Commissioning Centre

The Herz commissioning Centre has been designed to give a centralised location for commissioning multiple fan-coils/chilled beams, for heating and chilled water. Available in right and left handed versions the commissioning centre can control up to 6 terminal units in a range of sizes. All valves incorporated are standard Herz products so the Herz reputation for quality and reliability is assured.

Options are available for manual or motorised commissioning valves with a DP control valve protecting the manifold from pressure fluctuations, another option is Pressure Independent Balancing Control Valves, motorised zone control for the box is also an option.

The unit is supplied in an insulated steel fabricated box, totally vapour sealed for chilled water circuits.

The commissioning centre incorporates isolation valves on all flow connections and balancing/control valves on all return connections with a strainer fitted to the main flow intake. Three port ball valves allow flushing and isolating operations to be undertaken. An Air Vent is also fitted to the unit.

The strainer is fitted with a blow down drain valve to allow the strainer basket to be cleaned in situ, without the need to remove the strainer basket.

Terminal Balancing Valve options

4017 Integral orifice
manual commissioning valve

7217 Integral orifice
motorised commissioning/control valve

4006 SMART Pressure Independent
Balancing Control Valve

Actuators

7709 on/off Actuator

7990 Modulating Actuator 0-10V DC

Manifold control options

4002 DP Control Valve
5 – 60 kpa range

4002 Fix TS Fixed 23kPa DP
Control Valve with on/off Actuator

Other component valves

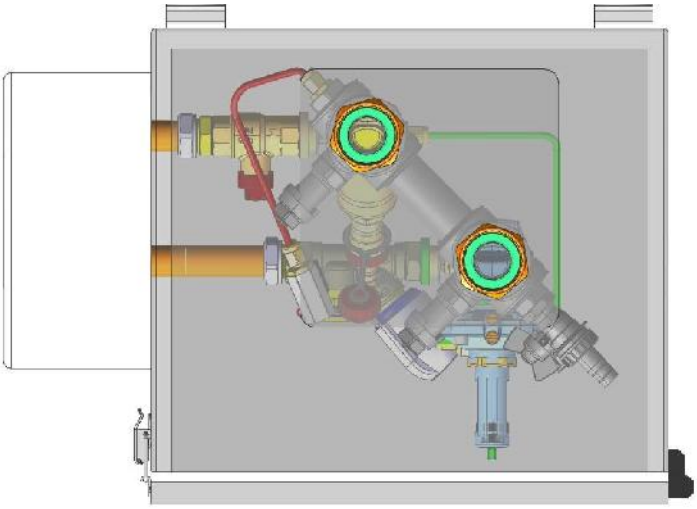
4111 Strainer

4217 Partnering Valve

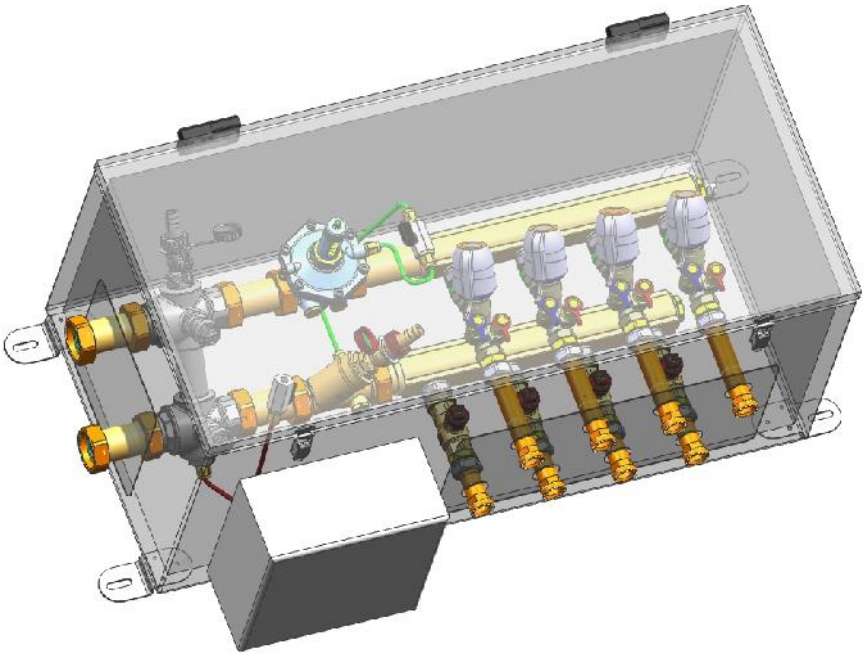
2512 Drain Valve

2190 Ball Valve for manifold

Strainer c/w Drain Valve



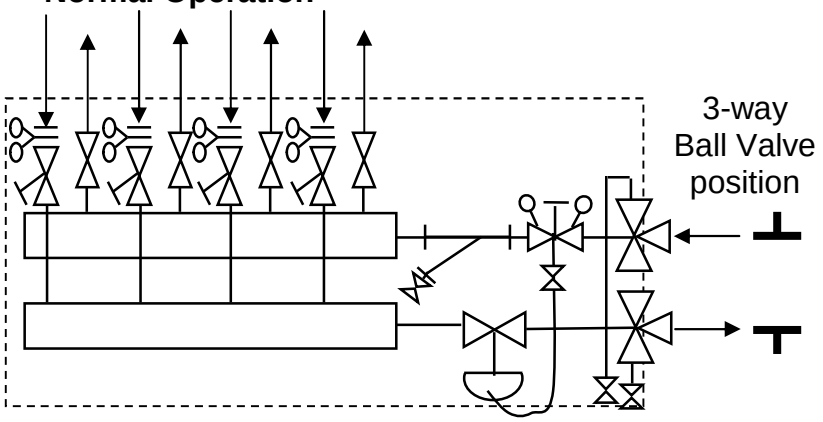
End view showing Bypass Ball Valve arrangement with drain valve for flushing



Internal view showing valve configuration

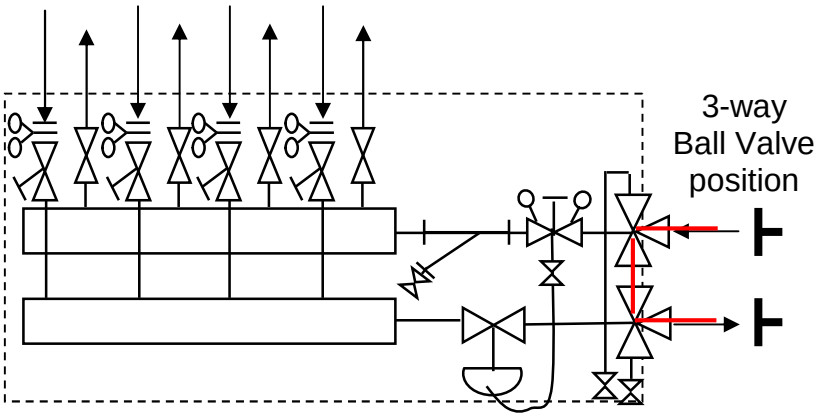
Fixed Orifice Operation Schematics

Normal Operation



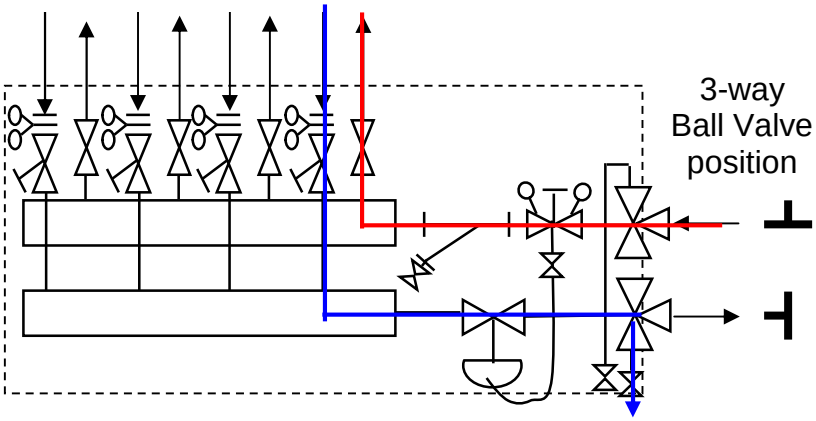
- 3-way ball valves adjusted
- Drain valves closed
- DPCV ball valve open
- Flow ball valves open
- Balancing Valves regulated

Main Branch Flush



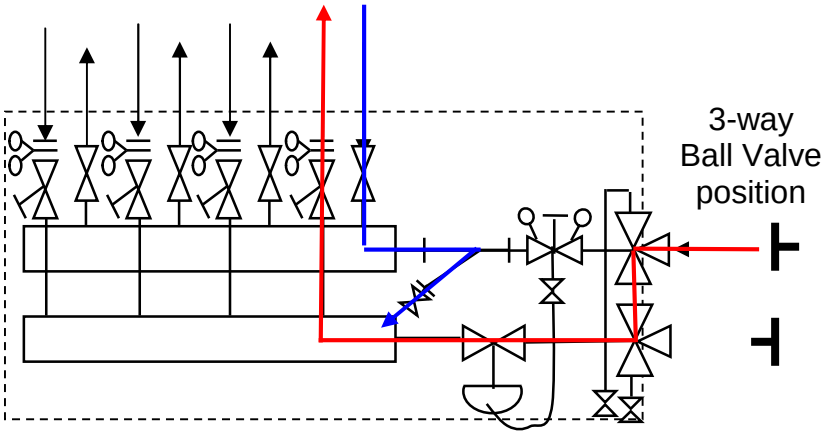
- 3-way ball valves adjusted to bypass operation
- Drain valves closed

Forward Flush through Terminal



- 3-way ball valves adjusted
- Strainer drain valve closed
- 3-way ball drain valve open
- Partner valve open
- DPCV ball valve closed
- Flow ball valves open
- Balancing Valves open

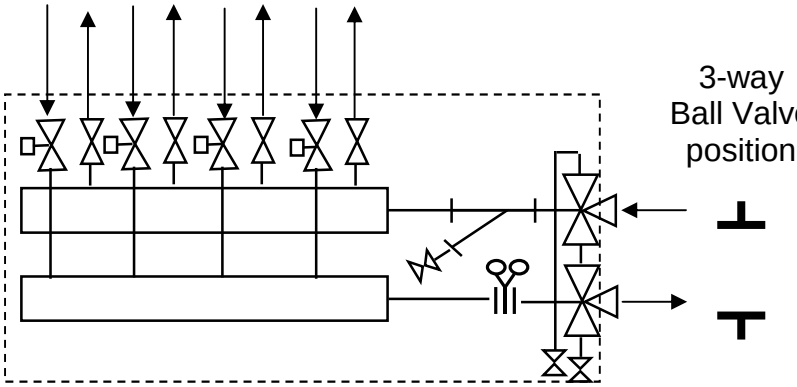
Back Flush through Terminal



- 3-way ball valves adjusted
- Strainer drain valve open
- 3-way ball drain valve closed
- Partner valve closed
- DPCV ball valve closed
- Flow ball valves open
- Balancing Valves open

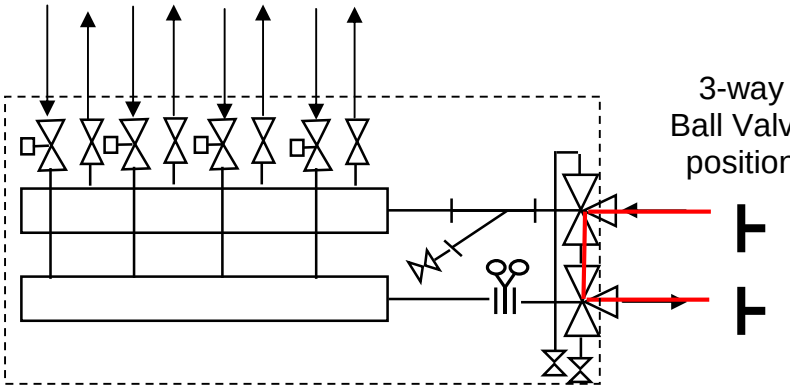
PICV Operation Schematics

Normal Operation



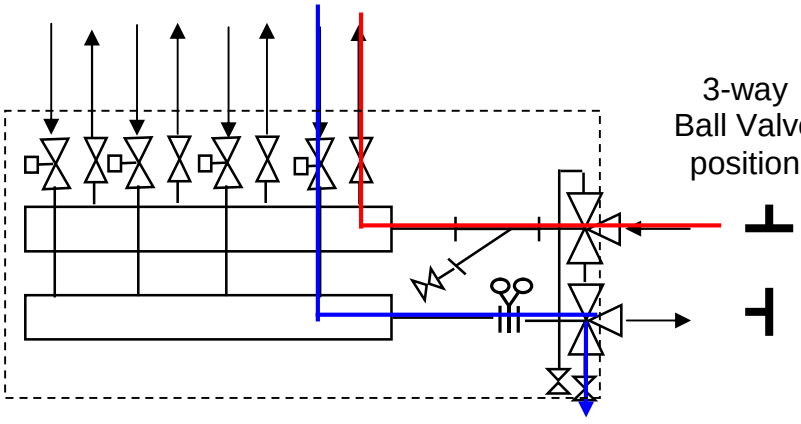
- 3-way ball valves adjusted
- Drain valves closed
- Flow ball valves open
- PIBCV preset

Main Branch Flush



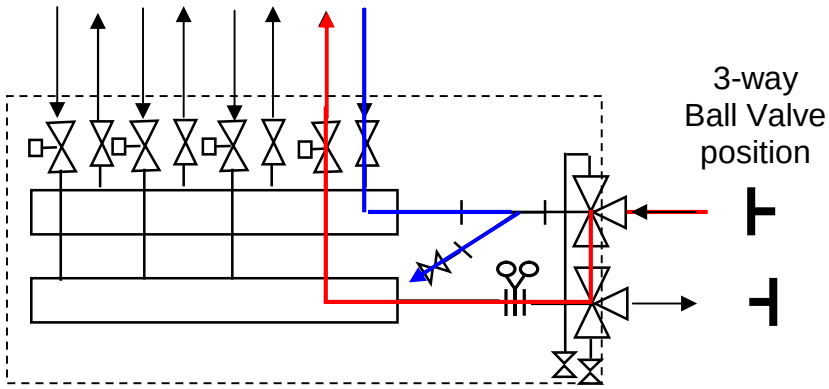
- 3-way ball valves adjusted to bypass operation
- Drain valves closed

Forward Flush through Terminal



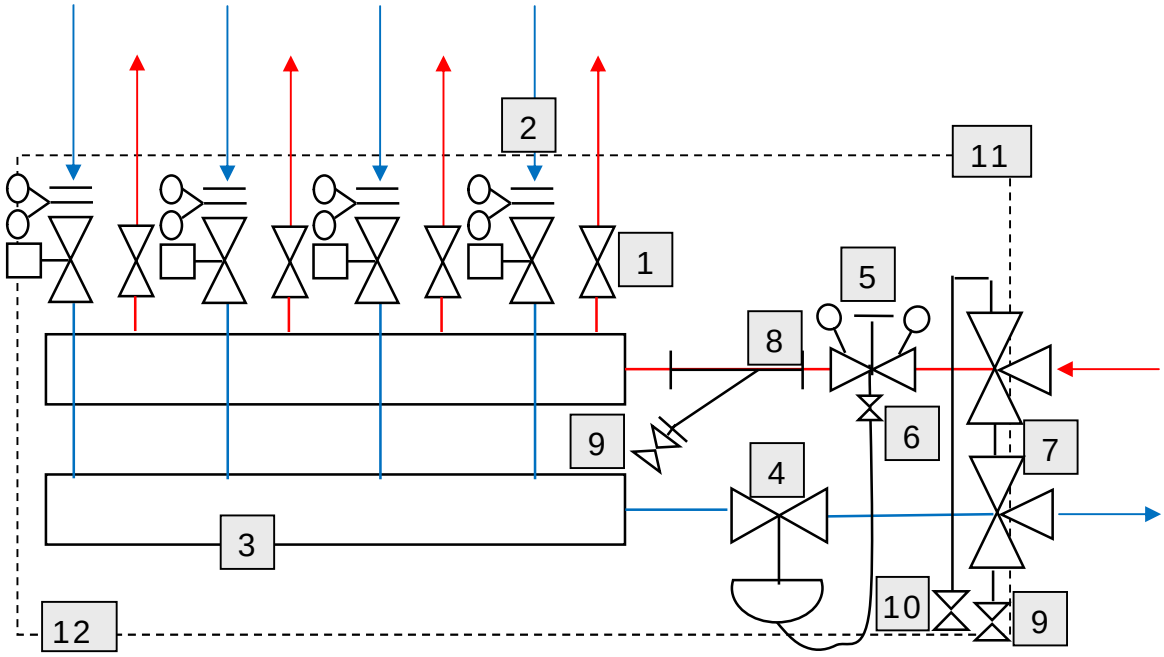
- 3-way ball valves adjusted
- Strainer drain valve closed
- 3-way ball drain valve open
- Flow ball valves open
- PIBCV fully open

Back Flush through Terminal



- 3-way ball valves adjusted
- Strainer drain valve open
- 3-way ball drain valve closed
- Flow ball valves open
- PIBCV fully open

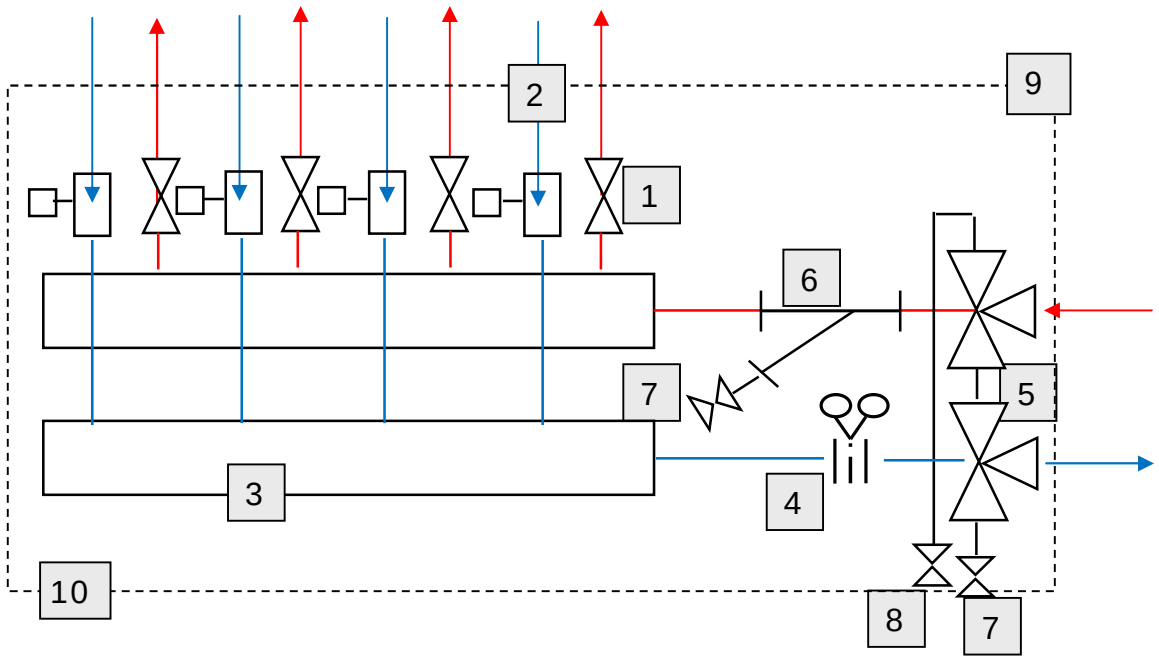
Fixed Orifice Schematic



Components

No	Component	Herz Fig No	Material
1	Ball Valve	2190	DZR CW602N
2	FO Commissioning Valve	4017	DZR CW602N
2	FO Control Valve	7217-TSV	DZR CW602N
3	Manifold	N/A	DZR CW602N
4	DP Control Valve	4002	DZR CW602N
4	DP Zone Control Valve	4002 Fix TS	DZR CW602N
5	VODRV Partnering Valve	4217	DZR CW602N
6	Capillary Ball Valve	4007-87	CW617N Nickel plated
7	3 way Ball Valve	2414	DZR CW602N
8	Strainer	4111	DZR CW602N
9	Drain Valve	2512	DZR CW602N
10	Air Vent	N/A	DZR CW602N
11	Box	N/A	1mm Steel Zinc coated
12	Insulation	N/A	Armaflex AC 13mm (AC-13-99/E)

PICV Schematic



Components

No	Component	Herz Fig No	Material
1	Ball Valve	2190	DZR CW602N
2	PI Balancing Control Valve	4006 SMART	DZR CW602N
3	Manifold	N/A	DZR CW602N
4	Orifice Plate	4000	DZR CW602N
5	3 way Ball Valve	2414	DZR CW602N
6	Strainer	4111	DZR CW602N
7	Drain Valve	2512	DZR CW602N
8	Air Vent	N/A	DZR CW602N
9	Box	N/A	1mm Steel Zinc coated
10	Insulation	N/A	Armaflex AC 13mm (AC-13-99/E)

Materials

- All parts which are in contact with water are made of DZR-brass CW 602N
- All machined parts made from CW602N bar stock, are heat treated to 105-120HB

Jointing materials

- Sealing is done by O-rings EPDM 80
- Unions inside the box are fixed with Loctite 276
- Male union connections to fan coil pipework are free turning to avoid loosening joints.

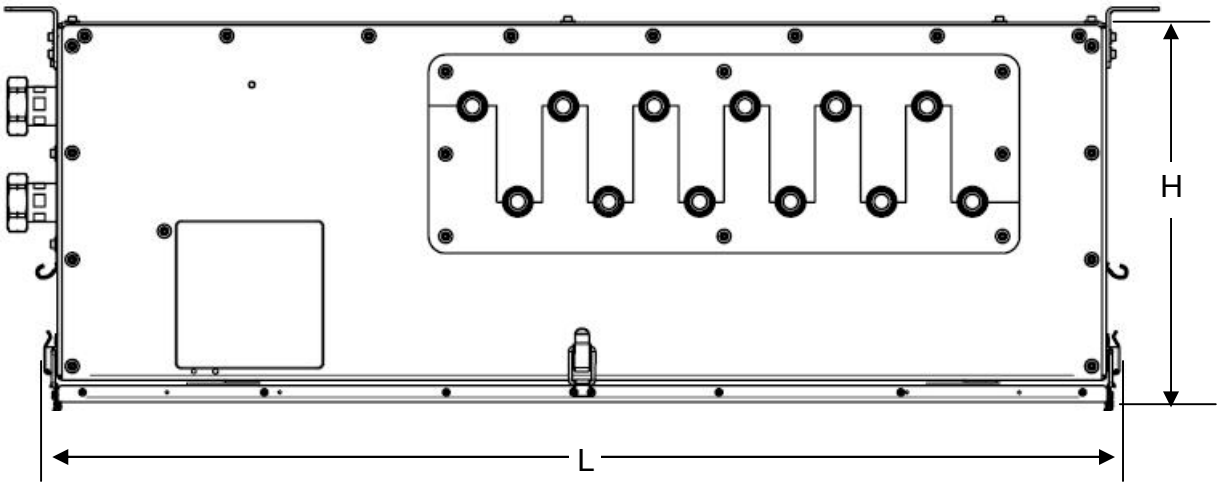
Installation instruction

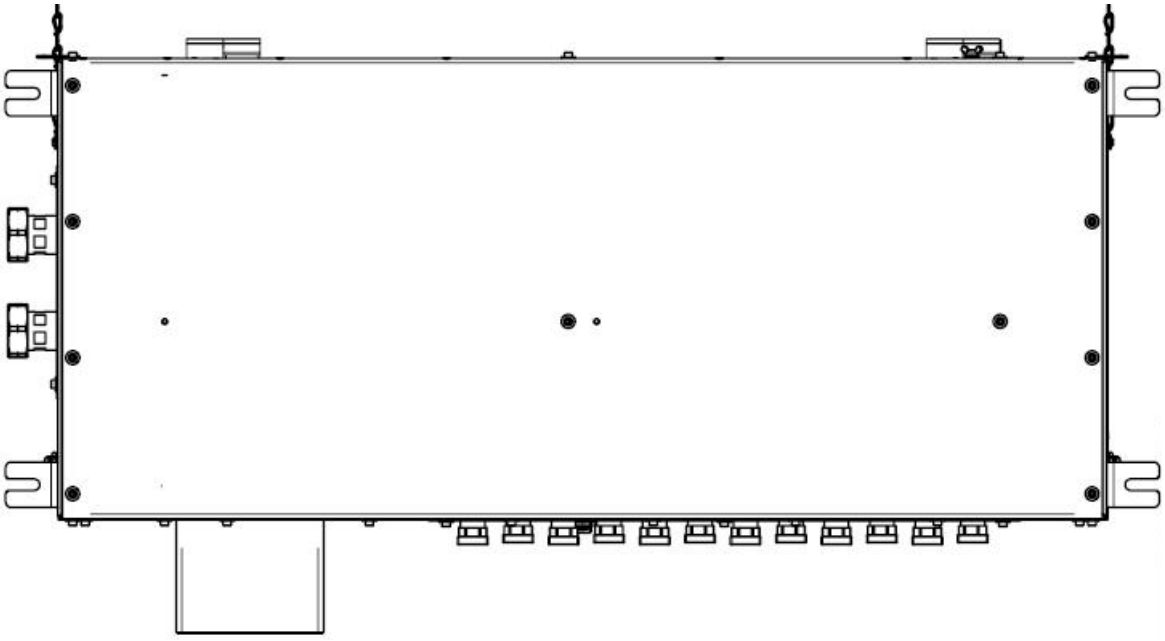
- No load force from the pipe work should be exerted on the outside connections, especially the main connection. This can have an influence on the sealing properties between insulation and the joints.
- When tightening the connections, the unions and/or the ball valve has to be supported to avoid loosening connections inside.
- After installation, a leakage test should be made.
- No additional bore holes in the box are allowed.
- No tests should be run on chilled water with the box open.
- Flushing should be carried out in accordance with BSRIA Guide AG1/2001:
- Chilled pipework insulation must be vapour sealed to the box in accordance with BS 5970:2001
- A commissioning sheet is attached to the lid of the box to enable the commissioning engineer to record the Fan Coil reference and commissioning data against each manifold port.

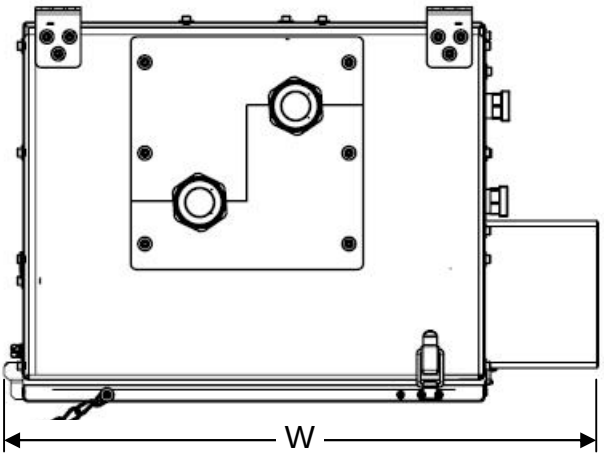
Maintenance

- It is not expected that the valves will need to be replaced, if however this is required this should be able to be achieved in situ within the box. In extreme circumstances however, the box can be disassembled as the components of the box are fixed with allen screws. The best way is to isolate the main connection and to remove the box from the ceiling and disassemble on the floor.
- When reassembling, the sealing between insulation and outside joints must be checked. If the components are not assembled properly and there is a gap between joints and insulation, condensation can arise and may damage parts.
- The main connection end is also fixed by allen screws and can be de-mounted if absolutely necessary and re-fitted following the above methods.
- Threads which have been fixed with Loctite, have to be cleaned before reassembling.
- Gaskets should not be re-used.
- After changing thermal actuators, the cable feedthrough has to be checked.
- When removing the cap of the strainer, the strainer body must be held by a suitable tool to prevent it from moving.

Pressure Rating:	PN16
Operating Temperatures:	-10 to 120°C







	DN15	DN15	DN20	DN20
	4 port	6 port	4 port	6 port
L	913	1073	913	1073
H	300	300	300	300
W	524	524	524	524

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