

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	589
Valve type	Poppet valve
Switching principle	3/2, with spring return
Valve function	NO
Sealing principle	Soft seal
Connection type	Pipe connection

Compressed air connection type	Push-in fitting
Compressed air connection input	Ø 8x1
Compressed air connection output	Ø 8x1
Compressed air connection, exhaust	Ø 8x1
Compressed air connection pilot input	Ø 4

Nominal flow Q _n	750 l/min
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Min. working pressure	0.5 bar
Max. working pressure	8 bar

3/2-directional valve, Series 589

5894620220

Series
490/579/589

2025-12-11

Min. control pressure	3 bar
Max. control pressure	10 bar
Electrical connection type	Plug
Electrical connection size	ISO 15217, form C
Protection class with connection	IP65
Reverse polarity protection	Protected against polarity reversal
Operational voltage	24 V DC
Operational voltage DC	24 V
Voltage tolerance DC	-10 % / +10 %
Pilot	External
Coil width	20 mm
Power consumption DC	1.6 W
Duty cycle	100 %
Typ. switch-on time	18 ms
Typ. switch-off time	16 ms
Blocking principle	Single valve
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.	5894620220
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Technical information

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

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

Working pressure with vacuum operation, connection 1: min. $[[3] \text{ bar}]$, connection 3: min. $-[[0.95] \text{ bar}]$

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 $15 \text{ }^{\circ}\text{C}$ less than ambient and medium temperature and may not exceed $3 \text{ }^{\circ}\text{C}$.

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>).

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Technical drawing of a 3/2-way solenoid valve, showing three views: front, side, and top. The drawing includes dimensions in millimeters and callouts for specific components.

Front View (Top): Shows the valve body with a solenoid coil (5) and a handle (X). Dimensions include 4,1, 27,7, 7,3, and 10.

Side View (Bottom Left): Shows the valve body with a solenoid coil (9) and a handle (X). Dimensions include 32,2, 12,8, 1,5, 9, and 23.

Top View (Bottom Right): Shows the valve body with a solenoid coil (3) and a handle (X). Dimensions include 20, 74,2, 28, 15,4, 16,3, 9, and 2.

Isometric View (Center): Shows the valve body with a solenoid coil (8) and a handle (X). Dimensions include 41,5, 41,1, 15,5, 14, 12, 13, 6, 3,9, 7, 3,5, 6, 78, 44,3, 14, 22,3, 5, 5,8, 35,4, 43, 67, 7, 3,7, ~83, 4,2, 12, 1, 1,5, 9, and 23.

1) port 1 2) port 2 3) port 3 4) Ø for M 5 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) LED 9) port 12