

3/2- and 4/2-multi-way valves; servo-assisted; block assembly or NAMUR flange; 5/32" orifice; flow rate: 300 l/min

Advantages/Benefits

- ▶ EEx ia IIC T6 approved
- ▶ Available for block assembly and with NAMUR flange
- ▶ High flow rate at compact design
- ▶ Maintenance-free and no wear due to high level dry run properties
- ▶ With manual override
- ▶ Various options for the service ports 2 and 4
- ▶ High switch reliability
- ▶ Block assembly version fieldbus compatible
- ▶ Low weight



Design/Function

The Type 5470 intrinsically safe includes high switch reliable diaphragm seat valves as 3/2- and 4/2-way version. The valve consists of three modules, valve body with servo-diaphragm, plungers and seat seals as well as numerous connection possibilities for the service ports 2 and 4.

The body and valve internal parts are made of high quality thermoplastic, the return spring is made of stainless steel.

A 16 mm rocker solenoid valve type 6106 with rectifier and an intrinsically safe coil is used as pilot.

Tag connectors are used as electrical contact (acc. to DIN 43 650 Form C) with cable plug Type 2506.

The extendable Type 5470 intrinsically safe can be used for block modules or for entire valve blocks (tag connectors on top, coil spacing 3/4").

The block assembly is made with pneumatic modules type MP05 through integrated lock technology and screwing.

The Type 5470 intrinsically safe NAMUR can be easily mounted to a process valve with the same interface.

Applications

Chemical industry

Pharmaceutical processing equipment

Industrial wastewater treatment

Oil and gas industry



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Fluid Control Systems

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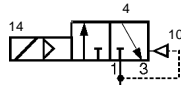
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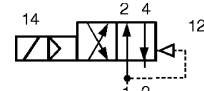
Technical Data Type 5470 NAMUR Ex-Version

Circuit functions

C 3/2-way valve,
when de-energized,
outlet port 3 exhausted



G 4/2-way valve,
when de-energized,
pressure inlet port 1 connected
to outlet port 2,
outlet port 4 exhausted



Specifications

Circuit function	Orifice [inch]	Flow rate ¹⁾ (air) C _v	Pressure range ²⁾ [PSI]	Power consump. [W]	Response times		Port connections
					opening ³⁾ [ms]	closing ³⁾ [ms]	
C (3/2)	5/32	.32	29 – 116	0.5	60	50	Supply port 1 & 3: plug-in coupling 1/4" OD tubing in front or downwards or 1/8" NPT Service port 2 & 4: sub-base or NAMUR flange
G (4/2)	5/32	.32	29 – 116	0.5	60	50	Supply port 1 & 3: plug-in coupling 1/4" OD tubing in front or downwards or 1/8" NPT Service port 2 & 4: sub-base or NAMUR flange

¹⁾ Measured with 87 PSI upstream pressure and 14.5 PSI pressure drop across the valve and at 68°F.

²⁾ All pressures quoted are gauge pressures.

³⁾ Measured at connection 2; time from electrical switching to pressure increase to 90 % (opening) or pressure drop to 10 % (closing) of operational pressure of 87 PSI.

Valve Specifications

Valve body	PA (Polyamide)
Valve internal parts	Ultramid
Return spring	Stainless steel
Seal material	NBR
Fluids	Lubricated, unlubricated compressed air, nitrogen, instrument air
Media temperature	14°F to 122°F
Ambient temperature	14°F to 131°F
Port connections	
NAMUR version:	
Connection 2 and 4	• NAMUR flange
Connection 1 and 3	• Plug-in coupling ø 6 mm
	• 1/8 NPT (variation)
Block assembly version:	
Connection 1 and 3	• Sub-base at the back
Connection 2 and 4	• 1/8 NPT in front
	• Push to connect 1/4" OD tube below or in front
	• Screwed tube connector SL 6/4 mm, in front

Solenoid Specifications

Operating voltage	24 V/DC
Voltage tolerance	±10%
Duty cycle	100% continuously rated
Electr. connection	Tag connectors acc. to DIN 43650 Form C, for cable plug Type 2506 (do not use connectors with LED or circuitry)
Rating	IP 65 (with cable plug)

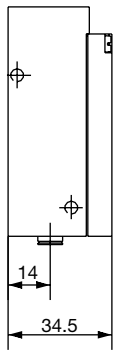
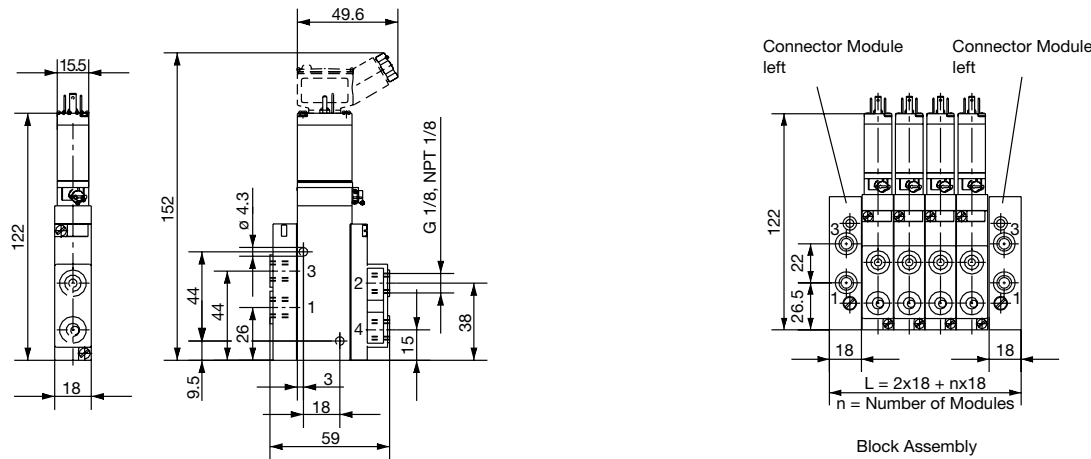
Electrical Specifications

See data sheet "Recommended Barriers"

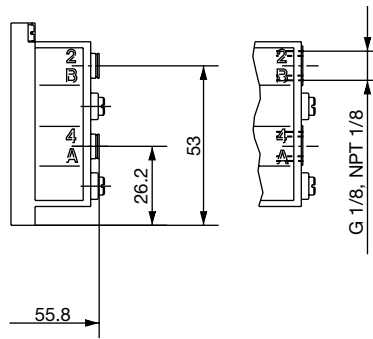
Installation

Mounting position: Any, preferably solenoid system upright

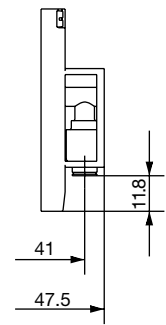
Block and Wall Mounting with Pneumatic Modules Type MP05 [mm]



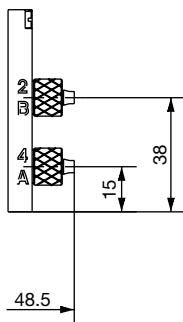
Plug-in coupling 1/4" OD tube below



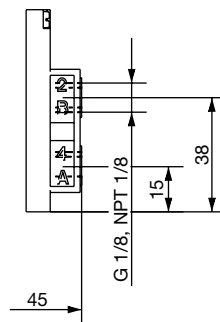
Plug-in coupling 1/4" OD tube and threaded port 1/8 NPT in front, with one-way flow restrictor



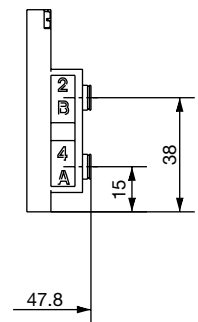
Plug-in coupling 1/4" OD tube below



Screwed tube connector
SL 6/4 mm in front

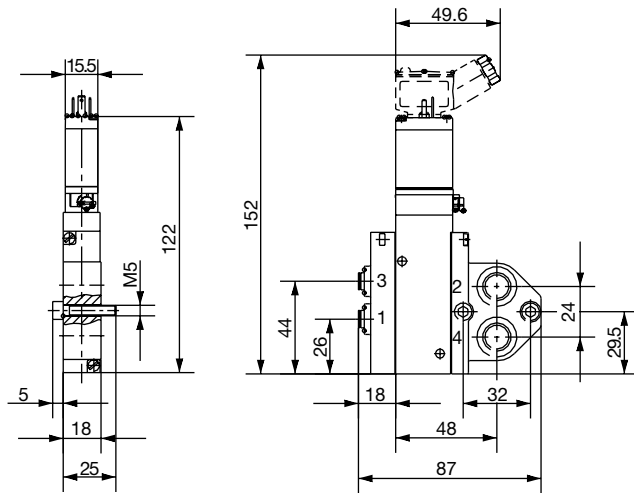


Threaded port 1/8 NPT in front

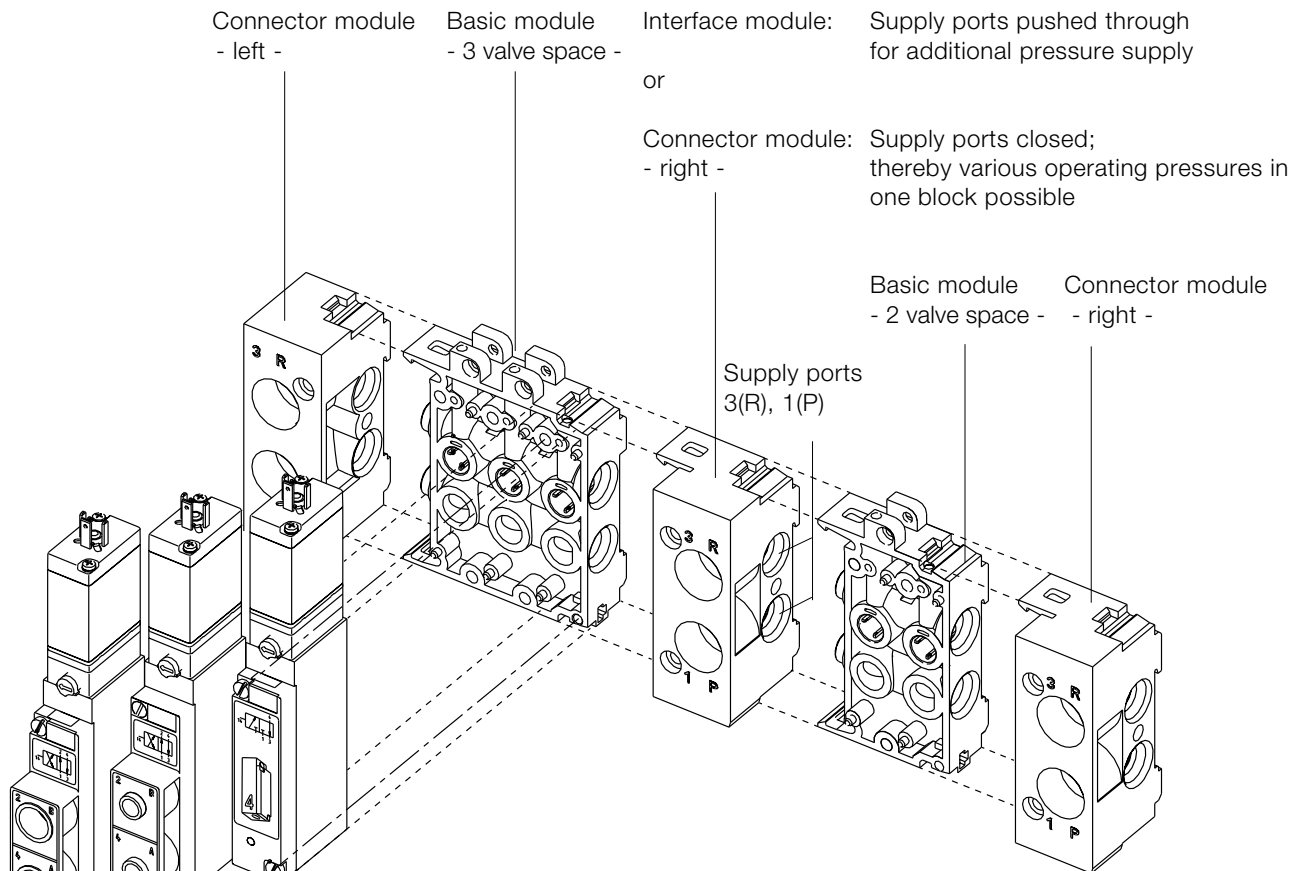


Plug-in coupling 1/4" OD tube in front

NAMUR



Block Assembly with Pneumatic Modules Type MP05, Coil Spacing 3/4"



Example of a valve block. Single modules or pre-mounted blocks are available. When ordering, please inform on the individual modules and the desired configuration from right to left. For information on assembly of a valve block, please see data sheet Customized Pneumatic Systems Solutions.

Ordering Chart Valves Type 5470 NAMUR (Other Versions on Request)

Scope of delivery: All valves with manual override and with NBR seal; tag connectors on top acc. to DIN 43 650 C; without cable plug (see accessories)

Block assembly versions

Circuit function	Orifice [inch]	Flow rate (air) C _v	Supply port connection 1 and 3	Service port connection 2 and 4	Pressure range [PSI]	Voltage / frequency [V/Hz]	Electrical power consumption [W]	Item-No.
C	5/32	.32	Sub-base behind	Push-in connection 1/4" OD tube downwards	29 – 116	24/DC	0.5	139 400 B
			Sub-base behind	Push-in connection 1/4" OD tube in front	29 – 116	24/DC	0.5	139 401 Y
G	5/32	.32	Sub-base behind	Push-in connection 1/4" OD tube downwards	29 – 116	24/DC	0.5	139 403 S
			Sub-base behind	Push-in connection 1/4" OD tube in front	29 – 116	24/DC	0.5	139 404 T
			Sub-base behind	1/8 NPT in front	29 – 116	24/DC	0.5	US07325
			Sub-base behind	Screwed tube connection SL 4/6 in front	29 – 116	24/DC	0.5	139 406 V

NAMUR versions

Circuit function	Orifice [inch]	Flow rate (air) C _v	Supply port connection 1 and 3	Service port connection 2 and 4	Pressure range [PSI]	Voltage / frequency [V/Hz]	Electrical power consumption [W]	Item-No.
C	5/32	.32	1/8 NPT in front	NAMUR flange	29 – 116	24/DC	0.5	US06879
			Push-in connection in front	NAMUR flange	29 – 116	24/DC	0.5	139 402 Z
G	5/32	.32	1/8 NPT in front	NAMUR flange with one-way flow restrictor	29 – 116	24/DC	0.5	US07326
			Push-in connection in front	NAMUR flange with one-way flow restrictor	29 – 116	24/DC	0.5	139 408 F

Ordering Chart Pneumatic Modules Type MP05

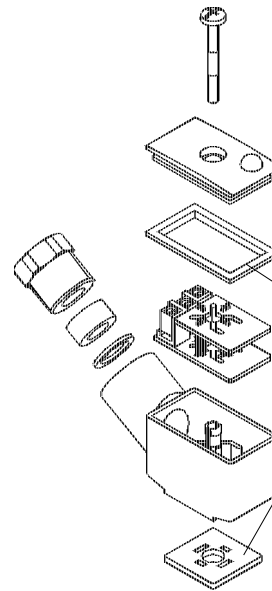
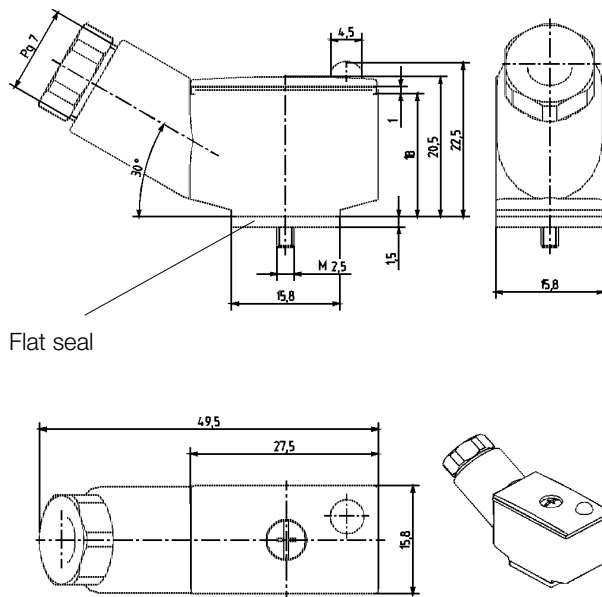
Module version	Item-No.
Connector module left, 1/4 NPT	629 398 D
Connector module left, 1/8 NPT	133 176 P
Connector module right, 1/4 NPT	629 396 D
Connector module right, 1/8 NPT	133 178 Z
Basic module 2 valve space	132 516 B
Basic module 3 valve space	132 517 C
Basic module 2 valve space with 1-way flow restrictor	132 518 M
Basic module 3 valve space with 1-way flow restrictor	132 519 N

Ordering Chart Accessories

Accessory part	Characteristics	Item-No.
Cable plug Type 2506 ¹⁾	without circuit, 0 - 250 V	008 353 P
Manifold NPT 1/8	Intermediate supply	643 026 T
Blanking plug	1/4 NPT	US-1038
Blanking plug for plug-in coupling	1/4" OD tube	US-1055
Valve blanking plate	for vacant valve spaces	643 223 D

¹⁾ With these accessories, only a minimum of possible cable plugs with circuit are being mentioned. For other versions see datasheet Type 2506.
A flat seal and a fixing screw are part of the delivery scope of a cable plug.

Dimensions Cable Plug Type 2506 [mm]



Attention!
Pay attention to a correct fit of the flat seal when mounting the cable plug!

Cable plug Type 2506 (pin assignment acc. to DIN 43650, Form C)