



3/2- or 4/2-way solenoid valve for pneumatics

- Compact design in 3/2- and 4/2-way versions
- Extendable valve block
- Reduced power consumption
- Different pneumatic connections available
- Robust construction

Product variants described in the data sheet may differ from the product presentation and description.

Can be combined with



Type 2012

Pneumatically operated
2/2-way globe valve
CLASSIC



Type 2516

Cable plug,
form C according to
DIN EN 175301-803

Type description

Valves of type 5470 consist of a type 6106 pilot rocker solenoid valve and a pneumatic valve. An armature with a tilting bearing, similar to a rocker, tilts within the body of the pilot valve, and switches the valve. The minimal tilting movement of the rocker is non-wearing, and basic lubrication is unnecessary. The type 5470 R is available as a 3/2 and 4/2-way valve. The valves can be mounted together individually using the module flange. In various applications, they can be used advantageously as valve blocks. Different variants are available for service ports 2 and 4.



Table of contents

1. General technical data	3
2. Circuit functions	4
3. Approvals and conformities	4
3.1. General notes	4
3.2. Conformity	4
3.3. Standards	4
3.4. Explosion protection	4
3.5. North America (USA/Canada)	4
4. Dimensions	5
4.1. Port connection 1	5
4.2. Port connection 2 (working ports)	5
4.3. Block installation with 18 mm extendable valves on a single base module	6
Assembly with plug contacts lateral	6
Assembly with plug contacts at top	7
4.4. Block installation with 19 mm extendable valves on pneumatic modules Type MP05	7
Assembly with plug contacts lateral	7
Assembly with variants for supply connection with push-in coupling Ø 6 mm and threaded connection G 1/8	8
5. Product design and assembly	9
5.1. Product assembly servo-assisted valve	9
Connection variants for port connection 1	9
Connection variants for port connection 2 (working ports)	10
Electrical data explosion-proof version Ex ia	11
Electrical connection with plug for extendable valves (cable plug Type 1057 for individual wiring)	11
5.2. Product assembly block mounting with 18 mm extendable valves on individual base module	12
Assembly with plug contacts lateral	12
Assembly with plug contacts at top	12
5.3. Product assembly block mounting with 19 mm extendable valves on pneumatic modules Type MP05	13
Assembly with plug contacts lateral	13
6. Ordering information	13
6.1. Bürkert eShop	13
6.2. Bürkert product filter	13
6.3. Ordering chart	14
Extendable single valves with module flange for supply connections 1 (P) and 3 (R) with plug contacts at top	14
Extendable single valves with module flange for supply connections 1 (P) and 3 (R) with rectangular electrical connection	15
For valve island mounting, valves with plug contacts lateral; connection with integrated connector sockets on valve islands Type 8640	16
Nimur EExi 3/2 and 4/2-way solenoid valve for pneumatic	17
6.4. Ordering table accessories	17
Connection modules and accessories for valve blocks	17
Cable plug Type 2516, form C according to DIN EN 175301 - 803	18
Further accessories	18

1. General technical data

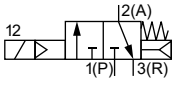
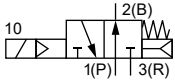
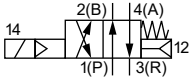
Product properties	
Dimensions	Further information can be found in chapter "4. Dimensions" on page 5.
Material	
Seal	NBR
Body	Polyamide
Inner valve parts	Ultramid
Weight	Approx. 120 g
Orifice	DN 4.0
Pneumatic module	MP05
Circuit function	C, D and G Further information can be found in chapter "2. Circuit functions" on page 4.
Performance data	
Pressure range	2...10 bar ^{1.)}
Duty cycle	100 % continuous operation
Flow rate (Q _{Nm} value air) ^{2.)}	300 l/min
Switching time ^{3.)}	DC: Opening: 15 ms, closing: 12 ms AC: Opening: 15 ms, closing: 20 ms
Electrical data	
Operating voltage	24 V DC, 110...120 V DC, 220...240 V DC For alternating voltage use valves with UC coil
Power consumption	Complies with the effective coil power in the ordering table Further information can be found in chapter "6. Ordering information" on page 13.
Nominal power	2...3 W Solenoids with integrated rectifier, LED and varistor (UC variant)
Voltage tolerance	± 10 %
Medium data	
Operating medium	Compressed air, neutral gases (5 µm filtration)
Medium temperature	- 10 °C... + 50 °C
Process/Port connection & communication	
Electrical connection	- Plug contacts according to DIN EN 175301 - 803 form C for cable plug Type 2516 ▶ Further information can be found in chapter "Cable plug Type 2516, form C according to DIN EN 175301 - 803" on page 18. - Rectangular plug with 2 pins, raster 5.08 mm
Pneumatic connection	
Supply connections 1, 3	Module flange
Working ports 2, 4 (variants)	Thread G 1/8 Thread NPT 1/8 Hose fitting SL 6/4 mm Plug-in coupling Ø 6 mm
Approvals and conformities	
Degree of protection	IP65 with leads or cable plug Type 2516 ▶ IP30 with cable plug Type 2505 ▶
Explosion protection	Further information can be found in chapter "3.4. Explosion protection" on page 4.
North America (USA/Canada)	Further information can be found in chapter "3.5. North America (USA/Canada)" on page 4.
Environment and installation	
Installation position	As required, preferably with actuator upright
Ambient temperature	- 10 °C... + 55 °C

1.) Pressure data: overpressure to atmospheric pressure

2.) Measurement at + 20 °C, 6 bar at the valve inlet and 1 bar differential pressure

3.) Measurement according to ISO 12238

2. Circuit functions

Symbol	Description
	Circuit function C (CF C) 3/2-way solenoid valve Servo-controlled Normally closed
	Circuit function D (CF D) 3/2-way solenoid valve Servo-controlled Normally open
	Circuit function G (CF G) 4/2-way solenoid valve Servo-controlled

3. Approvals and conformities

3.1. General notes

- The approvals and conformities listed below must be stated when making enquiries. This is the only way to ensure that the product complies with all required specifications.
- Not all available versions can be supplied with the below mentioned approvals or conformities.

3.2. Conformity

In accordance with the Declaration of Conformity, the product is compliant with the EU Directives.

3.3. Standards

The applied standards which are used to demonstrate compliance with the EU Directives are listed in the EU-Type Examination Certificate and/or the EU Declaration of Conformity.

3.4. Explosion protection

Approval	Description
 	Optional: Explosion protection EU type examination certificate: PTB 01 ATEX 2175 / IECEx PTB 06.0102 As a category 2 device suitable for zone 1 and zone 2 (optional). ATEX: PTB 01 ATEX 2175 II 2G Ex ia IIC T5, T6 Gb IECEX: IECEx PTB 06.0102 Ex ia IIC T5, T6 Gb

3.5. North America (USA/Canada)

Approval	Description
	Optional (valid for pilot control valve): UL Recognized for the USA and Canada¹⁾ The pilot control valves are UL Recognized for the USA and Canada according to: - UL 429 (electrically operated valves) - CAN/CSA-C22.2 No. 139

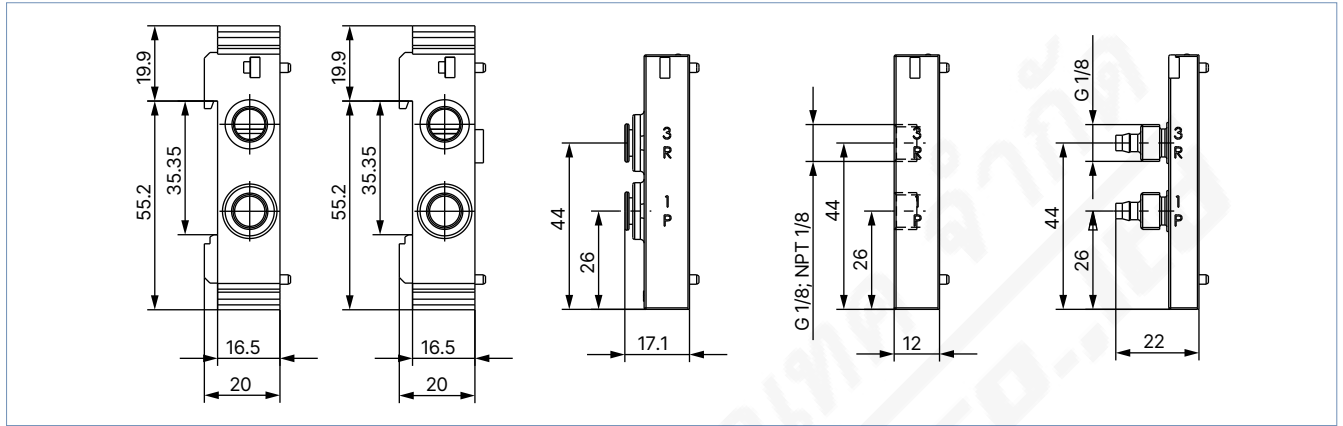
1.) This device is intended to be used with a NEC Class 2 power source or NEC Class 2 transformer in accordance with UL1310 or UL1585.

4. Dimensions

4.1. Port connection 1

Note:

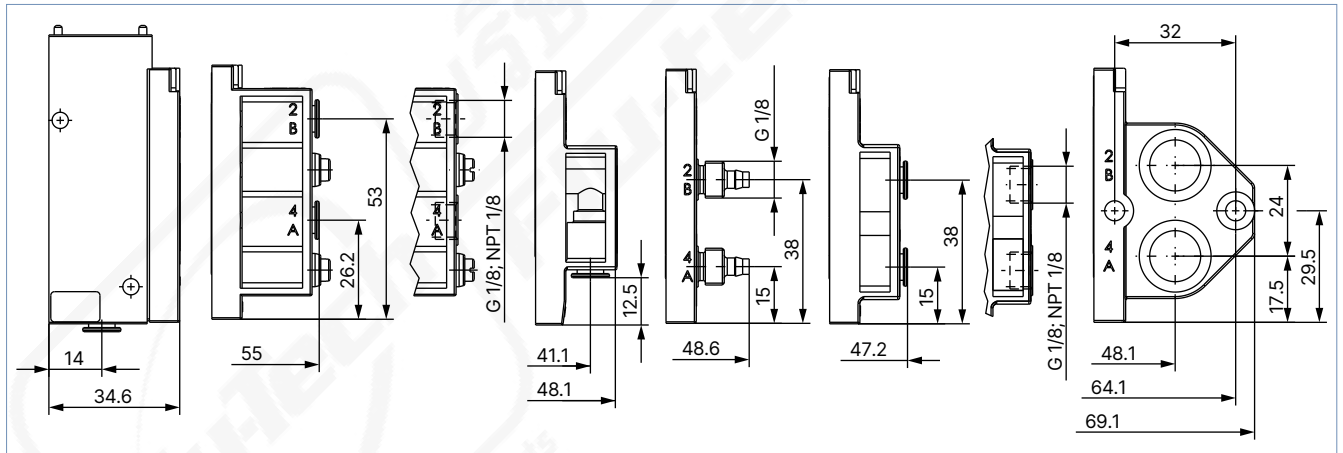
Dimensions in mm



4.2. Port connection 2 (working ports)

Note:

Dimensions in mm

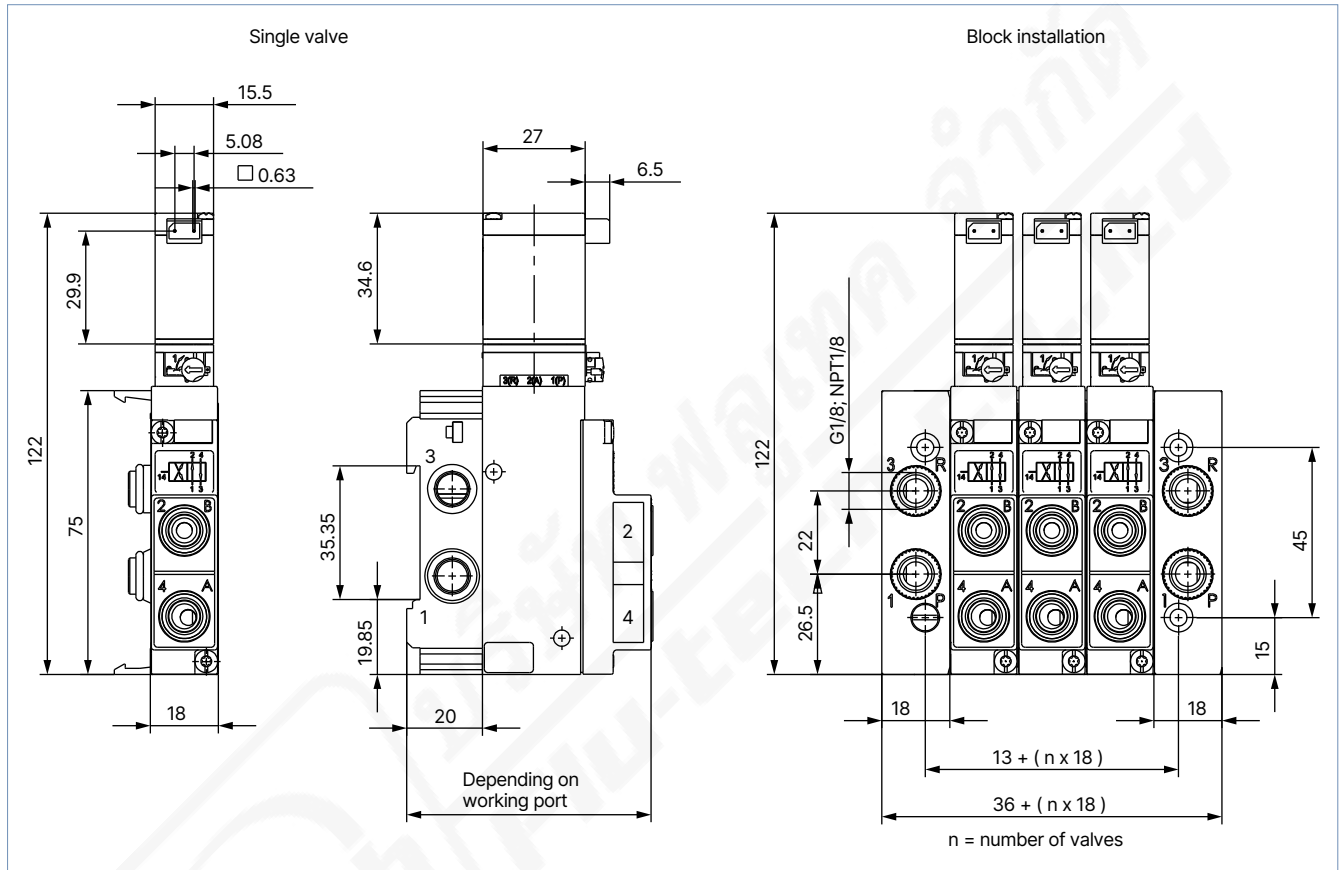


4.3. Block installation with 18 mm extendable valves on a single base module

Assembly with plug contacts lateral

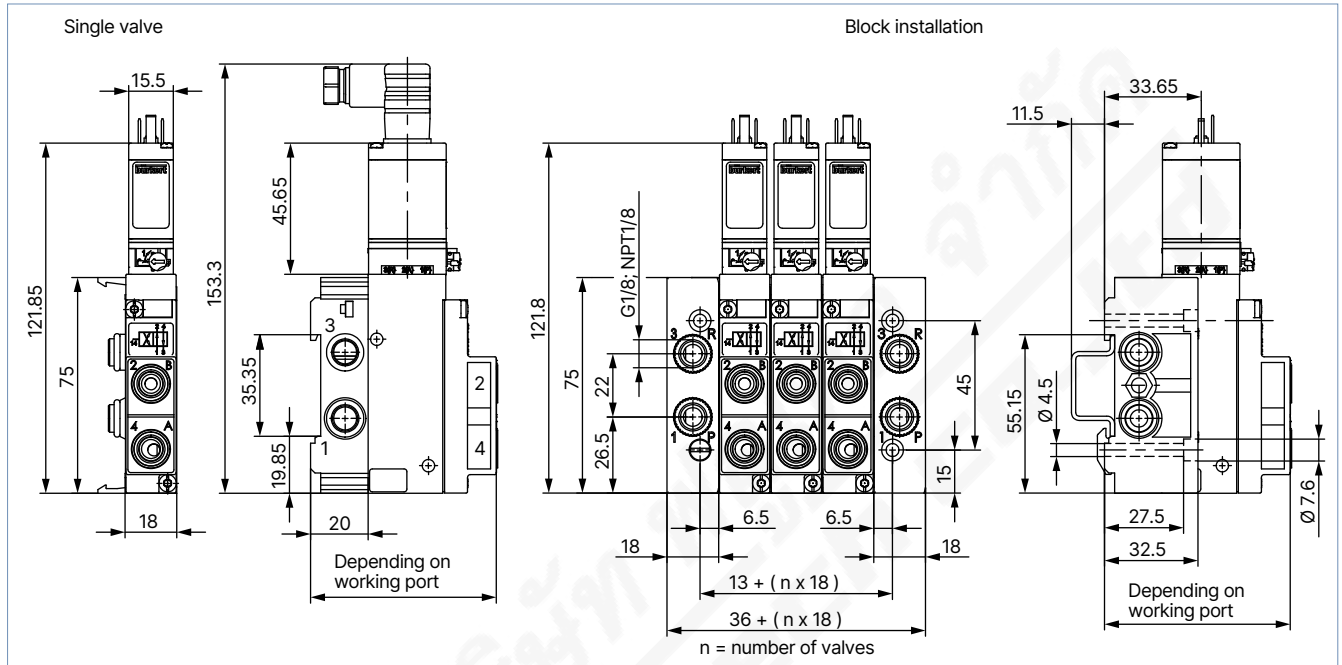
Note:

- Dimensions in mm
- Electrical connection: rectangular plug with 2 pins (cable plug **Type 2505** ►, cable and strand version)

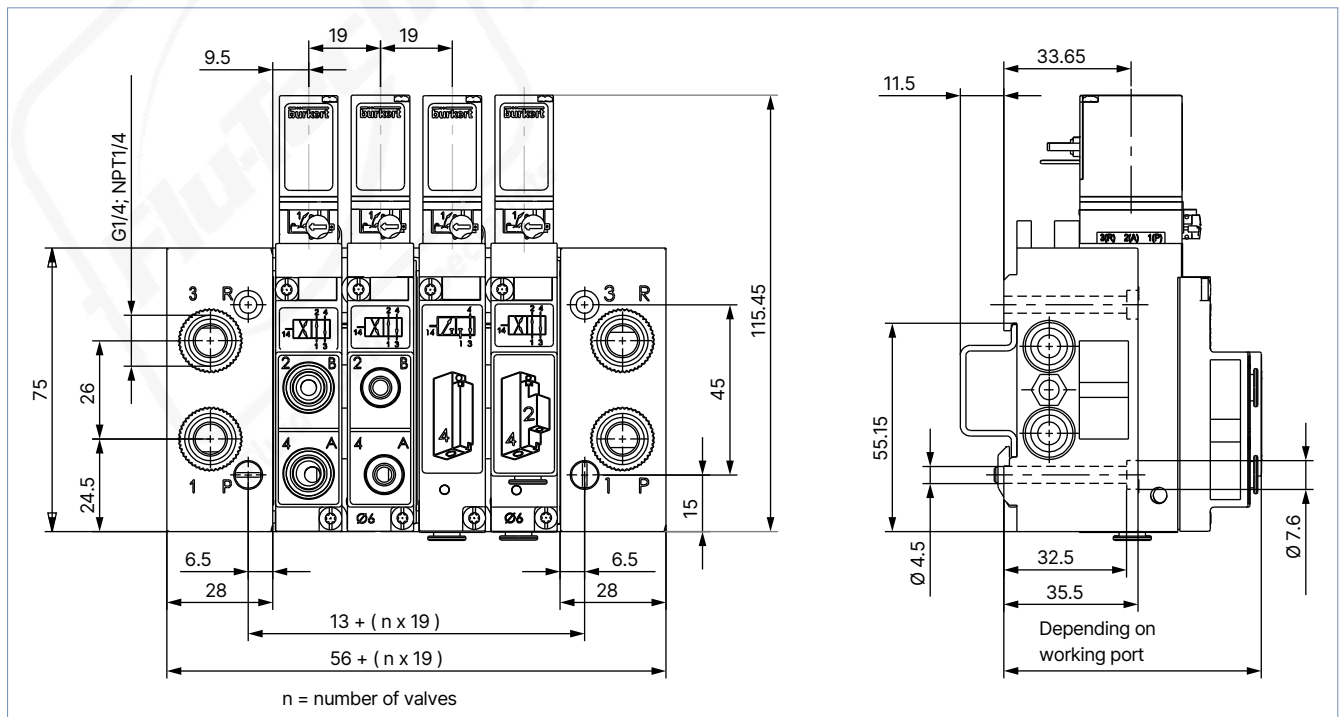


Assembly with plug contacts at top
Note:

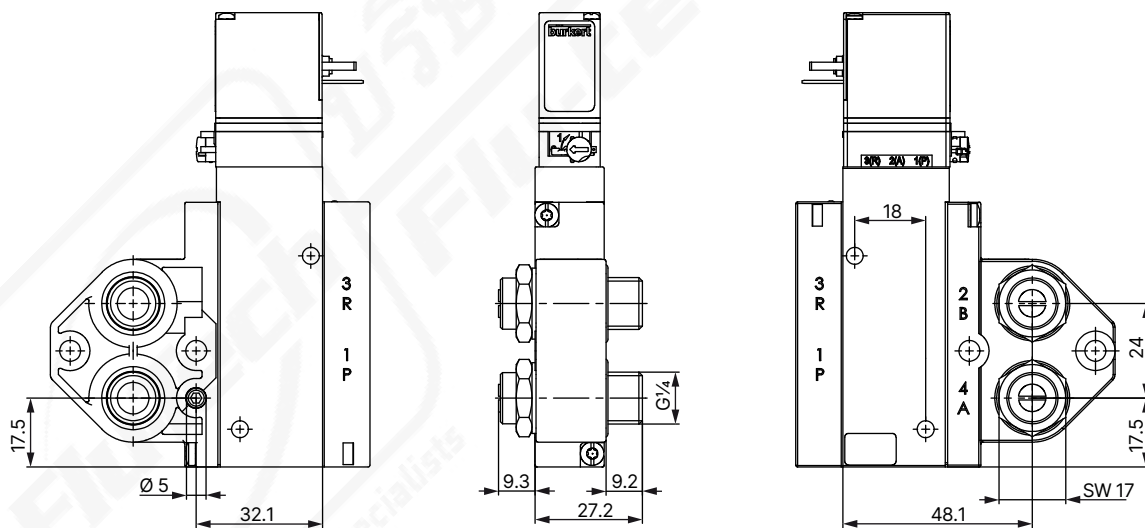
- Dimensions in mm
- Electrical connection with plug contacts (cable plug **Type 2516** ▶, degree of protection IP65 DIN EN 175301-803)


4.4. Block installation with 19 mm extendable valves on pneumatic modules Type MP05
Assembly with plug contacts lateral
Note:

Dimensions in mm

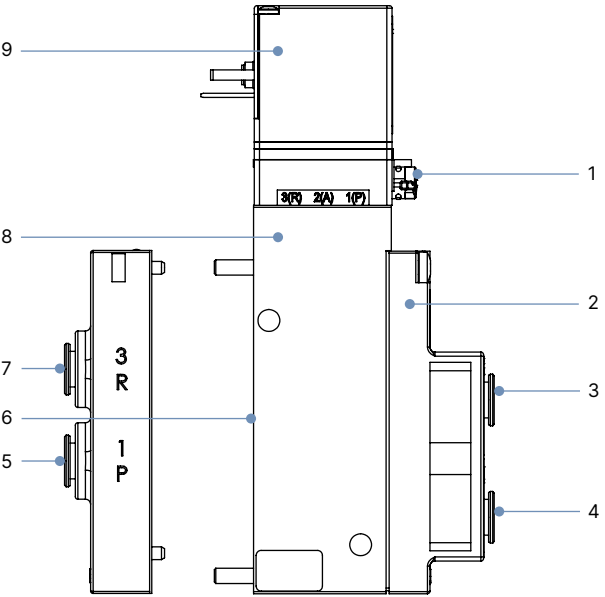


Banjo bolts as throttle check valve



5. Product design and assembly

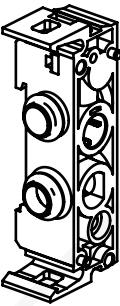
5.1. Product assembly servo-assisted valve



No.	Element
1	Manual override
2	Port connection 2
3	Working port 2 (B)
4	Working port 4 (A)
5	Pressure supply 1 (P)
6	Port connection 1 (FM07 = not equipped)
7	Exhaust 3 (R)
8	Amplifier
9	Pilot control standard Plug contacts lateral

Connection variants for port connection 1

LTA1 = port connection 1



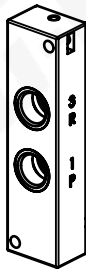
Base module



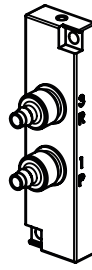
Base module with check valve in R channel



Plug-in coupling Ø 6 mm



Sleeve G 1/8 or NPT 1/8

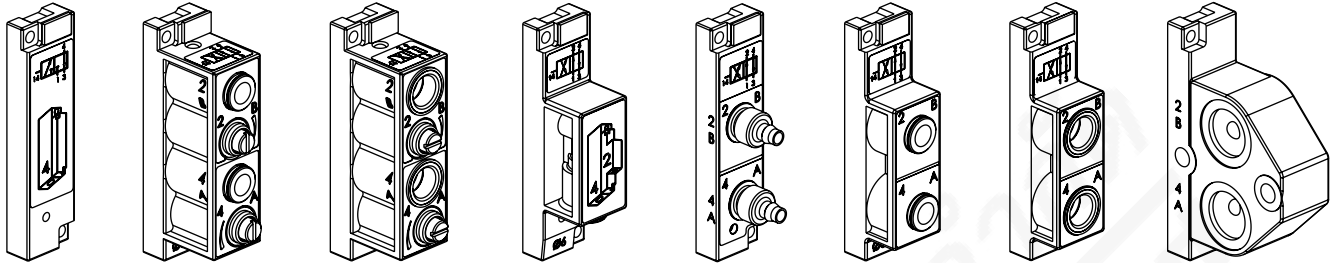


Hose screw connection SL 6/4 mm

Circuit function C, D, G

Connection variants for port connection 2 (working ports)
Note:

The corresponding properties of the connection variants can be found in the table at the end of the chapter.



Variant A

 Variant B
 Plug-in coupling
 Ø 6 mm

 Variant B
 G 1/8 or NPT 1/8

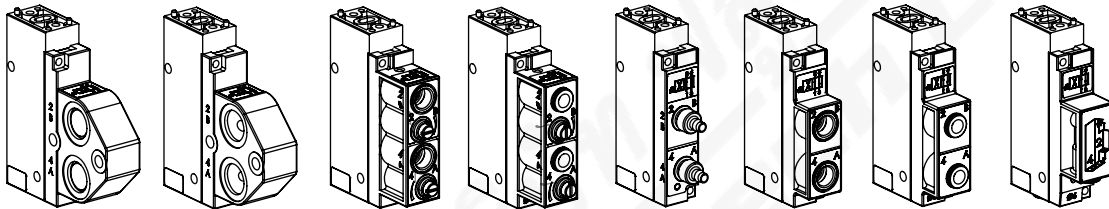
Variant C

Variant D

Variant E

Variant F

Variant G

LTA2 = port connection 2


Namur

 Namur for
 throttle screws

 Variant B
 G 1/8 or
 NPT 1/8

 Variant B
 Plug-in coupling
 Ø6 mm

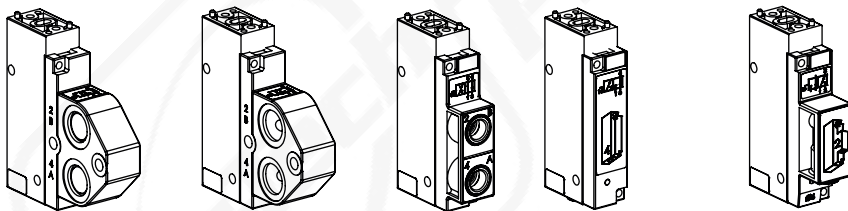
Variant D

Variant E

Variant F

 Variant C
 (code AF07)

Circuit function G



Namur

 Namur for
 throttle screws

Variant E

Variant A

 Variant C
 (code AF07)

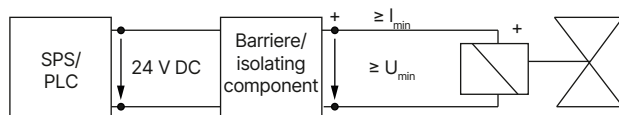
Circuit function C

Circuit function D

Variant	Properties
Variant A	Plug-in coupling Ø 6 mm at bottom (circuit function C)
Variant B	Plug-in coupling Ø 6 mm lateral and sleeve G 1/8 or NPT 1/8 with throttle check valve
Variant C	Plug-in coupling Ø 6 mm at bottom (circuit function D+G)
Variant D	Hose screw connection SL 6/4 mm lateral
Variant E	Plug-in coupling Ø 6 mm lateral
Variant F	Sleeve G 1/8 or NTP 1/8 lateral
Variant G	Namur flange or Namur flange for throttle screws

Electrical data explosion-proof version Ex ia
Note:

- The valve is intended for operation at 24 V DC outputs via the intermedia switching of a corresponding intrinsically safe operating resource (isolating module or barrier).
- Refer to the **additional instructions Type AC21 ATEX 2175** ► for the permitted maximum values/value pairs.
- Type of protection: PTB 01 ATEX 2175: II 2 G Ex ia IIC T5,T6 Gb
IECEX PTB 06.0102: Ex ia IIC T5,T6 Gb



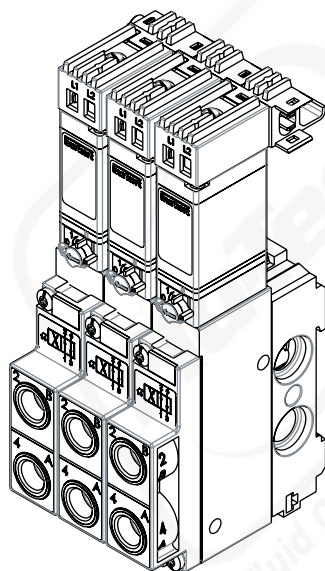
Version	Resistance at 20 °C ± 4 % [Ω]	Minimum terminal voltage [V]	Minimum current [mA]
For use with a 300 Ω supply module	320	9.3	29
High resistance version	475	10.9	23

Electrical connection with plug for extendable valves (cable plug Type 1057 for individual wiring)

Cable plug Type 1057 can be selected with plug configuration at top (see **"Connection variants for port connection 2 (working ports)" on page 10**). The main prerequisite is that the base module is selected for width/station 18 mm. Neutral and protective conductors are looped through and connected centrally once. When connecting the valves, only the control line to each valve must be installed. The neutral and protective conductors are integrated in the cable plug. The major advantage of this system is that a valve can be removed from the block without difficulty.

Note:

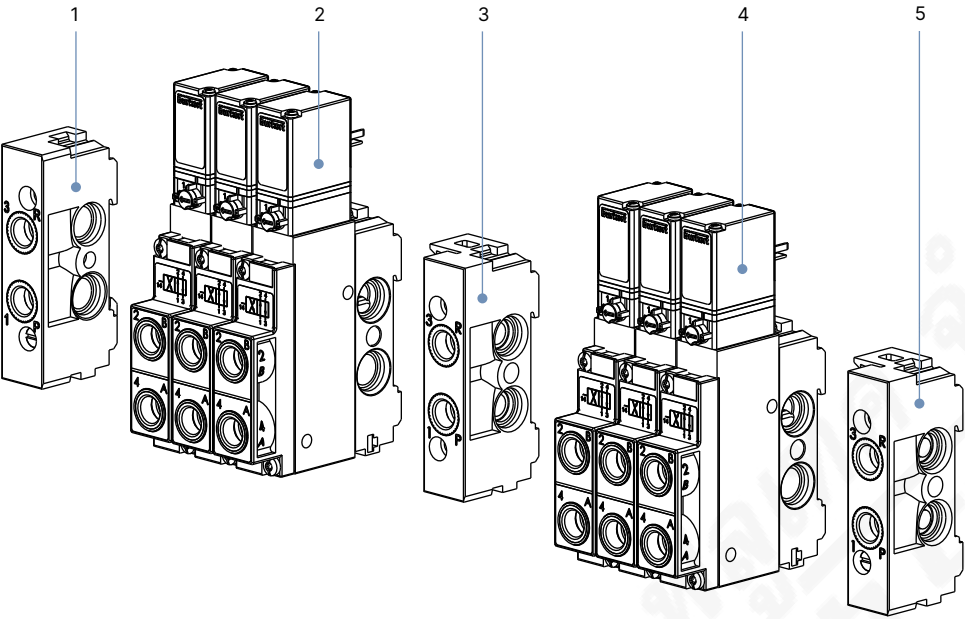
The cable plug Type 1057 (degree of protection IP20) is available only in conjunction with the individual base module with width per station 18 mm.



Block installation with extendable valves
Cable plug Type 1057

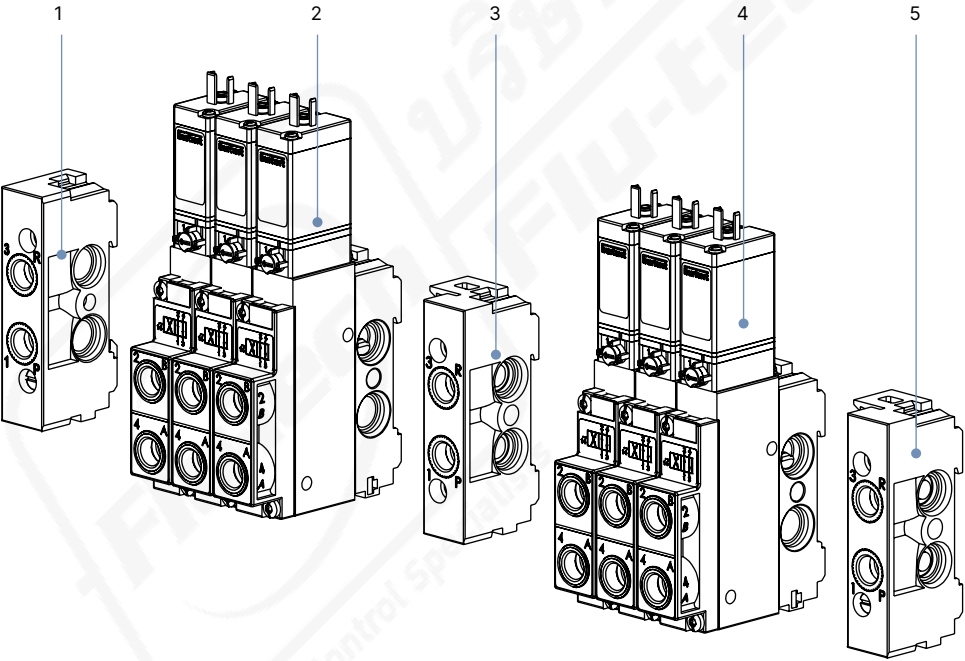
5.2. Product assembly block mounting with 18 mm extendable valves on individual base module

Assembly with plug contacts lateral



No.	Element
1	Connection module on left
2	Extendable valves
3	Intermediate feed (for different pressures)
4	Extendable valves
5	Connection module on right

Assembly with plug contacts at top



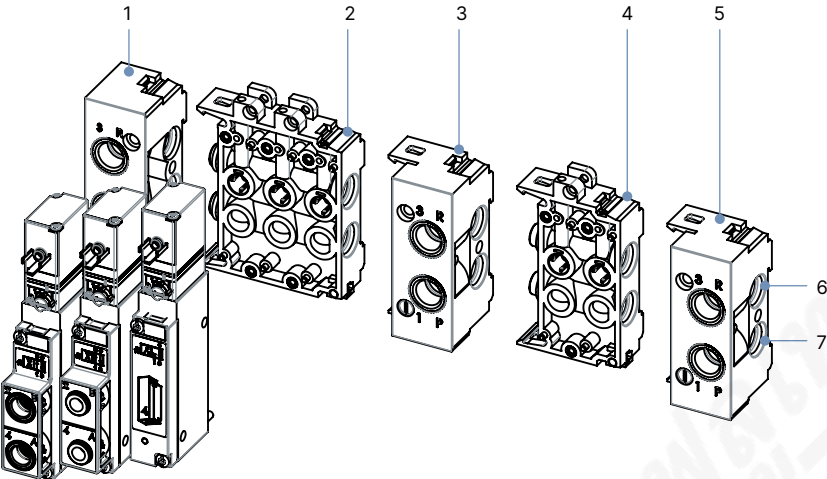
No.	Element
1	Connection module on left
2	Extendable valves
3	Intermediate feed (for different pressures)
4	Extendable valves
5	Connection module on right

5.3. Product assembly block mounting with 19 mm extendable valves on pneumatic modules Type MP05

Assembly with plug contacts lateral

Note:

- Variant with plug contacts at top: Individual wiring also possible
- Electrical connection with plug contacts (cable plug **Type 2516** ▶, degree of protection IP65 DIN EN 175301 - 803)



No.	Element
1	Connection module, on left
2	Base module, 3x Type MP05
3	Connection module on right as intermediate module (supply channels pushed through or sealed; different pressure supply P1, P2...is possible)
4	Base module, 2x Type MP05
5	Connection module, on right
6	Exhaust channel: 3 (R)
7	Supply channel: 1 (P)

6. Ordering information

6.1. Bürkert eShop



Bürkert eShop – Easy ordering and quick delivery

You want to find your desired Bürkert product or spare part quickly and order directly? Our online shop is available for you 24/7. Sign up and enjoy all the benefits.

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6.2. Bürkert product filter



Bürkert product filter – Get quickly to the right product

You want to select products comfortably based on your technical requirements? Use the Bürkert product filter and find suitable articles for your application quickly and easily.

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6.3. Ordering chart

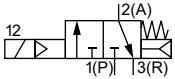
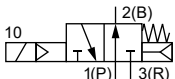
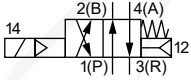
Extendable single valves with module flange for supply connections 1 (P) and 3 (R) with plug contacts at top

Note:

- Other versions are available on request.
- The cable plug is not included in the scope of delivery and must be ordered separately, see [“6.4. Ordering table accessories” on page 17.](#)
- See [“2. Circuit functions” on page 4](#) for more information about the circuit functions displayed.
- See [“Electrical data explosion-proof version Ex ia” on page 11](#) for more information on the 18 mm stackable valves with individual base modules.

The following applies to all the variants listed below:

- Nominal width: 4.0 mm
- Q_{Nn} value air: 300 l/m
- Pressure range: 2...10 bar

Circuit function	Working ports 2 and 4	Voltage/Frequency	Effective coil power	Article no.	Article no.
		[V/Hz]	[W]	DC coil ^{1.)}	UC coil ^{2.)}
CF C 3/2-way solenoid valve Servo-controlled Normally closed ^{3.)} 	Plug-in coupling Ø 6 mm at bottom with check valve (variant A)	24 DC/UC	2	136872 ☒	–
		110...120 DC	3	136873 ☒	145970 ☒
		220...240 DC	3	136874 ☒	145971 ☒
CF D 3/2-way solenoid valve Servo-controlled Normally open ^{3.)} 	Plug-in coupling Ø 6 mm at bottom with check valve (variant C)	24 DC	2	136875 ☒	–
		110...120 DC	3	136876 ☒	–
		220...240 DC	3	–	–
CF G 4/2-way solenoid valve Servo-controlled 	Hose screw connection lateral 6/4 (variant D)	24 DC/UC	2	136878 ☒	–
		110...120 DC/UC	3	–	–
		220...240 DC/UC	3	136880 ☒	–
	G 1/8 lateral (variant E)	24 DC/UC	2	136881 ☒	–
		110...120 DC/UC	3	136882 ☒	–
		220...240 DC/UC	3	136883 ☒	145980 ☒
	G 1/8 lateral with Throttle check valve (variant B)	24 DC/UC	2	136884 ☒	–
		110...120 DC/UC	3	–	145982 ☒
		220...240 DC/UC	3	136886 ☒	145983 ☒
	Plug-in coupling Ø 6 mm lateral (variant F)	24 DC/UC	2	136887 ☒	–
		110...120 DC/UC	3	136888 ☒	–
		220...240 DC/UC	3	136889 ☒	145986 ☒
	Plug-in coupling Ø 6 mm at bottom (variant C)	24 DC/UC	2	136890 ☒	–
		110...120 DC/UC	3	136891 ☒	145988 ☒
		220...240 DC/UC	3	136892 ☒	145989 ☒

– = not available

1.) Only for direct current operation (DC), for alternating current (AC) connect cable plug upstream with rectifier

2.) For universal current operation (UC = DC or AC). Rectifier, varistor und LED are integrated into the coil.

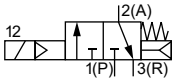
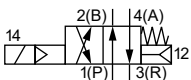
3.) 3/2-way versions (circuit functions C and D) with check valve in the module flange (in R-channel)

Extendable single valves with module flange for supply connections 1 (P) and 3 (R) with rectangular electrical connection
Note:

- Other versions are available on request.
- The cable plug is not included in the scope of delivery and must be ordered separately, see [“6.4. Ordering table accessories” on page 17](#).
- See [“2. Circuit functions” on page 4](#) for more information about the circuit functions displayed.
- See [“Electrical data explosion-proof version Ex ia” on page 11](#) for more information on the 18 mm stackable valves with individual base modules.

The following applies to all the variants listed below:

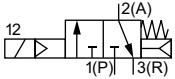
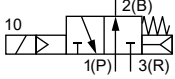
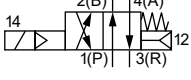
- Nominal width: 4.0 mm
- Q_{Nn} value air: 300 l/m
- Pressure range: 2...10 bar

Circuit function	Working ports 2 and 4	Voltage/Frequency	Effective coil power	Article no.
		[V/Hz]	[W]	DC coil
CF C 3/2-way solenoid valve Servo-controlled Normally closed ^{1.)} 	Plug-in coupling Ø 6 mm at bottom with check valve (variant A)	24 DC	2	145993 ^{2.)}
CF G 4/2-way solenoid valve Servo-controlled 	G 1/8 lateral with throttle check valve (variant B)	24 DC	2	145997 ^{2.)}
	Plug-in coupling Ø 6 mm lateral (variant F)	24 DC	2	145998 ^{2.)}
	Plug-in coupling Ø 6 mm at bottom (variant C)	24 DC	2	145999 ^{2.)}

1.) 3/2-way versions (circuit functions C and D) with check valve in the module flange (in R-channel)

2.) Only for direct current operation (DC), for alternating current (AC) connect cable plug upstream with rectifier

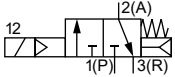
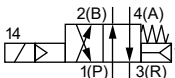
For valve island mounting, valves with plug contacts lateral; connection with integrated connector sockets on valve islands
 Type 8640

Circuit function	Working ports 2 and 4	Voltage/ Frequency	Effective coil power	Pressure range	Article no.	Article no.
		[V/Hz]	[W]	[bar]	Plug contacts via pressure input	Plug contacts via pressure output
CF C 3/2-way solenoid valve Servo-controlled Normally closed 	Plug-in coupling Ø 6 mm, below (variant A)	24 DC	1	2...8	132479 	135203 
		24 DC	2	2...10	133148 	135204 
		110...120 DC	3	2...10	–	132952 
		220...240 DC	3	2...10	–	132953 
CF D 3/2-way solenoid valve Servo-controlled Normally open 	Plug-in coupling Ø 6 mm (variant C)	24 DC	1	2...8	132481 	136742 
		24 DC	2	2...10	136741 	136743 
		110...120 DC	3	2...10	–	136744 
		220...240 DC	3	2...10	–	136745 
CF G 4/2-way solenoid valve Servo-controlled 	Plug-in coupling Ø 6 mm, in front (variant E)	24 DC	1	2...8	132487 	135205 
		24 DC	2	2...10	133149 	135206 
		110...120 DC	3	2...10	–	132954 
		220...240 DC	3	2...10	–	132955 
	Plug-in coupling Ø 6 mm, below (variant C Code AF07)	24 DC	2	2...10	133150 	135208 
		110...120 DC	3	2...10	–	132956 
		220...240 DC	3	2...10	–	132957 
		24 DC	2	2...10	133151 	135210 
	Plug-in coupling Ø 6 mm, in front, with throttle check valve (variant B)	110...120 DC	3	2...10	–	133152 
		220...240 DC	3	2...10	–	133153 
		24 DC	2	2...10	133157 	135212 
	Thread G 1/8, in front, (variant F)	110...120 DC	3	2...10	–	132958 
		220...240 DC	3	2...10	–	132959 
		24 DC	2	2...10	133159 	135214 
	Thread G 1/8, in front, with throttle check valve (variant B)	110...120 DC	3	2...10	–	133160 
		220...240 DC	3	2...10	–	133161 
		24 DC	2	2...10	133163 	135215 
	Hose screw connection, SL6/4 mm, in front (variant D)	110...120 DC	3	2...10	–	133164 
		220...240 DC	3	2...10	–	133166 
		24 DC	2	2...10	–	–

– = not available

Namur EExi 3/2 and 4/2-way solenoid valve for pneumatic
Note:

- All valves possess plug contacts at the top and are supplied without a cable plug.
- Working ports 2 and 4: NAMUR flange

Circuit function	Orifice [mm]	Supply ports 1 and 3	Q _{Nn} value air [l/min]	Pressure range [bar]	Feature	Article no.
CF C 3/2-way solenoid valve Servo-controlled Normally closed 	4.0	Thread G 1/8, Variant 5	300	2...8	None	139224 
		Plug-in coupling Ø 6 mm, Variant 6				139402 
CF G 4/2-way solenoid valve Servo-controlled 	4.0	Thread G 1/8, Variant 5	300	2...8	With throttle check valve	139407 
		Plug-in coupling Ø 6 mm, Variant 6				139408 

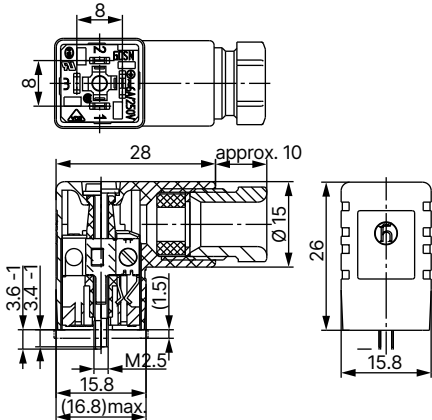
6.4. Ordering table accessories
Connection modules and accessories for valve blocks

Variant	Port connection valve block	Article no.
Connection module on left	G 1/8	133175 
	G 1/4	132512 
	NPT 1/4	132513 
	Plug-in coupling Ø 8 mm	623755 
	Plug-in coupling Ø 10 mm	623762 
Connection module on right	G 1/8	133177 
	G 1/4	132514 
	Plug-in coupling Ø 8 mm	623770 
	Plug-in coupling Ø 10 mm	623784 
	NPT 1/4	132515 
Intermediate feed	G 1/8	627742 
	G 1/4	631288 
	Plug-in coupling Ø 8 mm	631287 
	Plug-in coupling Ø 10 mm	631290 
Lock screw	G 1/8	631019 
	G 1/4	631020 
MP05 base module 2x	Without check valve	132516 
	With check valve in R channel	132518 
MP05 base module 3x	Without check valve	132517 
	With check valve in R channel	132519 
Sealing plug	Ø 6 mm	015397 
	Ø 8 mm	900065 
Protective cover	For unused valve slots	643223 

Cable plug Type 2516, form C according to DIN EN 175301 - 803

Note:

- Dimensions in mm
- Delivery of cable plug includes a flat seal and a fixing screw.
- For further versions see data sheet **Type 2516** ▶.

Cable plug	Dimensions	Version	Voltage	Article no.
		Without circuitry	0...250 V AC/DC	303141 
		With LED	12...24 V AC/DC	303145 
		With LED and varistor	12...24 V AC/DC	303148 
		With rectifier, LED and varistor	12...24 V AC/DC	303142 

Further accessories

Description	Article no.
Type 1057-SA 3-fold extendable cable plug, IP20, with looped-through neutral and protective conductors (only for 24 V DC)	629253 
Control cable with AMP plug length 540 mm	629181 
Standard rail 300 mm for block 8...12-fold with intermediate feed (ZE) or for block 8...14-fold without ZE	640789 
Standard rail 408 mm for block 13...17-fold with intermediate feed (ZE) or for block 15...19-fold without ZE	640788 
Standard rail 498 mm for block 17...22-fold with 2 intermediate feeds (ZE) or for block 18...23-fold without 1 ZE	630579 