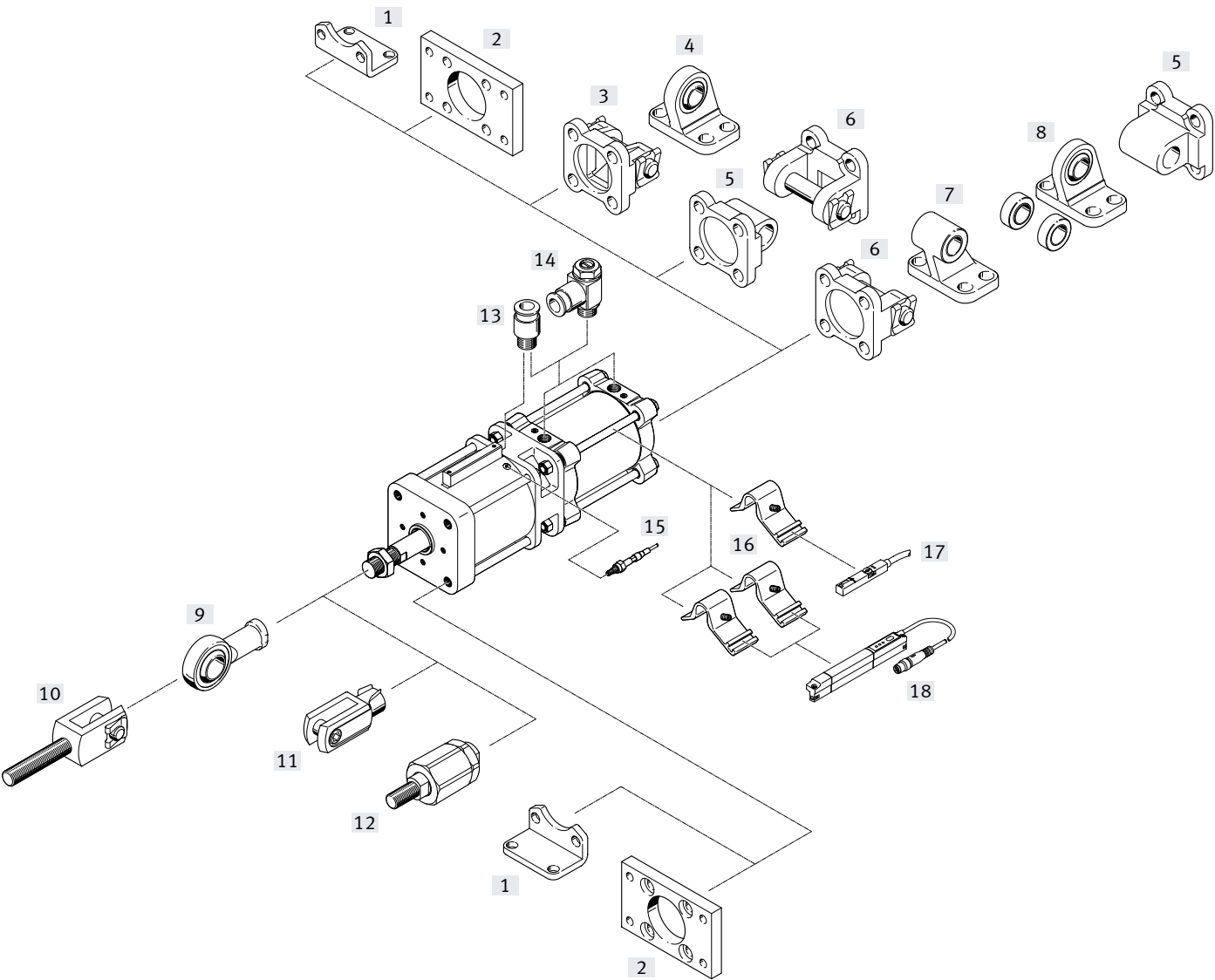
Ordering table						
Size	40	63	100	Conditions	Code	Enter code
Module no.	8073331	8073332	8073333			
Function	Cylinder with holding brake, double-acting				DFLC	DFLC
Piston ø [mm]	40	63	100		-...	
Stroke [mm]	10 ... 2000				-...	
Cushioning	Pneumatic cushioning, adjustable at both ends				-PPV	-PPV
Position sensing	Via proximity switch				A	A
Corrosion protection	Standard					
	High corrosion protection				-R3	
EU certification	None					
	II 2GD				-EX4	
Certification	Safety device to Machinery Directive 2006/42/EC				-S	-S

Type codes

001	Series	
DFLG	Cylinder with holding brake	
002	Piston diameter	
160	160	
003	Stroke	
...	10 ... 2000	
004	Cushioning	
PPV	Pneumatic cushioning, adjustable at both ends	

005	Position sensing	
A	For proximity sensor	
006	Corrosion protection	
	Standard	
R3	High corrosion protection	
007	EU certification	
	None	
EX4	II 2GD	
008	Certification	
S	Safety component to Machinery Directive 2006/42/EC	

Peripherals overview



Peripherals overview

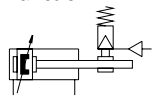
Accessories			
	Type/order code	Description	→ Page/Internet
[1]	Foot mounting HNG	For bearing and end caps, corresponds to MS1 according to ISO 15552	23
[2]	Flange mounting FNG	- For bearing or end caps, corresponds to MF1/MF2 to ISO 15552 - Suitable for emergency stop applications/dynamic braking	25
[3]	Swivel flange SNG	For end caps	30
[4]	Clevis foot LSNG	With spherical bearing	32
[5]	Swivel flange SNGL	For end caps, corresponds to MP2 to ISO 15552	30
[6]	Swivel flange SNGB	For end caps, corresponds to MP2 to ISO 15552	31
[7]	Clevis foot LN	For swivel flange SNGB	32
[8]	Clevis foot LSN	With spherical bearing	32
[9]	Rod eye SGS	With spherical bearing	33
[10]	Rod clevis SGA	Suitable for spherical mounting of cylinders in conjunction with rod eye SGS	33
[11]	Rod clevis SG	Permits a swivelling movement of the cylinder in one plane	33
[12]	Self-aligning rod coupler FK	To compensate for radial and angular deviations	33
[13]	Push-in fitting QS	For connecting tubing with standard O.D.	qs
[14]	One-way flow control valve GRLA	For regulating speed	37
[15]	Sensor kit DADG	- Inductive sensor kit for status sensing of the clamping function - Not included in the scope of delivery	34
[16]	Sensor mounting DASP	For proximity switch SMT-8M-A and position transmitter SDAT-MHS	36
[17]	Proximity switch SMT-8M-A	- For sensing the piston position - Can be integrated in the cylinder profile barrel - Not included in the scope of delivery	35
	Proximity switch SDBT-MS	- For sensing the piston position - Can be integrated in the cylinder profile barrel - Not included in the scope of delivery	35
[18]	Position transmitter SDAT-MHS	- Continuously senses the position of the piston - Has an analogue output - Can be integrated in the cylinder profile barrel 2 sensor mountings DASP are required for mounting - Not included in the scope of delivery	36

 Note

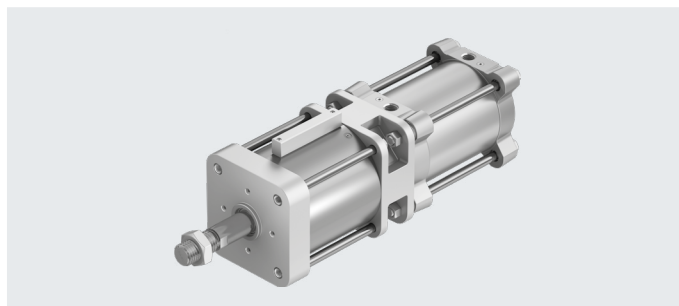
Only the flange mounting FNG is permissible for emergency stop applications/dynamic braking. Additional accessories for this application are available on request.

Datasheet

Function



-  - Diameter
160 mm
-  - Stroke length
10 ... 2000 mm



General technical data

Piston $\varnothing$	160
Design	Piston Piston rod Profile barrel
Variants	Piston rod at one end
Operating mode	Double-acting
Pneumatic connection	
Cylinders	G3/4
Holding brake	G3/8
Piston rod thread	M36x2
Piston rod end	Male thread
Cushioning	Pneumatic cushioning adjustable at both ends
Cushioning length [mm]	48
Position sensing	Via proximity switch
Type of mounting	With female thread With accessories
Clamping type with operating direction	On both sides Clamping via spring force, released via compressed air
Mounting position	Any

Operating and environmental conditions

Piston $\varnothing$	160
Cylinders	
Operating pressure [bar]	0.6 ... 8
Holding brake	
Min. release pressure [bar]	3.8
Max. permissible test pressure [bar]	8
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on the operating/pilot medium	Lubricated operation not possible
Ambient temperature ¹⁾ [°C]	-20 ... +80
Corrosion resistance class CRC ²⁾	
[] Standard	1
[R3] High corrosion protection	3

1) Note operating range of proximity switches.

2) More information: www.festo.com/x/topic/crc

Datasheet

Safety characteristics	
Piston Ø	160
Conforms to standard	This product is based on ISO 15552 (previously also VDMA 24562, ISO 6431, NF E49 003.1, UNI 10290)
Safety function	Holding and stopping a movement
Performance level (PL)	Stopping, holding, blocking a movement/category 1, Performance Level c
Certification	German Technical Control Board (TÜV)
Certificate-issuing authority	German Technical Control Board (TÜV) CA 697
CE marking (see declaration of conformity) ¹⁾	To EU Machinery Directive
UKCA marking (see declaration of conformity) ¹⁾	To UK explosion regulations

1) More information www.festo.com/catalogue/dfhg → Support/Downloads

ATEX	
Piston Ø	160
ATEX category for gas	II 2G
Type of (ignition) protection for gas	Ex h IIC T4 Gb
ATEX category for dust	II 2D
Type of (ignition) protection for dust	Ex h IIIC T120°C Db
Explosion-proof ambient temperature [°C]	-20 ≤ Ta ≤ +60

Weight [g]	
Piston Ø	160
Basic weight with 0 mm stroke	49660
Additional weight per 10 mm stroke	208
Moving mass with 0 mm stroke	7085
Additional moving mass per 10 mm stroke	97

Forces [N]	
Piston Ø	160
Theoretical force at 6 bar, advancing	12064
Theoretical force at 6 bar, retracting	11310
Static holding force	17000



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 holding brake is backlash-free in the clamped condition when varying loads are applied to the piston rod.

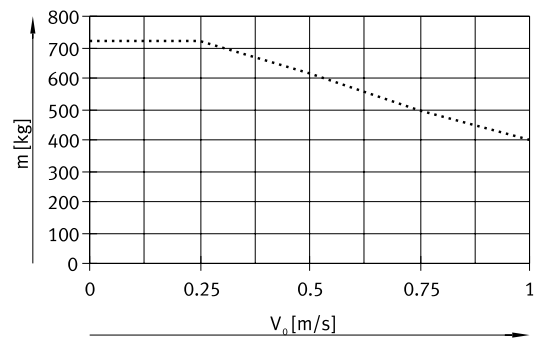
Lateral loads and bending moments on the piston rod can impair the function. (Make sure that the load on the piston rod is only in the direction of movement.)

Control:

The holding brake may only be released when the forces on the piston rod are balanced. Otherwise there is a risk of accidents caused by the sudden movement of the piston rod. Blocking off the compressed air supply at both ends (e.g. with a 5/3-way valve) does not provide any safety.

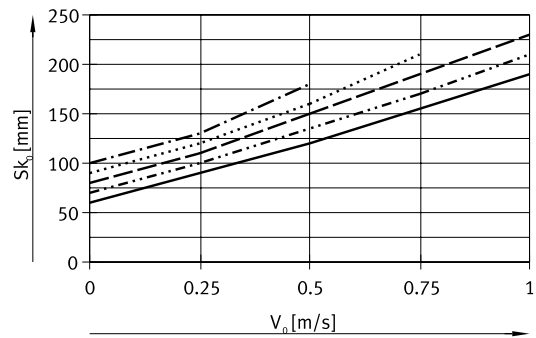
Datasheet

Load mass m as a function of piston speed v_0



..... DFLG-160

Stopping distance sk_0 as a function of piston speed v_0
Ø 160



- · - · 700 kg
- 600 kg
- - - 500 kg
- · · · 400 kg
- 300 kg

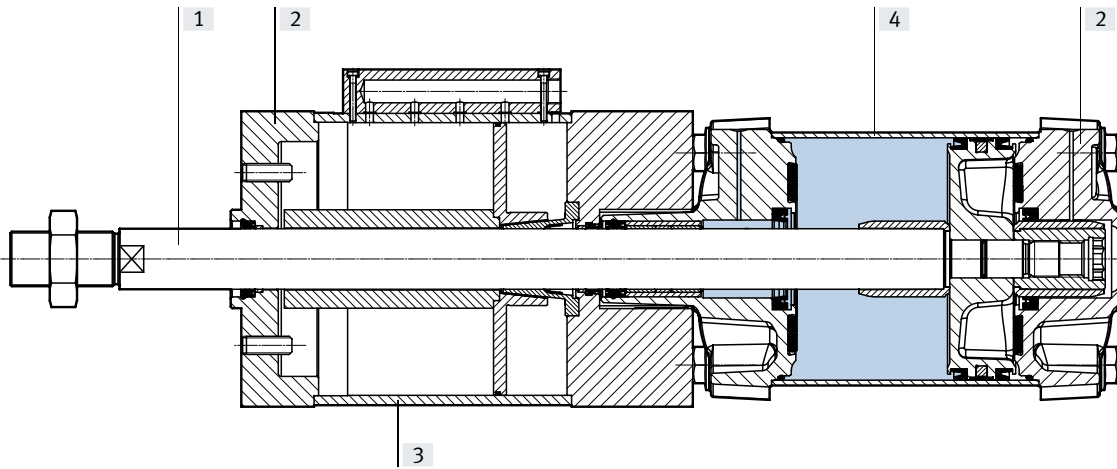
 Note

All data in the graphs is intended exclusively for the purposes of preselection when configuring the emergency braking function and must be checked mathematically and in practice prior to commissioning. More information www.festo.com/sp → User documentation.

Datasheet

Materials

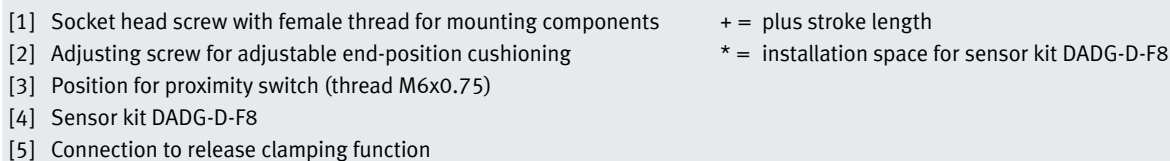
Sectional view



Cylinder with holding brake

[1] Piston rod	Hard-chrome-plated steel
[2] Cover	Die-cast aluminium
	Wrought aluminium alloy
[3] Housing	
DFLG-...	Steel
DFLG-...-R3	High-alloy stainless steel
[4] Cylinder barrel	
DFLG-...	Smooth-anodised wrought aluminium alloy
DFLG-...-R3	High-alloy stainless steel
– Seals	NBR
	TPE-U(PU)
	LABS (PWIS) conformity
	VDMA24364-B2-L
Note on materials	RoHS-compliant

Download CAD data → www.festo.com



Ø	RT	TG	VA	VD	W1	WH	ZJ+	≈G1	≈G2	≈G3
[mm]		±1.1	-1	±0.2		+2.3/-2.3	+2.3/-2.3			
160	M16	140	6	7	20°	80	558	36	55	24

Ordering data – Modular product system

Ordering table				
Size	160	Conditions	Code	Enter code
Module no.	8073334			
Function	Cylinder with holding brake, double-acting		DFLG	DFLG
Piston ø [mm]	160		-160	-160
Stroke [mm]	10 ... 2000		-...	
Cushioning	Pneumatic cushioning, adjustable at both ends		-PPV	-PPV
Position sensing	Via proximity switch		A	A
Corrosion protection	Standard			
	High corrosion protection		-R3	
EU certification	None			
	II 2GD		-EX4	
Certification	Safety device to Machinery Directive 2006/42/EC		-S	-S

Accessories

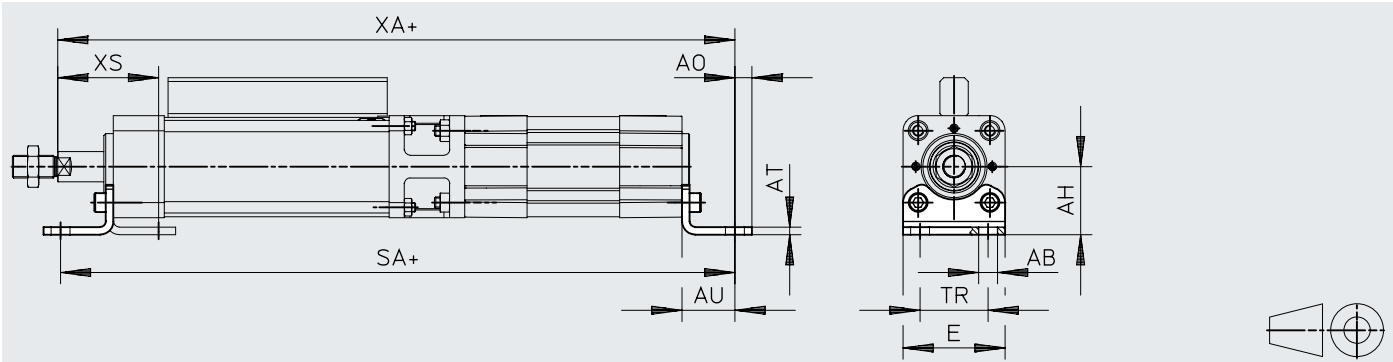
Foot mounting HNC/CRHNC

For DFLC

Material:

HNC: Galvanised steel

CRHNC: High-alloy steel



+ = plus stroke length

Dimensions and ordering data										
For $\varnothing$	AB $\varnothing$	AH	AO	AT	AU	E	SA	TR	XA	XS
[mm]										
40	10	36	9	4	28	54	347	36	347.7	56.7
63	10	50	12.5	5	32	75	395	50	398.9	67.9
100	14.5	71	17.5	6	41	110	475	75	483.3	90.3

For $\varnothing$	Basic version				Corrosion resistant			
	CRC ¹⁾	Weight [g]	Part no.	Type ²⁾	CRC ¹⁾	Weight [g]	Part no.	Type ²⁾
[mm]								
40	1	193	174370	HNC-40	4	188	176938	CRHNC-40
63	1	436	174372	HNC-63	4	424	176940	CRHNC-63
100	1	1009	174374	HNC-100	4	990	176942	CRHNC-100

1) More information www.festo.com/x/topic/crc

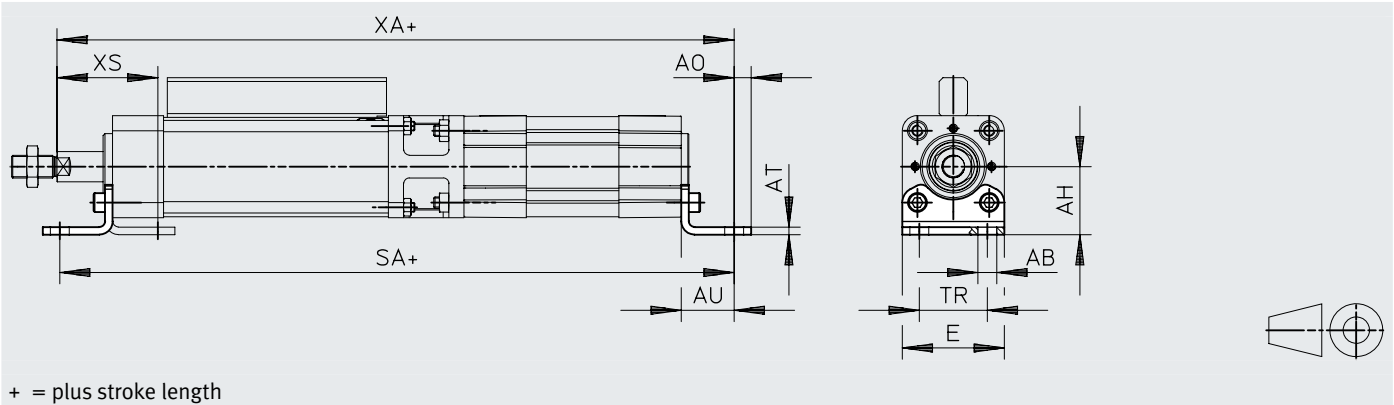
2) Suitable for ATEX

Accessories

Foot mounting HNG

For DFLL

Material:
Galvanised steel



Dimensions and ordering data														
For Ø	AB Ø	AH	AO	AT	AU	E	SA	TR	XA	XS	CRC ¹⁾	Weight	Part no.	Type ²⁾
[mm]												[g]		
160	18.5	115	20	10	60	169	598	115	618	140	1	3931	34476	HNG-160

1) More information www.festo.com/x/topic/crc
2) Suitable for ATEX

Accessories

Flange mounting FNC/CRFNG

For DFLL

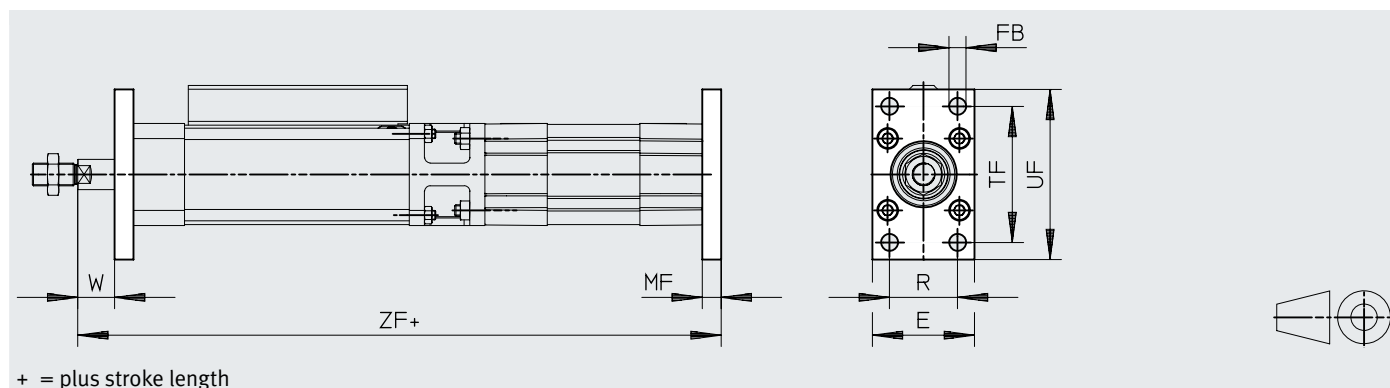
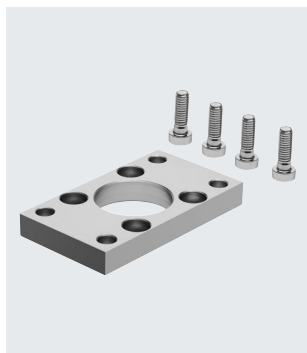
Suitable for
emergency stop applications/
dynamic braking

Material:

FNC: Galvanised steel

CRFNG: high-alloy steel

RoHS-compliant



Dimensions and ordering data

For $\varnothing$	E	FB $\varnothing$ H13	MF	R	TF	UF	W	ZF
[mm]								
40	54	9	10	36	72	90	18.7	329.7
63	75	9	12	50	100	120	23.9	378.9
100	110	14	16	75	150	175	33.3	458.3

For $\varnothing$	Basic version				Corrosion resistant			
	CRC ¹⁾	Weight [g]	Part no.	Type ²⁾	CRC ¹⁾	Weight [g]	Part no.	Type ²⁾
[mm]								
40	1	291	174377	FNC-40	4	291	161847	CRFNG-40
63	1	679	174379	FNC-63	4	680	161849	CRFNG-63
100	1	2041	174381	FNC-100	4	2054	161851	CRFNG-100

1) More information www.festo.com/x/topic/crc

2) Suitable for ATEX

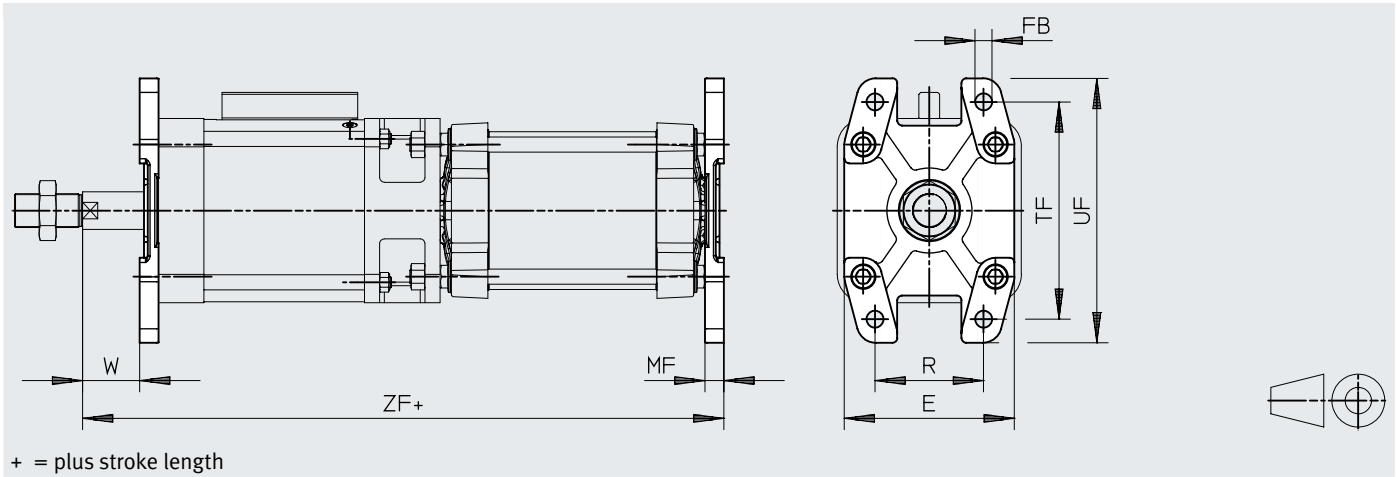
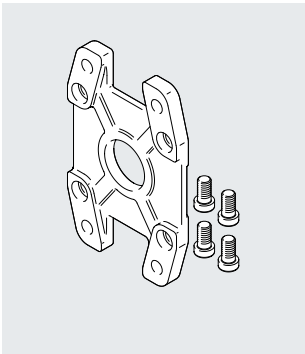
Accessories

Flange mounting FNG

For DFLG

Suitable for
emergency stop applications/
dynamic braking

Material:
Painted spheroidal graphite cast
iron
RoHS-compliant



Dimensions and ordering data												
For ø	E	FB ø H13	MF	R	TF	UF	W	ZF	CRC ¹⁾	Weight [g]	Part no.	Type ²⁾
160	180	18	20	115	230	280	60	578	1	3550	34478	FNG-160

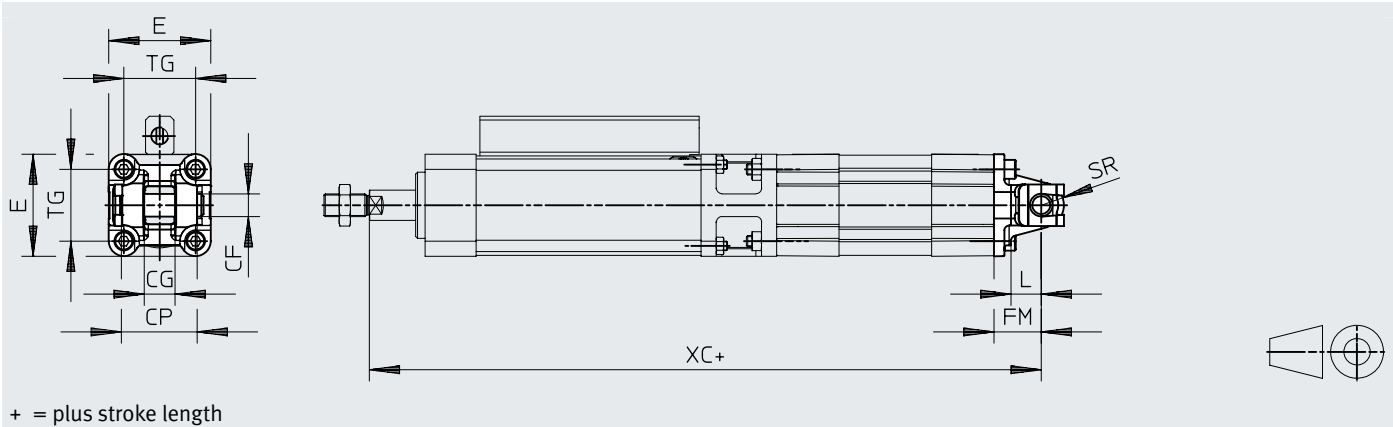
1) More information www.festo.com/x/topic/crc
2) Suitable for ATEX

Accessories

Swivel flange SNC

For DFLC

Material:
Die-cast aluminium
RoHS-compliant



Dimensions and ordering data							
For $\varnothing$	CF $\varnothing$	CG	CP	E	FM	L	SR
[mm]	E7/h9	H14	h14		± 0.2		
40	12	16	40	54 _{-0.5}	25	16	12
63	16	21	51	75 _{-0.6}	32	21	16
100	20	25	75	110 _{+0.3/-0.8}	41	27	20

For $\varnothing$	TG	XC	CRC ¹⁾	Weight	Part no.	Type ²⁾
[mm]				[g]		
40	38	344.7	1	140	174384	SNC-40
63	56.5	398.9	1	331	174386	SNC-63
100	89	483.3	1	865	174388	SNC-100

1) More information www.festo.com/x/topic/crc
2) Suitable for ATEX

Accessories

Swivel flange SNCS/SNCS-...-R3

For DFCL

Material:

SNCS 40: Die-cast aluminium

SNCS 63 ... 100:

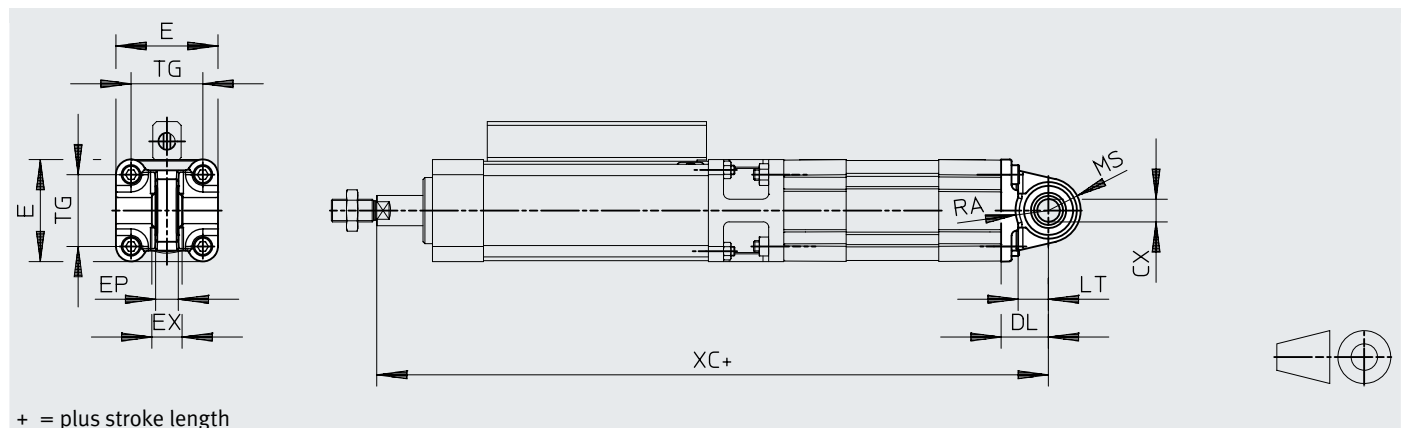
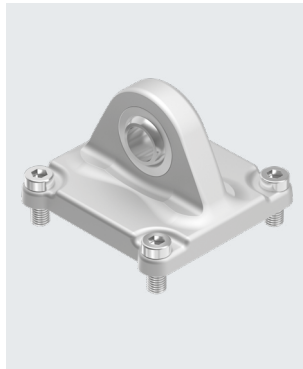
Wrought aluminium alloy

SNCS-...-R3 100:

Wrought aluminium alloy with

protective coating

RoHS-compliant



Dimensions and ordering data

For $\varnothing$	CX			DL	E			EP
		[CRSNCS]	[SNCS-...-R3]			[CRSNCS]	[SNCS-...-R3]	
[mm]				± 0.2				± 0.2
40	$12_{+0.015}$	$12_{+0.018/-0.04}$	—	25	$54_{-0.5}$	$54_{-0.5}$	—	12
63	$16_{+0.015}$	$16_{+0.018/-0.14}$	—	32	$74.5_{\pm 0.5}$	$75_{-0.6}$	—	15
100	$20_{+0.018}$	—	$20_{+0.021/-0.04}$	41	$109_{+1/-0.7}$	—	$109_{+1/-0.7}$	18

Dimensions and ordering data

For $\varnothing$	EX	LT	MS			RA			TG	XC
				[CRSNCS]	[SNCS-...-R3]		[CRSNCS]	[SNCS-...-R3]		
[mm]						+1	+1	+1		
40	16	16	$17_{+0.5}$	$17_{+0.5}$	—	17.5	17.5	—	38	344.7
63	21	21	$23_{-0.5}$	$22_{+0.5}$	—	23	23	—	56.5	398.9
100	25	27	$30_{\pm 0.5}$	—	$30_{\pm 0.5}$	95	—	100	89	483.3

For $\varnothing$	Basic version				High corrosion protection			
	CRC ¹⁾	Weight [g]	Part no.	Type	CRC ¹⁾	Weight [g]	Part no.	Type
[mm]								
40	1	122	174398	SNCS-40	4	239	2895921	CRSNCS-40
63	2	281	174400	SNCS-63	4	576	2895923	CRSNCS-63
100	2	683	174402	SNCS-100	3	684	2895925	SNCS-100-R3

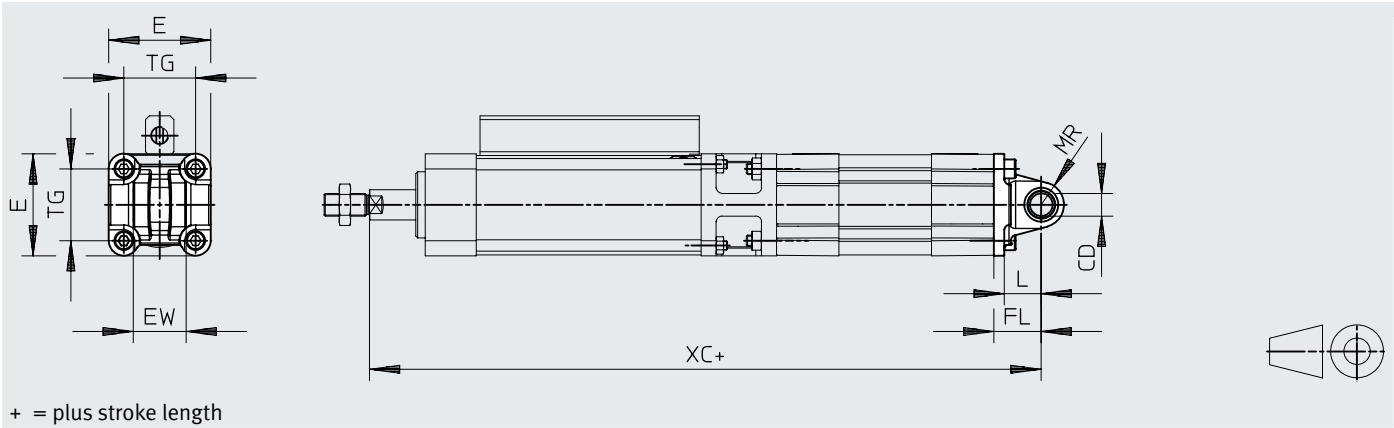
1) More information: www.festo.com/x/topic/crc

Accessories

Swivel flange SNCL

For DFCL

Material:
Die-cast aluminium
RoHS-compliant



Dimensions and ordering data						
For Ø	CD	E	EW	FL	L	MR
	Ø		-0.2			
[mm]	H10		-0.6	±0.2		
40	12	54 _{-0.5}	28	25	16	12
63	16	75 _{-0.6}	40	32	21	16
100	60	41	27	20	89	483.3

For Ø	TG	XC	CRC ¹⁾	Weight	Part no.	Type
				[g]		
40	38	344.7	1	95	174405	SNCL-40
63	56.5	398.9	1	225	174407	SNCL-63
100	89	483.3	1	606	174409	SNCL-100

1) More information: www.festo.com/x/topic/crc

Accessories

Swivel flange SNCB/SNCB-...-R3

For DFLL

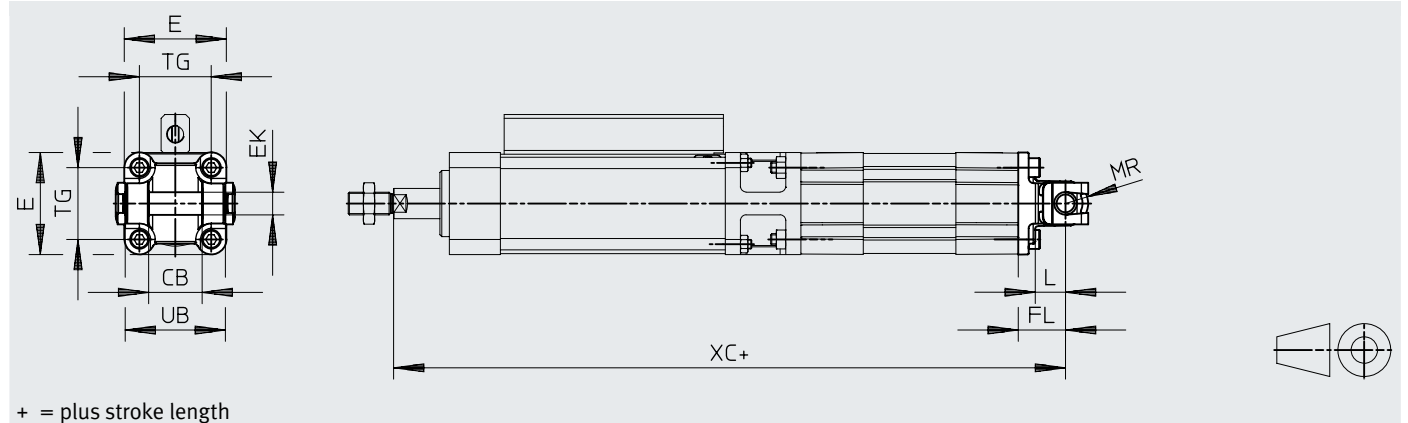
Material:

SNCB: Die-cast aluminium

SNCB-...-R3: Die-cast aluminium

with protective coating

RoHS-compliant



Dimensions and ordering data

For Ø	CB	E	EK Ø	FL	L	MR	TG	UB	XC
[mm]	H14		H10/e8	±0.2		-0.5		h14	
40	28	54 _{-0.5}	12	25	16	12	38	52	344.7
63	40	75 _{-0.6}	16	32	21	16	56.5	70	398.9
100	60	110 _{+0.3/-0.8}	20	41	27	20	89	110	483.3

For Ø	Basic version				R3 – High corrosion protection			
	CRC ¹⁾	Weight [g]	Part no.	Type	CRC ¹⁾	Weight [g]	Part no.	Type
40	1	155	174391	SNCB-40	3	151	176945	SNCB-40-R3
63	1	375	174393	SNCB-63	3	371	176947	SNCB-63-R3
100	1	1035	174395	SNCB-100	3	986	176949	SNCB-100-R3

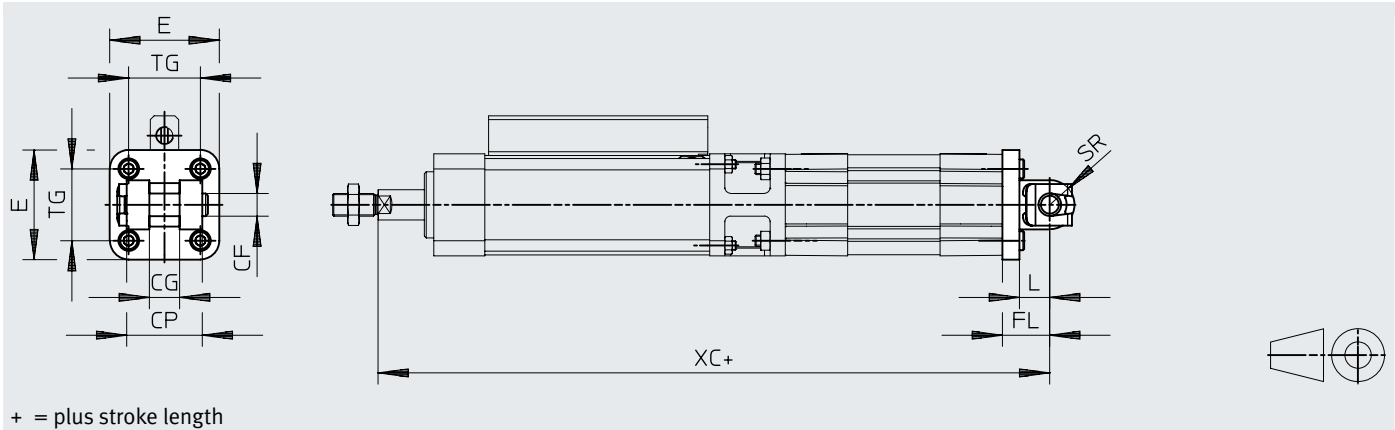
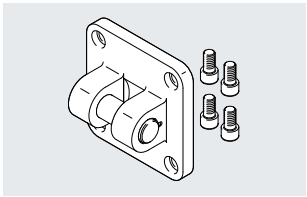
1) More information: www.festo.com/x/topic/crc

Accessories

Swivel flange SNG

For DFLG

Material:
Die-cast aluminium
RoHS-compliant



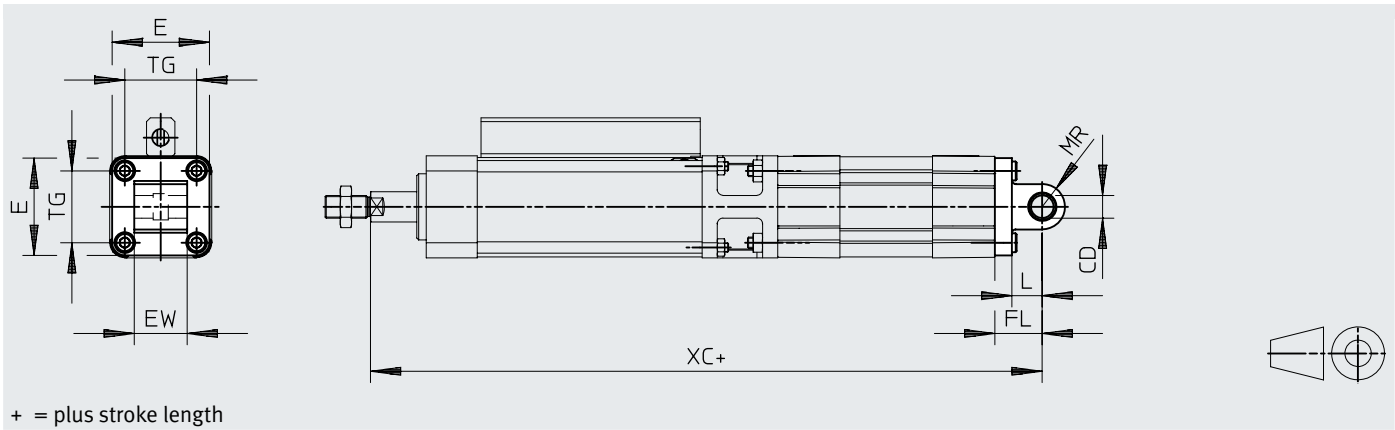
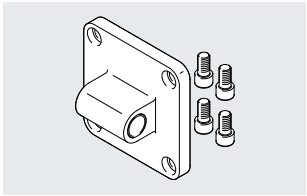
Dimensions and ordering data													
For $\varnothing$	CF	CG	CP	E	FL	L	SR	TG	XC	CRC ¹⁾	Weight	Part no.	Type
[mm]	F7/h9	H14	d12	max.	± 0.2		max.				[g]		
160	35	43	122	186	55	35	32	$140_{\pm 0.3}$	613	2	3577	152597	SNG-160

1) More information: www.festo.com/x/topic/crc

Swivel flange SNGL

For DFLG

Material:
Die-cast aluminium



Dimensions and ordering data												
For Ø	CD Ø	EW	E	FL	L	MR	TG	XC	CRC ¹⁾	Weight	Part no.	Type
[mm]	H9		±0.5	±0.2						[g]		
160	30	90 _{-0.5/-1.2}	179.5	55	35	25	140	613	2	2358	151534	SNGL-160

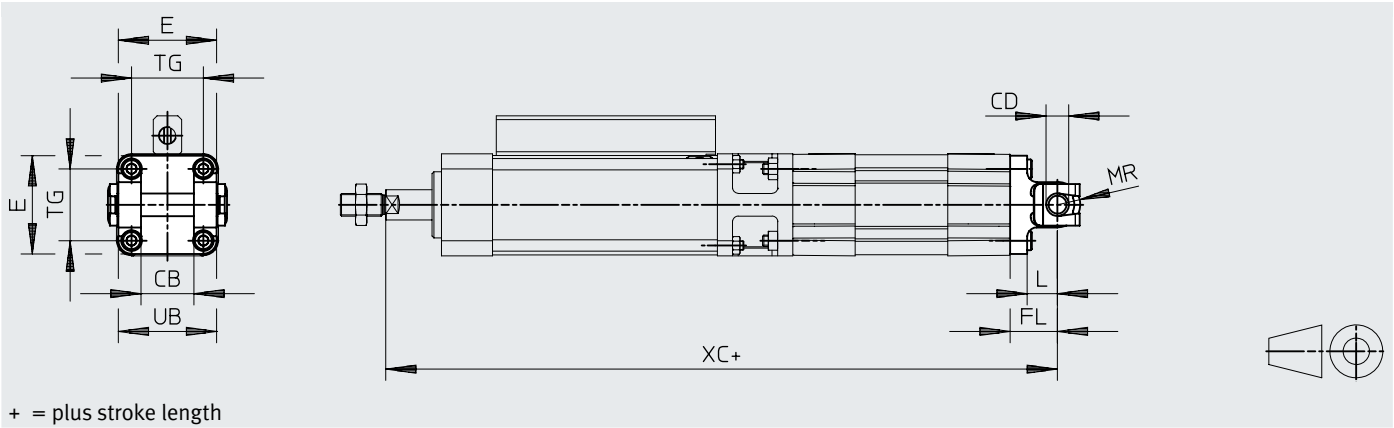
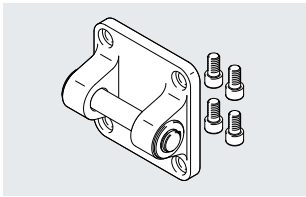
1) More information: www.festo.com/x/topic/crc

Accessories

Swivel flange SNGB

For DFLL

Material:
Die-cast aluminium
RoHS-compliant



+ = plus stroke length

Dimensions and ordering data													
For Ø	CB	CD Ø	E	FL	L	MR	TG	UB	XC	CRC ¹⁾	Weight	Part no.	Type
[mm]	H14	E10	±0.5	±0.2				h14			[g]		
160	90	30	179.5	55	35	25	140 _{±0.3}	170	613	2	3445	34547	SNGB-160

1) More information: www.festo.com/x/topic/crc

Accessories

Ordering data – Mounting components

Designation	For ø	Part no.	Type
Clevis foot LN/LNG			
	40	33891	LNG-40
	63	33893	LNG-63
	100	33895	LNG-100
	160	9037	LN-160
Clevis foot LSNG			
	40	31741	LSNG-40
	63	31743	LSNG-63
	100	31745	LSNG-100
	160	152599	LSNG-160

Datasheets → Internet: clevis foot

Designation	For ø	Part no.	Type
Clevis foot LBG ¹⁾ For DFLC			
	40	31762	LBG-40
	63	31764	LBG-63
	100	31766	LBG-100
Clevis foot LSN			
	40	5562	LSN-40
	63	5564	LSN-63
	100	5566	LSN-100
	160	6988	LSN-160

1) Suitable for ATEX

Ordering data – Mounting components, corrosion-resistant

Designation	For ø	Part no.	Type
Clevis foot CRLNG For DFLC			
	40	161841	CRLNG-40
	63	161843	CRLNG-63
	100	161845	CRLNG-100

Datasheets → Internet: crlng

Ordering data – Mounting components, high corrosion protection

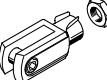
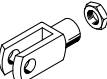
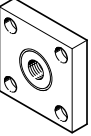
Designation	For ø	Part no.	Type ¹⁾
Clevis foot LBG-R3 For DFLC			
	40	2078792	LBG-40-R3
	63	2078795	LBG-63-R3
	100	2078799	LBG-100-R3

Datasheets → Internet: lbg

1) Suitable for ATEX

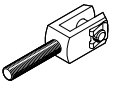
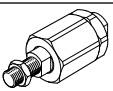
Accessories

Ordering data – Piston rod attachments

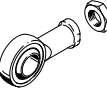
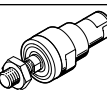
Designation	For ø	Part no.	Type
Rod eye SGS			
	40	9262	SGS-M12x1.25
	63	9263	SGS-M16x1.5
	100	9264	SGS-M20x1.5
	160	10775	SGS-M36x2
Rod clevis SG¹⁾			
	40	6145	SG-M12x1.25
	63	6146	SG-M16x1.5
	100	6147	SG-M20x1.5
	160	9581	SG-M36x2
Coupling piece KSG¹⁾			
For DFLC			
	40	32964	KSG-M12x1.25
	63	32965	KSG-M16x1.5
	100	32966	KSG-M20x1.5

1) Suitable for ATEX

Datasheets → Internet: piston rod attachment

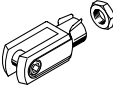
Designation	For ø	Part no.	Type
Rod clevis SGA¹⁾			
	40	10767	SGA-M12x1.25
	63	10768	SGA-M16x1.5
	100	10769	SGA-M20x1.5
	160	10771	SGA-M36x2
Self-aligning rod coupler FK¹⁾			
	40	6141	FK-M12x1.25
	63	6142	FK-M16x1.5
	100	6143	FK-M20x1.5
	160	10746	FK-M36x2

Ordering data – Piston rod attachments, corrosion-resistant

Designation	For ø	Part no.	Type
Rod eye CRSGS			
For DFLC			
	40	195583	CRSGS-M12x1.25
	63	195584	CRSGS-M16x1.5
	100	195585	CRSGS-M20x1.5
Self-aligning rod coupler CRFK¹⁾			
For DFLC			
	40	2305779	CRFK-M12x1.25
	63	2490673	CRFK-M16x1.5
	100	2545677	CRFK-M20x1.5

1) Suitable for ATEX

Datasheets → Internet: piston rod attachment

Designation	For ø	Part no.	Type
Rod clevis CRSG¹⁾			
For DFLC			
	40	13570	CRSG-M12x1.25
	63	13571	CRSG-M16x1.5
	100	13572	CRSG-M20x1.5

Accessories

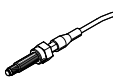
Proximity switch DADG

General technical data			
For Ø	40; 63	100	160
Size	M4		
Type of mounting	Screw-clamped		
Type of mounting	Flush		
Housing material	Steel		
Cable sheath material	TPE-U(PUR)		
Note on materials	Contains paint-wetting impairment substances		
	RoHS-compliant		
Product weight [g]	26	30	32
Conforms to standard	EN 60947-5-2		
Certification	RCM		
	c UL us (OL)		
CE marking (see declaration of conformity)	To EU EMC Directive		
Degree of protection	IP67		

Operating and environmental conditions			
For Ø	40; 63	100	160
Switching output	PNP		
Switching element function	N/O		
Electrical connection 1, connection type	Cable		
Electrical connection 1, connection technology	Open end		
Electrical connection 1, number of pins/wires	3		
Cable length [m]	2		
Operating voltage range DC [V]	10 ... 30		
Max. switching frequency	5000 Hz		
Max. switching frequency DC	5000 Hz		
Max. output current [mA]	100		
No-load current [mA]	≤ 10		
Voltage drop [V]	2		
Residual ripple [%]	10		
Reverse polarity protection	For all electrical connections		
Short circuit current rating	Clamped		
Rated operating distance [mm]	0.6		
Assured operating distance [mm]	0.64		
Reduction factors	Aluminium = 0.55		
	Stainless steel St 18/8 = 0.8		
	Copper = 0.5		
	Brass = 0.65		
	Steel St 37 = 1.0		
Repetition accuracy [mm]	0.01		
Ambient temperature [°C]	-25 ... +70		

Ordering data

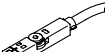
Datasheets → Internet: dadg

	For Ø	Part no.	Type
	40; 63	8072857	DADG-D-F8-16/20
	100	8072858	DADG-D-F8-25
	160	8072859	DADG-D-F8-40

Accessories

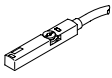
Ordering data – Proximity switch for T-slot, magneto-resistive

Datasheets → Internet: smt

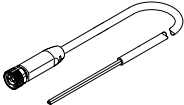
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type
N/O						
	Inserted in the slot from above, flush with cylinder profile, Short design	PNP	Cable, 3-core	2.5	574335	SMT-8M-A-PS-24V-E-2.5-OE
			Plug M8x1, 3-pin	0.3	574334	SMT-8M-A-PS-24V-E-0.3-M8D
		NPN	Cable, 3-core	2.5	574338	SMT-8M-A-NS-24V-E-2.5-OE
			1x M8 plug, 3-pin	0.3	574339	SMT-8M-A-NS-24V-E-0.3-M8D
N/C						
	Inserted in the slot from above, flush with cylinder profile, Short design	PNP	Cable, 3-core	7.5	574340	SMT-8M-A-PO-24V-E-7.5-OE

Ordering data – Proximity switch for T-slot, NAMUR

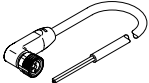
Datasheets → Internet: sdbt

	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type
N/O						
	Inserted in the slot from above, flush with cylinder profile	NAMUR	Cable, 2-core	5	579071	SDBT-MS-20NL-ZN-E-5-LE-EX6
				10	579072	SDBT-MS-20NL-ZN-E-10-LE-EX6

Connecting cables NEBA, straight

	Electrical connection 1, connection technology	Electrical connection 2, connection technology	Electrical connection 2, number of pins/cores	Cable length	Part no.	Type
	M8x1 A-coded to EN 61076-2-104	Open end	3	2.5 m	8078223	NEBA-M8G3-U-2.5-N-LE3
				5 m	8078224	NEBA-M8G3-U-5-N-LE3

Connecting cables NEBA, angled

	Electrical connection 1, connection technology	Electrical connection 2, connection technology	Electrical connection 2, number of pins/cores	Cable length	Part no.	Type
	M8x1 A-coded to EN 61076-2-104	Open end	3	2.5 m	8078230	NEBA-M8W3-U-2.5-N-LE3
				5 m	8078231	NEBA-M8W3-U-5-N-LE3

Accessories

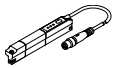
Position transmitter

The position transmitter continuously senses the position of the piston.

It has an analogue output with an output signal that is proportional to the piston position.

Ordering data – Position transmitter for T-slot

Datasheets → Internet: sdat

	Position measuring range	Analogue output [mA]	Type of mounting	Electrical connection	Cable length [m]	Part no.	Type
	0 ... 50	4 ... 20	Inserted in the slot from above	Plug 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

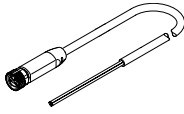
Ordering data – Sensor bracket for proximity switch SMT-8M and position transmitter SDAT-MHS

Datasheets → Internet: dasp

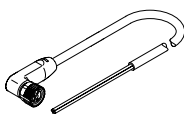
For DFLG

	For Ø	Materials	Part no.	Type
	160	Rail: Anodised wrought aluminium alloy Screws: High-alloy stainless steel	1553813	DASP-M4-160-A

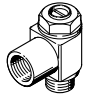
Connecting cables NEBA, straight, M8 connection

	Electrical connection 1, connection technology	Electrical connection 2, connection technology	Electrical connection 2, number of pins/cores	Cable length	Part no.	Type
	M8x1 A-coded to EN 61076-2-104	Open end	4	2.5 m	8078227	NEBA-M8G4-U-2.5-N-LE4
				5 m	8078228	NEBA-M8G4-U-5-N-LE4

Connecting cables NEBA, angled, M8 connection

	Electrical connection 1, connection technology	Electrical connection 2, connection technology	Electrical connection 2, number of pins/cores	Cable length	Part no.	Type
	M8x1 A-coded to EN 61076-2-104	Open end	4	2.5 m	8078233	NEBA-M8W4-U-2.5-N-LE4
				5 m	8078234	NEBA-M8W4-U-5-N-LE4

Accessories

Ordering data – One-way flow control valves					Datasheets → Internet: grla		
	Connection		Material	Part no.	Type		
	Thread	For tubing O.D.					
for DFCL – exhaust air							
	G1/8	4	Metal design	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-1/4QS-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		
	for DFLG – exhaust air						
		G3/4	22		151180	GRLA-3/4-B	