

Flypass Sets HydroControl

Multifunctional Connection Sets with DRV-M DN 15 to DN 20



General

Pre-assembled sets to connect heat exchangers, for example fan coil units, to the hydronic system. The sets also have a strainer on the system side. The flow of the water can easily be identified by the position of the two isolation handles.

Installation can be in any orientation and in horizontal or vertical pipelines, both falling and rising.

All sets are supplied pre-assembled and pressure tested for immediate installation.

Functions

- Shutoff
- Bypass operation
- System or terminal unit flush
- System or terminal unit fill, vent, drain
- Flow regulation
- Fixed orifice measurement

Features

- + Covers all functions required for installation, commissioning and operation
- + Includes HydroControl MTR double regulating and commissioning valve with metering station
- + Supplied as pre-assembled and pressure tested unit
- + Flexible hose installation possible on terminal unit side

Key Specifications

- Sizes DN 15 to DN 20
- Operating temperature -10 to 120 °C
- Operating pressure max. 16 bar
- Flow regulation up to Kvs 3.7
- Suitable for water and water-glycol mixtures

Product Details

Specifications

Sizes	DN 15...20
Connections	System: internal threads to ISO 7 Unit: internal threads to ISO 7
Operating temperature	-10...120 °C
Operating pressure	max. 16 bar (PN 16)
Medium	Heating and cooling water according to VDI 2035 or ÖNORM 5195 Water-glycol mixtures with a max. glycol content of 50% Not suitable for steam, oily and aggressive media
pH value	6.5...10
Kvs value	DN 15: up to 2.1 DN 20: up to 3.7
Strainer mesh size	250 µm (mesh width 0.25 mm)

Design

Flypass Sets are made up of three components: Flypass connection unit, strainer and HydroControl MTR double regulating and commissioning valve. They are supplied as one pressure tested unit, ready to install.

Flypass connection unit

The connection unit is made up of two interconnected three-way ball valves and one drain valve with G $\frac{3}{4}$ external thread. A second drain valve can be installed in place of a blind plug.

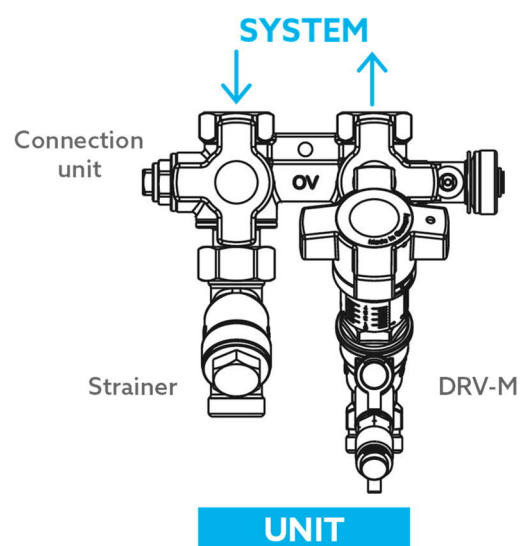
Strainer

The strainer is equipped with a stainless steel screen insert and protects the unit from dirt and debris out of the system. The screen insert is made up of two layers of fine mesh and is removable for cleaning.

HydroControl MTR

The HydroControl MTR is made up of a double regulating valve and a fixed orifice metering station. The regulating valve allows throttling of the flow to a desired or calculated value. The throttle position can be fixed and is not lost when the valve is used to shutoff the pipeline. When opened again it only opens up to the previous throttle position.

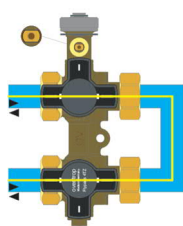
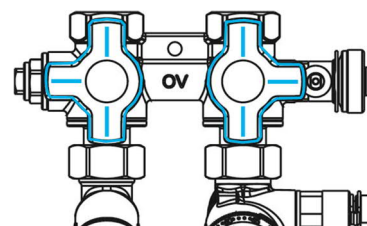
The metering station allows real time measurement of the flow, for example with the Oventrop OV-DMC 3 measuring system. It is possible to change the throttle position at the valve and measure the resulting flow simultaneously and continuously.



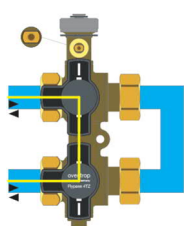
Functions

Pipeline functions

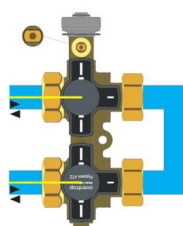
All pipeline functions are managed with the Flypass connection unit handles. The three-way ball valves provide the functions to support installation, commissioning and operation of the terminal unit in the hydronic system. The handle positions correspond with the positions of the three-way valves. This is indicated by knobs and line markings on the handles. Below illustrations demonstrate the flow of water at each handle position.



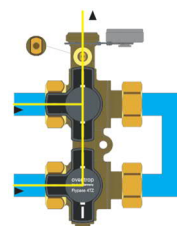
Normal operation



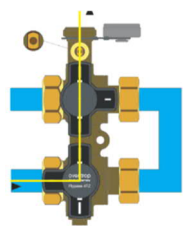
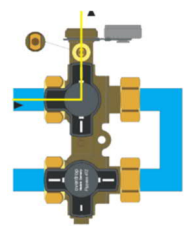
Bypass operation



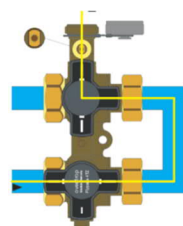
Shutoff



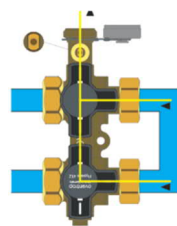
Fill, vent system

Drain, vent system and unit,
flush system

Drain, vent, flush system

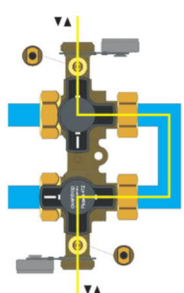


Fill, flush unit

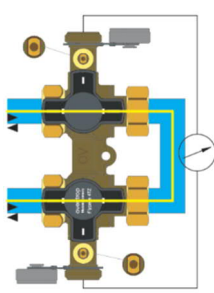


Shutoff, drain unit

FUNCTIONS REQUIRING SECOND DRAIN VALVE (ACCESSORY)



Top up, vent, flush unit

Measure differential pressure
over terminal unit

The second drain / air bleed valve is installed in place of a blind plug and available as accessory, item no. 1060191.

Flow regulation

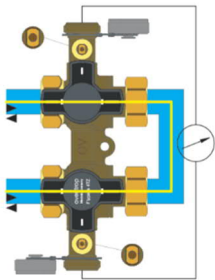
The desired flow rate is set with the handwheel of the HydroControl MTR. The scale on the handwheel has reference numbers which translate into Kv values and are listed at the end of this data sheet.

The handwheel travel can be limited to avoid losing the set throttle position when the valve is used to shutoff the pipeline. With item 1060180 the handwheel can also be blocked altogether, to avoid any operation on the valve. In any case the handwheel position can be secured with sealing wire (Item No. 1089091).

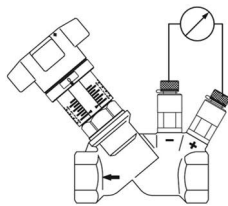


Measuring

Flypass Sets offer two measuring functions for differential pressure measuring instruments, for example the Oventrop OV-DMC 3 measuring system which also includes all adapters required to measure on Flypass Sets, any other Oventrop valve and many third-party products.

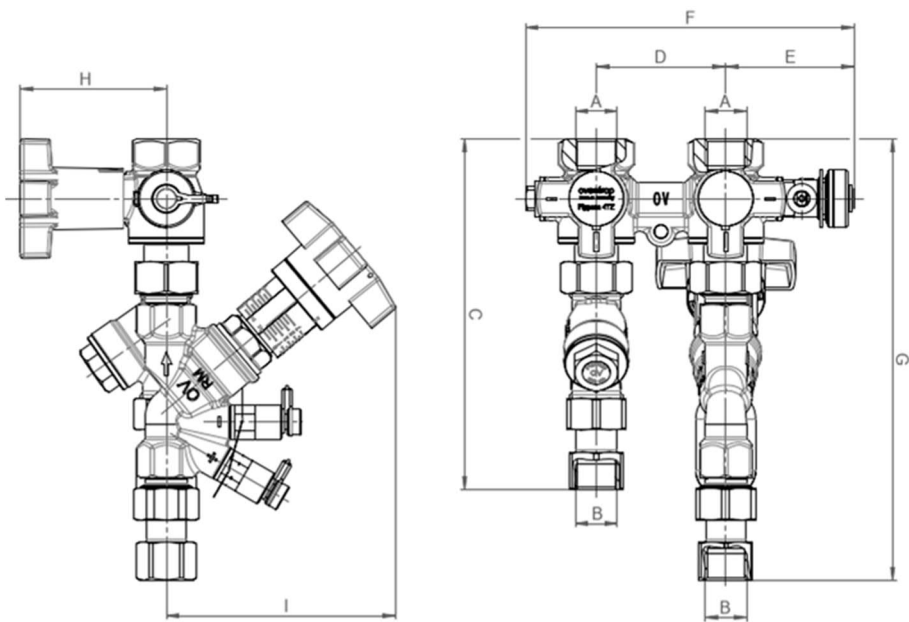


Measure differential pressure on Flypass connection unit over terminal unit.



Measure differential pressure over the HydroControl MTR. Allows flow measurement based on differential pressure across the HydroControl MTR metering station and Kv value which is stored in the OV-DMC 3 measuring computer.

Dimensions



	DN 15	DN 20
A (system)	Rp ½	Rp ¾
B (unit)	Rp ½	Rp ¾
C	176	192.5
D	65	65
E	64.5	64.5
F	165	165
G	221	242
H	73.4	73.4
I	max. 115	max. 116


All dimensions in mm, except A and B or unless otherwise stated.

Item numbers


Size	Item	Kvs value	Connection system	Connection terminal unit	Item No.
DN 15	Flypass Set DRV-M 15L	0.55	Rp ½ internal threads	Rp ½ internal threads	1149562
	Flypass Set DRV-M 15H	2.1			1149563
DN 20	Flypass Set DRV-M 20	3.7	Rp ¾ internal threads	Rp ¾ internal threads	1149564

Accessories


Fill and drain valve

		Suitable for	Item No.
	Fill, drain and air bleed ball valve. Required to use functions which need a second fill and drain valve on the Flypass connection unit	All sizes	1060191


Measuring valve extensions

		Size	Suitable for	Item No.
	Extensions for the HydroControl MTR measuring valves Must be installed before system is pressurised	Length 40 mm	All sizes	1688295
		Length 80 mm	All sizes	1060295

Blocking set

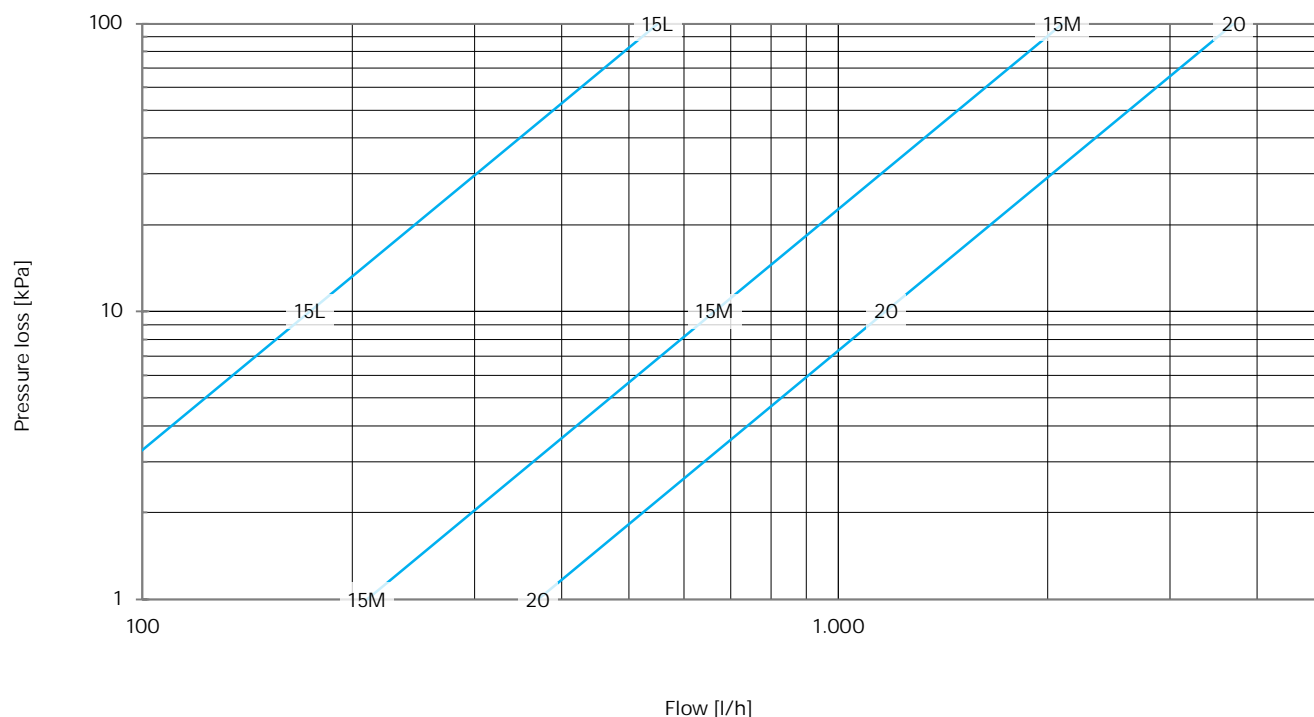
		Suitable for	Item No.
	To block the handwheel of the HydroControl MTR regulating valve. Consists of blocking cap, seal and sealing wire	All sizes	1060180

Wire seal kit

		Suitable for	Item No.
	To seal the handwheel of the HydroControl MTR regulating valve. Consists of seal and sealing wire. Pack of 10	All sizes	1089091

Sizing

Pressure loss chart



Kvs values HydroControl MTR

	DN15L (low flow)	DN 15H (high flow)	DN 20
Regulating valve	0.55	2.1	3.7
Metering station	0.55	2.2	4.25

- The Kvs value of the regulating valve is used for pipe calculation and valve capacity.
- The Kvs value of the metering station is the value which must be programmed into the measuring device when measurements are done on the HydroControl MTR valve. The Oventrop OV-DMC 3 measuring system automatically reads this value from its memory when the HydroControl MTR is selected.