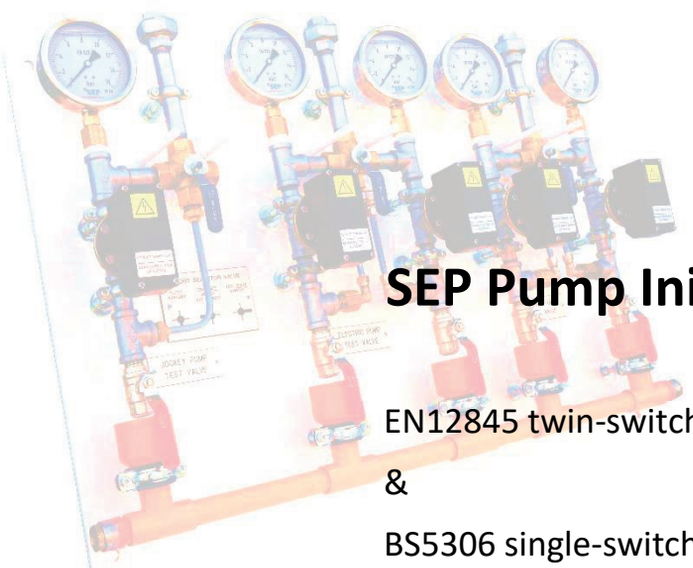
INSTALLATION & OPERATION INSTRUCTIONS

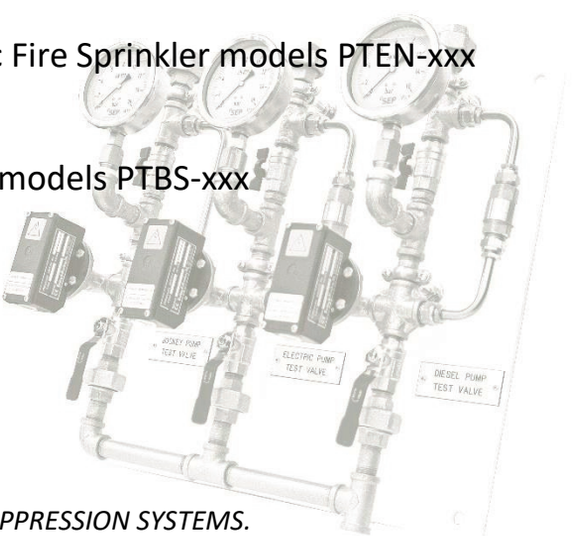


SEP Pump Initiation Boards:

EN12845 twin-switch Automatic Fire Sprinkler models PTEN-xxx

&

BS5306 single-switch Wet Riser models PTBS-xxx



PUMP INITIATION BOARDS ONLY FOR FIRE SUPPRESSION SYSTEMS.
THIS BOOKLET MUST BE KEPT WITH THE BOARD FOR REFERENCE PURPOSES.

GENERAL DESCRIPTION

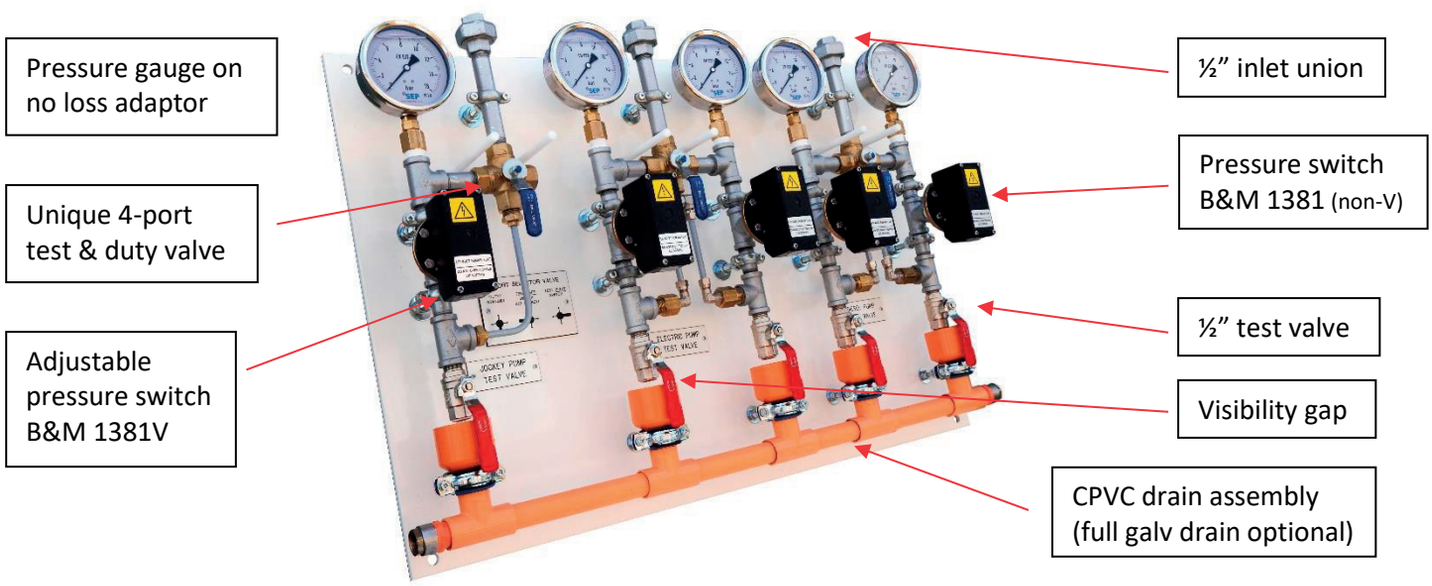
Our lightweight and most-compact-on-the-market Pump Initiation Boards (or Pump Test Panels, or Pump Test Assemblies) meet the requirements of BS5306 (single-switch units for wet risers) or BSEN12845 (dual-switch units for automatic fire sprinklers) respectively.

The assembly is mounted on white polypropylene sheet for zero corrosion and easy yet sturdy mounting, offering a 'plug and play' solution on site. All pipework and fittings are galvanised steel/malleable iron.

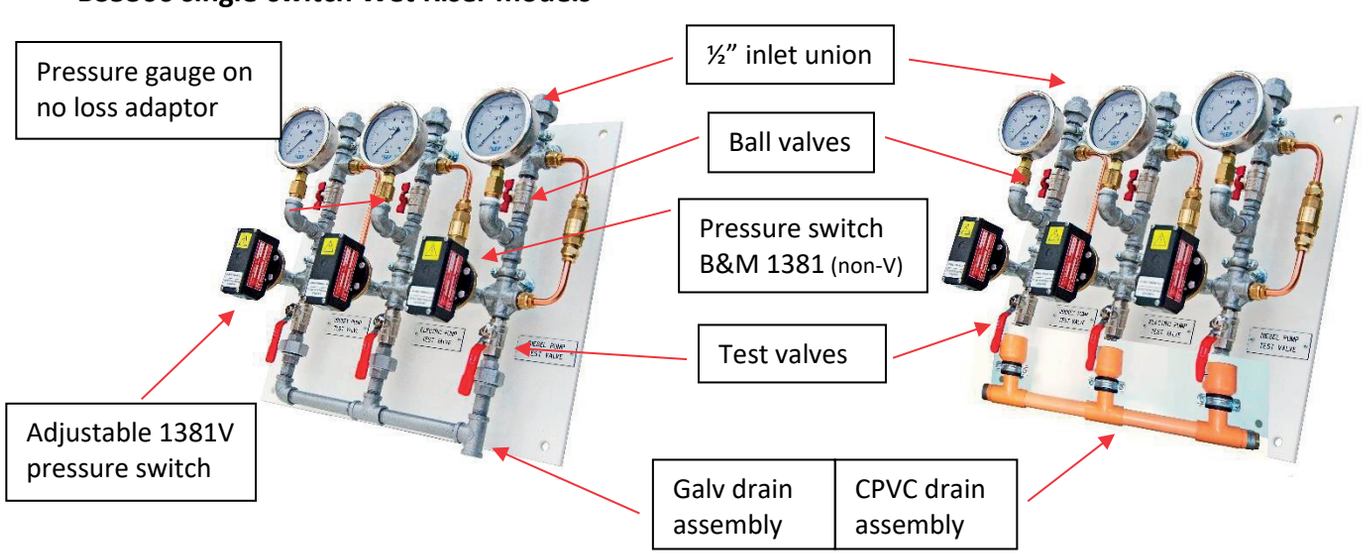
The fire pump bypasses include a check valve as required by the standards; the jockey pump legs do not – but instead have orifice control to allow easier setting of the cut-in and cut-out for pressure maintenance.

IP-rated LPCB-approved pressure switches are standard – with variable differential on the jockey pump test leg. Open CPVC drain is standard, although fully galvanised inlet and/or drain is available as an option.

EN12845 twin-switch Automatic Fire Sprinkler mode



BS5306 single-switch Wet Riser models



*** SAFETY ***

THESE PRODUCTS ARE DESIGNED AND BUILT ONLY FOR AUTOMATIC FIRE SUPPRESSION 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.

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

Danger – contents may be under pressure

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 info@saleengineering.co.uk

WARRANTY

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

BEFORE YOU START (all models)

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

CHECK you have the item you are expecting, and it is suitable for the application you are installing.

DO NOT attempt to mount, fit or install this product unless you are confident and competent to do so – SEP will not be held liable for any damage or fault caused by not following these instructions.

INSTALLATION - MECHANICAL (all models)

The initiation board should be mounted by securely bolting to the wall or a Unistrut frame (use M10 bolts and fixings appropriate to the surface being mounted upon); take care because some configurations (e.g. multiple test 'legs', full galvanised drain and/or inlet, and high pressure) are especially heavy.

Pump lines should then be connected using the 15mm/1/2" unions provided.

Pressure gauges are packed separately, where supplied, and must be screwed into the no loss connectors using the nylon washers provided (PTFE should not be required as the washer will form a seal between the gauge and connector). Tighten only with a spanner on the brass connecting block, do NOT tighten by turning the body of the gauge.

Ensure that the test valves at the bottom of the board are closed before you fill the system.

ELECTRICAL CONNECTIONS (all models)

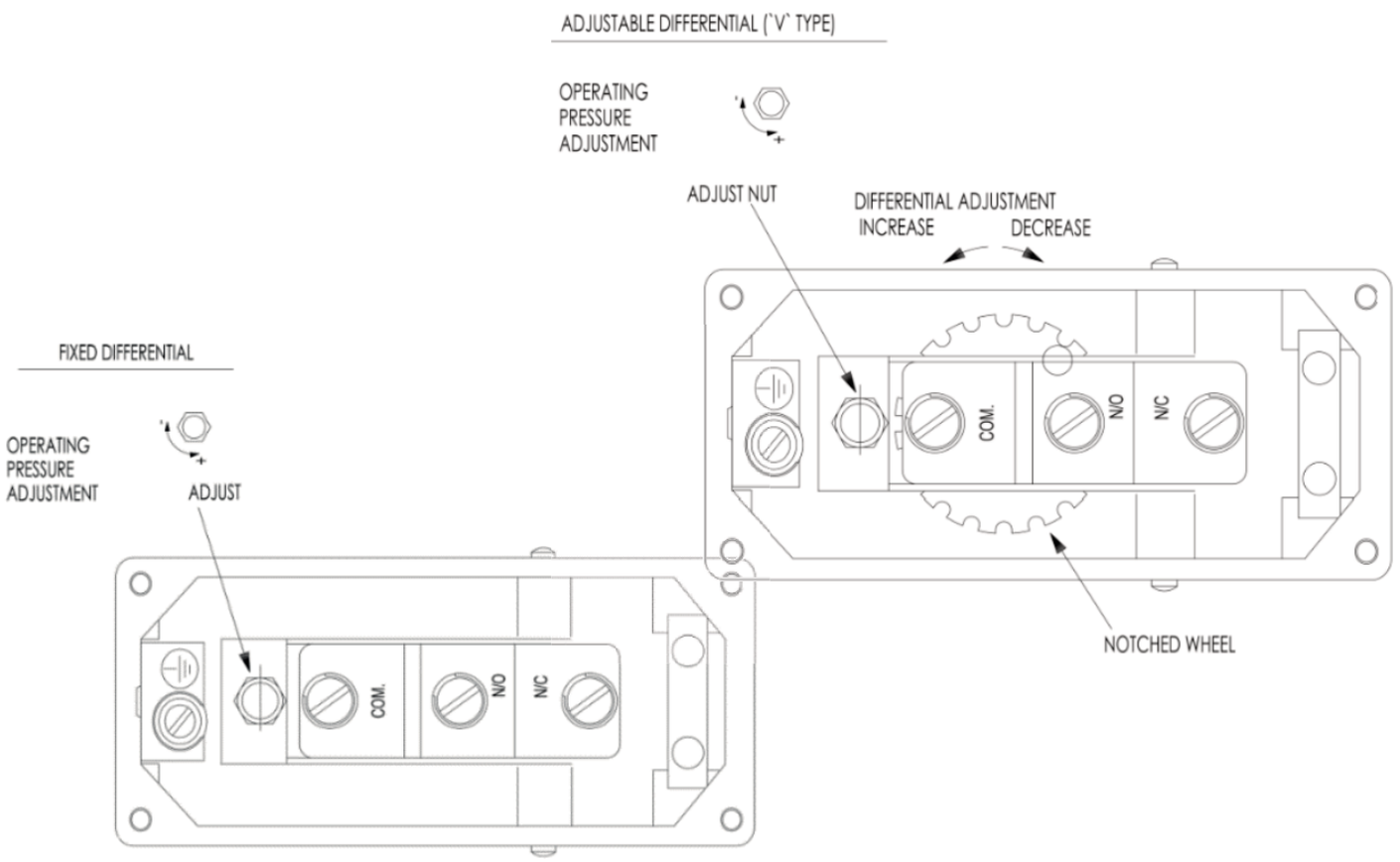
Dangerous, potentially lethal voltages may be present within the pressure switches, therefore care should be taken to ensure that all electrical connections remain firm and that cables do not wear, nor allowed to be in contact with excessive heat.

Locate the electrical supply or other circuits compatible with the pressure switches, and connect in accordance with the enclosed pressure switch instructions. The most common pressure switches used are Bailey & Mackey 1381/1381V, connected using the diagrams below as a guide:

PRESSURE SWITCH SETTING (all models)

1. Fire pump legs: Bailey & Mackey 1381 (standard, non-V) switches are set using the small nut on the face of the switch, which is best adjusted using an insulated 5.5mm nut spinner:
    - Clockwise to decrease the operating point, and anti-clockwise to increase the operating point;
    - ¼-turn of the nut adjusts by around 10% of the switch range (~1.3 bar on a 0.7-14 bar 1381V);
    - To set on falling pressure, turn nut until switch operates, then back off until switch resets.
2. Jockey pump legs: Bailey & Mackey 1381V switches have an additional notched wheel to adjust the differential (difference between cut-in and cut-out pressures):
    - Initially, turn *fully clockwise* to minimise the differential, then set the operating point (1) above;
    - To set the required differential, turn the wheel *anti-clockwise to increase* (*clockwise to decrease*).
    - ¼-turn of the wheel adjusts by around 10% of the switch range (~1.3 bar on a 0.7-14 bar 1381V).
    - Once the differential is set, the operating point may then need to be finally adjusted.

    See diagrams opposite for further information.



OPERATION – BS5306/WET RISER/SINGLE-SWITCH MODELS

Normal/Standby Operation

1. CHECK that the wing-handle valve/s towards the top of the board is/are open and the lever-handle valve/s at the bottom of the board is/are closed.
2. CHECK that the pressure gauges read **above** the pump start pressure setting.
3. The jockey pump pressure switch will fluctuate between high and low settings.

Pump Testing

1. Ensure that local building requirements are met in relation to any system testing.
2. CLOSE the wing-handle valve towards the top of the board.
3. OPEN slowly the lever-handle valve at the bottom to drop the pressure at the switch and gauge.
4. CHECK the operation of the pump. Cut-in pressure for the main pumps, and the cut-in/cut-out pressures for the jockey pump (see Note 1 below).
5. ADJUST pressure switches if necessary – see above.

Note 1a: when carrying out the jockey pump test, the pressure drops during initiation test, the jockey pump starts to re-pressurise the system. IF the test line was isolated by *both* the ball valve *and* a non-return valve, the jockey pump would run continually as the pressure switch would be unable to read system pressure. Therefore the jockey bypass is controlled with a small orifice only.

Continued over…

Note 1b: The pressure switch is more readily set as the bypass has a restricting 2mm orifice; this enables the pressure to be gradually dropped in a controlled manner using the bottom valve. System pressure will not be affected, as the jockey pump will deliver the deficit.

Board Maintenance

1. Isolate all pumps and switches from the electrical supply.
2. CLOSE the wing-handle valve towards the top of the board.
3. OPEN slowly the lever-handle valve at the bottom to drop the pressure in the assembly.
4. Individual components may now be removed for checking or replacement (see note 2).

Note 2: the jockey pump does NOT have a non-return valve in the bypass in order to make cut in/out testing easier, therefore the system may need to be drained for certain maintenance activities unless an isolation valve is installed.

Note 3: the bypass lines are enable the pumps to start in an emergency, in the situation where the wing-handle valve is inadvertently left closed.

OPERATION – EN12845/SPRINKLER/DOUBLE-SWITCH MODELS

Normal/Standby Operation

1. CHECK: the main valve/s towards the top of the board **MUST** be open to sprinkler system pressure (handle/s pointing **down**wards) and the bottom lever-handle valve/s must be fully closed (after bleeding any air in the unit during installation and commissioning).
2. For information, the above valve position opens the ports between the inlet and both of the main pressure switch lines, and closes the bypass line.
3. CHECK that the pressure gauges read **above** the pump start pressure setting.
4. The jockey pump pressure switch will fluctuate between high and low settings.

Pump Testing

1. Ensure that local building requirements are met in relation to fire sprinkler system testing.
2. Turn the handle of the selector/upper valve **towards** the pressure switch that you wish to test; then slowly open the bottom valve under the pressure switch to reduce the pressure, observing (a) water being expelled and (b) pressure switch circuit activating.
3. CHECK the operation of the pump. Cut-in pressure for the main pumps, and the cut-in/cut-out pressures for the jockey pump (see Note 1 below).
4. ADJUST pressure switches if necessary – see above.
5. When complete, fully close the bottom valve, then return the main/upper valve to its '**down**' position in order to restore pressure to the line and re-set the pressure switch.

Note 1a: when carrying out the jockey pump test, the pressure drops during initiation test, the jockey pump starts to re-pressurise the system. IF the test line was isolated by *both* the ball valve *and* a non-return valve, the jockey pump would run continually as the pressure switch would be unable to read system pressure. Therefore the jockey bypass is controlled with a small orifice only.

Note 1b: The pressure switch is more readily set as the bypass has a restricting 2mm orifice; this enables the pressure to be gradually dropped in a controlled manner using the bottom valve. System pressure will not be affected, as the jockey pump will deliver the deficit.

Board Maintenance

1. Isolate all pumps and switches from the electrical supply.
2. The upper valve can be turned to an **upward** position – the 'stop pegs' are there to prevent this happening accidentally, so can be removed temporarily or the handle removed temporarily to allow full rotation.
3. OPEN slowly the lever-handle valve at the bottom to drop the pressure in the assembly.
4. Individual components may now be removed for checking or replacement (see note 2).

Note 2: the jockey pump does NOT have a non-return valve in the bypass in order to make cut in/out testing easier, therefore the system may need to be drained for certain maintenance activities unless an isolation valve is installed.

IMPORTANT notes

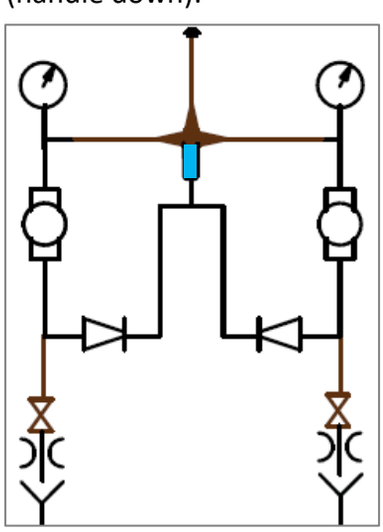
ENSURE THAT THE MAIN VALVE HANDLES ARE POINTING **DOWNWARDS** WHENEVER YOU LEAVE THE BOARD.

Where the upper valve is inadvertently left in an incorrect position, the bypass line ensures that the pressure switch will continue to activate if there is a pressure drop in the sprinkler system.

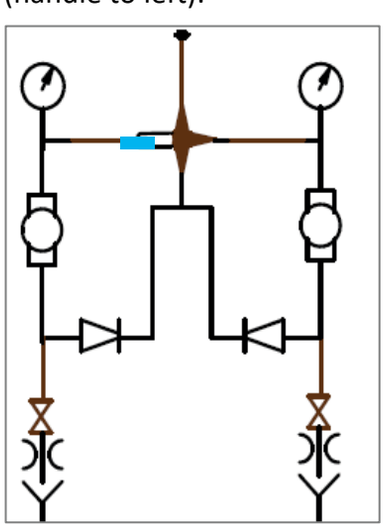
In the case of the jockey pump test, hunting by the pump is prevented by the differential orifice size between the test outlet and the open bypass line.

Illustrations

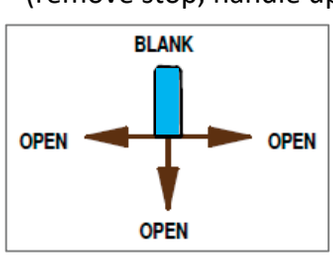
Normal operation
(handle down):



Test left-hand switch
(handle to left):



Isolate board
(remove stop, handle up):



UK & EU DECLARATION OF CONFORMITY

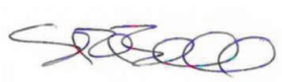
WE DECLARE THAT THE FOLLOWING PRODUCT:

Serial No:	Year:		Order No:		Batch Ref:	

WAS BUILT IN COMPLIANCE WITH THE FOLLOWING EUROPEAN DIRECTIVES AND STANDARDS:

- 2014/68/EC (Pressure Equipment Directive)
- 2014/35/EU (Electrical equipment)
- 2014/35/EU (Low voltage Directive)

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



S Robert Bell, Managing Director
Stockport, from July 2024

All information 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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