

FESTO



SCANIA

Project Book

New Foundry



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1 Contents

1	Contents	3
2	Remarks	4
3	Festo SCANIA Customer Team	6
4	Electromechanical drives.....	10
4.1	Electric cylinders	10
4.2	Linear axes.....	12
4.3	Cantilever axes.....	13
4.4	Motors	14
4.5	Controllers	15
4.6	Safety modules for motor controllers	15
5	Function-specific solutions	17
5.1	Balancer kit.....	17
5.2	Servo press kit	19
6	Air preparation.....	20
6.1	On-off valves, manually operated	20
6.2	On-off valves, electrically operated	21
6.3	Soft-start valves.....	22
6.4	Safety soft-start/quick exhaust valves	23
6.5	Branching modules and distribution blocks.....	24
6.6	Filter and Filter regulators	25
6.7	Pressure regulators.....	27
6.8	Pressure gauges	28
6.9	Pressure booster.....	28
6.10	Energy efficiency module	29
6.11	Air preparation configurations.....	30
7	Drives	34
7.1	Standard cylinders	34
7.2	Rodless cylinders	39
7.3	Cylinder with clamping unit (for safety related applications)	42
7.4	Rotary drives.....	43
7.5	Stopper cylinder.....	44
7.6	Guided drives.....	45
8	Gripper	48
8.1	Parallel grippers.....	48
8.2	Three-pointed and radial gripper.....	49
9	Process automation	51
9.1	Quarter turn actuators	51
9.2	Seat angle and ball valves.....	52
9.3	Butterfly valves	53
9.4	Gate valves	53
9.5	Sensor boxes	54
10	Vacuum technology	55
10.1	Vacuum generation	55
10.2	Vacuum suction cups	56
11	Valves.....	59
11.1	Electrically and pneumatically operated ISO standard valves	59
11.2	Shut-off valves.....	61
11.3	Flow control valves.....	63
11.4	Pressure control valve.....	64
11.5	Proportional valves	65
12	Valve terminals.....	66
12.1	Valve terminal CPX/VTSA	67
12.2	Valve terminal CPX/MPA	69
13	Pneumatic fitting system	71
13.1	Standard outside diameter tubing.....	71
13.2	Fittings and couplings.....	73
14	Sensors and other equipment.....	74
14.1	Proximity and inductive sensors.....	74
14.2	Flow sensors	75
14.3	Air gap sensors	76
14.4	Pressure and vacuum sensors.....	77
14.5	Position sensors and connecting cables	78
14.6	Air reservoir	78
14.7	Silencers	79
15	Support from Festo	80

★ / ☆ = Festo core product range (see page 4)

2 Remarks

Sources

This Festo project book was designed for machines and production equipment for the New Foundry Project of SCANIA in Södertälje. The components that are listed in this document conform with the following sources:

- **Technical Regulations for Machines and Production Equipment (TFP)**
Issue: 01/2015
Date: 01.03.2015
- **Recommended makes**
Addendum to SCANIA TFP 2015
Issue: 1
Date: 01.03.2015

Festo core product range

A promise of success:

Cylinders with piston rod, swivel cylinders, valves, service units, sensors and connection technology from the core product range.

Look for the star when selecting products in the catalogue.

Over 2,200 products that are:

- Worldwide: always in stock
- Superb: Festo quality at an attractive price
- Easy: just a few clicks to place an order online

★ = Generally ready for shipping ex works in 24 hours

☆ = Generally ready for shipping ex works in 5 days



→ Stars in pneumatics



Change history

Version	Date	Remark	Chapter / Page
1.0	29.05.2019	First release	all
1.1	10.07.2019	Adding of MS2 LFR and LR	6.7 / 27
1.2	01.10.2019	Update of FESTO SCANIA Customer Team Adding VBOH Hand slide valve	3 / 6 6.1 / 20
1.3	28.01.2020	Correction of air preparation units - size G1"	6.11 / 30

Legend:

	= xDKI-Online Link
	= CAD
	= Documentation
	= Data Sheet
	= Accessories
	= Spare Parts
	= Support Portal

3 Festo SCANIA Customer Team



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v2.0

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v2.0

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★ / ☆ = Festo core product range (see page 4)

Electric cylinders

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4 Electromechanical drives

4.1 Electric cylinders

Name	Electric cylinder ESBF
Order code	ESBF-...
Remarks	Size 32, 40, 50, 63, 80, 100 Stroke length 30 ... 1500 mm Force: 600 ... 17000 N Motor can be mounted using axial or parallel kit Linear drive with ball screw in Clean Design
Picture	
Documentation	Catalogue Documentation 

Part no.	Order code	Name	Links
8022565	ESBF-BS-32-100-10P	Electric cylinder	
8022562	ESBF-BS-32-100-5P	Electric cylinder	
8022566	ESBF-BS-32-200-10P	Electric cylinder	
2215384	ESBF-BS-32-200-5P	Electric cylinder	
8022567	ESBF-BS-32-300-10P	Electric cylinder	
8022563	ESBF-BS-32-300-5P	Electric cylinder	
8022568	ESBF-BS-32-400-10P	Electric cylinder	
8022564	ESBF-BS-32-400-5P	Electric cylinder	
8022585	ESBF-BS-40-600-10P	Electric cylinder	
8022585	ESBF-BS-40-600-5P	Electric cylinder	
8022577	ESBF-BS-40-100-10P	Electric cylinder	
8022581	ESBF-BS-40-100-16P	Electric cylinder	
8022574	ESBF-BS-40-100-5P	Electric cylinder	
8022578	ESBF-BS-40-200-10P	Electric cylinder	
8022582	ESBF-BS-40-200-16P	Electric cylinder	
2215385	ESBF-BS-40-200-5P	Electric cylinder	
8022579	ESBF-BS-40-300-10P	Electric cylinder	
8022583	ESBF-BS-40-300-16P	Electric cylinder	
8022575	ESBF-BS-40-300-5P	Electric cylinder	
8022580	ESBF-BS-40-400-10P	Electric cylinder	
8022584	ESBF-BS-40-400-16P	Electric cylinder	
8022576	ESBF-BS-40-400-5P	Electric cylinder	

Part no.	Order code	Name	Links
8022593	ESBF-BS-50-100-10P	Electric cylinder	
8022597	ESBF-BS-50-100-20P	Electric cylinder	
8022590	ESBF-BS-50-100-5P	Electric cylinder	
8022594	ESBF-BS-50-200-10P	Electric cylinder	
8022598	ESBF-BS-50-200-20P	Electric cylinder	
2215386	ESBF-BS-50-200-5P	Electric cylinder	
8022595	ESBF-BS-50-300-10P	Electric cylinder	
8022599	ESBF-BS-50-300-20P	Electric cylinder	
8022591	ESBF-BS-50-300-5P	Electric cylinder	
8022596	ESBF-BS-50-400-10P	Electric cylinder	
8022600	ESBF-BS-50-400-20P	Electric cylinder	
8022592	ESBF-BS-50-400-5P	Electric cylinder	
574096	ESBF-BS-63-100-10P	Electric cylinder	
574100	ESBF-BS-63-100-25P	Electric cylinder	
574093	ESBF-BS-63-100-5P	Electric cylinder	
574097	ESBF-BS-63-200-10P	Electric cylinder	
574101	ESBF-BS-63-200-25P	Electric cylinder	
1347390	ESBF-BS-63-200-5P	Electric cylinder	
574098	ESBF-BS-63-300-10P	Electric cylinder	
574102	ESBF-BS-63-300-25P	Electric cylinder	
574094	ESBF-BS-63-300-5P	Electric cylinder	
574099	ESBF-BS-63-400-10P	Electric cylinder	
574103	ESBF-BS-63-400-25P	Electric cylinder	
574095	ESBF-BS-63-400-5P	Electric cylinder	
574107	ESBF-BS-80-100-15P	Electric cylinder	
574111	ESBF-BS-80-100-32P	Electric cylinder	
574104	ESBF-BS-80-100-5P	Electric cylinder	
574108	ESBF-BS-80-200-15P	Electric cylinder	
574112	ESBF-BS-80-200-32P	Electric cylinder	
1347391	ESBF-BS-80-200-5P	Electric cylinder	
574109	ESBF-BS-80-300-15P	Electric cylinder	
574113	ESBF-BS-80-300-32P	Electric cylinder	
574105	ESBF-BS-80-300-5P	Electric cylinder	
574110	ESBF-BS-80-400-15P	Electric cylinder	
574114	ESBF-BS-80-400-32P	Electric cylinder	
574106	ESBF-BS-80-400-5P	Electric cylinder	
574118	ESBF-BS-100-100-20P	Electric cylinder	
574122	ESBF-BS-100-100-40P	Electric cylinder	
574115	ESBF-BS-100-100-5P	Electric cylinder	
574119	ESBF-BS-100-200-20P	Electric cylinder	
574123	ESBF-BS-100-200-40P	Electric cylinder	
1347393	ESBF-BS-100-200-5P	Electric cylinder	
574120	ESBF-BS-100-300-20P	Electric cylinder	
574124	ESBF-BS-100-300-40P	Electric cylinder	
574116	ESBF-BS-100-300-5P	Electric cylinder	
574121	ESBF-BS-100-400-20P	Electric cylinder	
574125	ESBF-BS-100-400-40P	Electric cylinder	
574117	ESBF-BS-100-400-5P	Electric cylinder	

4.2 Linear axes

The following stroke lengths are released [mm]: 125, 160, 200, 250, 320, 400, 500, 600, 700, 800, 900, 1000
Special stroke lengths and stroke lengths >1000mm required a deviation request.

Name	Spindle axes EGC-BS	Spindle axes EGC-HD-BS	Toothed belt axes EGC-TB	Toothed belt axes EGC-HD-TB
Order code	EGC-...-BS-...	EGC-HD-...-BS-...	EGC-...-TB-...	EGC-HD-...-TB-...
Remarks	Size 70, 80, 120, 185 Stroke length 50 ... 3000 mm Force 300 ... 3000 N.	Size 125, 160, 220 Stroke length 50 ... 2400 mm Force 300 ... 1300 N.	Size 50, 70, 80, 120, 185 Stroke length 50 ... 8500 mm Force 50 ... 2500 N.	Size 125, 160, 220 Stroke length 50 ... 5000 mm Force 450 ... 1800 N.
Picture				
Documentation	Catalogue Documentation 	Catalogue Documentation 	Catalogue Documentation 	Catalogue Documentation 

Name	Toothed belt axes ELGA-TB-G
Order code	ELGA-...
Remarks	Size 70, 80, 120 Max. stroke length 8500 mm Force 350 ... 1300 N Integrated plain-bearing guide.
Picture	
Documentation	Catalogue Documentation 

Cantilever axes

Part no.	Order code	Name	Links
556807	EGC-70- -BS-KF	Spindle axis	
556808	EGC-80- -BS-KF	Spindle axis	
556809	EGC-120- -BS-KF	Spindle axis	
556811	EGC-185- -BS-KF	Spindle axis	
556819	EGC-HD-125- -BS	Spindle axis	
556820	EGC-HD-160- -BS	Spindle axis	
556821	EGC-HD-220- -BS	Spindle axis	
556812	EGC-50- -TB-KF	Toothed belt axis	
556813	EGC-70- -TB-KF	Toothed belt axis	
556814	EGC-80- -TB-KF	Toothed belt axis	
556815	EGC-120- -TB-KF	Toothed belt axis	
556817	EGC-185- -TB-KF	Toothed belt axis	
556823	EGC-HD-125- -TB	Toothed belt axis	
556824	EGC-HD-160- -TB	Toothed belt axis	
556825	EGC-HD-220- -TB	Toothed belt axis	
570502	ELGA-TB-G-70- -	Toothed belt axis	
570503	ELGA-TB-G-80- -	Toothed belt axis	
570504	ELGA-TB-G-120- -	Toothed belt axis	

4.3 Cantilever axes

Name	Rack and pinion axes EHMH	Cantilever axes DGEA-ZR
Order code	EHMH-...-ABA-SRT-...	DGEA-...
Remarks	Size 80, 140 max. stroke 2500 mm max. load 100 kg max. velocity 1,5 m/s max. advance force 2500, 4900 N ABA = Cover drive SRT = Lubrication pinion	Size 18, 25, 40 Stroke length 100 ... 1000 mm Force 230 ... 1000 N
Picture		
Documentation	 Documentation 	 Catalogue  Documentation 

Motors

Part no.	Order code	Name	Links
8068233	EHMH-80-...-ABA-SRT	Rack and pinion axis	
8068234	EHMH-140-...-ABA-SRT	Rack and pinion axis	
195611	DGEA-18- -ZR	Cantilever axis	
195612	DGEA-25- -ZR	Cantilever axis	
195613	DGEA-40- -ZR	Cantilever axis	

4.4 Motors

Name	Servo motors EMMT-AS	EMMS-AS servo motors	EMMS-ST stepper motor	Integrated drives EMCA
Order code	EMMT-...-AS-...	EMMS-...	EMMS-...	EMCA-...
Remarks	Size 60 Torque 0.6 ... 1.4 Nm Voltage 325 ... 565 V DC Nominal current 1.4 ... 3.2 A	Size 40, 55, 70, 100, 140, 190 Torque 1 ... 120 Nm Voltage 360 ... 565 V DC Nominal current 0.6 ... 14.4 A Suitable motor cable Suitable motor flange. IP65 Brake Encoder, absolute, multiturn	Size 28, 42, 57, 87 Holding torque 0.09 ... 8.6 Nm Voltage 24 ... 72 V DC Nominal current 1.4 ... 9.5 A Suitable motor cable Suitable motor flange Brake Encoder	Size 67 Torque 0.37 ... 0.45 Nm Voltage 24 V DC Nominal current 6.9 ... 7.2 A built-in power, closed- and open-loop control electronics PROFINET Absolute encoder, multi-turn
Picture				
Documentation	 Catalogue  Documentation 	 Catalogue  Documentation 	 Catalogue  Documentation 	 Catalogue  Documentation 

4.5 Controllers

Name	Servo drive CMMT-AS	Motor controllers CMMP-AS	Motor controllers CMMS-ST
Order code	CMMT-...	CMMP-...	CMMS-...
Remarks	Nominal voltage: 230 V AC Nominal current: 2.8 ... 16.8 A Nominal power: 350 ... 2000 VA	Nominal voltage: 230 V AC, 400 V AC Nominal current: 2.5 ... 30 A Nominal power: 500 ... 18000 VA	Voltage 24, 48 V DC Nominal current 8 A Max. step frequency 4 kHz
Picture			
Documentation	Catalogue Documentation 	Catalogue Documentation 	Catalogue Documentation 

4.6 Safety modules for motor controllers

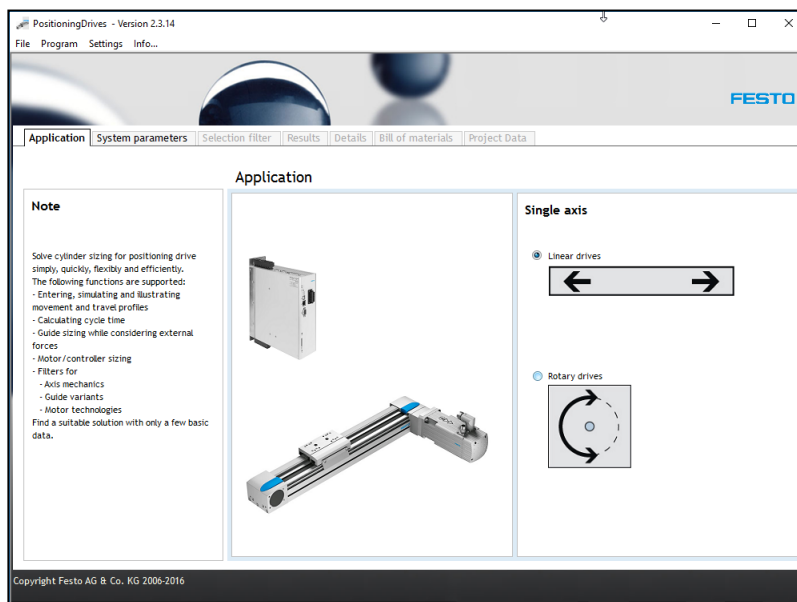
Name	Order code	Remarks	Picture	Documentation
Interface, memory cards	CAMC-...	Interfaces and memory cards for motor controller.		Catalogue Documentation 

Part no.	Order code	Safety function	Performance level	Category	Links
1501330	CAMC-G-S1	Safe Torque off (STO)	PL e	Cat. 4	
1501331	CAMC-G-S3	Safe brake control (SBC) Safely limited speed (SLS) Safe operating stop (SOS) Safe Stop 1 (SS1) Safe speed monitor (SSM) Safe speed range (SSR) Safe Torque off (STO)	PL e PL e PL e PL e PL e PL e PL e	Cat. 3 Cat. 4 Cat. 4 Cat. 4 Cat. 4 Cat. 4 Cat. 4	

Software tool – Selection and dimensioning of electromechanical axes

With this software the selection and dimensioning of electromechanical axes, motors and gears can be done easily.

[LINK to „Positioning Drives“](#)

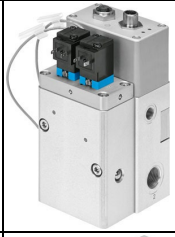


5 Function-specific solutions

5.1 Balancer kit

Name	Order code	Remarks	Picture	Documentation
Balancer kits YHBP	YHBP-...	Servo-pneumatic balancer with extremely fast, automatic weight detection and safety up to Performance Level d – perfect for the automotive, electronics, food and packaging industries.		Catalogue Documentation 
Basic package		• Single-channel speed monitoring • Safety: Performance Level b achievable • Safely limited speed (SLS) • Safe stopping and closing (SSC)		
Package with safety relay unit		• Dual-channel speed monitoring • Safety: Performance Level d achievable • Safely limited speed (SLS) • Safe stopping and closing (SSC)		

Balancer kit system components

Name	Remarks	Picture
Standards-based cylinder DSBG	• Standards-based cylinder, provides the force for moving the payload • Stroke range 100 ... 1000 mm • Piston diameter 80 ... 200 mm • Theoretical force at 6 bar: • Advancing: 3016 ... 18,850 N • Retracting: 2721 ... 18,096 N • Optionally with feature DSBG-...-L1 (low friction for balancer applications)	
Displacement encoder DNCI-32	• For recording position and speed • For applications with Performance Level b: one measuring head (single-channel) • For applications with Performance Level d: two measuring heads (dual-channel)	
Valve unit VPCB	Valve block comprising: • Balancer valve VPCB – 3/3-way proportional pressure regulator with special pressure control and shut-off valve • actuation as well as two shut-off valves designed as 2/2-way valves • Diagnostic display for fast error detection • For applications with Performance Level d: with switching position sensing for the shut-off valves	
Balancer controller CECC-D-BA	• Balancer controller for actuating and locking the balancer with preinstalled software (browser-based web visualization for commissioning and diagnostics)	

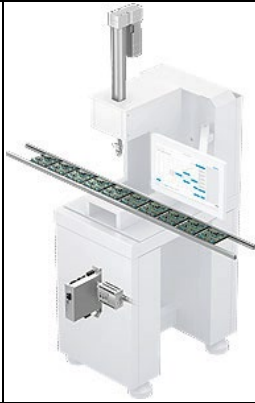
Balancer kit

Name	Remarks	Picture
Sensor interface CASB	Converts the signal from the displacement encoder into a readable signal for the safety relay unit	
Operating handle VAOH	- Ergonomically designed handle for operating the balancer - The movement of the handle in axial direction produces a positive or negative pressure in the chambers. These differences - in pressure are used to control the balancer. Springs in the respective chambers reset the balancer to the centre position	
Safety relay unit PNOZS30C24-240VACDC	- Device for speed monitoring. In the event of an error, the compressed air in the cylinder is shut off in two channels and - the system is braked. The same happens in the event of a power failure	

Scope of delivery of balancer kit

Name	Order code	Part no.	Basic package up to PL b	Package with safety relay unit up to PL d
Drive cylinder	DSBG-L1-100-450-PA-N3	1646799	■	■
Displacement encoder (1 measuring head)	DNCI-32-460-P-A-BA	535411	■	-
Displacement encoder (2 measuring heads)	DNCI-32-460-P-A-BA	535411	-	■
Valve unit	VPCB-6-L-8-G38-10-F-D3-T22	5318141	■	-
Valve unit	VPCB-6-L-8-G38-10-F-D3-T22-M	8071579	-	■
Operating handle	VAOH-P15-H13	5196471	■	■
Plug socket with cable	KME-1-24DC-5-LED	30945	■	■
Connecting cable	NEBC-M12G5-KS-5-LE5-CO	8074191	■	■
Balancer controller	CECC-D-BA	8072995	■	■
Plug	NECC-L2G24-C1	575307	■	■
Plug	NECC-S1G9-C2-M	576031	■	■
Proximity sensor	SMT-8M-A-PS-24V-E-2,5-OE	574335	■	■
Sensor interface	CASB-MT-D3-R7	8071781	-	■
Plug socket with cable	KM12-8GD8GS-2-PU	525617	-	■
Connecting cable	NEBU-M12G5-K-5-LE4	541328	-	■
Plug socket with cable	NEBU-M12W8-K-5-N-LE8	542257	-	■
Safety relay unit	PNOZS30C24-240VACDC	8079822	-	■

5.2 Servo press kit

Name	Order code	Remarks	Picture	Documentation
Servo press kits YJKP	YJKP-...	Pressing force 0.8 ... 17 kN Max. payload 19.5 ... 95 kg Max. feed speed 250 mm/s Accuracy FS of the force measurement +/- 0.25%		Catalogue Documentation

Part no.	Order code	Name	Links
8058596	YJKP-..	Servo Press Kit	

Air preparation

On-off valves, manually operated

6 Air preparation

6.1 On-off valves, manually operated

Name	MS4-EM	MS6-EM	MS9-EM	MS12-EM
Order code	MS4-EM1-...	MS6-EM1-...	MS9-EM-...	MS12-EM-...
				
Remarks	Port G1/8, G1/4, G3/8 Flow rate 1200 ... 2200 l/min	Port G1/4, G3/8, G1/2, G3/4 Flow rate 3000 ... 8700 l/min	Connection: G1/2, G3/4, G1, G1 1/4, G1 1/2 Flow rate: 8000 ... 18000 l/min	Port G1, G1 1/4, G1 1/2, G2 Flow rate 25000 ... 32000 l/min
Picture				
Documentation	 Catalogue	 Catalogue	 Catalogue	 Catalogue
	 Documentation 			

Part no.	Order code	Name	Links
541259	MS4-EM1-1/4-S	On-off valve, manually operated	
541268	MS6-EM1-1/2-S	On-off valve, manually operated	
562952	MS9-EM-G-S-VS	On-off valve, manually operated	
535031	MS12-EM	On-off valve, manually operated	

Name	Order Code	Remarks	Picture	Documentation
Hand slide valve VBOH	VBOH-...	Connection M5, G1/8, G1/4, G3/8, G1/2, G3/4 Standard nominal flow rate 236 ... 7691 l/min. Shut-off valve.		 Catalogue  Documentation 

★ / ☆ = Festo core product range (see page 4)

6.2 On-off valves, electrically operated

Name	MS4-EE	MS6-EE	MS9-EE	MS12-EE
Order code	MS4-EE-... 	MS6-EE-... 	MS9-EE-...	MS12-EE...
Remarks	Port G1/8, G1/4, G3/8 Flow rate 1000 ... 2000 l/min	Port G1/4, G3/8, G1/2, G3/4 Flow rate 2600 ... 7000 l/min	Connection: G1/2, G3/4, G1, G1 1/4, G1 1/2 Flow rate: 8000 ... 18000 l/min	Port G1, G1 1/4, G1 1/2, G2 Flow rate 25000 ... 32000 l/min
Picture				
Documentation	 Catalogue	 Catalogue	 Catalogue	 Catalogue
	 Documentation 			

Part no.	Order code	Name	Links
527709	MS4-EE-1/4-10V24P-S	On-off valve, electrically operated	
527682	MS6-EE-1/2-10V24P-S	On-off valve, electrically operated	
562177	MS9-EE-1-V24P-S-RG-BAR	On-off valve, electrically operated	
535032	MS12-EE-G-V24P-S	On-off valve, electrically operated	

6.3 Soft-start valves

Name	MS4-DL	MS6-DL	MS12-DL
Order code	MS4-DL-...	MS6-DL-...	MS12-DL-...
Remarks	Port G1/8, G1/4, G3/8 Flow rate 1000 ... 2000 l/min	Port G1/4, G3/8, G1/2, G3/4 Flow rate 2800 ... 6450 l/min	Port G1, G1 1/4, G1 1/2, G2 Flow rate 25000 ... 42000 l/min
Picture			
Documentation	Catalogue Documentation 		

Part no.	Order code	Name	Links
529531	MS4-DL-1/4	Soft-start valve	
529817	MS6-DL-1/2	Soft-start valve	
541497	MS12-DL-G	Soft-start valve	

6.4 Safety soft-start/quick exhaust valves

Name	MS6-SV	MS6-SV	MS9-SV	Control blocks VOFA
Order code	MS6-SV-1/2-C-... 	MS6-SV-1/2-D-... MS6-SV-1/2-E-...	MS9-...	VOFA-...
Remarks	Size 6 Connection G1/2 Pressure 3.5 ... 10 bar Flow rate 4300 l/min Voltage 24 V DC solenoid actuated Pressure gauge with bar, psi, MPa 3/2-way valve Normally closed Performance Level C, Category 1, 1-channel acc. EN ISO 13849-1	Connection G1/2, Pressure 3.5 ... 10 bar Flow rate 4300 l/min Voltage 24 V DC solenoid actuated Pressure gauge with bar, psi, MPa 3/2-way valve Normally closed, Silencer Performance Level: • PL D, Cat. 3, 2-channel acc. EN ISO 13849-1 PL E, Cat. 4, 2-channel with self-checking acc. EN ISO 13849-1	Size 9 Connection G3/4, G1, Pressure 3.5 ... 16 bar Flow rate 16000 l/min Voltage 24 V DC, 110 V AC, 230 V AC solenoid actuated 3/2-way valve Normally closed Performance Level C, Category 1, 1-channel acc. EN ISO 13849-1	Soft-start valve 5/2-way valve with switching position sensing, redundant Flow rate 1100 l/min Voltage: 24 V DC
Picture				
Documentation	Catalogue Documentation 	Catalogue	Catalogue	Catalogue Documentation 

Part no.	Order code	Name	Links
548713	MS6-SV-1/2-C-10V24P-S-RG	Soft-start/quick exhaust valve	Link
548713	MS6-SV-1/2-D-10V24P-2M12-SO-RG	Soft-start/quick exhaust valve	Link
548713	MS6-SV-1/2-E-10V24-SO-RG	Soft-start/quick exhaust valve	Link
562176	MS9-SV-G-C-10V24P-S-RG-BAR	Soft-start/quick exhaust valve	Link
574011	VOFA-L26-T32C-M-G14-1C1-APP	Control block	Link
569819	VOFA-L26-T52-M-G14-1C1-APP	Control block	Link

6.5 Branching modules and distribution blocks

Name	MS4-FRM	MS6-FRM	MS9-FRM	MS12-FRM
Order code	MS4-FRM-...	MS6-FRM-... ★	MS9-FRM-...	MS12-FRM-...
Remarks	Port G1/8, G1/4, G3/8 Flow rate 1200 ... 4600 l/min	Port G1/4, G3/8, G1/2, G3/4 Flow rate 3200 ... 14700 l/min	Connection: G1/2, G3/4, G1, G1 1/4, G1 1/2 Flow rate: 10,000 ... 50000 l/min	Port G1, G1 1/4, G1 1/2, G2 Flow rate 25000 ... 42000 l/min
Picture				
Documentation	Catalogue	Catalogue	Catalogue	Catalogue
	Documentation 			

Name	MS4-FRM-FRZ	MS6-FRM-FRZ
Order code	MS4-FRM-FRZ ★	MS6-FRM-FRZ ★
Remarks	Connection G1/4 Flow rate 2900 ... 4050 l/min	Connection G1/2 Flow rate 9850 ... 14600 l/min
Picture		
Documentation	Catalogue	Catalogue
	Documentation 	

Part no.	Order code	Name	Links
529555	MS4-FRM-1/4	Branching module	Link
549336	MS4-FRM-FRZ	Distributor block	Link
529857	MS6-FRM-1/4	Branching module	Link
529853	MS6-FRM-1/2	Branching module	Link
549337	MS6-FRM-FRZ	Distributor block	Link
564145	MS9-FRM-G-VS	Branching module	Link
541681	MS12-FRM-G	Branching module	Link

★ / ☆ = Festo core product range (see page 4)

6.6 Filter and Filter regulators

Name	MS4-LFR	MS6-LFR	MS9-LFR	MS12-LFR
Order code	MS4-LFR-... 	MS6-LFR-... 	MS9-LFR-...	MS12-LFR-...
Remarks	Port G1/8, G1/4, G3/8 Flow rate 850 ... 1900 l/min	Port G1/4, G3/8, G1/2, G3/4 Flow rate 2200 ... 7200 l/min	Connection: G1/2, G3/4, G1, G1 1/4, G1 1/2 Flow rate: 3600 ... 21500 l/min	Port G1, G1 1/4, G1 1/2, G2 Flow rate 11000 ... 17000 l/min
Picture				
Documentation	 Catalogue	 Catalogue	 Catalogue	 Catalogue
	 Documentation 			

Name	MS4-LFM	MS6-LFM	MS9-LFM	MS12-LFM
Order code	MS4-LFM-...	MS6-LFM-...	MS9-LFM-...	MS12-LFM-...
Remarks	Degree of filtration: 0.01 µm, 1 µm Connection: G1/8, G1/4, G3/8 Flow rate: 54 ... 360 l/min	Degree of filtration: 0.01 µm, 1 µm Connection: G1/4, G3/8, G1/2, G3/4 Flow rate: 140 ... 3000 l/min	Degree of filtration: 0.01 µm, 1 µm Connection: G1/2, G3/4, G1, G1 1/4, G1 1/2 Flow rate: 325 ... 10000 l/min	Degree of filtration: 0.01 µm, 1 µm Connection: G1, G1 1/4, G1 1/2, G2 Flow rate: 700 ... 23000 l/min
Picture				
Documentation	 Catalogue	 Catalogue	 Catalogue	 Catalogue
	 Documentation 			

Air preparation

Filter and Filter regulators

Name	MS6-LFX	Filter cartridges series MS
Order code	MS6-...-LFX	
Remarks	Residual oil content: $\leq 0.003 \text{ mg/m}^3$ Connection: G1/4, G3/8, G1/2, G3/4 Flow rate: max. 900 or 2500 l/min	Size 4, 6, 9, 12 Grade of filtration - 40µm - 5µm - 1µm - 0.01µm - Activated carbon filter.
Picture		
Documentation	Catalogue Documentation 	Catalogue Documentation 

Part no.	Order code	Name	Links
526489	MS4-LFR-1/4-D7-E-R-M-A4-AS	Filter regulator, 40 µm	
526490	MS6-LFR-1/2-D7-E-R-M-A4-AS	Filter regulator, 40 µm	
562531	MS9-LFR-G-D7-E-U-M-A4-AS	Filter regulator, 40 µm	
535022	MS12-LFR-G-D7-E-U-M-A4-LD-AS	Filter regulator, 40 µm	
526489	MS4-LFR-1/4-D7-C-R-M-A4-AS	Filter regulator, 5 µm	
526490	MS6-LFR-1/2-D7-C-R-M-A4-AS	Filter regulator, 5 µm	
562531	MS9-LFR-G-D7-C-U-M-A4-AS	Filter regulator, 5 µm	
535022	MS12-LFR-G-D7-C-U-M-A4-LD-AS	Filter regulator, 5 µm	
532910	MS6-LFM-B	Fine filter cartridge	
529667	MS6-LFM-1/4-BRM	Fine filter, 1 µm	
529659	MS6-LFM-1/2-BRM	Fine filter, 1 µm	
532909	MS6-LFM-A	Micro filter cartridge	
529663	MS6-LFM-1/4-ARM	Micro filter, 0,01 µm	
529655	MS6-LFM-1/2-ARM	Micro filter, 0,01 µm	
529683	MS6-LFX-1/4-R	Activated carbon filter	
529679	MS6-LFX-1/2-R	Activated carbon filter	
532911	MS6-LFX	Activated carbon filter cartridge	
534501	MS4-LFP-C	Filter cartridge	
534502	MS4-LFP-E	Filter cartridge	
534499	MS6-LFP-C	Filter cartridge	
534500	MS6-LFP-E	Filter cartridge	
570309	MS9-LFP-C	Filter cartridge	
570310	MS9-LFP-E	Filter cartridge	

6.7 Pressure regulators

Name	MS4-LR	MS6-LR	MS9-LR	MS12-LR
Order code	MS4-LR-...	MS6-LR-...	MS9-LR-...	MS12-LR-...
	★	★		
Remarks	Port G1/8, G1/4, G3/8 Flow rate 1000 ... 2100 l/min	Port G1/4, G3/8, G1/2, G3/4 Flow rate 2200 ... 7500 l/min	Connection: G1/2, G3/4, G1, G1 1/4, G1 1/2 Flow rate: 5000 ... 26500 l/min	Port G1, G1 1/4, G1 1/2, G2 Flow rate 12000 ... 22000 l/min
Picture				
Documentation	Catalogue	Catalogue	Catalogue	Catalogue
	Documentation 			

Name	MS6-LRP	MS2-LR	MS2-LFR
Order code	MS6-LRP-...	MS2-LR-...	MS2-LFR-...
Remarks	Port G1/4, G3/8, G1/2, G3/4 Flow rate 800 ... 5000 l/min	Port QS6 Flow rate 350 l/min	Port QS6 Flow rate 310 l/min
Picture			
Documentation	Catalogue	Documentation	Documentation
	Documentation 		

Part no.	Order code	Name	Links
527690	MS4-LR-1/4-D7-A4-AS	Pressure regulator	Link
527663	MS6-LR-1/2-D7-A4-AS	Pressure regulator	Link
562530	MS9-LR-1-D7-A4-AS	Pressure regulator	Link
535021	MS12-LR-G-D7-A4-LD-AS	Pressure regulator	Link
538028	MS6-LRP-1/4-D4-A8-AS	Precision pressure regulator	Link
8086638	MS2-LR-QS6-D6-AR-BAR-B	Pressure regulator	
8086644	MS2-LFR-QS6-D6-AR-BAR-C-M-B	Filter regulator	

★ / ☆ = Festo core product range (see page 4)

6.8 Pressure gauges

Name	Order code	Remarks	Picture	Links
Pressure gauges MA	MA-...-RG	Connection: G1/8, G1/4 In-line installation with indicating range of 0 ... 25 bar Display units: - bar DIN EN 837-1 Adjustable red-green area Screen with red-green scale can be ordered for fine filter separately		Catalogue Documentation 

Part no.	Order code	Name	Links
525725	MA-40-10-R1/8-E-RG	Pressure gauge	
525726	MA-40-16-R1/8-E-RG	Pressure gauge	
546963	MA-40-2,5-R1/8-E-RG	Pressure gauge	
525728	MA-50-10-R1/4-E-RG	Pressure gauge	
525729	MA-50-16-R1/4-E-RG	Pressure gauge	
525727	MA-50-2,5-R1/4-E-RG	Pressure gauge	
719963	Red-green screen diameter 40	Screen with rotary red area	
719962	Red-green screen diameter 50	Screen with rotary red area	

6.9 Pressure booster

Name	Order code	Remarks	Picture	Links
Pressure booster DPA	DPA-...	Twin-piston pressure booster Pressure ratio 1:2 Pneumatic port G1/4, G3/8, G1/2 Supply pressure 2 ... 10 bar Output pressure 4 ... 16 bar Flow rate 300 ... 3000 Nl/min Ambient temperature +5 ... +60°C.		Catalogue Documentation 

Part no.	Order code	Name	Links
549402	DPA-100-16-A	Pressure booster	
537274	DPA-40-16	Pressure booster	
549400	DPA-63-16-A	Pressure booster	

6.10 Energy efficiency module

Name	Order code	Remarks	Picture	Links
MSE6	MSE6-E2M-... MSE6-C2M-...	Connection G1/2 Flow rate 4500 l/min. Pressure tightness testing Pressure indication Flow rate indication Consumption indication Fieldbus connection		Catalogue Documentation 

Part no.	Order code	Name	Links
3850287	MSE6-E2M-5000-FB33-AGD	Energy efficiency module	
8085455	MSE6-C2M-5000-FB34-D-RG-BAR-AMI-AGD	Energy efficiency module	

Software tool – Air consumption of cylinders

With this software tool the air consumption of cylinders can be calculated. For the right dimensioning of an air preparation unit the air consumption is crucial.



[LINK to the software tool „Air consumption of cylinders“](#)

Cylinder Air Consumption

Operating mode



Number of cycles

60
1/min

Size

32 mm

Stroke/Length

100
mm

NOTE: Using estimated piston rod diameter of 12 mm.

☐ Energy Saving

Turn on energy saving to differentiate between working stroke and return stroke

Inside tubing diameter

2
mm

Length

100
mm

Clear table

Print

Add

Selected cylinders and their air consumption

Op. Mode	Size	Stroke/Length	Pressure	Number of cycles	Air Consumption	
	[mm]	[mm]		[1/min]	per Cycle[l]	per Minute[l]

Utilization

Working pressure

6
bar

Working hours per day

8
h

Working days per year

200
d

Air Consumption

per Minute

0
m³

per day

0
m³

per Year

0
m³

Energy Costs

Currency

€

Price

0.02
€/m³

per day

€

NOTE: The air consumption values determined in this way are only guide values. Particularly with high cycle speeds, pressurised chambers are not fully exhausted, which means that actual air consumption may be significantly lower.

6.11 Air preparation configurations

Standard main unit (PL d)

Main unit contains of:

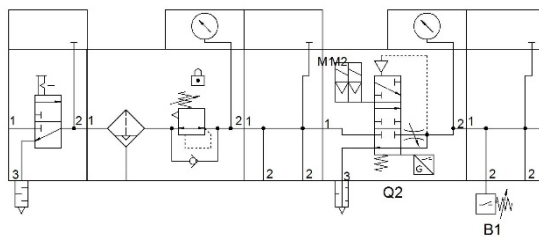
- Manual on-off valve (EM)
- Filter regulator, 40 µm, red-green pressure gauge (LFR)
- branching module (FRM)
- **Soft-start and quick exhaust valve, performance level D (SV)**
- Branching module with pressure switch (FRM)



MSB6-AGD:C4:J84:F1:V48:F10-WP

Circuit diagram:

G1/2" (main unit)

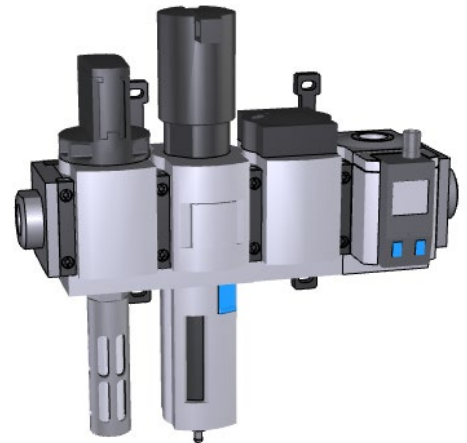


Size	Order code	Picture	Documentation
G1/2" Standard main unit	MSB6-AGD:C4:J84:F1:V48:F10-WP		Catalogue Documentation

Second unit (2nd zone)

Second unit contains of:

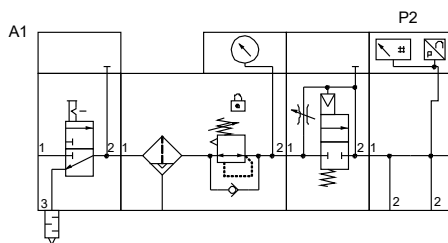
- Manual on-off valve (EM)
- Filter regulator, 40 µm, red-green pressure gauge (LFR)
- **Soft-start module (DL or SV)**
- Branching module with pressure switch (FRM)



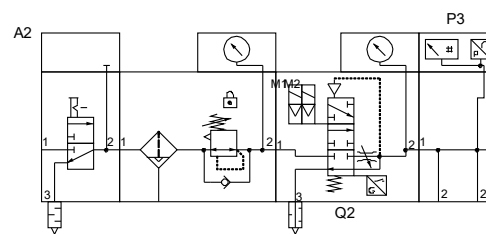
MSB6-AGD:C4:J84:A1:F10-WP

Circuit diagram:

G1/2" (second unit – pneumatic soft-start)



G1/2" (second unit – soft-start PL d)



Size	Order code	Picture	Documentation
G1/2" 2nd zone	MSB6-AGD:C4:J84:A1:F10-WP with pneumatic soft-start valve (DL) (no electric signal necessary)		Catalogue Documentation
G1/2" 2nd zone	MSB6-AGD:C4:J84:V48:F10-WP with soft-start and quick exhaust valve, PL d		

Air preparation

Air preparation configurations

Standard unit (PL c)

Unit contains of:

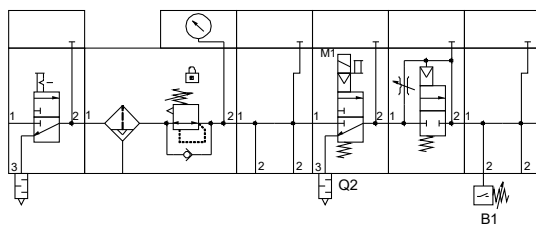
- Manual on-off valve (EM)
- Filter regulator, 40 µm, red-green pressure gauge (LFR)
- branching module (FRM)
- **Soft-start and quick exhaust valve, performance level C (SV)**
or electric on-off valve + soft-start valve (EE + DL)
- Branching module with pressure switch (FRM)



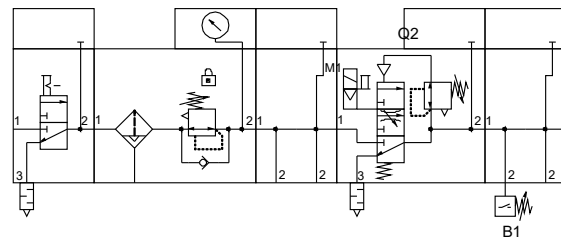
MSB6-AGD:C4:J84:F1:V35:F10-WP

Circuit diagram:

G1/4" and G2"



G1/2" and G1"

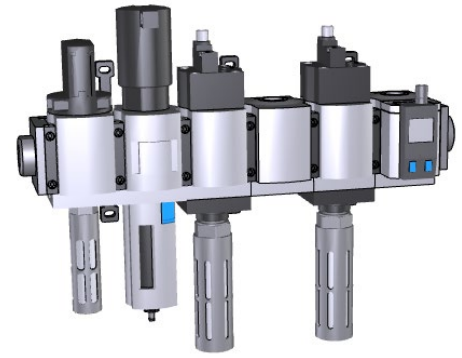


Size	Order code	Picture	Documentation
G1/4"	MSB4-AGB:C4:J84:F1:D20:A1:F10-WP	EM1 LFR FRM EE DL FRM C4 J84 F1 D20 A1 F10	Catalogue Documentation
G1/2"	MSB6-AGD:C4:J84:F1:V35:F10-WP	EM1 LFR FRM SV FRM C4 J84 F1 V35 F10	Catalogue
G1"	MSB9-AGF:C2:J108:F1:V35:F8-WP	EM LFR FRM SV FRM C2 J108 F1 V35 F8	Catalogue
G2"	DE-CS.1449353-A		Contact Festo

Air preparation unit with additional electrical valve for purge air (PL c)

Unit contains of:

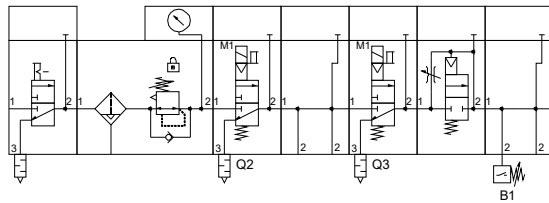
- Manual on-off valve (EM)
- Filter regulator, 40 µm, red-green pressure gauge (LFR)
- branching module (FRM)
- **Soft-start and quick exhaust valve, performance level C (SV)**
or electric on-off valve + soft-start valve (EE + DL)
- Branching module with pressure switch (FRM)
- **Soft-start and quick exhaust valve, performance level C (SV)**
or electric on-off valve + soft-start valve (EE + DL)
- Branching module with pressure switch (FRM)



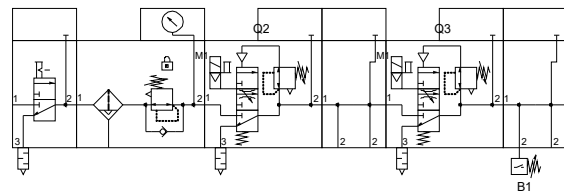
MSB6-AGD:C4:J84:V35:F1:V35:F10-WP

Circuit diagram:

G1/4"



G1/2" and G1"



Size	Order code	Picture	Documentation
G1/4"	MSB4-AGB:C4:J84:D20:F1:D20:A1:F10-WP		Catalogue Documentation
G1/2"	MSB6-AGD:C4:J84:V35:F1:V35:F10-WP		Catalogue
G1"	MSB9-AGF:C2:J108:V35:F1:V35:F8-WP		Catalogue

7 Drives

7.1 Standard cylinders

Standard cylinder according to DIN ISO 15552

Name	Standard cylinder DSBC	Standard cylinder with clamping cartridge DSBC-C	Standard cylinder DSBG
Order code	DSBC-...	DSBC-...-...-C-PPVA	DSBG-...
Remarks	Diameter: 32, 40, 50, 63, 80, 100, 125 mm Stroke length: 1 ... 2800 mm Force: 483 ... 7363 N Double-acting Position sensing Fixed/adjustable/self-adjusting cushioning	Configurable via the standard cylinder DSBC Only the stroke length configurations from DSBC are released!	Diameter 32, 40, 50, 63, 80, 100, 125, 160, 200, 250, 320 mm Stroke length 1 ... 2800 mm Force: 483 ... 48255 N Double-acting Position sensing Fixed/adjustable/self-adjusting cushioning
Picture			
Documentation	Catalogue Documentation 	Catalogue Documentation 	Catalogue Documentation 

Part no.	Order code	Name	Links
1376422	DSBC-32-25-PPVA-N3	ISO cylinder	
1376424	DSBC-32-50-PPVA-N3	ISO cylinder	
1376425	DSBC-32-80-PPVA-N3	ISO cylinder	
1376426	DSBC-32-100-PPVA-N3	ISO cylinder	
1376427	DSBC-32-125-PPVA-N3	ISO cylinder	
1376428	DSBC-32-160-PPVA-N3	ISO cylinder	
1376429	DSBC-32-200-PPVA-N3	ISO cylinder	
1376430	DSBC-32-250-PPVA-N3	ISO cylinder	
1376431	DSBC-32-320-PPVA-N3	ISO cylinder	
1376432	DSBC-32-400-PPVA-N3	ISO cylinder	
1376433	DSBC-32-500-PPVA-N3	ISO cylinder	

Standard cylinders

Part no.	Order code	Name	Links
1366948	DSBC-50-25-PPVA-N3	ISO cylinder	
1366950	DSBC-50-50-PPVA-N3	ISO cylinder	
1366951	DSBC-50-80-PPVA-N3	ISO cylinder	
1366952	DSBC-50-100-PPVA-N3	ISO cylinder	
1366953	DSBC-50-125-PPVA-N3	ISO cylinder	
1366954	DSBC-50-160-PPVA-N3	ISO cylinder	
1366955	DSBC-50-200-PPVA-N3	ISO cylinder	
1366956	DSBC-50-250-PPVA-N3	ISO cylinder	
1366957	DSBC-50-320-PPVA-N3	ISO cylinder	
1366958	DSBC-50-400-PPVA-N3	ISO cylinder	
1366959	DSBC-50-500-PPVA-N3	ISO cylinder	
1383578	DSBC-63-25-PPVA-N3	ISO cylinder	
1383580	DSBC-63-50-PPVA-N3	ISO cylinder	
1383581	DSBC-63-80-PPVA-N3	ISO cylinder	
1383582	DSBC-63-100-PPVA-N3	ISO cylinder	
1383583	DSBC-63-125-PPVA-N3	ISO cylinder	
1383584	DSBC-63-160-PPVA-N3	ISO cylinder	
1383585	DSBC-63-200-PPVA-N3	ISO cylinder	
1383586	DSBC-63-250-PPVA-N3	ISO cylinder	
1383587	DSBC-63-320-PPVA-N3	ISO cylinder	
1383588	DSBC-63-400-PPVA-N3	ISO cylinder	
1383589	DSBC-63-500-PPVA-N3	ISO cylinder	
1383333	DSBC-80-25-PPVA-N3	ISO cylinder	
1383335	DSBC-80-50-PPVA-N3	ISO cylinder	
1383336	DSBC-80-80-PPVA-N3	ISO cylinder	
1383337	DSBC-80-100-PPVA-N3	ISO cylinder	
1383338	DSBC-80-125-PPVA-N3	ISO cylinder	
1383339	DSBC-80-160-PPVA-N3	ISO cylinder	
1383340	DSBC-80-200-PPVA-N3	ISO cylinder	
1383341	DSBC-80-250-PPVA-N3	ISO cylinder	
1383342	DSBC-80-320-PPVA-N3	ISO cylinder	
1383343	DSBC-80-400-PPVA-N3	ISO cylinder	
1383344	DSBC-80-500-PPVA-N3	ISO cylinder	
1384804	DSBC-100-25-PPVA-N3	ISO cylinder	
1384806	DSBC-100-50-PPVA-N3	ISO cylinder	
1384807	DSBC-100-80-PPVA-N3	ISO cylinder	
1384808	DSBC-100-100-PPVA-N3	ISO cylinder	
1384809	DSBC-100-125-PPVA-N3	ISO cylinder	
1384810	DSBC-100-160-PPVA-N3	ISO cylinder	
1384811	DSBC-100-200-PPVA-N3	ISO cylinder	
1384812	DSBC-100-250-PPVA-N3	ISO cylinder	
1384813	DSBC-100-320-PPVA-N3	ISO cylinder	
1384814	DSBC-100-400-PPVA-N3	ISO cylinder	
1384815	DSBC-100-500-PPVA-N3	ISO cylinder	
1804956	DSBC-125-25-PPVA-N3	ISO cylinder	
1804958	DSBC-125-50-PPVA-N3	ISO cylinder	
1804959	DSBC-125-80-PPVA-N3	ISO cylinder	
1804960	DSBC-125-100-PPVA-N3	ISO cylinder	
1804961	DSBC-125-125-PPVA-N3	ISO cylinder	
1804962	DSBC-125-160-PPVA-N3	ISO cylinder	
1804963	DSBC-125-200-PPVA-N3	ISO cylinder	
1804964	DSBC-125-250-PPVA-N3	ISO cylinder	
1804965	DSBC-125-320-PPVA-N3	ISO cylinder	
1804966	DSBC-125-400-PPVA-N3	ISO cylinder	
1804967	DSBC-125-500-PPVA-N3	ISO cylinder	

★ / ☆ = Festo core product range (see page 4)

Standard cylinders

Part no.	Order code	Name	Links
2029462	DSBG-160-25-PPVA-N3	ISO cylinder	
2029464	DSBG-160-50-PPVA-N3	ISO cylinder	
2029465	DSBG-160-80-PPVA-N3	ISO cylinder	
2029466	DSBG-160-100-PPVA-N3	ISO cylinder	
2029467	DSBG-160-125-PPVA-N3	ISO cylinder	
2029468	DSBG-160-160-PPVA-N3	ISO cylinder	
2029469	DSBG-160-200-PPVA-N3	ISO cylinder	
2029470	DSBG-160-250-PPVA-N3	ISO cylinder	
2029471	DSBG-160-320-PPVA-N3	ISO cylinder	
2029472	DSBG-160-400-PPVA-N3	ISO cylinder	
2029473	DSBG-160-500-PPVA-N3	ISO cylinder	
2390139	DSBG-200-25-PPVA-N3	ISO cylinder	
2390141	DSBG-200-50-PPVA-N3	ISO cylinder	
2390142	DSBG-200-80-PPVA-N3	ISO cylinder	
2390143	DSBG-200-100-PPVA-N3	ISO cylinder	
2390144	DSBG-200-125-PPVA-N3	ISO cylinder	
2390145	DSBG-200-160-PPVA-N3	ISO cylinder	
2390146	DSBG-200-200-PPVA-N3	ISO cylinder	
2390147	DSBG-200-250-PPVA-N3	ISO cylinder	
2390148	DSBG-200-320-PPVA-N3	ISO cylinder	
2390149	DSBG-200-400-PPVA-N3	ISO cylinder	
2390150	DSBG-200-500-PPVA-N3	ISO cylinder	

Standard cylinder according to DIN ISO 21287

Name	Compact cylinder ADN
Order code	ADN-... 
Remarks	Diameter: 12, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125 mm Stroke length: 1 ... 500 mm Force: 51 ... 7363 N Double-acting Fixed/self-adjusting cushioning
Picture	
Documentation	 Catalogue  Documentation 

Standard cylinders

Part no.	Order code	Name	Links
536243	ADN-20-10-I-P-A	Compact cylinder	
536245	ADN-20-20-I-P-A	Compact cylinder	
536247	ADN-20-30-I-P-A	Compact cylinder	
536248	ADN-20-40-I-P-A	Compact cylinder	
536249	ADN-20-50-I-P-A	Compact cylinder	
536279	ADN-32-10-I-P-A	Compact cylinder	
536281	ADN-32-20-I-P-A	Compact cylinder	
536283	ADN-32-30-I-P-A	Compact cylinder	
536284	ADN-32-40-I-P-A	Compact cylinder	
536285	ADN-32-50-I-P-A	Compact cylinder	
536300	ADN-40-10-I-P-A	Compact cylinder	
536302	ADN-40-20-I-P-A	Compact cylinder	
536304	ADN-40-30-I-P-A	Compact cylinder	
536305	ADN-40-40-I-P-A	Compact cylinder	
536306	ADN-40-50-I-P-A	Compact cylinder	
536321	ADN-50-10-I-P-A	Compact cylinder	
536323	ADN-50-20-I-P-A	Compact cylinder	
536325	ADN-50-30-I-P-A	Compact cylinder	
536326	ADN-50-40-I-P-A	Compact cylinder	
536327	ADN-50-50-I-P-A	Compact cylinder	
536342	ADN-63-10-I-P-A	Compact cylinder	
536344	ADN-63-20-I-P-A	Compact cylinder	
536346	ADN-63-30-I-P-A	Compact cylinder	
536347	ADN-63-40-I-P-A	Compact cylinder	
536348	ADN-63-50-I-P-A	Compact cylinder	
536363	ADN-80-10-I-P-A	Compact cylinder	
536365	ADN-80-20-I-P-A	Compact cylinder	
536367	ADN-80-30-I-P-A	Compact cylinder	
536368	ADN-80-40-I-P-A	Compact cylinder	
536369	ADN-80-50-I-P-A	Compact cylinder	
536384	ADN-100-10-I-P-A	Compact cylinder	
536388	ADN-100-30-I-P-A	Compact cylinder	

Standard round cylinder according to DIN ISO 6432

Name	Round cylinders DSNU
Order code	DSNU-... 
Remarks	Diameter: 8, 10, 12, 16, 20, 25 mm (standard) Diameter: 32, 40, 50, 63 mm Stroke length: 1 ... 500 mm Force: 19 ... 1870 N Double-acting Position sensing Fixed/adjustable/self-adjusting cushioning Mounting flange
Picture	
Documentation	 Catalogue  Documentation 

Part no.	Order code	Name	Links
19184	DSNU-10-25-P-A	ISO round cylinder	
19186	DSNU-10-50-P-A	ISO round cylinder	
19188	DSNU-10-100-P-A	ISO round cylinder	
19199	DSNU-16-25-P-A	ISO round cylinder	
19201	DSNU-16-50-P-A	ISO round cylinder	
19203	DSNU-16-100-P-A	ISO round cylinder	
19219	DSNU-25-25-P-A	ISO round cylinder	
19221	DSNU-25-50-P-A	ISO round cylinder	
19223	DSNU-25-100-P-A	ISO round cylinder	

7.2 Rodless cylinders

Name	Linear drives DGC	Linear drives DGC-K
Order code	DGC-...	DGC-...
Remarks	Diameter: 8, 12, 18, 25, 32, 40, 50, 63 mm Stroke length: 1 ... 8500 mm Force: 30 ... 1870 N Position sensing Various cushioning options	Diameter: 18, 25, 32, 40, 50, 63, 80 mm Stroke length: 1 ... 8500 mm Force: 153 ... 3016 N Position sensing
Picture		
Documentation	Catalogue Documentation 	Catalogue Documentation 

Part no.	Order code	Name	Links
532448	DGC-32-125-GF-PPV-A	Linear drive	
532448	DGC-32-160-GF-PPV-A	Linear drive	
532448	DGC-32-200-GF-PPV-A	Linear drive	
532448	DGC-32-250-GF-PPV-A	Linear drive	
532448	DGC-32-320-GF-PPV-A	Linear drive	
532448	DGC-32-400-GF-PPV-A	Linear drive	
532448	DGC-32-500-GF-PPV-A	Linear drive	
532448	DGC-32-1000-GF-PPV-A	Linear drive	
532448	DGC-32-125-KF-PPV-A	Linear drive	
532448	DGC-32-160-KF-PPV-A	Linear drive	
532448	DGC-32-200-KF-PPV-A	Linear drive	
532448	DGC-32-250-KF-PPV-A	Linear drive	
532448	DGC-32-320-KF-PPV-A	Linear drive	
532448	DGC-32-400-KF-PPV-A	Linear drive	
532448	DGC-32-500-KF-PPV-A	Linear drive	
532448	DGC-32-1000-KF-PPV-A	Linear drive	
532450	DGC-50-125-GF-PPV-A	Linear drive	
532450	DGC-50-160-GF-PPV-A	Linear drive	
532450	DGC-50-200-GF-PPV-A	Linear drive	
532450	DGC-50-250-GF-PPV-A	Linear drive	
532450	DGC-50-320-GF-PPV-A	Linear drive	
532450	DGC-50-400-GF-PPV-A	Linear drive	
532450	DGC-50-500-GF-PPV-A	Linear drive	
532450	DGC-50-1000-GF-PPV-A	Linear drive	
532450	DGC-50-125-KF-PPV-A	Linear drive	
532450	DGC-50-160-KF-PPV-A	Linear drive	

Part no.	Order code	Name	Links
532450	DGC-50-200-KF-PPV-A	Linear drive	
532450	DGC-50-250-KF-PPV-A	Linear drive	
532450	DGC-50-320-KF-PPV-A	Linear drive	
532450	DGC-50-400-KF-PPV-A	Linear drive	
532450	DGC-50-500-KF-PPV-A	Linear drive	
532450	DGC-50-1000-KF-PPV-A	Linear drive	
532451	DGC-63-160-GF-PPV-A	Linear drive	
532451	DGC-63-200-GF-PPV-A	Linear drive	
532451	DGC-63-250-GF-PPV-A	Linear drive	
532451	DGC-63-320-GF-PPV-A	Linear drive	
532451	DGC-63-400-GF-PPV-A	Linear drive	
532451	DGC-63-500-GF-PPV-A	Linear drive	
532451	DGC-63-1000-GF-PPV-A	Linear drive	
1312502	DGC-K-32-125-PPV-A	Linear drive	
1312502	DGC-K-32-160-PPV-A	Linear drive	
1312502	DGC-K-32-200-PPV-A	Linear drive	
1312502	DGC-K-32-250-PPV-A	Linear drive	
1312502	DGC-K-32-320-PPV-A	Linear drive	
1312502	DGC-K-32-400-PPV-A	Linear drive	
1312502	DGC-K-32-500-PPV-A	Linear drive	
1312502	DGC-K-32-1000-PPV-A	Linear drive	
1312504	DGC-K-50-125-PPV-A	Linear drive	
1312504	DGC-K-50-160-PPV-A	Linear drive	
1312504	DGC-K-50-200-PPV-A	Linear drive	
1312504	DGC-K-50-250-PPV-A	Linear drive	
1312504	DGC-K-50-320-PPV-A	Linear drive	
1312504	DGC-K-50-400-PPV-A	Linear drive	
1312504	DGC-K-50-500-PPV-A	Linear drive	
1312504	DGC-K-50-1000-PPV-A	Linear drive	
1312505	DGC-K-63-125-PPV-A	Linear drive	
1312505	DGC-K-63-160-PPV-A	Linear drive	
1312505	DGC-K-63-200-PPV-A	Linear drive	
1312505	DGC-K-63-320-PPV-A	Linear drive	
1312505	DGC-K-63-400-PPV-A	Linear drive	
1312505	DGC-K-63-500-PPV-A	Linear drive	
1312505	DGC-K-63-1000-PPV-A	Linear drive	
1312506	DGC-K-80-125-PPV-A	Linear drive	
1312506	DGC-K-80-160-PPV-A	Linear drive	
1312506	DGC-K-80-200-PPV-A	Linear drive	
1312506	DGC-K-80-320-PPV-A	Linear drive	
1312506	DGC-K-80-400-PPV-A	Linear drive	
1312506	DGC-K-80-500-PPV-A	Linear drive	
1312506	DGC-K-80-1000-PPV-A	Linear drive	

Software tool – Simulation of pneumatic drives

With this software tool you can simulate pneumatic systems. As result of this tool you receive information about cycle time, speed, acceleration and other values.

[LINK to the software tool „Simulation of pneumatic drives“](#)



1. System parameters 2. Cylinder selection 3. System 4. Simulation 5. Bill of materials

Valve/tube/fittings selection System simulation

Please select the component(s) by clicking on the corresponding label or image below.

Flow rate
5.2 Revolutions open

Cylinder DFM-32-200-P-A-GF

☐ Shock absorber

Flow control valve GRLA-1/8-QS-8-D

Tubing [Cyl. > Valve] PUN-8x1,25-BL (1 m)

Valve VUVG-L14-B52-ZT-G18-1P3

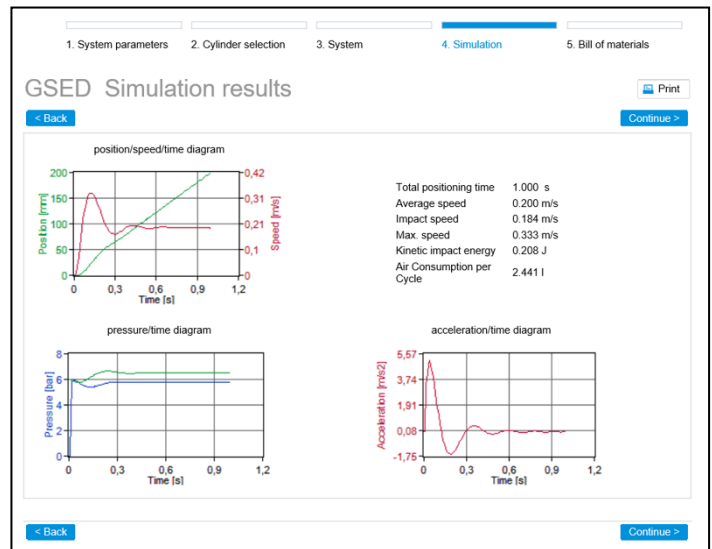
Tubing [air supply > valve] PUN-8x1,25-BL (1 m)

Silencer U -1/8

Air supply pressure 6 bar

Direction of movement ☒ Extend ☐ Retract ☐ full sequence cycle

< Back Simulation >



7.3 Cylinder with clamping unit (for safety related applications)

Name	Cylinder with clamping unit DNCKE-S, for safety related applications	Standard cylinder with clamping cartridge DSBC-C	Clamping cartridges KP	Clamping units KEC, KPE
Order code	DNCKE-...-S	DSBC-...-...-C-PPVA DSBC-C	KP-.. for ADN Cylinder	KEC-... KPE-...
Remarks	Diameter: 40, 63, 100 mm Stroke length: 10 ... 2000 mm Force: 754 ... 4712 N Double-acting Position sensing Adjustable cushioning	Configurable via the standard cylinder DSBC Only the configurations/stroke lengths in chapter 7.1 are released!	For round material 4, 6, 8, 10, 12, 16, 20, 25, 32 mm.	For round material 4, 6, 8, 10, 12, 16, 20, 25, 32 mm.
Picture				
Documentation	 Catalogue		 Catalogue	 Catalogue
	 Documentation 		 Documentation 	

Part no.	Order code	Name	Links
538239	DNCKE-40- -PPV-A-S	Cylinder with clamping unit	
538240	DNCKE-63- -PPV-A-S	Cylinder with clamping unit	
538241	DNCKE-100- -PPV-A-S	Cylinder with clamping unit	

7.4 Rotary drives

Name	Semi-rotary drives DRRD	Semi-rotary drives DRVS
Order code	DRRD-... 	DRVS-... 
Remarks	Size 8, 10, 12, 16, 20, 25, 32, 35, 40, 50, 63 mm Torque 0.2 ... 112 Nm Swivel angle 0 ... 180° Position sensing Cushioning: elastic (P), hydraulic shock absorbers Flanged shaft	Size 6, 8, 12, 16, 25, 32, 40 mm Torque 0.15 ... 20 Nm Swivel angle 90, 180, 270° Position sensing Fixed elastic cushioning elements on both sides
Picture		
Documentation	Catalogue Documentation 	Catalogue Documentation 

Part no.	Order code	Name	Links
1577238	DRRD-16-180-FH-PA	Semi-rotary drive	
1644389	DRRD-16-180-FH-Y9A	Semi-rotary drive	
1395606	DRRD-20-180-FH-PA	Semi-rotary drive	
1427379	DRRD-20-180-FH-Y9A	Semi-rotary drive	
1359980	DRRD-25-180-FH-PA	Semi-rotary drive	
1360248	DRRD-25-180-FH-Y9A	Semi-rotary drive	
1578512	DRRD-32-180-FH-PA	Semi-rotary drive	
1578518	DRRD-32-180-FH-Y9A	Semi-rotary drive	
1526825	DRRD-35-180-FH-PA	Semi-rotary drive	
1547102	DRRD-35-180-FH-Y9A	Semi-rotary drive	
1503269	DRRD-40-180-FH-PA	Semi-rotary drive	
1526986	DRRD-40-180-FH-Y9A	Semi-rotary drive	
1845710	DRVS-12-90-P	Semi-rotary drive	
1845711	DRVS-12-180-P	Semi-rotary drive	
1845712	DRVS-12-270-P	Semi-rotary drive	
1845713	DRVS-16-90-P	Semi-rotary drive	
1845714	DRVS-16-180-P	Semi-rotary drive	
1845715	DRVS-16-270-P	Semi-rotary drive	
1845716	DRVS-25-90-P	Semi-rotary drive	
1845717	DRVS-25-180-P	Semi-rotary drive	
1845718	DRVS-25-270-P	Semi-rotary drive	
1845719	DRVS-32-90-P	Semi-rotary drive	
1845720	DRVS-32-180-P	Semi-rotary drive	
1845721	DRVS-32-270-P	Semi-rotary drive	
1845722	DRVS-40-90-P	Semi-rotary drive	
1845723	DRVS-40-180-P	Semi-rotary drive	
1845724	DRVS-40-270-P	Semi-rotary drive	

★ / ☆ = Festo core product range (see page 4)

7.5 Stopper cylinder

Name	DFST stopper cylinder	Stopper cylinders EFSD
Order code	DFST-...	EFSD-...
Remarks	Diameter: 50, 63, 80 mm Stroke length: 30 ... 40 mm Permissible impact force on the advanced piston rod: 3000 ... 6000 N Position sensing Fixed cushioning Toggle lever	Size 20kg, 50kg, 100kg Sizes 410kg, 610kg on request! Direct connection and control via digital outputs Position sensing using integrated sensors Adjustable cushioning, low maintenance LED status display
Picture		
Documentation	 Catalogue  Documentation 	 Catalogue  Documentation 

Part no.	Order code	Name	Links
555572	DFST-50-30-L-Y4-A	Stopper cylinder	
555574	DFST-63-30-L-Y4-A	Stopper cylinder	
555576	DFST-80-40-L-Y4-A	Stopper cylinder	
2942445	EFSD-20-PV-M12	Electrical stopper cylinder	
2942446	EFSD-50-PV-M12	Electrical stopper cylinder	
2942447	EFSD-100-PV-M12	Electrical stopper cylinder	
on request	EFSD-410-PV-M12	Electrical stopper cylinder	
on request	EFSD-610-PV-M12	Electrical stopper cylinder	

7.6 Guided drives

Name	Guided drives DFM, metric	Mini slide DGSL, metric
Order code	DFM-... 	DGSL-... 
Remarks	Diameter 6, 10, 12, 16, 20, 25, 32, 40, 50, 63, 80, 100 mm Stroke length 10 ... 400 mm Force 13 ... 4712 N Position sensing Fixed/adjustable cushioning Plain-bearing guide Recirculating ball bearing guide Variants available.	Size 4, 6, 8, 10, 12, 16, 20, 25 Diameter 6, 8, 10, 12, 16, 20, 25, 32 mm Stroke length 10 ... 200 mm Force 17 ... 483 N Position sensing Fixed/adjustable cushioning Ball bearing cage guide
Picture		
Documentation	Catalogue Documentation 	Catalogue Documentation 

Part no.	Order code	Name	Links
170824	DFM-12-10-P-A-GF	Guided drive	
170899	DFM-12-10-P-A-KF	Guided drive	
170826	DFM-12-25-P-A-GF	Guided drive	
170901	DFM-12-25-P-A-KF	Guided drive	
170828	DFM-12-40-P-A-GF	Guided drive	
170903	DFM-12-40-P-A-KF	Guided drive	
170829	DFM-12-50-P-A-GF	Guided drive	
170904	DFM-12-50-P-A-KF	Guided drive	
170830	DFM-12-80-P-A-GF	Guided drive	
170905	DFM-12-80-P-A-KF	Guided drive	
170831	DFM-12-100-P-A-GF	Guided drive	
170906	DFM-12-100-P-A-KF	Guided drive	
170832	DFM-16-10-P-A-GF	Guided drive	
170907	DFM-16-10-P-A-KF	Guided drive	
170834	DFM-16-25-P-A-GF	Guided drive	
170909	DFM-16-25-P-A-KF	Guided drive	
170836	DFM-16-40-P-A-GF	Guided drive	
170911	DFM-16-40-P-A-KF	Guided drive	
170837	DFM-16-50-P-A-GF	Guided drive	
170912	DFM-16-50-P-A-KF	Guided drive	
170838	DFM-16-80-P-A-GF	Guided drive	
170913	DFM-16-80-P-A-KF	Guided drive	
170839	DFM-16-100-P-A-GF	Guided drive	
170914	DFM-16-100-P-A-KF	Guided drive	
170848	DFM-25-25-P-A-GF	Guided drive	
170923	DFM-25-25-P-A-KF	Guided drive	

★ / ☆ = Festo core product range (see page 4)

Part no.	Order code	Name	Links
170850	DFM-25-40-P-A-GF	Guided drive	
170925	DFM-25-40-P-A-KF	Guided drive	
170851	DFM-25-50-P-A-GF	Guided drive	
170926	DFM-25-50-P-A-KF	Guided drive	
170852	DFM-25-80-P-A-GF	Guided drive	
170927	DFM-25-80-P-A-KF	Guided drive	
170853	DFM-25-100-P-A-GF	Guided drive	
170928	DFM-25-100-P-A-KF	Guided drive	
170855	DFM-32-25-P-A-GF	Guided drive	
170930	DFM-32-25-P-A-KF	Guided drive	
170857	DFM-32-40-P-A-GF	Guided drive	
170932	DFM-32-40-P-A-KF	Guided drive	
170858	DFM-32-50-P-A-GF	Guided drive	
170933	DFM-32-50-P-A-KF	Guided drive	
170859	DFM-32-80-P-A-GF	Guided drive	
170934	DFM-32-80-P-A-KF	Guided drive	
170860	DFM-32-100-P-A-GF	Guided drive	
170935	DFM-32-100-P-A-KF	Guided drive	
170861	DFM-32-125-P-A-GF	Guided drive	
170936	DFM-32-125-P-A-KF	Guided drive	
170862	DFM-32-160-P-A-GF	Guided drive	
170937	DFM-32-160-P-A-KF	Guided drive	
170863	DFM-32-200-P-A-GF	Guided drive	
170938	DFM-32-200-P-A-KF	Guided drive	
170871	DFM-50-25-P-A-GF	Guided drive	
170946	DFM-50-25-P-A-KF	Guided drive	
170872	DFM-50-50-P-A-GF	Guided drive	
170947	DFM-50-50-P-A-KF	Guided drive	
170873	DFM-50-80-P-A-GF	Guided drive	
170948	DFM-50-80-P-A-KF	Guided drive	
170874	DFM-50-100-P-A-GF	Guided drive	
170949	DFM-50-100-P-A-KF	Guided drive	
170875	DFM-50-125-P-A-GF	Guided drive	
170950	DFM-50-125-P-A-KF	Guided drive	
170876	DFM-50-160-P-A-GF	Guided drive	
170951	DFM-50-160-P-A-KF	Guided drive	
170877	DFM-50-200-P-A-GF	Guided drive	
170952	DFM-50-200-P-A-KF	Guided drive	
170878	DFM-63-25-P-A-GF	Guided drive	
170953	DFM-63-25-P-A-KF	Guided drive	
170879	DFM-63-50-P-A-GF	Guided drive	
170954	DFM-63-50-P-A-KF	Guided drive	
170880	DFM-63-80-P-A-GF	Guided drive	
170955	DFM-63-80-P-A-KF	Guided drive	
170881	DFM-63-100-P-A-GF	Guided drive	
170956	DFM-63-100-P-A-KF	Guided drive	
170882	DFM-63-125-P-A-GF	Guided drive	
170957	DFM-63-125-P-A-KF	Guided drive	
170883	DFM-63-160-P-A-GF	Guided drive	
170958	DFM-63-160-P-A-KF	Guided drive	

Guided drives

Part no.	Order code	Name	Links
170884	DFM-63-200-P-A-GF	Guided drive	
170959	DFM-63-200-P-A-KF	Guided drive	
543983	DGSL-16-10-PA	Mini slide	
543984	DGSL-16-20-PA	Mini slide	
543985	DGSL-16-30-PA	Mini slide	
543986	DGSL-16-40-PA	Mini slide	
543987	DGSL-16-50-PA	Mini slide	
543988	DGSL-16-80-PA	Mini slide	
543989	DGSL-16-100-PA	Mini slide	
544005	DGSL-20-10-PA	Mini slide	
544006	DGSL-20-20-PA	Mini slide	
544007	DGSL-20-30-PA	Mini slide	
544008	DGSL-20-40-PA	Mini slide	
544009	DGSL-20-50-PA	Mini slide	
544010	DGSL-20-80-PA	Mini slide	
544011	DGSL-20-100-PA	Mini slide	

8 Gripper

8.1 Parallel grippers

Name	Parallel gripper HGPT	Parallel gripper HGPL	Electric parallel grippers HGPLE
Order code	HGPT-... High force	HGPL-...	HGPLE-... Electric gripper
Remarks	Size 16, 20, 25, 35, 40, 50, 63, 80 Stroke length 3 ... 20 mm per gripper jaw Force 53 ... 3150 N per gripper jaw Position sensing Sealing air connection	Size 14, 25, 40, 63 mm Stroke length 40 ... 150 mm per gripper jaw Force 79 ... 1371 N per gripper jaw Position sensing.	Size 14, 25 Stroke length 0 ... 80 mm per gripper jaw Force: 44 ... 650 N per gripper jaw Nominal operating voltage 24 V DC.
Picture			
Documentation	Catalogue Documentation 	Catalogue Documentation 	Catalogue Documentation 

Part no.	Order code	Name	Links
560219	HGPT-40-A-B-F	Parallel gripper, high force version	
560225	HGPT-50-A-B-F	Parallel gripper, high force version	
560231	HGPT-63-A-B-F	Parallel gripper, high force version	
560237	HGPT-80-A-B-F	Parallel gripper, high force version	
3361483	HGPL-25-20-A-B	Parallel gripper	
3361484	HGPL-25-40-A-B	Parallel gripper	
3361485	HGPL-25-60-A-B	Parallel gripper	
3361486	HGPL-25-80-A-B	Parallel gripper	
3361491	HGPL-40-100-A-B	Parallel gripper	
3361487	HGPL-40-20-A-B	Parallel gripper	
3361488	HGPL-40-40-A-B	Parallel gripper	
3361489	HGPL-40-60-A-B	Parallel gripper	
3361490	HGPL-40-80-A-B	Parallel gripper	
3361493	HGPL-63-100-A-B	Parallel gripper	
3361494	HGPL-63-150-A-B	Parallel gripper	
3361492	HGPL-63-60-A-B	Parallel gripper	
555563	HGPLE-25-40-2,8-DC-VCSC-G85	Electric parallel gripper	
2342436	HGPLE-25-80-2,8-DC-VCSC-G85	Electric parallel gripper	

8.2 Three-pointed and radial gripper

Name	Three-point gripper HGDT	Three-point gripper HGDD	Radial gripper HGRT
Order code	HGDT-... High force	HGDD-...	HGRT-...
Remarks	Size 25, 35, 40, 50, 63 Stroke length 3 ... 10 mm per gripper jaw Force: 69 ... 864 N per gripper jaw Position sensing	Size 35, 40, 50, 63, 80 Stroke length 4 ... 12 mm per gripper jaw Force: 116 ... 993 N per gripper jaw Completely sealed for harsh environments	Size 16, 20, 25, 32, 40, 50 Opening angle 180° Total gripping torque 1.8 ... 127 Nm Position sensing With or without gripping force backup
Picture			
Documentation	Catalogue Documentation 	Catalogue Documentation 	Catalogue Documentation 

Part no.	Order code	Name	Links
560183	HGDT-40-A-F	Three-point gripper, high force version	
560186	HGDT-50-A-F	Three-point gripper, high force version	
560189	HGDT-63-A-F	Three-point gripper, high force version	
1163040	HGDD-40-A	Three-point gripper	
1163043	HGDD-50-A	Three-point gripper	
1163046	HGDD-63-A	Three-point gripper	
1163049	HGDD-80-A	Three-point gripper	
563912	HGRT-40-A	Radial gripper	
563914	HGRT-50-A	Radial gripper	

Software tool – Grippers selection

With this software tool you can determine the gripper system for your application.

LINK to the software tools:

[Selection parallel grippers](#)

[Selection Three-point grippers](#)

[Selection radial grippers](#)



Gripper selection

1. Information about object and gripper finger

2. Further settings

3. Degree of gripper utilization as a percentage

Standard gripper

Robust gripper

Long stroke gripper

Precision grippers

Low price gripper

Micro-gripper

Part No.	Type	Total weight	Overall stroke:	Status
1254040	DHPS-10-A	0,37 kg	6 mm	OK
1254042	DHPS-10-A-NC	0,37 kg	6 mm	OK
1254041	DHPS-10-A-ND	0,37 kg	6 mm	OK
1254043	DHPS-16-A	0,49 kg	10 mm	OK
1254045	DHPS-16-A-NC	0,49 kg	10 mm	OK
1254044	DHPS-16-A-ND	0,49 kg	10 mm	OK

Product image

Type

Required static retention force

Required dynamic retention force

Intermediate distance of the pressure point

Dynamic longitudinal force on the gripper fingers

Dynamic lateral force Mx

Dynamic transversal force My

Dynamic lateral torque Mz

Results

4.9 N

5.9 N

40 mm

1.42 N

0 Nm

0.01 Nm

0 Nm

Max. possible

24%

20%

100%

1%

3 Nm

3 Nm

3 Nm

Options

2D/3D view

Accessories

Data sheet

Documentation

Add to basket

9 Process automation

9.1 Quarter turn actuators

Name	Quarter turn actuators DFPD
	DFPD-... 
Remarks	Size: 10 ... 2300 Torque: 10 ... 2300 Nm Swivel angle: 0 ... 90°, 0 ... 180° Flange hole pattern to ISO 5211 NAMUR connection pattern for solenoid valves/sensor boxes to VDI/VDE 3845
Picture	
Documentation	 Catalogue  Documentation 

Part no.	Order code	Name	Links
8047613	DFPD-10-RP-90-RD-F03	Semi-rotary drive	
8047614	DFPD-20-RP-90-RD-F04	Semi-rotary drive	
8047615	DFPD-40-RP-90-RD-F0507	Semi-rotary drive	

9.2 Seat angle and ball valves

Name	Angle seat valves VZXF	Angle seat valves VZXA	VAPB ball valves	Ball valve VZBA
Order code	VZXF-... 	VZXA-...	VAPB-...	VZBA-...
Remarks	Connection 1/2, 3/4, 1, 1 1/4, 1 1/2, 2 G thread or NPT thread Pressure range 0 ... 40 bar Valve function 2/2 NC Use with slightly contaminated media also possible Use for steam applications possible Direct supply of pilot air.	Port DN 13, 1/2"; DN20, 3/4"; DN25, 1"; DN32, 1 1/4"; DN40, 1 1/2"; DN50, 2" G-thread to DIN ISO 228-1 or NPT-thread to ANSI/ASME B 1.20.1 or Rc-thread to DIN 10226-2 Medium pressure 0 ... 30 bar Valve function 2/2, NC (Normally Closed), NO (Normally Open), DA (Double Acting) Suitable for nearly all media High chemical and thermal resistance ATEX-approval	Port Rp 1/4, Rp 3/8, Rp 1/2, Rp 3/4, Rp1, Rp1 1/4, Rp1 1/2, Rp2, Rp2 1/2, Rp3, Rp4 Flow rate 2000 ... 23500 l/min Flange hole pattern to ISO 5211 Mechanically actuated Corrosion and acid-resistant designs 2-way ball valve	Connection Rp 1/4, Rp 3/8, Rp 1/2, Rp 3/4, Rp1, Rp1 1/4, Rp1 1/2, Rp2 flow (rate) 75 ... 895 l/min flange hole pattern to ISO 5211 corrosion and acid resistant versions.
Picture				
Documentation	 Catalogue  Documentation 	 Catalogue  Documentation 	 Catalogue  Documentation 	 Catalogue  Documentation 

Part no.	Order code	Name	Links
534304	VAPB-1/2-F-40-F03	Ball valve	
534308	VAPB-1 1/2-F-25-F0405	Ball valve	
534306	VAPB-1-F-40-F0304	Ball valve	
534309	VAPB-2-F-25-F05	Ball valve	
1002509	VZXF-L-M22C-M-B-G112-350-H3B1-50-6	Angle seat valve	
1002501	VZXF-L-M22C-M-B-G12-120-H3B1-50-16	Angle seat valve	
1002505	VZXF-L-M22C-M-B-G1-230-H3B1-50-10	Angle seat valve	
3536436	VZXF-L-M22C-M-B-G2-430-M1-H3ALT-80-5	Angle seat valve	

9.3 Butterfly valves

Name	VZAF	VZAP	VZAS	VZAV
Order code	VZAF-...	VZAP-...	VZAS-...	VZAV-...
Remarks	▪ Ideal for very corrosive environments ▪ Also good for clean rooms and the food industry ▪ DN 32 – DN 900 ▪ Sealing material PTFE / Ultraflon (up to 140°C) ▪ Temperature -20 ... +200 °C	▪ Used in aggressive application (slurry, mud and semi-solid control) ▪ DN 25 – DN 600 ▪ Also available in SS ▪ Sealing material EPDM/ NBR /FPM ▪ Temperature -40 ... +200 °C	▪ Standard butterfly valve for a variety of industries ▪ Blow out protection ▪ DN 25 – DN 1600 ▪ Approved for the food industry ▪ Sealing material EPDM/ NBR ▪ Temperature -55 ... +210 °C	▪ Standard butterfly valve standard applications - replacement for VZAS ▪ Blow out protection ▪ DN 25 – DN 1600 ▪ Sealing material EPDM/ NBR ▪ Temperature -60 ... +210 °C
Picture				
Documentation	 Documentation	Please contact Festo!	 Documentation	 Documentation

9.4 Gate valves

Name	VZKA (pneumatic)	VZKA (manual)
Order code	VZKA-PW-...	VZKA-MW-...
Remarks	▪ DN 50 – DN 300 ▪ Flow rate: 245 ... 8563 m³/h ▪ Fully opened and closed in both direction	
Picture		
Documentation	Please contact Festo!	

9.5 Sensor boxes

Name	Sensor boxes SRBC	Sensor boxes SRBG
Order code	SRBC-... 	SRBG-...
Remarks	Measuring principle electromechanical or magnetic reed Switching element function Toggle switch, single-pole (SPDT) For DC and AC Pre-fitted mounting bridge Cable connector and blanking plug included in the scope of delivery	Inductive measurement principle with dual sensor Switching component function N/O contact, in the case of AS- Interface switchable N/C - N/O contact Operating voltage 6 ... 60 V DC Direct mounting on quarter turn actuators to VDI/VDE 3845
Picture		
Documentation	 Catalogue  Documentation 	 Catalogue  Documentation 

10 Vacuum technology

10.1 Vacuum generation

Name	OVEM vacuum generator, metric	Vacuum generators VN, pneumatic	Vacuum generators OVEL
Order code	OVEM-...	VN-...	OVEL-...
Remarks	Nominal diameter 0.45 ... 2.0 mm Port -Plug connector QS6, QS8 Solenoid valve vacuum IN/OUT Solenoid valve for ejector pulse Integrated vacuum switch.	Nominal size 0.45 to 3 mm Connection -Plug connector QS4, QS6, QS8, QS10, QS12 -Thread M5, G1/8, G1/4, G3/8 -Push-in sleeve 4.6 mm Standard -Vacuum port 90° to supply port Inline -Vacuum port in line with supply port Ejector pulse valve, pneumatic.	Nominal size 0.45 ... 0.95 mm Connection - push-in connector QS3, QS4, QS6 Vacuum solenoid valve ON/OFF Optional with ejector pulse Integrated vacuum sensor
Picture			
Documentation	Catalogue Documentation 	Catalogue Documentation 	Catalogue Documentation 

Part no.	Order code	Name	Links
539074	OVEM-07-H-B-GN-OE-N-2P	Vacuum generator	
539074	OVEM-10-H-B-GN-OE-N-2P	Vacuum generator	
539074	OVEM-14-H-B-GN-OE-N-2P	Vacuum generator	
539074	OVEM-20-H-B-GN-OE-N-2P	Vacuum generator	
8070094	OVEM-30-H-C-QO-CE-N-2P	Vacuum generator	
8047702	NEDU-L1R2-V2-M12G5-U-M12-0,5R-CS1471959A	Connection cable OVEM	
193498	VN-05-H-T3-PI4-VI4-RI4	Vacuum generator	
193499	VN-07-H-T3-PI4-VI4-RI4	Vacuum generator	
193500	VN-10-H-T3-PI4-VI4-RI4	Vacuum generator	
193502	VN-14-H-T4-PI4-VI5-RI5	Vacuum generator	
8069570	OVEL-5-H-10-PQ-VQ4-UA-C-A-B2PNLK-H3	Vacuum generator	
8069571	OVEL-7-H-15-PQ-VQ4-UA-C-A-B2PNLK-H3	Vacuum generator	
8069572	OVEL-10-H-15-PQ-VQ6-UA-C-A-B2PNLK-H3	Vacuum generator	

10.2 Vacuum suction cups

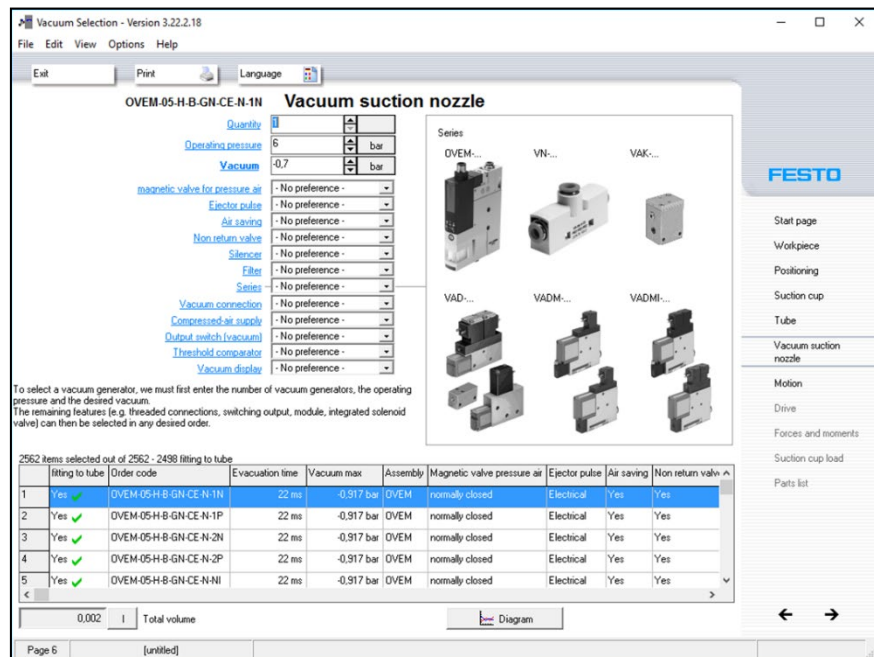
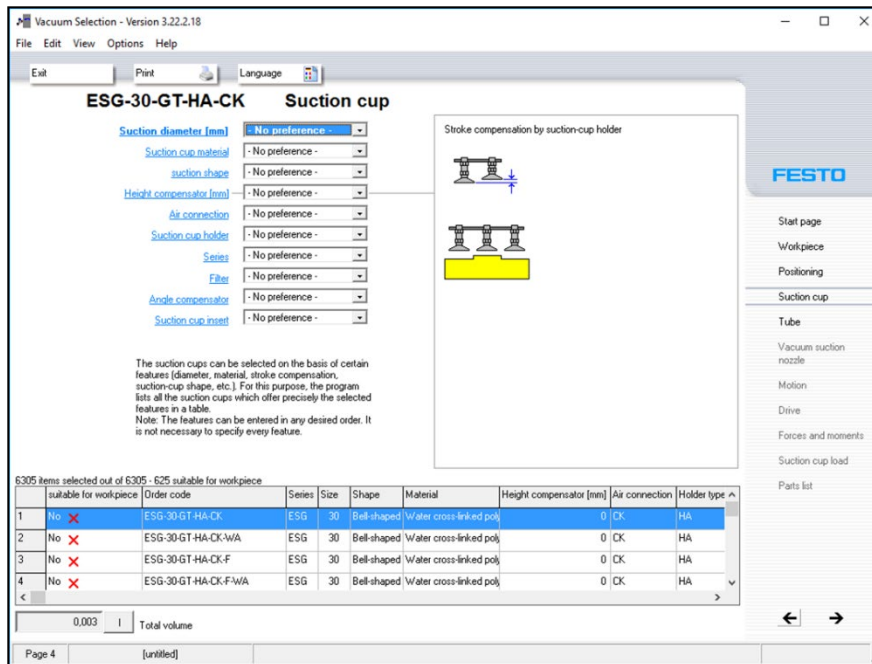
Name	Vacuum suction cups OGVM	Vacuum suction cups ESS	Suction cups VAS, VASB
Order code	OGVM-...	ESS-...	VAS-...
Remarks	Cups size 21 ... 128 mm Holding force 17 ... 526 N Material HNBR, NBR Different shapes	Suction cup size diameter 2 to 200 mm, 4x10 to 30x90 mm Connection - Male thread - Female thread Round suction cup - Standard - Extra deep suction cup - Bellows, 1.5-fold - Bellows, 3.5-fold - Bell-shaped Oval suction cup.	Suction cup size diameter 1 to 125 mm Connection - Male thread Round suction cup - Standard - Bellows, 1.5 convolutions
Picture			
Documentation		Catalogue Documentation 	Catalogue Documentation 

Part no.	Order code	Name	Links
8073816	OGVM-30-S-N-G14-F	Suction cup, round, standard	
8073817	OGVM-40-S-N-G14-F	Suction cup, round, standard	
8073818	OGVM-50-S-N-G14-F	Suction cup, round, standard	
8073819	OGVM-60-S-N-G14-F	Suction cup, round, standard	
8073820	OGVM-80-S-N-G14-F	Suction cup, round, standard	
8073821	OGVM-100-S-N-G14-F	Suction cup, round, standard	
8073822	OGVM-125-S-N-G14-F	Suction cup, round, standard	
8073847	OGVM-20-G-N-G14-F	Suction cup, round, standard	
8073848	OGVM-30-G-N-G14-F	Suction cup, round, standard	
8073831	OGVM-45-G-N-G14-F	Suction cup, round, standard	
8073832	OGVM-60-G-N-G14-F	Suction cup, round, standard	
8073833	OGVM-80-G-N-G14-F	Suction cup, round, standard	
8073834	OGVM-22-A-N-G14-F	Suction cup, round, bellows 1.5 convolutions	
8073835	OGVM-30-A-N-G14-F	Suction cup, round, bellows 1.5 convolutions	
8073836	OGVM-40-A-N-G14-F	Suction cup, round, bellows 1.5 convolutions	
8073837	OGVM-59-A-N-G14-F	Suction cup, round, bellows 1.5 convolutions	
8073838	OGVM-60-A-N-G14-F	Suction cup, round, bellows 1.5 convolutions	
8073839	OGVM-80-A-N-G14-F	Suction cup, round, bellows 1.5 convolutions	
8073840	OGVM-100-A-N-G14-F	Suction cup, round, bellows 1.5 convolutions	
8073841	OGVM-125-A-N-G14-F	Suction cup, round, bellows 1.5 convolutions	
8073852	OGVM-16x55-SV-N-G14-F	Suction cup, oval standard	
8073853	OGVM-20x65-SV-N-G14-F	Suction cup, oval standard	
8073854	OGVM-30x95-SV-N-G14-F	Suction cup, oval standard	
8073855	OGVM-40x85-SV-N-G14-F	Suction cup, oval standard	
8073856	OGVM-50x105-SV-N-G14-F	Suction cup, oval standard	
8073857	OGVM-60x125-SV-N-G14-F	Suction cup, oval standard	
8073858	OGVM-70x145-SV-N-G14-F	Suction cup, oval standard	
8073862	OGVM-20x60-GV-N-G14-F	Suction cup, bell-shaped, oval	
8073863	OGVM-30x80-GV-N-G14-F	Suction cup, bell-shaped, oval	
8073864	OGVM-40x90-GV-N-G14-F	Suction cup, bell-shaped, oval	
8073865	OGVM-30x65-AV-N-G14-F	Suction cup, oval, bellows 1.5 convolutions	
8073866	OGVM-40x85-AV-N-G14-F	Suction cup, oval, bellows 1.5 convolutions	
8073867	OGVM-55x115-AV-N-G14-F	Suction cup, oval, bellows 1.5 convolutions	
8073868	OGVM-70x145-AV-N-G14-F	Suction cup, oval, bellows 1.5 convolutions	
8073842	OGVM-20-A-HN-G14-F	Suction cup, round, bellows 1.5, high temperature	
8073843	OGVM-30-A-HN-G14-F	Suction cup, round, bellows 1.5, high temperature	
8073844	OGVM-40-A-HN-G14-F	Suction cup, round, bellows 1.5, high temperature	
8073845	OGVM-50-A-HN-G14-F	Suction cup, round, bellows 1.5, high temperature	
8073846	OGVM-100-A-HN-G14-F	Suction cup, round, bellows 1.5, high temperature	
8073869	OGVM-20x60-AV-HN-G14-F	Suction cup, oval, bellows 1.5, high temperature	

Software tool – Vacuum selection

With this software tool you can plan and design a vacuum system for your applications. The selection routine comprises suction cups, tubing and vacuum generators. Additionally, various accessories can be added. The outcome of the tool is a technically optimized combination of components and the bill-of-material for easy ordering.

[LINK to the software tool](#)



Attention: This tool has to be installed on the computer!

11 Valves

11.1 Electrically and pneumatically operated ISO standard valves

Name	Order code	Remarks	Picture	Documentation
Standard valves VSVA with central plug ISO 5599-1 ISO 15407-1 	VSVA-...	Connection ISO 01, ISO 1 Flow rate 1.100 ... 1.300 l/min Voltage 24 V DC Sub-base valve Solenoid actuated, piloted Sub-bases.		Catalogue Documentation 
Standard valves to ISO 5599-1	JMEBDH-... MEBH-...	Connection ISO3 Flow 4.000 ... 4.600 l/min Voltage 24V Sub-base valve - Electrically actuated, piloted - Pneumatically actuated Sub-bases Manifold sub-bases Throttle plates Intermediate pressure regulator plates.		Catalogue Documentation 
Standard-based valves VSPA ISO 15407-1	VSPA-...	Connection G1/8, ISO 02; G1/4, ISO 01 Flow rate 500 ... 1000 l/min Sub-base valve - Pneumatically actuated Sub-bases Manifold sub-bases.		Catalogue Documentation 
Solenoid valves VSNC	VSNC-... with M12 connector Solenoid: 8029144 VACN-N-A1-1 (type A)	Connection: G1/4, NPT1/4 Flow rate: 900 ... 1000 l/min Voltage: 12, 24, 48 V DC, 24, 48, 120, 230 V AC NAMUR port pattern to VDE/VDI 3845 Solenoid-actuated, piloted Mechanical spring return Diverse Ex solenoid systems, IEC Ex, FM EX Convertible from 5/2-way function to 3/2-way function		Catalogue Documentation 
Plug MSSD	MSSD-C-24-LED-M12 SA-27400	Plug for solenoid valve Connection diameter: 0,75 ... 1,5 mm ²		

Part no.	Order code	Name	Links
534557	VSVA-B-B52-H-A1-1R5L	solenoid valve	
561365	VSVA-B-D52-D-D1-1R5L	Solenoid valve	
534558	VSVA-B-D52-H-A1-1R5L	Solenoid valve	
534556	VSVA-B-M52-MH-A1-1R5L	solenoid valve	
534555	VSVA-B-M52-AH-A1-1R5L	Solenoid valve	
561367	VSVA-B-P53E-D-D1-1R5L	Solenoid valve	
534560	VSVA-B-P53E-H-A1-1R5L	Solenoid valve	
561368	VSVA-B-P53U-D-D1-1R5L	Solenoid valve	
534561	VSVA-B-P53U-H-A1-1R5L	Solenoid valve	
534552	VSVA-B-T32C-AH-A1-1R5L	Solenoid valve	
184510	JMEBDH-5/2-D-3-ZSR-C	Solenoid valve	
184507	MEBH-5/2-D-3-ZSR-C	Solenoid valve	
184513	MEBH-5/3B-D-3-ZSR-C	Solenoid valve	
184511	MEBH-5/3E-D-3-ZSR-C	Solenoid valve	
546715	VSPA-B-D52-A1	Pneumatic valve	
546716	VSPA-B-M52-A-A1	Pneumatic valve	
546719	VSPA-B-P53E-A1	Pneumatic valve	
546718	VSPA-B-P53U-A1	Pneumatic valve	
8026033	VSNC-F-B52-H-G14-FN-1A1	Solenoid valve	
8026033	VSNC-FC-M52-MH-G14-FN-1A1	Solenoid valve	
188513	MSSD-C-24-LED-M12-SA-27400	Plug with connection M12x1	

Accessories for standard valves according to ISO 5599-1

Part no.	Order code	Name	Links
10174	NEV-1DA/DB-ISO	end plate kit	
10173	NAV-1/4-1C-ISO	manifold sub-base	
9484	NAS-1/4-1A-ISO	individual sub-base	
9489	NDV-1-ISO	blanking plate	
10176	NEV-3DA/DB-ISO	end plate kit	
10175	NAV-1/2-3C-ISO	manifold sub-base	
10336	NAS-1/2-3A-ISO	individual sub-base	
10340	NDV-3-ISO	blanking plate	

Accessories for standard valves according to ISO 15407-1

Part no.	Order code	Name	Links
161109	NAS-1/4-01-VDMA	individual sub-base	
161102	NAW-1/4-01-VDMA	manifold sub-base	
161104	NEV-01-VDMA	end plate kit	

11.2 Shut-off valves

Name	Non-return valves VBNF, piloted	Non-return valves H, HA, HB	Piloted check valves HGL	Manual overrides
Order code	VBNF-...	H-...	HGL-...-B	HAB-...
Remarks	Port G1/8, G1/4 Push-in connector 6, 8 mm Flow rate 260 l/min Low height Can be rotated horizontally by 360° when assembled	Connection: M5, G1/8, G1/4, G3/8, G1/2, G3/4 Push-in connector: 2, 4, 6, 8, 10, 12 mm Flow rate: 115 ... 2230 l/min Shut-off valve Screw-in	Port M5, G1/8, G1/4, G3/8, G1/2 Flow rate 130 ... 1600 l/min Shut-off valve - Pneumatic piloted non-return valve Use only in combination with manual override HAB!	Hand lever Manual overrides.
Picture				
Documentation	 Catalogue	 Catalogue	 Catalogue	 Catalogue
	 Documentation 	 Documentation 		

Name	Quick exhaust valves VBQF	Quick exhaust valves SE, SEU
Order code	VBQF-...	SE-... SEU-...
Remarks	Connection G 1/8 Plug connector 6 mm Flow rate 350 ... 1300 l/min Shut-off valve Low height Improved noise emission	Connection G 1/8, G 1/4, G 3/8, G 1/2. G 3/4 Flow 300 ... 6 480 l/min Shut-off valve.
Picture		
Documentation	 Catalogue	 Catalogue
	 Documentation 	 Documentation 

Part no.	Order code	Name	Links
1927027	VBNF-LBA-G14-Q8	Non-return valve	
8001460	VBNF-LBA-G18-Q6	Non-return valve	
11691	H-1/2-B	Non-return valve	
11689	H-1/4-B	Non-return valve	
3324	H-1/8-A/I	Non-return valve	
11692	H-3/4-B	Non-return valve	
11690	H-3/8-B	Non-return valve	
530033	HGL-1/2-B	Piloted check valve	
530031	HGL-1/4-B	Piloted check valve	
530030	HGL-1/8-B	Piloted check valve	
530032	HGL-3/8-B	Piloted check valve	
184588	HAB-1/2	Manual override	
184586	HAB-1/4	Manual override	
184585	HAB-1/8	Manual override	
184587	HAB-3/8	Manual override	
548001	VBQF-U-G14-E	Quick exhaust valve	
547531	VBQF-U-G18-E	Quick exhaust valve	
9688	SE-1/2-B	Quick exhaust valve	
9686	SE-1/4-B	Quick exhaust valve	
9685	SE-1/8-B	Quick exhaust valve	
2280	SE-3/4	Quick exhaust valve	
9687	SE-3/8-B	Quick exhaust valve	
6822	SEU-1/2	Quick exhaust valve	
6753	SEU-1/4	Quick exhaust valve	
4616	SEU-1/8	Quick exhaust valve	
6755	SEU-3/8	Quick exhaust valve	

11.3 Flow control valves

Name	One-way flow control valves VFOF	One-way flow control valves GRLA, GRLZ	One-way flow control valves, tamper-proof	In-line installation GR
Order code	VFOF...	GRLA-... GRLZ-... 	GRLA-...-SA tamper-proof	GR-... GRA-...
Remarks	Flow rate: 0 ... 650 l/min. Shut-off valve	Connection M3, M5, G 1/8, G 1/4, G 3/8, G 1/2, also available with NPT thread Plug connector 3, 4, 6, 8, 10, 12 mm Flow rate 0 ... 1,400 l/min Non-return and flow control valve.	Special version: The setting of the valve is fixed with a safeguard and therefore can't be manipulated.	Connection M3, M5, G1/8, G1/4, G3/8, G1/2, G3/4 Push-in connector 3, 4, 6, 8 mm Flow 0 ... 3 300 l/min Non-return and flow control valve.
Picture				
Documentation	 Catalogue	 Catalogue		
	 Documentation 	 Documentation 		
				 Catalogue
				 Documentation 

Pressure control valve

Part no.	Order code	Name	Links
1927030	VFOF-LE-BAH-G14-Q8	One-way flow control valve	
8001459	VFOF-LE-BAH-G18-Q6	One-way flow control valve	
151179	GRLA-1/2-B	One-way flow control valve	
151172	GRLA-1/4-B	One-way flow control valve	
151165	GRLA-1/8-B	One-way flow control valve	
151180	GRLA-3/4-B	One-way flow control valve	
151178	GRLA-3/8-B	One-way flow control valve	
151160	GRLA-M5-B	One-way flow control valve	
151195	GRLZ-1/4-B	Supply air one-way flow control valve	
151188	GRLZ-1/8-B	Supply air one-way flow control valve	
539717	GRLA-M5-B-SA-218543	One-way flow control valve, tamper-proof	
539661	GRLA-1/8-B-SA-218537	One-way flow control valve, tamper-proof	
539662	GRLA-1/4-B-SA-218536	One-way flow control valve, tamper-proof	
539715	GRLA-3/8-B-SA-218541	One-way flow control valve, tamper-proof	
539716	GRLA-1/2-B-SA-218540	One-way flow control valve, tamper-proof	
539714	GRLA-3/4-B-SA-218542	One-way flow control valve, tamper-proof	
193146	GRLA-1/4-QS-6-D	One-way flow control valve	
193147	GRLA-1/4-QS-8-D	One-way flow control valve	
193144	GRLA-1/8-QS-6-D	One-way flow control valve	
193145	GRLA-1/8-QS-8-D	One-way flow control valve	
3720	GR-1/2	One-way flow control valve	
151215	GR-1/8-B	One-way flow control valve	
2103	GR-3/4	One-way flow control valve	
6308	GR-3/8-B	One-way flow control valve	
6509	GRA-1/4-B	One-way flow control valve	
151213	GR-M5-B	One-way flow control valve	

11.4 Pressure control valve

Name	With push-in connector LR, LRMA
Order code	LRMA-...
Remarks	Connection M5, G 1/8, G 1/4, G 3/8, G 1/2 Push-in connector Flow 22 ... 760 l/min For use apart from a service unit - With integrated non-return valve.
Picture	
Documentation	Catalogue Documentation

Part no.	Order code	Name	Links
153496	LRMA-QS-6	pressure regulator	
153497	LRMA-QS-8	pressure regulator	

★ / ☆ = Festo core product range (see page 4)

11.5 Proportional valves

Name	Proportional-pressure regulators VPPM	Proportional pressure regulators VPPX
Order code	VPPM-...	VPPX-...
Remarks	Connection G1/8, G1/4, G1/2 Flow rate: 380 ... 7000 l/min. 3-way proportional pressure regulators Choice of 3 regulator settings (fast, universal, precise) Display available as option	Connection: G1/8, G1/4, G1/2 (sub-base) Flow rate: 380 ... 7000 l/min. 3-way proportional pressure regulators Multi-sensor control (cascade control) Control characteristics adjustable via FCT
Picture		
Documentation	Catalogue Documentation 	Catalogue Documentation 

Part no.	Order code	Name	Links
2448444	VPPX-12L-L-1-G12-0L10H-S1	Proportional pressure regulator	
570967	VPPX-6L-L-1-G18-0L10H-S1	Proportional pressure regulator	
570969	VPPX-8L-L-1-G14-0L10H-S1	Proportional pressure regulator	
575242	VPPM-12L-L-1-G12-0L6H-A4P-S1	Proportional pressure regulator	
575240	VPPM-12L-L-1-G12-0L6H-V1P-S1	Proportional pressure regulator	
554045	VPPM-6L-L-1-G18-0L6H-A4P	Proportional pressure regulator	
554043	VPPM-6L-L-1-G18-0L6H-V1P	Proportional pressure regulator	
571299	VPPM-8L-L-1-G14-0L6H-A4P	Proportional pressure regulator	
571296	VPPM-8L-L-1-G14-0L6H-V1P	Proportional pressure regulator	

12 Valve terminals

Name	VTSA-F with CPX-Terminal	MPA-S with CPX terminal
Order Code	VTSA-F Type45 ISO 15407-2 ISO5599-2V For Fixtures and machine control (fluid boards)!	MPA-S Type 32 For use on robot grippers!
Remarks	Controlled via fieldbus or control block Max. 32 valve positions/max. 32 solenoid coils Max. 10 electrical modules - Digital inputs/outputs - Analogue inputs/outputs - Parameterisation of inputs and outputs - Convenient, integrated diagnostics - Preventive maintenance concepts Flow-optimised Connecting thread: G	Controlled via fieldbus or control block Max. 64 valve positions/max. 128 solenoid coils - Digital inputs/outputs - Analogue inputs/outputs - Parameterisation of inputs and outputs - Integrated convenient diagnostics system - Preventive maintenance concepts.
Picture		
Documentation	Catalogue Documentation 	Catalogue Documentation 

Part no.	Order code	Name
547965 (*)	VTSA-F-FB	Valve manifold
530411 (*)	MPA-FB-VI	Valve manifold

(*) configurable product

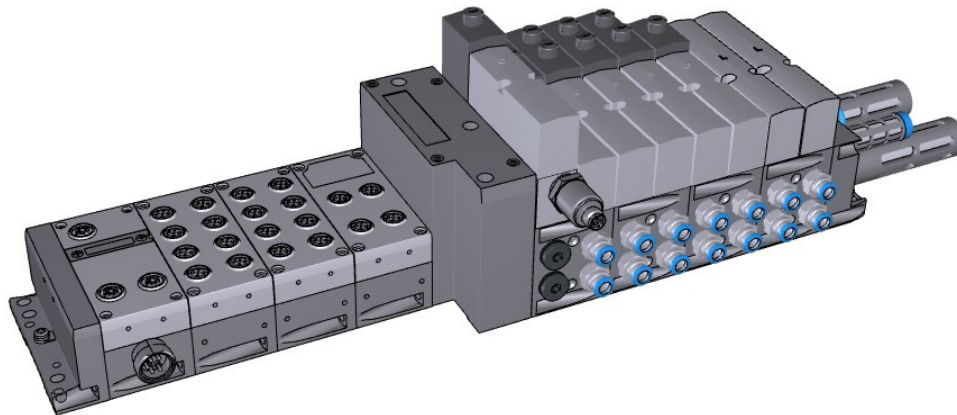
Valve terminals

Valve terminal CPX/VTSA

12.1 Valve terminal CPX/VTSA

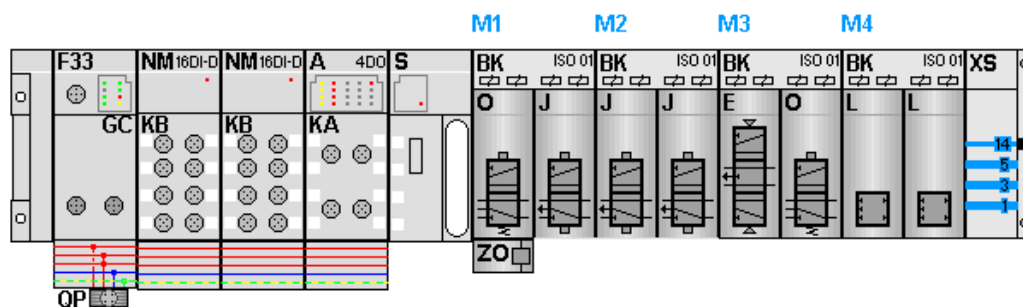
For use in fixtures and the machine control (fluid boards)!

Example configuration



[Direct Link](#)

51E-F33GCQPNMKBNMKBAKA-S+GSBA
45P-N-XS-SM-4B-OZOWH3JEOLL+U



Valve terminals

Valve terminal CPX/VTSA

Identcode	Description
51E-	CPX - Electrical part
F33GCQP	Fiedlbus node for ProfiNet (2x M12), with power supply 7/8" (5 PIN)
NMKB	Input module 16 digital inputs, diagnostic, with connection block 8xM12, 5-PIN, double, metal design
DKA	Input module 8 digital inputs, diagnostic, with connection block 4xM12, 5-PIN, double, metal design
UKA	Input module 2 analogue inputs (current&voltage) with connection block 4xM12, 5-PIN, metal design
AKA	Output module 4 digital outputs á 1A, with connection block 4xM12, 5-PIN, metal design
LKA	Output module 8 digital outputs á 0,5A, with connection block 4xM12, 5-PIN, double, metal design
NLKA	Output module for hydraulic valves, 8 digital outpts á 2,1 A, with connection block 4xM12, 5-PIN, double, metal design
PKA	Output module 2 analogue outputs (current&voltage), with connection block 4xM12, 5-PIN, metal design
NGKA	Profisafe output module 3-channel, with connection block 4xM12, 5-PIN, metal design
QF	Sub-base Profisafe output module
-S	CPX Pneumatik-Interface to VTSA-F
+GSBA	Socket power supply 7/8" + cover caps M12

Identcode	Description
45P	VTSA - Pneumatic part
N-XS-	Right endplate (for pilot air switching valve) + manual override non-detending
UA	Sinter silencer
SM-	Large metal fittings with plastic releasing ring QS + silencers
PM	Soft-start valve, with external pilot air, with proximity sensor PNP
	Manifold sub-bases
A	Manifold sub-base 18mm, 2 valve positions, 4 addresses, size ISO 02 (700 l/min)
B	Manifold sub-base 26mm, 2 valve positions, 4 addresses, size ISO 01 (1.350 l/min)
S	Duct seperation 1, 3, 5
T	Duct seperation 1
R	Duct seperation 3, 5
U	Supply plate, intermediate plate
L	Supply plate: Supply 1, Exhaust 3/5 together
	Valve functions
OZOWH-	Pilot air switching valve, with intermediate plate and pressure switch
SA	5/3-way valve, mid-position exhausted, switching position 14 detending, 12 mechanical spring
SD	5/3-way valve, mid-position port 4 pressurized, port 2 exhausted, switching position 14 detending, 12 mechanical spring
O	5/2-way valve, single-solenoid, with spring return
J	5/2-way valve, double solenoid, bistable
B	5/3-way valve, mid-position pressurized
E	5/3-way valve, mid-position exhausted
L	Vacant position (cover plate)
X	Throttle plate
+U	Mounting plate

Valve terminals

Valve terminal CPX/MPA

Identcode	Description
51E-	CPX - Electrical part
F33GCQP	Fiedlbus node for ProfiNet (2x M12), with power supply 7/8" (5 PIN)
NMKB	Input module 16 digital inputs, diagnostic, with connection block 8xM12, 5-PIN, double, metal design
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AKA	Output module 4 digital outputs á 1A, with connection block 4xM12, 5-PIN, metal design
LKA	Output module 8 digital outputs á 0,5A, with connection block 4xM12, 5-PIN, double, metal design
NLKA	Output module for hydraulic valves, 8 digital outpts á 2,1 A, with connection block 4xM12, 5-PIN, double, metal design
PKA	Output module 2 analogue outputs (current&voltage), with connection block 4xM12, 5-PIN, metal design
NGKA	Profisafe output module 3-channel, with connection block 4xM12, 5-PIN, metal design
QF	Sub-base Profisafe output module
-S	CPX Pneumatik-Interface to VTSA-F
+GSBA	Socket power supply 7/8" + cover caps M12

Identcode	Description
32P	MPA - Pneumatic part
S	Internal pilot air, silencer
GL-	Push-in connector, large, on working port, QS10
N-	Manual override push-in
M	Pneumatic interface
	Manifold sub-bases
A	Manifold sub-base 10mm, size MPA1
B	Manifold sub-base 20mm, size MPA2
H	Electronic module, galvanically isolated
S	Duct separation 1, 3, 5
T	Duct separation 1
R	Duct separation 3, 5
U	Supply module
V	Supply module with separating seal left when R, S, or T selected
	Valve functions
J	5/2-way valve, double solenoid, bistable
MS	5/2-way valve, single-solenoid, with spring return
B	5/3-way valve, mid-position pressurized
E	5/3-way valve, mid-position exhausted
L	Vacant position (cover plate)

13 Pneumatic fitting system

13.1 Standard outside diameter tubing

Name	PUN-H	PUN-V0	PEN	PFAN
Order code	PUN-... Standard 	PUN-... Welding environment	PEN-... Chemical resistance (Chemicals)	PFAN-... Solvent resistance
Remarks	Outside diameter: 2 ... 16 mm Internal diameter: 2.1 ... 11 mm Temperature-dependent operating pressure: -0.95 ... 10 bar Ambient temperature: -35 ... 60° C Operating medium - Compressed air - Vacuum - Water	Outside diameter: 4 ... 16 mm Internal diameter: 2 ... 11 mm Temperature-dependent operating pressure: -0.95 ... 10 bar Ambient temperature: -35 ... 60° C Operating medium - Compressed air - Vacuum	Individual lengths: Delivered in units of 25, 50, 100, 200 ... 500 m Minimum order: 3,000 m Individual design: Labelled with your company name and/or your part number High recognition factor and simple handling: individual colour selection Choose from 9 basic colours; further colours available on request -Simple to order with the configurator	Outside diameter: 4 ... 12 mm Internal diameter: 2.9 ... 8.4 mm Temperature-dependent operating pressure: -0.95 ... 16 bar Ambient temperature: -20 ... 150° C Operating medium - Compressed air - Vacuum
Picture				
Documentation	 Catalogue  Documentation 	 Catalogue	 Catalogue	 Catalogue

Attribute comparison – Plastic tubing, standard O.D.

 [Documentation](#)

Typ	Compressed air, vacuum	Water	Mineral oil	Food-safe	Material fire test	Antistatic	Halogen-free	Contact with electrical cables	Suitable for chain link trunking	Approved by TÜV	Maritime classification	Chemicals	Microbes	UV radiation	Hydrolysis	Flexibility
PUN-H	■	-	-	■	-	-	■	■	++	-	-	+	++	++ ¹⁾	++	+++
PUN-VO	■	■	-	-	UL94 V0---V2	-	■	■	++	■	-	+	++	++ ¹⁾	++	++
PEN	■	■	-	-	-	-	■	■	+++	■	-	++	++	++ ¹⁾	+++	++
PFAN	■	■	-	■	UL94 V0	-	-	■	-	■	-	+++	++	++	+++	+



applies

+++

Very well suited

1) Applies for black colour

++

Well suited

+

Limited suitability (upon request)

-

Unsuitable

13.2 Fittings and couplings

Name	Push-in fittings QS, standard series	Push-in fittings NPQH	Threaded fittings NPFC	Coupling sockets NPHS
Order code	QS-... Standard 	NPQH-... Welding environment	NPFC-...	NPHS-... ISO standard 4414
Remarks	Port R1/8, R1/4, R1/2, R3/8, G1/8, G1/4, G1/2, G3/8, G3/4 For outside tubing diameter 4, 6, 8, 10, 12, 16, 22 mm Threaded port - G thread with sealing ring - R thread with PTFE coating Suitable for vacuum Push-in fittings Push-in connectors Push-in bulkhead connectors Push-in caps Push-in connectors with push-in sleeves Blanking plugs Multiple distributors Push-in bulkhead fittings.	Connection: M5, M7, G1/8, G1/4, G3/8, G1/2 For tubing outside diameter: 4, 6, 8, 10, 12, 14 mm Push-in sleeve: 4, 6, 8, 10, 12, 14 mm Ambient temperature: 0 ... 150° C Threaded connection: - G thread with sealing ring Suitable for vacuum Push-in fittings Push-in connectors Push-in bulkhead connectors Push-in connectors with push-in sleeves Push-in bulkhead fittings	Connection M5, R1/8, R1/4, R3/8, R1/2, R3/4, R1, G1/8, G1/4, G3/8, G1/2, G3/4, G1 Threaded connection - Metric thread with sealing ring - R thread with PTFE coating - G thread with sealing ring.	AG connection G $\frac{1}{8}$, G $\frac{1}{4}$, G $\frac{3}{8}$, G $\frac{1}{2}$ IG connection G $\frac{1}{4}$, G $\frac{3}{8}$, G $\frac{1}{2}$ Barbed fitting connector N9 Optional 3/2-way hand slide valve Certified by IFA (Institute for Occupational Safety and Health) follows the ISO standard 4414
Picture				
Documentation	 Catalogue  Documentation 	 Catalogue  Documentation 	 Catalogue  Documentation 	 Catalogue  Documentation 

14 Sensors and other equipment

14.1 Proximity and inductive sensors

Name	SMT-8M-A	SDBT	SMT-10M	Inductive sensors SIEN
Order code	SMT-8M-...	SDBT-BSW-...	SMT-10M-...	SIEN-...
		Welding environment		
Remarks	Electronic PNP, NPN Configurable Electrical connection M8, M12, open cable end ATEX 3GD 5 ... 30 V DC	Electronic PNP, NPN M12 electrical connection, open cable end Welding field resistant 50/60Hz AC, 1000Hz MFDC ATEX 1GD 10 ... 30 V DC Namur output	Electronic PNP, NPN Configurable Electrical connection M8, M12, open cable end 5 ... 30 V DC	Voltage 10 ... 34V DC Size 4 mm, M5, 6.5 mm, M8, M12, M18, M30 PNP, NPN Flush or non-flush mounting Standard switching distance.
Picture				
Documentation	 Catalogue	 Catalogue	 Catalogue	 Catalogue
	 Documentation 		 Documentation 	 Documentation 

Part no.	Order code	Name	Links
574337	SMT-8M-A-PS-24V-E-0,3-M12	Proximity sensor	
574334	SMT-8M-A-PS-24V-E-0,3-M8D	Proximity sensor	
2476855	SDBT-BSW-1L-PU-W-0,3-N-M12	Proximity sensor	
551372	SMT-10M-PS-24V-E-0,3-L-M12	Proximity sensor	
551375	SMT-10M-PS-24V-E-0,3-L-M8D	Proximity sensor	
150403	SIEN-M12B-PS-S-L	Proximity sensor	
150387	SIEN-M8B-PS-S-L	Proximity sensor	

14.2 Flow sensors

Name	Flow sensors SFAB	Flow sensors SFAM	Flow sensors SFAW
Order code	SFAB-...-M12 Air	SFAM-...-M12 Air	SFAW-...-M12 Water
Remarks	Flow measuring ranges: - 0.1 ... 10 l/min - 0.5 ... 50 l/min - 2 ... 200 l/min - 6 ... 600 l/min - 10 ... 1000 l/min Switching output: - 2x NPN - 2x PNP Analogue output: - 0 ... 10 V - 4 ... 20 mA	Flow measuring ranges: - 10 ... 1000 l/min - 30 ... 3000 l/min - 50 ... 5000 l/min - 100 ... 10,000 l/min - 150 ... 15,000 l/min Switching output: - 2x NPN - 2x PNP Analogue output: - 0 ... 10 V - 4 ... 20 mA	Flow measuring ranges: - 1.8 ... 32 l/min. - 5 ... 100 l/min. Switching output: 2x NPN or 2x PNP or IO-Link, selectable Analogue output: - 0 ... 10 V - 1 ... 5 V - 4 ... 20 mA
Picture			
Documentation	Catalogue Documentation 	Catalogue Documentation 	Catalogue Documentation 

Part no.	Order code	Name	Links
565387	SFAB-10U-WQ6-2SA-M12	Flow sensor, air	
565388	SFAB-10U-WQ6-2SV-M12	Flow sensor, air	
565391	SFAB-50U-WQ6-2SA-M12	Flow sensor, air	
565392	SFAB-50U-WQ6-2SV-M12	Flow sensor, air	
565375	SFAM-62-1000L-TG12-2SA-M12	Flow sensor, air	
565376	SFAM-62-1000L-TG12-2SV-M12	Flow sensor, air	
565379	SFAM-62-3000L-TG12-2SA-M12	Flow sensor, air	
565380	SFAM-62-3000L-TG12-2SV-M12	Flow sensor, air	
565383	SFAM-62-5000L-TG12-2SA-M12	Flow sensor, air	
565384	SFAM-62-5000L-TG12-2SV-M12	Flow sensor, air	
563796	SFAM-90-10000L-TG1-2SV-M12	Flow sensor, air	
563796	SFAM-90-10000L-TG1-2SA-M12	Flow sensor, air	
563796	SFAM-90-15000L-TG1-2SV-M12	Flow sensor, air	
563796	SFAM-90-15000L-TG1-2SA-M12	Flow sensor, air	
8036877	SFAW-100-TG1-E-PNLK-PNVBA-M12	Flow sensor, water	
8036871	SFAW-32-TG12-E-PNLK-PNVBA-M12	Flow sensor, water	

14.3 Air gap sensors

Name	Air gap sensors SOPA
Order code	SOPA-...
Remarks	Sensing range 20 ... 200 µm Pressure 4 ... 7 bar Switching outputs PNP or NPN Integrated air jet function Multi-coloured LCD display Filtered compressed air, lubricated or unlubricated H-rail, wall mounting, through-hole
Picture	
Documentation	Catalogue Documentation 

Part no.	Order code	Name	Links
552130	SOPA-CM1H-R1-HQ6-2P-M12	Air gap sensor	
552138	SOPA-CM1H-R1-WQ6-2P-M12	Air gap sensor	
552131	SOPA-CM2H-R1-HQ6-2P-M12	Air gap sensor	
552139	SOPA-CM2H-R1-WQ6-2P-M12	Air gap sensor	
552132	SOPA-CM3H-R1-HQ6-2P-M12	Air gap sensor	
552140	SOPA-CM3H-R1-WQ6-2P-M12	Air gap sensor	
552133	SOPA-CM4H-R1-HQ6-2P-M12	Air gap sensor	
552141	SOPA-CM4H-R1-WQ6-2P-M12	Air gap sensor	
552146	SOPA-M1-R1-HQ6-2P-M12	Air gap sensor	

14.4 Pressure and vacuum sensors

Name	Pressure sensors SPAN	Pressure sensors SPAU	Pressure sensors SPAW
Order code	SPAN-...	SPAU-...	SPAW-...
Remarks	Pressure measuring range -1 to 16 bar Voltage 20 ...30 V DC Switching output 2x PNP or 2x NPN selectable Electrical output 0.1 ... 10 V, 1 ... 5 V, 4 ... 20 mA Pneumatic connection G1/8, R1/8, NPT1/8, M5, push-in connector 4 mm, Pressure switch Vacuum switch Compact design, 30 x 30 mm	Pressure measuring range -1 to 16 bar Voltage 20 ...30 V DC Switching output 2x PNP or 2x NPN selectable Electrical output 0.1 ... 10 V, 1 ... 5 V, 4 ... 20 mA Pneumatic connection G1/8, R1/8, R1/4, NPT1/8, M5, M7, push-in connector 4 mm, 6 mm, 5/32" Pressure switch Vacuum switch	Pressure measuring range -1 ... +1 to 0 ... 100 bar Voltage 15 ...35 V DC Switching output 2x PNP or 2x NPN Electrical output 0.1 ... 10 V, 4 ... 20 mA Pneumatic connection G1/4-I and G 1/2-A Pressure switch Vacuum switch.
Picture			
Documentation	Catalogue Documentation 	Catalogue Documentation 	Catalogue Documentation 

Part no.	Order code	Name	Links
8035534	SPAN-B2R-G18M-PNLK-PNVBA-L1	Pressure sensor	
8035533	SPAN-P10R-G18M-PNLK-PNVBA-L1	Pressure sensor	
8001200	SPAU-B2R-T-G18M-L-PNLK-PNVBA-M12D	Pressure sensor	
8001200	SPAU-B11R-T-G18M-L-PNLK-PNVBA-M12D	Pressure sensor	
8022786	SPAW-B11R-G12M-2PA-M12	Pressure sensor	
8022804	SPAW-B11R-G12M-2PV-M12	Pressure sensor	
8022785	SPAW-B2R-G12M-2PA-M12	Pressure sensor	
8022803	SPAW-B2R-G12M-2PV-M12	Pressure sensor	
192488	PEV-1/4-B-M12	Pressure switch	

14.5 Position sensors and connecting cables

Name	Position transmitters SDAT	Position transmitters SMAT	NEBU
Order code	SDAT-...	SMAT-...	NEBU-...
Remarks	Sensing ranges 50, 80, 100, 125, 150 mm Analogue output 0 ... 20 mA Programmable IO-Link®/switching output Electrical connection M8 Reproducibility < 0.1 mm	Sensing ranges 50 mm, up to 40 mm Analogue output 0 ... 10 V, 0 ... 20 mA Electrical connection M8 Reproducibility ±0.064 mm, +/-0.1 mm	Modular cable set with infinite possible combinations of plug connectors, cable lengths and cable qualities and plugs, coordinated for all devices with M8 and M12 plugs such as e.g. - Proximity switch - Position transmitter - Pressure switches, pressure sensors, pressure transmitters, - Flow sensors - Optical and inductive sensors - Valves with central plugs such as CPE, MPA or VSVA. Cable length 0.1 ... 30 m.
Picture			
Documentation	Catalogue Documentation 	Catalogue Documentation 	Catalogue Documentation 

14.6 Air reservoir

Name	Order code	Remarks	Picture	Documentation
CRVZS	CRVZS-...	Volume: 0.1 ... 20 l Material: High-alloy stainless steel Equivalent to AD 2000.		Catalogue Documentation 

Part no.	Order code	Name	Links
160237	CRVZS-10	Air reservoir	
534845	CRVZS-20	Air reservoir	
192159	CRVZS-5	Air reservoir	

Silencers

14.7 Silencers

Name	AMTE	U	UC
Order code	AMTE-... 	U-...-B 	UC-...
Remarks	Metal variant Connecting threads M3, M5, G1/8, G1/4, G3/8, G1/2, G3/4, G1, UNF10-32, NPT1/8-27, NPT1/4-18, NPT3/8-18, NPT1/2-14 Sound pressure level 71 ... 95 dB(A).	Threaded connection M5, G1/2, G1/4, G1/8, G3/8, G3/4, G1 Barbed connector connection PK-3, PK-4 Noise level 65 ... 84 dB(A).	Threaded connection M5, M7, G1/8, G1/4, G3/8 Push-in connector QS 3, QS 4, QS 6, QS 8, QS 10 Noise level 58 ... 68 dB(A).
Picture			
Documentation	 Catalogue  Documentation 	 Catalogue	 Catalogue

Part no.	Order code	Name	Links
1205863	AMTE-M-LH-G12	Silencer	
1205861	AMTE-M-LH-G14	Silencer	
1205860	AMTE-M-LH-G18	Silencer	
1205862	AMTE-M-LH-G38	Silencer	
6844	U-1/2-B	Silencer	
6842	U-1/4-B	Silencer	
6841	U-1/8-B	Silencer	
6843	U-3/8-B	Silencer	
165006	UC-QS-4H	Silencer	
165007	UC-QS-6H	Silencer	
175611	UC-QS-8H	Silencer	

15 Support from Festo Engineering Software

Find suitable products for your application with Festo engineering tools. Avoid complex reality tests and use our engineering tools to simulate your application.

The right product in just a few steps:

- Enter the general technical conditions
- Start the simulation
- Evaluate the simulation results
- Select the appropriate products from a list of suggestions

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→ Festo Online Catalogue



→ Support Portal



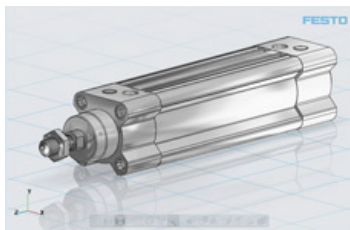
CAD Data

2D and 3D CAD models of Festo products are available as neutral exchange formats by email and for registered users, in many native formats for direct download.

Take advantage of this opportunity and select your preferred format from more than 45 available exchange formats – including new native formats.

CAD data are available for more than 30,000 products in several hundreds of thousands of variants via e-mail, download or direct to CAD function (PART2cad).

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→ Festo CAD Data



Festo PARTdataManager

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Festo Design Tool 3D

Quick, reliable, automated generation and ordering of product modules in your CAD format

The Festo Design Tool 3D is a 3D product configurator for generating Festo-specific CAD product combinations. Your search for matching accessories, e.g. for pneumatic cylinder series DSBC, DSNU and ADN, will thus be faster, more reliable and easier in the future.

Advantages for design, purchasing and commissioning:

- Quick and simple automated generation of product combinations
- Short bills of materials, fewer sources of error and optimized ordering processes thanks to a single order code for the entire assembly
- Native CAD models for retaining CAD/component links
- (CAD-Constraints, CAD-Mates)
- Reduced documentation effort and simple traceability: generate PDF assembly drawings and bills of materials within FDT 3D and query the traceable order code in the Support Portal
- Simplified, accelerated processes in the warehouse and during assembly
- Product portfolio for readily available standard components such as cylinders from the DSBC, DSNU and ADN series



→ [Festo Design Tool 3D](#)



→ [Festo Design Tool 3D \(Download\)](#)



FluidDraw

Fluiddraw enables the creation of electrical and pneumatic circuit diagrams. The tool makes it easier to plan complete systems and implement individual components. Users access the Festo catalogue and their own imported databases and can thus benefit from evaluation functions and created assembly drawings.

The software is part of Festo Engineering Tools, which provides users with electronic and continuous support in the entire process, from planning, selection, design and ordering up to delivery and commissioning.



→ [Overview functions](#)



→ [Configuration](#)



Silencers

Remarks



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You are always in the fast lane.
You create technological trends.
We set your machines in motion.

**→ WE ARE THE ENGINEERS
OF PRODUCTIVITY.**