

Flypass 4TZ

Multifunctional Connection Unit

DN 15 to DN 20



General

Connection unit to connect heat exchangers, for example fan coil units, to the hydronic system. Flypass 4TZ can be equipped with function valves on supply and return, for example strainers, control or regulating valves. The flow of the water is easily identified by the position of the two handwheels.

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

Functions

- Shutoff
- Bypass operation
- System or terminal unit flush
- System or terminal unit fill, vent, drain

Features

- + Covers all functions required for installation, commissioning and operation
- + Upgradeable with function valves
- + Easy to use and read

Specifications

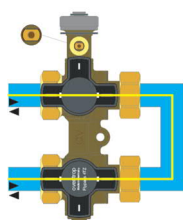
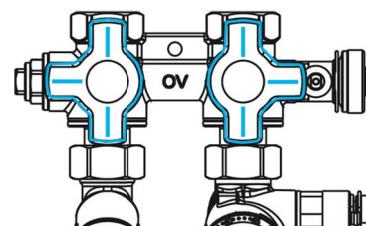
Sizes	DN 15...20
Connections	System: internal threads to ISO 7 Unit: external threads to ISO 228
Operating temperature	-10...120 °C
Operating pressure	max. 16 bar (PN 16)
Kvs value normal / bypass	DN 15: 22 / 1.2 DN 20: 34 / 1.25
Medium	Heating and cooling water according to VDI 2035 or ÖNORM 5195 Water-glycol mixtures with a max. glycol content of 50%
pH value	6.5...10

Product Details

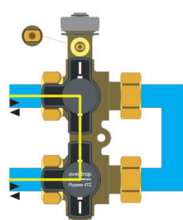
The Flypass 4TZ is made up of two interconnected three-way ball valves and one drain valve with G ¾" external thread. Depending on the position of each ball valve different functions can be realised.

Functions

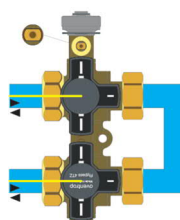
The Flypass 4TZ provides functions to support installation, commissioning and operation of the terminal unit in the hydronic system. The handle positions correspond with the positions of the three-way valves. This is indicated by knobs and line markings on the handles. Below illustrations demonstrate the flow of water at each handle position.



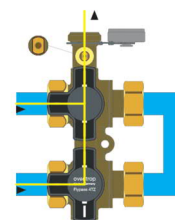
Normal operation



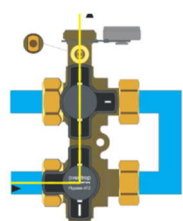
Bypass operation



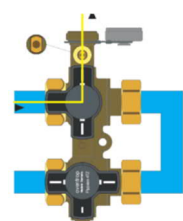
Shutoff



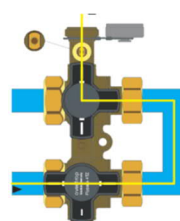
Fill, vent system



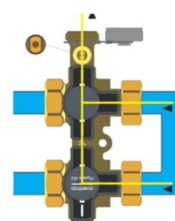
Drain, vent system and unit,
flush system



Drain, vent, flush system

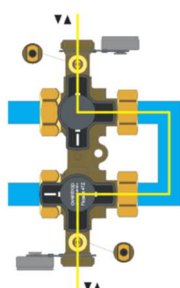


Fill, flush unit

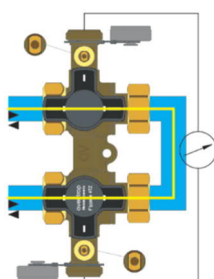


Shutoff, drain unit

FUNCTIONS REQUIRING SECOND DRAIN VALVE (ACCESSORY)

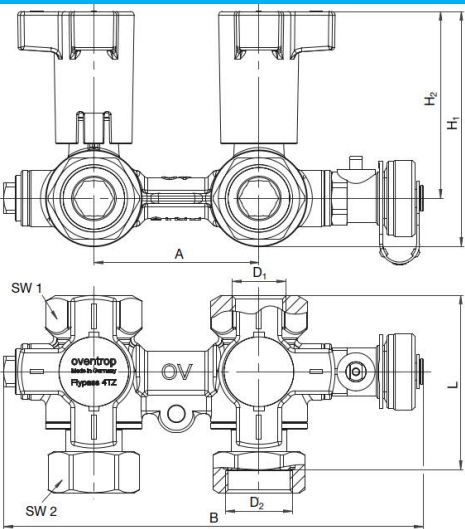


Top up, vent, flush unit



Measure differential pressure
over terminal unit

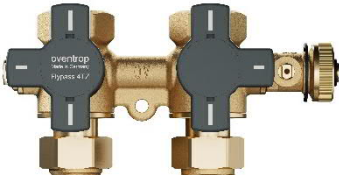
Dimensions

	DN 15	DN 32
		
A	65	65
B	166	166
D1 (system)	Rp ½	Rp ¾
D2 (unit)	G ¾ union	G 1 union
H1	93	93
H2	74	74
L	68.5	74
SW1	34	34
SW2	32	38

All dimensions in mm, except D1 and D2 and unless otherwise stated.

Selection

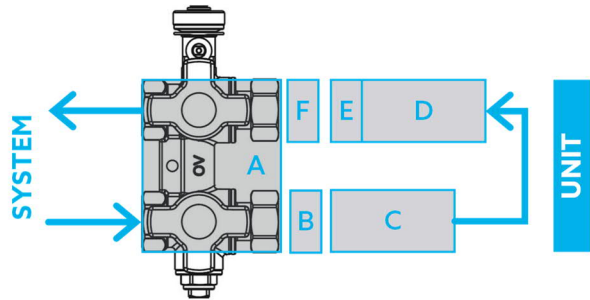
Item numbers

	Size	Connection system	Connection terminal unit	Item No.
	DN 15	Rp ½ internal threads	G ¾ union	1149504
	DN 20	Rp ¾ internal threads	G 1 union	1149506

Flypass Set Configuration

The Flypass can be combined with a variety of function valves, for example control or regulating valves. For some combinations fittings are required. Possible combinations and the fittings required for them are listed below.

The supply should always be equipped with a strainer (C) to protect the unit side from dirt or debris. When using an Oventrop strainer, no adapter or fitting (B) is required:



- For DN 15: strainer 1141004 with external threads G ¾
 - For DN 20: strainer 1141006 with external threads G 1
- The return can be equipped with a control valve, regulating valve or metering station (D). Some valves require an insert (E) or fitting (F) to connect to the Flypass.
- Popular set configurations are available as pre-assembled and pressure tested Flypass Sets. They are marked with an asterisk and listed in a separate table at the end of this chapter.

	A		D	E	F
	Flypass size	Item No.	Item	Insert	Fitting
With Cocon QTZ pressure independent control valve					
	DN 15	1146064	Cocon QTZ DN 15, 30...210 l/h *	1661100	—
		1146264	Cocon QTZ DN 15, 150...1,050 l/ *h	1661100	—
		1143364	Cocon QTZ DN 15, 200...1,300 l/h *	1661100	—
	DN 20	1146066	Cocon QTZ DN 20, 150...1,050 l/h *	1650793	—
		1143266	Cocon QTZ DN 20, 250...1,800 l/h *	1650793	—
With HydroControl V or double regulating valve					
	DN 15	1062604	HydroControl V DN 15, Kvs 3.8	—	—
	DN 20	1062606	HydroControl V DN 20, Kvs 6.8	—	—
With HydroCom V double regulating valve					
	DN 15	1062704	HydroCom V DN 15, Kvs 2	—	1149075
	DN 20	1062706	HydroCom V DN 20, Kvs 3.7	—	1149076
With HydroControl M double regulating and commissioning valve					
	DN 15	1065844	HydroControl M DN 15 ULF, Kvs 0.19	—	1149075
		1065834	HydroControl M DN 15 LF, Kvs 0.4 *	—	1149075
		1065824	HydroControl M DN 15 MF, Kvs 0.9	—	1149075
		1065804	HydroControl M DN 15, Kvs 2.2 *	—	1149075
	DN 20	1065806	HydroControl M DN 20, Kvs 4.3 *	—	1149076
With Hycococon control valve					
	DN 15	1068364	Hycococon ETZ DN 15, Kvs 1	—	1149075
		1068564	Hycococon HTZ DN 15, Kvs 1.7	—	1149075
	DN 20	1068366	Hycococon ETZ DN 20, Kvs 1.2	—	1149076
		1068566	Hycococon HTZ DN 20, Kvs 2.7	—	1149076
With metering station					
	DN 15	1060644	Metering station DN 15 LF, Kvs 0.55	—	1149075
		1060634	Metering station DN 15 MF, Kvs 1.2	—	1149075
		1060604	Metering station DN 15, Kvs 2.2	—	1149075
	DN 20	1060606	Metering station DN 20, Kvs 4.25	—	1149076

PRE-ASSEMBLED FLYPASS SETS

	Size	Item No.	Item	Control range / Kvs
	DN 15	1149450	Flypass Set PICV 15L	30...210 l/h
		1149550	Flypass Set PICV 15M	150...1,050 l/h
		1149650	Flypass Set PICV 15H	200...1,300 l/h
	DN 20	1149551	Flypass Set PICV 20L	150...1,050 l/h
		1149556	Flypass Set PICV 20	250...1,800 l/h
	DN 15	1149562	Flypass Set DRV-M 15F	Kvs 0.55
		1149563	Flypass Set DRV-M 15H	Kvs 2.1
	DN 20	1149564	Flypass Set DRV-M 20	Kvs 3.7

Separate data sheets are available for pre-assembled Flypass Sets.

Accessories

Insulation shells for heating

		Suitable for	Item No.
	For heating systems only. Operating temperature up to 110 °C. Not diffusion tight	DN 15...20	1149580

Insulation shells for cooling

		Suitable for	Item No.
	For heating and cooling systems. Building material class B2 according to DIN 4102. Operating temperature: -10...120 °C. Cold insulation: min. medium temperature 6 °C, shells have to be bonded hermetically. Limited diffusion tightness at low medium temperature and high ambient temperature and/or air humidity	DN 15...20	1149581

Fill and drain valve

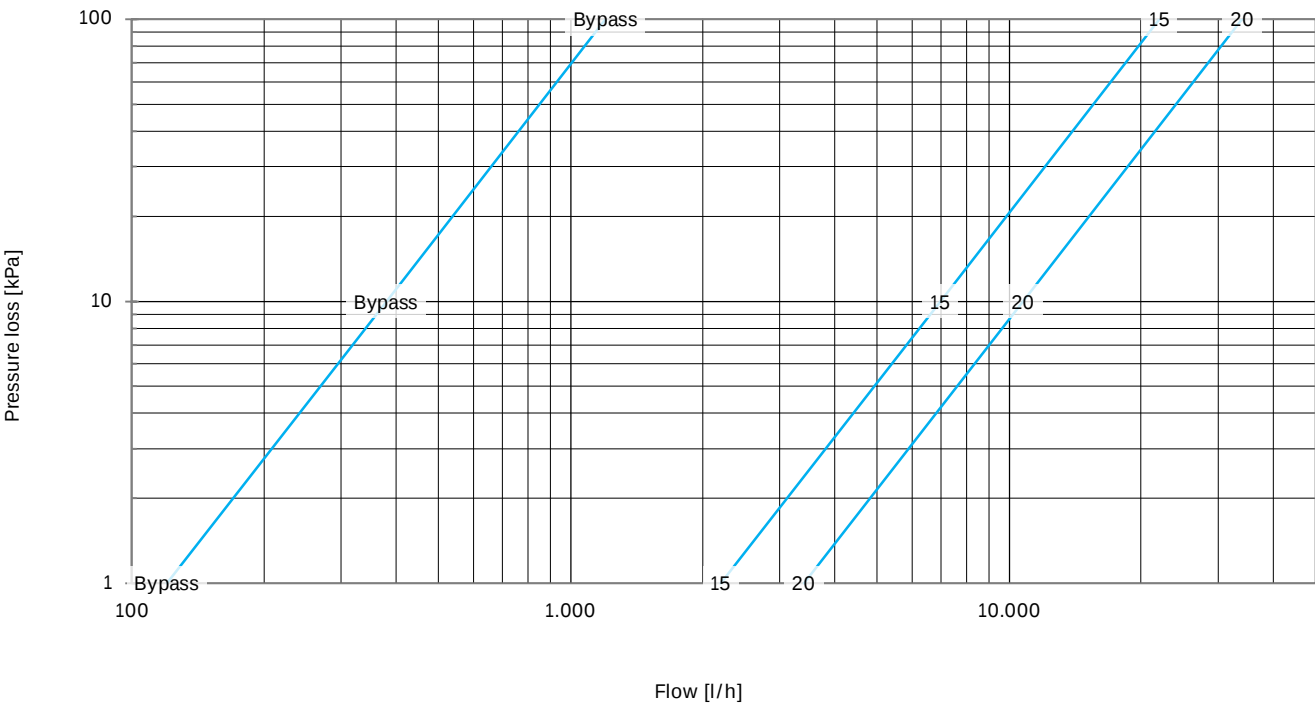
		Suitable for	Item No.
	For functions which need a second fill and drain valve	All sizes	1060191

Fittings

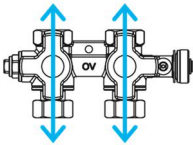
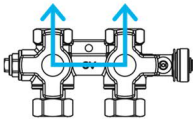
		Size	Suitable for	Item No.
	Externally threaded double connection	G ¾ x G ¾	DN 15	1149070
		G 1 x G 1	DN 20	1149071
	Externally threaded reduction	G ¾ x R ½	DN 15	1149075
		G 1 x R ¾	DN 20	1149076

Sizing

Pressure loss chart



Kvs values



Bypass	DN 15	DN 20
1.2	22	34