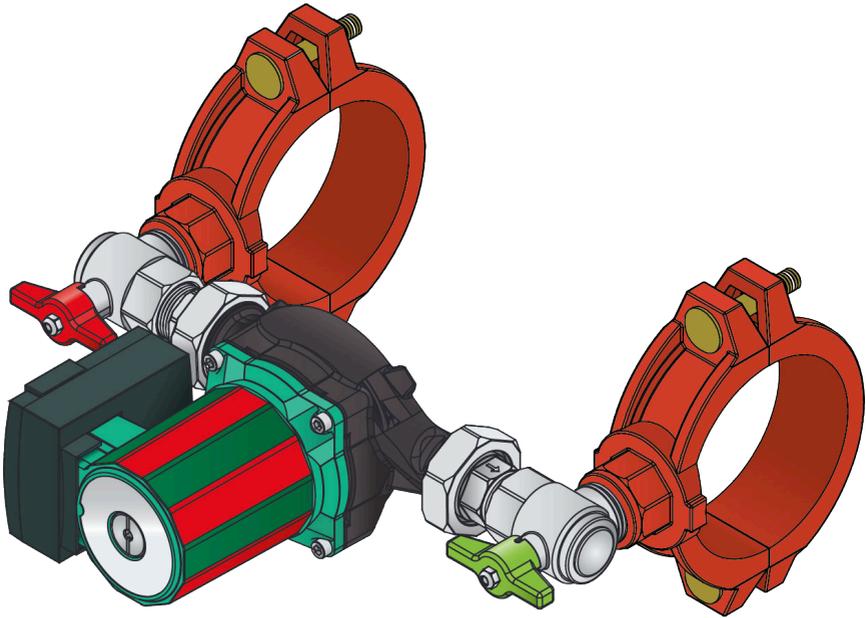


Zonecheck Retro-fit

ZC450-RF-IB-05/18-05



Instruction Booklet

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Information

The information enclosed is correct at the time of print and is subject to change as part of our continuous improvement policy.

Zonecheck is a registered product name of Project Fire Products Ltd. European patent No. 0907833. We reserve the right to change the product specification as a part of our continuous improvement policy.

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Important information

- Ensure Zonecheck is installed both mechanically and electrically commissioned and tested prior to leaving site.
- Ensure protection to Zonecheck is employed whenever there is an extended period from installation to commissioning.
- If the Zonecheck could be wired when the sprinkler system zone is drained down then it is vitally important that the Zonecheck red and green valves are left in the closed position, to ensure the motor is not accidentally run dry and damaged. (Please ensure the commissioning engineer is aware of the closed Zonecheck valve status).
- Only fit to flow switches that have a built in signal retard facility.
- Always use a flat faced wrench for Zonecheck commissioning.
- The suggested location for the key-switch is at low level, adjacent to the fire alarm panel.
- Fix operating instruction to wall, preferably next to keyswitch.
- Each Zonecheck is factory assembled and tested. Do not attempt to reconfigure. Tampering will void the warranty.
- Maximum working pressure: 12 bar (175 psi). Test pressure: 18 bar (260 psi).
- Use Zonecheck flow-switch testers in wet-pipe systems only. Do not use in dry pipe, deluge, or preaction systems.
- Only activate the Zonecheck key-switch when the red & green valves are open and the sprinkler system is full.
- First check that the existing flow-switch is compatible with the Zonecheck key-switch. Also ensure that opening a 15mm test valve downstream of the flow-switch and discharging a flow of between 30l/min and 57l/min (into a measured container and timed) operates the flow-switch alarm signal. Should any of these tests fail, or the performance of the alarm signal is affected by age or condition, then it is strongly recommended that a new flow-switch is installed with the Zonecheck.

Pre-installation

Open the box and remove all packaging. Check that the unit has the correct size mech tees. There should also be a key-switch and key in the box. Inspect the product to make sure it hasn't been tampered with. If you have any queries please contact your supplier. Do not reconfigure or tamper with Zonecheck.

Installation

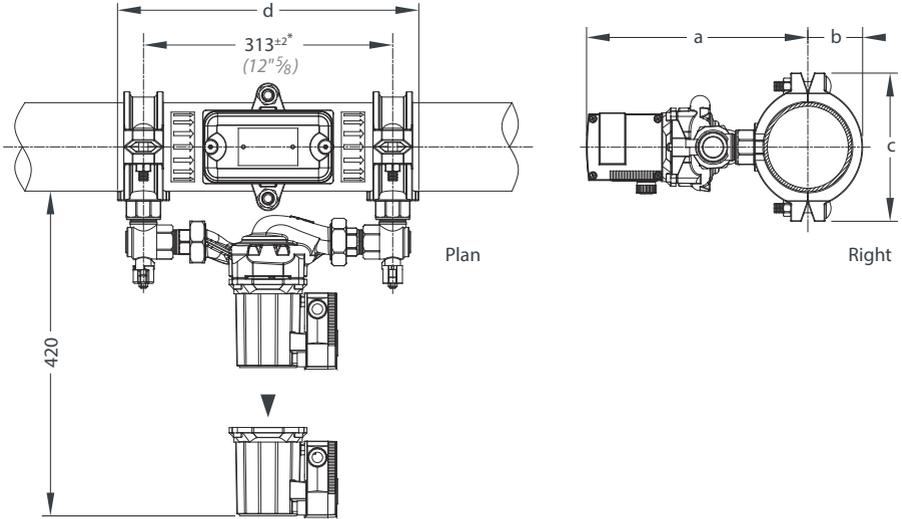
Zonecheck should be installed by a competent fire sprinkler installer and a suitably qualified electrician.

1. Contact building management to inform them of proposed works.
2. Isolate and drain down selected zone.
3. Marry the Zonecheck 450 Retro-fit up to the pipe around the flow-switch to make sure it will fit on facing the correct direction and in the correct orientation (pages 04 & 05).
4. Measure the distance between the mech-tee outlets.
5. On the centre-line of the pipe mark two points equally spaced either side of the existing flow-switch using the measurement you have just taken (this should be around 321mm or 12 5/8" - see page 03 for details).
6. Cut two holes on the designated marks with a hole-saw:

2"-4" pipeØ38mm (1½" hole-saw)
6" pipeØ51mm (2" hole-saw)
8" pipe.....Ø64mm (2½" hole-saw)

7. Remove burrs and clean pipe surface around the hole.
8. Fit the Zonecheck to the pipe. Double check it is facing the correct direction & in the correct orientation (see pages 04 & 05) before tightening the mech-tee bolts.
9. Note the direction of sprinkler system flow and apply the two flow-arrow labels (provided) to the pipe either side of flow-switch.
10. Fit the key-switch to the wall in a suitable location that is easy to reach from floor level.
11. Wire the Zonecheck & flow-switch in accordance with the instructions on page 6.
12. Re-charge the zone with water (on completion, proceed to commissioning - page 08).

Dimensions

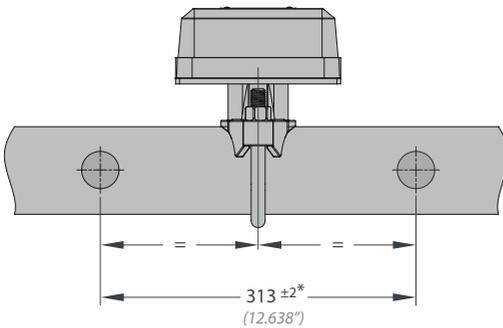


Clear space requirements for pump cartridge removal

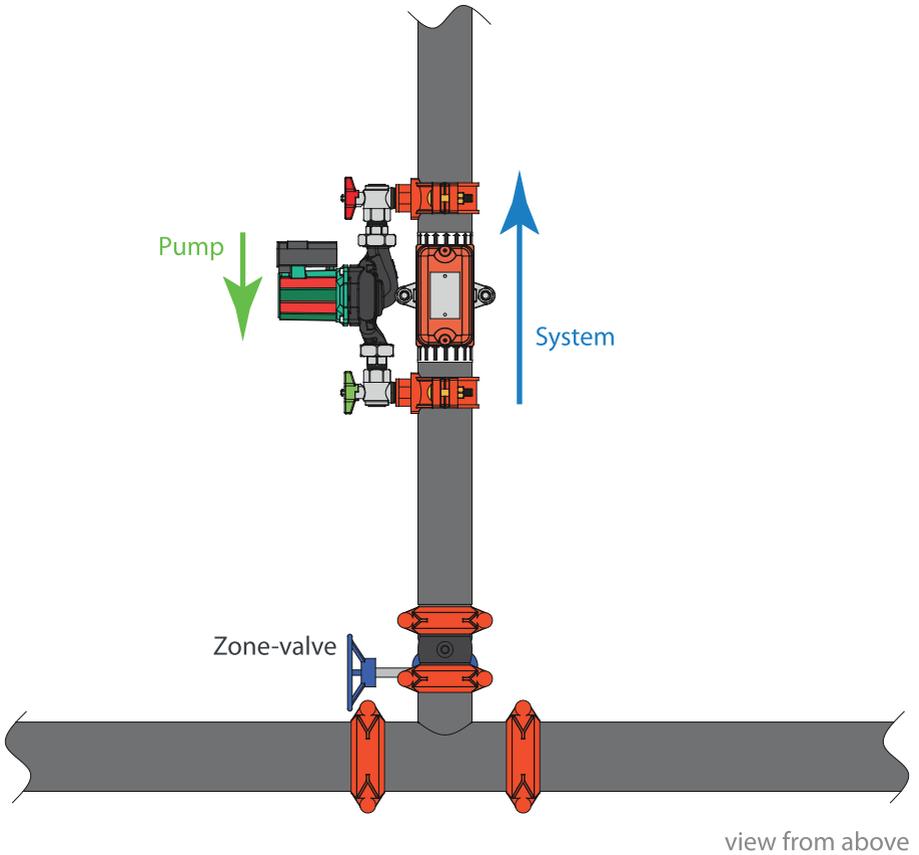
Model	Ø	a	b	c	d
ZC450-R50	50 2"	267 10.5"	40 1.6"	128 5.1"	394 15.6"
ZC450-R65	65 2½"	273 10.7"	48 1.9"	146 5.8"	394 15.6"
ZC450-R80	80 3"	276 10.9"	56 2.2"	160 6.3"	388 15.3"
ZC450-R100	100 4"	287 11.3"	72 2.9"	190 7.5"	388 15.3"
ZC450-R150	150 6"	334 13.2"	98 3.9"	256 10.1"	414 16.3"

Hole locations

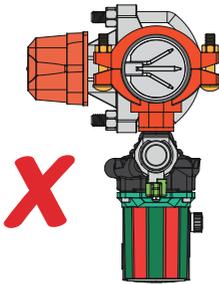
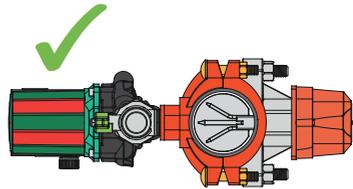
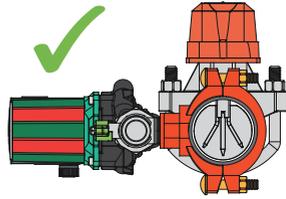
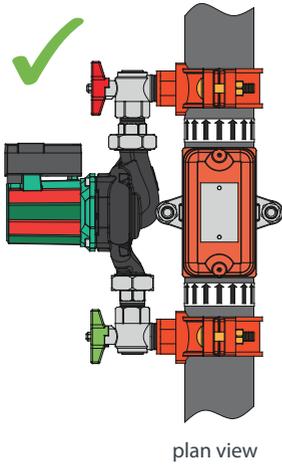
* Due to assembly with screwed threads, exact dimension will vary slightly. If in doubt, measure hole centres on product before drilling.



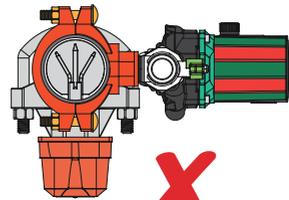
Typical connection



Orientation



pump not horizontal



flow-switch on under-side of pipe

Please note!

- The pump direction-of-flow arrow faces the opposite direction to the system flow.
- The red & green stripes on the pump cartridge are always horizontal.
- Do not position the flow-switch on the underside of the pipe.
- For vertical flow applications, only mount flow-switch where upflow conditions exist.

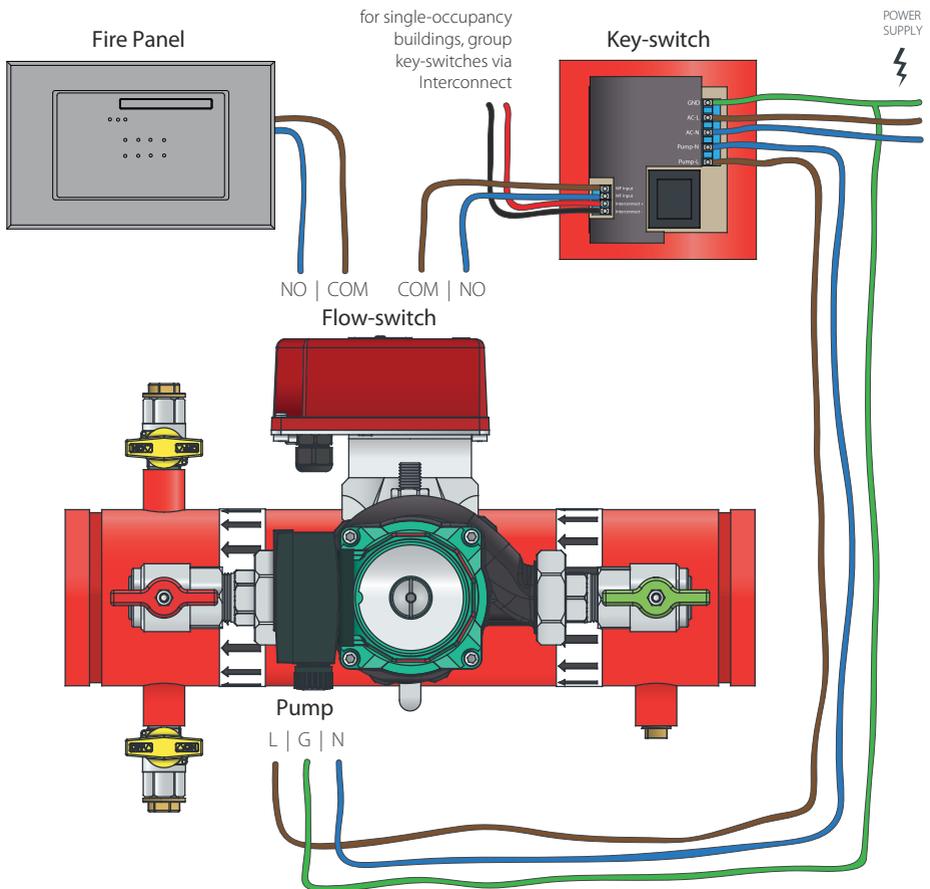
Wiring

Single-Occupier

One fire alarm panel for all Zonechecks installed. A single occupier, when the Zonecheck units are wired in parallel via interconnect, can test all of the units by turning the key-switch to 'Group Test'.

Multi-Occupier

Individual fire alarm panel for each tenant/occupier. Every key-switch is individually wired back to the tenants fire alarm panel.



Key-switch

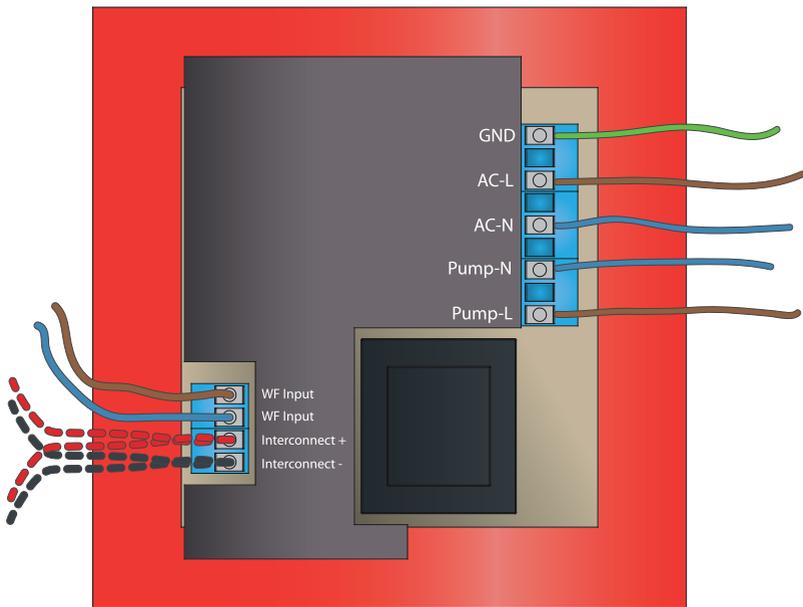
The interconnect points should not be wired in a multi-occupancy sprinkler installation. In a multi-occupancy building where tenants have fire alarm panels interfaced with the fire protection system, this key-switch should be wired for total independence.

Note: Determine a suitable low level accessible location to fix the key-switch within 5m (commissioning cable length) of the Zonecheck.

Single Occupier Only

A single occupier, when the Zonecheck units are wired in parallel via interconnect, can test all of the units by turning the key-switch to group test.

Single occupier may exclude the Zonecheck key-switch and wire a relay circuit to activate each Zonecheck from a central control panel.



Typical Key-switch wiring layout

Commissioning

Ensure the following three tasks have been completed before starting:

- Zonecheck installed
- Zonecheck wired
- Zone refilled

- 1 Close the inlet valve (red) and outlet valve (green), make sure the key-switch is turned to the STANDBY position (fig 1).
- 2 Remove the access plug from the pump cartridge (fig 2).
- 3 Using an flat-headed screwdriver turn the spindle clockwise and anti-clockwise to check the free movement of the spindle and impeller (fig 2), replace the access plug.
- 4 Open the red and green valves on the Zonecheck (fig 1).
- 5 Connect a hosepipe to the test-valve at the furthest point on the zone.
- 6 Contact building management to authorise a flow-switch test.
- 7 Discharge water through the hose (this is a once only commissioning test).
- 8 Check that the WATER FLOW green LED is illuminated on the key-switch.
- 9 Close the test valve.
- 10 Turn the Zonecheck key-switch to SELF TEST and check the PUMP & WATER FLOW green LEDs are illuminated (may take up to 90 seconds).
- 11 Confirm that building management have received their test signal.
- 12 Turn the key-switch key to STANDBY and remove key.
- 13 Fix operating instructions to wall, preferably next to the key-switch. Also place the Zonecheck isolation valve location sticker in a suitable position to let others know where the unit is.
- 14 Ensure that the end user is instructed on how to carry out a routine test.
- 15 Fill in and hand over a completion certificate.

Fig 1

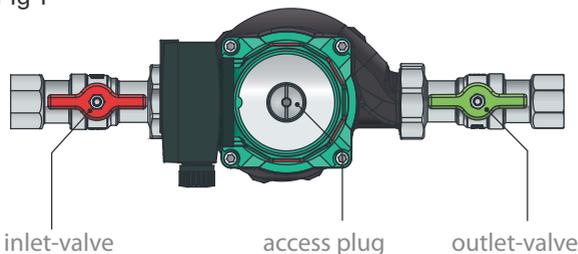
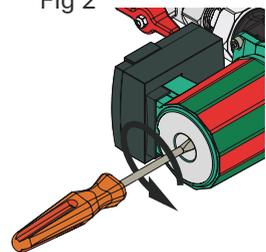


Fig 2



Testing

Test one Zonecheck

- 1 Insert the key into the key-switch and turn to SELF TEST (the pump light will activate)
- 2 When the flow-switch operates, the water-flow light will activate (please wait for up to 90 seconds for the flow-switch to operate).
- 3 Return to STANDBY position and remove the key.

Test a group of Zonechecks

- 1 Insert the key into the key-switch and turn to GROUP TEST.
- 2 Look at the central fire control panel to confirm simultaneous activation of all the flow-switches within the group.
- 3 Return to STANDBY position and remove the key.

Specification

Zonecheck

Working Pressure Rating.....	Water, 12 bar (175 psi) maximum
Operating Temperature Range.....	0°C - 49°C (32°F – 120°F)
Pipe Diameter.....	50, 65, 80, 100, 150 & 200 mm (2, 2½ 3, 4, 6 & 8")
Valves.....	Inlet (red): 1" Angled Ball Valve Cimberio model 236 Outlet (green): 1" Angled Ball Valve Cimberio model 236 1" Adaptor with Non-return Valve FAR F8344-2540 ½" Ball Valve M-F; Ball Valve; Cimberio 301-12
Approvals.....	LPCB, UL, FM and VdS

Circulation Pump

Operating Voltage.....	1-230v 50Hz
Full Load Current.....	0.93 A
Power Rating.....	195 W maximum
IP Rating.....	IP44
WP Rating.....	12 bar (175 psi)
Capacitor.....	5.0 µF/400 VDB

Key-switch

Mounting.....	Flush-mounting
Type.....	ZCK-1E
Operating Voltage.....	Single-phase 220 V, 50 Hz
Internat Consumption.....	7.5 W Maximum
Operation Modes.....	Self-test: Wired locally Group test: Interconnected
LED Operation:	
Standby (Ready state).....	No LED
Test Initiation:.....	'Pump' LED (green)
Flow Switch Activation:.....	'Water Flow' LED (green)

Key-switch notes: The 'Standby' mode will not give any false alarms when fitted in conjunction with an approved water flow alarm device.

Troubleshooting

No lights on key-switch.	Open the key-switch and check the wiring against the wiring diagram. Confirm the power supply has been connected properly.
Only pump light on.	<ul style="list-style-type: none">• Check the red & green Zonecheck valves are open.• Check Zonecheck has been installed facing the correct way.• Remove the plastic lid from the flow-switch, push and hold the trigger with your finger for 30 seconds. If the water-flow light (on the key-switch) operates see below. If not check the wiring against the diagram.
Pump runs hot and does not operate the flow-switch.	<ol style="list-style-type: none">i Close the red valve and the green valve on Zonecheck.ii Remove the access plug (air vent) and vent the circulator until water drains from the vent.iii Insert a flat headed screwdriver and rotate the propeller shaft several times by turning the screwdriver. Replace the access plug ensuring the 'O' ring's seal is maintained.iv Open the red valve and the green valve on Zonecheck.

Warranty

Project Fire Products warrants its enclosed Zonecheck flow-switch tester to be free from defects in materials and workmanship under normal use and service for a period of three years from date of manufacture. Project Fire Products makes no other express warranty for this flowswitch tester. No agent, representative, dealer or employee of the Company has the authority to increase or alter the obligations or limitations of this warranty. The Company's obligation of this Warranty shall be limited to the repair or replacement of any part of the flow switch tester, which is found to be defective in materials or workmanship under normal use and service during the three-year period commencing with the date of manufacture. After phoning Project Fire's number, 01889 271271 for a Return Authorization number, send defective units postage prepaid to Project Fire, Pasturefields Industrial Estate, Pasturefields Lane, Hixon, Staffs, ST18 0PH. Please include a note describing the malfunction and suspected cause of failure. The Company shall not be obligated to repair or replace units, which are found to be defective because of damage, unreasonable use, modifications, or alterations occurring after the date of manufacture. In no case shall the Company be liable for any consequential or incidental damages for breach of this or any other Warranty, expressed or implied whatsoever, even if the loss or damage is caused by the Company's negligence or fault.

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