

# INSTALLATION & OPERATION INSTRUCTIONS



## SEP Priority Demand Valves:

Butterfly Valve models (65-150mm / 2½"-6")

Solenoid Valve models (15-50mm / ½"-2")

Actuated Ball Valve models (15-50mm / ½"-2")

**ALL STANDARD PDVs ARE 'NORMALLY CLOSED' – NOT WHAT YOU NEED? ASK US NOW.**

*PRIORITY DEMAND VALVES ONLY FOR FIRE SPRINKLER SYSTEMS.  
THIS BOOKLET MUST BE KEPT WITH THE VALVE CONTROLLER FOR REFERENCE PURPOSES.*

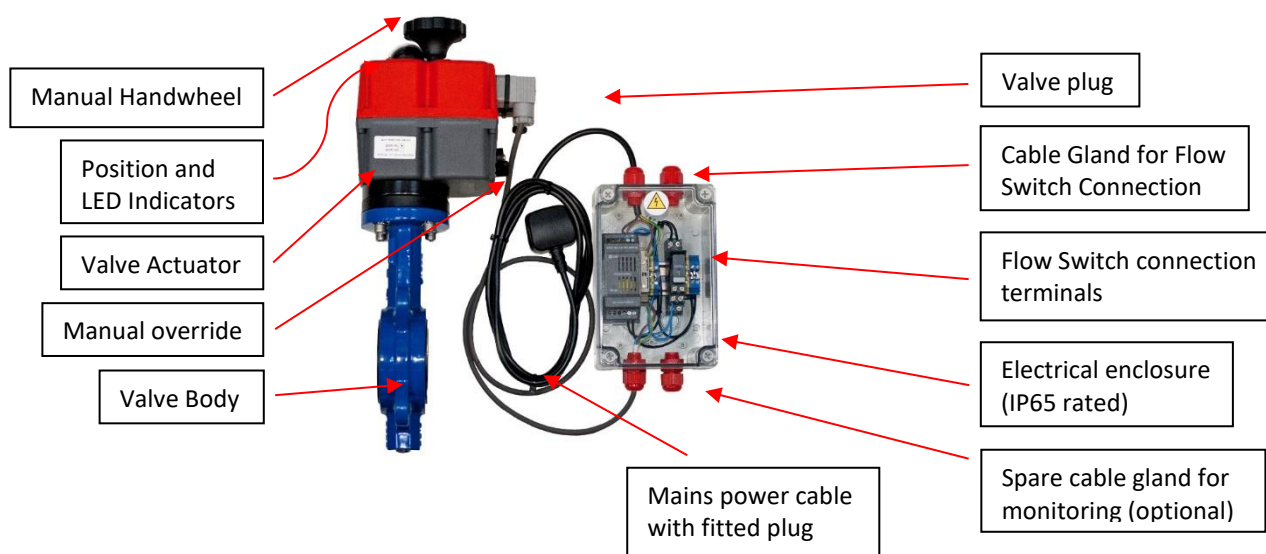
## GENERAL DESCRIPTION

Electrically-operated WRAS-approved valve designed to shut off the domestic water supply in the event of a fire sprinkler activation. As specified by BS9251:2021, the valve is fail-safe (i.e. **valve closes on loss of power, otherwise known as 'normally closed'**) and valve closes on activation of the sprinkler system, meaning that the fire sprinkler water supply will always be prioritised.

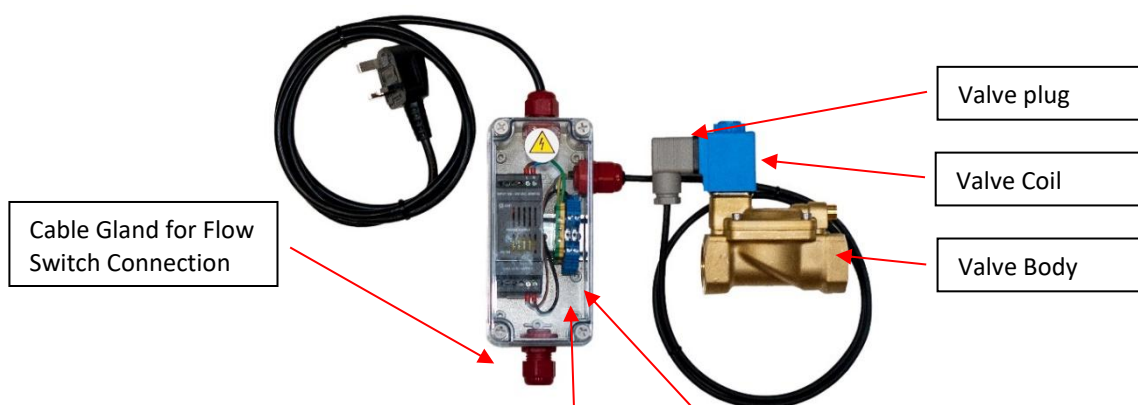
IP-rated electrical enclosure with 230VAC mains power supply, transformed to a safe 24VDC for flow switch and valve coil connections (power supply unit includes LED power indicator).

**There are three models – check which you have, then refer to the pages noted**

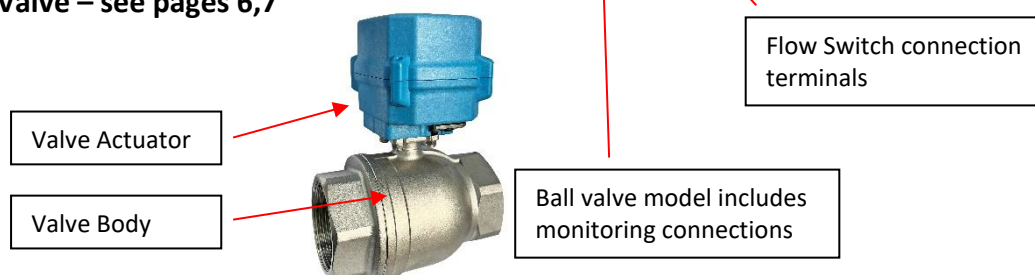
**For pipe sizes 65mm/2½" up to 150mm/6" – Butterfly Valve – see pages 4,5,7**



**For pipe sizes 15mm/½" up to 50mm/2" – Solenoid Valve – see pages 6,7**



**– Ball Valve – see pages 6,7**



### \*\*\* SAFETY \*\*\*

*THESE VALVES ARE DESIGNED AND BUILT ONLY FOR FIRE SPRINKLER SYSTEMS.*

*ELECTRICITY CAN BE DANGEROUS, AND POTENTIALLY LETHAL.*

DO NOT INSTALL this product unless you are satisfied that you have the knowledge and experience to do so. If you are NOT SURE, ASK.

DO NOT OPERATE until you have read and understand the contents of these instructions AND any other instructions which have been supplied.

The solenoid valve coil may become **HOT** during use (as designed) – ensure that it is sited accordingly.

It is required that users employ safe working practices when using this equipment and your attention is drawn to the Health and Safety at Work Act 1974, the latest electrical regulations and any other current, pending or future safety requirements.

This document must be kept with the product for reference purposes. An electronic version is also available to download from our website if further copies are required.

The following safety signs and symbols may be used:



Read instructions before use



Automatic control – may operate without warning



Dangerous voltage may be present



Surfaces may be hot

### SPARES & REPAIRS

Only use genuine spare parts or service kits purchased from SEP. The use of non-genuine spare parts may affect the reliability and service life of the product and will invalidate the warranty.

In the event of any difficulty understanding these instructions, or operating the unit, contact your supplier or the manufacturer immediately.

Alternatively, please contact Sale Engineering Products: +44 161 428 1180 or [sales@SEPfiresprinkler.co.uk](mailto:sales@SEPfiresprinkler.co.uk)

### WARRANTY

Our standard warranty is 12 months. This will automatically be extended to 24 months by registering the product on our website: <https://firesprinkler.co.uk/warranty-registration-form/>

Installation in any way other than advised in these instructions, or otherwise in writing by the manufacturer, will invalidate any warranty.



## **BUTTERFLY VALVE TYPE**

### **INSTALLATION - MECHANICAL**

Before you start, CHECK for any damage in transit and advise the sender immediately if this is the case.

CHECK the power supply required, and your power source is safe and appropriate for use.

1. Remove all packing materials. Take care to install and operate the product in a clean, dry and cool environment (ambient temperature 5-40°C).
2. Install the valve between appropriately specified flanges (BS 10 Table D/E, PN6/10/16, ANSI150), in the pipe which supplies the domestic water, before any outlets. Ensure that access is possible for any maintenance or repair requirements; ensure that the manual override lever is accessible, and ensure that the hand-wheel on top of the actuator is free to move.
3. The valve is not directional.
4. Remove the lid from the enclosure; knock out and carefully mark mounting holes in a position which:
  - a. Although the enclosure is IP-rated, is away from possible water spillage;
  - b. can be accessed for testing and maintenance;
  - c. is convenient for mains power supply, connection to the valve and connection to the flow switch.
5. Prior to mounting, double-check that all wiring can be completed.

### **INSTALLATION – ELECTRICAL & WIRING**

6. VALVE: use the connected DIN plug to connect the appropriate cable to the valve actuator; ensure that the retention screw is tight enough for the seal to protect from water ingress, but is not over-tight.
7. FLOW SWITCH: connect the flow switch using FP200-rated cable – use the blue terminal blocks in the enclosure, as marked in the photo above, and connect to the COM and NC terminals in the flow switch. An earth connection is also provided if required. Please refer to the diagrams at the end of these instructions.
8. ALARM PANEL: we recommend connection to a flow switch. It is possible to operate through an alarm panel; however, we cannot advise or troubleshoot for this, so please refer to the panel manufacturer.
9. MAINS POWER: connect the plug to a power outlet. If you prefer to wire directly into a fused spur then the plug can be removed, but you must ensure the unit is earthed.
10. MONITORING: The relay used is DPDT, and connections are available (numbered 21, 22 and 24 as per the wiring diagram) so that the relay (and therefore the valve status) can be monitored.

*Dangerous, potentially lethal voltages are present within this equipment; therefore, care should be taken to ensure that all electrical connections remain firm and that cables do not wear, become subject to physical damage nor allowed to be in contact with excessive heat or vibration etc.*

### **COMMISSIONING AND TESTING**

11. Without power and prior to installation, the valve should be in a closed state.
12. Once installed, powered up (green LED on Power Supply), and with the flow switch connected correctly (green LED on Relay), the valve should move to an open state (please note that the valve will take between 10 and 30 seconds, depending on valve size, to fully open or close, and once open the yellow line will be pointing to '90' and the LED on top will stay green).

13. After ensuring the system is filled with water, operate the flow switch manually (using small lever on top when cover is removed), and the valve should move to a CLOSED position – you may observe the LED flashing RED and the yellow line in the indicator glass move to '0'.
14. Release flow switch, which should cause the valve to revert to an OPEN state – you may observe the LED flashing GREEN and the yellow line in the indicator glass move to '90'.
15. Turn off power to the controller, and the valve should again move to a CLOSED position – you may observe the LED flashing RED and the yellow line in the indicator glass move to '0'.
16. You may perform further tests (subject to your testing/commissioning regime) for instance by draining water from a test point on the fire sprinkler system, in turn activating the flow switch which should cause the valve to close.
17. **For testing purposes OR if you are installing the valve prior to installing/connecting the flow switch, then a jumper wire may be installed** between the two blue terminals where the flow switch would be connected. **THIS WIRE MUST BE LABELLED AS TEMPORARY** AND MUST BE REMOVED ONCE FLOW SWITCH IS INSTALLED AND WIRED INTO THE CONTROL BOX.

### LED STATUS INDICATOR

18. An LED indicator on top of the valve actuator provides information as to the actuator's status:

Actuator with power supply	OPEN, POWERED = green	CLOSED = red flash 3 mins
Actuator without power supply	OFF	
Actuator moving	CLOSING = flashing red	OPENING = flashing green
Manual mode	Slow flashing orange	
No power, on battery, closing/closed	Flashing red	

### MANUAL OVERRIDE FACILITY

19. The manual override facility is for the use of trained operatives only (for example when commissioning, testing or following maintenance or repair), since its use may prevent the valve from working as designed if left in manual mode. Use with care, as the actuator may be damaged otherwise.
20. DO NOT attempt to rotate the handwheel before selecting MANUAL – damage will result from this.
21. When MAN is selected, the motor power, and the motor's connection to the shaft are both disconnected after a few seconds. The hand-wheel can be used to turn the valve manually, the position of which can be observed on top of the actuator.
22. The easiest way to reactivate automatic mode is simply to switch the lever back to AUTO, disconnect and then reconnect the power supply to the valve controller.



## SOLENOID or BALL VALVE TYPE



### INSTALLATION - MECHANICAL

Before you start, CHECK for any damage in transit and advise the sender immediately if this is the case.

CHECK the power supply required, and your power source is safe and appropriate for use.

23. Remove all packing materials. Take care to install and operate the product in a clean, dry and cool environment (ambient temperature 5-40°C).
24. Install the valve, using screwed connections, in the pipe which supplies the domestic water, before any outlets. Unless you are certain the water supply is completely clean, install a strainer before the valve.
25. The valve can be mounted at any angle, but note that solenoid valves are marked with flow DIRECTION.
26. Remove the lid from the enclosure; knock out and carefully mark mounting holes in a position which:
  - a. Although the enclosure is IP-rated, is away from possible water spillage;
  - b. can be accessed for testing and maintenance;
  - c. is convenient for mains power supply, connection to the valve and to the flow switch.
27. Prior to mounting, double-check that all wiring can be completed.

### INSTALLATION – ELECTRICAL & WIRING

28. SOLENOID VALVE: use the connected DIN plug to connect the cable to the solenoid valve; ensure that the retention screw is tight enough for the seal to protect from water ingress, but not over-tight.
29. BALL VALVE: this is pre-wired, but if necessary the cable can be shortened and carefully reconnected.
30. FLOW SWITCH: connect the flow switch using FP200-rated cable – use the blue terminal blocks in the enclosure, as marked in the photo above, and connect to the COM and NC terminals in the flow switch. An earth connection is also provided if required. Please also refer to the diagrams below.
31. ALARM PANEL: we recommend connection to a flow switch. It is possible to operate through an alarm panel; however, we cannot advise or troubleshoot for this, so please refer to the panel manufacturer.
32. BALL VALVE MONITORING: additional connections are provided for monitoring the open/closed position of the actuated ball valve model. Refer to label on side of actuator for NO/NC configuration.
33. MAINS POWER: connect the plug to a power outlet. If you prefer to wire directly into a fused spur then the plug can be removed, but you must ensure the unit is earthed.

*Dangerous, potentially lethal voltages are present within this equipment; therefore, care should be taken to ensure that all electrical connections remain firm and that cables do not wear, become subject to physical damage nor allowed to be in contact with excessive heat or vibration etc.*

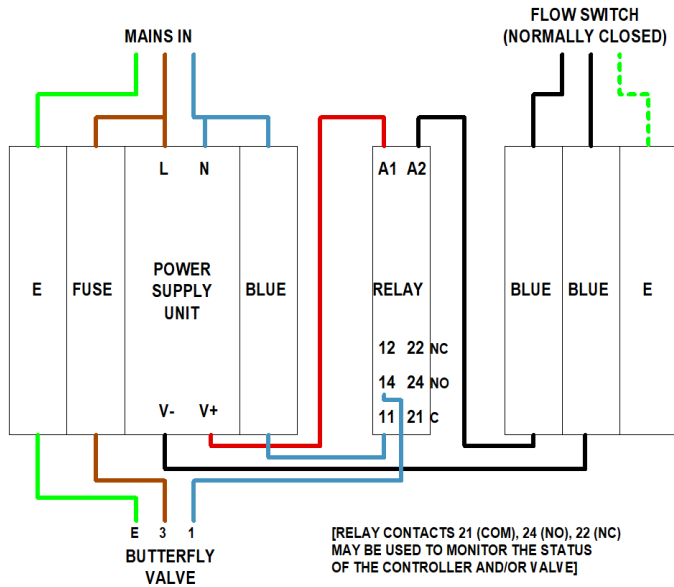
### COMMISSIONING AND TESTING

34. Prior to switching on power, open nearby tap to check that water does not flow.
35. Turn on power supply, and water should now flow.
36. Activate flow switch manually (using small lever on top with cover removed) – water should not flow.
37. **For testing purposes OR if you are installing the valve prior to installing/connecting the flow switch, then a jumper wire may be installed** between the two blue terminals where the flow switch would be connected. **THIS WIRE MUST BE LABELLED AS TEMPORARY** AND MUST BE REMOVED ONCE FLOW SWITCH IS INSTALLED AND WIRED INTO THE CONTROL BOX.



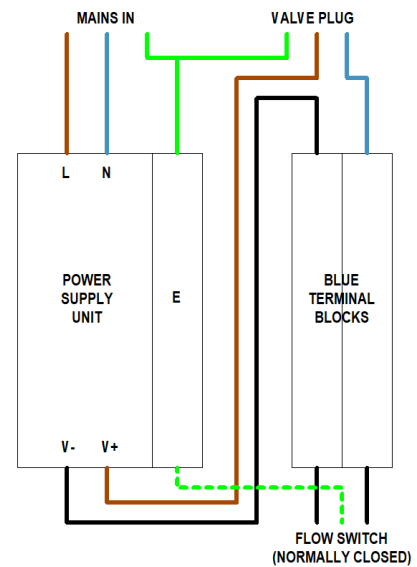
## WIRING DIAGRAMS

**Butterfly** valve models:



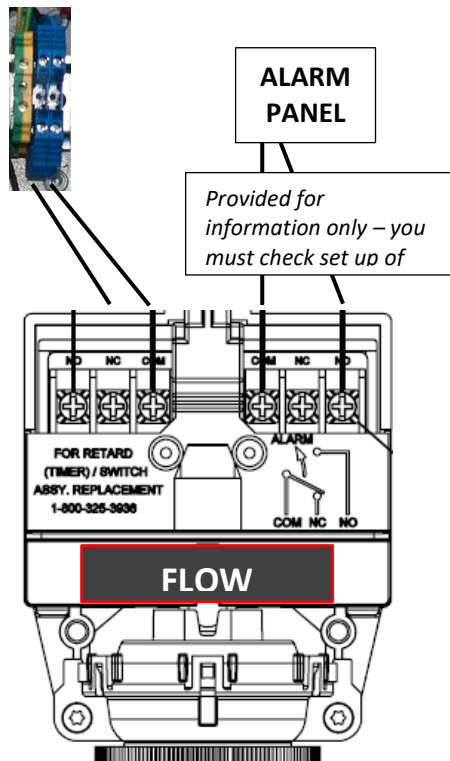
**Solenoid** valve models:

**Ball** valve models as below, with additional connections for monitoring



**IMPORTANT:** wiring other than in accordance with our instructions will invalidate your warranty, unless you have received specific alternative written instructions from us.

## FLOW SWITCH WIRING – all models



## SPECIFICATIONS

	Solenoid valves	Ball Valves	Butterfly valves
Pressure	0.3-16 bar	0-10 bar	0-16 bar
Electrical information – enclosure	230VAC / 24W / <1A	230VAC / 24W / <1A	230VAC / 24W / <1A
Electrical information – valve	24VDC / 15W / <1A	24VDC / 10W / <1A	230VAC / 36-48W / 0.15-0.2A
Size of enclosure	170x80x85mm		190x120x90mm
IP rating of assembly	Minimum IP65		
Mains cable (supplied)	3-core, length 2m, UK fused plug fitted		
Valve cable	3-core	5-core	3-core
Solenoid & Ball valve sizes (LxWxH mm)	15mm: 80x52x114 (0.9) 20mm: 90x58x121 (1.1)	15mm: 63x65x100 (0.4) 20mm: 72x65x107 (0.5)	65mm: 46x408 (5.0) 80mm: 46x422 (5.7)
Butterfly valve sizes (LxH mm)	25mm: 109x70x135 (1.5)	25mm: 81x65x119 (0.7)	100mm: 52x485 (6.9)
(L = flange-flange thickness)	32mm: 120x82x147 (2.2)	32mm: 102x93x153 (1.4)	125mm: 56x513 (10.0)
Weight (kg) in brackets	40mm: 130x95x161 (3.2) 50mm: 162x113x172 (5.0)	40mm: 115x93x166 (1.7) 50mm: 130x93x186 (2.3)	150mm: 56x605 (13.1)

*Note: Due to availability of specific components, or ongoing design improvements, the technical or design specification may change at any time – if anything is critical then please contact us to confirm prior to ordering.*

## UK & EU DECLARATION OF CONFORMITY



WE DECLARE THAT THE FOLLOWING PRODUCT:

Serial No:	Year:		Order No:		Batch Ref:	
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WAS BUILT IN COMPLIANCE WITH THE FOLLOWING EUROPEAN DIRECTIVES AND STANDARDS:

- 2014/35/EU (Electrical equipment)
- 2014/30/EU (Electromagnetic compatibility)
- 2006/42/EC (Machinery)
- EN 60204-1:2018 (Safety of machinery - electrical equipment of machines)

This declaration of conformity is issued under the sole responsibility of the manufacturer.

S Robert Bell, Managing Director  
Stockport, from January 2026

*All information in this table is provided in good faith and may be estimated or approximate, and only correct at the time of publication. Exact specifications may change at any time for any reason without liability; if any data is critical to your application then please check with us before installation.*

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