

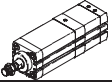
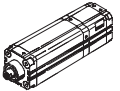


- Multi-position cylinder for advancing by up to 6 positions
- Adapter kits for standard, compact and short-stroke cylinders for advancing by up to 4 positions

Multi-position cylinder ADVUP

Product range overview

FESTO

Function	Design	Type	Piston Ø [mm]	Stroke [mm]	Pisto rod		→ Page
					With female thread	With male thread	
Double-acting		ADNM Single-ended piston rod	25, 40, 63, 100	1 ... 2,000	■	■	1 / 5.10-4
					■	■	
		ADVUP Single-ended piston rod	25	1 ... 500	■	■	1 / 5.10-30
			40, 63, 100	1 ... 2,000	■	■	

Function principle

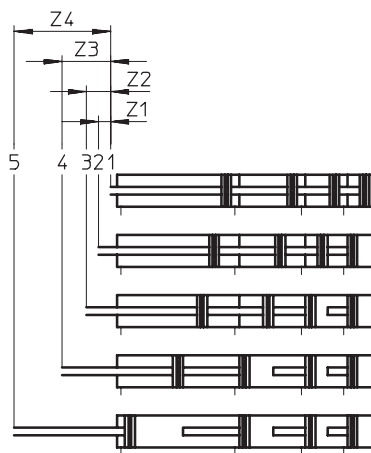
By connecting 2 to 5 cylinders in series with the same piston Ø and different stroke lengths, up to 6 positions can be approached.

Example:

ADVUP-25 for 5 positions at 0, 25, 50, 100 and 200 mm.

 Note

- Each subsequent cylinder stroke must be greater than the one that preceded it.
- The sum of all individual strokes may not exceed the total stroke, i.e.
for piston Ø 25: 500 mm
for piston Ø 40, 63, 100: 2000 mm
- The stroke of the last cylinder with the extending piston rod may not exceed a maximum permitted stroke, i.e.
for piston Ø 25: 300 mm
for piston Ø 40, 63, 100: 1000 mm
- The strokes of the preceding cylinders must not exceed a maximum permissible stroke defined individually for each one, i.e.
for piston Ø 25: 200 mm
for piston Ø 40, 63: 300 mm
for piston Ø 100: 400 mm



- The strokes become larger from one individual cylinder to the next:
 $Z1 = 25 \text{ mm} < Z2 = 50 \text{ mm} < Z3 = 100 \text{ mm} < Z4 = 200 \text{ mm}$
- Sum of individual strokes = 375 mm < 500 mm
- Stroke of the last cylinder $Z4 = 200 \text{ mm} < 300 \text{ mm}$
- Stroke of the preceding cylinder:
 $Z3 = 100 \text{ mm} < 200 \text{ mm}$
 $Z2 = 50 \text{ mm} < 200 \text{ mm}$
 $Z1 = 25 \text{ mm} < 200 \text{ mm}$

Adapter kits DPNC/DPNG/DPNN/DPNA/DPVU

Product range overview

Design	Type	For cylinders	Piston Ø [mm]	Overall stroke length [mm]	→ Page
	DPNC	DNCB, DNC, ADVC ADN Ø125 ADVU Ø125	32, 40, 50, 63, 80, 100, 125	1,000	1 / 5.10-24
	DPNG	DNG	32, 40, 50, 63, 80, 100	1,000	1 / 5.10-24
	DPNN	DNU	32, 40, 50, 63, 80, 100	1,000	1 / 5.10-25
	DPNA	ADN	12, 16, 20, 25, 32, 40, 50, 63, 80, 100	600 ... 1,000	1 / 5.10-25
	DPVU	ADVU	12, 16, 20, 25, 32, 40, 50, 63, 80, 100	400 ... 800	1 / 5.10-26

Function principle

A 3 or 4-position cylinder consists of two separate cylinders whose piston rods advance in opposing directions.

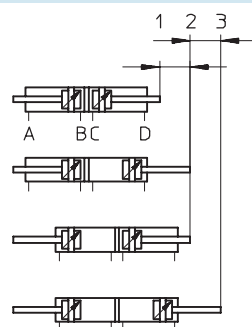
Depending upon actuation and stroke pattern, this type of cylinder can assume up to four positions. In each

case the cylinder is driven precisely against a stop. If one end of the piston rod is fixed, the cylinder barrel

executes the movement. The cylinder must be connected with flexible line connections.

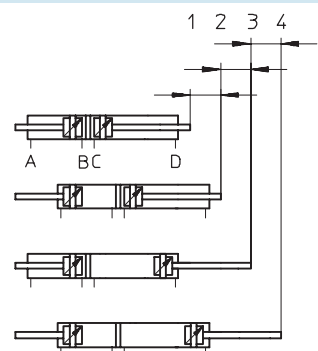
Implementing 3 positions

Two cylinders with identical stroke length must be connected to this end.



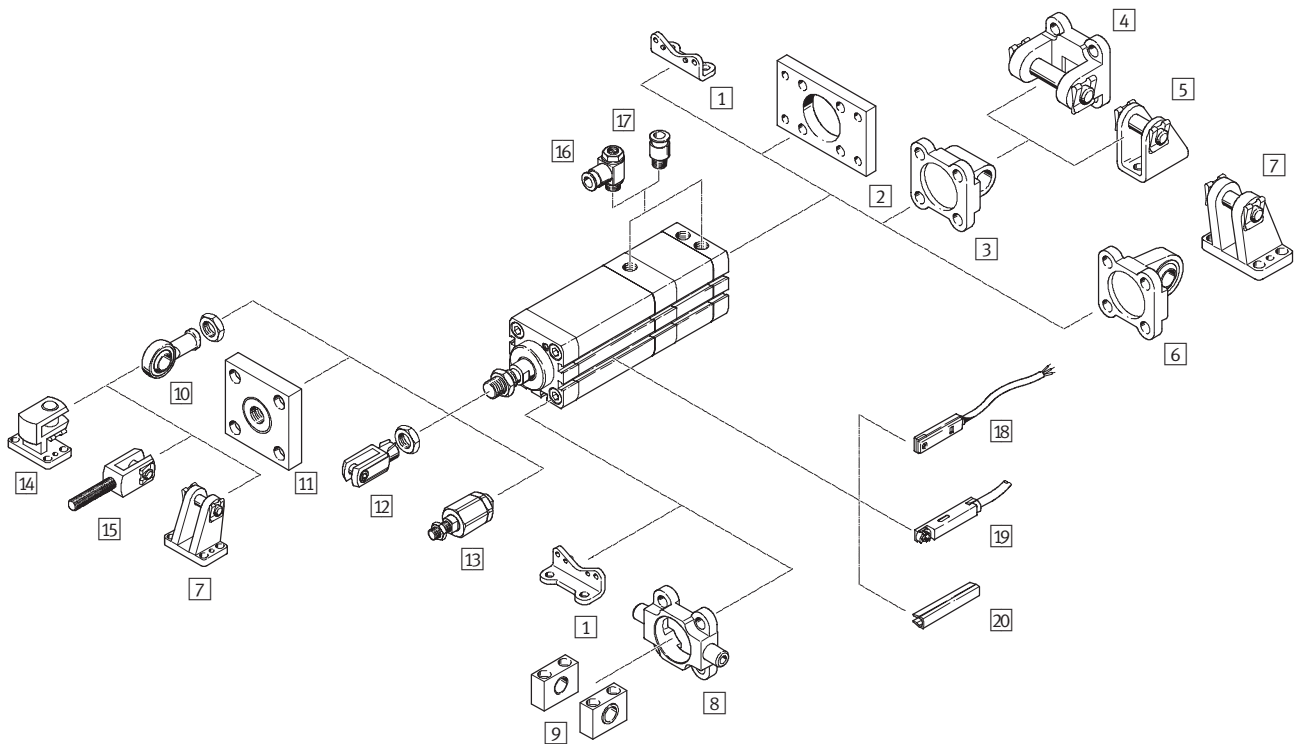
Implementing 4 positions

Two cylinders with different stroke lengths must be connected to this end.



Multi-position cylinders ADN

Peripherals overview



Multi-position cylinders ADN

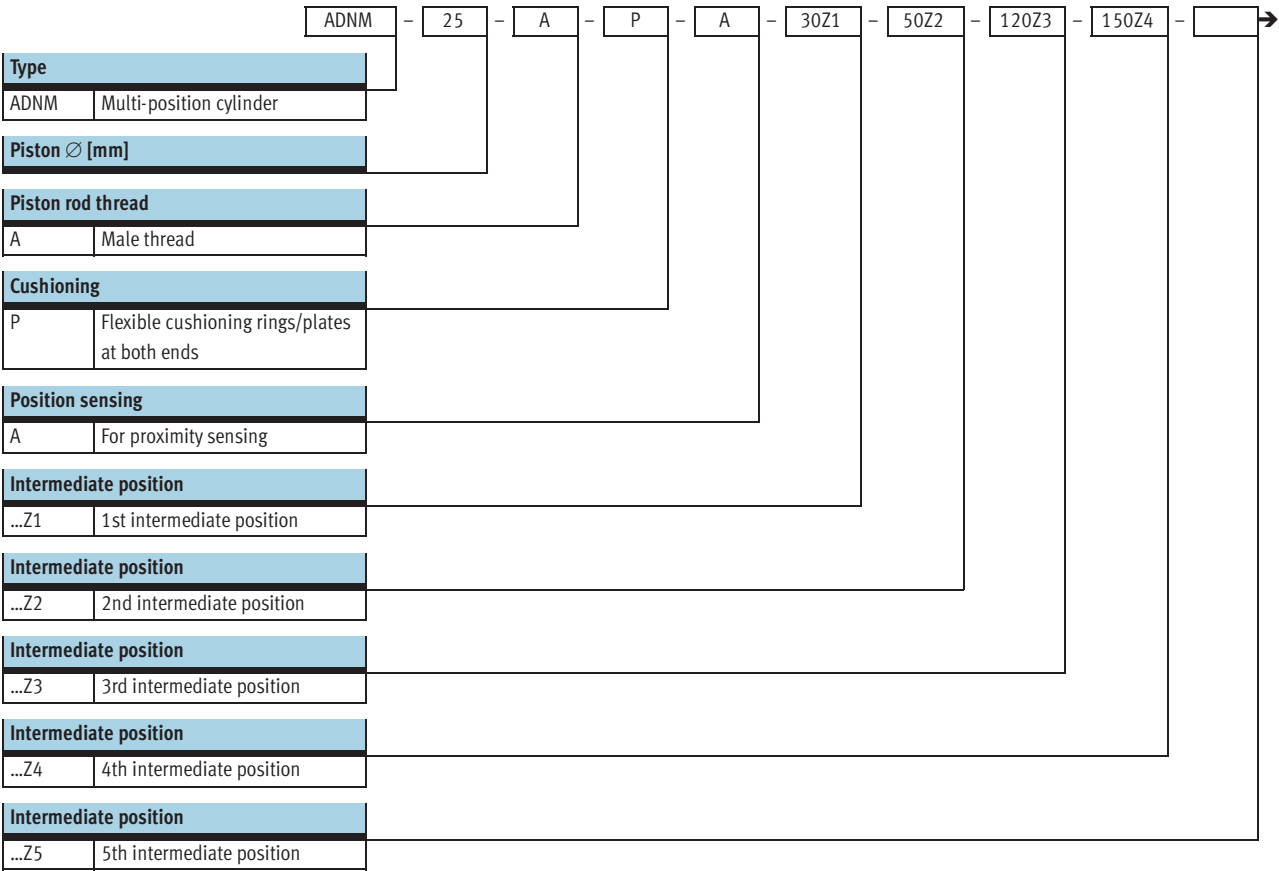
Peripherals overview

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Mounting attachments and accessories				
	Brief description	Ø 25	Ø 40, 63, 100	→ Page
1	Foot mounting HNA	■	■	1 / 5.10-16
2	Flange mounting FNC	■	■	1 / 5.10-17
3	Swivel flange SNCL	■	■	1 / 5.10-18
4	Swivel flange SNCB	–	■	1 / 5.10-20
5	Clevis foot LBN/CRLBN	■	–	1 / 5.10-19
6	Swivel flange SNCS	–	■	1 / 5.10-18
7	Clevis foot LBG	–	■	1 / 5.10-22
8	Trunnion flange ZNCf/CRZNG	–	■	1 / 5.10-21
9	Trunnion supports LNZG	–	■	1 / 5.10-21
10	Rod eye SGS/CRSGS	■	■	1 / 5.10-22
11	Coupling piece KSG	■	■	1 / 5.10-22
12	Rod clevis SG/CRSG	■	■	1 / 5.10-22
13	Self-aligning rod coupler FK	■	■	1 / 5.10-22
14	Transverse clevis foot LQG	–	■	1 / 5.10-22
15	Rod clevis SGA	–	■	1 / 5.10-22
16	One-way flow control valve GRLA	■	■	1 / 5.10-22
17	Push-in fitting QS	■	■	Volume 3
18	Proximity sensor SME/SMT-8	■	■	1 / 5.10-23
19	Proximity sensor SME/SMT-8F	■	■	1 / 5.10-23
20	Slot cover ABP-5-S	■	■	1 / 5.10-23

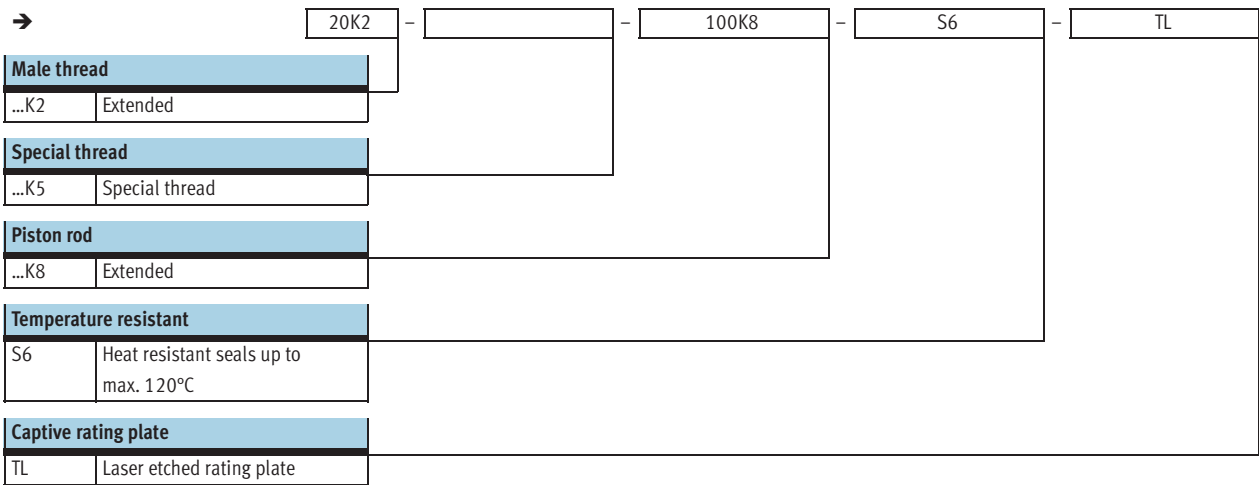
Multi-position cylinders ADN

Type codes



Multi-position cylinders ADN

Type codes

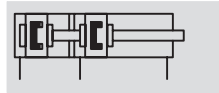


Multi-position cylinders ADN

Technical data



Function



- - Diameter
25, 40, 63, 100 mm
- - Stroke length
1 ... 2,000 mm

Variants



K2



K5



K8



S6



General technical data					
Piston Ø		25	40	63	100
Pneumatic connection		M5	M5	G¼	G¼
Piston rod thread	Female	M6	M10	M12	M16
	Male	M8	M12x1.25	M16x1.5	M20x1.5
Operating medium		Filtered compressed air, lubricated or unlubricated			
Design		Piston			
		Piston rod			
		Cylinder barrel			
Cushioning		Flexible cushioning rings/plates at both ends			
Position sensing		For proximity sensing			
Type of mounting		Via female threads			
		Via accessories			
Assembly position		Any			

Operating pressure [bar]				
Piston Ø	25	40	63	100
2 cylinders	0.8 ... 10		0.6 ... 10	
3 cylinders	1.1 ... 10		0.9 ... 10	
4 cylinders	1.4 ... 10		1.2 ... 10	
5 cylinders	1.7 ... 10		1.5 ... 10	

Ambient conditions		
	Basic version and variants	S6
Ambient temperature ¹⁾ [°C]	-20 ... +80	0 ... +120
Corrosion resistance class CRC ²⁾	2	2

- 1) Note operating range of proximity sensors
- 2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

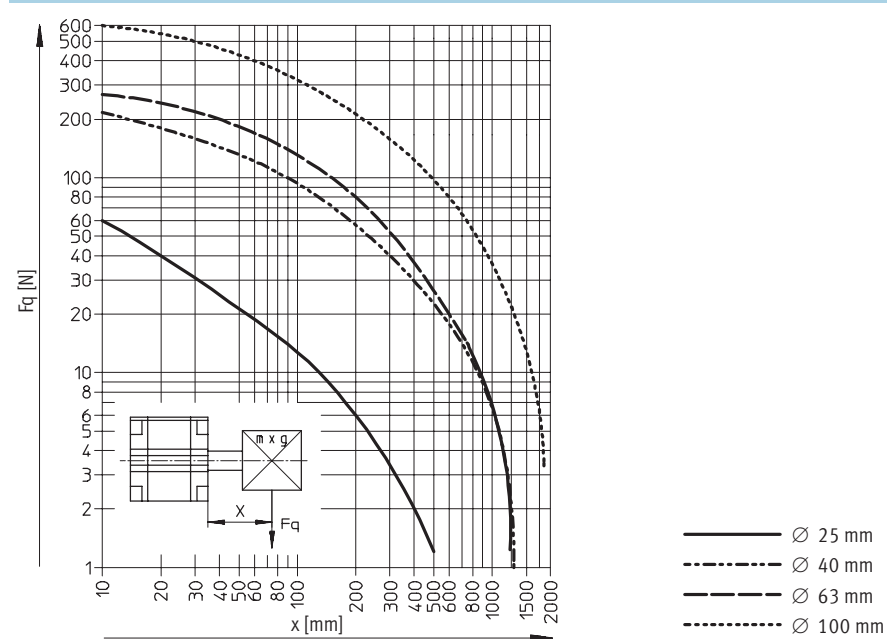
Multi-position cylinders ADN

Technical data

FESTO

Forces [N] and impact energy [J]				
Piston Ø	25	40	63	100
Theoretical force at 6 bar, advancing	295	754	1,870	4,712
Theoretical force at 6 bar, retracting	247	633	1,681	4,417
Max. impact energy at the end positions	0.3	0.7	1.3	2.5
Max. impact energy at the end positions S6	0.15	0.35	0.65	1.25

Max. lateral force Fq as a function of the projection x



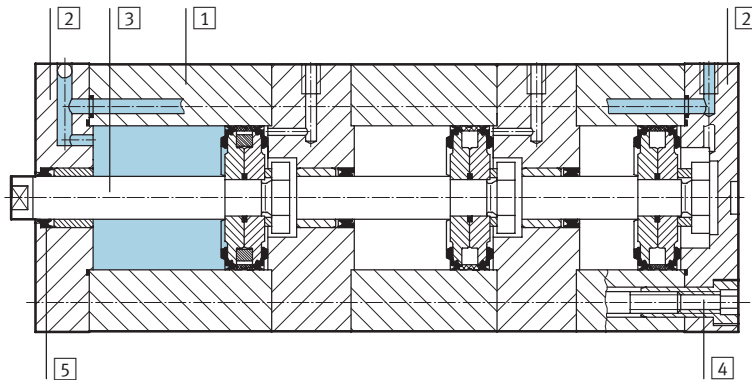
Multi-position cylinders ADN

Technical data

FESTO

Materials

Sectional view



Multi-position cylinder	Basic version	S6
1 Cylinder barrel	Anodised aluminium	Wrought aluminium alloy
2 Bearing and end caps	Anodised aluminium	Wrought aluminium alloy
3 Piston rod	High-alloy steel	High-alloy steel
4 Flange screws	Tempered steel	Tempered steel
5 Dynamic seals	Polyurethane	Fluorocarbon rubber

Multi-position cylinders ADN

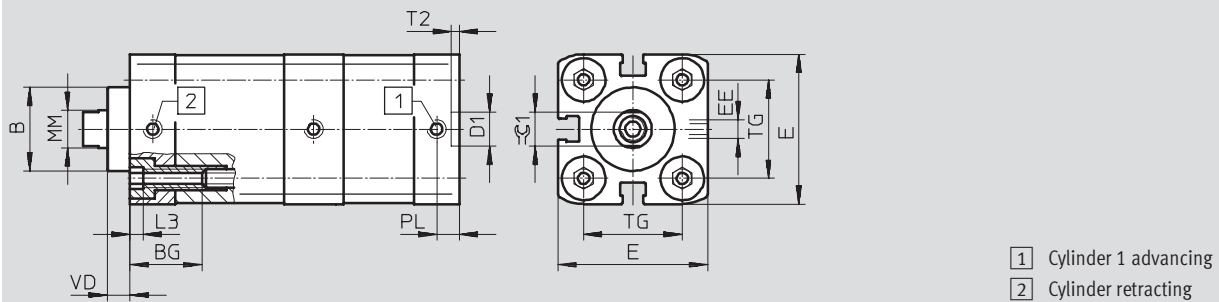
Technical data

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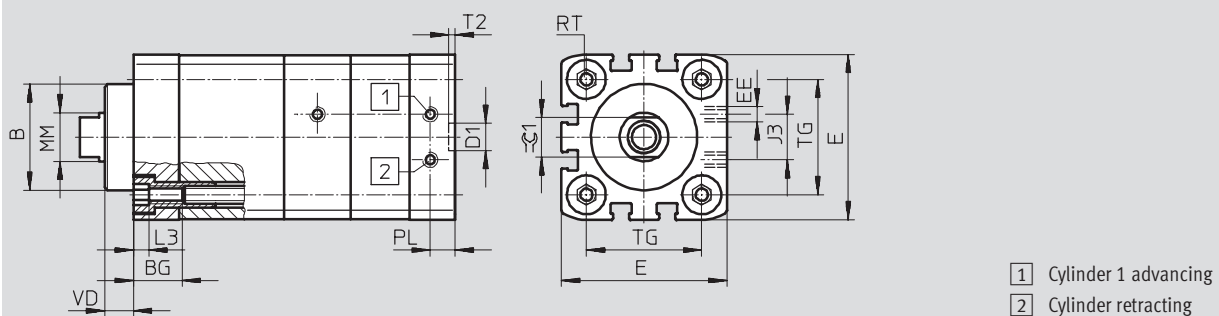
Dimensions – Basic version

Download CAD data → www.festo.com/en/engineering

Ø 25



Ø 40 ... 100



Ø	B	BG	D1	E	EE	J3	L3
[mm]	Ø	min.	Ø	+0.3			
25	22	15	9	39.5	M5	–	5
40	35	16	9	54.5	M5	15	5
63	42	16	12	75.5	G $\frac{1}{8}$	23	5
100	55	17	12	113.5	G $\frac{1}{8}$	40	5

Ø	MM	PL	RT	T2	TG	VD	⌀C1
[mm]	Ø						
25	10	6	M5	2.1	26	6	9
40	16	8.2	M6	2.1	38	9.5	13
63	20	8.2	M8	2.6	56.5	12	17
100	25	10.5	M10	2.6	89	15.5	21

Multi-position cylinders ADN

Technical data

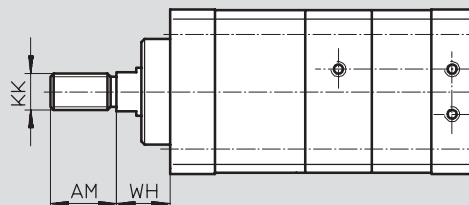
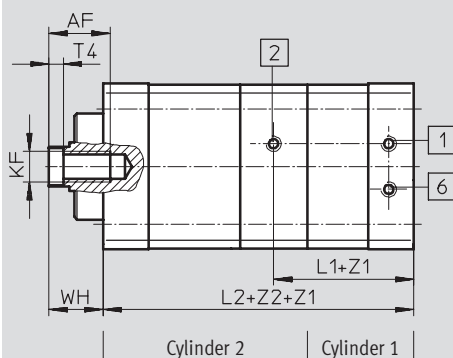
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Dimensions – Variants

Download CAD data → www.festo.com/en/engineering

Z1/Z2 – 2 cylinders with female thread

Z1/Z2 – 2 cylinders with male thread



- 1 Cylinder 1 advancing
- 2 Cylinder 2 advancing
- 6 All cylinders retracting

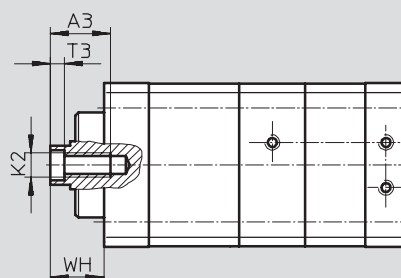
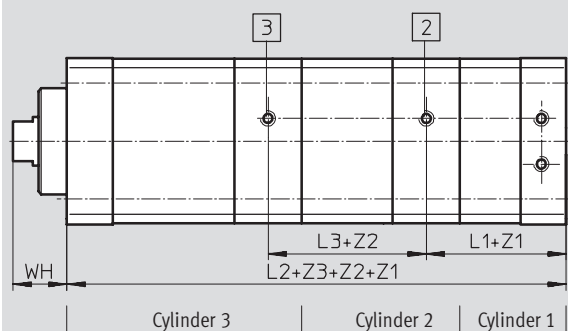
Z1 = Stroke of cylinder 1
Z2 = Stroke of cylinder 2

- Note

The piston rod with male thread variant is also available in combination with 3, 4 and 5 cylinders.

Z3 – 3 cylinders with female thread

Z3-K5 – 3 cylinders with special thread



- 2 Cylinder 2 advancing
- 3 Cylinder 3 advancing

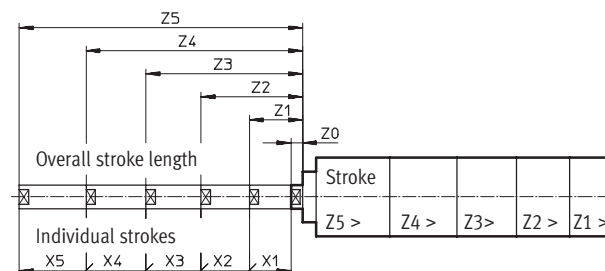
Z1 = Stroke of cylinder 1
Z2 = Stroke of cylinder 2
Z3 = Stroke of cylinder 3

Ø	A3	AF	AM	AM		KK	L1	L2		L3	T4		WH +1.3	
[mm]	min.		-0.5		K5			2 cylinders	3 cylinders			K5		K5
25	12	14	16	M6	M5	M8	38.3	76	110	34.2	2.6	2	11.65	11.65
40	16	20	22	M10	M8	M12x1.25	40.4	86	125	39.5	4.7	3.3	17.75	17.75
63	20	20	28	M12	M10	M16x1.5	44	93	136	42	6.1	4.7	21	21
100	-	25	40	M16	-	M20x1.5	51.2	121	173	52	7	-	26.3	-

- Note

Each individual movement always corresponds to the nominal stroke at least; this is the case for both relative and absolute dimensions.

The reliability required to this end in the components can lead to positive stroke deviations of several millimetres.



Multi-position cylinders ADN

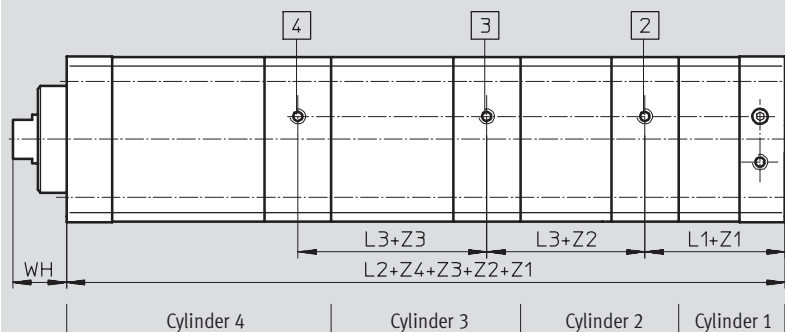
Technical data

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Dimensions – Variants

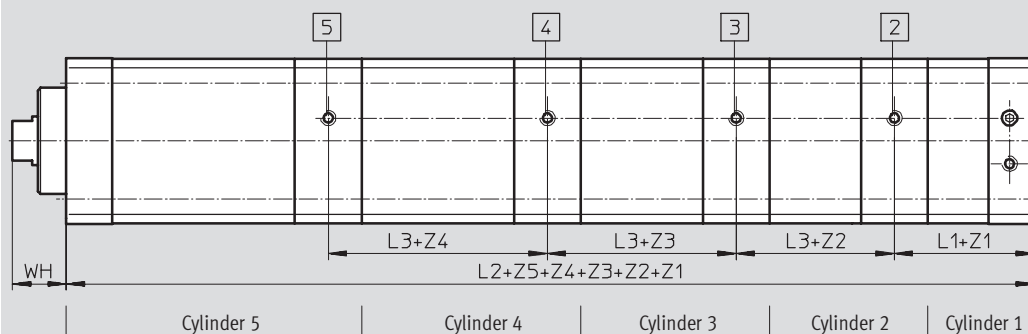
Download CAD data → www.festo.com/en/engineering

Z4 – 4 cylinders with female thread



- 2 Cylinder 2 advancing Z1 = Stroke of cylinder 1
- 3 Cylinder 3 advancing Z2 = Stroke of cylinder 2
- 4 Cylinder 4 advancing Z3 = Stroke of cylinder 3
- Z4 = Stroke of cylinder 4

Z5 – 5 cylinders with female thread



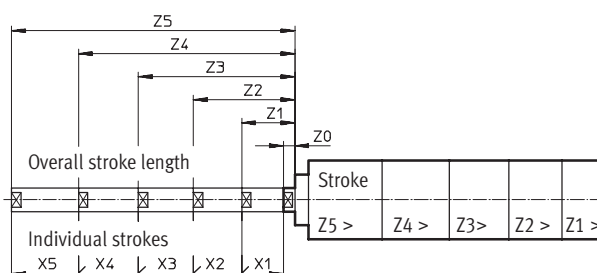
- 2 Cylinder 2 advancing Z1 = Stroke of cylinder 1
- 3 Cylinder 3 advancing Z2 = Stroke of cylinder 2
- 4 Cylinder 4 advancing Z3 = Stroke of cylinder 3
- 5 Cylinder 5 advancing Z4 = Stroke of cylinder 4
- Z5 = Stroke of cylinder 5

Ø	L1	L2		L3	WH
[mm]		4 cylinders	5 cylinders		+1.3
25	38.3	144	178	34.2	11.65
40	40.4	167	210	39.5	17.75
63	44	180	226	42	21
100	51.2	227	283	52	26.3

Note

Each individual movement always corresponds to the nominal stroke at least; this is the case for both relative and absolute dimensions.

The reliability required to this end in the components can lead to positive stroke deviations of several millimetres.



Multi-position cylinders ADN

Ordering data – Modular products

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Mandatory data								Options		
Module No.	Function	Size	Type of thread	Cushio- ning	Position sensing	1st posi- tion	2nd posi- tion	3rd posi- tion	4th posi- tion	5th posi- tion
539 695	ADNM	25	A	P	A	...Z1	...Z2	...Z3	...Z4	...Z5
539 696		40	I							
539 697		63								
539 698		100								
Ordering example										
539 695	ADNM	- 25	- A	- P	- A	- 30Z1	- 50Z2	- 120Z3	- 200Z4	-

Ordering table										
Size		25	40	63	100	Condi- tions	Code	Enter code		
M	Module No.	539 695	539 696	539 697	539 698					
	Function	Compact multi-position cylinder, based on ISO 21287					ADNM	ADNM		
	Size [mm]	25	40	63	100		- ...			
	Type of thread	Male thread					-A			
		Female thread					-I			
	Cushioning	Flexible cushioning rings/plates at both ends					-P	-P		
	Position sensing	For proximity sensing					-A	-A		
	1st position [mm]	1 ... 200	1 ... 300	1 ... 300	1 ... 400	1	-...Z1	- ... Z1		
O	2nd position [mm]	1 ... 300	1 ... 1,000	1 ... 1,000	1 ... 1,000	1 2	-...Z2	- ... Z2		
	3rd position [mm]	1 ... 300	1 ... 1,000	1 ... 1,000	1 ... 1,000	1 2	-...Z3			
	4th position [mm]	1 ... 300	1 ... 1,000	1 ... 1,000	1 ... 1,000	1 2	-...Z4			
↓	5th position [mm]	1 ... 300	1 ... 1,000	1 ... 1,000	1 ... 1,000	1 2	-...Z5			

The end of the retracted piston rod is the reference point for all positions

- 1
Z1 ... Z5
- The subsequent position must be larger than the one that precedes it
Z1 < Z2 < Z3 < Z4 < Z5
Max. total of all positions:
Size 25: max. 500 mm
Size 40, 63, 100: max. 2,000 mm.

- 2
Z2 ... Z5
- Max. permissible stroke except for the last position (visible piston rod):
Size 25: 200 mm
Size 40, 63: 300 mm
Size 100: 400 mm

Transfer order code

ADNM

-

-

-

P

-

A

-

...Z1

-

...Z2

-

-

-

Multi-position cylinders ADN

Ordering data – Modular products

FESTO

Options

Male thread extended	Special thread	Piston rod extended	Temperature resistant	Captive rating plate
...K2	"...K5	...K8	S6	TL
- 20K2	- "M10"K5	- 100K8	-	-

Ordering table							
Size	25	40	63	100	Condi- tions	Code	Enter code
Male thread extended	Extended male piston rod thread						
[0] [mm]	1 ... 20	1 ... 20	1 ... 20	1 ... 30		-...K2	
Piston rod with special thread	M10x1.25	M10x1.25	M12x1.25	M16x1.5	[3]	-"...K5	
	M10	M12	M16	M20			
	M5	M6	M8	-	[4]		
Piston rod extended	Extended piston rod						
[mm]	1 ... 300	1 ... 400	1 ... 400	1 ... 500	[5]	-...K8	
Temperature resistant	Heat resistant seals up to max. 120 °C					-S6	
Captive rating plate	Laser etched rating plate					-TL	

- [3] K5 Only with piston rod thread A (male thread)
[4] K5 Only with piston rod thread I (female thread)

- [5] K8 The sum of the length of the last position and piston rod extension must not exceed the maximum permissible length of the last position

Transfer order code

- [] - [] - [] - [] - []

Multi-position cylinders ADNM

Accessories

FESTO

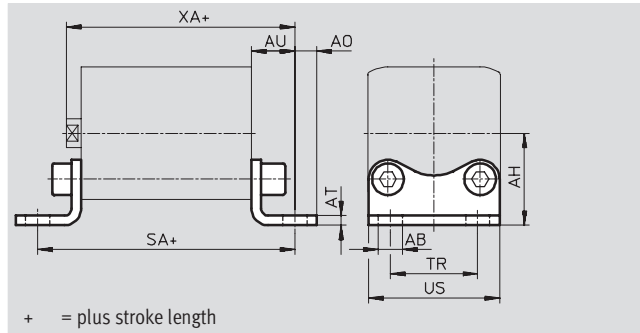
Foot mounting HNA

Material:

HNA: Galvanised steel

HNA-...-R3: Steel with protective coating

Free of copper, PTFE and silicone



Dimensions and ordering data									
For Ø	AB Ø	AH	AO	AT	AU	SA	TR	US	XA
[mm]	H14	JS14		±0.5	±0.2		±0.2	-0.5	
25	7	29	6.25	4	16	71	26	38.5	61
40	10	38	9		18	81	36	54	69
63		50	8	5	21	91	50	75	78
100	14.5	74	12.5	6	27	121	75	110	103

For Ø	Basic version				R3 – High corrosion protection			
	CRC ¹⁾	Weight [g]	Part No.	Type	CRC ¹⁾	Weight [g]	Part No.	Type
[mm]								
25	2	55	537 240	HNA-25	3	55	537 255	HNA-25-R3
40	2	90	537 242	HNA-40	3	90	537 257	HNA-40-R3
63	2	180	537 244	HNA-63	3	180	537 259	HNA-63-R3
100	2	470	537 250	HNA-100	3	470	537 261	HNA-100-R3

- 1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
- Corrosion resistance class 3 according to Festo standard 940 070
Components requiring higher corrosion resistance. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface

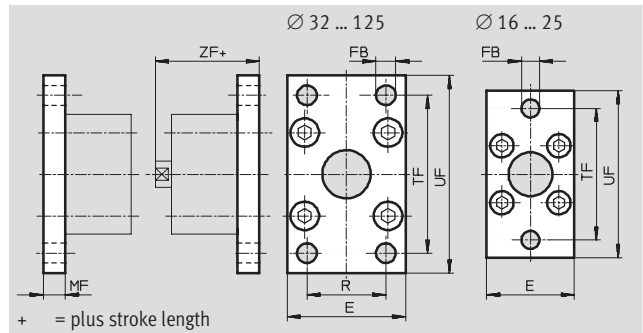
Multi-position cylinders ADN

Accessories



Flange mounting FNC

Material:
Galvanised steel
Free of copper, PTFE and silicone



Dimensions and ordering data										
For Ø	E	FB Ø	MF	R	TF	UF	ZF	CRC ¹⁾	Weight	Part No. Type
[mm]						±1			[g]	
25	40	6.6	8	–	60	76	53	2	–	537 248 FNC-25
40	54	9	10	36	72	90	61	2	280	174 377 FNC-40
63	75		12	50	100	120	69	2	690	174 379 FNC-63
100	110	14	16	75	150	175	92	2	2,400	174 381 FNC-100

- 1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

Multi-position cylinders ADN

Accessories



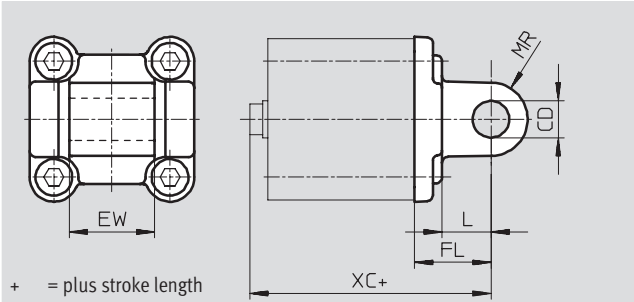
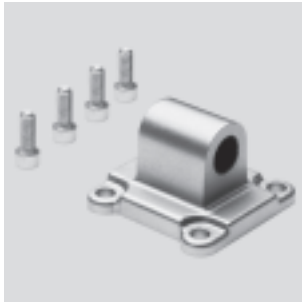
Swivel flange SNCL

Material:

SNCL: Die-cast aluminium

SNCL-...-R3: Die-cast aluminium with protective coating

Free of copper, PTFE and silicone



Dimensions and ordering data						
For Ø	CD	EW	FL	L	MR	XC
[mm]	Ø H9	h12	±0.2			
25	8	16	20	14	8	65
40	12	28	25	16	12	76
63	16	40	32	21	16	89
100	20	60	41	27	20	117

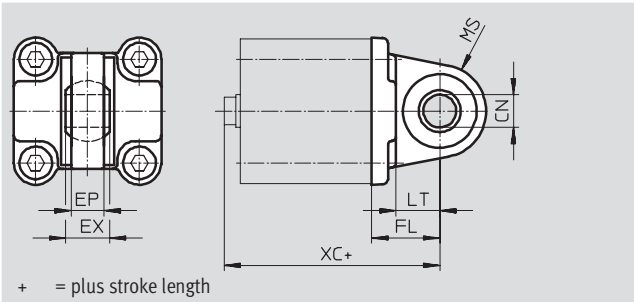
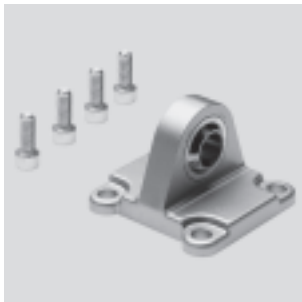
For Ø	Basic version				R3 – High corrosion protection			
	CRC ¹⁾	Weight [g]	Part No.	Type	CRC ¹⁾	Weight [g]	Part No.	Type
[mm]								
25	2	45	537 793	SNCL-25	3	45	537 797	SNCL-25-R3
40	2	115	174 405	SNCL-40	–	–	–	–
63	2	270	174 407	SNCL-63	–	–	–	–
100	2	700	174 409	SNCL-100	–	–	–	–

- 1) Corrosion resistance class 2 according to Festo standard 940 070
 Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
 Corrosion resistance class 3 according to Festo standard 940 070
 Components requiring higher corrosion resistance. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface

Swivel flange SNCS

Material:

Die-cast aluminium



Dimensions and ordering data										
For Ø	CN	EP	EX	FL	LT	MS	XC	CRC ¹⁾	Weight	Part No. Type
[mm]	Ø H7	+0.2		±0.2					[g]	
40	12	12	16	25	16	17	70	2	125	174 398 SNCS-40
63	16	15	21	32	21	22	81	2	280	174 400 SNCS-63
100	20	18	25	41	27	29	108	2	700	174 402 SNCS-100

- 1) Corrosion resistance class 2 according to Festo standard 940 070
 Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

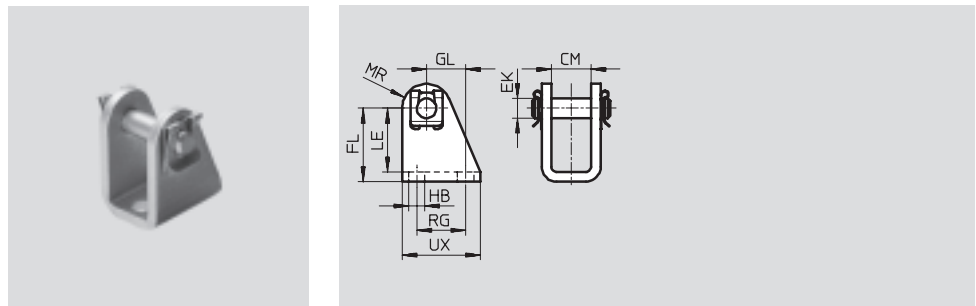
Multi-position cylinders ADN

Accessories



Clevis foot LBN

Material:
Galvanised steel
Free of copper, PTFE and silicone

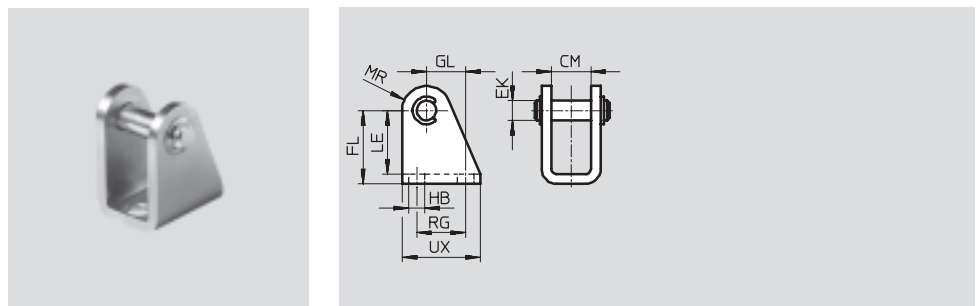


Dimensions and ordering data													
For Ø	CM	EK Ø	FL	GL	HB Ø	LE	MR	RG	UX	CRC ¹⁾	Weight [g]	Part No.	Type
[mm]													
25	16.1	8	30 +0.4/-0.2	16	6.6	26	10	20	32	2	81	6 059	LBN-20/25

- 1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents

Clevis foot CRLBN, stainless steel

Material:
High-alloy steel
Free of copper, PTFE and silicone



Dimensions and ordering data													
For Ø	CM	EK Ø	FL	GL	HB Ø	LE	MR	RG	UX	CRC ¹⁾	Weight [g]	Part No.	Type
[mm]													
25	16.1	8	30 +0.4/-0.2	16	6.6	26	10	20	32	4	62	161 863	CRLBN-20/25

- 1) Corrosion resistance class 4 according to Festo standard 940 070
Components requiring higher corrosion resistance. Parts used with aggressive media, e.g. food or chemical industry. These applications should be supported with special tests with the media if required

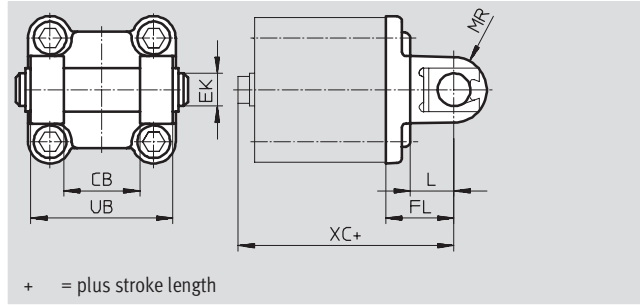
Multi-position cylinders ADNM

Accessories

FESTO

Swivel flange SNCB/SNCB-...-R3

Material:
SNCB: Die-cast aluminium
SNCB-...-R3: Die-cast aluminium with
protective coating, high corrosion
protection
Free of copper, PTFE and silicone



Dimensions and ordering data							
For Ø	CB	EK	FL	L	MR	UB	XC
[mm]	H14	Ø e8	±0.2			h14	
40	28	12	25	16	12	52	76
63	40	16	32	21	16	70	89
100	60	20	41	27	20	110	117

For Ø	Basic version				R3 – High corrosion protection			
	CRC ¹⁾	Weight [g]	Part No.	Type	CRC ¹⁾	Weight [g]	Part No.	Type
[mm]								
40	2	150	174 391	SNCB-40	3	150	176 945	SNCB-40-R3
63	2	365	174 393	SNCB-63	3	365	176 947	SNCB-63-R3
100	2	925	174 395	SNCB-100	3	925	176 949	SNCB-100-R3

- 1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
Corrosion resistance class 3 according to Festo standard 940 070
Components requiring higher corrosion resistance. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface

Multi-position cylinders ADN

Accessories

FESTO

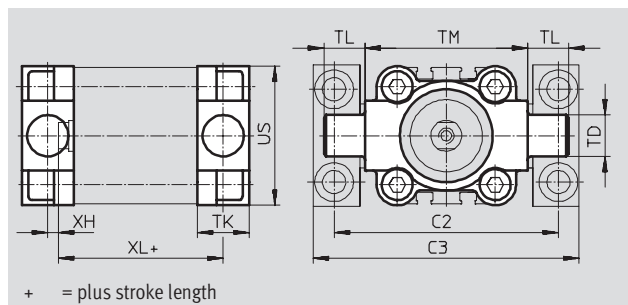
Trunnion flange ZNCF/CRZNG

Material:

ZNCF: Stainless steel casting

CRZNG: Electrolytically polished stainless steel casting

Free of copper, PTFE and silicone



Dimensions and ordering data									
For Ø	C2	C3	TD Ø e9	TK	TL	TM	US	XH	XL
[mm]									
40	87	105	16	20	16	63	54	4	55
63	116	136	20	24	20	90	75	4	61
100	164	189	25	38	25	132	110	10	86

For Ø	Basic version				R3 – High corrosion protection			
	CRC ¹⁾	Weight [g]	Part No.	Type	CRC ¹⁾	Weight [g]	Part No.	Type
[mm]								
40	2	240	174 412	ZNCF-40	4	260	161 853	CRZNG-40
63	2	600	174 414	ZNCF-63	4	640	161 855	CRZNG-63
100	2	2,030	174 416	ZNCF-100	4	2,400	161 857	CRZNG-100

- 1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
Corrosion resistance class 4 according to Festo standard 940 070
Components requiring higher corrosion resistance. Parts used with aggressive media, e.g. food or chemical industry. These applications should be supported with special tests with the media if required

Trunnion support LN2G

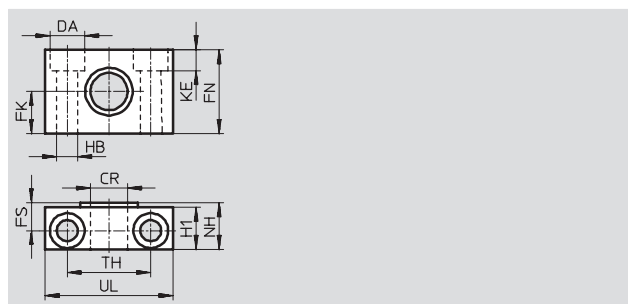
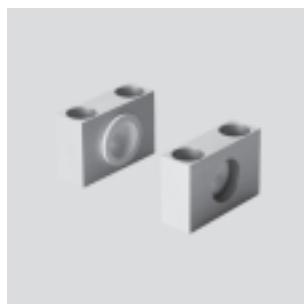
Material:

Trunnion support:

Anodised aluminium

Plain bearing: Plastic

Free of copper, PTFE and silicone



Dimensions and ordering data														
For Ø	CR Ø	DA Ø	FK Ø	FN	FS	H1	HB Ø	KE	NH	TH	UL	CRC ¹⁾	Weight [g]	Part No. Type
[mm]	D11	H13	±0.1				H13			±0.2				
40	16	15	18	36	12	18	9	9	21	36	55	2	400	32 960 LN2G-40/50
63	20	18	20	40	13	20	11	11	23	42	65	2	480	32 961 LN2G-63/80
100	25	20	25	50	16	24.5	14	13	28.5	50	75	2	960	32 962 LN2G-100/125

- 1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

Multi-position cylinders ADNM

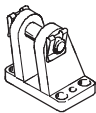
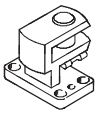
Accessories

FESTO

Ordering data – Piston rod attachments				Technical data → 1 / 10.3-2			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
Rod eye SGS				Rod clevis SGA for rod eye SGS			
	25	9 255	SGS-M8		25	–	
	40	9 262	SGS-M12x1,25		40	10 767	SGA-M12x1,25
	63	9 263	SGS-M16x1,5		63	10 768	SGA-M16x1,5
	100	9 264	SGS-M20x1,5		100	10 769	SGA-M20x1,5
Rod clevis SG				Self-aligning rod coupler FK			
	25	3 111	SG-M8		25	2 062	FK-M8
	40	6 145	SG-M12x1,25		40	6 141	FK-M12x1,25
	63	6 146	SG-M16x1,5		63	6 142	FK-M16x1,5
	100	6 147	SG-M20x1,5		100	6 143	FK-M20x1,5
Coupling piece KSG							
	25	–					
	40	32 964	KSG-M12x1,25				
	63	32 965	KSG-M16x1,5				
	100	32 966	KSG-M20x1,5				

Ordering data – Corrosion and acid resistant piston rod attachments				Technical data → 1 / 10.3-2			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
Rod eye CRSGS				Rod clevis CRSG			
	25	195 581	CRSGS-M8		25	13 568	CRSG-M8
	40	195 583	CRSGS-M12x1,25		40	13 570	CRSG-M12x1,25
	63	195 584	CRSGS-M16x1,5		63	13 571	CRSG-M16x1,5
	100	195 585	CRSGS-M20x1,5		100	13 572	CRSG-M20x1,5

-  - Note
Piston rod attachments for cylinders with special thread (variant K5)
→ Chapter 10.3

Ordering data – Mounting attachments				Technical data → 1 / 10.1-2			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
Clevis foot LBG for rod eye SGS				Transverse clevis foot LQG for rod eye SGS			
	40	31 761	LBG-32		40	31 768	LQG-32
	63	31 762	LBG-40		63	31 769	LQG-40
	100	31 763	LBG-50		100	31 770	LQG-50
		31 764	LBG-63			31 771	LQG-63

Ordering data – One-way flow control valves					Technical data➔Volume 2	
	Connection		Material	Part No.	Type	
	For Ø	For tubing O.D.				
For exhaust air						
	25, 40	3	Metal design	193 137	GRLA-M5-QS-3-D	
		4		193 138	GRLA-M5-QS-4-D	
	63, 100	4		193 143	GRLA-1/8-QS-4-D	
		6		193 144	GRLA-1/8-QS-6-D	
		8		193 145	GRLA-1/8-QS-8-D	

Multi-position cylinders ADN

Accessories

FESTO

Ordering data – Proximity sensors for T-slot, magneto-resistive							Technical data ➔ 1 / 10.2-13	
	Assembly	Switch output	Electrical connection			Cable length [m]	Part No.	Type
			Cable	Plug M8	Plug M12			
N/O contact								
	Insertable from above	PNP	3-wire	–	–	2.5	525 898	SMT-8F-PS-24V-K2,5-OE
		NPN					525 909	SMT-8F-NS-24V-K2,5-OE
		–	2-wire	–	–	2.5	525 908	SMT-8F-ZS-24V-K2,5-OE
		PNP	–	3-pin	–	0.3	525 899	SMT-8F-PS-24V-K0,3-M8D
		NPN					525 910	SMT-8F-NS-24V-K0,3-M8D
		PNP	–	–	3-pin	0.3	525 900	SMT-8F-PS-24V-K0,3-M12
	Insertable from end, flush with the cylinder profile	PNP	3-wire	–	–	2.5	175 436	SMT-8-PS-K-LED-24-B
		–	3-pin	–	0.3	175 484	SMT-8-PS-S-LED-24-B	
N/C contact								
	Insertable from above	PNP	3-wire	–	–	7.5	525 911	SMT-8F-PO-24V-K7,5-OE

Ordering data – Proximity sensors for T-slot, magnetic reed						Technical data ➔ 1 / 10.2-18	
	Assembly	Electrical connection		Cable length [m]	Part No.	Type	
		Cable	Plug M8				
N/O contact							
	Insertable from above	3-wire	–	2.5	525 895	SME-8F-DS-24V-K2,5-OE	
				5.0	525 897	SME-8F-DS-24V-K5,0-OE	
		2-wire	–	2.5	525 907	SME-8F-ZS-24V-K2,5-OE	
				–	3-pin	0.3	525 896
	Insertable from end, flush with the cylinder profile	3-wire	–	2.5	150 855	SME-8-K-LED-24	
		–	3-pin	0.3	150 857	SME-8-S-LED-24	
N/C contact							
	Insertable from end, flush with the cylinder profile	3-wire	–	7.5	160 251	SME-8-O-K-LED-24	

Ordering data – Plug sockets with cable							Technical data➔ 1 / 10.2-114	
	Assembly	Switch output		Connection	Cable length [m]	Part No.	Type	
		PNP	NPN					
Straight socket								
	Union nut M8	■	■	3-pin	2.5	159 420	SIM-M8-3GD-2,5-PU	
					5	159 421	SIM-M8-3GD-5-PU	
	Union nut M12	■	■	3-pin	2.5	159 428	SIM-M12-3GD-2,5-PU	
					5	159 429	SIM-M12-3GD-5-PU	
Angled socket								
	Union nut M8	■	■	3-pin	2.5	159 422	SIM-M8-3WD-2,5-PU	
					5	159 423	SIM-M8-3WD-5-PU	
	Union nut M12	■	■	3-pin	2.5	159 430	SIM-M12-3WD-2,5-PU	
					5	159 431	SIM-M12-3WD-5-PU	

Ordering data – Slot cover for T-slot					
	Assembly	Length		Part No.	Type
	Insertable from above	2x 0.5 m		151 680	ABP-5-S

Adapter kits DPNC/DPNG, standard port pattern

Technical data

FESTO

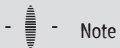
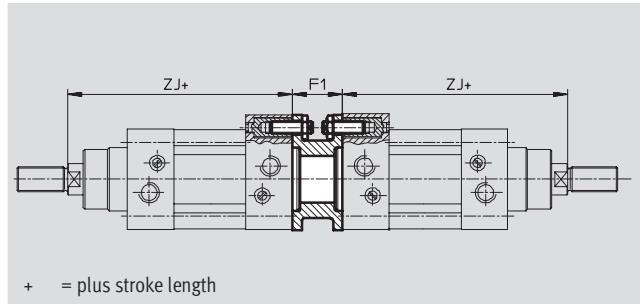
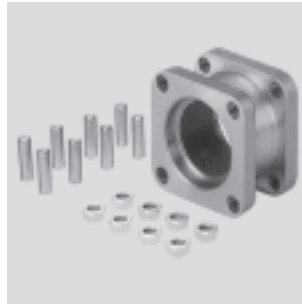
Adapter kit DPNC

for standard cylinder DNCB, DNC,
standard cylinder ADN Ø125,
compact cylinder ADVU Ø125 and
short-stroke cylinder ADVC

Material:

Flange: Wrought aluminium alloy;
threaded pins, hex nuts: Galvanised
steel

Free of copper, PTFE and silicone



Note

The maximum overall stroke length
may not be exceeded when
combining cylinders and the
adapter kit.

Dimensions and ordering data							
For Ø	F1	ZJ	Max. overall stroke length [mm]	CRC ¹⁾	Weight [g]	Part No.	Type
32	27	120	1,000	2	85	174 418	DPNC-32
40	27	135	1,000	2	115	174 419	DPNC-40
50	32	143	1,000	2	210	174 420	DPNC-50
63	28	158	1,000	2	360	174 421	DPNC-63
80	38	174	1,000	2	620	174 422	DPNC-80
100	38	189	1,000	2	1,190	174 423	DPNC-100
125	48	225	1,000	2	1,600	174 424	DPNC-125

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents

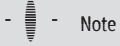
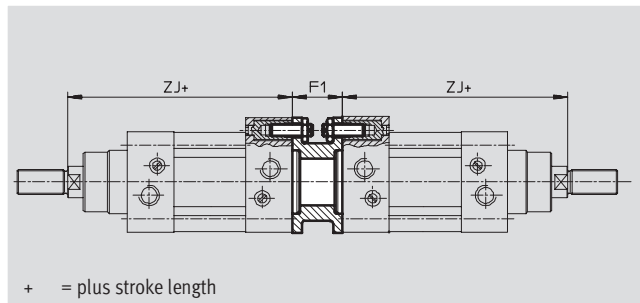
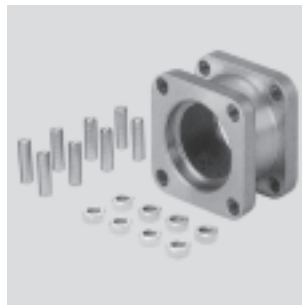
Adapter kit DPNG

For standard cylinders DNG

Material:

Flange: Wrought aluminium alloy;
threaded pins, hex nuts: Galvanised
steel

Free of copper, PTFE and silicone



Note

The maximum overall stroke length
may not be exceeded when
combining cylinders and the
adapter kit.

Dimensions and ordering data							
For Ø	F1	ZJ	Max. overall stroke length [mm]	CRC ¹⁾	Weight [g]	Part No.	Type
32	27	120	1,000	2	85	159 485	DPNG-32
40	27	135	1,000	2	115	159 486	DPNG-40
50	32	143	1,000	2	210	159 487	DPNG-50
63	28	158	1,000	2	360	159 488	DPNG-63
80	38	174	1,000	2	620	159 489	DPNG-80
100	38	189	1,000	2	1,190	159 490	DPNG-100

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents

Adapter kits DPNN/DPNA

Technical data

FESTO

Do not use for new designs!

Type Discontinued

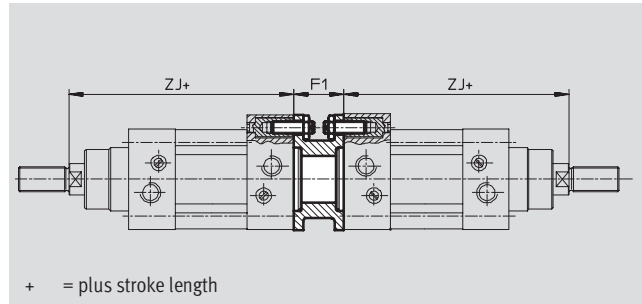
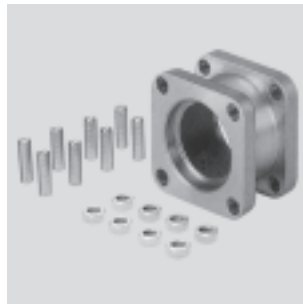
Adapter kit DPNN

for standard cylinders DNU

Material:

Flange: Wrought aluminium alloy;
threaded pins, hex nuts: Galvanised
steel

Free of copper, PTFE and silicone



Dimensions and ordering data

For Ø	F1	ZJ	Max. overall stroke length [mm]	CRC ¹⁾	Weight [g]	Part No.	Type
32	27	120	1,000	2	85	159 485	DPNN-32
40	27	135	1,000	2	115	159 486	DPNN-40
50	32	143	1,000	2	210	159 487	DPNN-50
63	34	155	1,000	2	360	159 488	DPNN-63
80	42	172	1,000	2	620	159 489	DPNN-80
100	42	187	1,000	2	1,190	159 490	DPNN-100

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents



Note

The maximum overall stroke length may not be exceeded when combining cylinders and the adapter kit.

New

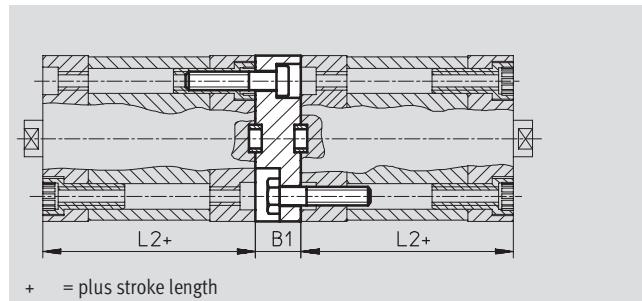
Adapter kit DPNA

for standard cylinder ADN

Material:

Flange: Aluminium
Screws: Galvanised steel

Free of copper, PTFE and silicone



Dimensions and ordering data

For Ø	B1	L2	Max. overall stroke length [mm]	CRC ¹⁾	Part No.	Type
12	13	35	600	2	537 263	DPNA-12
16	13	35	600	2	537 264	DPNA-16
20	13	37	600	2	537 265	DPNA-20
25	13	39	600	2	537 266	DPNA-25
32	15	44	800	2	537 267	DPNA-32
40	15	45	800	2	537 268	DPNA-40
50	15	45	800	2	537 269	DPNA-50
63	15	49	800	2	537 270	DPNA-63
80	17	54	1,000	2	537 271	DPNA-80
100	19,5	67	1,000	2	537 272	DPNA-100

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents



Note

The maximum overall stroke length may not be exceeded when combining cylinders and the adapter kit.

Adapter kits DPVU

Technical data

FESTO

Adapter kit DPVU

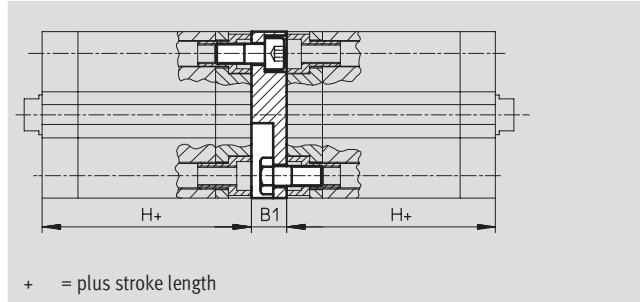
for compact cylinder ADVU

Material:

Flange: Aluminium

Screws: Galvanised steel

Free of copper, PTFE and silicone



Note

The maximum overall stroke length may not be exceeded when combining cylinders and the adapter kit.

Dimensions and ordering data							
For Ø	B1	H	Max. overall stroke length [mm]	CRC ¹⁾	Weight [g]	Part No.	Type
12/16	12,5	38	400	2	22	161 194	DPVU-12/16
20	12,5	38	400	2	36	161 195	DPVU-20
25	13	39,5	400	2	44	161 196	DPVU-25
32	14,5	44,5	600	2	90	161 197	DPVU-32
40	14,5	45,5	600	2	137	161 198	DPVU-40
50	14,5	45,5	600	2	177	161 199	DPVU-50
63	14,5	50	600	2	308	161 200	DPVU-63
80	16,5	56	800	2	495	161 201	DPVU-80
100	19,5	66,5	800	2	859	161 202	DPVU-100

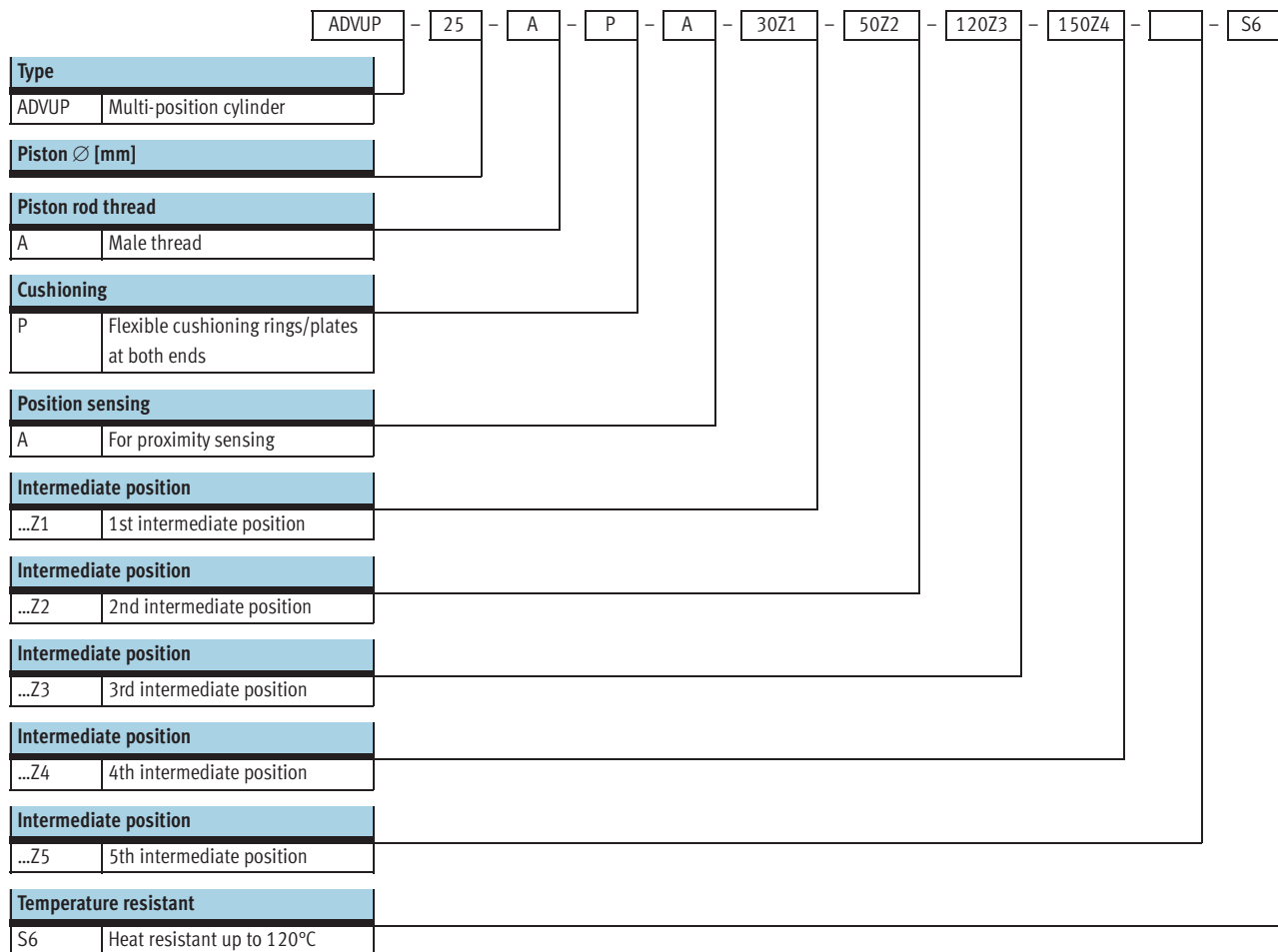
1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents

Multi-position cylinders ADVUP

Type codes

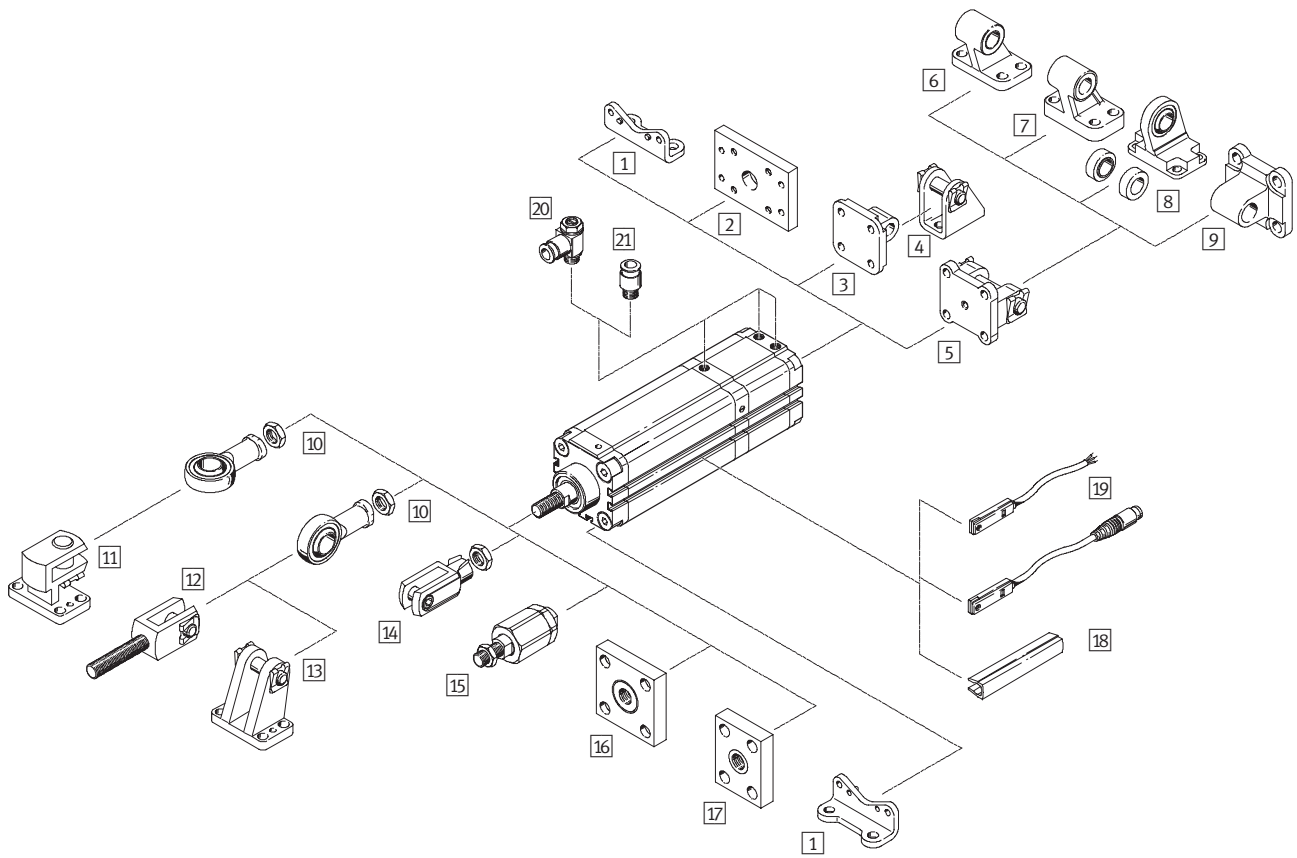
FESTO



Multi-position cylinder ADVUP

Peripherals overview

FESTO



Multi-position cylinder ADVUP

Peripherals overview

FESTO

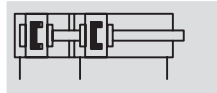
Mounting attachments and accessories				
	Brief description	Ø 25	Ø 40, 63, 100	→ Page
1	Foot mounting HUA	■	■	1 / 5.10-38
2	Flange mounting FUA	■	■	1 / 5.10-39
3	Swivel flange SUA for Ø 25	■	–	1 / 5.10-40
4	Clevis foot LBN	■	–	1 / 5.10-41
5	Swivel flange SUA for Ø 40, 63, 100	–	■	1 / 5.10-40
6	Clevis foot LN	–	■	1 / 5.10-41
7	Clevis foot LNG	–	■	1 / 5.10-41
8	Clevis foot LSN	–	■	1 / 5.10-41
9	Swivel flange SNCL	–	■	1 / 5.10-41
10	Rod eye SGS	■	■	1 / 5.10-41
11	Right-angle clevis foot LQG	–	■	1 / 5.10-41
12	Rod clevis SGA	■	■	1 / 5.10-41
13	Clevis foot LBG	–	■	1 / 5.10-41
14	Rod clevis SG	■	■	1 / 5.10-41
15	Self-aligning rod coupler FK	■	■	1 / 5.10-41
16	Coupling piece KSG	■	■	1 / 5.10-41
17	Coupling piece KSZ	■	■	1 / 5.10-41
18	Slot cover ABP-5-S	■	■	1 / 5.10-42
19	Proximity sensors SME/SMT-8	■	■	1 / 5.10-42
20	One-way flow control valve GRLA/GRLZ	■	■	1 / 5.10-43
21	Push-in fitting QS	■	■	Volume 3

Multi-position cylinder ADVUP

Technical data

FESTO

Function



- Ø - Diameter
25, 40, 63, 100

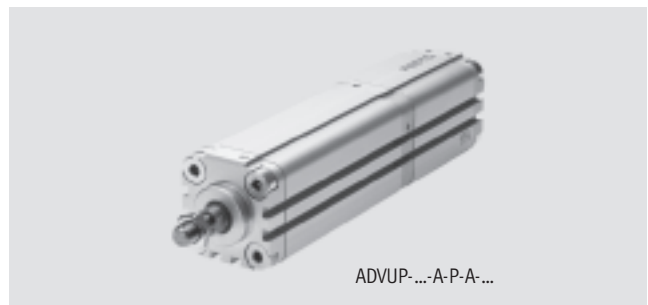
- I - Stroke length
1 ... 2000

- T - [www.festo.com/en/
Spare_parts_service](http://www.festo.com/en/Spare_parts_service)

Variants



S6



General technical data				
Piston Ø	25	40	63	100
Pneumatic connection	M5	M5	G $\frac{1}{8}$	G $\frac{1}{4}$
Piston rod thread	female	M5	M8	M10
	male	M10x1.25	M12x1.25	M16x1.5
Operating medium	Filtered compressed air, lubricated or unlubricated			
Constructional design	Piston			
	Piston rod			
Cushioning	Flexible cushioning rings/plates at both ends			
Position sensing	For proximity sensing			
Type of mounting	Using internal threads			
	Via accessories			
Mounting position	Any			

Operating pressure [bar]				
Piston Ø	25	40	63	100
2 cylinders	1.1 ... 10		0.9 ... 10	
3 cylinders	1.4 ... 10		1.2 ... 10	
4 cylinders	1.7 ... 10		1.5 ... 10	
5 cylinders	2.0 ... 10		1.8 ... 10	

Ambient conditions		
Multi-position cylinder	Basic version	S6
Ambient temperature ¹⁾	[°C]	-20 ... +80
Corrosion resistance class CRC ²⁾	2	2

1) Note operating range of proximity sensors

2) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents

Multi-position cylinder ADVUP

Technical data

FESTO

Forces [N] and impact energy [J]				
Piston Ø	25	40	63	100
Theoretical force at 6 bar, advancing	295	754	1,870	4,712
Theoretical force at 6 bar, retracting	247	633	1,682	4,418
Max. impact energy at end positions	0.10	0.52	0.70	1.00

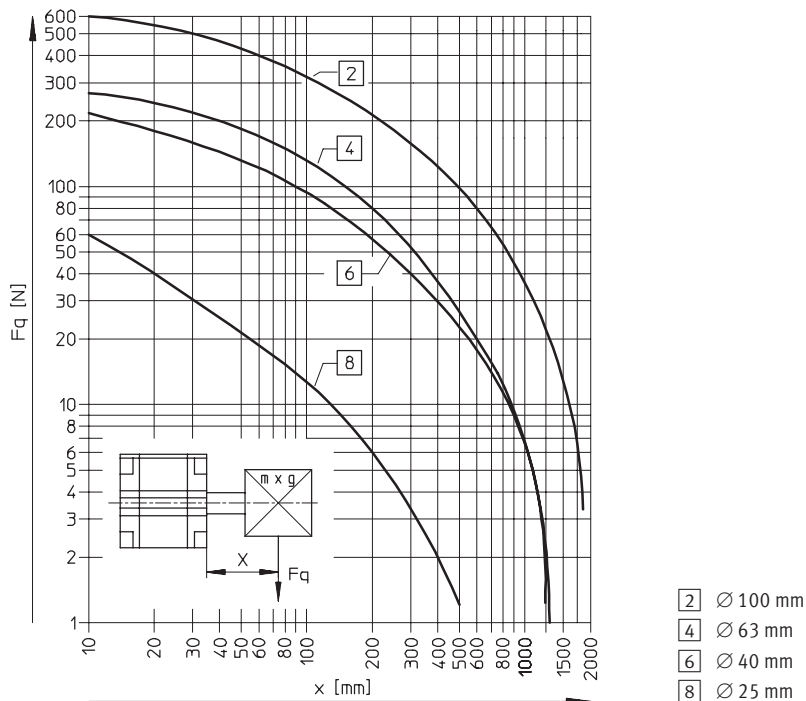
Weights [g]				
Piston Ø	25	40	63	100
2 cylinders				
Product weight at 0 mm stroke	375	825	1,200	5,250
Additional weight per 10 mm stroke	36	70	136	200
Moving load at 0 mm stroke	52	126	268	1,228
Additional load per 10 mm stroke	6	12	21	38
3 cylinders				
Product weight at 0 mm stroke	500	1,100	1,600	7,000
Additional weight per 10 mm stroke	36	69	134	200
Moving load at 0 mm stroke	78	189	402	1,842
Additional load per 10 mm stroke	6	11	19	38
4 cylinders				
Product weight at 0 mm stroke	625	1,375	2,000	8,750
Additional weight per 10 mm stroke	36	69	133	200
Moving load at 0 mm stroke	104	252	536	2,456
Additional load per 10 mm stroke	6	11	18	38
5 cylinders				
Product weight at 0 mm stroke	750	1,650	2,400	10,500
Additional weight per 10 mm stroke	36	69	133	200
Moving load at 0 mm stroke	130	315	670	3,070
Additional load per 10 mm stroke	6	11	18	38

Multi-position cylinder ADVUP

Technical data

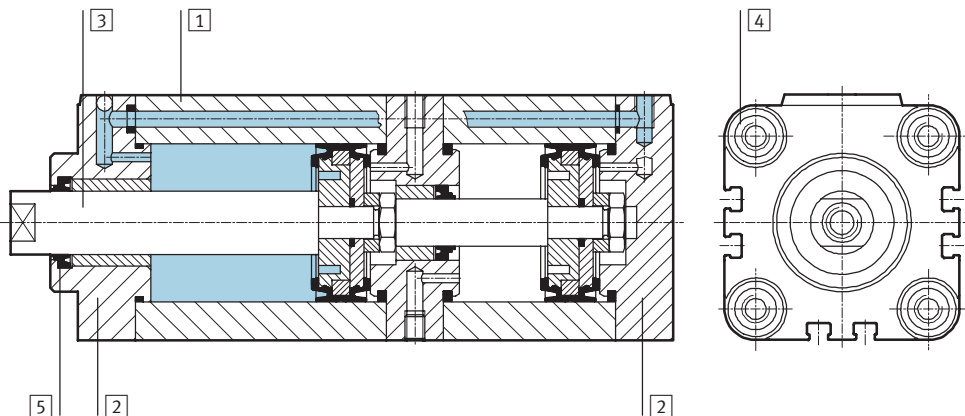
FESTO

Max. lateral force F_q as a function of projection X



Materials

Sectional view



Multi-position cylinder	Basic version	S6
1 Cylinder barrel	Aluminium smooth anodised	Wrought aluminium alloy
2 Bearing end cap	Aluminium smooth anodised	Wrought aluminium alloy
3 Piston rod	High-alloy stainless steel	High-alloy stainless steel
	Ø 25	
	Ø 40, 63, 100	High-alloy steel
4 Flange screws	Tempered steel	Tempered steel
5 Dynamic seals	Polyurethane	Fluorocarbon rubber

Multi-position cylinder ADVUP

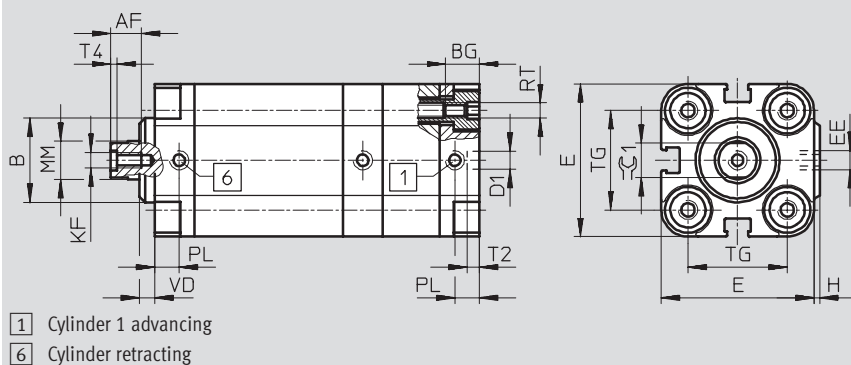
Technical data

FESTO

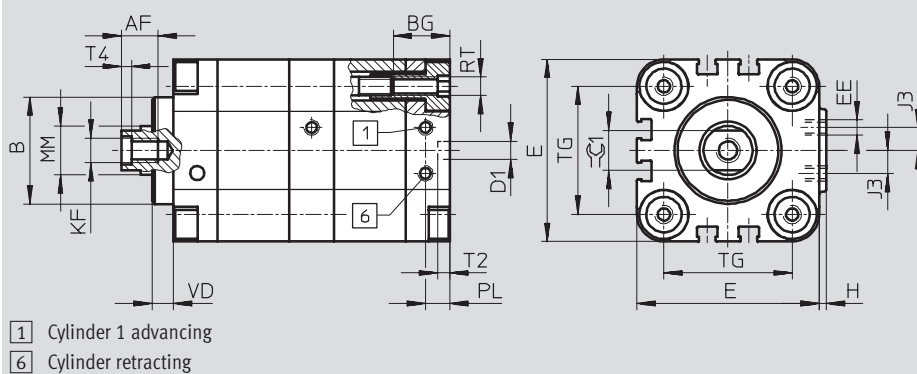
Dimensions – Basic cylinder

Download CAD data → www.festo.com/en/engineering

Piston Ø 25 mm



Piston Ø 40, 63, 100 mm



Ø [mm]	AF	B Ø	BG	D1 Ø H9	E	EE	H	J3	KF
25	10	22	11	6	40	M5	1.5	–	M5
40	12	35	15	6	60	M5	2.5	7.5	M8
63	16	42	23	8	87	G $\frac{1}{8}$	4	10.5	M10
100	20	55	23	8	128	G $\frac{1}{4}$	5	14.5	M12

Ø [mm]	MM Ø	PL	RT	T2 –0.2	T4	TG	VD	$\approx C1$ h13
25	10	8	M5	4	2	26	4	9
40	16	8	M6	4	3.3	42	7	13
63	20	8	M10	4	4.7	62	11.5	17
100	25	10.5	M10	4	6.1	103	15	22

Multi-position cylinder ADVUP

Technical data

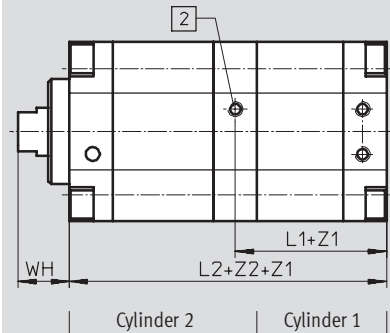
FESTO

Dimensions – Variants

Download CAD data → www.festo.com/en/engineering

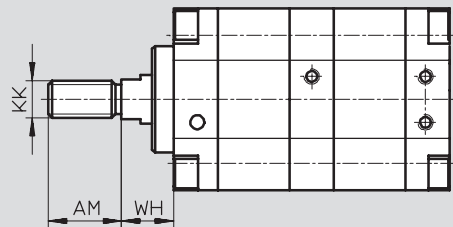
2 cylinders

with male thread



2 Cylinder 2 advancing

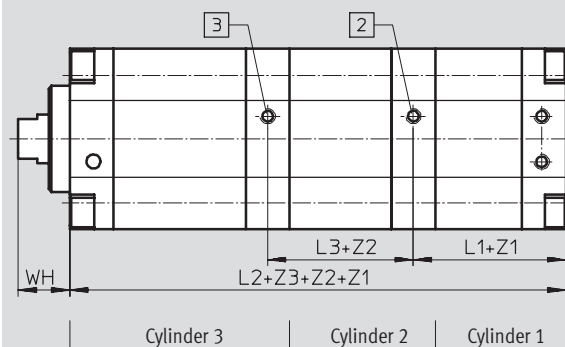
Z1 Stroke of cylinder 1
Z2 Stroke of cylinder 2



- Note

A piston rod with male thread also exists for the ADVUP variants comprising 3, 4 or 5 cylinders.

3 cylinders



2 Cylinder 2 advancing

3 Cylinder 3 advancing

Z1 Stroke of cylinder 1
Z2 Stroke of cylinder 2
Z3 Stroke of cylinder 3

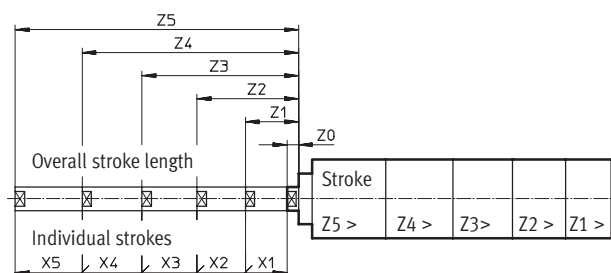
Ø [mm]	AM	KK	L1	L2		L3	WH
				2 cylinders	3 cylinders		
25 ¹⁾	22	M10x1.25	39	78	110.5	32.5	11.5
40 ¹⁾	24	M12x1.25	45.3	90.5	128.5	38	16.5
63 ¹⁾	32	M16x1.5	50.3	100.5	143	42.5	21.5
100 ¹⁾	40	M20x1.5	67.8	135.5	193.5	58	27

1) Nut for piston rod thread included in scope of delivery.

- Note

Each individual movement always corresponds to the nominal stroke at least; this is the case for both relative and absolute dimensions.

The reliability required to this end in the components can lead to positive stroke deviations of several millimetres.



Multi-position cylinder ADVUP

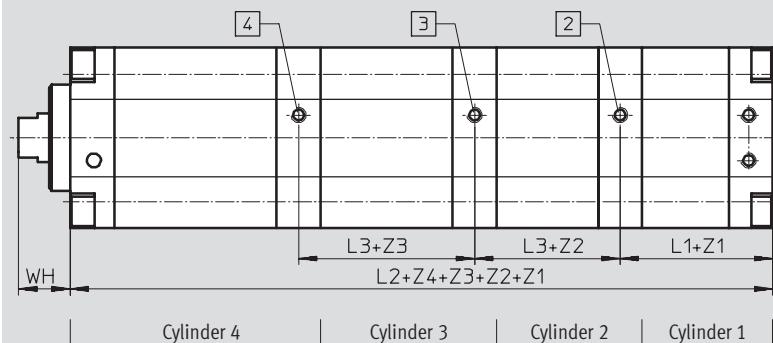
Technical data

FESTO

Dimensions – Variants

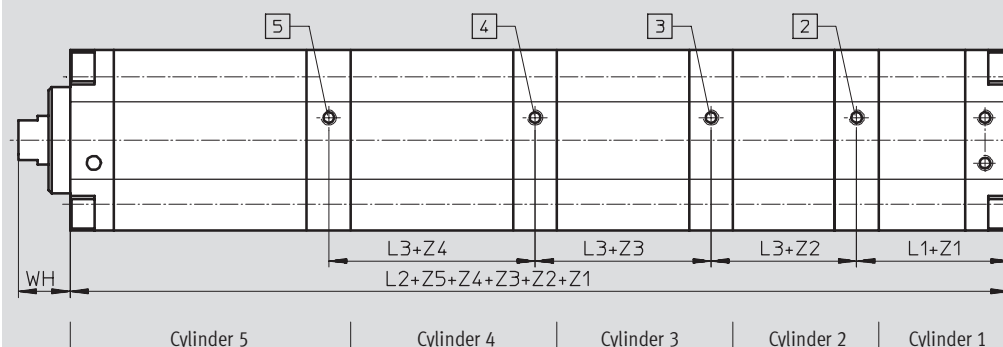
Download CAD data → www.festo.com/en/engineering

4 cylinders



- | | | | |
|---|----------------------|----|----------------------|
| 2 | Cylinder 2 advancing | Z1 | Stroke of cylinder 1 |
| 3 | Cylinder 3 advancing | Z2 | Stroke of cylinder 2 |
| 4 | Cylinder 4 advancing | Z3 | Stroke of cylinder 3 |
| | | Z4 | Stroke of cylinder 4 |

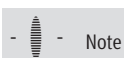
5 cylinders



- | | | | |
|---|----------------------|----|----------------------|
| 2 | Cylinder 2 advancing | Z1 | Stroke of cylinder 1 |
| 3 | Cylinder 3 advancing | Z2 | Stroke of cylinder 2 |
| 4 | Cylinder 4 advancing | Z3 | Stroke of cylinder 3 |
| 5 | Cylinder 5 advancing | Z4 | Stroke of cylinder 4 |
| | | Z5 | Stroke of cylinder 5 |

Ø	L1	L2		L3	WH
[mm]		4 cylinders	5 cylinders		
25 ¹⁾	39	143	175.5	32.5	11.5
40 ¹⁾	45.3	166.5	204.5	38	16.5
63 ¹⁾	50.3	185.5	228	42.5	21.5
100 ¹⁾	67.8	251.5	309.5	58	27

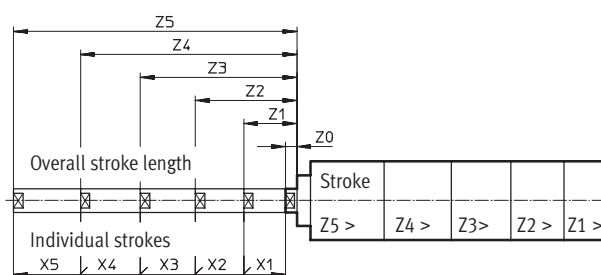
1) Nut for piston rod thread included in scope of delivery.



Note

Each individual movement always corresponds to the nominal stroke at least; this is the case for both relative and absolute dimensions.

The reliability required to this end in the components can lead to positive stroke deviations of several millimetres.



Multi-position cylinder ADVUP, female thread

Ordering data – Modular product system

FESTO

M Mandatory data						O Options				
Module No.	Drive system	Size	Cushioning	Position sensing	Mid-position					Temperature-resistant
					1	2	3	4	5	
161 147	ADVUP	25	P	A	...Z1	...Z2	...Z3	...Z4	...Z5	S6
161 148		40								
161 149		63								
161 150		100								
Ordering example										
161 147	ADVUP	- 25	- P	- A	- 40Z1	- 95Z2	-	-	-	- S6

Ordering table									
Size	25	40	63	100	Condi- tions	Code	Enter code		
M Module No.	161 147	161 148	161 149	161 150					
Drive system	Compact multi-position cylinders					ADVUP		ADVUP	
Size	25	40	63	100		-...			
Cushioning	Flexible cushioning rings/plates at both ends					-P		-P	
Position sensing	For proximity sensing					-A		-A	
1. Mid-position [mm]	1 ... 200	1 ... 300	1 ... 300	1 ... 400	1	...Z1			
2. Mid-position [mm]	1 ... 300	1 ... 1000	1 ... 1000	1 ... 1000	1 2	...Z2			
3. Mid-position [mm]	1 ... 300	1 ... 1000	1 ... 1000	1 ... 1000	1 2	...Z3			
4. Mid-position [mm]	1 ... 300	1 ... 1000	1 ... 1000	1 ... 1000	1 2	...Z4			
5. Mid-position [mm]	1 ... 300	1 ... 1000	1 ... 1000	1 ... 1000	1 2	...Z5			
Temperature-resistant	Heat-resistant seals to max. 120° C					-S6			

- 1 Z1 ... Z5 For the selected mid-positions the following must apply:
The end of the retracted piston rod is the reference point for all mid-positions!
Z1 < Z2 < Z3 < Z4 < Z5: each subsequent mid-position must be larger than the one that precedes it.
Maximum overall length (sum of all individual strokes):
Z1 + Z2 + Z3 + Z4 + Z5 ≤ 500 mm at Ø 25
Z1 + Z2 + Z3 + Z4 + Z5 ≤ 2000 mm at Ø 40 ... 100.

- 2 Z2 ... Z5 Max. permissible stroke except for the last position (visible piston rod) in mm:
200 mm for Ø 25;
300 mm for Ø 40, 63;
400 mm for Ø 100.

Transfer order code

	ADVUP	-		-	P	-	A	-		-		-		-		-	
--	-------	---	--	---	---	---	---	---	--	---	--	---	--	---	--	---	--

Multi-position cylinder ADVUP, male thread

FESTO

Ordering data – Modular product system

M Mandatory data						O Options					
Module No.	Drive system	Size	Thread type	Cushioning	Position sensing	Mid-position					Temperature resistant
						1	2	3	4	5	
197 277 197 278 197 279 197 280	ADVUP	25 40 63 100	A	P	A	...Z1	...Z2	...Z3	...Z4	...Z5	S6
Ordering example											
197 278	ADVUP	- 25	- A	- P	- A	- 20Z1	-	-	-	-	-

Ordering table									
Size		25	40	63	100	Condi- tions	Code	Enter code	
M	Module No.	197 277	197 278	197 279	197 280				
	Drive system	Compact multi-position cylinders					ADVUP		ADVUP
	Size	25	40	63	100		-...		
	Thread type	Male thread					-A		-A
	Cushioning	Flexible cushioning rings/plates at both ends					-P		-P
	Position sensing	For proximity sensing					-A		-A
	1. Mid-position [mm]	1 ... 200	1 ... 300	1 ... 300	1 ... 400	1	-...Z1		
	2. Mid-position [mm]	1 ... 300	1 ... 1000	1 ... 1000	1 ... 1000	1 2	-...Z2		
O	3. Mid-position [mm]	1 ... 300	1 ... 1000	1 ... 1000	1 ... 1000	1 2	-...Z3		
	4. Mid-position [mm]	1 ... 300	1 ... 1000	1 ... 1000	1 ... 1000	1 2	-...Z4		
	5. Mid-position [mm]	1 ... 300	1 ... 1000	1 ... 1000	1 ... 1000	1 2	-...Z5		
	Temperature-resistant	Heat-resistant seals to max. 120° C					-S6		

1 Z1 ... Z5 For the selected mid-positions the following must apply:

The end of the retracted piston rod is the reference point for all mid-positions!

Z1 < Z2 < Z3 < Z4 < Z5: each subsequent mid-position must be larger than the one that precedes it.

Maximum overall length (sum of all individual strokes):

Z1 + Z2 + Z3 + Z4 + Z5 ≤ 500 mm at Ø 25

Z1 + Z2 + Z3 + Z4 + Z5 ≤ 2000 mm at Ø 40 ... 100.

2 Z2 ... Z5 Max. permissible stroke except for the last mid-position (visible piston rod) in mm:

200 mm for Ø 25;

300 mm for Ø 40, 63;

400 mm for Ø 100.

Transfer order code

ADVUP - A - P - A - - - - -

Multi-position cylinder ADVUP

Accessories

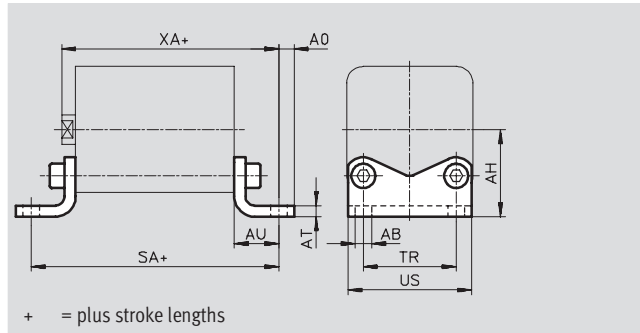
FESTO

Foot mounting HUA

Material:

Galvanised steel

Free of copper, PTFE and silicone



Dimensions and ordering data										
For Ø	AB Ø	AH	A0	AT	AU	SA				TR
						2 cylinders ¹⁾	3 cylinders ²⁾	4 cylinders ³⁾	5 cylinders ⁴⁾	
25	6.6	29	6.25	4	16	110	142.5	175	207.5	26
40	9	40.5	8.25	5	20	130.5	168.5	206.5	244.5	42
63	11	56.5	11.75	6	27	154.5	197	239.5	282	62
100	13.5	81	11.75	8	33	201.5	259.5	317.5	375.5	103

For Ø	US	XA				CRC ⁵⁾	Weight [g]	Part No.	Type
		2 cylinders ¹⁾	3 cylinders ²⁾	4 cylinders ³⁾	5 cylinders ⁴⁾				
25	38	105.5	138	170.5	203	2	90	157 311	HUA-25
40	58	127	165	203	241	2	201	157 313	HUA-40
63	85	149	191.5	234	276.5	2	550	157 315	HUA-63
100	126	195.5	253.5	311.5	369.5	2	1,050	157 317	HUA-100

1) plus stroke length X1+X2

2) plus stroke length X1+X2+X3

3) plus stroke length X1+X2+X3+X4

4) plus stroke length X1+X2+X3+X4+X5

5) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents

Multi-position cylinder ADVUP

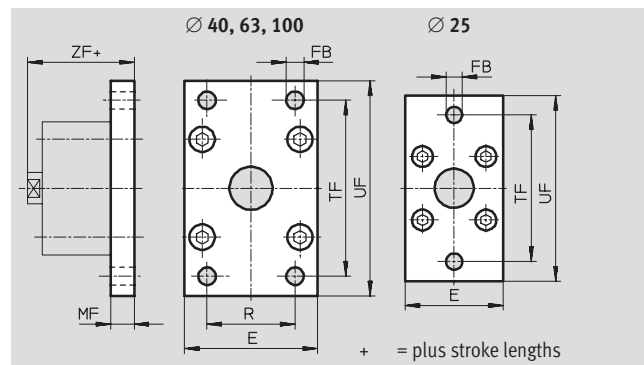
Accessories

FESTO

Flange mounting FUA

Material:

Clear anodised aluminium



Dimensions and ordering data														
For Ø	E	FB Ø	MF	R	TF	UF	ZF				CRC ⁵⁾	Weight [g]	Part No.	Type
							2 cylinders ¹⁾	3 cylinders ²⁾	4 cylinders ³⁾	5 cylinders ⁴⁾				
25	40	6.6	10	–	60	76	99.5	132	164.5	197	2	87	157 301	FUA-25
40	60	9	10	36	82	102	117	155	193	231	2	180	157 303	FUA-40
63	87	9	15	50	110	130	137	179.5	222	264.5	2	550	157 305	FUA-63
100	128	14	15	75	163	190	177.5	235.5	293.5	351.5	2	1 035	157 307	FUA-100

1) plus stroke length X1+X2

2) plus stroke length X1+X2+X3

3) plus stroke length X1+X2+X3+X4

4) plus stroke length X1+X2+X3+X4+X5

5) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents

Multi-position cylinder ADVUP

Accessories

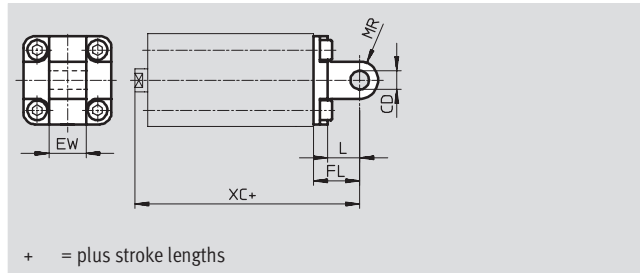
FESTO

Swivel flange SUA for piston Ø 25 mm

Material:
Anodised aluminium
Free of copper, PTFE and silicone



Ø 25 mm



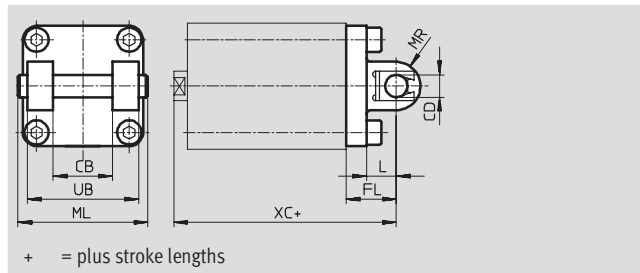
+ = plus stroke lengths

for piston Ø 40, 63, 100 mm

Material:
Anodised aluminium
Free of copper, PTFE and silicone



Ø 40, 63, 100 mm



+ = plus stroke lengths

Dimensions and ordering data								
For Ø	CB	CD Ø	EW	FL	L	ML	MR	UB
25	–	8	16	20	14	–	8	–
40	28	12	–	25	16	62	12	52
63	40	16	–	32	21	82	16	70
100	60	20	–	41	26	126	20	110

For Ø	XC				Weight [g]	Part No.	Type
	2 cylinders ¹⁾	3 cylinders ²⁾	4 cylinders ³⁾	5 cylinders ⁴⁾			
25	109.5	142	174.5	207	86	157 321	SUA-25
40	132	170	208	246	320	157 323	SUA-40
63	154	196.5	239	281.5	760	157 325	SUA-63
100	203.5	261.5	319.5	377.5	1 900	157 327	SUA-100

- 1) plus stroke length X1+X2
- 2) plus stroke length X1+X2+X3
- 3) plus stroke length X1+X2+X3+X4
- 4) plus stroke length X1+X2+X3+X4+X5

For Ø	Max. stroke length
25	50 mm
40	100 mm
63	100 mm
100	150 mm

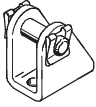
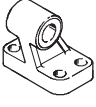
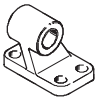
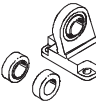
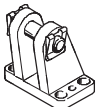
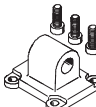
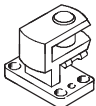
- - Note

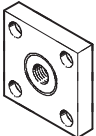
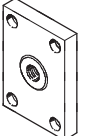
The maximum stroke length may not be exceeded when combining cylinders and swivel flanges.

Multi-position cylinder ADVUP

Accessories

FESTO

Ordering data – Mounting attachments				Technical data → 1 / 10.1-2			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
Clevis foot LBN				Clevis foot LNG			
	25	6 059	LBN-20/25		40	33 891	LNG-40
					63	33 893	LNG-63
					100	33 895	LNG-100
Clevis foot LN				Clevis foot LSN			
	40	5 148	LN-40		40	5 562	LSN-40
	63	5 150	LN-63		63	5 564	LSN-63
	100	5 152	LN-100		100	5 566	LSN-100
Clevis foot LBG				Swivel flange SNCL			
	40	31 762	LBG-40		40	174 405	SNCL-40
	63	31 764	LBG-63		63	174 407	SNCL-63
	100	31 766	LBG-100		100	174 409	SNCL-100
Right-angle clevis foot LQG							
	25	–	–				
	40	31 769	LQG-40				
	63	31 771	LQG-63				
	100	31 773	LQG-100				

Ordering data – Piston rod attachments				Technical data → 1 / 10.3-3			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
Rod eye SGS				Rod clevis SGA			
	25	9 261	SGS-M10x1,25		25	32 954	SGA-M10x1,25
	40	9 262	SGS-M12x1,25		40	10 767	SGA-M12x1,25
	63	9 263	SGS-M16x1,5		63	10 768	SGA-M16x1,5
	100	9 264	SGS-M20x1,5		100	10 769	SGA-M20x1,5
Rod clevis SG				Self-aligning rod coupler FK			
	25	6 144	SG-M10x1,25		25	6 140	FK-M10x1,25
	40	6 145	SG-M12x1,25		40	6 141	FK-M12x1,25
	63	6 146	SG-M16x1,5		63	6 142	FK-M16x1,5
	100	6 147	SG-M20x1,5		100	6 143	FK-M20x1,5
Coupling piece KSG				Coupling piece KSZ			
	25	32 963	KSG-M10x1,25		25	36 125	KSZ-M10x1,25
	40	32 964	KSG-M12x1,25		40	36 126	KSZ-M12x1,25
	63	32 965	KSG-M16x1,5		63	36 127	KSZ-M16x1,5
	100	32 966	KSG-M20x1,5		100	36 128	KSZ-M20x1,5

Multi-position cylinder ADVUP

Accessories

FESTO

Ordering data – Proximity sensor for T-slot, magneto-resistive								Technical data ➔ 1 / 10.2-13	
	Mounting	Switch output	Electrical connection			Cable length [m]	Part No.	Type	
			Cable	M8 plug	M12 plug				
NO contact									
	Insertable from above	PNP	3-wire	–	–	2.5	525 898	SMT-8F-PS-24V-K2,5-OE	
		NPN					525 909	SMT-8F-NS-24V-K2,5-OE	
		–	2-wire	–	–	2.5	525 908	SMT-8F-ZS-24V-K2,5-OE	
		PNP					–	3-pin	–
		NPN	–	–	–	0.3	525 910	SMT-8F-NS-24V-K0,3-M8D	
		PNP	–	–	3-pin	0.3	525 900	SMT-8F-PS-24V-K0,3-M12	
	Insertable, flush with the cylinder profile	PNP	3-wire	–	–	2.5	175 436	SMT-8-PS-K-LED-24-B	
			–	3-pin	–	0.3	175 484	SMT-8-PS-S-LED-24-B	
NC contact									
	Insertable from above	PNP	3-wire	–	–	7.5	525 911	SMT-8F-PO-24V-K7,5-OE	

Ordering data – Proximity sensor for T-slot, magnetic reed						Technical data ➔ 1 / 10.2-18	
	Mounting	Electrical connection		Cable length [m]	Part No.	Type	
		Cable	M8 plug				
NO contact							
	Insertable from above	3-wire	–	2.5	525 895	SME-8F-DS-24V-K2,5-OE	
				5,0	525 897	SME-8F-DS-24V-K5,0-OE	
		2-wire	–	2.5	525 907	SME-8F-ZS-24V-K2,5-OE	
				–	3-pin	0.3	525 896
	Insertable, flush with the cylinder profile	3-wire	–	2.5	150 855	SME-8-K-LED-24	
		–	3-pin	0.3	150 857	SME-8-S-LED-24	
NC contact							
	Insertable from end, flush with the cylinder profile	3-wire	–	7.5	160 251	SME-8-O-K-LED-24	

Ordering data – Plug sockets with cable							Technical data➔ 1 / 10.2-114	
	Mounting	Switch output		Connection	Cable length [m]	Part No.	Type	
		PNP	NPN					
Straight socket								
	M8 union nut	■	■	3-pin	2.5	159 420	SIM-M8-3GD-2,5-PU	
					5	159 421	SIM-M8-3GD-5-PU	
	M12 union nut	■	■	3-pin	2.5	159 428	SIM-M12-3GD-2,5-PU	
					5	159 429	SIM-M12-3GD-5-PU	
Angled plug socket								
	M8 union nut	■	■	3-pin	2.5	159 422	SIM-M8-3WD-2,5-PU	
					5	159 423	SIM-M8-3WD-5-PU	
	M12 union nut	■	■	3-pin	2.5	159 430	SIM-M12-3WD-2,5-PU	
					5	159 431	SIM-M12-3WD-5-PU	

Ordering data – Slot cover for T-slot					
	Mounting	Length	Part No.	Type	
	Insertable from above	2x 0.5 m	151 680	ABP-5-S	

Multi-position cylinder ADVUP

Accessories

FESTO

Ordering data – One-way flow control valves				Technical data➔ Volume 2			
	Connection		Material	Part No.	Type		
	Thread	For tubing OD					
For exhaust air							
	M5	3	Metal design	193 137	GRLA-M5-QS-3-D		
		4		193 138	GRLA-M5-QS-4-D		
		6		193 139	GRLA-M5-QS-6-D		
	G1/8	3		193 142	GRLA-1/8-QS-3-D		
		4		193 143	GRLA-1/8-QS-4-D		
		6		193 144	GRLA-1/8-QS-6-D		
		8		193 145	GRLA-1/8-QS-8-D		
	G1/4	6		193 146	GRLA-1/4-QS-6-D		
		8		193 147	GRLA-1/4-QS-8-D		
		10		193 148	GRLA-1/4-QS-10-D		
	For supply air						
	M5	3	Metal design	193 153	GRLZ-M5-QS-3-D		
		4		193 154	GRLZ-M5-QS-4-D		
		6		193 155	GRLZ-M5-QS-6-D		
	G1/8	3		193 156	GRLZ-1/8-QS-3-D		
		4		193 157	GRLZ-1/8-QS-4-D		
		6		193 158	GRLZ-1/8-QS-6-D		
		8		193 159	GRLZ-1/8-QS-8-D		