

AVENTICS Series 490/579/589 Directional Control Valves

The AVENTICS Series 490/579/589 have a robust polymer housing that can be mounted individually or as a block. They cover a large range of voltages and feature fast connections for pneumatic tubing.

- Integrated connections
- Individual or block assemblies available
- Extensive voltage range
- Series suitable for dusty environments



Technical data

Industry	Industrial
Activation	Electrically
Frame size	579
Valve type	Poppet valve
Switching principle	3/2, with spring return
Valve function	NC
Sealing principle	Soft seal
Connection type	Pipe connection
Manual override	with detent
Compressed air connection type	Push-in fitting
Compressed air connection input	5/16"
Compressed air connection output	Ø 1/4"
Compressed air connection pilot exhaust	5/32"
Min. working pressure	0.5 bar
Max. working pressure	8 bar
Min. control pressure	2 bar

3/2-directional valve, Series 579, Valve unit

5790570320

Series
490/579/589

2026-02-03

Max. control pressure	8 bar
Protection class with connection	IP65
Reverse polarity protection	Protected against polarity reversal
Pilot	External
Coil width	20 mm
Duty cycle	100 %
Typ. switch-on time	18 ms
Typ. switch-off time	16 ms
Blocking principle	Inlet valve
Can be assembled into blocks	Can be assembled into blocks
Min. ambient temperature	-15 °C
Max. ambient temperature	50 °C
Min. medium temperature	-15 °C
Max. medium temperature	50 °C
Medium	Compressed air
Min. oil content of compressed air	0 mg/m ³
Max. oil content of compressed air	1 mg/m ³
Max. particle size	5 µm
Weight	0.093 kg
Material	
Housing material	Polyamide
Seal material	Acrylonitrile butadiene rubber Polyurethane
Part No.	5790570320

Technical information

At an ambient temperature of $[[40]]^{\circ}\text{C}$ the max. working pressure is $[[10]]\text{ bar}$.

Versions with voltage of less than 50 V DC do not have a protective ground.

The control pressure must be at least as high as the working pressure.

The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

The pressure dew point must be at least 15°C less than ambient and medium temperature and may not exceed 3°C .

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in <https://www.emerson.com/en-us/support>).

5790570320

2026-02-03

Technical drawing of a three-channel relay assembly, showing three views: front, side, and top.

Front View (Top): Shows the main body with dimensions: 0,16, 1,09, 0,28, 0,4, and 5). A horizontal arrow labeled **X** indicates the direction of travel.

Side View (Middle): Shows the profile of the relay with dimensions: 1,61, 1,61, 0,61, 0,55, 0,47, 0,51, 0,24, 0,15, 0,10, 0,13, 0,16, 0,14, 0,05, 0,90, 1,18, 0,73, 1,40, 1,70, 2,64, 0,27, 0,60, 0,22, 0,87, 1,74, 3,07, and ~3,26. A horizontal arrow labeled **X** indicates the direction of travel.

Top View (Bottom): Shows the top of the relay with dimensions: 0,78, 2,92, 0,35, 0,64, 0,60, 1,10, and 0,20. Callouts 1), 2), 3), 4), and 7) are present.

Callouts: 1) points to the main body, 2) points to the bottom contact, 3) points to the top contact, 4) points to the top screw, and 7) points to the side screw.

Dimensions: 0,16, 1,09, 0,28, 0,4, 1,61, 1,61, 0,61, 0,55, 0,47, 0,51, 0,24, 0,15, 0,10, 0,13, 0,16, 0,14, 0,05, 0,90, 1,18, 0,73, 1,40, 1,70, 2,64, 0,27, 0,60, 0,22, 0,87, 1,74, 3,07, ~3,26, 0,78, 2,92, 0,35, 0,64, 0,60, 1,10, 0,20.

1) Port 1 2) Port 2 3) Port 3, exhaust air must not be throttled 4) Core Ø for M5 5) Pocket hole 6 mm deep for 3.5 self-tapping screw 6) Mounting space for name plate 7) Coil can be rotated at 180° intervals 8) Port 12 * Air connection module (item IV) mounted onto stacking valve (item II) permits additional air supply from right hand side. End valve (item III) not required.
I = Inlet valve, II = Stacking valve, III = End valve