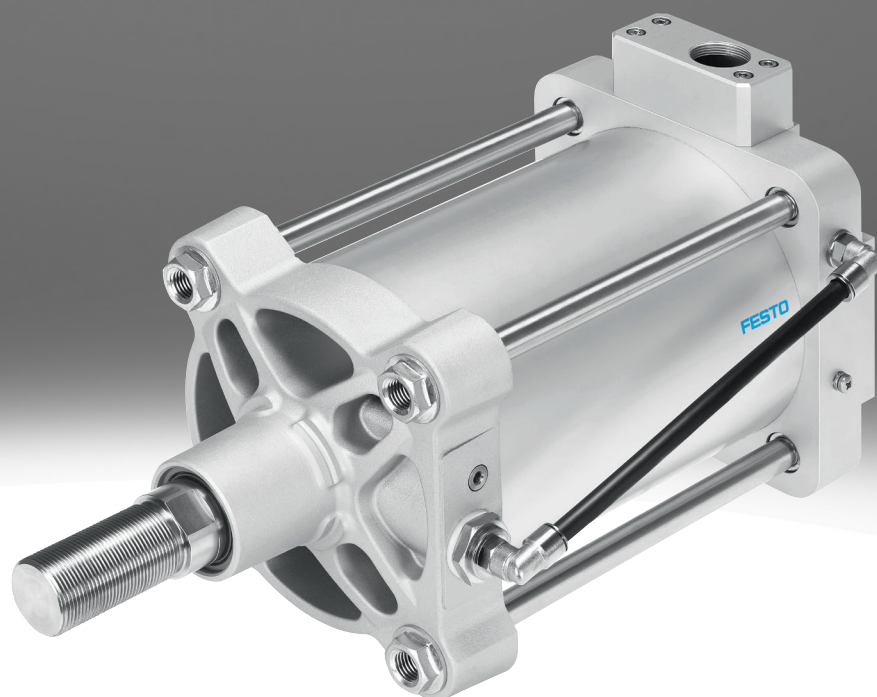


Linear actuator with displacement encoder DFPI

FESTO



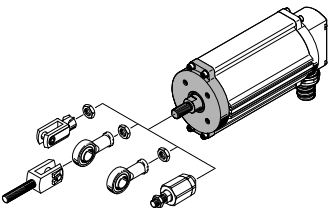
Characteristics

Piston diameter [mm]

The theoretical force of a pneumatic cylinder can be calculated using the following formula: $F\text{ [N]} = p\text{ [bar]} \times A\text{ [cm}^2\text{]} \times 10$

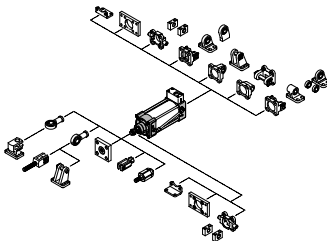
Standard

[] Not according to standard



Mounting interface to ISO 5210 on bearing caps for direct mounting on process valves.

[NB3] Based on ISO 15552



Mounting interfaces to ISO 15552 on bearing cap and end cap.

Regulator attachment position

[] Integrated

DFPI-...-C1V-...:
Integrated positioner in the actuator housing

- Setpoint input 4 ... 20 mA, position feedback 4 ... 20 mA

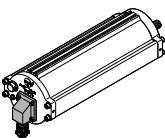
[E] External

DFPI-...E-...:
Integrated displacement encoder in the actuator housing

- For the connection of an external positioner

Connection type

[] Standard



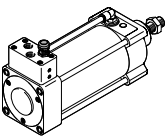
DFPI-...-C1V-A
Electrical connection: plastic flange socket, screw terminal

- Pneumatic connection: G1/4

[P] Protected

DFPI-...-P-...
Electrical, pneumatic connection: metal flange socket, pre-assembled connecting cable NHSB (accessories)

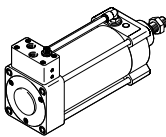
[P9] Cable connector M16x1.5



DFPI-...-P9B2-...
Electrical connection: cable fitting M16x1.5, screw terminal

- Pneumatic connection: G3/8

[M12] Plug M12, A-coded



DFPI-...-M12B2-...
Electrical connection: M12 plug 5-pin, nickel-plated brass

- Pneumatic connection: G3/8

Safety position

This actuator has a factory-defined safety position that is assumed if the operating voltage or the analogue setpoint value fails.

Type code

001	Series	
DFPI	Linear actuator, closed-loop controlled for process automation	
002	Piston diameter [mm]	
100	100	
125	125	
160	160	
200	200	
250	250	
320	320	
003	Stroke range [mm]	
...	40 ... 990	
004	Cushioning	
N	No cushioning	
005	Displacement encoder	
D2	Analogue	
006	Method of measurement	
P	Potentiometer	
007	Control unit	
	None	
C1	Controller 1	
008	Regulator attachment position	
	Integrated	
E	External	

009	Directional control valve	
	None	
V	Integrated	
010	Standard	
NB3	Based on ISO 15552	
011	Connection type	
	Standard	
P	Protected	
P9	Cable connector M16x1.5	
M12	Plug M12, A-coded	
VM12	Prepared for expansion modules with plug M12, A-coded	
012	Connection type material	
	Standard	
B2	Nickel-plated brass	
V2	Stainless steel (austenitic chromium-nickel/1.4301, 1.4303, 1.4306 (AISI 304L))	
013	Safety position	
	Piston rod advancing	
R	Piston rod retracting	
014	Additional function	
	Standard	
A	Position feedback 4 ... 20 mA	
T	Integrated transducer 4 ... 20 mA	
015	Pneumatic tubing	
	Standard	
M	Metal	

Datasheet

General electrical data DFPI-...-E-NB3...

Functional principle of measuring system	Potentiometer
Stroke	40 ... 990 mm
Displacement encoder	Analogue
Recommended wiper current	<0.1 µA
Operational voltage range DC	0 ... 15 V
Non-dependent linearity	±0.04%
Repetition accuracy in ± mm	0.12 mm
Hysteresis	0.33 mm
Power supply	–
Reverse polarity protection	–
Analogue output	–

Operating and environmental conditions DFPI-...-E-NB3...

Operating pressure	0.3 ... 0.8 MPa
Operating pressure	3 ... 8 bar
Nominal operating pressure	6 bar
Nominal operating pressure	0.6 MPa
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on operating and pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)
Storage temperature	-20 ... 80°C
Ambient temperature	-20 ... 80°C
Relative air humidity	5 - 100%, Condensing
Degree of protection	IP65, IP67, IP69K, NEMA 4
Vibration resistance to DIN/IEC 68 Part 2-6	Tested to severity level 2
Continuous shock resistance to DIN/IEC 68 Part 2-82	Tested to severity level 2
CE mark (see declaration of conformity) ¹⁾	To EU EMC Directive, To EU Explosion Protection Directive (ATEX), In accordance with EU RoHS Directive
UKCA marking (see declaration of conformity) ²⁾	To UK EX instructions

1) Further information www.festo.com/catalogue/... see Support/Downloads.

2) Further information www.festo.com/catalogue/... see Support/Downloads.

Data sheet DFPI-...-E-NB3...

Stroke	40 ... 990 mm
Mode of operation	Double-acting
Based on standard	ISO 15552
Cushioning	No cushioning
Mounting position	optional
Design	Piston, Piston rod, Tie rod, Cylinder barrel
Position detection	With integrated displacement encoder
Pneumatic connection	For tubing O.D. 8 mm, With specific accessories
Electrical connection	3-pin, Straight plug connector/screw terminal, With specific accessories

ATEX DFPI-...-E-NB3...

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

Datasheet

Forces [N] and impact energy [J] DFPI-...-E-NB3...

Piston diameter	100 mm	125 mm	160 mm	200 mm	250 mm	320 mm
Theoretical force at 0.6 MPa (6 bar, 87 psi), advance stroke	4,712 N	7,363 N	12,064 N	18,850 N	29,452 N	48,255 N
Theoretical force at 0.6 MPa (6 bar, 87 psi), return stroke	4,417 N	6,881 N	11,581 N	18,080 N	28,274 N	46,385 N

Air consumption [l] DFPI-...-E-NB3...

Piston diameter	100 mm	125 mm	160 mm	200 mm	250 mm	320 mm
Air consumption on advance stroke per 10 mm	0.549 l	0.859 l	1.407 l	2.199 l	3.436 l	5.63 l
Air consumption on return stroke per 10 mm	0.515 l	0.803 l	1.351 l	2.111 l	3.299 l	5.412 l

Weight [g] DFPI-...-E-NB3...

Piston diameter	100 mm	125 mm	160 mm	200 mm	250 mm	320 mm
Basic weight for 0 mm stroke	4,900 g	7,500 g	12,800 g	18,100 g	31,100 g	57,700 g
Additional weight per 10 mm stroke	90 g	134 g	200 g	238 g	358 g	582 g
Moving mass for 0 mm stroke	1,060 g	1,900 g	3,700 g	4,800 g	9,300 g	16,500 g
Additional moving mass per 10 mm stroke	28 g	53 g	89 g		134 g	227 g

Materials DFPI-...-E-NB3...

Note on materials	RoHS-compliant
Material end cap	Coated wrought aluminium alloy
Material underneath cover	Die-cast aluminium, coated
Material electrical connection	Nickel-plated brass
Material piston rod	High-alloy stainless steel
Material piston rod wiper	NBR, TPE-U(PU)
Material screws	Coated steel, High-alloy stainless steel
Material static seals	NBR
Material tie rod	High-alloy stainless steel
Material cylinder barrel	Smooth-anodised wrought aluminium alloy

Data sheet DFPI-...-E-NB3...

Stroke	40 ... 990 mm
Mode of operation	Double-acting
Based on standard	ISO 15552
Cushioning	No cushioning
Mounting position	optional
Design	Piston, Piston rod, Tie rod, Cylinder barrel
Position detection	With integrated displacement encoder
Pneumatic connection	For tubing O.D. 8 mm, For tubing outside diameter of 10 mm, With specific accessories
Electrical connection	5-pin, Straight plug connector/screw terminal, With specific accessories

General electrical data DFPI-...-C1V-NB3...

Operational voltage range DC	21.6 ... 26.4 V
Nominal operating voltage DC	24 V
Setpoint value input	4 ... 20 mA
Analogue output	4 - 20 mA
Analogue output accuracy	1 %FS
Max. current consumption	220 mA
Reverse polarity protection	Initialisation connection, For operating voltage, For setpoint value
Positioning accuracy	1.0%FS
Repetition accuracy in ± %FS	1 %FS
Dead zone size	1 %FS
Hysteresis in ± %FS	1 %FS

Datasheet

Operating and environmental conditions DFPI-...-C1V-NB3...

Operating pressure	0.3 ... 0.8 MPa
Operating pressure	3 ... 8 bar
Operating pressure	43.5 ... 116 psi
Nominal operating pressure	6 bar
Nominal operating pressure	0.6 MPa
Nominal operating pressure	87 psi
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on operating and pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)
Media temperature	-5 ... 40°C
Storage temperature	-5 ... 50°C
Ambient temperature	-5 ... 50°C
Relative air humidity	5 - 100%, Condensing
Degree of protection	IP65, IP67, IP69K, NEMA 4
Vibration resistance to DIN/IEC 68 Part 2-6	Tested to severity level 2
Continuous shock resistance to DIN/IEC 68 Part 2-82	Tested to severity level 2
Approval	RCM trademark
UKCA marking (see declaration of conformity) ¹⁾	To UK instructions for EMC, To UK EX instructions, To UK RoHS instructions
CE mark (see declaration of conformity) ²⁾	To EU EMC Directive, To EU Explosion Protection Directive (ATEX), In accordance with EU RoHS Directive

1) Further information www.festo.com/catalogue/... see Support/Downloads.

2) Further information www.festo.com/catalogue/... see Support/Downloads.

ATEX DFPI-...-C1V-NB3...

ATEX category gas	II 3G
ATEX category dust	II 3D
Explosion ignition protection type for gas	Ex ec IIC T4 X Gc
Explosion ignition protection type for dust	Ex tc IIIC T120°C X Dc
Explosion ambient temperature	-5°C ≤ Ta ≤ +50°C
Explosion protection certification outside the EU	EPL Dc (GB), EPL Gc (GB)

Forces [N] and impact energy [J] DFPI-...-C1V-NB3...

Piston diameter	100 mm	125 mm	160 mm	200 mm	250 mm	320 mm
Theoretical force at 0.6 MPa (6 bar, 87 psi), advance stroke	4,712 N	7,363 N	12,064 N	18,850 N	29,452 N	48,255 N
Theoretical force at 0.6 MPa (6 bar, 87 psi), return stroke	4,417 N	6,881 N	11,581 N	18,080 N	28,274 N	46,385 N

Air consumption [l] DFPI-...-C1V-NB3...

Piston diameter	100 mm	125 mm	160 mm	200 mm	250 mm	320 mm
Air consumption on advance stroke per 10 mm	0.549 l	0.859 l	1.407 l	2.199 l	3.436 l	5.63 l
Air consumption on return stroke per 10 mm	0.515 l	0.803 l	1.351 l	2.111 l	3.299 l	5.412 l

Weight [g] DFPI-...-C1V-NB3...

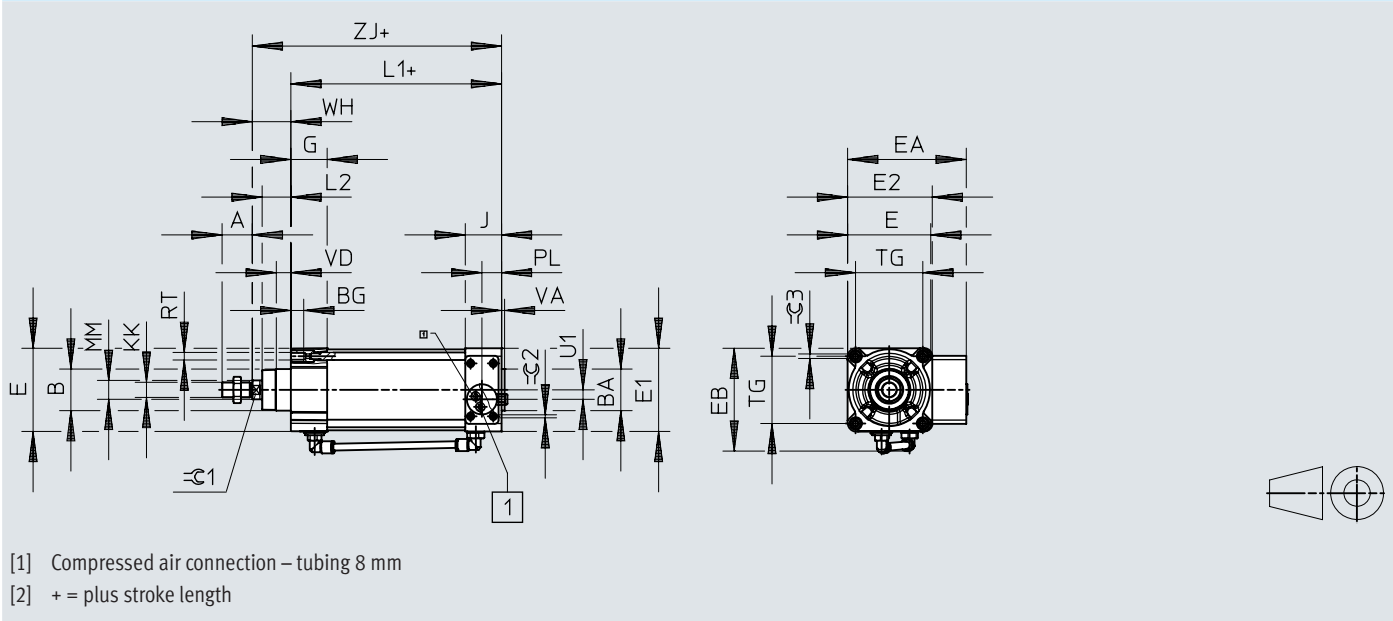
Piston diameter	100 mm	125 mm	160 mm	200 mm	250 mm	320 mm
Basic weight for 0 mm stroke	5,280 g	7,950 g	14,330 g	20,410 g	35,370 g	57,550 g
Additional weight per 10 mm stroke	90 g	134 g	200 g	238 g	358 g	582 g
Moving mass for 0 mm stroke	1,060 g	1,900 g	3,700 g	4,800 g	9,300 g	16,500 g
Additional moving mass per 10 mm stroke	28 g	53 g	89 g	134 g	227 g	227 g

Datasheet

Materials DFPI-....C1V-NB3...	
Note on materials	RoHS-compliant
Material end cap	Coated wrought aluminium alloy
Material underneath cover	Die-cast aluminium, coated
Material piston rod	High-alloy stainless steel
Material piston rod wiper	NBR, TPE-U(PU)
Material screws	Coated steel, High-alloy stainless steel
Material static seals	NBR
Material tie rod	High-alloy stainless steel
Material cylinder barrel	Smooth-anodised wrought aluminium alloy

Dimensions

Dimensions – DFPI-...-E-NB3..., piston Ø 100, 125 Download CAD data www.festo.com



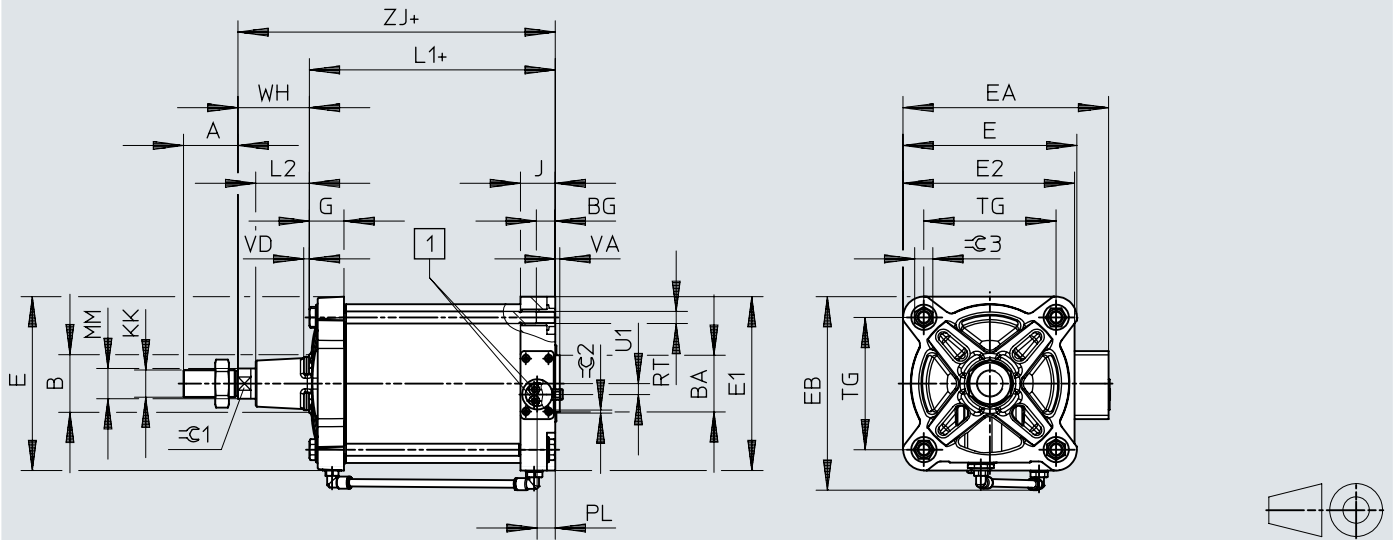
	A	B	BA	BG	E	E1	EA	EB	G	J	KK	L1
	-0,5	Ø	Ø d11									
DFPI-100	40	55	55	17	110	120	155	146	48	48	M20x1,5	179
DFPI-125	54	60	60	20	136	145	180	173	44,7		M27x2	200

	L2	MM	PL	RT	TG	U1	VD	VA	WH	ZJ	Ø1	Ø2	Ø3
		Ø						-1					
DFPI-100	38	25	26	M10	89	12	19,2	4	51±1,8	229,7	22	4	6
DFPI-125	45,5	32		M12	110	22	20,5	6	65±2,2	264,7	27		8

Dimensions

Dimensions – DFPI-...-E-NB3..., piston Ø 160, 200, 250, 320

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[1] Compressed air connection – tubing 8 mm

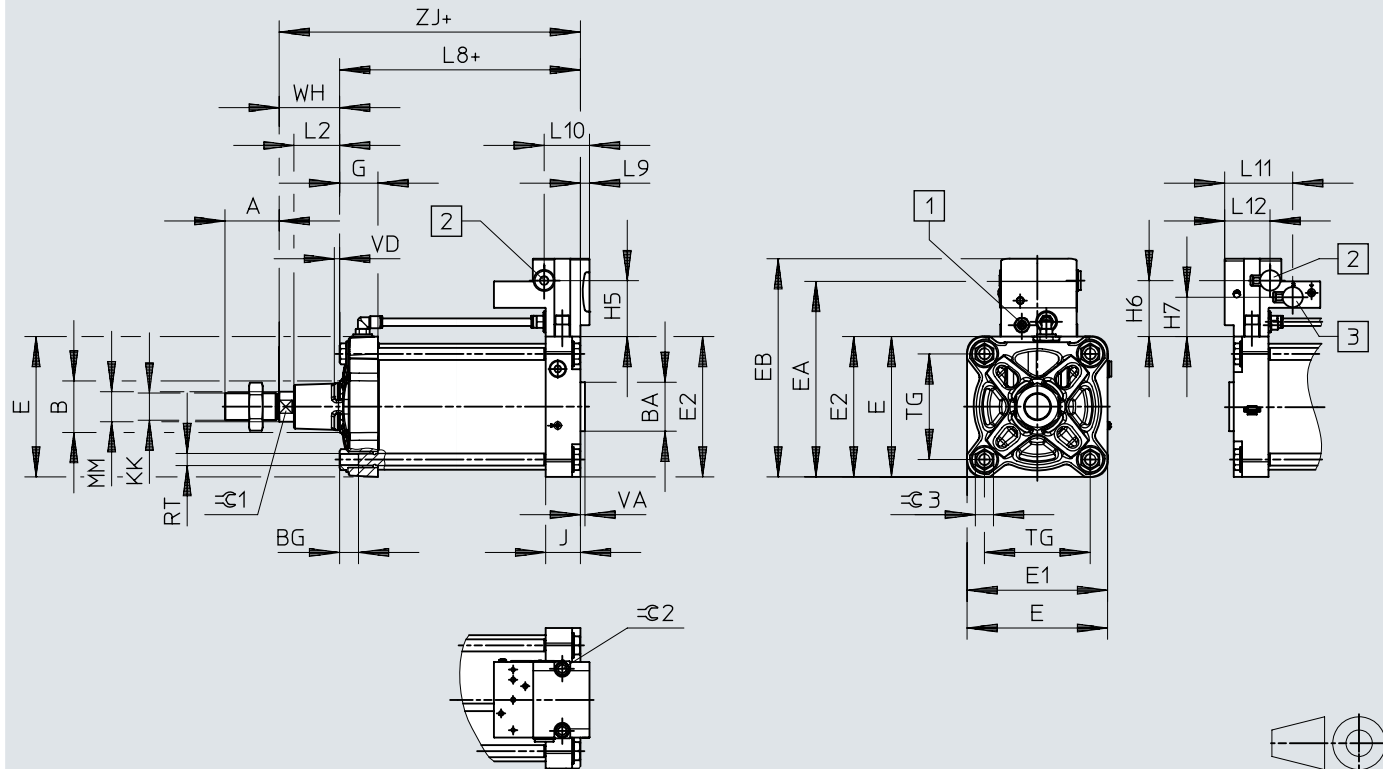
[2] + = plus stroke length

	A	B	BA	BG	E	E1	EA	EB	G	J	KK	L1
	-0,5	Ø	Ø d11									
DFPI-160	72	65	65	24	186	186	221	212	51	46	M36x2	219
DFPI-200		75	75		230	230	265	256	47,2			225
DFPI-250	84	90	90	25	284	270	312	312	52	51,5	M42x2	254
DFPI-320	96	110	110	28	347	342	378,5	379	56	58	M48x2	281,2

	L2	MM	PL	RT	TG	U1	VD	VA	WH	ZJ	≅1	≅2	≅3
		Ø						-1	±2,2				
DFPI-160	60	40	23	M16	140	13	7,5	6	80	298,6	36	4	24
DFPI-200	70				175	32			95	320			
DFPI-250	80	50	29,5	M20	220	47	13,7	10	105	359	46		42
DFPI-320	90	63	36	M24	270	62	10,7		120	401,2	55		50

Dimensions

Dimensions – Variant DFPI-...-ND2P-E-NB3VM12

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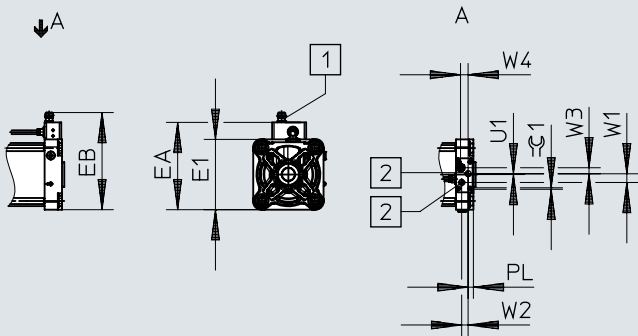
- [1] Encoder connection, plug M12x1, A-coded
- [2] Pneumatic connection supply air forwarding, with blanking plug
- [3] Pneumatic connection exhaust air, with protective cap
- [4] + = plus stroke length

	A -0,5	B	BA d11	BG	E	E1	E2	EA	EB	G	H5	H6	H7	J	KK
DFPI-160-...ND2P-E-NB3VM12	72	65	65	24	186	186	186	259	289	51	74	74	52	46	M36x2
DFPI-200-...ND2P-E-NB3VM12	72	75	75	24	230	230	227	300	330	47,2	74	74	52	46	M36x2
DFPI-250-...ND2P-E-NB3VM12	84	90	90	25	284	270	277,6	350,6	380,6	52	74	74	52	51,5	M42x2
DFPI-320-...ND2P-E-NB3VM12	86	110	110	28	347	340	348,5	421,5	451,5	56	74	74	52	58	M48x2

	L2	L8	L9	L10	L11	L12	MM	RT	TG	VD	VA -1	WH ±2,2	ZJ	≡ 1	≡ 2	≡ 3
DFPI-160-...-ND2P-E-NB3VM12	60	219	12	60	90	60	40	M16	140	7,5	6	80	298,6	36	10	24
DFPI-200-...-ND2P-E-NB3VM12	70	225	12	60	90	60	40	M16	175	7,5	6	95	320	36	10	24
DFPI-250-...-ND2P-E-NB3VM12	80	254	6,5	60	90	60	50	M20	220	13,7	10	105	359	46	10	42
DFPI-320-...-ND2P-E-NB3VM12	90	281,2	0	60	90	60	63	M24	270	10,7	10	120	401,2	55	10	50

Dimensions

Dimensions – Variants DFPI-...-E-NB3P9B2-... and DFPI-...-E-NB3M12B2-...

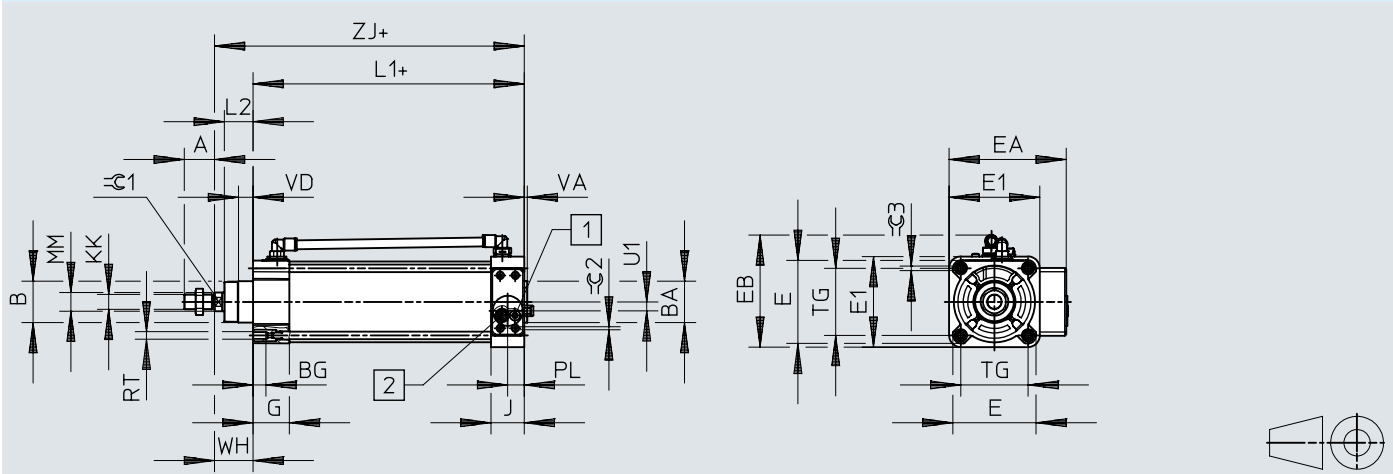
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- [1] DFPI-...-P9B2-...: Electr. connection: cable fitting M16x1.5, 3-pin, straight plug, screw terminal; DFPI-...-M12B2-...: Electr. connection: M12x1, 5-pin, straight plug, A-coded
- [2] 2 Pneumatic connection: G3/8

	E1	EA	EB	PL	U1	W1	W2	W3	W4	2
DFPI-100-...-P9	110	157	183,5	16	4	23	17	16	20	4
DFPI-100-...-M12			170		6					
DFPI-125-...-P9	136	183	209,5	14	2					
DFPI-125-...-M12			196		11					
DFPI-160-...-P9	186	231	275,5	19,5	2					
DFPI-160-...-M12			244		26					
DFPI-200-...-P9	230	272	298,5	26	2					
DFPI-200-...-M12			285		11					
DFPI-250-...-P9	270	322,6	349,1	19,5	2					
DFPI-250-...-M12			335,6		11					
DFPI-320-...-P9	340	393,5	420	26	2					
DFPI-320-...-M12			406,5		11					

Dimensions

Dimensions – DFPI-...-C1V-NB3..., piston Ø 100, 125 Download CAD data www.festo.com



- [1] Compressed air connection – tubing 8 mm
- [2] Exhaust air – tubing 10 mm
- [3] + = plus stroke length

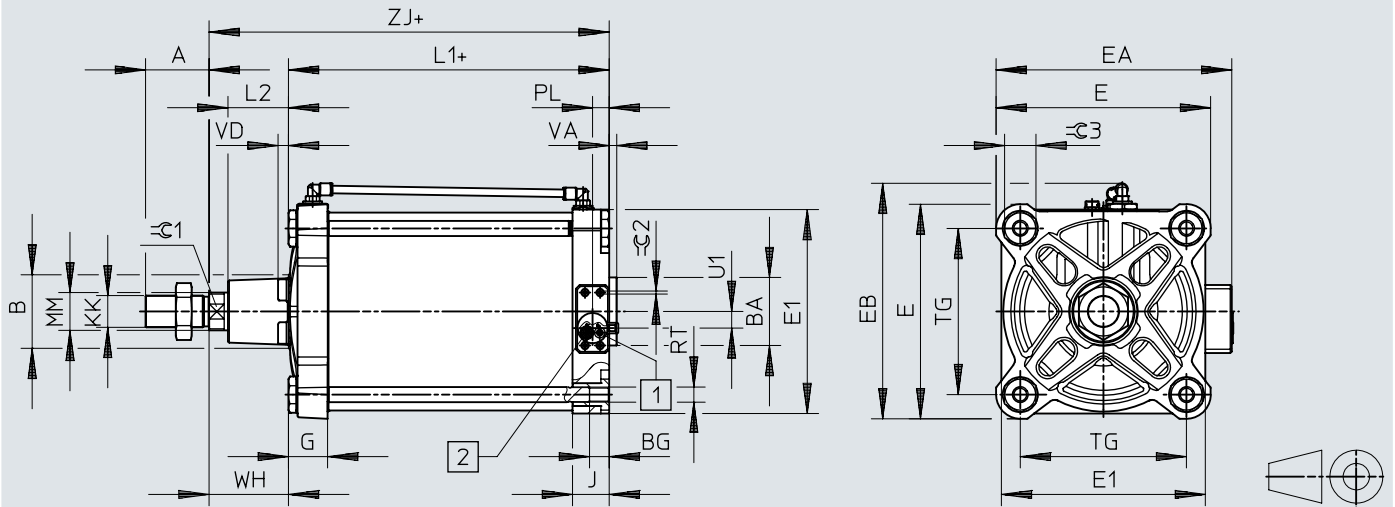
	A	B	BA	BG	E	E1	EA	EB	G	J	KK	L1
	-0,5	Ø	Ø d11									
DFPI-100	40	55	55	17	110	120	155	146	48	44	M20x1,5	258,9
DFPI-125	54	60	60	20	136	145	180	173	44,7		M27x2	254,4

	L2	MM	PL	RT	TG	U1	VD	VA	WH	ZJ	⌀1	⌀2	⌀3
		Ø						-1					
DFPI-100	38	25	22	M10	89	12	19,2	4	51±1,8	309,9	22	4	6
DFPI-125	45,5	32		M12	110	2	20,5	6	65±2,2	319,4	27		8

Dimensions

Dimensions – DFPI-...-C1V-NB3..., piston Ø 160, 200, 250, 320

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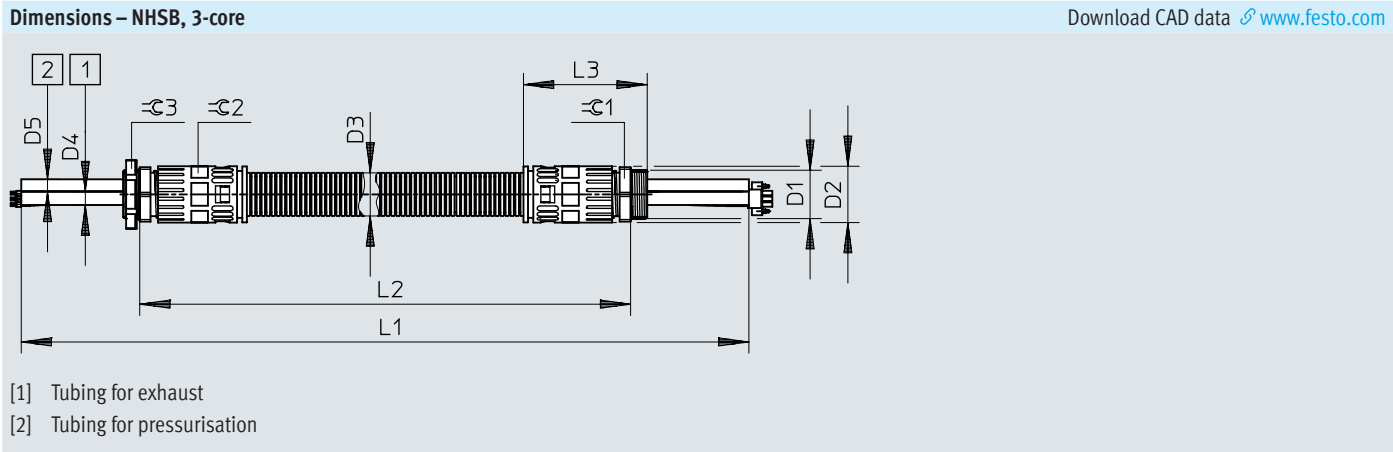


- [1] Compressed air connection – tubing 8 mm
 [2] Exhaust air – tubing 10 mm
 [3] + = plus stroke length

	A	B Ø	BA Ø d11	BG	E	E1	EA	EB	G	J	KK	L1
	-0,5											
DFPI-160	72	65	65	24	186	186	221	212	51	46	M36x2	291,8
DFPI-200		75	75		230	230	265	256	47,2			297
DFPI-250	84	90	90	25	284	270	312	312	52	48,5	M42x2	324,4
DFPI-320	96	110	110	28	347	342	378,5	379	56	46	M48x2	351,4

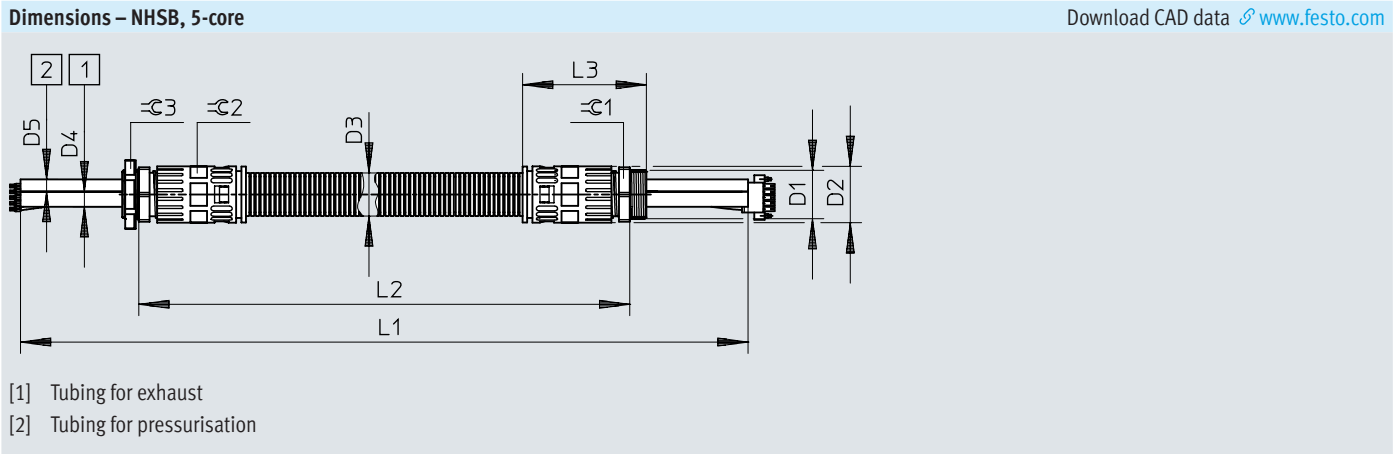
	L2	MM Ø	PL	RT	TG	U1	VD	VA	WH	ZJ	≡1	≡2	≡3
								-1	±2,2				
DFPI-160	60	40	22	M16	140	12	7,5	6	80	371,8	36	4	24
DFPI-200	70				175	32			95	392			
DFPI-250	80	50		M20	220	22	13,7	10	105	429,2	46		42
DFPI-320	90	63	22,5	M24	270	52	10,7		120	471,4	55		50

Dimensions



	D1	D2 ø	D3 ø	D4 ø	D5 ø	L1 ±25	L2 ±25	L3	⌀ 1	⌀ 2	⌀ 3
NHSB-A1-0.6-BLG3-LE3-PU8-2xBB	M32x1,5	37	28,5	8	8	1400	600	82	36	34	41
NHSB-A1-5-BLG3-LE3-PU8-2xBB						6100	5000				
NHSB-A1-10-BLG3-LE3-PU8-2xBB						11100	10000				
NHSB-A1-15-BLG3-LE3-PU8-2xBB						16100	15000				

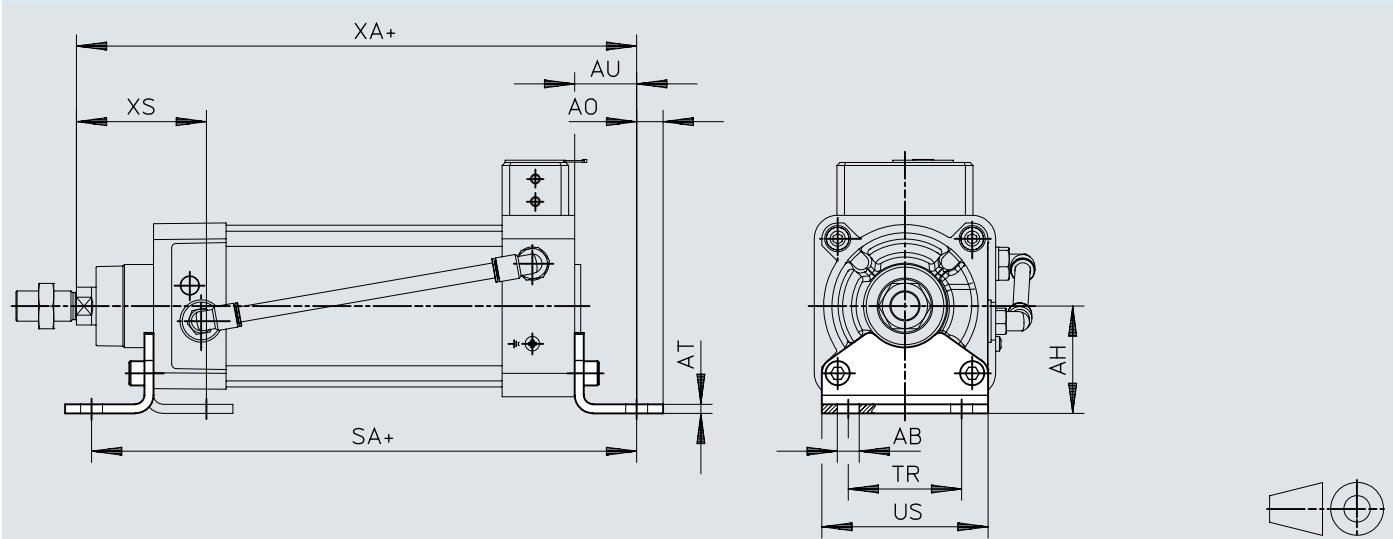
Dimensions



	D1	D2 ø	D3 ø	D4 ø	D5 ø	L1 ±25	L2 ±25	L3	⌀ 1	⌀ 2	⌀ 3
NHSB-A1-5-BLG5-LE5-PU8-2xBB	M32x1,5	37	28,5	10	8	6100	5000	82	36	34	41
NHSB-A1-10-BLG5-LE5-PU8-2xBB						11100	10000				
NHSB-A1-15-BLG5-LE5-PU8-2xBB						16100	15000				

Dimensions

Dimensions – Foot mounting HNC/CRHNC Download CAD data www.festo.com



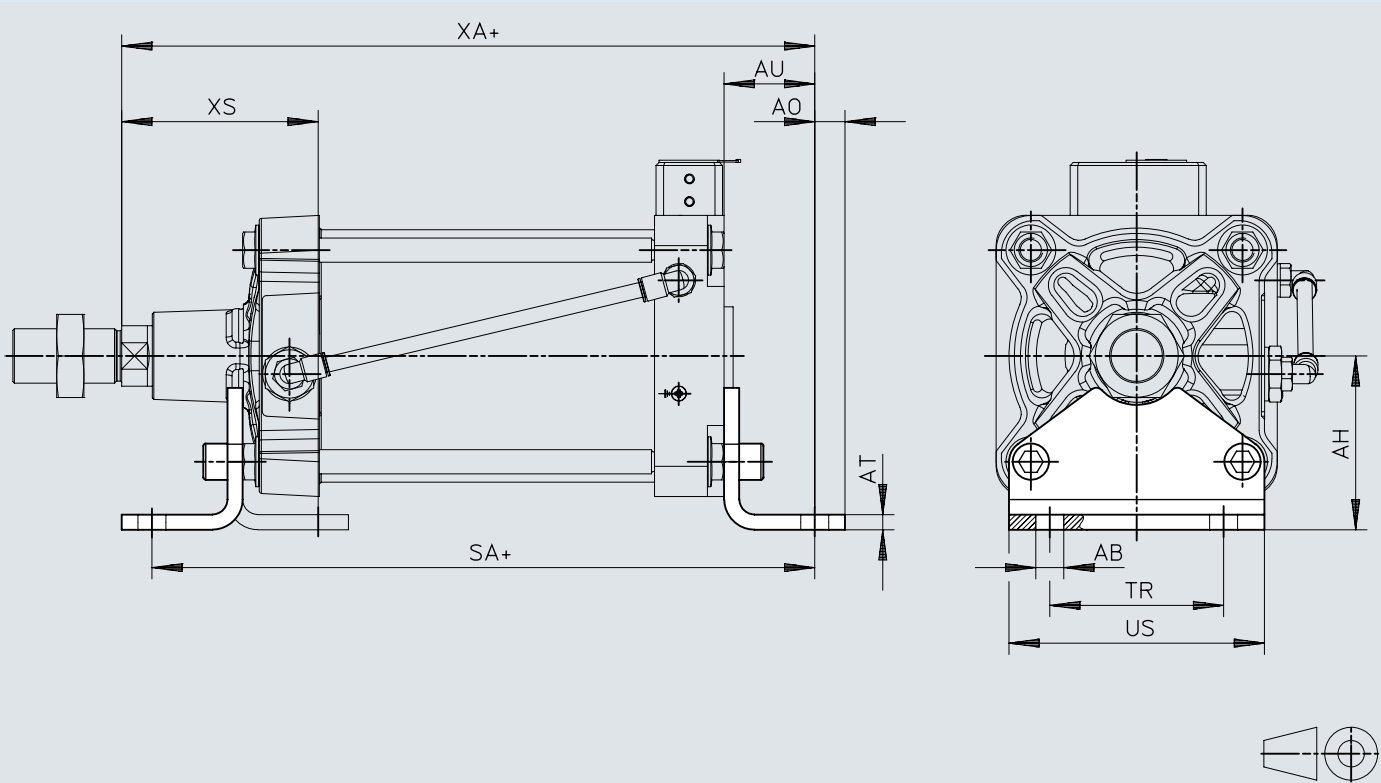
[1] + = plus stroke length

	AB Ø	AH	AO	AT	AU	SA	TR	US	XA	XS
HNC-100/CRHNC-100	14,5	71	17,5	6	41	261	75	110	270,7	86
HNC-125/CRHNC-125	16,5	90	22	8	45	290	90	131	309,7	102

Dimensions

Dimensions – Foot mounting HNG, for Ø 160, 200

Download CAD data www.festo.com

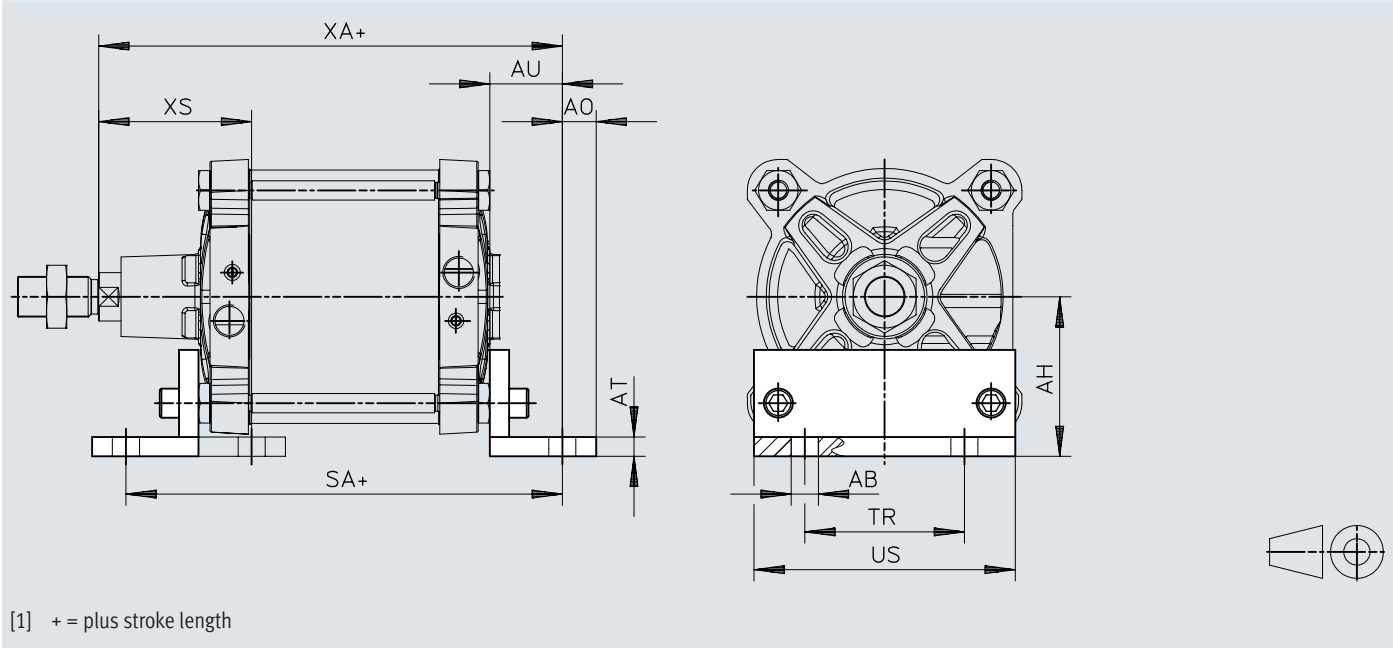


[1] + = plus stroke length

	AB Ø	AH	AO	AT	AU	SA	TR	US	XA	XS
HNG-160	18,5	115	20	10	60	339	115	169	358,6	130
HNG-200	24	135	30	12	70	365	135	214	390	153

Dimensions

Dimensions – Foot mounting HNG, for Ø 250, 320 Download CAD data www.festo.com

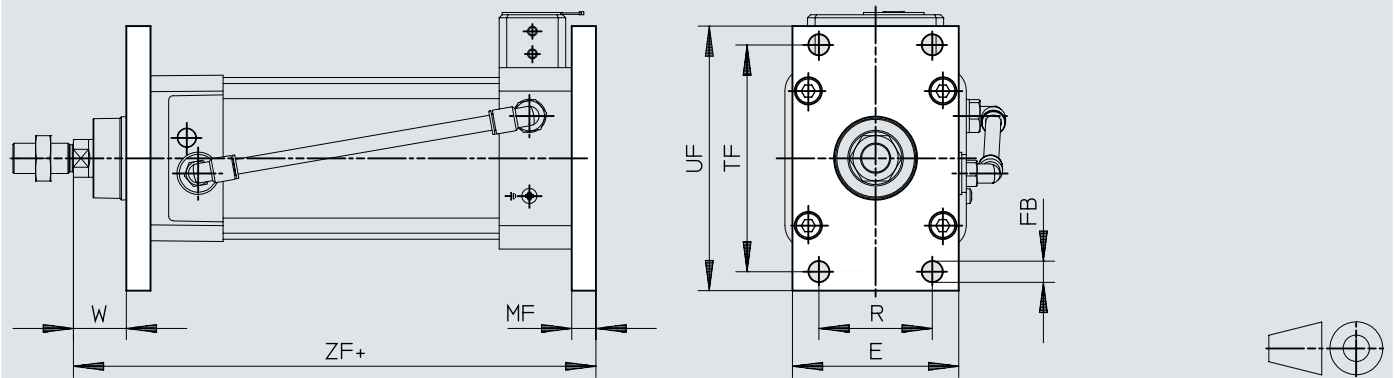


	AB Ø	AH	AO	AT	AU	D1 Ø	SA	T1	TR	US	XA	XS
HNG-250	28	165	35	20	75	–	404	–	165	270	434	160
HNG-320	35	200	40	25	85	60	451,2	23	200	340	486,2	180

Dimensions

Dimensions – Flange mounting FNC/CRFNG

Download CAD data www.festo.com

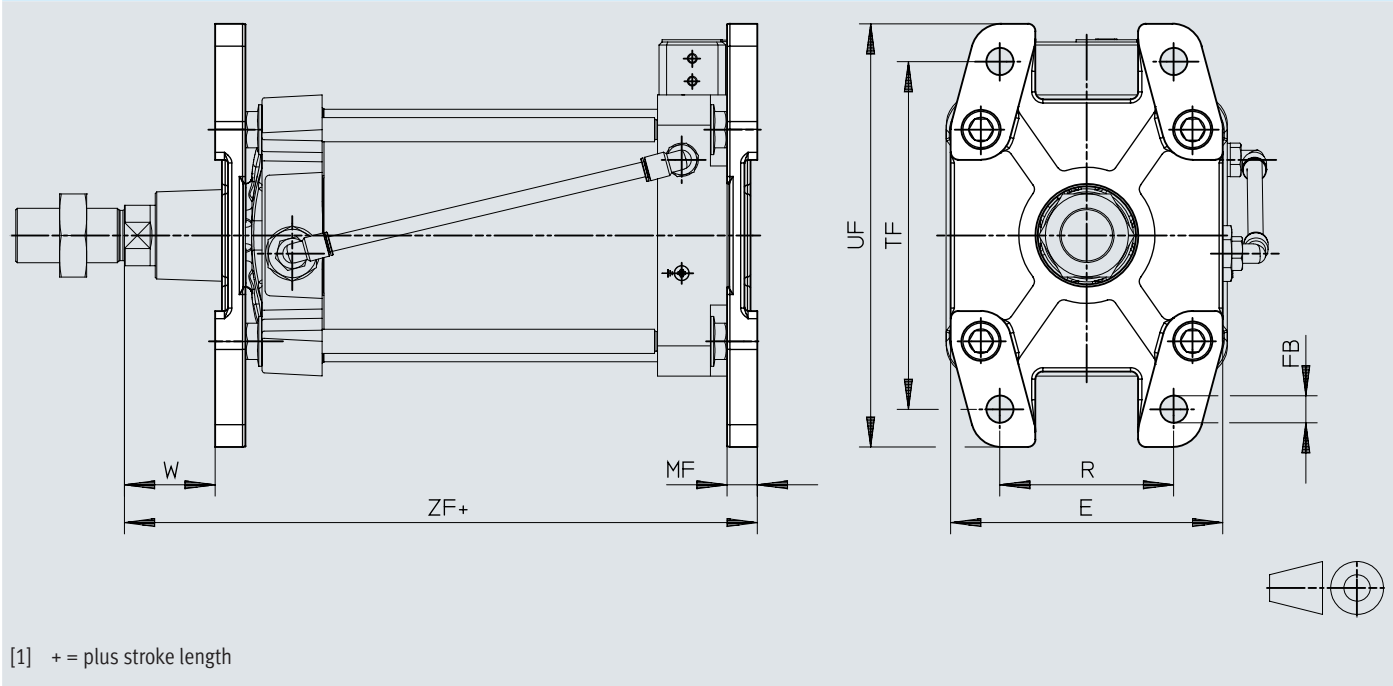


[1] + = plus stroke length

	E	FB Ø	MF	R	TF	UF	W	ZF
FNC-100/CRFNG-100	110	14	16	75	150	175	35	245,7
FNC-125/CRFNG-125	132	16	20	90	180	210	45	284,7

Dimensions

Dimensions – Flange mounting FNG Download CAD data www.festo.com

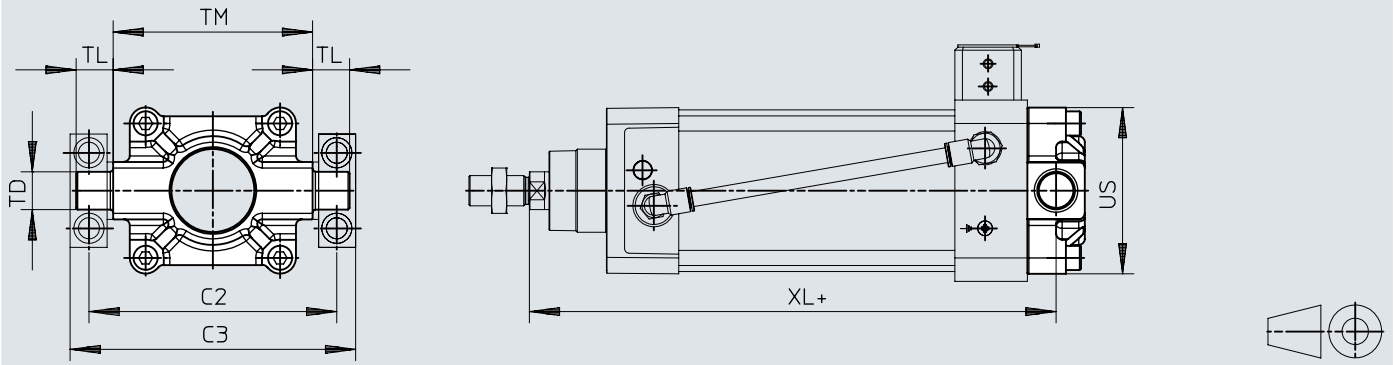


	E	FB Ø	MF	R	TF	UF	W	ZF
FNG-160	180	18	20	115	230	280	60	318,6
FNG-200	220	22	25	135	270	320	70	345
FNG-250	270	26	25	165	330	390	80	384
FNG-320	340	33	30	200	400	470	90	431,2

Dimensions

Dimensions – Trunnion flange ZNCF/CRZNG

Download CAD data www.festo.com

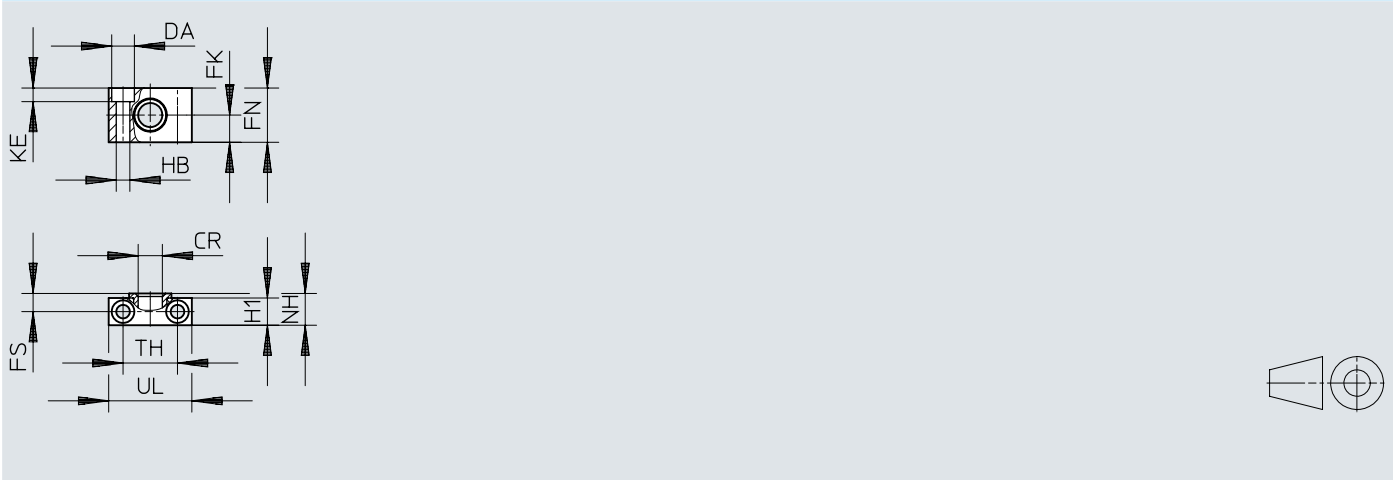


[1] + = plus stroke length

	C2	C3	TD ø e9	TL	TM	US	XL
ZNCF-100/CRZNG-100	164	189	25	24,5	132	110	248,7
ZNCF-125/CRZNG-125	192	217			160	131	289,7

Dimensions

Dimensions – Trunnion support LNZG Download CAD data www.festo.com

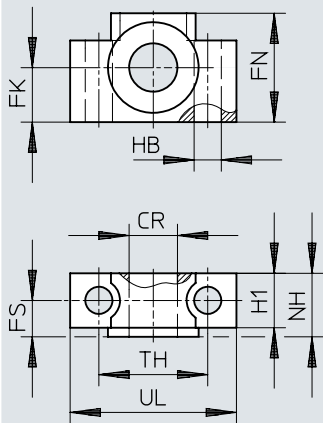


	CR ø	DA ø H13	FK	FN	FS	H1	HB ø H13	KE	NH	TH	UL
LNZG-100/125	25D11	20	25 ±0,1	50	16	24,5	14	13	28,5	50 ±0,2	75
LNZG-160/200	32D11	26	30 ±0,2	60	22,5	36	18	17	40	60 ±0,3	92
LNZG-200	40G7	33	35 ±0,2	70	27,5	45	22	21,5	50	90 ±0,3	140
LNZG-320	50G7	40	40 ±0,2	80	32,5	55	26	25,5	60	100 ±0,3	150

Dimensions

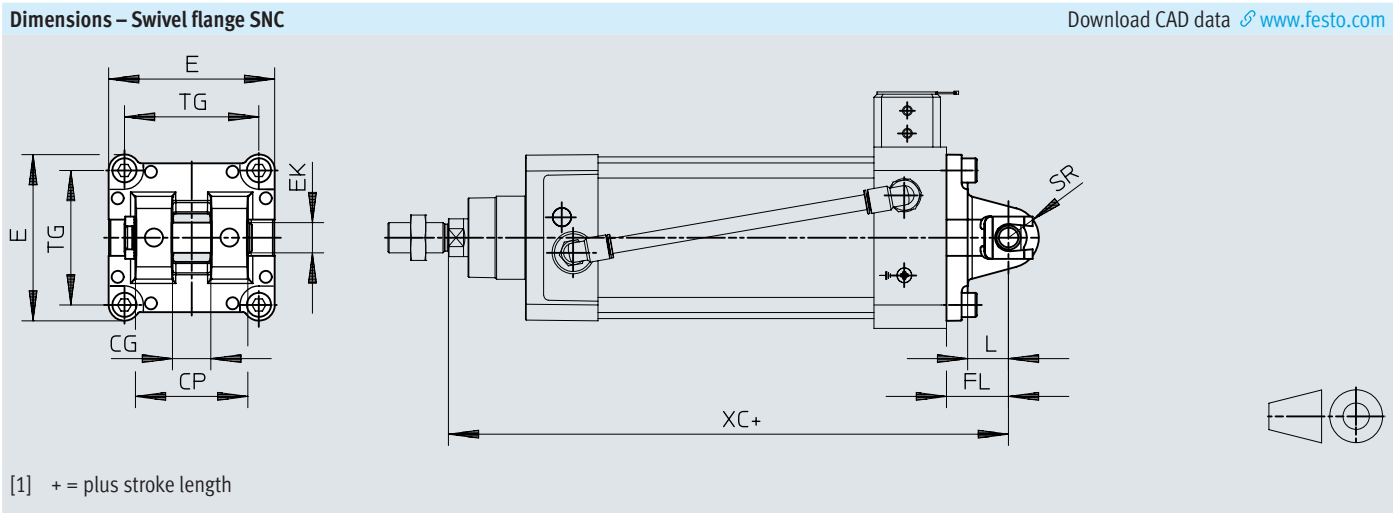
Dimensions – Trunnion support CRLNZG

Download CAD data www.festo.com



	CR Ø D11	FK ±0,1	FN	FS	H1	HB Ø H13	NH	TH ±0,2	UL
CRLNZG-100/125	25	25	50	16	24,5	14	28,5	50	75

Dimensions

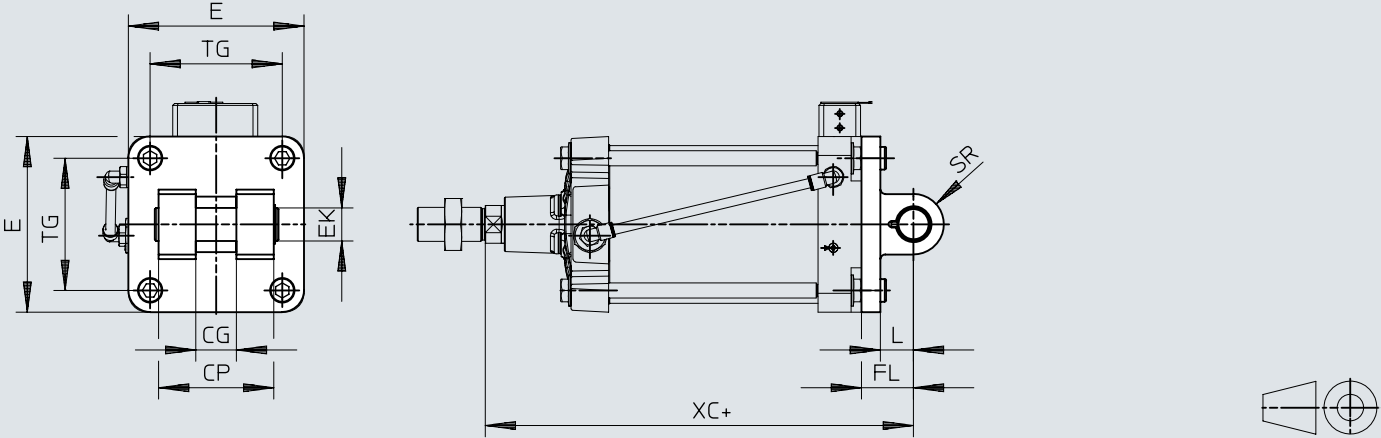


	CG	CP	E	EK Ø	FL	L	SR	TG	XC
	H14	h14		H9	±0,2				
SNC-100	25	75	110+0,3/-0,8	20	41	27	20	89	270,7
SNC-125	37	97	131-0,8	30	50	30	25	110	334,7

Dimensions

Dimensions – Swivel flange SNG

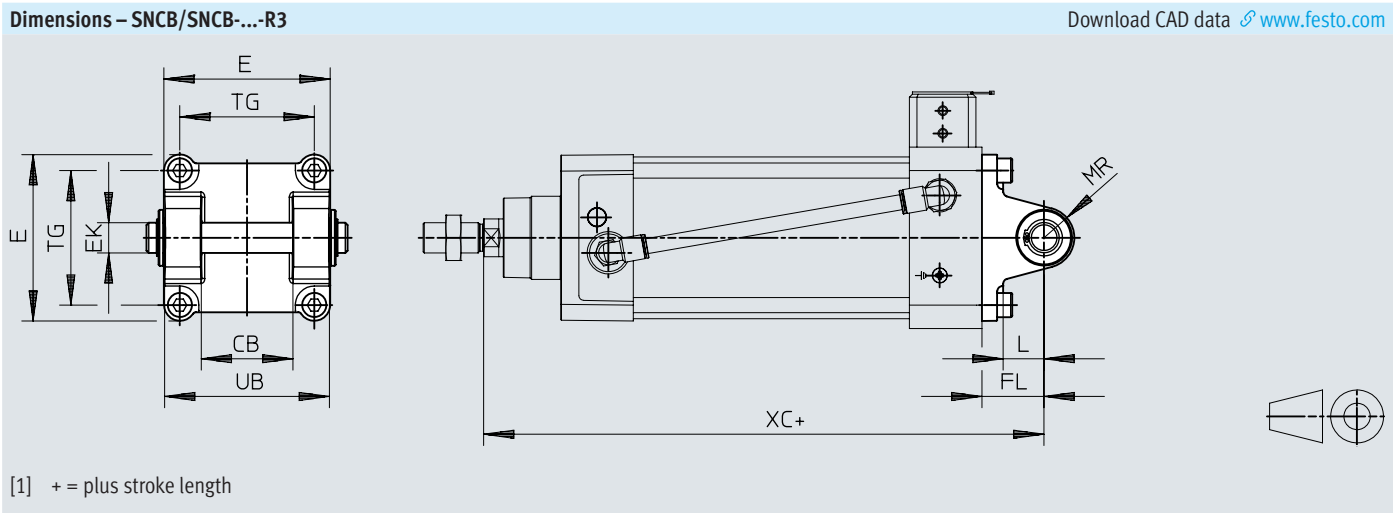
Download CAD data www.festo.com



[1] + = plus stroke length

	CG	CP	E	EK Ø	FL	L	SR	TG	XC
	H14	d12	max.	F7/h9	±0,2	min.	max.	±0,3	
SNG-160	43	122	186	35	55	35	32	140	353,6
SNG-200			230		60			175	380

Dimensions

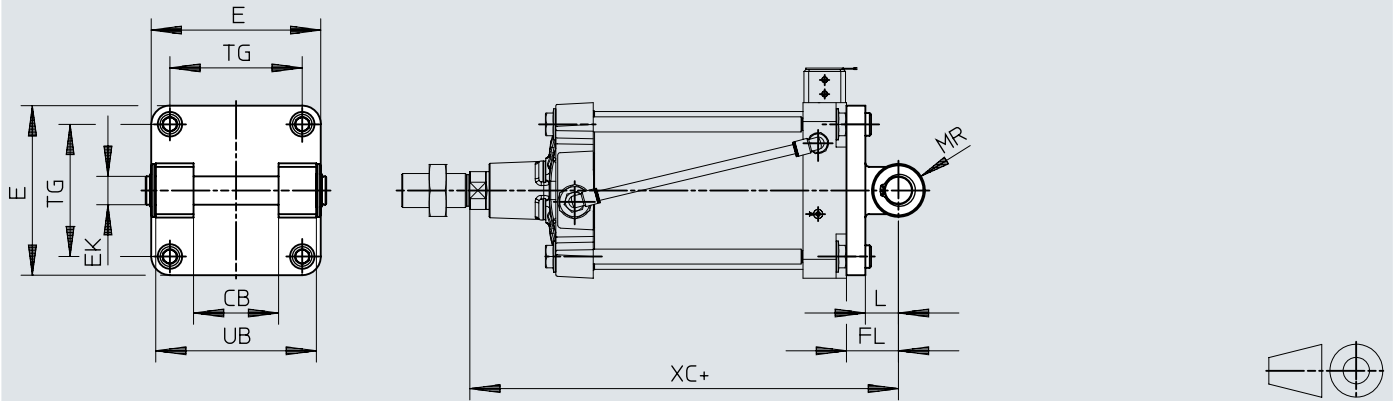


	CB	E	EK Ø	FL	L	MR	TG	UB	XC
	H14		H9/e8	±0,2		-0,5			
SNCB-100/SNCB-100-R3	60	110+0,3/-0,8	20	41	27	20	89	110	270,7
SNCB-125/SNCB-125-R3	70	131-0,8	25	50	30	25	110	130	314,7

Dimensions

Dimensions – Swivel flange SNGB

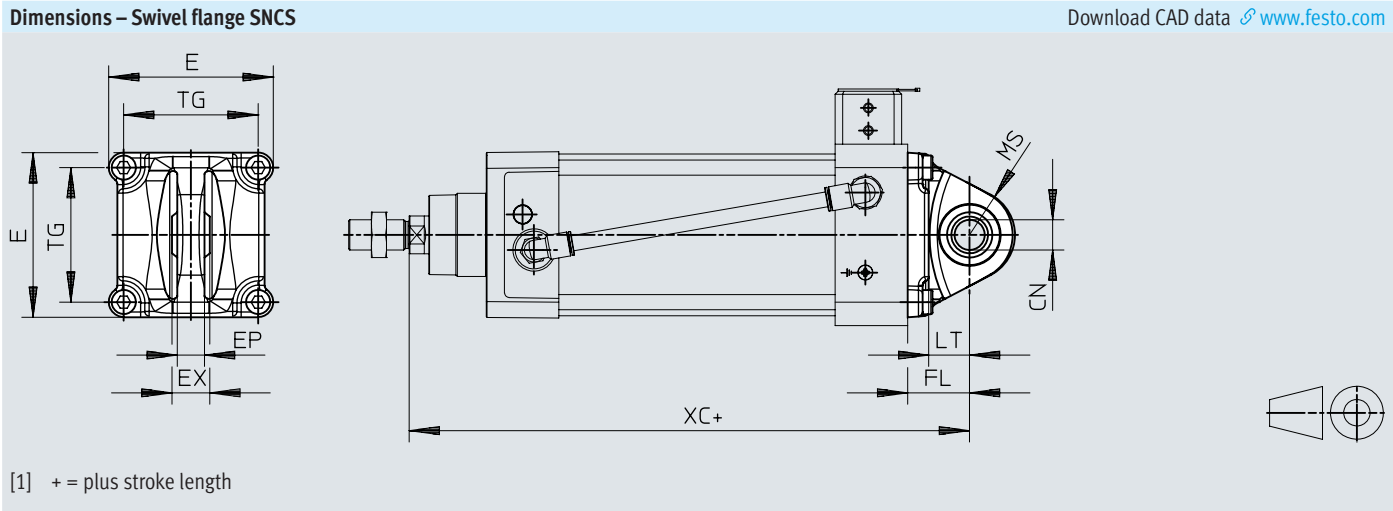
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[1] + = plus stroke length

	CB	E	EK Ø	FL	L	MR	TG	UB	XC
	H14			±0,2			±0,2	h14	
SNGB-160	90	183,5	30 H9	55	37	30	140	170	353,6
SNGB-200-B		220		60	40	25	175		380
SNGB-250	110	268	40 E10	70	47	40	220	200	426
SNGB-320	120	338	45 H9	80	52	45	270	220	481,2

Dimensions

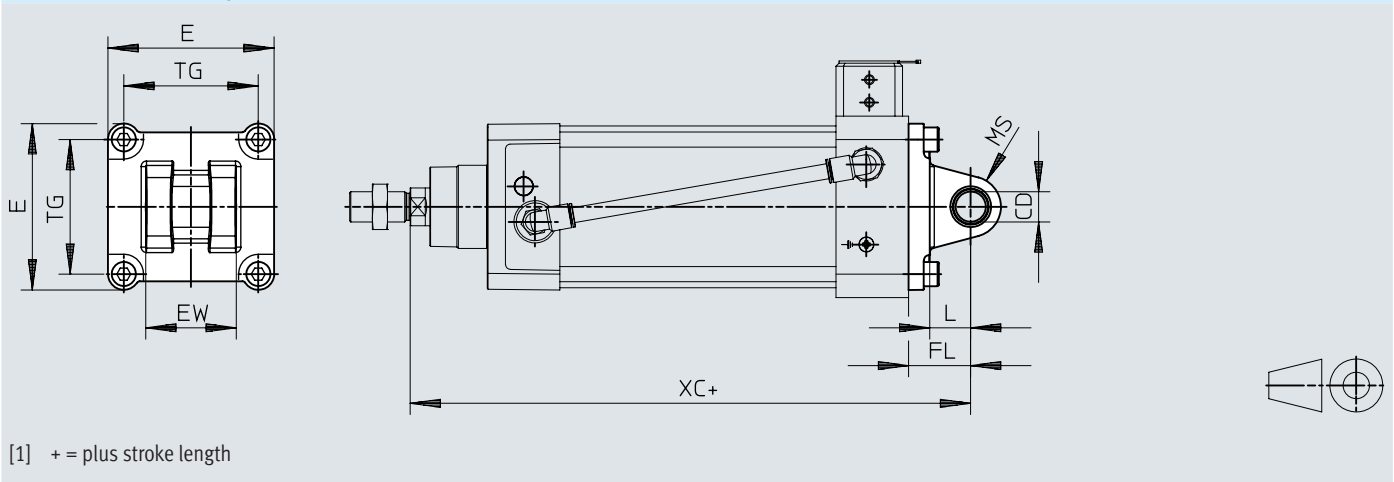


	CN Ø	E +1/-0,7	EP ±0,2	EX	FL	LT	MS	TG	XC
SNCS-100	20	109	18	25	41	27	30	89	270,7
SNCS-125	30	132	25	37	50	30	39	110	314,7

Dimensions

Dimensions – Swivel flange SNCL

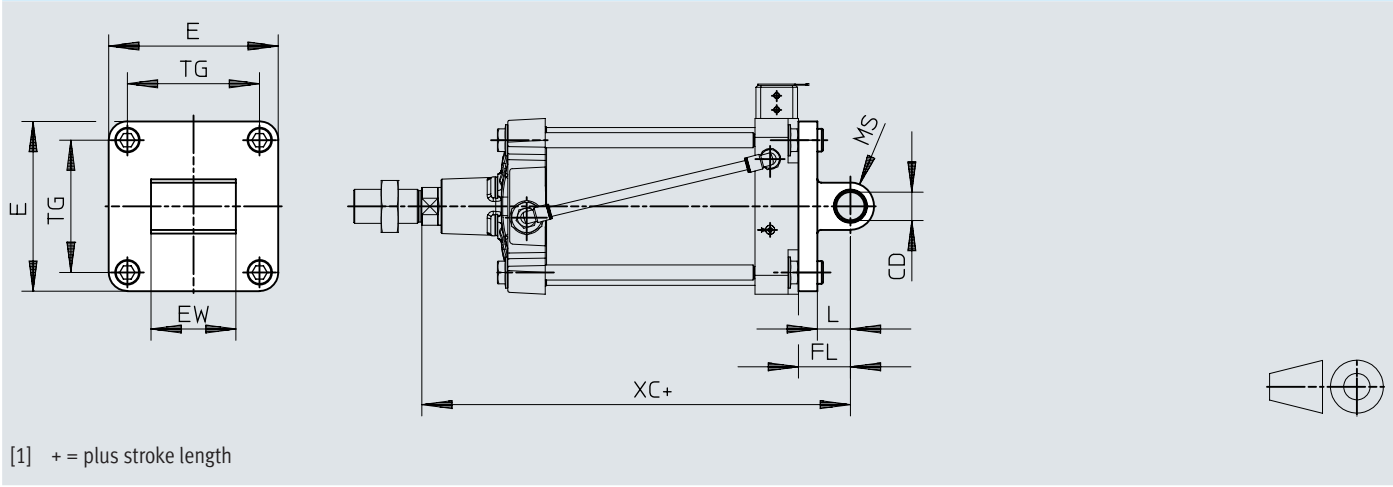
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	CD Ø H9	E	EW -0,2/-0,6	FL +0,2	L	MS	TG	XC
SNCL-100	20	110+0,3/-0,8	60	41	27	20	72	270,7
SNCL-125	25	131-0,8	70	50	30	25	89	314,7

Dimensions

Dimensions – Swivel flange SNGL Download CAD data www.festo.com

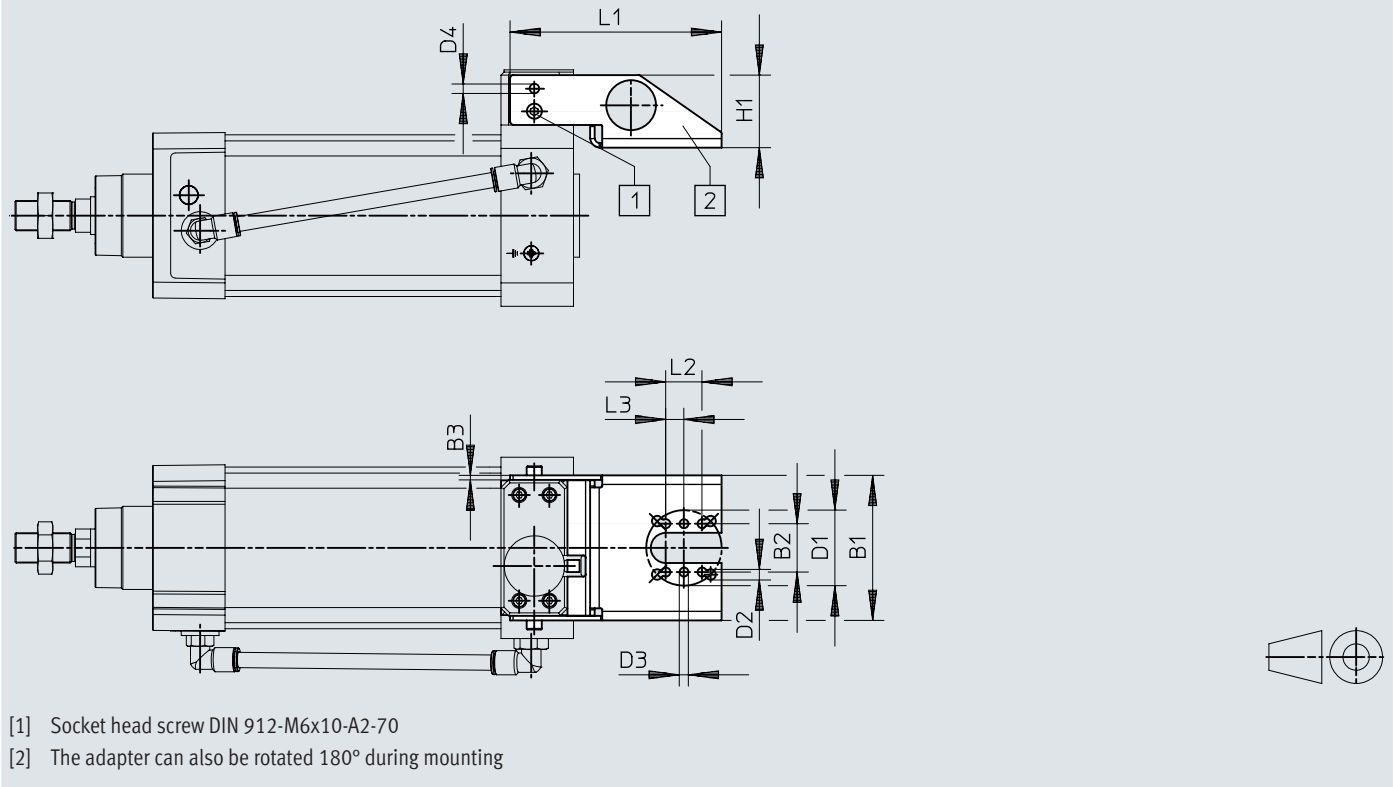


	CD Ø H9	E ±0,5	EW −0,5/−1,2	FL +0,2	L	MS	TG	XC
SNGL-160	30	179,5	90	55	35	25	140	353,6
SNGL-200		219,5		60			175	380

Dimensions

Dimensions – Adapter kit DADG-1

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	B1	B2	B3	D1 Ø	D2 Ø	D3 Ø	D4 Ø	H1	L1	L2	L3
DADG-1	96	32	3	50	7	6	6,3	48	140	24	12

Dimensions

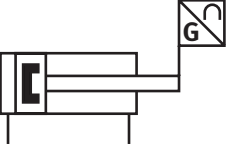
Dimensions – Adapter kit DADG-2

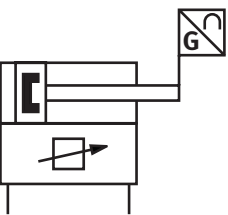
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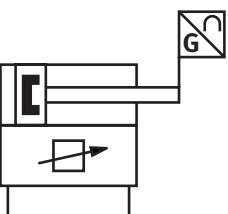
[1] Socket head screw DIN 912-M6x10-A2-70
[2] The adapter can also be rotated 180° during mounting

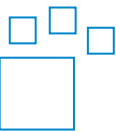
	B1	B2	B3	D1 Ø	D2 Ø	H1	H2	L1	L2	L3
DADG-2	165	150	32	M5	M6	20	3	60	24	13

Ordering data

DFPI-...-E-NB3...					
	Standard	Regulator attachment position	Piston diameter	Part no.	Type
	Based on ISO 15552	External	100 mm	2185733	DFPI-100- -ND2P-E-NB3P
			125 mm	2207685	DFPI-125- -ND2P-E-NB3P
			160 mm	2208573	DFPI-160- -ND2P-E-NB3P
			200 mm	2209613	DFPI-200- -ND2P-E-NB3P
			250 mm	2210666	DFPI-250- -ND2P-E-NB3P
			320 mm	2186271	DFPI-320- -ND2P-E-NB3P

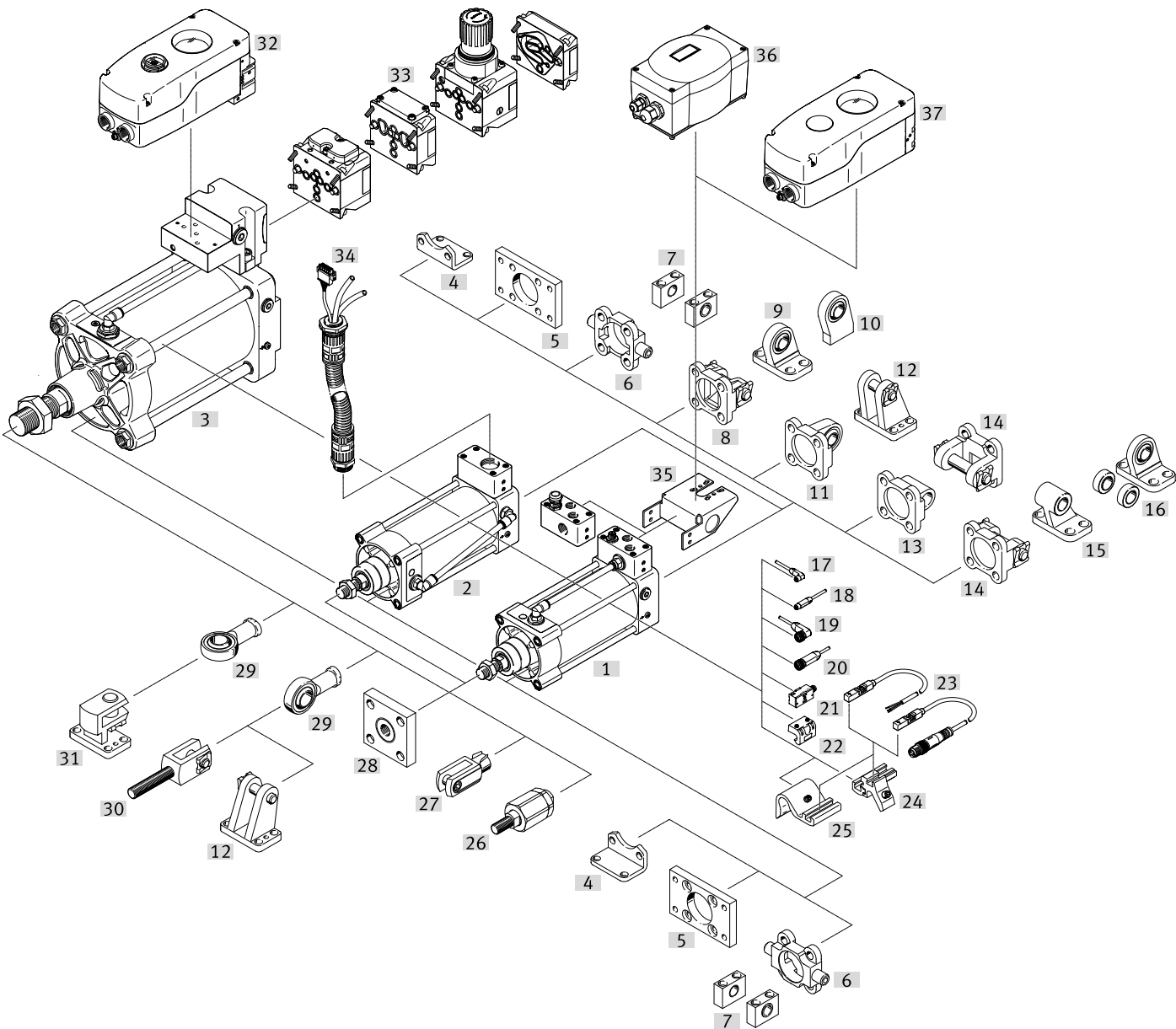
DFPI-...-C1V-NB3..., fail-safe position extending					
	Standard	Regulator attachment position	Piston diameter	Part no.	Type
	Based on ISO 15552	Integrated	100 mm	2184841	DFPI-100- -ND2P-C1V-NB3P-A
			125 mm	2180905	DFPI-125- -ND2P-C1V-NB3P-A
			160 mm	2201101	DFPI-160- -ND2P-C1V-NB3P-A
			200 mm	2206373	DFPI-200- -ND2P-C1V-NB3P-A
			250 mm	2200311	DFPI-250- -ND2P-C1V-NB3P-A
			320 mm	2185309	DFPI-320- -ND2P-C1V-NB3P-A

DFPI-...-C1V-NB3..., fail-safe position retracting					
	Standard	Regulator attachment position	Piston diameter	Part no.	Type
	Based on ISO 15552	Integrated	100 mm	4588304	DFPI-100- -ND2P-C1V-NB3P-R-A
			125 mm	4588636	DFPI-125- -ND2P-C1V-NB3P-R-A
			160 mm	4588972	DFPI-160- -ND2P-C1V-NB3P-R-A
			200 mm	4587974	DFPI-200- -ND2P-C1V-NB3P-R-A
			250 mm	4591209	DFPI-250- -ND2P-C1V-NB3P-R-A
			320 mm	4591205	DFPI-320- -ND2P-C1V-NB3P-R-A

Ordering information – Modular product system				
	Standard	Piston diameter	Part no.	Type
	Based on ISO 15552	100 mm	5078949	DFPI-100- -
		125 mm	5087658	DFPI-125- -
		160 mm	5091793	DFPI-160- -
		200 mm	5092508	DFPI-200- -
		250 mm	5099770	DFPI-250- -
		320 mm	5106115	DFPI-320- -

Peripherals

Peripheral overview ISO15552

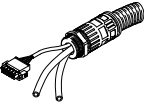


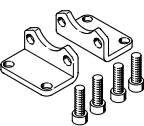
Accessories		→ Link
Type/order code	Description	
[1] Linear actuators DFPI-...-E-NB3...	Electrical connection via M12x1 plug, 5-pin or cable fitting M16x1.5, screw terminal	dfpi
[2] Linear drives DFPI-...-C1V-NB3	Electrical, pneumatic connection via metal flange receptacle, pre-assembled connecting cable NHSB, see chapter on Accessories	dfpi
[3] Linear actuators DFPI-...-ND2P-E-NB3VM12	- Prepared for extension modules with plug M12, A-coded - Piston ø 160...320 - Configurable product	dfpi
[4] Foot mounting HNC	For bearing or end caps	36
[4] Foot mounting HNG	For bearing or end caps, corresponds to MS1 to ISO 15552	36
[4] Foot mounting CRHNC	For bearing or end caps, high corrosion protection	36
[5] Flange mounting FNC	For bearing or end caps	36
[5] Flange mounting FNG	For bearing or end caps, corresponds to MF1/MF2 to ISO 15552	36
[5] Flange mounting CRFNG	For bearing or end caps, high corrosion protection	36
[6] Trunnion flange CRZNG	For bearing or end caps, high corrosion protection	36
[6] Trunnion flange ZNCF	For bearing or end caps	36
[7] Trunnion support LNZG	For trunnion flanges ZNCF	37
[7] Trunnion support CRLNZG	For trunnion flanges CRZNG, high corrosion protection	37

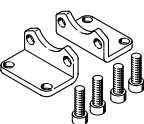
Peripherals

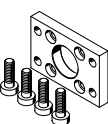
Accessories		→ Link
Type/order code	Description	
[8] Swivel flange SNC	For end cap	37
[8] Swivel flange SNG	For end cap	37
[9] Clevis foot LSNG	With spherical bearing	38
[10] Clevis foot LSNSG	Weldable, with spherical bearing	39
[11] Swivel flange SNCS	With spherical bearing for end caps	38
[12] Clevis foot LBG	For swivel flange SNCS	38
[13] Swivel flange SNCL	For end cap	38
[13] Swivel flange SNGL	For end caps, corresponds to MP2 according to ISO 15552	38
[14] Swivel flange SNCB-...-R3	For end caps, high corrosion protection	37
[14] Swivel flange SNGB	For end caps, corresponds to MP2 according to ISO 15552	37
[14] Swivel flange SNCB	For end cap	37
[15] Clevis foot CRLNG	For swivel flange SNCB, high corrosion protection	39
[15] Clevis foot LN/LNG	For swivel flange SNGB	38
[15] Clevis foot LNG	For swivel flange SNCB	38
[16] Clevis foot LSN	With spherical bearing	39
[17] Connecting cable NEBA	Via proximity switch	41
[18] Proximity switch SMPO-1-H-B	For sensing the piston position	42
[19] Mounting kit SMBS	For proximity switch SMPO-1-H-B 41	42
[20] Proximity switch SMT-8M-A	Magneto-resistive, 5 ... 30 V DC, in accordance with EU Explosion Protection Directive (ATEX)	smt-8m-a
[20] Proximity switch CRSMT-8	Magneto-resistive, corrosion-resistant, in accordance with EU Explosion Protection Directive (ATEX)	41
[20] Proximity switch SDBT	Magneto-resistive, NAMUR, according to EU explosion protection directive (ATEX)	41
[21] Mounting kit SMBZ-8- ...	For proximity switches SME/SMT-8M, for piston ø 100	41
[22] Sensor bracket DASP-M4- ...	For proximity switches SME/SMT-8M, for piston ø 125, 160, 200, 250, 320	41
[23] Self-aligning rod coupler FK	To compensate for radial and angular deviations	40
[23] Self-aligning rod coupler CRFK	For compensating for radial and angular deviations, high corrosion protection	40
[24] Rod clevis SG	Allows a swivelling movement of the cylinder in one plane	40
[24] Rod clevis CRSG	Allows a swivelling movement of the cylinder in one plane, higher corrosion protection	41
[25] Coupling piece KSG	To compensate for radial deviations	40
[26] Rod eye SGS	With spherical bearing	39
[26] Rod eye CRSGS	With spherical bearing, high corrosion protection	
[27] Clevis foot, transverse LQG	For rod eye SGS	39
[28] Rod clevis SGA	With male thread	40
[29] Positioner CMSH-SE-VDE2-D-...	For direct attachment of a positioner according to VDE/VDI 3847-2	42
[30] Valve manifold VTOP	For additional pneumatic functions	42
[31] Connecting cable NHSB	For electrical and pneumatic connection linear actuator DFPI-...-P-... - 3-core, for DFPI-...-E-P - 5-core, for DFPI-...-C1V-P-A	36
[32] Adapter kit DADG-AK-F6-A2	Mounting bracket for mounting a positioner with interface according to VDI/VDE 3845 or a mounting with hole spacing 150 mm	38
[33] Positioner CMSH-SE-VDE1-D-...	For attaching a positioner in accordance with VDE/VDI 3845-1	42
[34] Positioner CMSX-P-SE-C-U-F1-D-...	For attaching a positioner in accordance with VDE/VDI 3845-1	42

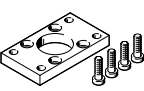
Accessories

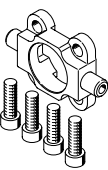
Connecting cable NHSB					
	Electrical connection 1	Electrical connection 2	Product weight	Part no.	Type
	Straight plug connector, 3-pin	Open end, 3-wire	280 g	3673475	NHSB-A1-0,6-BLG3-LE3-PU8-2XBB
			1,250 g	1686608	NHSB-A1-5-BLG3-LE3-PU8-2XBB
			2,500 g	1686609	NHSB-A1-10-BLG3-LE3-PU8-2XBB
			3,750 g	1686610	NHSB-A1-15-BLG3-LE3-PU8-2XBB
	Straight plug connector, 5-pin	Open end, 5-wire	1,250 g	1585793	NHSB-A1-5-BLG5-LE5-PU8-2XBB
			2,500 g	1585794	NHSB-A1-10-BLG5-LE5-PU8-2XBB
			3,750 g	1585795	NHSB-A1-15-BLG5-LE5-PU8-2XBB

Foot mounting HNC/CRHNC				
	Description	Product weight	Part no.	Type
	For Ø 100	990 g	176942	CRHNC-100
		1,009 g	★ 174374	HNC-100
	For Ø 125	1,902 g	★ 174375	HNC-125
		1,920 g	176943	CRHNC-125

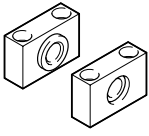
Foot mounting HNG				
	Description	Product weight	Part no.	Type
	For Ø 160	3,931 g	34476	HNG-160
	For Ø 200	6,896 g	34477	HNG-200
	For Ø 250	17,084 g	157510	HNG-250
	For Ø 320	29,968 g	157511	HNG-320

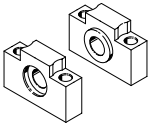
Flange mounting FNC/CRFNG				
	Description	Product weight	Part no.	Type
	For Ø 100	2,041 g	174381	FNC-100
		2,054 g	161851	CRFNG-100
	For Ø 125	3,775 g	174382	FNC-125
		3,787 g	185363	CRFNG-125

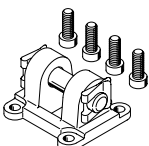
Flange mounting FNG				
	Description	Product weight	Part no.	Type
	For Ø 160	3,550 g	34478	FNG-160
	For Ø 200	5,321 g	34479	FNG-200
	For Ø 250	8,657 g	157508	FNG-250
	For Ø 320	15,109 g	157509	FNG-320

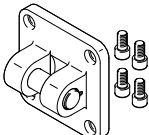
Trunnion flange ZNCF/CRZNG				
	Description	Product weight	Part no.	Type
	For Ø 100	2,254 g	174416	ZNCF-100
			161857	CRZNG-100
	For Ø 125	3,484 g	185362	CRZNG-125
			174417	ZNCF-125

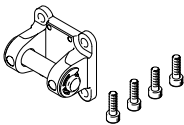
Accessories

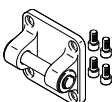
Trunnion support LNZG				
	Description	Product weight	Part no.	Type
	For Ø 100/125	306 g	32962	LNZG-100/125
	For Ø 160/200	659 g	35780	LNZG-160/200
	For Ø 250	2,218 g	157516	LNZG-250
	For Ø 320	2,934 g	157517	LNZG-320

Trunnion support CRLNZG				
	Description	Product weight	Part no.	Type
	For Ø 100/125	739 g	161877	CRLNZG-100/125

Swivel flange SNC				
	Description	Product weight	Part no.	Type
	For Ø 100	867 g	★ 174388	SNC-100
	For Ø 125	1,732 g	★ 174389	SNC-125

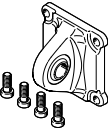
Swivel flange SNG				
	Description	Product weight	Part no.	Type
	For Ø 160	3,577 g	152597	SNG-160
	For Ø 200	5,160 g	152598	SNG-200

Swivel flange SNCB/SNCB-...-R3				
	Description	Product weight	Part no.	Type
	For Ø 100	986 g	176949	SNCB-100-R3
		1,035 g	★ 174395	SNCB-100
	For Ø 125	1,776 g	176950	SNCB-125-R3
		1,860 g	★ 174396	SNCB-125

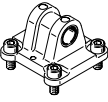
Swivel flange SNGB for clevis foot LN/LSN				
	Description	Product weight	Part no.	Type
	For Ø 160	3,445 g	34547	SNGB-160
	For Ø 200	10,020 g	562455	SNGB-200-B
	For Ø 250	16,141 g	157512	SNGB-250
	For Ø 320	26,636 g	157513	SNGB-320

Accessories

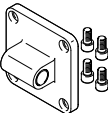
Swivel flange SNCS

	Description	Product weight	Part no.	Type
	For Ø 100	683 g	★ 174402	SNCS-100
	For Ø 125	1,369 g	★ 174403	SNCS-125

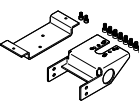
Swivel flange SNCL

	Description	Product weight	Part no.	Type
	For Ø 100	606 g	★ 174409	SNCL-100
	For Ø 125	1,135 g	174410	SNCL-125

Swivel flange SNGL

	Description	Product weight	Part no.	Type
	For Ø 160	2,358 g	151534	SNGL-160
	For Ø 200	3,713 g	151535	SNGL-200

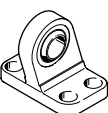
Adapter kit DADG

	Description	Part no.	Type
	For Ø 100 ... 320 mm, For directly mounting an external positioner on the actuator	3179433	DADG-AK-F6-A2

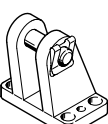
Mounting components, clevis foot LN/LNG

	Description	Part no.	Type
	For Ø 100	★ 33895	LNG-100
	For Ø 125	★ 33896	LNG-125
	For Ø 160	9037	LN-160
	For Ø 200	33898	LNG-200
	For Ø 250	9039	LN-250
	For Ø 320	9040	LN-320

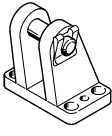
Mounting components, clevis foot LSNG

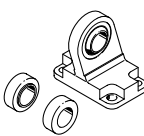
	Description	Part no.	Type
	For Ø 100	31745	LSNG-100
	For Ø 125	31746	LSNG-125
	For Ø 160	152599	LSNG-160
	For Ø 200	152600	LSNG-200

Mounting components, clevis foot LBG

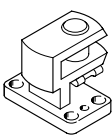
	Description	Part no.	Type
	For Ø 100	31766	LBG-100

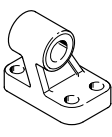
Accessories

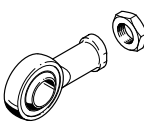
Mounting components, clevis foot LBG			
	Description	Part no.	Type
	For Ø 125	31767	LBG-125

Mounting components, clevis foot LSN			
	Description	Part no.	Type
	For Ø 100	5566	LSN-100
	For Ø 125	6987	LSN-125
	For Ø 160	6988	LSN-160
	For Ø 200	6989	LSN-200
	For Ø 250	6990	LSN-250
	For Ø 320	6991	LSN-320

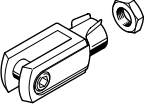
Mounting components, clevis foot LNSG			
	Description	Part no.	Type
	For Ø 100	31752	LNSG-100
	For Ø 125	31753	LNSG-125

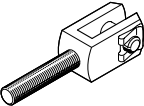
Mounting components, clevis foot crosswise LQG			
	Description	Part no.	Type
	For Ø 100	31773	LQG-100
	For Ø 125	31774	LQG-125

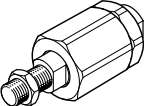
Mounting components, corrosion resistant, clevis foot CRLNG			
	Description	Part no.	Type
	For Ø 100	161845	CRLNG-100
	For Ø 125	176951	CRLNG-125

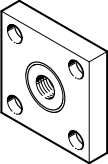
Piston rod attachments, rod eye SGS			
	Description	Part no.	Type
	For Ø 125	10774	SGS-M27X2
	For Ø 320	10777	SGS-M48X2
	For Ø 250	10776	SGS-M42X2
	For Ø 100	★ 9264	SGS-M20X1,5
	For Ø 160/200	10775	SGS-M36X2

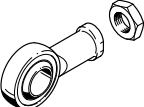
Accessories

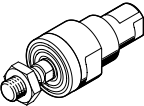
Piston rod attachments, rod eye SG			
	Description	Part no.	Type
	For Ø 125	14987	SG-M27X2-B
	For Ø 160/200	9581	SG-M36X2
	For Ø 250	9582	SG-M42X2
	For Ø 320	9583	SG-M48X2
	For Ø 100	★ 6147	SG-M20X1,5

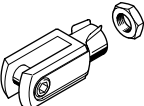
Piston rod attachments, rod eye SGA			
	Description	Part no.	Type
	For Ø 100	10769	SGA-M20X1,5
	For Ø 250	10770	SGA-M27X2
	For Ø 160/200	10771	SGA-M36X2

Piston rod attachments, self-aligning rod coupler FK			
	Description	Part no.	Type
	For Ø 125	★ 10485	FK-M27X2
	For Ø 100	★ 6143	FK-M20X1,5
	For Ø 160/200	10746	FK-M36X2

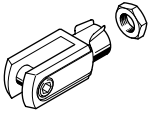
Piston rod attachments, coupling piece KSG			
	Description	Part no.	Type
	For Ø 100	32966	KSG-M20X1,5
	For Ø 125	32967	KSG-M27X2

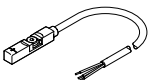
Piston rod attachments, corrosion-resistant rod eye CRSGS			
	Description	Part no.	Type
	For Ø 125	195586	CRSGS-M27X2
	For Ø 100	195585	CRSGS-M20X1,5

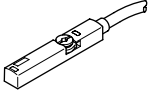
Piston rod attachments, corrosion-resistant self-aligning rod coupler CRFK			
	Description	Part no.	Type
	For Ø 100	2545677	CRFK-M20X1,5

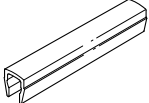
Piston rod attachments, corrosion-resistant rod clevis CRSG			
	Description	Part no.	Type
	For Ø 125	185361	CRSG-M27X2

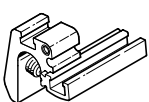
Accessories

Piston rod attachments, corrosion-resistant rod clevis CRSG			
	Description	Part no.	Type
	For Ø 100	13572	CRSG-M20X1,5

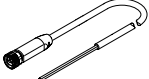
Proximity switch for T-slot, corrosion-resistant					
	Switching output	Cable length	Electrical connection	Part no.	Type
	3-wire PNP N/O contact	5 m	Open end	574380	CRSMT-8M-PS-24V-K-5,0-OE-EX2

Proximity switch for T-slot, NAMUR					
	Switching output	Electrical connection	Cable length	Part no.	Type
	NAMUR	Open end	5 m	579071	SDBT-MS-20NL-ZN-E-5-LE-EX6
			10 m	579072	SDBT-MS-20NL-ZN-E-10-LE-EX6

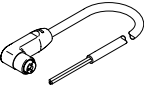
Slot cover for T-slot			
	Description	Part no.	Type
	Length 0.5 m, Inserted from above	151680	ABP-5-S

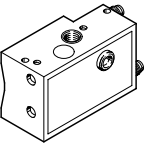
Mounting kits SMBZ for proximity switches SMT/CRSMT/SDBT			
	Description	Part no.	Type
	For Ø 100	537806	SMBZ-8-32/100

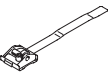
Mounting kits DASP for proximity switches SMT/CRSMT/SDBT			
	Description	Part no.	Type
	For Ø 125	1451483	DASP-M4-125-A
	For Ø 160/200	1553813	DASP-M4-160-A
	For Ø 250	1456781	DASP-M4-250-A
	For Ø 320	3015256	DASP-M4-320-A

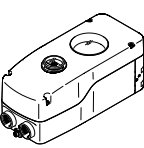
Connecting cables, straight socket				
	Number of pins/wires on the left	Number of pins/wires on the right	Part no.	Type
	3	3	★ 8078223	NEBA-M8G3-U-2.5-N-LE3
			★ 8078224	NEBA-M8G3-U-5-N-LE3
	5		8078237	NEBA-M12G5-U-5-N-LE3
			8078236	NEBA-M12G5-U-2.5-N-LE3

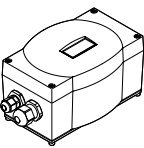
Accessories

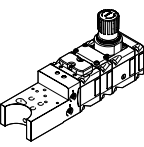
Connecting cables, angled socket				
	Number of pins/wires on the left	Number of pins/wires on the right	Part no.	Type
	3	3	★ 8078231	NEBA-M8W3-U-5-N-LE3
			★ 8078230	NEBA-M8W3-U-2.5-N-LE3
	5		8078246	NEBA-M12W5-U-5-N-LE3
			8078245	NEBA-M12W5-U-2.5-N-LE3

Proximity switch in cuboid shape, pneumatic			
	Pneumatic connection	Part no.	Type
	Barbed connector, 3 mm	31008	SMPO-1-H-B

Mounting kit for proximity switches SMPO-1			
	Description	Part no.	Type
	For Ø 32 ... 100 mm, On the cylinder barrel using clamping strap	151226	SMBS-2

Positioner CMSH				
	Function	Safety position	Part no.	Type
	Double-acting, Single-acting, Double-acting/single-acting, switchable	None, Exhaust, Hold the last position	8148076	CMSH-

Positioner CMSX				
	Function	Safety function	Part no.	Type
	Double-acting	Opening or closing in the event of system failure	★ 3929539	CMSX-P-SE-C-U-F1-D-130-A
		Hold position in the event of a system failure	3929540	CMSX-P-SE-C-U-F1-D-130-C

Valve terminal			
	Description	Part no.	Type
	For additional pneumatic functions such as compressed air control, volume flow boosting, reaching a defined end position in the event of pressure failure, safe venting and reversing the effective direction	8141655	VTOP-