



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 DIN EN
175301 - 803 - form C

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.

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1. General technical data

Product properties	
Materials	
Body	Polyamide (PA)
Inner valve parts	Ultramid
Seal material	NBR
Weight	Approx. 120 g
Nominal diameter	DN4.0
Nominal operating mode	Continuous operation
Electrical data	
Operating voltage	24 V DC / 110...120 V DC / 220...240 V DC For alternating voltage use valves with UC coil
Voltage tolerance	± 10 %
Electrical power consumption	Complies with the effective coil power in the ordering table Detailed information can be found in chapter "5. Ordering information" on page 12.
Performance data	
Pressure range	2...10 bar overpressure with respect to atmospheric pressure
Q _{Nn} value air	300 l/min Flow rate value for air, measurement at +20 °C, 6 bar pressure at the valve inlet and 1 bar pressure difference
Electrical nominal power	2...3 W Solenoids with integrated rectifier, LED and varistor (UC variant) solenoids
Switching times	DC: Opening: 15 ms, closing: 12 ms AC: Opening: 15 ms, closing: 20 ms Measurement at the valve outlet according to ISO 12238
Medium data	
Operating media	Compressed air, neutral gases (5 µm filtration)
Medium temperature	-10...+50 °C
Approvals and certificates	
Type of protection	
Standard version	PTB 01 ATEX 2175: II 2 G Ex ia IIC T5, T6 Gb
Explosion-proof version	IECEx PTB 06.0102: Ex ia IIC T5, T6 Gb
Protection class	IP65 with leads or cable plug Type 2516 ▶ IP30 with cable plug Type 2505 ▶
Product connections	
Electrical connection	Connector lugs according to DIN EN 175301 – 803, Form C, for cable plugs Type 1057 and Type 2516; rectangular plug (5.08) Detailed information can be found in chapter "5.4. Ordering table accessories" on page 17.
Pressure ports 1 and 3	Module flange
Working ports 2 and 4 (variants)	Sleeve G 1/8 Sleeve NPT 1/8 Hose screw connection SL 6/4 mm Plug-in coupling Ø 6 mm
Environment and installation	
Ambient temperature	-10...+55 °C
Accessories	
Installation position	Any, preferably actuator face up

2. Circuit functions

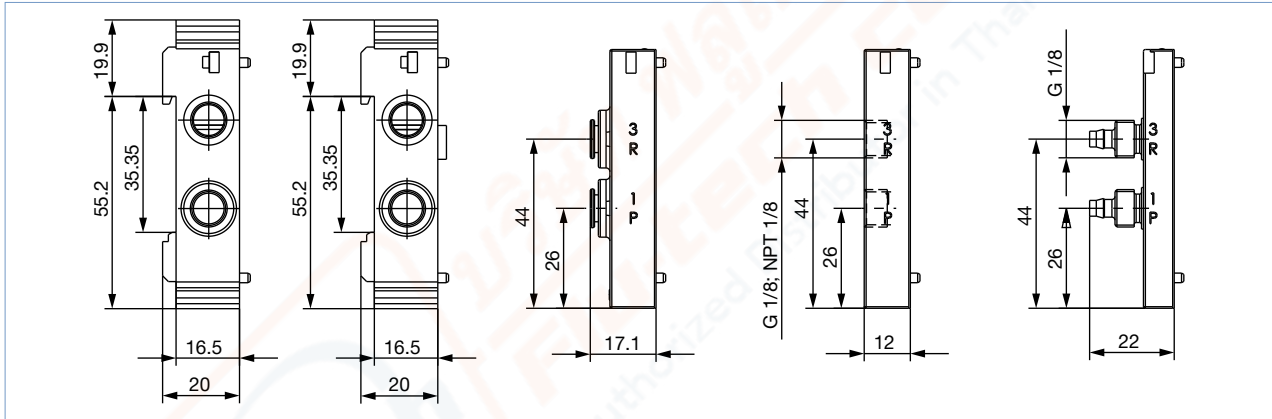
Circuit function	Description
	Type: C, solenoid valve 3/2 way Servo-assisted Normally closed
	Type: D, solenoid valve 3/2 way Servo-assisted Normally open
	Type: G, solenoid valve 4/2 way Servo-assisted Normally open

3. Dimensions

3.1. Dimensions variants for port connection 1

Note:

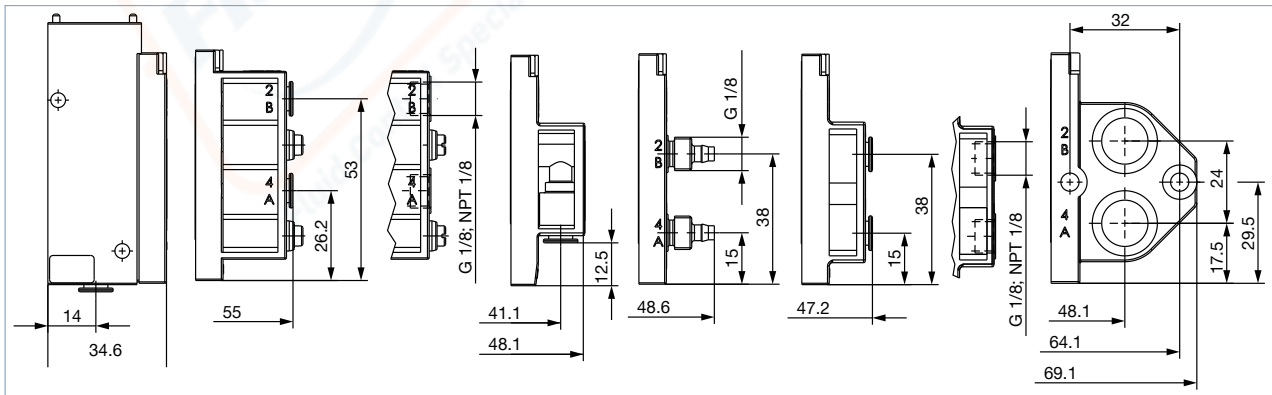
Dimensions in mm



3.2. Dimensions variants for port connection 2 (working ports)

Note:

Dimensions in mm

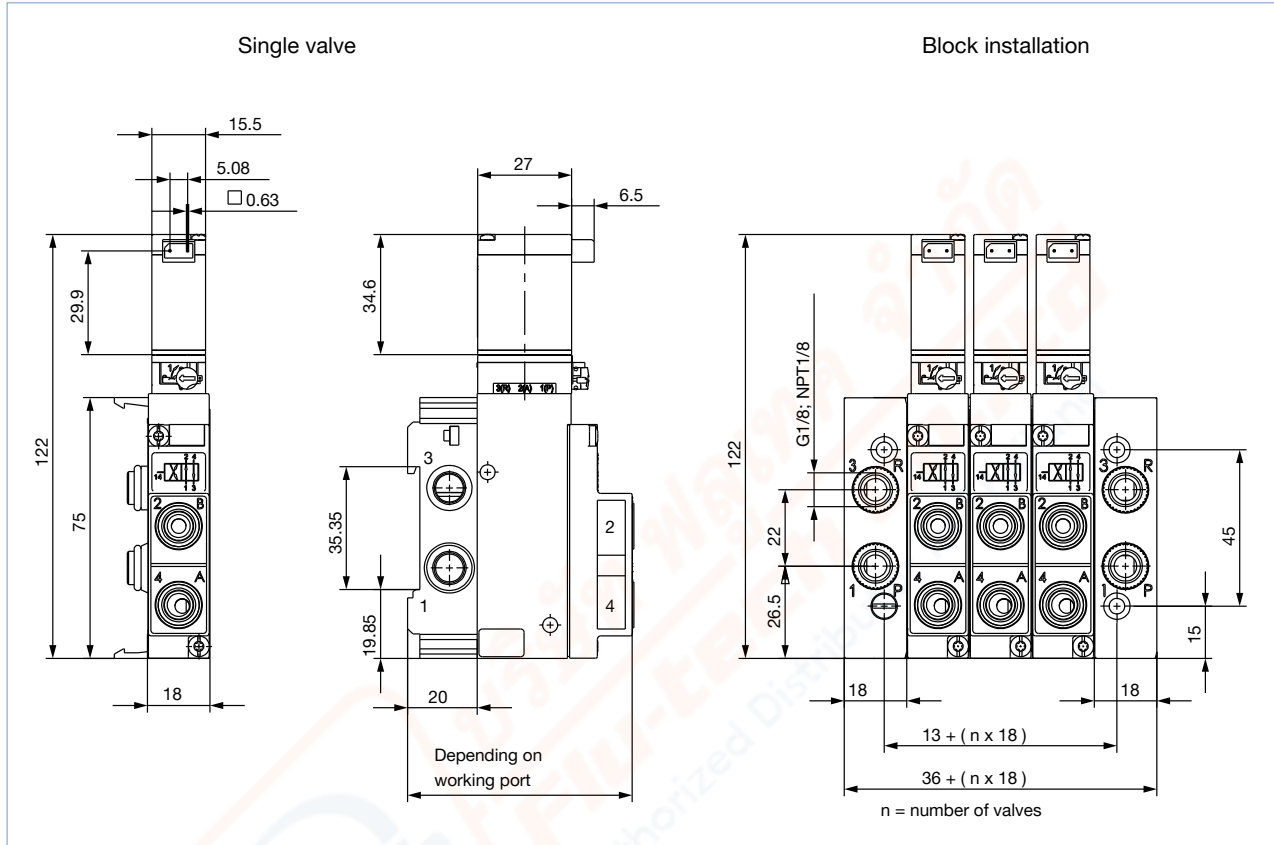


3.3. Dimensions block installation with 18 mm extendable valves on a single base module

Structure with connector lugs at side

Note:

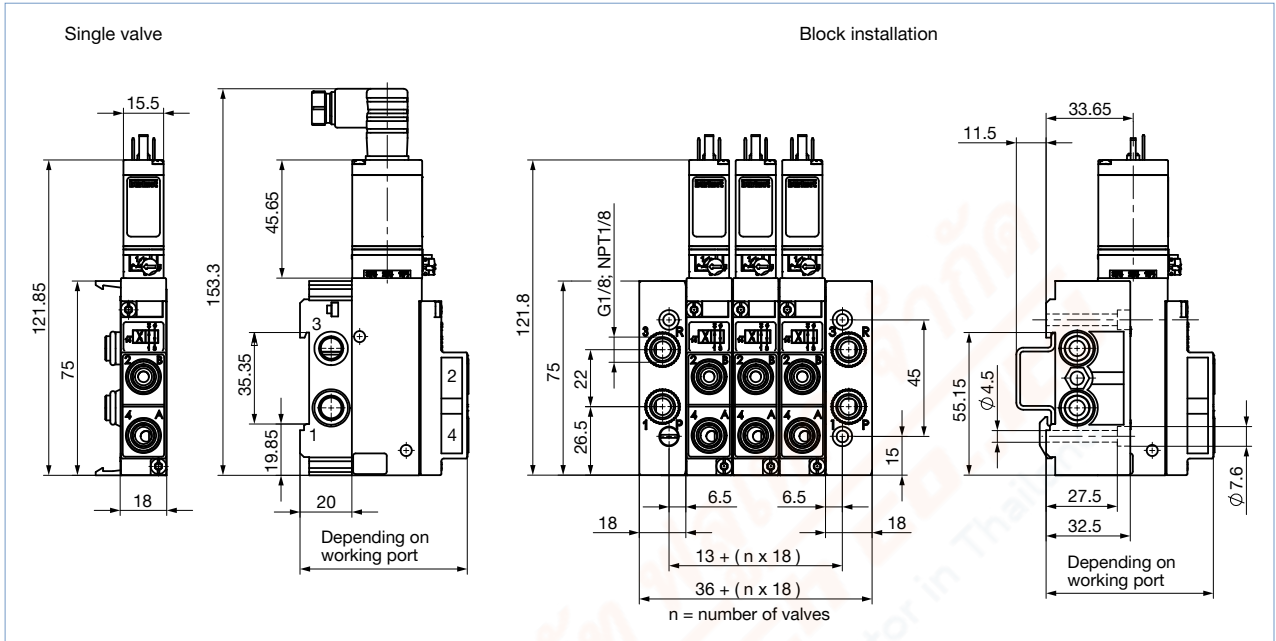
- Dimensions in mm
- Electrical connection rectangular plug with 2 pins (cable plug Type 2505 cable and wire version)



Structure with connector lugs at top

Note:

- Dimensions in mm
- Electrical connection with connector lugs (cable plug Type 2516 protection class IP65 DIN EN 175301 - 803)

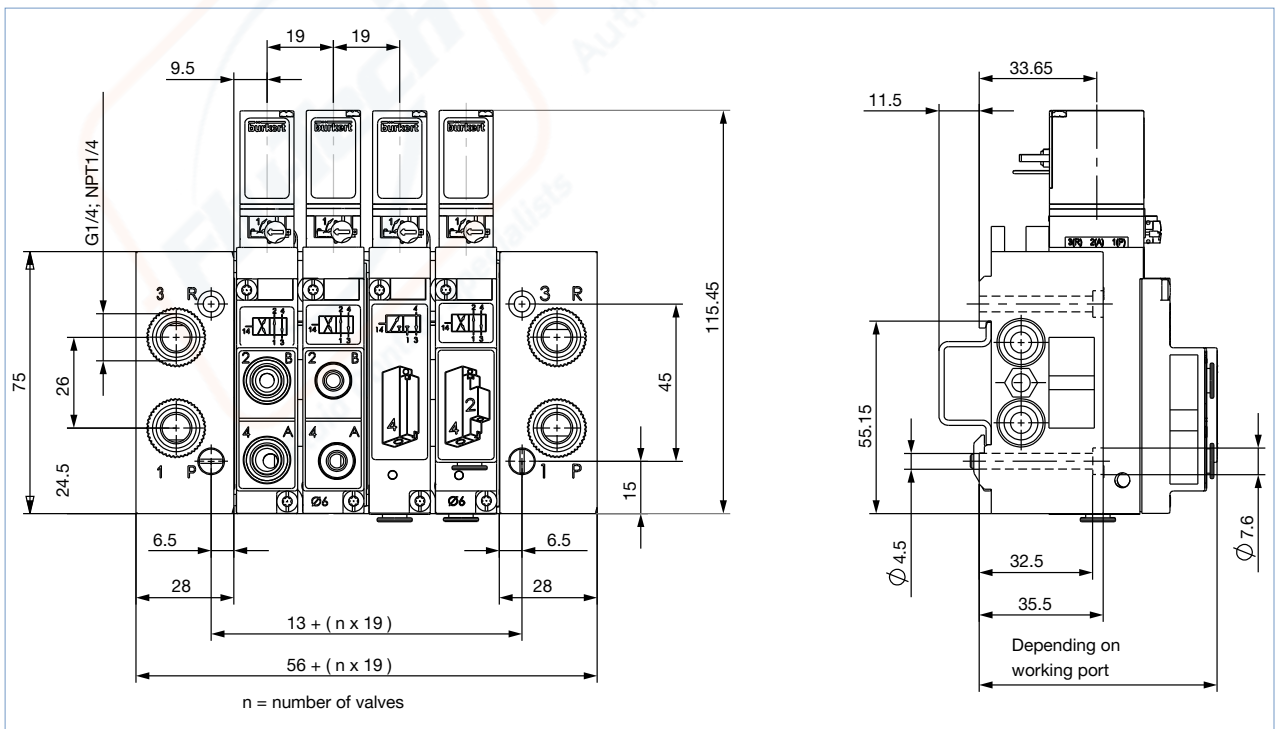


3.4. Dimensions block installation with 19 mm extendable valves on pneumatic modules Type MP05

Structure with connector lugs at side

Note:

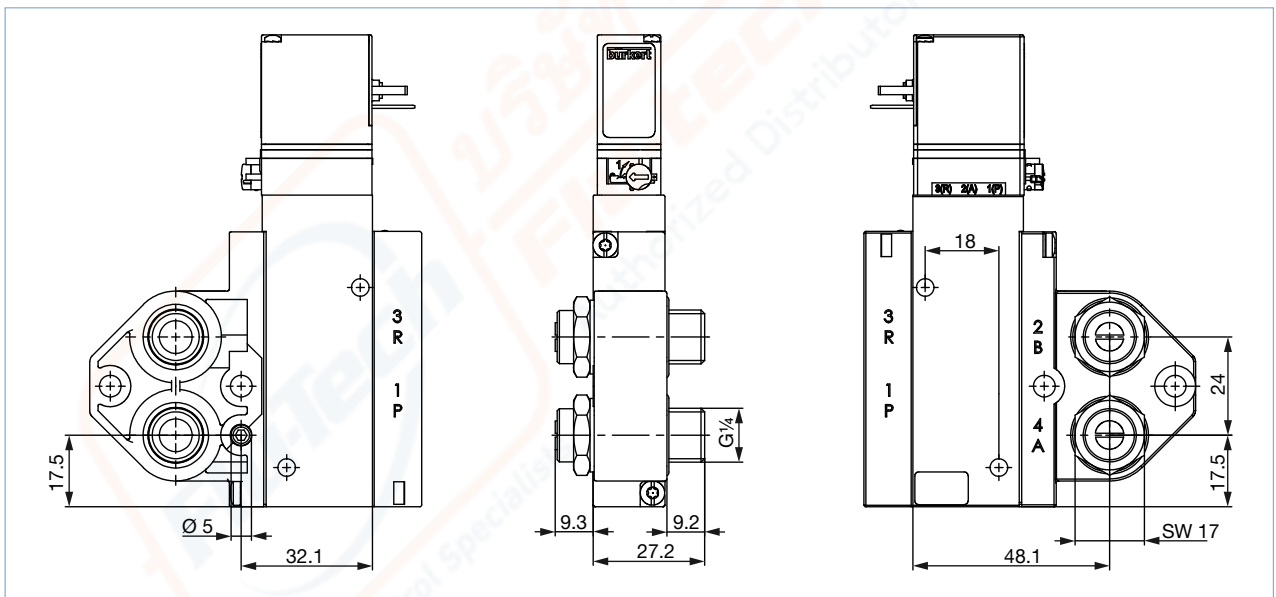
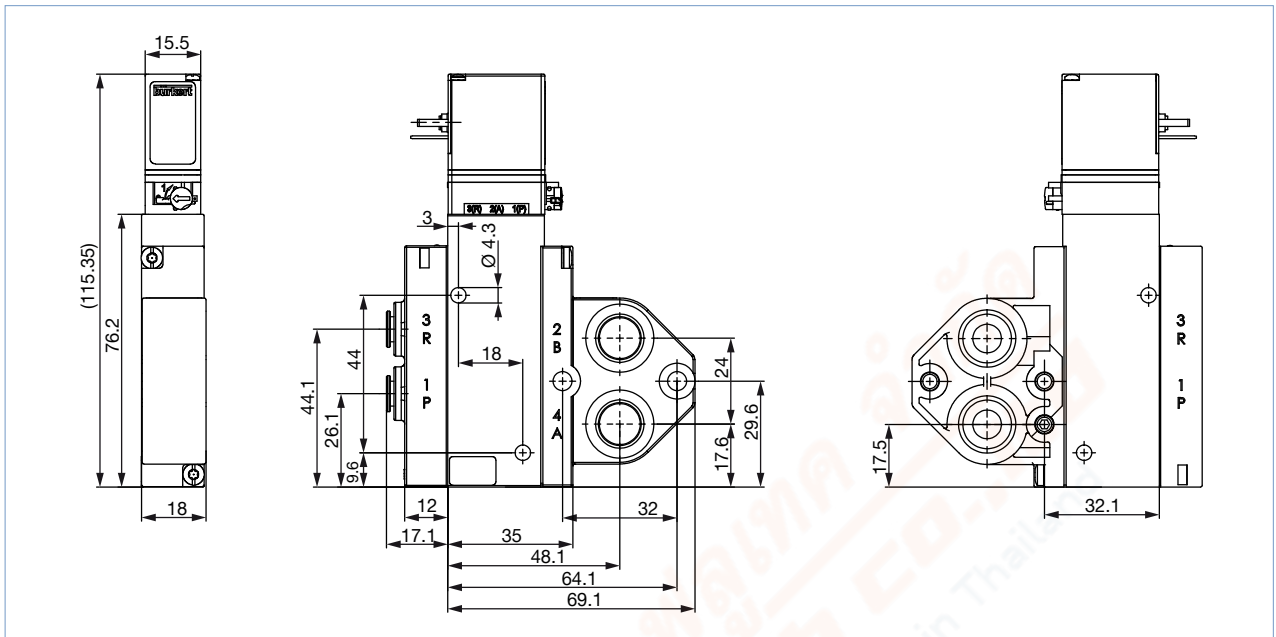
Dimensions in mm



Structure with variant for supply connection with push-in coupling $\text{\O} 6$ mm and threaded connection $\text{G}\frac{1}{4}$

Note

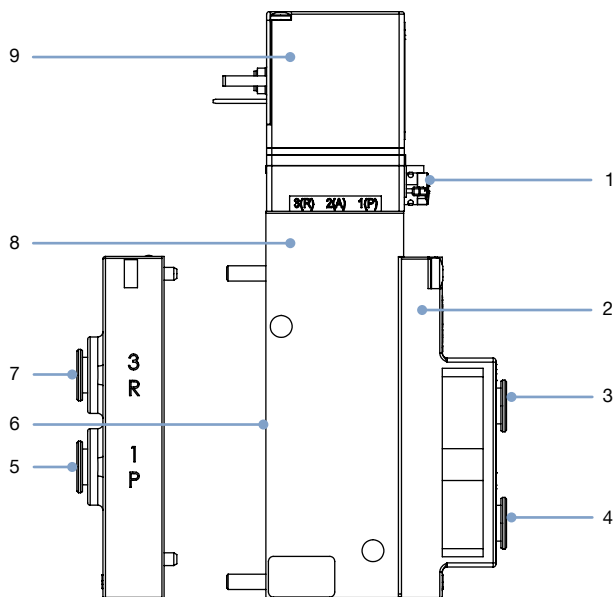
Banjo bolts as throttle check valve



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4. Product design and assembly

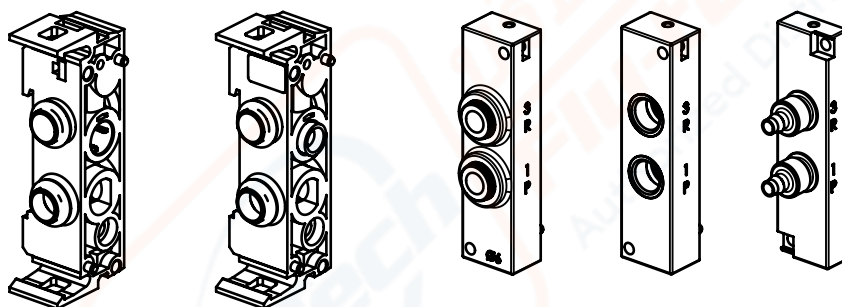
4.1. Product structure servo-assisted valve



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 at side

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

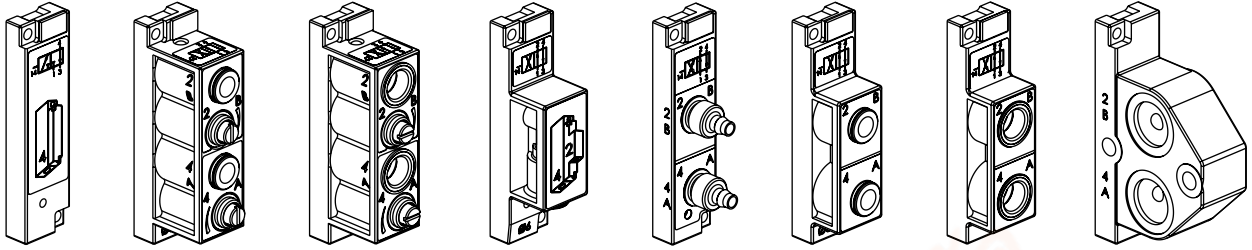
Circuit function C, D, G

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Connection variants for port connection 2 (working ports)

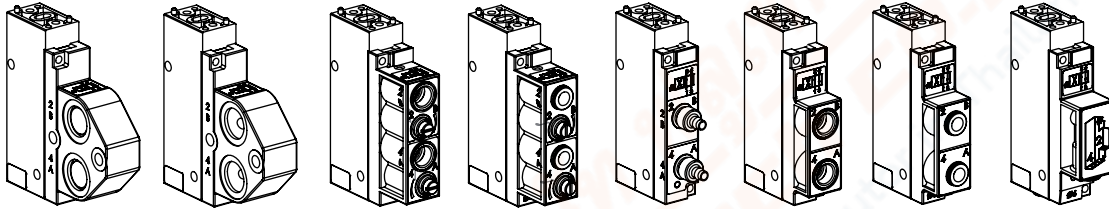
Note:

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



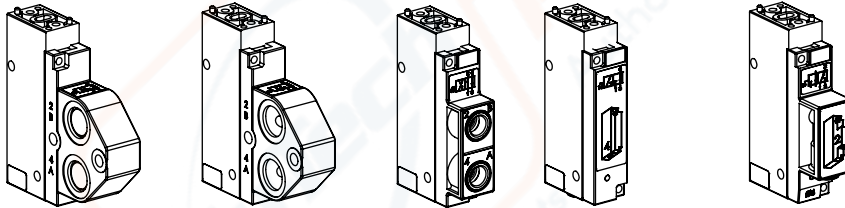
Variant A Variant B Plug-in coupling Ø 6mm Variant B G 1/8 or NPT 1/8 Variant C Variant D Variant E Variant F Variant G

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

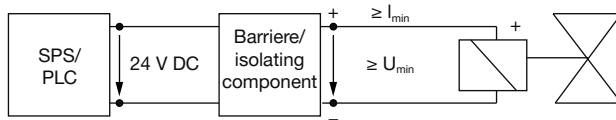
Circuit function D

Variant	Properties
Variant A	Plug-in coupling Ø 6 mm at bottom (circuit function C)
Variant B	Plug-in coupling Ø 6 mm at side 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 at side
Variant E	Plug-in coupling Ø 6 mm at side
Variant F	Sleeve G 1/8 or NPT 1/8 at side
Variant G	Namur flange or Namur flange for throttle screws

Electrical data explosion-proof version Ex ia

Note:

- The valve is designed to operate on 24 V DC outputs through an intermediary intrinsically safe apparatus (isolating block or barrier).
- Please refer to the additional instructions **Type AC21 ATEX 2175** ▶ for the permissible 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



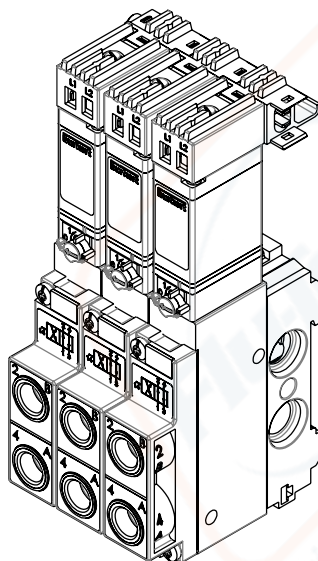
Version	Resistance at 20 °C ± 4 % [Ω]	Minimum terminal voltage [V]	Minimum current [mA]
For use with a 30 Ω supply module	320	9.3	29
High resistance version	475	10.9	23

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 9](#)). 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 is available only in conjunction with the individual base module width/station 18 mm.

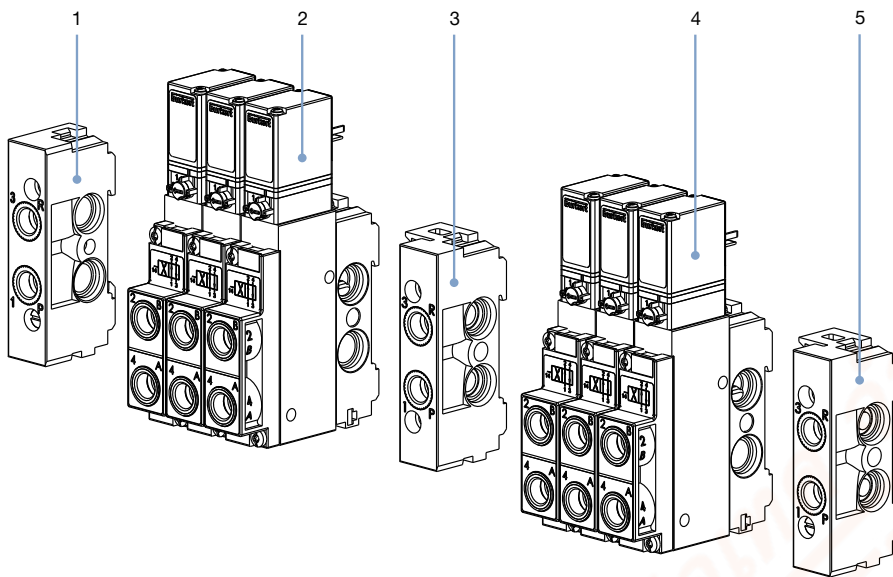


Block installation with extendable valves
Cable plug Type 1057

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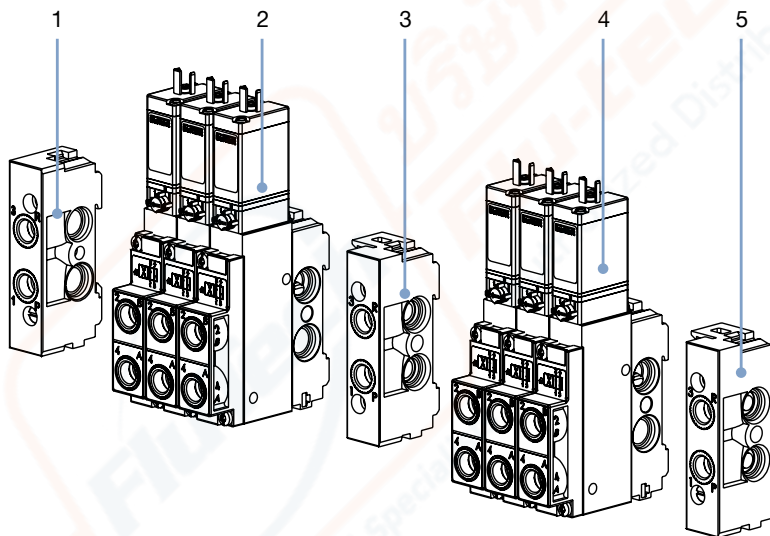
4.2. Product structure block installation with 18 mm extendable valves on individual base module

Structure with connector lugs at side



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

Structure with connector lugs 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

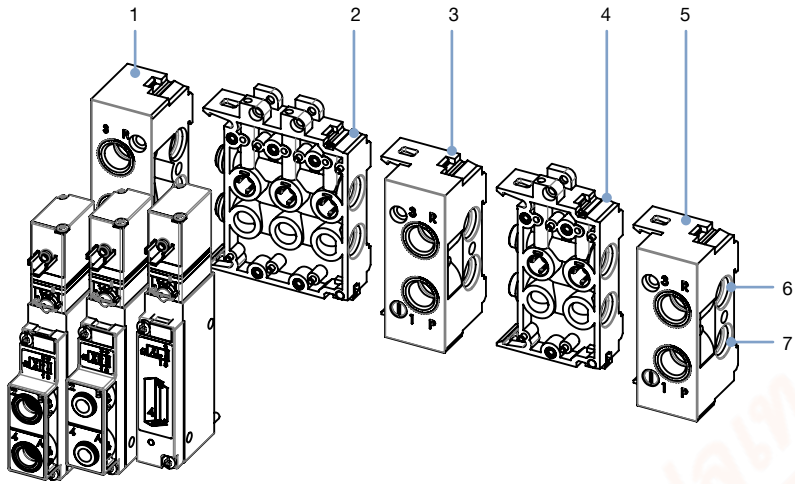
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4.3. Product structure block installation with 19 mm extendable valves on pneumatic modules Type MP05

Structure with connector lugs at side

Note:


- Variant with connector lugs at top: Individual wiring also possible
- Electrical connection with connector lugs (cable plug Type 2516 protection class 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)

5. Ordering information

5.1. Bürkert eShop – Easy ordering and quick delivery




Bürkert eShop – Easy ordering and fast delivery

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5.2. Bürkert product filter



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5.3. Ordering chart

Extendable single valves with module flange for pressure ports 1 (P) and 3 (R) with connector lugs at top

Note:

- Further variants on request
- Delivery does not include cable plug (see “5.4. Ordering table accessories” on page 17)
- Details on the illustrated circuit functions see “2. Circuit functions” on page 4
- 18 mm stackable valves with individual basic modules, see “Electrical data explosion-proof version Ex ia” on page 10

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 [V/Hz]	Effective coil power [W]	Article no. DC coil ^{2.)}	Article no. UC coil ^{3.)}
Type: C, solenoid valve 3/2 way Servo-assisted Normally closed ^{1.)} 	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 ☒
Type: D, solenoid valve 3/2 way Servo-assisted Normally open ^{1.)} 	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	–	–
Type: G, solenoid valve 4/2 way Servo-assisted Normally open 	Hose screw connection at side 6/4 (Variant D)	24/DC/UC	2	136878 ☒	–
		110...120/DC/UC	3	–	–
		220...240/DC/UC	3	136880 ☒	–
	G 1/2 at side (Variant E)	24/DC/UC	2	136881 ☒	–
		110...120/DC/UC	3	136882 ☒	–
		220...240/DC/UC	3	136883 ☒	145980 ☒
	G 1/2 at side 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 at side (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 ☒	

1.) 3/2 way variants (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
 3.) For universal current operation (UC = DC or AC); rectifier, varistor and LED are integrated in the coil

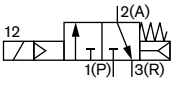
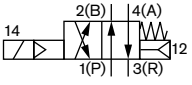
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Extendable single valves with module flange for pressure ports 1 (P) and 3 (R) with rectangular electro connection
Note:

- Further variants on request
- Delivery does not include cable plug (see “5.4. Ordering table accessories” on page 17)
- Details on the illustrated circuit functions see “2. Circuit functions” on page 4
- 18 mm stackable valves with individual basic modules, see “Electrical data explosion-proof version Ex ia” on page 10

The following applies to all the variants listed below:

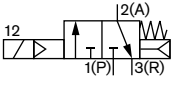
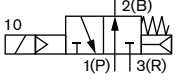
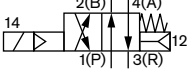
- Nominal width: 4.0 mm
- Q_{Nn} value air: 300 l/m
- Pressure range: 2...10 bar

Circuit function	Working ports 2 and 4	Voltage/Frequency [V/Hz]	Effective coil power [W]	Article no. DC coil
Type: C, solenoid valve 3/2 way Servo-assisted Normally closed ^{1.)} 	Plug-in coupling Ø 6 mm at bottom with check valve (Variant A)	24/DC	2	145993 ^{2.)}
Type: G, solenoid valve 4/2 way Servo-assisted Normally open 	G 1/8 at side with throttle check valve (Variant B)	24/DC	2	145997 ^{2.)}
	Plug-in coupling Ø 6 mm at side (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 variants (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 terminal mounting, valves with connector lugs on the side; connection with integrated connector sockets on valve terminals Type 8640

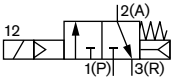
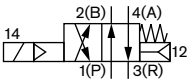
Circuit function	Pressure range [bar]	Working ports 2 and 4	Voltage/Frequency [V/Hz]	Effective coil power [W]	Article no. Connector lugs via pressure input	Article no. Connector lugs via pressure output
Type: C, solenoid valve 3/2 way Servo-assisted Normally closed 	2...8	Plug-in coupling Ø 6 mm, below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

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

Note:

- All valves with tag connector on top; without cable plug
- Working ports 2 and 4 Namur flange

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

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5.4. 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	133515
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 according to DIN EN 175301 - 803, Form C

Note:

- A flat seal and a fastening screw are included in the scope of delivery of a cable plug.
- For further variants see data sheet **Type 2516** ▶

Cable plug Type 2516	Variant	Voltage	Article no.
	Without wiring (AC/DC)	0...250 V AC/DC	303141
	With LED (AC/DC)	12...24 V AC/DC	303145
	With LED and varistor (AC/DC)	12...24 V AC/DC	303148
	With rectifier, LED and varistor	12...24 V AC/DC	303142

Further accessories

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

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