



TI-P402-03

EMM Issue 9

WV1

Water Valve - Pilot Operated

Description

The WV1 is a pilot operated diaphragm valve for use with water at up to 80 °C. The valve has a brass body and corrosion resistant internals. The solenoid is encapsulated, and is supplied with a removable cable socket to IP65 suitable for 3 core cable maximum 7 mm diameter and terminal maximum 1.5 mm².

½" valves have the solenoid mounted centrally over the valve. The solenoid is mounted towards the outlet connection on larger sizes.

Principal features:

- For use with water up to 80 °C.
- Full bore, except for 1¼" which has a reduced bore of 25 mm, normally closed operation.
- Wide, non-critical voltage ranges.
- Ideal for boiler feedtank supply.

Sizes and pipe connections

½", ¾", 1", 1¼", 1½" and 2" screwed BSP

Pressure / temperature limits

Maximum design pressure	16 bar g
Maximum design temperature	80 °C
Minimum design temperature	10 °C
Maximum operating temperature	80 °C
Maximum ambient temperature	55 °C
Minimum operating temperature	10 °C
Maximum differential pressure	16 bar
Minimum differential pressure	0.2 bar
Designed for a maximum cold hydraulic test pressure of	24 bar g

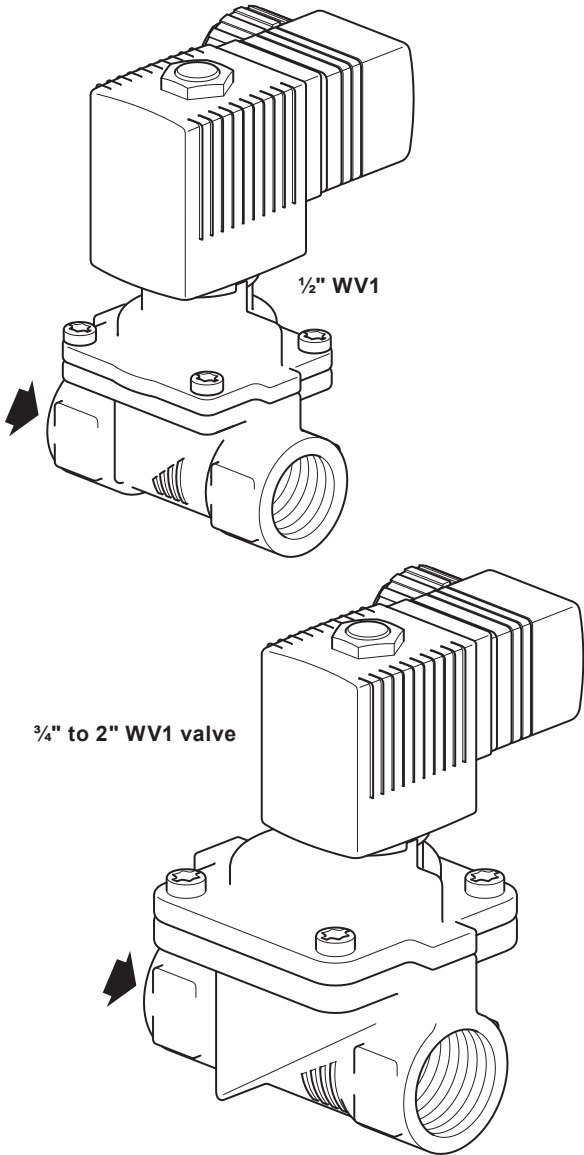
Electrical data

	Version	Voltage range	Frequency range
Power	110 V	99 V to 121 V	50 to 60 Hz
Supply	230 V	207 V to 253 V	50 to 60 Hz
Power consumption			24 VA (inrush)
			14 VA/8 W (hold)
Protection rating	IP65 *		

*With cable plug correctly fitted and secured

Materials

Part	Material
Body	Brass
Seals	Nitrile rubber
Coil housing	Polyamide
Cable socket	Polyamide

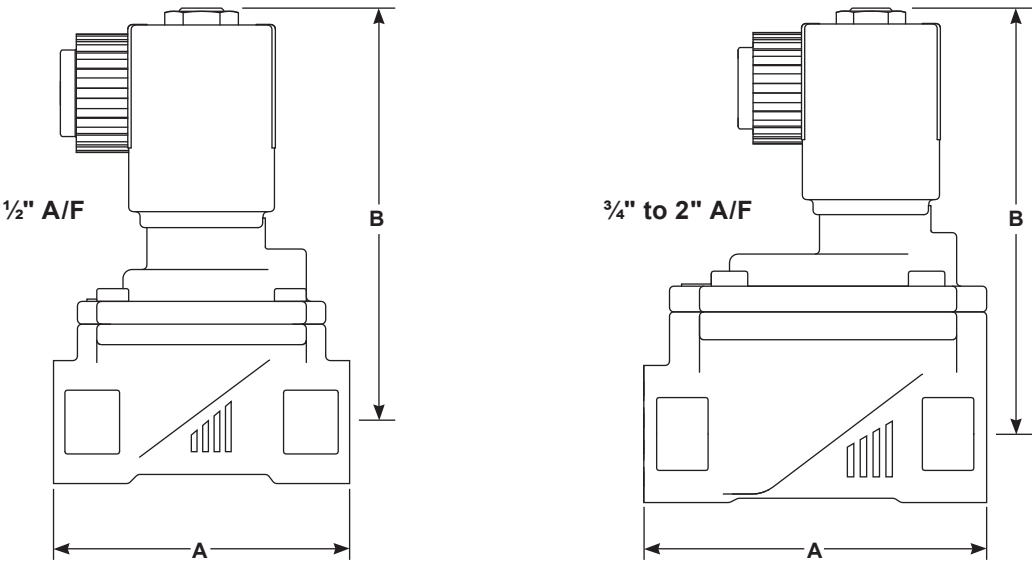


Boiler house
Level controls

Dimensions/weights (approximate) in mm and kg

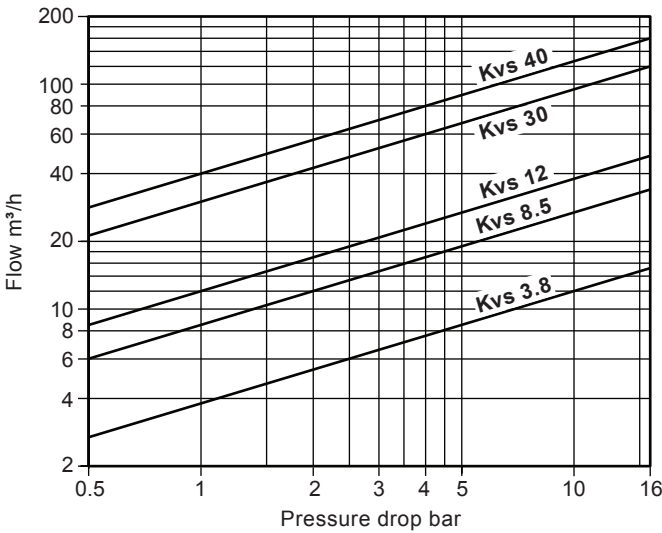
Size	A	B	A/F	Weight*
½"	65	91.1	27	0.54
¾"	80	99.6	32	0.89
1"	95	106.6	41	1.30
1¼"	95	111.6	50	1.50
1½"	126	125.6	60	3.00
2"	164	119.9	70	4.50

* **Note:** The weight is approximate and includes immediate packaging.



Capacities

WV1	Size	½"	¾"	1"	1¼"	1½"	2"
Kvs	(m³/h)	3.8	8.5	12	12	30	40



Safety information, installation and maintenance

WARNING: Your attention is drawn to Safety Information Leaflet IM-GCM-10 and in the UK, to IEE Regulations (BS 7671), as well as to any National or Regional regulations.

This product is designed and constructed to withstand the forces encountered during normal use.

Use of the product for any purpose other than as a pilot operated diaphragm valve for water could cause damage to the product and may cause injury or fatality to personnel.

Installation notes:

- We recommend that a strainer is fitted upstream of the valve to IEE Regulations (BS 7671).
- Fit the valve with the flow in the direction of the cast arrow.
- The valve may be mounted in any position, but preferably with the solenoid uppermost.
- PTFE tape may be used on the pipe connections.

Caution - Do not overtighten screws, nuts, or pipework as this could distort the valve body.

Wiring note:

The rated voltage is printed on the name-plate. Note that the flat terminal is the earth connection. For ease of installation the solenoid unit can be moved through 360° by slackening the solenoid nut. Indentations at 90° intervals in the base of the solenoid allow it to be positively retained, though it may be positioned at any other angle if required. The cable socket may be connected horizontally or vertically by removing the central plastic screw and turning the connector through 90°. Ensure the cable socket gasket is slightly compressed on refitting.

Maintenance note:

As the valve does not contain any lifed items, no spares are required or available. If it becomes necessary to dismantle the valve, proceed as follows:

1. Disconnect the mains supply.
2. Remove the solenoid retaining nut and withdraw the solenoid coil.
3. Check the condition of the 'O' ring at the base of the solenoid coil.
4. Note the position of the valve bonnet in relation to the valve body. (Aligned arrows on both components indicate correct position).
5. Remove the four bonnet retaining screws.
6. Note the positioning of the spring and diaphragm.
7. Remove the spring and diaphragm, and clean and inspect all valve components.
8. Check the condition of the 'O' rings.
9. Reassemble the valve in the reverse order of dismantling.

How to specify

Pilot operated solenoid valves shall be Spirax Sarco type WV1 normally closed valve with brass body and screwed connections, complete with corrosion resistant internals and nitrile rubber soft seat for use with water up to 80 °C.

How to order

Example: 1 off Spirax Sarco WV1 pilot operated water valve, having a 1" BSP connection supplied and ready for a 230V power supply.

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