

# HERZ-Connect 4 / Compact Connect 4 & Commissioning Centres

Simple and cost efficient methods of thermal units control

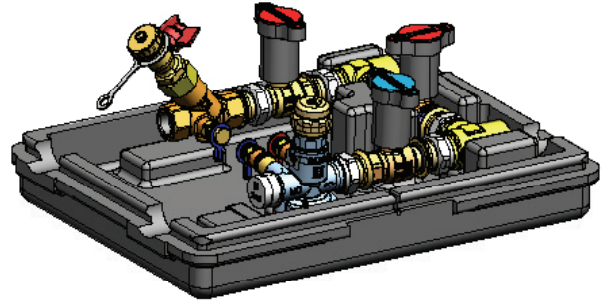


## HERZ- Connect 4

HERZ Connect-4 has been designed to give a simple connection to fan-coils, or other terminal units, and utilises the HERZ 4006 SMART or HERZ 4006 Pressure Independent Balancing Control Valve with HERZ 2206 ball valves with T-handle and a HERZ 4111 strainer. On/ off or modulating 0 – 10 V DC actuators can be fitted and integrated to a BMS if required.

The unit allows pressure independent control ensuring full stroke regardless of pressure fluctuations, while guaranteeing a constant flow rate to the terminal unit maximising energy efficiency for the system. The Connect-4 unit also permits flushing and isolating operations to be undertaken. The Connect-4 is fitted with test points.

The Connect-4 is fitted in a insulation box. This means there is no product differentiation between heating and chilled, one unit does both applications. The drain cock fitted to the strainer allows flushing without the need to remove the strainer basket and also allows the strainer basket to be cleaned in-situ.



**HERZ- Connect 4**

### ☑ Technical data

Max. operating pressure	16 bar
Max. differential pressure on the body	4 bar
Min. operating temperature	2 °C (pure water)
Min. operating temperature	- 20 °C (frost protection)
Max. operating temperature	up to DN32 130 °C from DN40 110°C
Lift	4 mm

The integrated control unit together with the actuating drive is responsible for modular control. Various actuating drives might be used (see also chapter: Accessories and spare parts).

### ☑ Materials

Body:	dezincification-resistant brass
Membranes and O-rings:	EPDM

Water purity in accordance with the ÖNORM H 5195 and VDI 2035 standards  
Ethylene and propylene glycol can be mixed to a ratio of 25 - 50 vol. [%].

### ☑ Tips

The HERZ Connect-4 must be installed for the correct application using clean fittings. A HERZ strainer (4111) is fitted to prevent impurities.

Ammonia contained in hemp can damage brass valve bodies, EPDM gaskets can be affected by Mineral oils lubricants and thus lead to failure of the EPDM seals. Please refer to manufacturers documentation when using ethylene glycol products for frost and corrosion protection.

### ☑ Fire Behavior

Fire Behavior for insulation box DN15 and DN25

Method	Class
DIN EN ISO 11925-2 <sup>1</sup>	E
DIN 4102-1	E
FMVSS 302	Fulfilled
UL 94	HBF

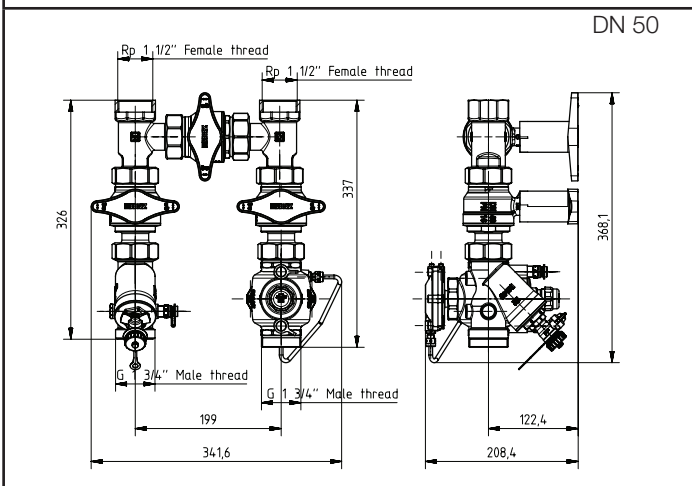
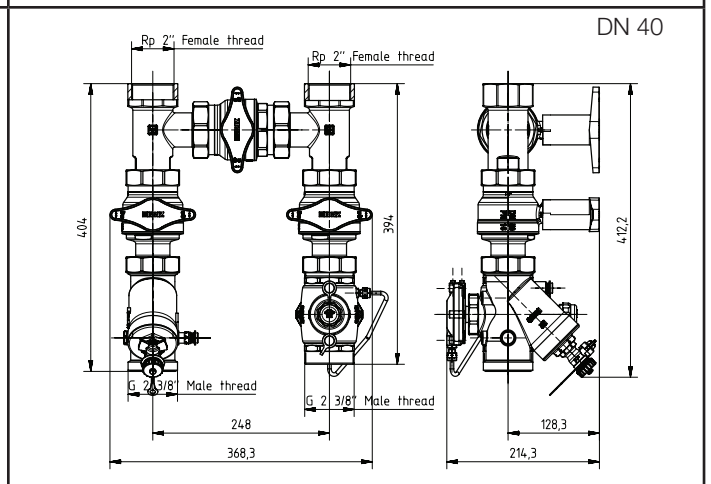
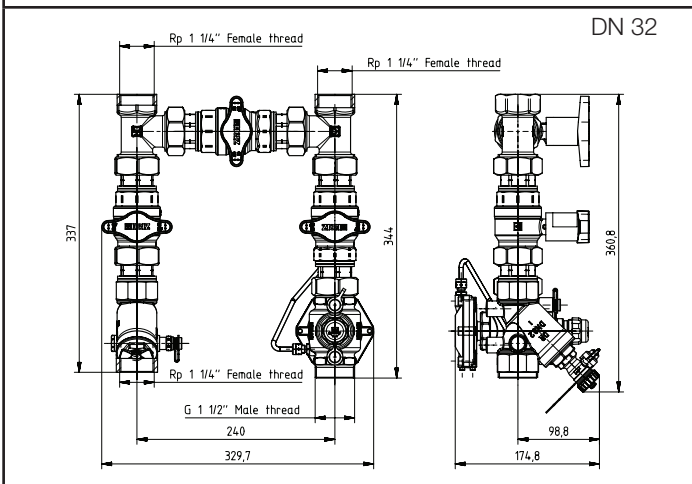
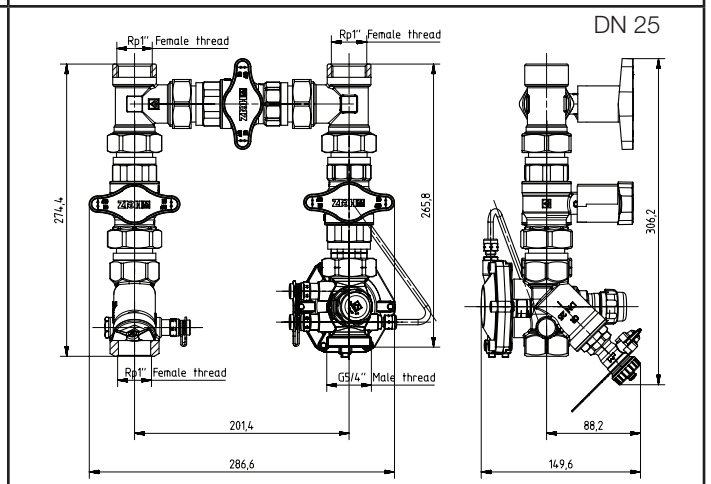
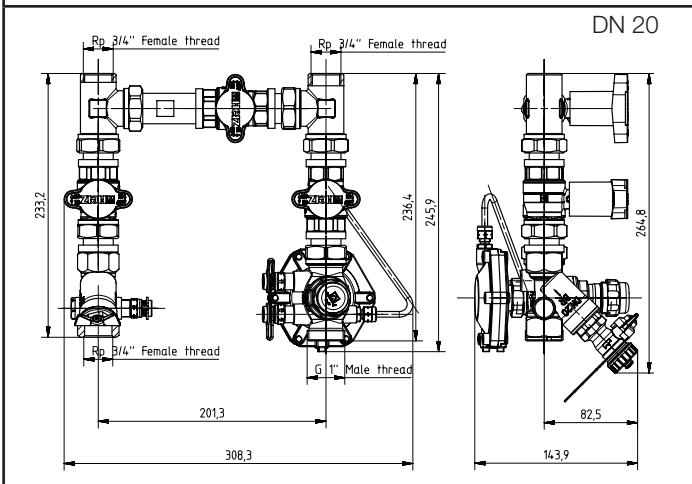
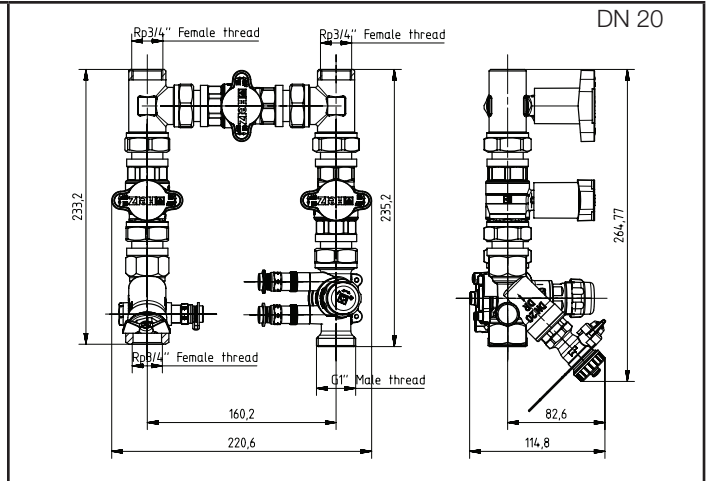
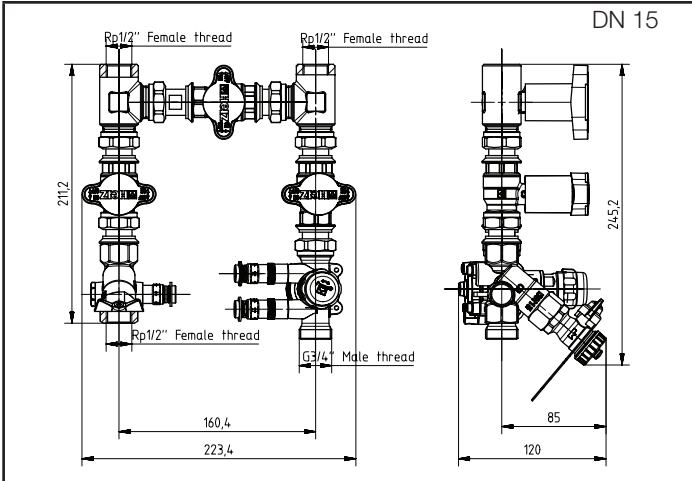
<sup>1</sup> Edge exposure, classification according to EN 13501-1

Fire Behavior for insulation DN32 and DN50

Method	Class
DIN EN ISO 11925-2	BL-s3,d0
DIN 13823	BL-s3,d0

FM-certified according to UBC26-3, class No. 4924

UL-certified according to UL94, IEC 60695 and Can/CSA-C.22.2 No.17., UL746C



**kvs values**

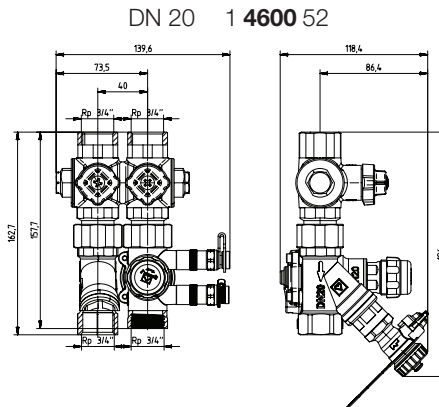
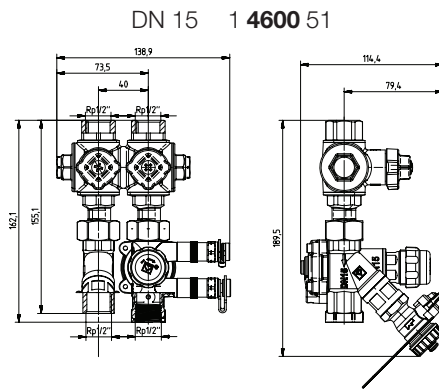
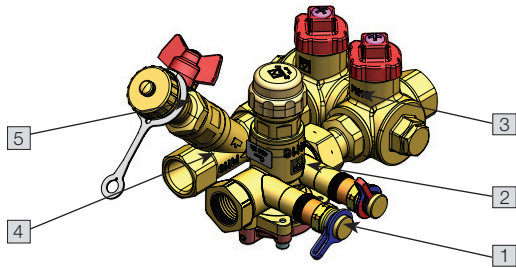
DN 15	0,94 m <sup>3</sup> /h	DN 32	2,50 m <sup>3</sup> /h
DN 20	0,9 m <sup>3</sup> /h	DN 40	5,00 m <sup>3</sup> /h
DN 20	1,71 m <sup>3</sup> /h	DN 50	5,00 m <sup>3</sup> /h
DN 25	1,90 m <sup>3</sup> /h		

# HERZ- Compact Connect 4

Company HERZ always think about future, trying to extend the product range in order to fulfill every demand, and every task that industry gives. One of the latest products that were introduced by HERZ is the Compact Connect 4 -simple and reliable fan coil connection - if the project requires a special compact solution - we are happy to serve. Everything needed for a successful connection of the terminal unit is supplied in one package.

**Advantages:**

- Minimized design time and risks due to complete solution
- Perfect performance of the complete unit
- Compact design for limited space availability
- Minimized installation and commissioning costs
- Allows easy flushing and coil isolation
- Simple attachment to existing hangers
- Integrated fitting lug for ease of installation
- High comfort with minimized operation and maintenance costs
- Connecting kit for terminal units
- Reduced on-site working time
- Factory proved for minimum leakage risk
- No flushing via the regulating valve



No	Component	HERZ Fig No
1	Test points	0284
2	PIBCV	4006 SMART
3	Double 3-way ball valve	N/A
4	HERZ-Strainer	2662
5	Drain Valve	2512

**Technical data**

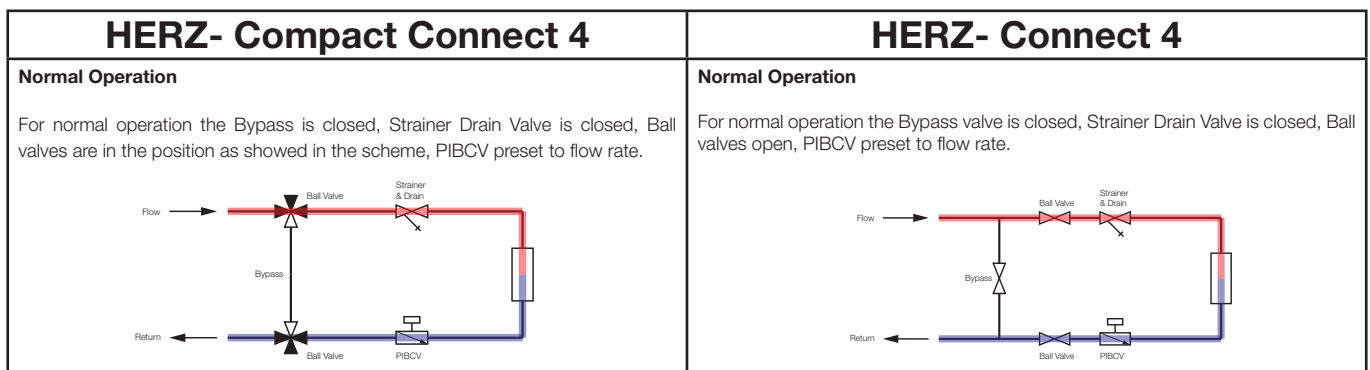
Max. operating pressure 16 bar  
 Min. operating temperature - 20 °C  
 Max. operating temperature 130 °C  
 Lift 4 mm

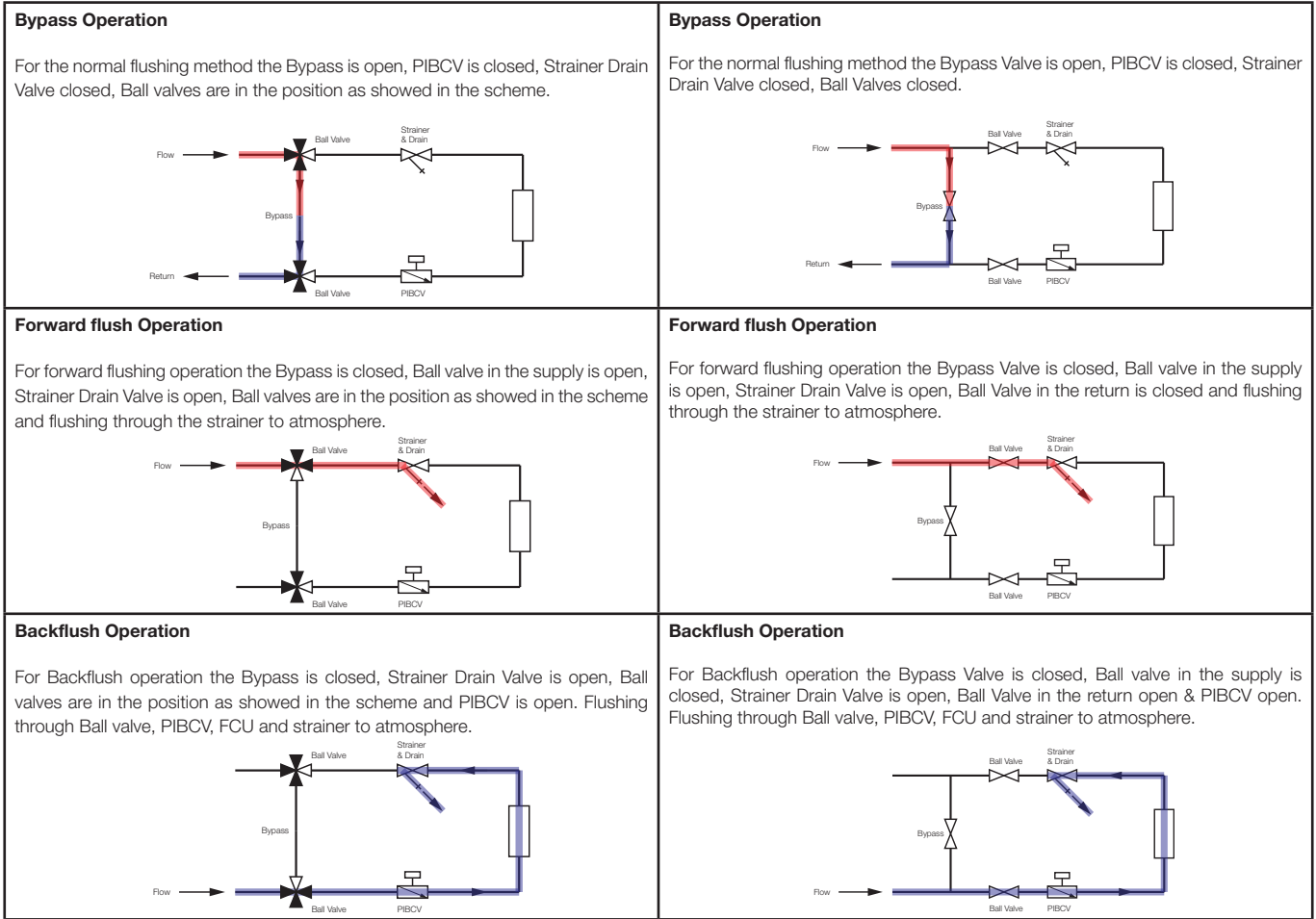
The integrated control unit together with the actuating drive is responsible for modular control. Various actuating drives might be used (see also chapter: Accessories and spare parts).

**kvs values of PIBCV**

DN 15 0,94 m³/h  
 DN 20 1,71 m³/h

**Operations**

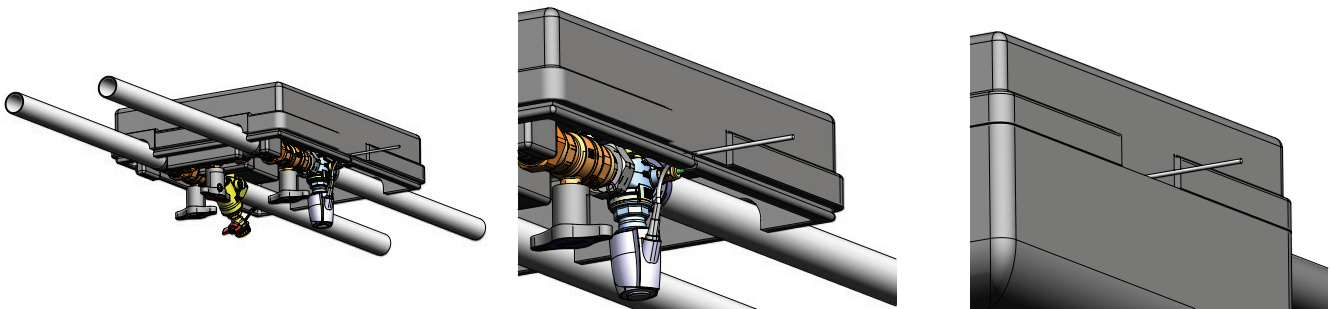




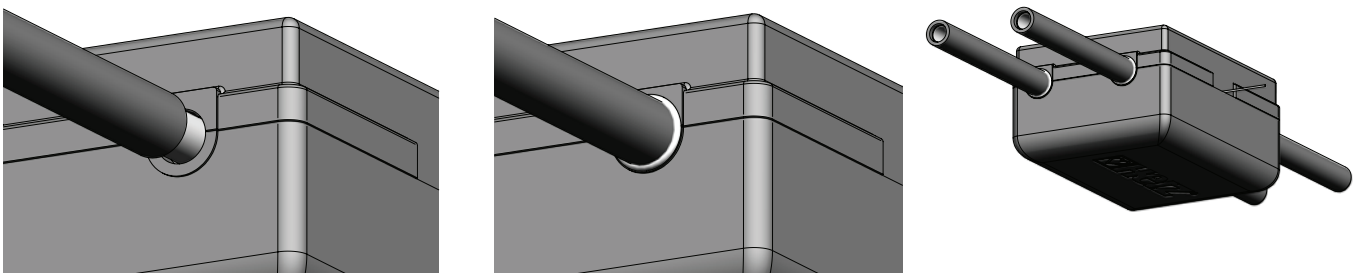
**Installation**

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

1. Connect the pipe
2. Install the actuator and put the cable in the provided bore.
3. Put the cover on.



4. Insulate the pipes
5. The pipe insulation have to be totally vapour sealed with the box.
6. Look that the insulated box is totally vapour sealed



**HERZ Commissioning Centres provide a cost effective method of controlling terminal units**

Modern system designers are always looking for cost effective ways to improve commissioning and maximize efficiency. Valve manufacturers have developed various products over the years aimed at improving energy efficiency and saving installation costs. Contractors have also adopted various methods of pre-fabrication in a bid to reduce installation and commissioning costs.

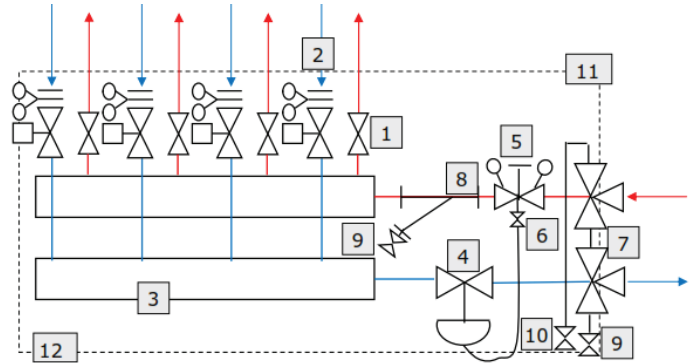
With today's emphasis on saving energy, designers are looking to cut costs to a minimum by utilising variable volume heating and cooling systems. The use of Dynamic Balancing Valves such as Pressure Independent Balancing Control Valves and differential pressure controllers ensures that these issues are overcome and flow rates are controlled constantly, as required by modern room temperature control systems.

The BSRIA guide to Energy Efficient Pumping Systems BG 12 / 2011 clearly indicates that significant energy savings can be made by utilizing Pressure Independent Balancing Control Valves (PIBCV) on terminal units in Variable Volume Systems. The guide also emphasizes the importance of using Differential Pressure Control Valves (DPCV) on sub-branches when static balancing valves are utilized on terminal units and that energy savings in variable flow systems are greatly improved by locating the DPCV as close as possible to the terminal unit control valves they serve. The guide recommends the use of valve modules as the DPCV's are located close to terminal unit control valves and act to maintain a constant pressure differential across all terminal unit subbranches.

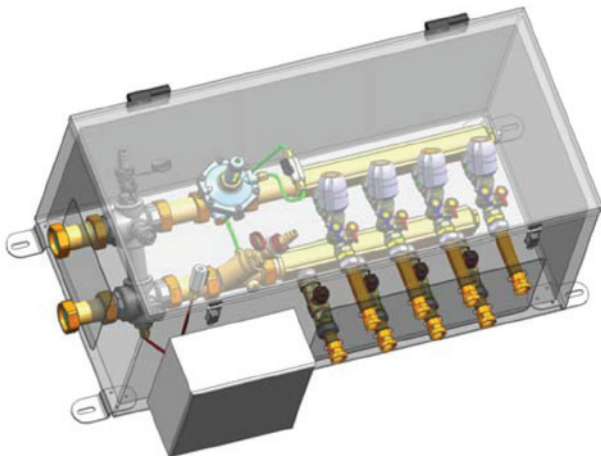
The HERZ commissioning Centre has been designed to give a centralised location for commissioning multiple terminal units eg. Fan Coils, Chilled Beams etc. for heating and chilled water. All the valves incorporated are standard HERZ products so the HERZ reputation for quality and reliability is assured.

Options are available for manual or motorised Fixed Orifice Commissioning Valves or PIBCV's controlling the terminal unit sub-circuits. A DPCV is installed across the main flow and return to the manifold, motorised zone control for the box is also an option.

The unit is supplied in an insulated steel fabricated box, totally



No	Component	HERZ Fig No
1	Ball Valve	2190
2*	FO Commissioning Valve	4017
2*	FO Control Valve	7217-TSV
2*	PIBCV	4006 SMART
3	Manifold	N/A
4*	DP Control Valve	4002
4*	DP Zone Control Valve	4002 Fix TS
4*	Orifice Plate	4000
5	VODRV Partnering Valve	4217
6	Capillary Ball Valve	4007-87
7	3 way Ball Valve	2414
8	Strainer	4111
9	Drain Valve	2512
10	Air Vent	N/A
11	Box	N/A
12	Insulation	N/A



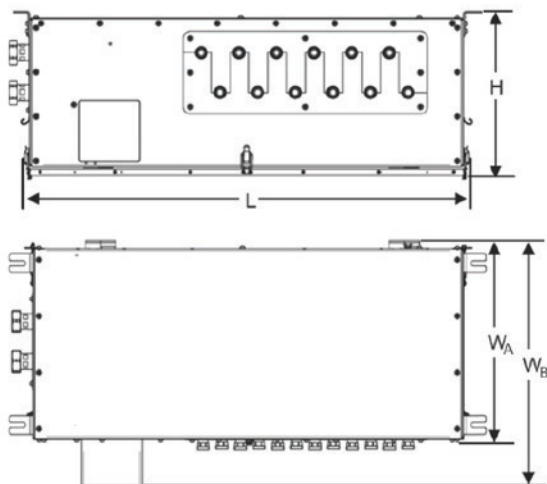
**HERZ Commissioning Centre**  
Internal view showing valve configuration



**HERZ Commissioning Centre**  
Installed

vapour sealed for chilled water circuits and can be produced in left or right hand versions.

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. 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. Three port ball valves allow flushing and isolating operations to be undertaken. Air Vents are also fitted to the unit.



	4-port	6-port
L	913	1073
H	300	300
W <sub>A</sub>	430	430
W <sub>B</sub>	524	524

**☑ HERZ Differential Pressure Control Valves**



**HERZ Differential Pressure Controller HERZ**

HERZ differential pressure controllers Fig 4002 positioned across the manifold and are sized to the requirements of the system, available up to 60 kPa and are completely adjustable.



**HERZ Differential Pressure Controller with integrated zone valve (model 4002 FIX-TS)**

**Please note:** all diagrams are indicative in nature and do not claim to be complete.

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**HERZ 4017 Commissioning Valve**



**HERZ 7217-V Fixed Orifice Commissioning / Control Valve**

The HERZ 4002 FIX-TS combination valve is a differential pressure controller with a fixed DP preset to any value between 5 and 60 kPa (normally factory preset to 23 kPa). The fixed differential pressure control valve also has a zone valve function with the addition of a two point actuator for On/Off control.

**☑ HERZ Fixed Orifice Commissioning Valves**

The HERZ 4217 TS-V Fixed Orifice Commissioning / Control Valve has an integral orifice incorporated into the valve casting. The combined control, commissioning valve can be used with on/off or modulating actuators. The valve is ideal for Fan Coils and other terminal units, providing the control feature and also flow rate balancing with high accuracy and good repeatability. The valve is also available in Low Flow versions.

The HERZ 4017 Fixed Orifice Double Regulating valve has an integral orifice incorporated into the valve casting. The commissioning valve has hidden regulating and locking functions with high accuracy and good repeatability. The valve is also available in Low Flow versions.

**☑ HERZ Pressure Independent Balancing Valve**

The HERZ 4006 SMART valve is a pressure independent balancing control valve (PIBCV) which has been specifically designed to balance the ultra low flow rates utilized today in modern systems designed to achieve high temperature differentials between flow and return pipework. As the valve flow rate is pressure independent and unaffected by rising differential pressure, it has a valve authority of 100%. The DN15 valve has a minimum flow rate of 0.0028 kg/s (10 kg/h).



**HERZ 4006 SMART PIBCV**



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