New.
DNCV standard cylinder/ valve combination

FESTO

An integrated pneumatic solution for decentralised applications

Info 112 →→

One product – two functions – many advantages

Modern drives –
Systematically more economical*

Cost-effectiveness redefined
The standard cylinder/valve combination DNCV dramatically reduces the time pressure for planning, assembling, commissioning and maintaining your systems:

Easy to assemble
- Fully assembled and tested drive unit
- Integrated sensors and exhaust air flow control
- Connection using 1 cable and 1 tube

Highly compatible
Comprehensive range of accessories from the standard cylinder modular system
- Multi-pin connection as interface to the PLC, AS-i module or further bus connections
- Dimensions largely to DIN ISO 6431/VDMA 24 562

Highly flexible
- Integrated 5/2-way or 5/3-way valves
- Optional diagnostic module for monitoring of stroke duration and number of strokes

Highly reliable
- Adjustable integrated proximity sensor with LED display
- LED display for solenoid coils
- Rapid response times through direct connection of the valve and drive

* Representatively tested and certified with the products ADVU, DGPL and DNC

Standard cylinder + valve + flow control valve/sensor = DNCV

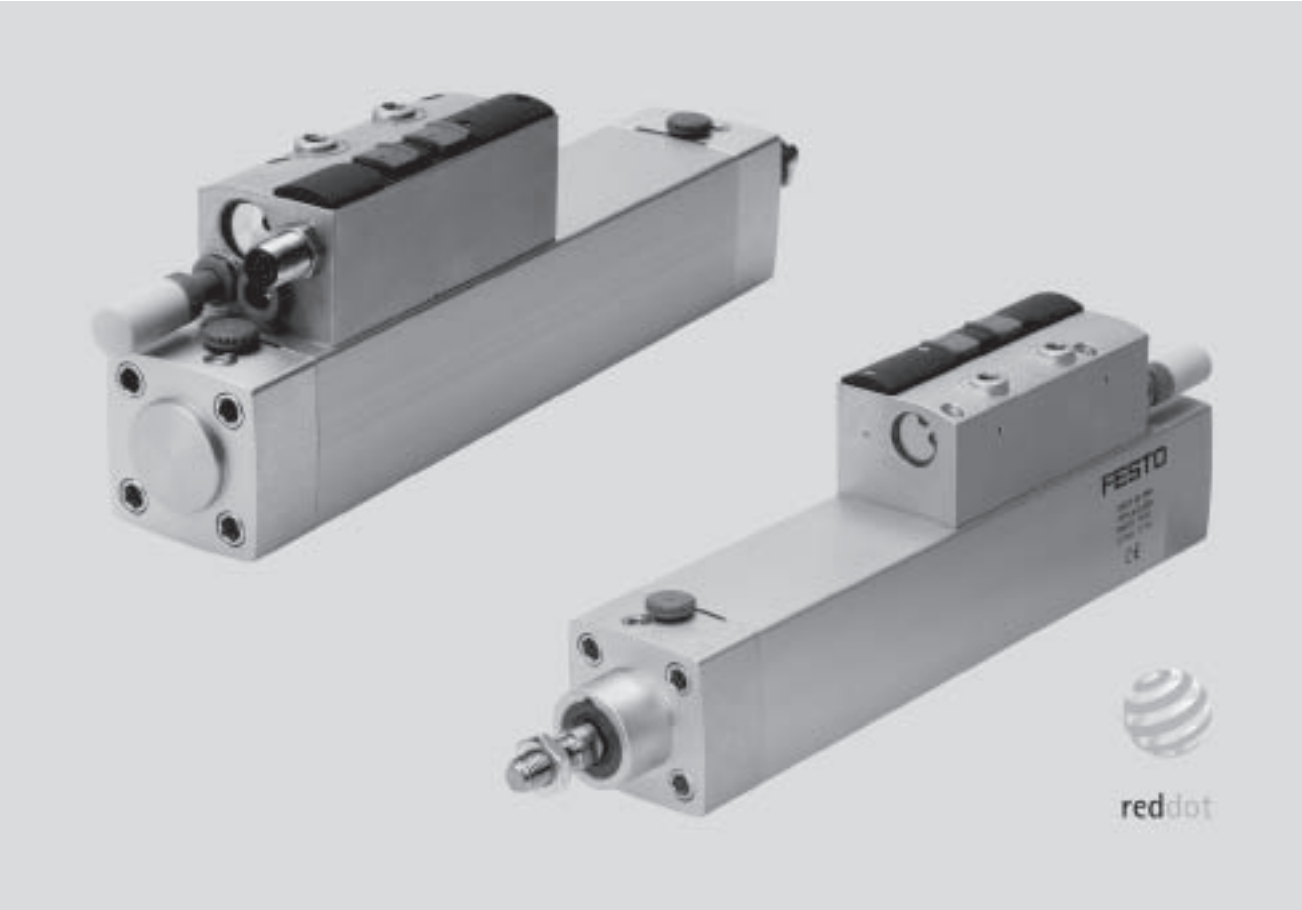
DNCV – the functional integration solution within the DNC standard cylinder family.
One product – many advantages.

All in one – the formula for greater productivity. DNCV.

	Advantages for designers	Advantages for buyers
1. Lower overhead	• Festo plug and work®: reduces the amount of tubing and the installation work required • Each unit undergoes advance function testing	• Cost and time savings through reduced planning and assembly costs • Cost savings in logistics and warehousing
2. Refined, well-proven technology	• Large spectrum of applications thanks to different valve variants • Integrated sensors and flow control valves, protected and compact • Mounting options and basic dimensions similar to the standard cylinder DNC to DIN ISO 6431	• Shorter downtimes, easier programming
3. Reliability	• Diagnostic function for remote maintenance reduces downtimes and helps in troubleshooting (this function can also be retrofitted) • LED display for direct function testing	• Diagnostic function can be retrofitted • Optimum operational reliability

Cylinder/valve combination DNCV, standard port pattern

Key features



Easy to assemble

- Fully assembled and tested drive unit
- Lower costs for ordering, installation and commissioning
- Direct mounting
- Integrated proximity sensors for position sensing
- Integrated exhaust air flow control

Compatible

- Comprehensive range of accessories from the standard cylinder modular system
- Multi-pin connection as interface to PLC, ASi module or CPX terminal (various bus protocols)
- Dimensions largely compliant with DIN ISO 6431 and VDMA 24 562

Flexible

- Integrated 5/2-way or 5/3-way valves
- Optional diagnostic module for monitoring of stroke duration and number of strokes

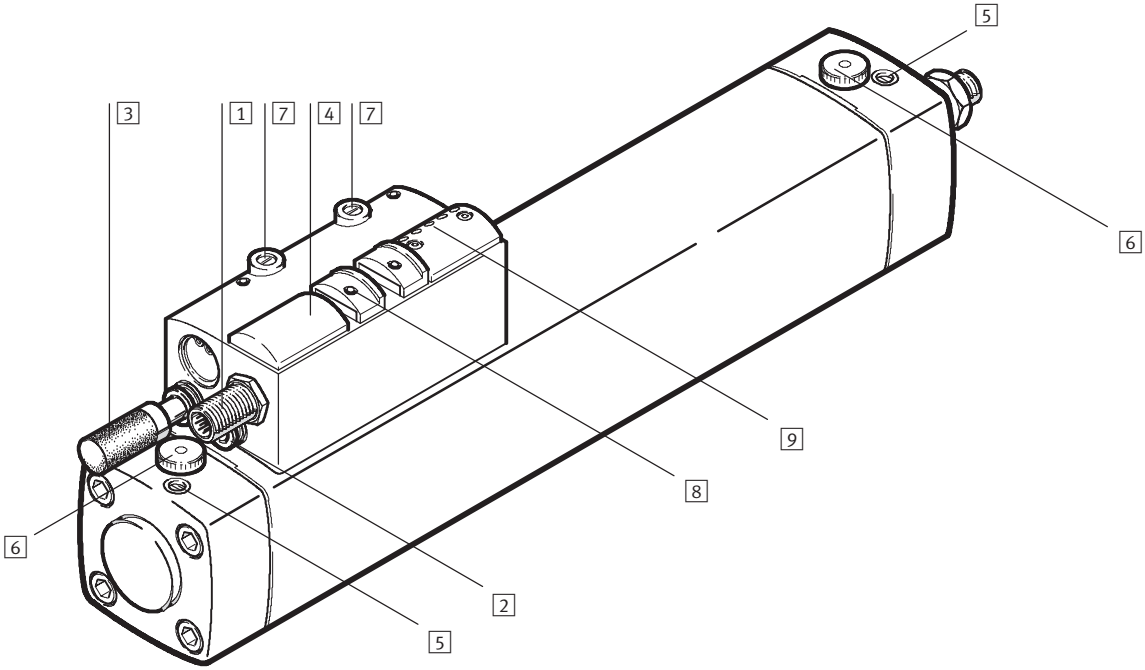
Reliable

- Status displays for piston position and valve actuation
- Rapid response times through direct connection of the valve and drive
- Adjustable pneumatic end-position cushioning
- Manual override

Cylinder/valve combination DNCV, standard port pattern

Key features

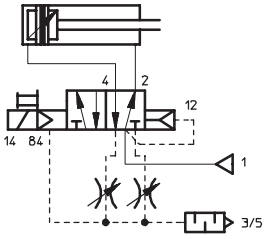
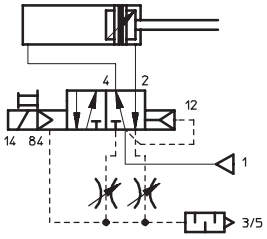
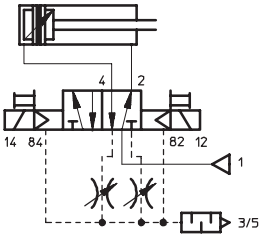
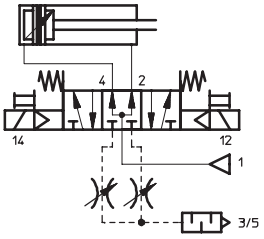
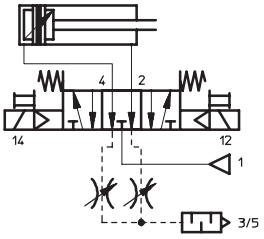
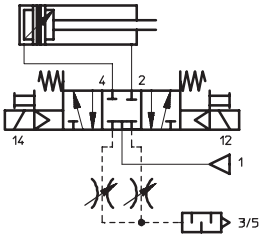
High functionality

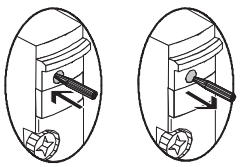
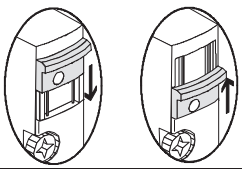


1 Multi-pin connection, M12 plug, 8-pin
2 Supply port (QS push-in fitting)
3 Silencer (QS push-in fitting for exhaust air)
4 Valve
5 Regulating screw for pneumatic end-position cushioning PPV
6 Adjusting knob for fine adjustment of the position of the integrated proximity sensors (removable to prevent inadvertent resetting)
7 Regulating screws for stroke speed, separated for forward and return stroke
8 Manual override, non-detenting or detenting
9 Diagnostic module (optional) with LEDs for displaying the piston position, valve switching status and for diagnosis of stroke duration and number of strokes

Cylinder/valve combination DNCV, standard port pattern

Key features

Valve			
Circuit symbol	Description	Circuit symbol	Description
5/2L		**5/2LA**	
	5/2-way valve, single solenoid with spring return: The valve is normally closed, the piston rod retracts.		5/2-way valve, single solenoid with spring return: The valve is normally open, the piston rod advances.
5/2J		**5/3B**	
	5/2-way valve, double solenoid (bistable valve): The valve does not have a defined normal position; instead it requires the electrical actuator or manual override for a defined switching status. The piston rod therefore retracts or advances in accordance with the current valve position.		5/3-way valve, pressurised in mid-position: The piston rod advances when the valve is in the normal position due to the differential piston areas.
5/3E		**5/3G**	
	5/3-way valve, exhausted in mid-position: In the normal valve position, the piston rod is not subjected to any pressure forces; the piston rod can therefore be moved freely.		5/3-way valve, closed in mid-position: The piston rod is subjected to pressure when the valve is in the normal position and therefore remains in the current position. The piston rod may, however, drift when external forces are present; it is particularly important to be aware of this in the case of vertical cylinder configurations.

Manual override			
Function diagram	Description	Function diagram	Description
	Non-detenting actuation: The manual override is activated using a pointed object.		Detenting actuation: The manual override is actuated by moving the slide.

Cylinder/valve combination DNCV, standard port pattern

Key features

Basic diagnosis

Proximity switch monitoring:
Display of the piston position (retracted or advanced end position). The diagnostic LED lights up in the case of double signalling. The error signal is not output to the controller.

Diagnostic module DNCV-...-D (optional, expandable)

Proximity switch monitoring:
In the event of a malfunction or double signalling, apart from the diagnostic LED lighting up, the signal level at the diagnostic output also changes from 24 V to 0 V.

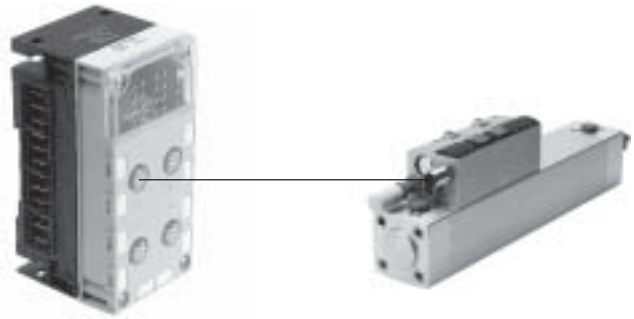
Monitoring of stroke duration:
The motion duration for the forward and return stroke is compared with a limit value that is pre-selected using DIP switches. This limit value can be adjusted in increments from 0.1 s to max. 6.3 s. If the limit value is exceeded, the diagnostic LED lights up and the signal level at the diagnostic output changes from 24 V to 0 V.

Monitoring of number of strokes:
The number of strokes is compared with a limit value that is pre-selected using DIP switches. This limit value can be adjusted in increments from 10,000 strokes to max. 630,000 strokes. If this limit value is exceeded, the diagnostic LED flashes and the signal level at the diagnostic output changes from 24 V to 0 V. This change in signal level can also be deactivated.

CPX connection

Support via a connection block equipped with four M12 sockets means that up to 4 cylinder/valve combinations with integrated proximity sensors can be connected. Two inputs and two outputs per socket are supported for each cylinder/valve combination. It is therefore possible to control max. 2 solenoid coils and record input signals from 2 proximity sensors with a pre-assembled cable. Two inputs on two sockets are bridged to provide support for the diagnostic module of the cylinder/valve combination so that 2 cylinder/valve combinations with diagnostic modules can be connected.

Further information:
➔ Info 210

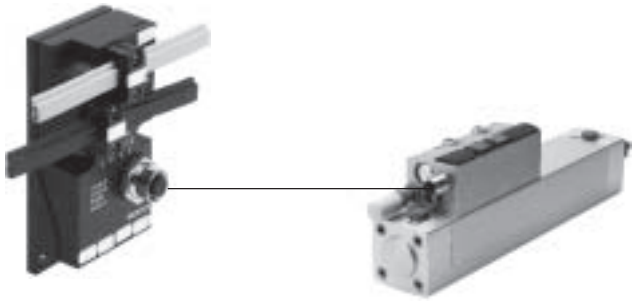


AS-interface®

Special interface module, configured for the cylinder/valve combination with integrated diagnostic module. This allows easy and flexible connection of the cylinder/valve combination in upstream applications to the AS-interface. Two inputs and two outputs as well as a diagnostic input on one 8-pin M12 socket.

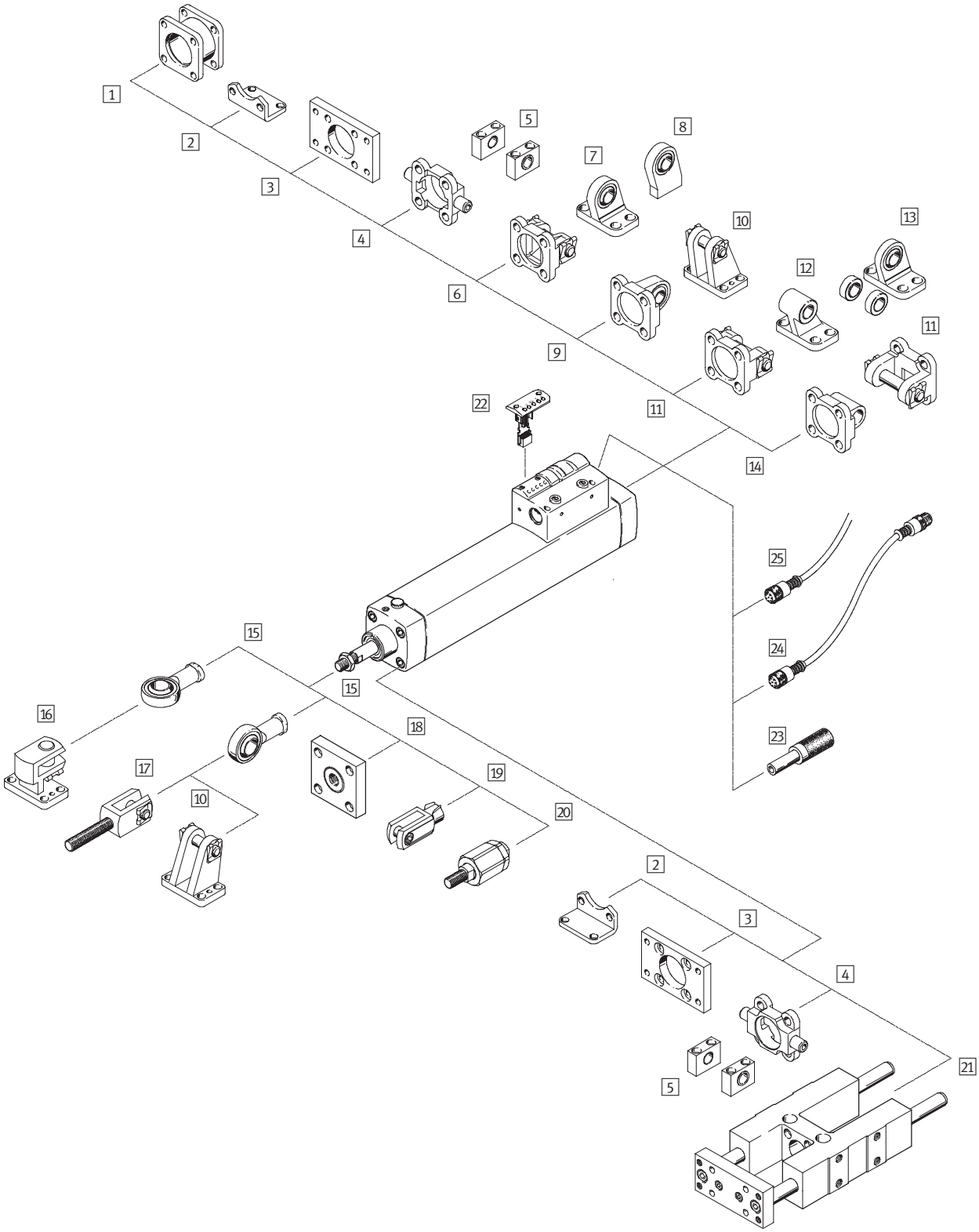
Optimised design for cylinder/valve combination with integrated diagnostic module. Ready-to-connect cable KM12-8GD8GS-2-PU for Festo plug and work™ installation.

Further information:
➔ Info 220



Cylinder/valve combination DNCV, standard port pattern

Peripherals overview



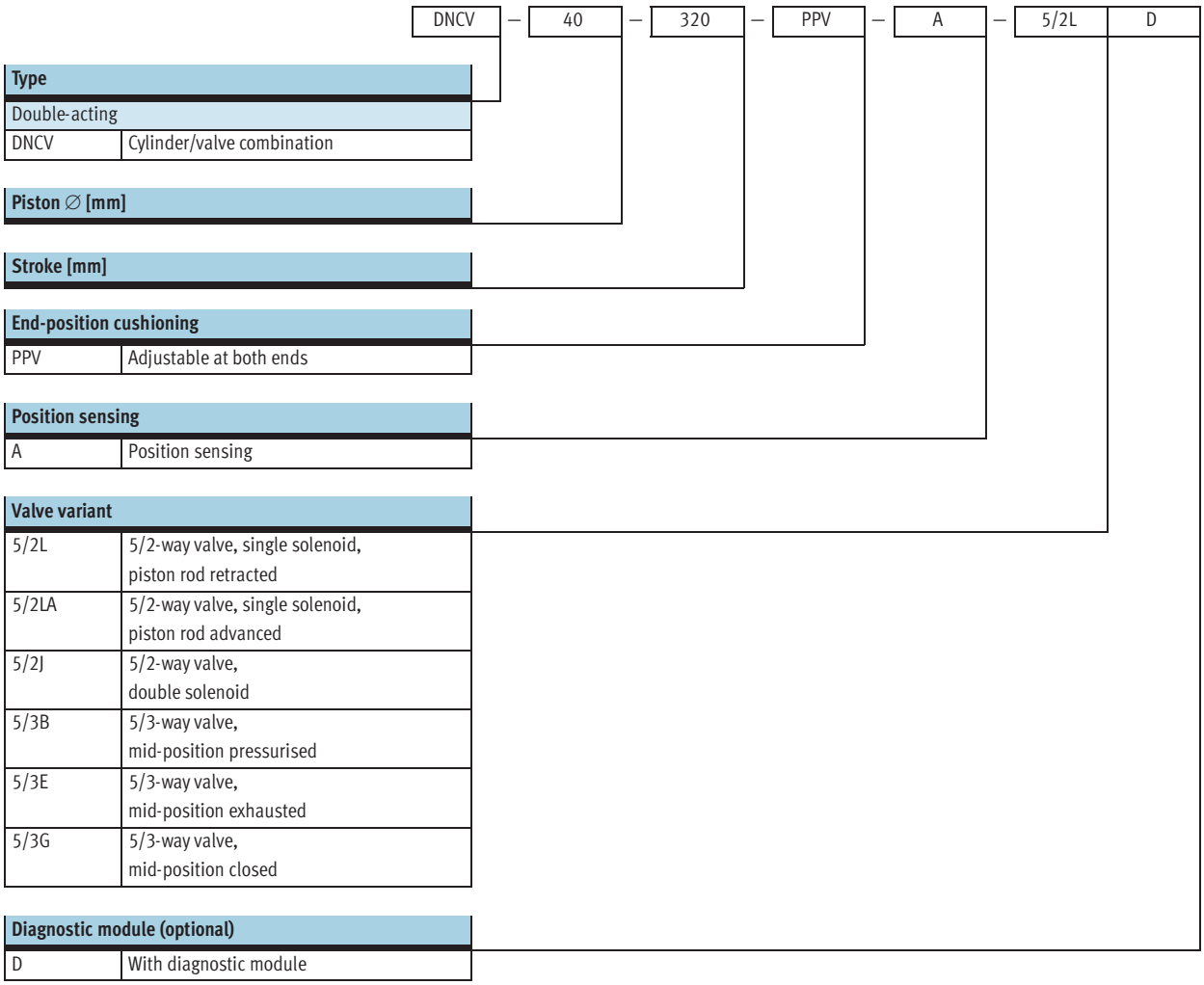
Cylinder/valve combination DNCV, standard port pattern

Peripherals overview

Mounting attachments and accessories			
		Brief description	→ Page
1	Adapter kit DPNC	For connecting two cylinders DNCV with identical piston ∅ to form a multi-position cylinder	25
2	Foot mounting HNC	For bearing and end cap, corresponds to MS1 to DIN ISO 6431	18
3	Flange mounting FNC	For bearing or end cap, corresponds to MF1/MF2 to DIN ISO 6431	19
4	Trunnion flange ZNCF	For bearing or end cap	23
5	Trunnion supports LNZG	For trunnion flange ZNCF 4	24
6	Swivel flange SNC	For end cap	20
7	Clevis foot LSNG	With spherical bearing for swivel flange SNC 6	26
8	Clevis foot LSNSG	Weld-on, with spherical bearing for swivel flange SNC 6	26
9	Swivel flange SNCS	With spherical bearing for end cap	22
10	Clevis foot LBG	For swivel flange SNCS 9 or rod eye SGS 15	26
11	Swivel flange SNCB	For swivel flange SNCL 14 or for end cap, corresponds to MP2 to DIN ISO 6431	21
12	Clevis foot LNG	For swivel flange SNCB 11	26
13	Clevis foot LSN	With spherical bearing for swivel flange SNCB 11	26
14	Swivel flange SNCL	For end cap, corresponds to MP4 to DIN ISO 6431	22
15	Rod eye SGS	With spherical bearing	27
16	Clevis foot, lateral LQG	For rod eye SGS 15	26
17	Rod clevis SGA	With male thread for rod eye SGS 15	27
18	Coupling piece KSG	For compensating radial deviations	27
19	Rod clevis SG		27
20	Self-aligning rod coupler FK	For compensating radial and angular deviations	27
21	Guide unit FENG	For protecting against torsion at high torque loads	28
22	Diagnostic module DNCV-...-D		16
23	Silencer UC-QS-...H		16
24	Connecting cable KM12-8GD8GS-2-PU		17
25	Plug socket with cable SIM-M12-8GD-...-PU		17

Cylinder/valve combination DNCV, standard port pattern

Type code



Type	
Double-acting	
DNCV	Cylinder/valve combination

Piston ∅ [mm]	

Stroke [mm]	

End-position cushioning	
PPV	Adjustable at both ends

Position sensing	
A	Position sensing

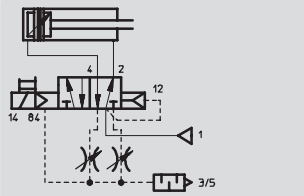
Valve variant	
5/2L	5/2-way valve, single solenoid, piston rod retracted
5/2LA	5/2-way valve, single solenoid, piston rod advanced
5/2J	5/2-way valve, double solenoid
5/3B	5/3-way valve, mid-position pressurised
5/3E	5/3-way valve, mid-position exhausted
5/3G	5/3-way valve, mid-position closed

Diagnostic module (optional)	
D	With diagnostic module

Cylinder/valve combination DNCV, standard port pattern

Technical data

Function[1)]



Diameter
32 ... 63 mm

Stroke length
70 ... 500 mm

www.festo.com/en/
Spare_parts_service

1) E.g. with 5/2-way valve, single solenoid

General technical data					
Piston ∅		32	40	50	63
Cylinder					
Pneumatic connection		➔ Valve			
Piston rod thread		M10x1.25	M12x1.25	M16x1.5	M16x1.5
Operating medium		Filtered compressed air, lubricated or unlubricated			
Constructional design		Piston			
		Piston rod			
		Smooth profile barrel			
Cushioning		Adjustable at both ends			
Cushioning length	[mm]	20	20	22	22
Max. speed[1)]	[m/s]	1.5	1.1	1.3	0.8
Position sensing		Via integrated proximity sensors			
Type of mounting		Via female thread			
		Via accessories			
Mounting position		Any			
Valve					
Pneumatic connection		QS-8	QS-8	QS-10	QS-10
Electrical connection		M12 plug, 8-pin			
Constructional design		Piston spool valve			
Operating voltage		24 V DC +10/-15%			
Power consumption		Pull: 1 W; hold: 0.5 W			
Switching position display		By means of integrated control electronics			
Manual override		Non-detenting/detenting			
Exhaust air flow control		Integrated			
Exhaust air		Ducted, common output 3/5 with silencer			
Silencer		UC-8	UC-8	UC-10	UC-10
Proximity sensor					
Mode of operation		Reed contact			
Type of mounting		Integrated in cylinder profile, can be adjusted using external adjusting knob			
Switching function		NO contact			
Electrical connection		Integrated conductive track			
Operating voltage		24 V DC +15/–25%			
Switching current		6 mA ≤ I ≤ 20 mA, short circuit proof			
Adjustment range		±10 mm in both end positions			
Repetition accuracy	[mm]	±0.2			

1) retracting, with 5/2-way valve

Cylinder/valve combination DNCV, standard port pattern

Technical data

Operating and environmental conditions					
Piston ∅		32	40	50	63
Operating pressure	[bar]	3 ... 8			
Ambient temperature	[°C]	–5 ... +50			
Corrosion resistance class CRC[1)]		2			
Protection class		IP65			

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.

Forces [N] and impact energy [J]				
Piston ∅	32	40	50	63
Theoretical force at 6 bar, advancing	483	754	1178	1870
Theoretical force at 6 bar, retracting	415	633	990	1682
Max. impact energy at the end positions	0.1	0.2	0.2	0.5

Pneumatic sizing using Pro Pneu
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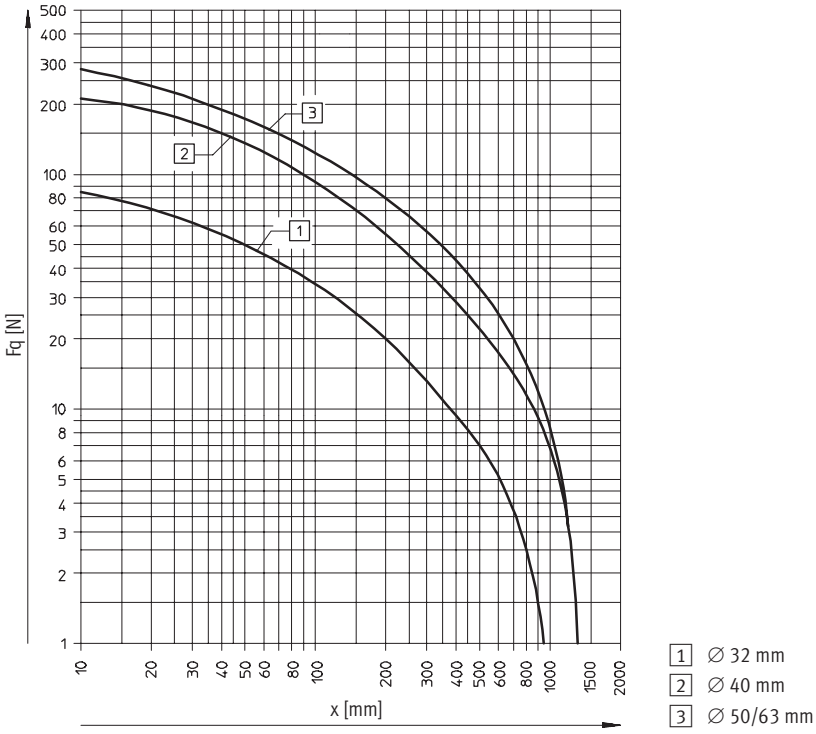
Max. lateral force Fq as a function of the projection x



1 ∅ 32 mm
2 ∅ 40 mm
3 ∅ 50/63 mm

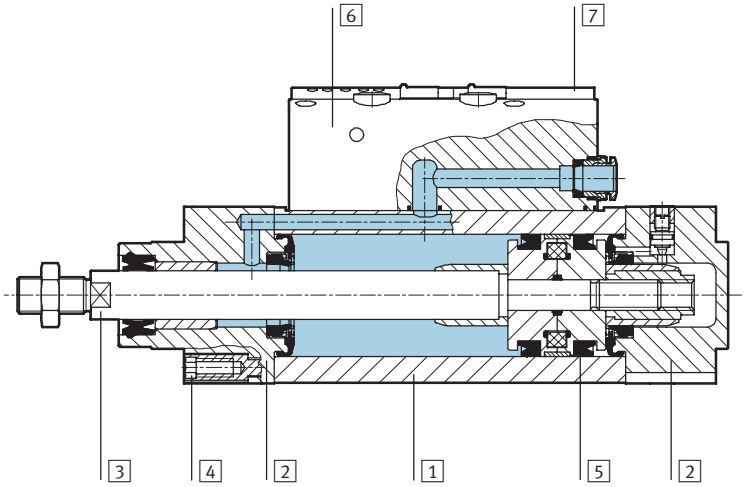
Cylinder/valve combination DNCV, standard port pattern

Technical data

Weights [g]				
Piston ∅	32	40	50	63
Product weight with 0 mm stroke	900	1275	1960	2620
Additional weight per 10 mm stroke	36	49	79	88
Moving load with 0 mm stroke	162	307	538	663
Additional load per 10 mm stroke	9	16	25	25

Materials

Sectional view



Cylinder		
1	Cylinder barrel	Smooth anodised aluminium
2	Bearing/end caps	Anodised aluminium
3	Piston rod	High-alloy steel
4	Flange screws	Galvanised steel
5	Dynamic seals	Polyurethane
–	Static seals	Nitrile rubber
–	Lubricant	Klüberplex BE 31-222
Valve		
6	Housing	Coated aluminium
7	Covers	Polyacetate
–	Plug housing	Nickel-plated brass
–	Plug contacts	Gold-plated brass

Cylinder/valve combination DNCV, standard port pattern

Technical data

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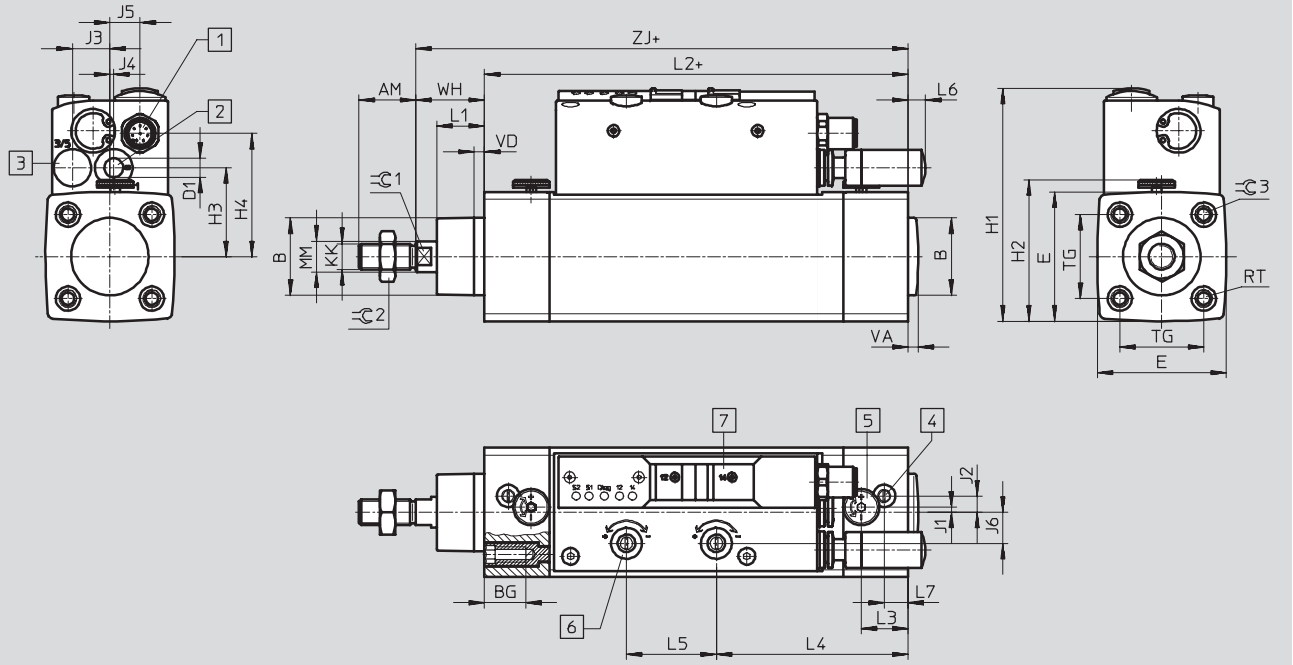
Dimensions Download CAD data ➔ **www.festo.com/en/engineering**



1 Multi-pin connection, plug M12, 8-pin
2 Supply port
3 Silencer for exhaust air
4 Regulating screw for pneumatic end-position cushioning PPV
5 Adjusting knob for fine adjustment of the integrated proximity sensors
6 Regulating screw for stroke speed
7 Manual override, non-detenting/detenting

\+ = plus stroke length

∅ [mm]	AM	B ∅ d11	BG	D1 ∅	E	H1 ±0.5	H2 ±0.5	H3 ±0.5	H4 ±0.5	J1 ±0.5	J2 ±0.5	J3 ±0.5	J4 ±0.5	J5 ±0.5	J6 ±0.5	KK	L1
32	22	30	16	8	50	91	58	34	47	6	2	15	2	12	14	M10x1.25	19
40	24	35	16	8	58	99	66	38	85	6	2	15	2	12	14	M12x1.25	21
50	32	40	17	10	70	114	74	44	61	10	9	17	4	15	17	M16x1.5	27
63	32	45	17	10	81	125	85	49	67	10	9	17	4	15	17	M16x1.5	27

∅ [mm]	L2	L3 ±0.5	L4 ±0.5	L5 ±0.5	L6 ±0.5	L7 ±0.5	MM ∅	RT	TG	VA max.	VD max.	WH ±1.5	ZJ	⌯1	⌯2	⌯3
32	94 ±0.4	18	74	35	7	9	12	M6	32.5 ±0.5	4	4.5	26	120.7	10	17	6
40	104.8 ±0.5	23	75	35	7	14	16	M6	38 ±0.5	4	4	31	135.6	13	19	6
50	105.9 ±0.5	23	79	46	15	12	20	M8	46.5 ±0.6	4	5	38	144	17	24	8
63	120.9 ±0.5	29	81	46	9	15	20	M8	56.5 ±0.7	4	5	39	159.5	17	24	8

Cylinder/valve combination DNCV, standard port pattern

Technical data

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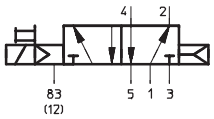
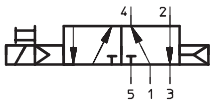
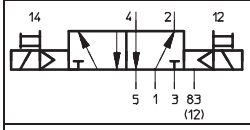
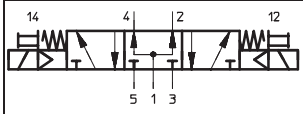
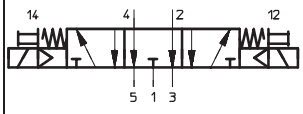
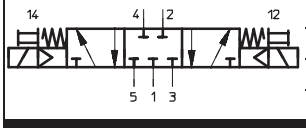
Ordering data – Cylinder/valve combination							
	Piston ∅ [mm]	Stroke [mm]	Basic version Part No.	Type		With diagnostic module Part No.	Type
With 5/2-way single solenoid valve, piston rod retracted in normal position							
	32	70 ... 500	**196 796**	**DNCV-32-...-PPV-A-5/2L**		**196 816**	**DNCV-32-...-PPV-A-5/2LD**
	40	70 ... 500	**196 797**	**DNCV-40-...-PPV-A-5/2L**		**196 817**	**DNCV-40-...-PPV-A-5/2LD**
	50	85 ... 500	**196 798**	**DNCV-50-...-PPV-A-5/2L**		**196 818**	**DNCV-50-...-PPV-A-5/2LD**
	63	85 ... 500	**196 799**	**DNCV-63-...-PPV-A-5/2L**		**196 819**	**DNCV-63-...-PPV-A-5/2LD**
With 5/2-way single solenoid valve, piston rod advanced in normal position							
	32	70 ... 500	**536 424**	**DNCV-32-...-PPV-A-5/2LA**		**536 428**	**DNCV-32-...-PPV-A-5/2LAD**
	40	70 ... 500	**536 425**	**DNCV-40-...-PPV-A-5/2LA**		**536 429**	**DNCV-40-...-PPV-A-5/2LAD**
	50	85 ... 500	**536 426**	**DNCV-50-...-PPV-A-5/2LA**		**536 430**	**DNCV-50-...-PPV-A-5/2LAD**
	63	85 ... 500	**536 427**	**DNCV-63-...-PPV-A-5/2LA**		**536 431**	**DNCV-63-...-PPV-A-5/2LAD**
With 5/2-way double solenoid valve							
	32	70 ... 500	**196 800**	**DNCV-32-...-PPV-A-5/2J**		**196 820**	**DNCV-32-...-PPV-A-5/2JD**
	40	70 ... 500	**196 801**	**DNCV-40-...-PPV-A-5/2J**		**196 821**	**DNCV-40-...-PPV-A-5/2JD**
	50	85 ... 500	**196 802**	**DNCV-50-...-PPV-A-5/2J**		**196 822**	**DNCV-50-...-PPV-A-5/2JD**
	63	85 ... 500	**196 803**	**DNCV-63-...-PPV-A-5/2J**		**196 823**	**DNCV-63-...-PPV-A-52JD**
With 5/3-way valve, mid-position pressurised							
	32	70 ... 500	**196 804**	**DNCV-32-...-PPV-A-5/3B**		**196 824**	**DNCV-32-...-PPV-A-5/3BD**
	40	70 ... 500	**196 805**	**DNCV-40-...-PPV-A-5/3B**		**196 825**	**DNCV-40-...-PPV-A-5/3BD**
	50	85 ... 500	**196 806**	**DNCV-50-...-PPV-A-5/3B**		**196 826**	**DNCV-50-...-PPV-A-5/3BD**
	63	85 ... 500	**196 807**	**DNCV-63-...-PPV-A-5/3B**		**196 827**	**DNCV-63-...-PPV-A-5/3BD**
With 5/3-way valve, mid-position exhausted							
	32	70 ... 500	**196 808**	**DNCV-32-...-PPV-A-5/3E**		**196 828**	**DNCV-32-...-PPV-A-5/3ED**
	40	70 ... 500	**196 809**	**DNCV-40-...-PPV-A-5/3E**		**196 829**	**DNCV-40-...-PPV-A-5/3ED**
	50	85 ... 500	**196 810**	**DNCV-50-...-PPV-A-5/3E**		**196 830**	**DNCV-50-...-PPV-A-5/3ED**
	63	85 ... 500	**196 811**	**DNCV-63-...-PPV-A-5/3E**		**196 831**	**DNCV-63-...-PPV-A-5/3ED**
With 5/3-way valve, mid-position closed							
	32	70 ... 500	**196 812**	**DNCV-32-...-PPV-A-5/3G**		**196 832**	**DNCV-32-...-PPV-A-5/3GD**
	40	70 ... 500	**196 813**	**DNCV-40-...-PPV-A-5/3G**		**196 833**	**DNCV-40-...-PPV-A-5/3GD**
	50	85 ... 500	**196 814**	**DNCV-50-...-PPV-A-5/3G**		**196 834**	**DNCV-50-...-PPV-A-5/3GD**
	63	85 ... 500	**196 815**	**DNCV-63-...-PPV-A-5/3G**		**196 835**	**DNCV-63-...-PPV-A-5/3GD**

Ordering data – Spare valves							
Piston ∅ [mm]	Function	Part No.	Type		Piston ∅ [mm]	Function	Part No.	Type
32/40	5/2L	**647 106**	**DNCV-32/40,5/2L**		50/63	5/2L	**647 111**	**DNCV-50/63,5/2L**
	5/2LA	**672 235**	**DNCV-32/40,5/2LA**			5/2LA	**672 236**	**DNCV-50/63,5/2LA**
	5/2J	**647 107**	**DNCV-32/40,5/2J**			5/2J	**647 112**	**DNCV-50/63,5/2J**
	5/3B	**647 108**	**DNCV-32/40,5/3B**			5/3B	**647 113**	**DNCV-50/63,5/3B**
	5/3E	**647 109**	**DNCV-32/40,5/3E**			5/3E	**647 114**	**DNCV-50/63,5/3E**
	5/3G	**647 110**	**DNCV-32/40,5/3G**			5/3G	**647 115**	**DNCV-50/63,5/3G**

Ordering data – Wearing parts kits		
Piston ∅ [mm]	Part No.	Type
32	**365 195**	**DNCV-32-PPV-A**[1)]
40	**365 196**	**DNCV-40-PPV-A**[1)]
50	**365 197**	**DNCV-50-PPV-A**[1)]
63	**365 198**	**DNCV-63-PPV-A**[1)]

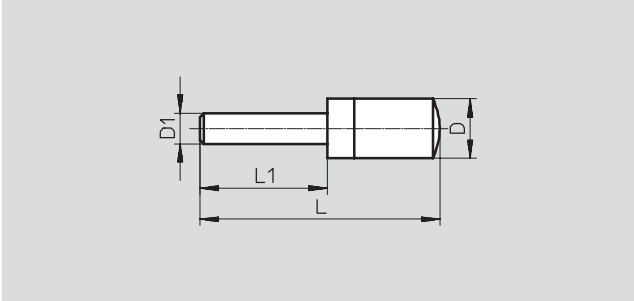
1) Assembly grease included in scope of delivery.

Diagnostic module DNCV-...-D

Ordering data			
For ∅ [mm]	Weight [g]	Part No.	Type
32 ... 63	62.4	**536 945**	**DNCV-...-D**

Silencer UC-QS

Material:
Polyurethane



Dimensions and ordering data							
For ∅ [mm]	D ∅	D1 ∅	L	L1	Weight [g]	Part No.	Type
32/40	13.8	8	54.4	23.4	2.5	**175 611**	**UC-QS-8H**
50/63	17.8	10	68.7	26.7	5.2	**526 475**	**UC-QS-10H**

Plug socket with cable SIM

Material:
Housing: Polyurethane
Cable sheath: Polyurethane

Ordering data			Technical data ➔ www.festo.com	
For ∅ [mm]	Cable length [m]	Weight [g]	Part No.	Type
32 ... 63	2	147.9	**525 616**	**SIM-M12-8GD-2-PU**
	5	343.7	**525 618**	**SIM-M12-8GD-5-PU**

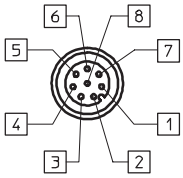
Connecting cable KM12

Material:
Housing: Polyurethane
Cable sheath: Polyurethane

Ordering data			Technical data ➔ www.festo.com	
For ∅ [mm]	Cable length [m]	Weight [g]	Part No.	Type
32 ... 63	2	156.3	**525 617**	**KM12-8GD8GS-2-PU**

Terminal allocation

M12 plug socket



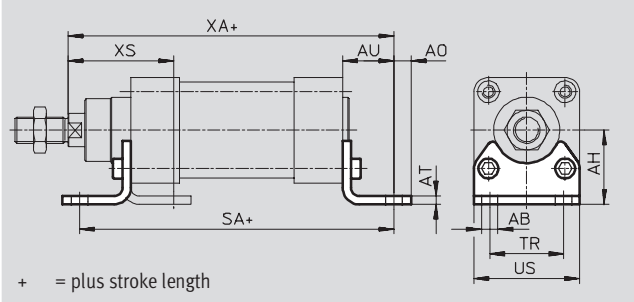
1 24 V sensor (white, WH)
2 Sensor 2 (brown, BN)
3 Sensor 1 (green, GN)
4 0 V sensors (yellow, YE)
5 Coil 14 (grey, GY)
6 Coil 12 (pink, PK)
7 Diagnosis (blue, BU)
8 0 V coils (red, RD)

Cylinder/valve combination DNCV, standard port pattern

Accessories

Foot mounting HNC/CRHNC

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



Dimensions and ordering data

For ∅ [mm]	AB ∅	AH	AO	AT	AU	SA	TR	US	XA	XS
32	7	32	6.5	4	24	142	32	45	144	45
40	10	36	9	4	28	161	36	54	163	53
50	10	45	9.5	5	31	170	45	64	175	62
63	10	50	12.5	5	32	185	50	75	190	63

For ∅	Basic version				High corrosion protection			
[mm]	CRC[1)]	Weight [g]	Part No.	Type	CRC[1)]	Weight [g]	Part No.	Type
32	2	135	**174 369**	**HNC-32**	4	135	**176 937**	**CRHNC-32**
40	2	180	**174 370**	**HNC-40**	4	180	**176 938**	**CRHNC-40**
50	2	325	**174 371**	**HNC-50**	4	325	**176 939**	**CRHNC-50**
63	2	405	**174 372**	**HNC-63**	4	405	**176 940**	**CRHNC-63**

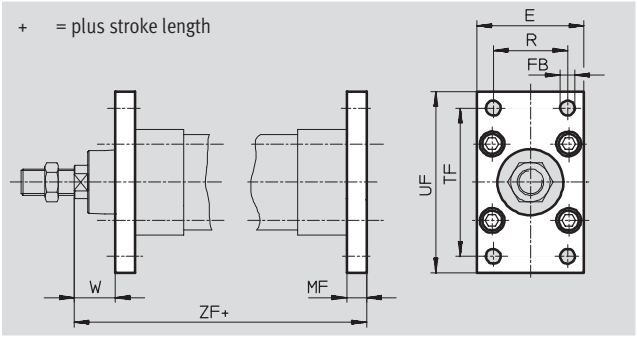
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating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

Cylinder/valve combination DNCV, standard port pattern

Accessories

Flange mounting FNC/CRFNG

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



Dimensions and ordering data

For ∅ [mm]	E	FB ∅ H13	MF	R	TF	UF	W	ZF
32	45	7	10	32	64	80	16	130.7
40	54	9	10	36	72	90	21	145.6
50	65	9	12	45	90	110	26	156
63	75	9	12	50	100	120	27	171.5

For ∅	Basic version				High corrosion protection			
[mm]	CRC[1)]	Weight [g]	Part No.	Type	CRC[1)]	Weight [g]	Part No.	Type
32	2	240	**174 376**	**FNC-32**	4	240	**161 846**	**CRFNG-32**
40	2	280	**174 377**	**FNC-40**	4	300	**161 847**	**CRFNG-40**
50	2	520	**174 378**	**FNC-50**	4	550	**161 848**	**CRFNG-50**
63	2	690	**174 379**	**FNC-63**	4	710	**161 849**	**CRFNG-63**

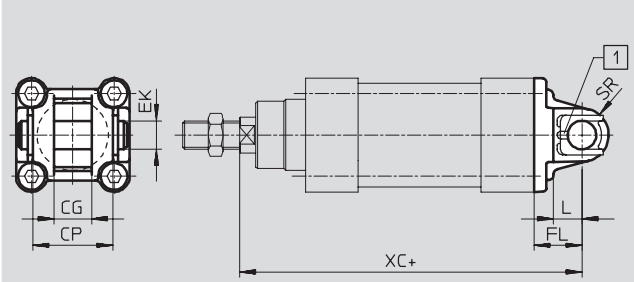
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating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

Cylinder/valve combination DNCV, standard port pattern

Accessories

Swivel flange SNC

Material:
die-cast aluminium



\+ = plus stroke length
1 The pivot pin is secured against rotation with a dowel pin.

Dimensions and ordering data

For ∅ [mm]	CG H14	CP h14	EK ∅	FL ±0.2	L	SR	XC	CRC[1)]	Weight [g]	Part No.	Type
32	14	34	10	22	13	10	142.7	2	90	**174 383**	**SNC-32**
40	16	40	12	25	16	12	160.6	2	120	**174 384**	**SNC-40**
50	21	45	16	27	16	12	171	2	240	**174 385**	**SNC-50**
63	21	51	16	32	21	16	191.5	2	320	**174 386**	**SNC-63**

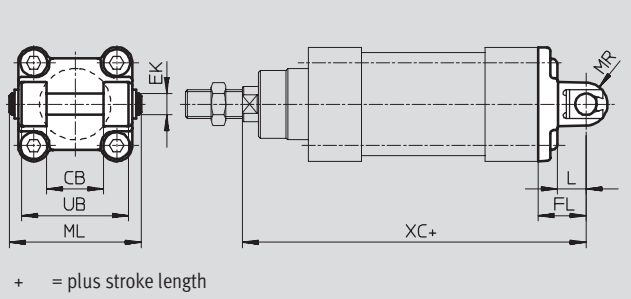
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating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

Cylinder/valve combination DNCV, standard port pattern

Accessories

Swivel flange
SNCB/SNCB-...-R3

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



\+ = plus stroke length

Dimensions and ordering data

For ∅ [mm]	CB H14	EK ∅ e8	FL ±0.2	L	ML	MR	UB h14	XC
32	26	10	22	13	55	10	45	142.7
40	28	12	25	16	63	12	52	160.6
50	32	12	27	16	71	12	60	171
63	40	16	32	21	83	16	70	191.5

For ∅	Weight	Basic version		Variant R3 – High corrosion protection		
[mm]	[g]	Part No.	Type	CRC[1)]	Part No.	Type
32	100	**174 390**	**SNCB-32**	3	**176 944**	**SNCB-32-R3**
40	150	**174 391**	**SNCB-40**	3	**176 945**	**SNCB-40-R3**
50	225	**174 392**	**SNCB-50**	3	**176 946**	**SNCB-50-R3**
63	365	**174 393**	**SNCB-63**	3	**176 947**	**SNCB-63-R3**

1) 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.

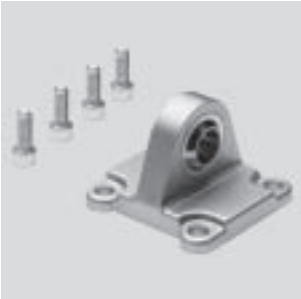
Cylinder/valve combination DNCV, standard port pattern

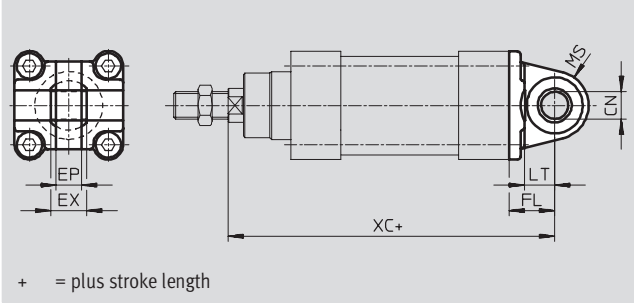
Accessories

FESTO

Swivel flange SNCS

Material:
Die-cast aluminium





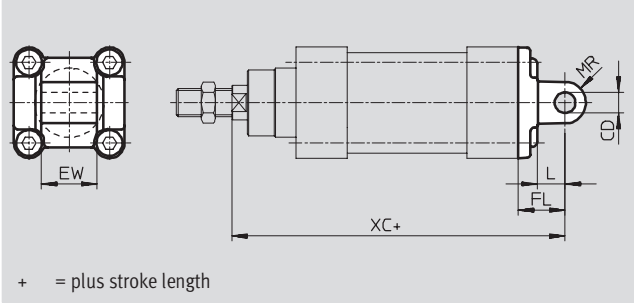
\+ = plus stroke length

Dimensions and ordering data

For ∅ [mm]	CN ∅ H7	EP +0.2	EX	FL ±0.2	LT	MS	XC	Weight [g]	Part No.	Type
32	10	10.5	14	22	13	15	142.7	85	**174 397**	**SNCS-32**
40	12	12	16	25	16	17	160.6	125	**174 398**	**SNCS-40**
50	16	15	21	27	16	20	171	210	**174 399**	**SNCS-50**
63	16	15	21	32	21	22	191.5	280	**174 400**	**SNCS-63**

Swivel flange SNCL

Material:
Die-cast aluminium



\+ = plus stroke length

Dimensions and ordering data

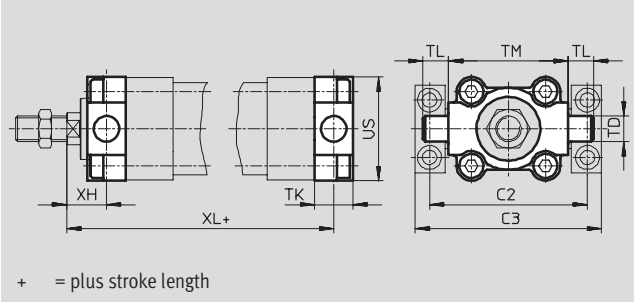
For ∅ [mm]	CD ∅ H9	EW h12	FL ±0.2	L	MR	XC	Weight [g]	Part No.	Type
32	10	26	22	13	10	142.7	75	**174 404**	**SNCL-32**
40	12	28	25	16	12	160.6	100	**174 405**	**SNCL-40**
50	12	32	27	16	12	171	160	**174 406**	**SNCL-50**
63	16	40	32	21	16	191.5	250	**174 407**	**SNCL-63**

Cylinder/valve combination DNCV, standard port pattern

Accessories

Trunnion flange ZNCF/CRZNG

Material:
ZNCF: High-alloy stainless steel
CRZNG: Electrolytically polished high-alloy stainless steel
Free of copper, PTFE and silicone



\+ = plus stroke length

Dimensions and ordering data

For ∅ [mm]	C2	C3	TD ∅ e9	TK	TL	TM	US	XH	XL
32	71	86	12	16	12	50	45	18	128.7
40	87	105	16	20	16	63	54	21	145.6
50	99	117	16	24	16	75	64	26	156
63	116	136	20	24	20	90	75	27	171.5

For ∅	Basic version				High corrosion protection			
[mm]	CRC[1)]	Weight [g]	Part No.	Type	CRC[1)]	Weight [g]	Part No.	Type
32	2	130	**174 411**	**ZNCF-32**	4	150	**161 852**	**CRZNG-32**
40	2	240	**174 412**	**ZNCF-40**	4	260	**161 853**	**CRZNG-40**
50	2	390	**174 413**	**ZNCF-50**	4	430	**161 854**	**CRZNG-50**
63	2	600	**174 414**	**ZNCF-63**	4	640	**161 855**	**CRZNG-63**

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.
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.

Cylinder/valve combination DNCV, standard port pattern

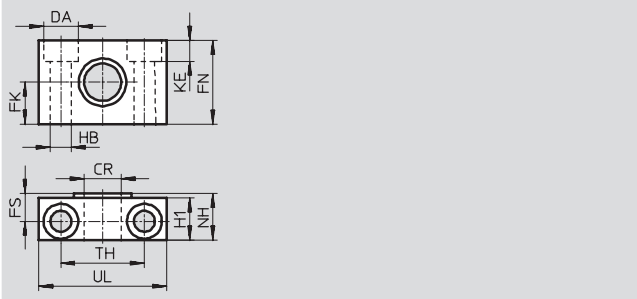
Accessories

FESTO

Trunnion support LNZG

Material:
Trunnion support:
Anodised aluminium
Plain bearing: Plastic

Free of copper, PTFE and silicone



Dimensions and ordering data

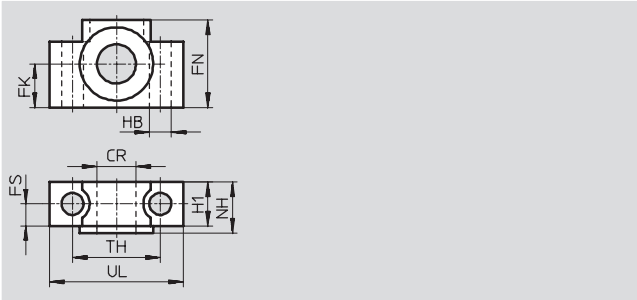
For ∅ [mm]	CR ∅ D11	DA ∅ H13	FK ∅ ±0.1	FN	FS	H1	HB ∅ H13	KE	NH	TH ±0.2	UL
32	12	11	15	30	10.5	15	6.6	6.8	18	32	46
40, 50	16	15	18	36	12	18	9	9	21	36	55
63	20	18	20	40	13	20	11	11	23	42	65

For ∅	Basic version				Variant CT – Free of copper, PTFE and silicone			
[mm]	CRC[1]	Weight [g]	Part No.	Type	CRC[1]	Weight [g]	Part No.	Type
32	2	125	**32 959**	**LNZG-32**	2	125	**183 463**	**LNZG-32-CT**
40, 50	2	400	**32 960**	**LNZG-40/50**	2	400	**183 464**	**LNZG-40/50-CT**
63	2	480	**32 961**	**LNZG-63/80**	2	480	**183 465**	**LNZG-63/80-CT**

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.

Trunnion support CRLNZG

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



Dimensions and ordering data

For ∅ [mm]	CR ∅ D11	FK ∅ ±0.1	FN	FS	H1	HB ∅ H13	NH	TH ±0.2	UL	CRC[1]	Weight [g]	Part No.	Type
32	12	15	30	10.5	15	6.6	18	32	46	4	200	**161 874**	**CRLNZG-32**
40, 50	16	18	36	12	18	9	21	36	55	4	330	**161 875**	**CRLNZG-40/50**
63	20	20	40	13	20	11	23	42	65	4	440	**161 876**	**CRLNZG-63/80**

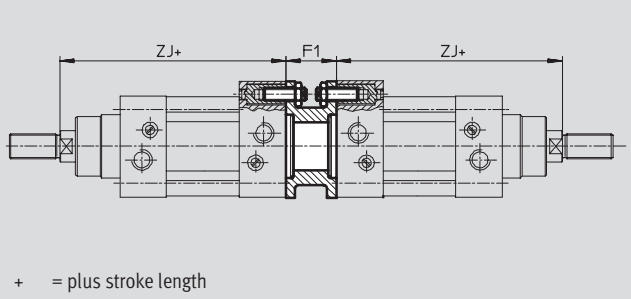
1) Corrosion resistance class 4 according to Festo standard 940 070
Components requiring higher corrosion resistance. Parts used with aggressive media, e.g. food or chemical industry. These applications should be supported with special tests with the media if required.

Cylinder/valve combination DNCV, standard port pattern

Accessories

Adapter kit DPNC

Material:
Flange: Wrought aluminium alloy
Threaded pins, hex nuts: Galvanised steel



\+ = plus stroke length

Note

The maximum overall stroke length may not be exceeded when combining cylinders and multi-position kits.

Dimensions and ordering data

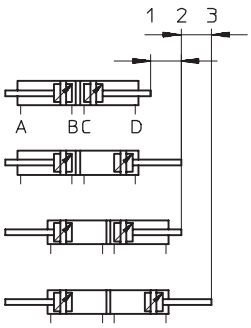
For ∅ [mm]	F1	ZJ	Max. overall stroke length [mm]	Weight [g]	Part No.	Type
32	27	120.7	1000	85	**174 418**	**DPNC-32**
40	27	135.6	1000	115	**174 419**	**DPNC-40**
50	32	144	1000	210	**174 420**	**DPNC-50**
63	28	159.5	1000	360	**174 421**	**DPNC-63**

Connecting two cylinders with identical piston ∅ as a 3 or 4-position cylinder

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.

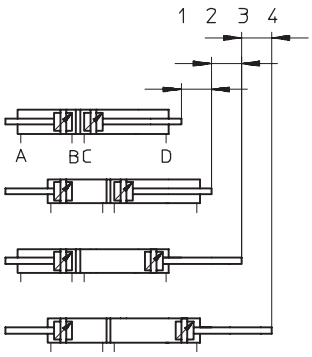
Implementing 3 positions

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



Implementing 4 positions

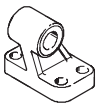
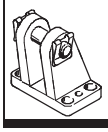
Two cylinders with different stroke lengths must be connected to this end.

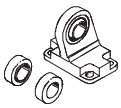
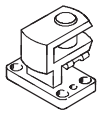


Cylinder/valve combination DNCV, standard port pattern

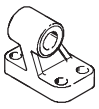
Accessories

Ordering data – Mounting attachments — Technical data ➔ www.festo.com

Designation	For ∅	Part No.	Type
Clevis foot LNG			
	32	**33 890**	**LNG-32**
	40	**33 891**	**LNG-40**
	50	**33 892**	**LNG-50**
	63	**33 893**	**LNG-63**
Clevis foot LSNG			
	32	**31 740**	**LSNG-32**
	40	**31 741**	**LSNG-40**
	50	**31 742**	**LSNG-50**
	63	**31 743**	**LSNG-63**
Clevis foot LBG			
	32	**31 761**	**LBG-32**
	40	**31 762**	**LBG-40**
	50	**31 763**	**LBG-50**
	63	**31 764**	**LBG-63**

Designation	For ∅	Part No.	Type
Clevis foot LSN			
	32	**5 561**	**LSN-32**
	40	**5 562**	**LSN-40**
	50	**5 563**	**LSN-50**
	63	**5 564**	**LSN-63**
Clevis foot LSNSG			
	32	**31 747**	**LSNSG-32**
	40	**31 748**	**LSNSG-40**
	50	**31 749**	**LSNSG-50**
	63	**31 750**	**LSNSG-63**
Clevis foot, lateral LQG			
	32	**31 768**	**LQG-32**
	40	**31 769**	**LQG-40**
	50	**31 770**	**LQG-50**
	63	**31 771**	**LQG-63**

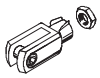
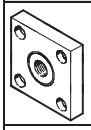
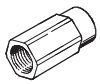
Ordering data – Corrosion resistant mounting attachments — Technical data ➔ www.festo.com

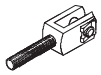
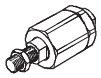
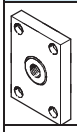
Designation	For ∅	Part No.	Type
Clevis foot CRLNG			
	32	**161 840**	**CRLNG-32**
	40	**161 841**	**CRLNG-40**
	50	**161 842**	**CRLNG-50**
	63	**161 843**	**CRLNG-63**

Cylinder/valve combination DNCV, standard port pattern

Accessories

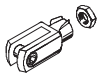
Ordering data – Piston rod attachments — Technical data ➔ www.festo.com

Designation	For ∅	Part No.	Type
Rod eye SGS			
	32	**9 261**	**SGS-M10x1,25**
	40	**9 262**	**SGS-M12x1,25**
	50	**9 263**	**SGS-M16x1,5**
	63		
Rod clevis SG			
	32	**6 144**	**SG-M10x1,25**
	40	**6 145**	**SG-M12x1,25**
	50	**6 146**	**SG-M16x1,5**
	63		
Coupling piece KSG			
	32	**32 963**	**KSG-M10x1,25**
	40	**32 964**	**KSG-M12x1,25**
	50	**32 965**	**KSG-M16x1,5**
	63		
Adapter AD			
	32	**157 333**	**AD-M10x1,25-⅛**
		157 334	**AD-M10x1,25-¼**
	40	**160 256**	**AD-M12x1,25-¼**
		160 257	**AD-M12x1,25-⅜**

Designation	For ∅	Part No.	Type
Rod clevis SGA			
	32	**32 954**	**SGA-M10x1,25**
	40	**10 767**	**SGA-M12x1,25**
	50	**10 768**	**SGA-M16x1,5**
	63		
Self-aligning rod coupler FK			
	32	**6 140**	**FK-M10x1,25**
	40	**6 141**	**FK-M12x1,25**
	50	**6 142**	**FK-M16x1,5**
	63		
Coupling piece KSZ			
	32	**36 125**	**KSZ-M10x1,25**
	40	**36 126**	**KSZ-M12x1,25**
	50	**36 127**	**KSZ-M16x1,5**
	63		

Ordering data – Corrosion resistant piston rod attachments — Technical data ➔ www.festo.com

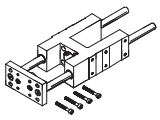
Designation	For ∅	Part No.	Type
Rod eye CRSGS			
	32	**195 582**	**CRSGS-M10x1,25**
	40	**195 583**	**CRSGS-M12x1,25**
	50	**195 584**	**CRSGS-M16x1,5**
	63		

Designation	For ∅	Part No.	Type
Rod clevis CRSG			
	32	**13 569**	**CRSG-M10x1,25**
	40	**13 570**	**CRSG-M12x1,25**
	50	**13 571**	**CRSG-M16x1,5**
	63		

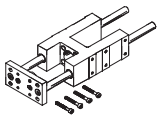
Cylinder/valve combination DNCV, standard port pattern

Accessories

Ordering data – Guide units for variable strokes — Technical data ➔ www.festo.com

	For ∅ [mm]	Stroke [mm]	With recirculating ball bearing guide Part No.	Type	With plain-bearing guide Part No.	Type
	32	10 … 500	**34 487**	**FENG-32-…-KF**	**34 481**	**FENG-32-…**
	40	10 … 500	**34 488**	**FENG-40-…-KF**	**34 482**	**FENG-40-…**
	50	10 … 500	**34 489**	**FENG-50-…-KF**	**34 483**	**FENG-50-…**
	63	10 … 500	**34 490**	**FENG-63-…-KF**	**34 484**	**FENG-63-…**

Ordering data – Guide units for fixed strokes (recirculating ball bearing guide only) — Technical data ➔ www.festo.com

	Stroke [mm]	Part No.	Type	Stroke [mm]	Part No.	Type
	For ∅ 32 mm			For ∅ 40 mm		
	10 … 50	**34 493**	**FENG-32-50-KF**	10 … 50	**34 499**	**FENG-40-50-KF**
	10 … 100	**34 494**	**FENG-32-100-KF**	10 … 100	**34 500**	**FENG-40-100-KF**
	10 … 160	**34 495**	**FENG-32-160-KF**	10 … 160	**34 501**	**FENG-40-160-KF**
	10 … 200	**34 496**	**FENG-32-200-KF**	10 … 200	**34 502**	**FENG-40-200-KF**
	10 … 250	**150 289**	**FENG-32-250-KF**	10 … 250	**34 503**	**FENG-40-250-KF**
	10 … 320	**34 497**	**FENG-32-320-KF**	10 … 320	**34 504**	**FENG-40-320-KF**
	10 … 400	**150 290**	**FENG-32-400-KF**	10 … 400	**150 291**	**FENG-40-400-KF**
	10 … 500	**34 498**	**FENG-32-500-KF**	10 … 500	**34 505**	**FENG-40-500-KF**
	For ∅ 50 mm			For ∅ 63 mm		
	10 … 50	**34 506**	**FENG-50-50-KF**	10 … 50	**34 513**	**FENG-63-50-KF**
	10 … 100	**34 507**	**FENG-50-100-KF**	10 … 100	**34 514**	**FENG-63-100-KF**
	10 … 160	**34 508**	**FENG-50-160-KF**	10 … 160	**34 515**	**FENG-63-160-KF**
	10 … 200	**34 509**	**FENG-50-200-KF**	10 … 200	**34 516**	**FENG-63-200-KF**
	10 … 250	**34 510**	**FENG-50-250-KF**	10 … 250	**34 517**	**FENG-63-250-KF**
	10 … 320	**34 511**	**FENG-50-320-KF**	10 … 320	**34 518**	**FENG-63-320-KF**
	10 … 400	**150 292**	**FENG-50-400-KF**	10 … 400	**34 519**	**FENG-63-400-KF**
	10 … 500	**34 512**	**FENG-50-500-KF**	10 … 500	**34 520**	**FENG-63-500-KF**

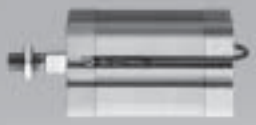
What must be observed when using Festo components?

Specified limit values for technical data and any specific instructions must be adhered to by the user in order to ensure recommended operating conditions.
When pneumatic components are used, the user shall ensure that they are operated using correctly prepared compressed air without aggressive media.
When Festo components are used in safety-oriented applications, the user shall ensure that all applicable national and local safety laws and regulations, for example the machine directive, together with the relevant references to standards are observed.
Unauthorised conversions or modifications to products and systems from Festo involve a safety risk and are thus not permissible.
Festo does not accept any liability for resulting damages.
You should contact Festo's advisors if one of the following apply to your application:

- The ambient conditions and conditions of use or the operating medium differ from the specified technical data.
- The product is to perform a safety function.
- A risk or safety analysis is required.
- You are unsure about the product's suitability for use in the planned application.
- You are unsure about the product's suitability for use in safety-oriented applications.

Products and services – everything from a single source

Products incorporating new ideas are created when enthusiasm for technology and efficiency come together. Tailor-made service goes without saying when the customer is the focus of attention.



Pneumatic and electrical drives

- Pneumatic cylinders
- Semi-rotary drives
- Handling modules
- Servopneumatic positioning systems
- Electromechanical drives
- Positioning controllers and controllers

Valves and valve terminals

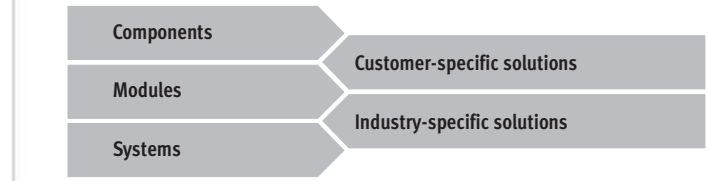
- Standard valves
- Universal and application-optimised valves
- Manually and mechanically actuated valves
- Shut-off, pressure control and flow control valves
- Proportional valves
- Safety valves

Fieldbus systems/ electrical peripherals

- Fieldbus Direct
- Installation system CP/CPI
- Modular electrical terminal CPX

Compressed air preparation

- Service unit combinations
- Filter regulators
- Filters
- Pressure regulators
- Lubricators
- On-off and soft-start valves
- Dryers
- Pressure amplifiers
- Accessories for compressed air preparation



Services from Festo to increase your productivity – across the entire value creation sequence

Engineering – for greater speed in the development process

- CAD models
- 14 engineering tools
- Digital catalogue
- FluidDRAW®
- More than 1,000 technical consultants and project engineers worldwide
- Technical hotlines

Supply chain – for greater speed in the procurement process

- E-commerce and online shop
- Online order tracking
- Euro special manufacturing service
- Logistics optimisation

Gripping and vacuum technology

- Vacuum generators
- Vacuum grippers
- Vacuum security valves
- Vacuum accessories
- Standard grippers
- Micro grippers
- Precision grippers
- Heavy-duty grippers

Sensors and monitoring units

- Proximity sensors
- Pressure and flow sensors
- Display and operating units
- Inductive and optical proximity sensors
- Displacement encoders for positioning cylinders
- Optical orientation detection and quality inspection

Controllers/bus systems

- Pneumatic and electropneumatic controllers
- Programmable logic controllers
- Fieldbus systems and accessories
- Timers/counters
- Software for visualisation and data acquisition
- Display and operating units

Accessories

- Pipes
- Tubing
- Pipe connectors and fittings
- Electrical connection technology
- Silencers
- Reservoirs
- Air guns

All in all, 100% product and service quality

A customer-oriented range with unlimited flexibility:
Components combine to produce ready-to-install modules and systems. Included in this are special designs – since at Festo, most industry-specific products and customer-specific solutions are based on the 23,000 plus catalogue products. Combined with the services for the entire value creation sequence, the end result is unbeatable economy.

Assembly – for greater speed in the assembly/commissioning process

- Prepack
- Preassembly
- Turnkey pneumatics
- Handling solutions

Operation – for greater speed in the operational process

- Spare parts service
- Energy saving service
- Compressed air consumption analysis
- Compressed air quality analysis
- Customer service