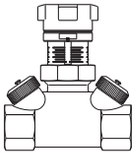

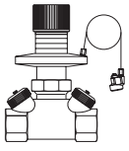

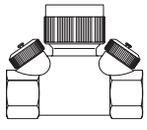

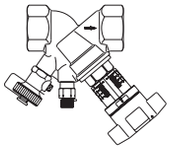

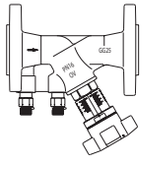

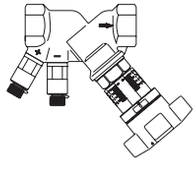

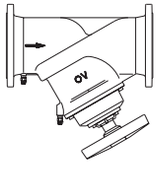

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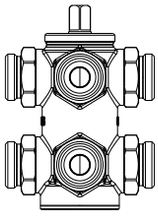
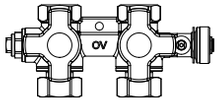
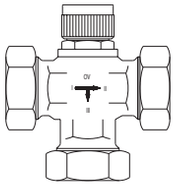
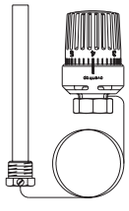


3.h "Optibal W6" Six-way ball valve

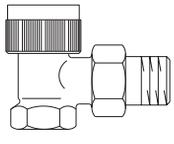


3.i "Flypass" Connection systems, valves and fittings

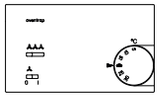


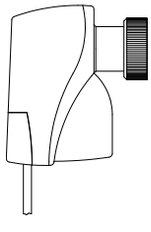


3.j "Tri-M", "Tri-D", "Tri-CTR" Two-way valves, three-way valves, temperature controllers



3.k "KTB" Thermostatic valves for cooling systems





3.l Room thermostats, actuators

3

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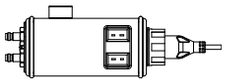
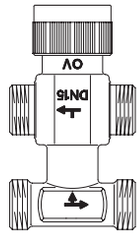
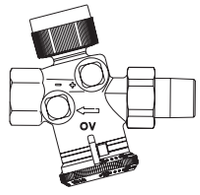


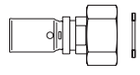
3.m "OV-DMC 3", OV-DMC 2" and "OV-DMCP" Measuring systems



3.n Products for air conditioning and ventilation



3.o Products for radiant and chilled ceiling systems



3.p Connection system

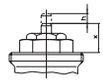
3.a System summary

Content

Product group	**“Hycocon”**					**“Hydrocontrol”**									
	“Hycocon VTZ/VPZ”	**“Hycocon ATZ/APZ”**	**“Hycocon ETZ”**	**“Hycocon HTZ”**	**“Hycocon DTZ”**	**“Hydrocontrol VTR/VPR”**	**“Hydrocontrol VFC”**	**“Hydrocontrol VFR”**	**“Hydrocontrol VFN”**	**“Hydrocontrol VGC”**	**“Hydrocontrol STR”**	**“Hydrocontrol MTR/MPR”**	**“Hydrocontrol MFC”**	**“Hydrocontrol ATR/APR”**	**“Hydrocontrol AFC”**
Nominal pressure	PN16	PN16	PN16	PN16	PN16	PN16 PN25	PN6 PN16	PN16	PN25	PN16 PN25	PN25	PN16 PN25	PN16	PN16 PN25	PN16
Main function Double regulating and commissioning valve	•					•	•	•	•	•	•	•	•		
Isolating and orifice valve		•												•	•
Regulating valve			•	•											
Differential pressure regulator					•										
Flow regulator															
Mixing valve															
Diverting valve															
Pattern Straight pattern	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Angle pattern															
Reversed angle pattern															
Three-way valve															
Connection Female thread	•	•	•	•	•	•					•	•		•	
Male thread	•	•	•	•	•	•								•	
Female/male thread															
Press connection	•	•				•						•		•	
Compression connection											•				
Flange							•	•	•				•		•
Groove										•					
k_{VS}-value DN 10						2.88								2.88	
DN 15	1.7	1.7	0.9	1.7	1.7	3.88						0.55 / 1.15 / 2.1		3.88	
DN 20	2.7	2.7	0.9	2.7/ 5.0	2.7	5.71	4.77				1.04/ 2.6	3.7		5.71	
DN 25	3.6	3.6	0.9	3.6	3.6	8.89	8.38					6.1		8.89	
DN 32	6.8	6.8		6.8	6.8	19.45	17.08					12.5		19.45	
DN 40	10	10		10	10	27.51	26.88					18.1		27.51	
DN 50	18	18			23	38.78	36	36				30.5		38.78	
DN 65						50	98	98	98	98			86.7	50	98
DN 80							122.2	122.2	122.2	122.2			102		122.2
DN 100							201	201	201	201			198		201
DN 125							293	293	293	293			271		293
DN 150							404.3	404.3	404.3	404.3			400		404.3
DN 200							814.5	814.5	814.5	814.5			750		
DN 250							1200		1200	1200			1090		
DN 300							1600		1600	1600			1600		
DN 350							2250								
DN 400							3750								
Permissible fluid temperature -20 °C															
-10 °C															
0 °C															
100 °C															
120 °C															
150 °C															
200 °C															
Connection possibility Actuator			•	•											
Further information	Page 3.12	Page 3.13	Page 3.14	Page 3.14	Page 3.15	Page 3.26	Page 3.29	Page 3.30	Page 3.31	Page 3.31	Page 3.32	Page 3.32	Page 3.33	Page 3.34	Page 3.34

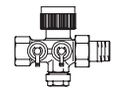
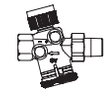
"Hydromat"			"Hyco-flow"	"Cocon"						"Tri-M", "Tri-D", "Tri-CTR", "KTB", two-way valves and temperature controllers								
"Hydromat QTR"	"Hydromat DTR"	"Hydromat DFC"	"Hycoflow VTB"	"Cocon 2TZ"	"Cocon QTZ"	"Cocon QTZ"	"Cocon QTR"	"Cocon QFC"	"Cocon QGC"	"Tri-M plus TR"	"Tri-D plus TB"	"Tri-D TB"	"Tri-D TR"	"Tri-M TR"	"Tri-CTR"	"KTB"	Two-way valve	
PN16	PN16	PN16	PN10	PN10	PN16	PN25	PN16 PN25	PN16 PN25	PN16	PN10	PN16	PN16	PN16	PN16	PN16	PN10	PN16	**Nominal pressure**
			•															**Main function** Double regulating and commissioning valve
																		Isolating and orifice valve
				•	•	•	•	•	•							•	•	Regulating valve
	•	•																Differential pressure regulator
•					•	•	•	•	•									Flow regulator
										•				•	•			Mixing valve
											•	•	•		•			Diverting valve
•	•	•	•	•	•	•	•	•	•							•	•	**Pattern** Straight pattern
																•		Angle pattern
																•		Reversed angle pattern
										•	•	•	•	•	•		•	Three-way valve
•	•																	**Connection** Female thread
•	•		•	•	•	•	•			•	•	•	•	•	•			Male thread
				•	•	•	•									•		Female/male thread
																		Press connection
																		Compression connection
		•						•									•	Flange
									•									Groove
																		DN 10 **k_{VS}-value**
	2.5			0.45 / 1/1.8	0.45 / 1/1.8	0.6 / 1.8/2.2				0.45 / 1/1.8	2.5	2.5				1	1 1.6/2.5	DN 15
	5		2.7	4.5	1.8/2.5	2.9							4.5	4.5		1	4/6.3	DN 20
	7.5		5.5/8.3		4	4.0							6.5	6.5		1	10	DN 25
	10		13.7		6	7.6											16	DN 32
	15						11.5	11.5					9.5	9.5			25	DN 40
	34						15/18.5	12									35	DN 50
		52						36	36								63	DN 65
		75						56	56								100	DN 80
		110						80	80								160	DN 100
		145						150									220	DN 125
		170						220									320	DN 150
								270										DN 200
																		DN 250
																		DN 300
																		DN 350
																		DN 400
																		Permissible fluid temperature -20 °C
																		-10 °C
																		0 °C
																		100 °C
																		120 °C
																		150 °C
																		200 °C
				•	•	•	•	•	•	•	•	•	•	•	•	•	•	**Connection possibility** Actuator
Page 3.36	Page 3.37	Page 3.38	Page 3.50	Page 3.61	Page 3.54	Page 3.52	Page 3.56	Page 3.56	Page 3.57	Page 3.78	Page 3.78	Page 3.78	Page 3.79	Page 3.79	Page 3.79	Page 3.84	Page 3.81	**Further information**

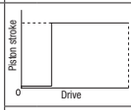
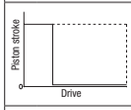
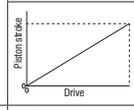
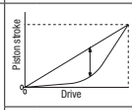
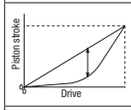
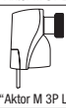
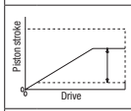
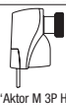
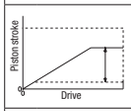
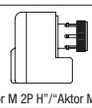
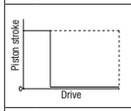
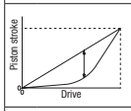
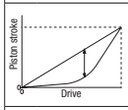
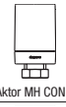
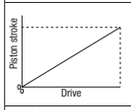
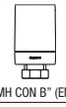
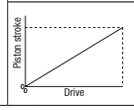
1. Oventrop valves and actuators: see table
2. Oventrop valves with actuators of other manufacturers: With due consideration of the valve parameters. the combination with actuators of other manufacturers is possible on consultation.
   h = valve
   x = lower stroke of the valve



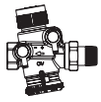
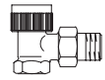
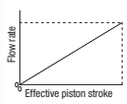
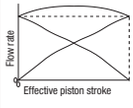
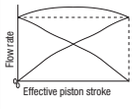
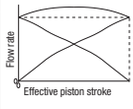
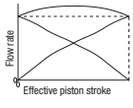
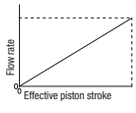
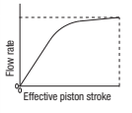
3. Oventrop actuators with valves of other manufacturers: on consultation
4. Integration into the centralised building control system (CBC): The four most important characteristic parameters are shown in the table.

① NC = closed with current "off" NO = open with current "off"
EM = electromotive ET = electrothermal
② Operating behaviour: additionally 4–20 mA / 2–10 V
③ Valve adapter "Hycocon" (item no. 1012992) required.
④ k_{vs}-value can be reduced
⑤ Piston stroke ≥ effective valve lift
⑥ Valve adapter 1012462 required.

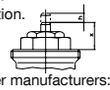
		1	2	3	4
Illustration (examples)					
Ratings valves		"Hycocon ETZ"	"Hycocon HTZ"	"Cocon 2TZ"	"Cocon QTZ"
Item no.		10683 – 10684..	10685 – 10686..	11450 – 11454..	11455–11462..
DN		15 - 25	15 - 25 / 32 / 40	15 / 20	10/15/20/25/32
Connection		M 30 x 1.5	M 30 x 1.5	M 30 x 1.5	M 30 x 1.5
Closing dimension x [mm]		11.8	11.8	11.8	11.8
Δp max. [bar]		1	5 / 3 / 2	1	4
Valve lift h [mm]		2.2	3 / 4 / 4	2.5 / 3.5	2.8 / 2.8 / 2.8 / 3.5 / 4 / 4
PN		16	16	10	16
Demands on actuators	Upper lift position [mm]	14.0 or higher	15.8 or higher	14.3 or higher	14.6/15.8 or higher
	Lower lift position [mm]	11.3 or lower	11.3 or lower	11.3 or lower	11.3 or lower
	Closing press. [N] min/max.	90 / 150	90 / 150	90 / 150	90 / 150

	Ratings actuators / Illustration (examples)	Item no.	Characteristic parameters for CBC: Model ①	Operating current	Operating behaviour	Interface	Lower lift position [mm]	Upper lift position [mm]	Piston stroke [mm]	Operating power [mm]	Medium floating	Protection	Max. fluid temperature [°C]	Permissible install. position	Valve characteristic line / Actuator characteristic line	1	2	3	4
A	 "Aktor T 2P L NC"/"Aktor T 2P H NC"	10124..	ET NC	24 V / 230 V	2 point	digital	11.2	15.8	-	> 90	~5 min	IP54	+100	any		● ⑥	● ⑥	●	●
B	 "Aktor T 2P L NO"/"Aktor T 2P H NO"	10124..	ET NO	24 V / 230 V	2 point	digital	11.2	15.8	-	> 90	~5 min	IP54	+100			● ⑥	● ⑥	●	●
C	 "Aktor T ST L NC"	1012953	ET NC	24 V	steady (0-10V)	analogue	11.2	15.8	4.0	> 90	~40 s/mm	IP54	+100			● ⑤	● ⑤	● ⑤	● ⑤
D	 "Aktor M ST L"	1012705/35	EM	24 V	steady (0-10V)	analogue	11.2	15.8	0.5 - 4.0	> 90	~15 s/mm	IP40	+100	In vertical to horizontal position, not suspended		●	●	●	● (1012705)
E	 "Aktor M ST L"	1012706/36	EM	24 V	steady (0-10V)	analogue	11.2	15.8	0.5 - 4.0	> 90	~15 s/mm	IP40	+100			●	●	●	● (1012706)
F	 "Aktor M 3P L"	1012708	EM	24 V	3 point	digital	11.2	15.8	-	> 90	~15 s/mm	IP40	+100			●	●	●	●
G	 "Aktor M 3P H"	1012709	EM	230 V	3 point	digital	11.2	15.8	-	> 90	~15 s/mm	IP40	+100			●	●	●	●
H	 "Aktor M 2P H"/"Aktor M 2P L"	1012710/11	EM NO	230 V/24 V	2 point	digital	11.2	17.0	-	> 90	~3 s	IP54	+100			●	●	●	●
I	 "Aktor M ST EIB"	11560..	EM	24 V	steady	EIB / KNX	11.2	15.2	2.6 - 4.0	> 90	~30 s/mm	IP44	+100			●	●	●	●
J	 "Aktor M ST LON"	1157065	EM	nom. 48 V	steady	LON	11.2	15.2	2.6 - 4.0	> 90	~30 s/mm	IP44	+100			●	●	●	●
K	 "Aktor MH CON B"	1150665	EM	Mignon (2x)	steady	① OV wireless (EnOcean)	11.0	15.4	2	> 90	~3 s/mm	IP20	+90			●			
L	 "Aktor MH CON B" (ENOCEAN)	1150765	EM	Mignon (2x)	steady (controller integrated)	EnOcean (EEP A5-20-01)	11.0	15.4	2	> 90	~3 s/mm	IP20	+90			●			

All values are standard values without tolerances.

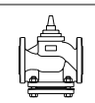
5	6	7	8	9	10	11
						
“Cocon QTZ”	“Tri-M plus TR”	“Tri-D plus TB”	“Tri-DTR/Tri-MTR”	“Tri CTR”	Two-way straight pattern valve	“KTB”
11431–11494..	11427..	11426..	11302 / 11307..	11312..	11307..	11417 - 11419..
10/15/20/25/32	15	15	20 / 25 / 40	15 - 50	20 / 25 / 40	15 / 20 / 25
M 30 x 1.5	M 30 x 1.5	M 30 x 1.5	M 30 x 1.5	M 30 x 1.5	M 30 x 1.5	M 30 x 1.5
11.8	11.8	11.8	11.8	11.8	11.8	12.8
6	1	1	0.75 / 0.5 / 0.2		0.75 / 0.5 / 0.2	0.5
30-210 l/h: 2.8 / 4	2.5	2.5	2.8	2.8	3	2.5
25	10	16	16	16	16	10
14.6/15.8 or higher	14.3 or higher	14.3 or higher	14.6 or higher	14.6 or higher	14.8 or higher	13.3 or higher
11.3 or lower	11.3 or lower	11.3 or lower	11.3 or lower	11.3 or lower	11.3 or lower	10.8 or lower
90 / 150	90 / 150	90 / 150	90 / 150	90 / 150	90 / 150	90 / 150
						
●	●	●	●	●	●	
●	●	●	●	●	●	● ④
● ⑤	● ⑤	● ⑤	● ⑤	● ⑤	● ⑤	
● (1012735)	●	●	●	●	●	
● (1012736)	●	●	●	●	●	
●	●	●	●	●	●	
●	●	●	●	●	●	
●	●	●	●	●	●	● ④
●	●	●	●	●	●	
●	●	●	●	●	●	

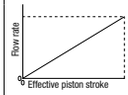
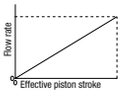
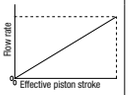
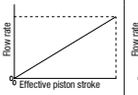
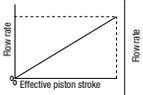
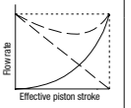
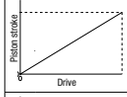
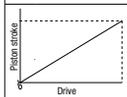
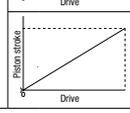
1. Oventrop valves and actuators: see table
2. Oventrop valves with actuators of other manufacturers: With due consideration of the valve parameters. the combination with actuators of other manufacturers is possible on consultation.
   h = valve
   x = lower stroke of the valve



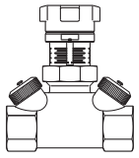
3. Oventrop actuators with valves of other manufacturers: on consultation
4. Integration into the centralised building control system (CBC): The four most important characteristic parameters are shown in the table.

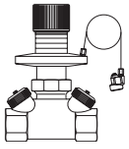
① NC = closed with current “off” NO = open with current “off”
EM = electromotive ET = electrothermal
② Operating behaviour: additionally 4–20 mA / 2–10 V
③ Valve adapter “Hycocon” (item no. 1012992) required.
④ k_{vs}-value can be reduced
⑤ Piston stroke ≥ effective valve lift
⑥ Valve adapter 1012462 required.

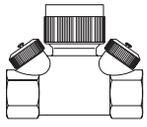
		1	2	3	4	5	6
Illustration (examples)							
Ratings valves		“Cocon QTR”	“Cocon QFC”	“Cocon QFC”	“Cocon QFC” High fow	“Cocon QGC”	Two-way valve
Item no.		11461../11431	11461/6649-50	1146151-56/1146651-56	1143154-55	1676251-53	11308../16708..
DN		40-50/50	40-50	65.80.100/125/150/200	125/150. 200	65. 80. 100	15 - 150
Connection		Squeeze connection	Squeeze connection	Squeeze connection	Squeeze connection	Squeeze connection	Squeeze connection
Closing dimension x [mm]							
Δp max. [bar]		4	4	4	4	4	0.7 - 12.1
Valve lift h [mm]		10	10	20 / 36 / 40	36 / 40	20	10 / 30 / 40
PN		16/25	16/25	16/25	16	16	16
Demands on actuators	Upper lift position [mm]						
	Lower lift position [mm]						
	Closing press. [N] min/max.	500/800/1000	500/800/1000	800/1000/2000	2000	800/1000	500/2000

	Ratings actuators / Illustration (examples)	Item no.	Characteristic parameters for CBC ① Model	Operating current	Operating behaviour	Interface	Lower lift position [mm]	Upper lift position [mm]	Piston stroke [mm]	Operating power [mm]	Medium floating	Protection	Max. fluid temperature [°C]	Permissible install. position	Valve characteristic line / Actuator characteristic line						
																					
A	“Aktor M ST L”	1158010	EM	24 V	steady (0-10 V)/2 point/3 point	analogue / digital / digital	72.5	82.5	10	500	7.5 s/mm	IP54	+120	In vertical to horizontal position, not suspended	Adjustable at the actuator	●	●				
B	“Aktor M ST L”	1158011	EM	24 V	steady (0-10 V)/2 point/3 point	analogue / digital / digital	72.5	82.5	10	500	7.5 s/mm	IP54	+120	In vertical to horizontal position, not suspended	Adjustable at the actuator						● DN 15-50
C	“Aktor M ST L”	1158030	EM ②	24 V	steady (0-10 V)/2 point/3 point	analogue / digital / digital	72.5	112.5	40	2500	2 s/mm	IP66	+120	In vertical to horizontal position, not suspended	Adjustable at the actuator			● DN 125-200	● DN 125-150		● DN 65-150
D	“Aktor M ST L”	1158031	EM with spring return ②	24 V	steady (0-10 V)/2 point/3 point	analogue / digital / digital	72.5	112.5	40	2000	2 s/mm	IP66	+120	In vertical to horizontal position, not suspended	Adjustable at the actuator			● DN 125-200	● DN 125-150		● DN 65-150
E	“Aktor M ST L”	1158032	EM with spring return ②	24 V	steady (0-10 V)/2 point/3 point	analogue / digital / digital	72.5	112.5	40	2000	2 s/mm	IP66	+120	In vertical to horizontal position, not suspended	Adjustable at the actuator			● DN 125-200	● DN 125-150		● DN 65-150
F	“Aktor M ST L”	1158022	EM with spring return ②	24 V	steady (0-10 V)/2 point/3 point	analogue / digital / digital			20	1000	2 s/mm	IP54	+120	In vertical to horizontal position, not suspended		●	●	● DN 65-100		●	
G	“Aktor M ST L”	1158021	EM with spring return	24 V	steady (0-10 V)/2 point/3 point	analogue / digital / digital			20	1000	2 s/mm	IP54	+120	In vertical to horizontal position, not suspended		●	●	● DN 65-100		●	
H	“Aktor M ST L”	1158020	EM	24 V	steady (0-10 V)/2 point/3 point	analogue / digital / digital			20	800	9 s/mm	IP54	+120	In vertical to horizontal position, not suspended		●	●	● DN 65-100		●	

All values are standard values without tolerances







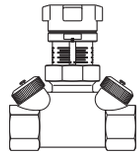
3.b "Hycocon" Control, regulating and isolating valves

Content

Article	kvs	Packing unit	Article-No.

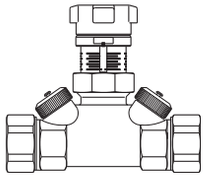
"Hycocon VTZ" Double regulating and commissioning valves PN 16 (presettable, threaded connection, dezincification resistant brass) with infinitely adjustable presetting "eco" measuring technique

both ports with integrated pressure test points and drain valves as well as insulation shells



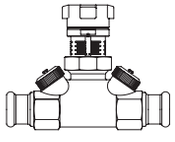
both ports female thread according to EN 10226

DN 15	1.70	(10)	**1061704**
DN 20	2.70	(10)	**1061706**
DN 25	3.60	(10)	**1061708**
DN 32	6.80	(5)	**1061710**
DN 40	10.00	(5)	**1061712**
DN 50	18.00	(5)	**1061716**



both ports male thread with collar nut

DN 15	1.70	(10)	**1061804**
DN 20	2.70	(10)	**1061806**
DN 25	3.60	(10)	**1061808**
DN 32	6.80	(5)	**1061810**
DN 40	10.00	(5)	**1061812**
DN 50	18.00	(5)	**1061816**



"Hycocon VPZ" Double regulating and commissioning valves PN 16 (presettable, press connection, dezincification resistant brass) with infinitely adjustable presetting "eco" measuring technique

both ports with integrated pressure test points and drain valves as well as insulation shells

both ports press connection

DN 15 Ø 15 mm	1.70	(10)	**1061751**
DN 15 Ø 18 mm	1.70	(10)	**1061752**
DN 20 Ø 22 mm	2.70	(10)	**1061754**
DN 25 Ø 28 mm	3.60	(10)	**1061756**
DN 32 Ø 35 mm	6.80	(5)	**1061758**
DN 40 Ø 42 mm	10.00	(5)	**1061760**

Tailpipe sets: Pages 1.54, 1.95, 3.45

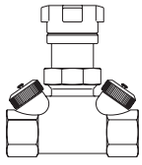
Application:
Central heating and cooling systems with closed circuits, for operation with non-aggressive, harmless fluids (e.g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).
Measuring method:
Determination of the flow rate by measuring the differential pressure and taking the presetting values into consideration.
Measuring gauges: page 3.94 to 3.96
Connection thread M 30 x 1.5.
All functioning components are located in one plane which is especially advantageous where space is limited. Different possibilities of conversion of "Hycocon" valves see summary: page 3.22.
Function: "Hycocon" double regulating and commissioning valves serve to achieve a hydronic balance between the various risers or different sections of the system. Installation is possible in either the supply or the return pipe.
Description "Hycocon VTZ/VPZ":
Max. operating pressure p_s: 16 bar (PN 16)
Operating temperature t_s:-10 °C up to +120 °C
Body and bonnet made of brass resistant to dezincification.
Oventrop double regulating and commissioning valves with reproducible, infinitely adjustable presetting controllable at any time. Lockable and lead sealable presetting (accessories set).
Under working conditions and without draining the system (only DN 15 - DN 40):
- conversion to differential pressure regulator "Hycocon DTZ" (diaphragm actuator for the conversion: page 3.17)
- conversion to thermostatic operation (thermostats "Uni XH/LH": e.g. page 1.08, temperature controllers: page 3.81)
- can be used with electromotive and electro-thermal actuators as well as electromotive actuators "EIB" or "LON" (actuators: page 1.26)
- bonnet may be replaced with the help of the "Demo-Bloc" for subsequent conversion of sizes DN 15 - DN 25

The "Hycocon" valves are supplied with insulation shells (max. temperature 110 °C/not diffusion tight).
The valves DN 15 and DN 20 (female thread) are suitable for use with compression fittings, item no. 10271.., page 3.45.
Press connection:
For the direct connection of copper pipes according to DIN EN 1057/DVGW GW 392, stainless steel pipes according to DIN EN 10088/DVGW GW 541 and thin-walled C-steel pipe (material no. E195/1.0034) according to DIN EN 10305-3. Pressing must be carried out to tighten the connection. Only use press jaws with the original contours SANHA (SA), Geberit-Mapress (MM) or Viega (Profipress) in corresponding size. Processing must be carried out according to the installation instructions.
Awards "Hycocon":
ISH Frankfurt "Design plus"
Design Award Switzerland
International Design Forum Hanover "Award iF"
Nominated for the Design Award of the Federal Republic of Germany

Article	kvs	Packing unit	Article-No.	Hint

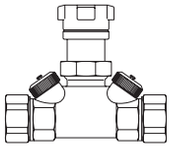
"Hycocon ATZ" Isolating and orifice valves PN 16
(with isolating facility, threaded connection, dezincification resistant brass)
"eco" measuring technique

both ports with integrated pressure test points and drain valves as well as insulation shells



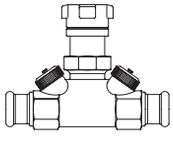
both ports female thread according to EN 10226

DN 15	1.70	(10)	**1067304**
DN 20	2.70	(10)	**1067306**
DN 25	3.60	(10)	**1067308**
DN 32	6.80	(5)	**1067310**
DN 40	10.00	(5)	**1067312**
DN 50	18.00	(5)	**1067316**



both ports male thread with collar nut

DN 15	1.70	(10)	**1067404**
DN 20	2.70	(10)	**1067406**
DN 25	3.60	(10)	**1067408**
DN 32	6.80	(5)	**1067410**
DN 40	10.00	(5)	**1067412**
DN 50	18.00	(5)	**1067416**



"Hycocon APZ" Isolating and orifice valves PN 16
(with isolating facility, press connection, dezincification resistant brass)
"eco" measuring technique

both ports with integrated pressure test points and drain valves as well as insulation shells

both ports press connection

DN 15 Ø 15 mm	1.70	(10)	**1067351**
DN 15 Ø 18 mm	1.70	(10)	**1067352**
DN 20 Ø 22 mm	2.70	(10)	**1067354**
DN 25 Ø 28 mm	3.60	(10)	**1067356**
DN 32 Ø 35 mm	6.80	(5)	**1067358**
DN 40 Ø 42 mm	10.00	(5)	**1067360**

Application:
Central heating and cooling systems with closed circuits, for operation with non-aggressive, harmless fluids (e.g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).

Connection thread M 30 x 1.5.

All functioning components are located in one plane which is especially advantageous where space is limited.

Description "Hycocon ATZ/APZ":
Max. operating pressure p_s: 16 bar (PN 16)
Operating temperature t_s: -10 °C up to +120 °C
Body and bonnet made of brass resistant to dezincification.

Under working conditions and without draining the system:
– conversion to double regulating and commissioning valve (handwheel for conversion: page 3.17)

The "Hycocon" valves are supplied with insulation shells (max. temperature 110 °C/not diffusion tight).

The valves DN 15 - DN 20 (female thread) are suitable for use with compression fittings, item no. 10271.., page 3.45.

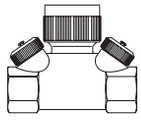
For further information see "Technical information":

Tailpipe sets: Pages 1.54, 1.95, 3.45

Article	kv at 1K P-dev.	kv at 2K P-dev.	kvs	Packing unit	Article-No.	Hint

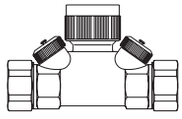
"Hycocon ETZ" Regulating valves PN 16
(can be motorised, threaded connection, dezincification resistant brass)
with infinitely adjustable presetting (AV 9 technique)
"eco" measuring technique

both ports with integrated pressure test points and drain valves



both ports female thread according to EN 10226

DN 15	0.36	0.67	1.00	(10)	**1068364**
DN 20	0.36	0.67	1.20	(10)	**1068366**
DN 25	0.36	0.67	1.20	(10)	**1068368**

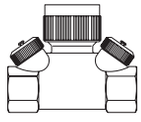


both ports male thread with collar nut

DN 15	0.36	0.67	1.00	(10)	**1068464**
DN 20	0.36	0.67	1.20	(10)	**1068466**
DN 25	0.36	0.67	1.20	(10)	**1068468**

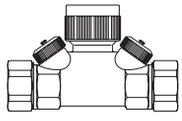
"Hycocon HTZ" Regulating valves PN 16
(high kv-value, threaded connection, dezincification resistant brass)
with infinitely adjustable presetting
"eco" measuring technique

both ports with integrated pressure test points and drain valves



both ports female thread according to EN 10226

DN 15	0.52	0.95	1.70	(10)	**1068564**
DN 20	0.52	1.04	2.70	(10)	**1068566**
DN 25	0.52	1.08	3.60	(10)	**1068568**
DN 32	0.70	1.39	6.80	(5)	**1068570**
DN 40	0.84	1.58	10.00	(5)	**1068572**



both ports male thread with collar nut

DN 15	0.52	0.95	1.70	(10)	**1068664**
DN 20	0.52	1.04	2.70	(10)	**1068666**
DN 20	0.63	1.30	5.00	(10)	**1068667**
DN 25	0.52	1.08	3.60	(10)	**1068668**
DN 32	0.70	1.39	6.80	(5)	**1068670**
DN 40	0.84	1.58	10.00	(5)	**1068672**

Application:
Central heating and cooling systems with closed circuits, for operation with non-aggressive, harmless fluids (e. g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).

Measuring method:
Determination of the flow rate by measuring the differential pressure and taking the presetting values into consideration.
Measuring gauges: page 3.94to 3.96
Connection thread M 30 x 1.5.
All functioning components are located in one plane which is especially advantageous where space is limited.
Different possibilities of conversion of "Hycocon" valves see summary: page 3.22.
Function:
"Hycocon" regulating valves allow the regulation of sections of the system or an individual room temperature control when combined with actuators or thermostats.
Installation is possible in either the supply or the return pipe.

Description "Hycocon ETZ":
Max. operating pressure p_s: 16 bar (PN 16)
Operating temperature t_s: -10 °C up to +120 °C
Body and bonnet made of brass resistant to dezincification.
With infinitely presettable valve insert "AV 9".
Under working conditions and without draining the system:
- conversion to thermostatic operation (thermostats "Uni XH/LH": e. g. page 1.08, temperature controllers: page 3.81)
- can be used with electromotive and electrothermal actuators as well as electrothermal actuators "EIB"or "LON" (actuators: page 3.89)
- bonnet may be replaced with the help of the "Demo-Bloc" for subsequent conversion

With white protection cap with 3 frontal lugs.
Presetting key: page 1.110

Description "Hycocon HTZ":
Max. operating pressure p_s: 16 bar (PN 16)
Operating temperature t_s: -10 °C up to +120 °C
Body and bonnet made of brass resistant to dezincification.
With infinitely presettable valve insert for high flow rates.
Under working conditions and without draining the system:
- conversion to differential pressure regulator "Hycocon DTZ" (diaphragm actuator for the conversion: page 3.17)
- conversion to thermostatic operation (thermostats "Uni XH/LH": e. g. page 1.08, temperature controllers: page 3.81)
- can be used with electromotive and electrothermal actuators as well as electrothermal actuators "EIB" or "LON" (actuators: page 3.90)
- conversion to double regulating and commissioning valve "Hycocon VTZ"

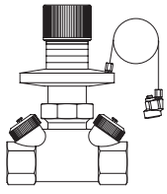
With green protection cap.
Set for presetting: page 3.18

Tailpipe sets: Pages 1.54, 1.95, 3.45
Combination possibilities of valves and actuators: Page 3.08

Article	kvs	Packing unit	Article-No.	Hint

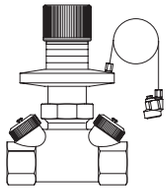
"Hycocon DTZ" Differential pressure regulators PN 16 (differential pressure control, threaded connection, dezincification resistant brass)
"eco" measuring technique

both ports with integrated pressure test points and drain valves as well as insulation shells



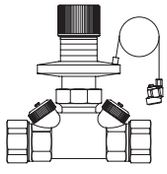
both ports female thread according to EN 10226
Nominal value: 50 to 300 mbar, infinitely adjustable

DN 15	1.70	(10)	**1062004**
DN 20	2.70	(10)	**1062006**
DN 25	3.60	(10)	**1062008**
DN 32	6.80	(5)	**1062010**
DN 40	10.00	(5)	**1062012**
DN 50	23.00		**1062016**



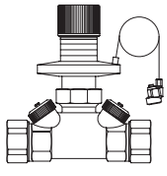
both ports female thread according to EN 10226
Nominal value: 250 to 600 mbar, infinitely adjustable

DN 15	1.70	(10)	**1062204**
DN 20	2.70	(10)	**1062206**
DN 25	3.60	(10)	**1062208**
DN 32	6.80	(5)	**1062210**
DN 40	10.00	(5)	**1062212**
DN 50	23.00		**1062216**



both ports male thread with collar nut
Nominal value: 50 to 300 mbar, infinitely adjustable

DN 15	1.70	(10)	**1062104**
DN 20	2.70	(10)	**1062106**
DN 25	3.60	(10)	**1062108**
DN 32	6.80	(5)	**1062110**
DN 40	10.00	(5)	**1062112**
DN 50	23.00		**1062116**



both ports male thread with collar nut
Nominal value: 250 to 600 mbar, infinitely adjustable

DN 15	1.70	(10)	**1062304**
DN 20	2.70	(10)	**1062306**
DN 25	3.60	(10)	**1062308**
DN 32	6.80	(5)	**1062310**
DN 40	10.00	(5)	**1062312**
DN 50	23.00		**1062316**

Application:
Central heating and cooling systems with closed circuits, for operation with non-aggressive, harmless fluids (e. g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).

Connection thread M 30 x 1.5.

All functioning components are located in one plane which is especially advantageous where space is limited.

Different possibilities of conversion of "Hycocon" valves see summary: page 3.22.

Description:
"Hycocon DTZ" differential pressure regulators can be used for a local or central regulation of the differential pressure. They are proportional regulators working without auxiliary energy and are equipped with a pressure balanced valve disc.
The "Hycocon DTZ" differential pressure regulators are installed in the **return pipe**.

Max. operating pressure p_s: 16 bar (PN 16)
Operating temperature t_s: -10 °C up to +120 °C
Body and bonnet made of brass resistant to dezincification.

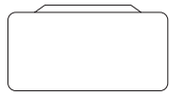
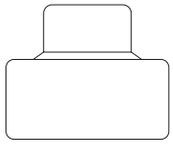
The "Hycocon DTZ" differential pressure regulators are supplied complete with the connection set and the drain valve as well as insulation shells (max. temperature 110 °C / not diffusion tight).

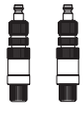
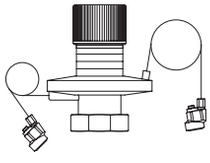
Capillary length 1 m.

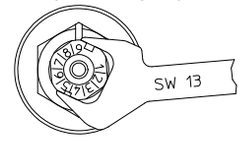
For further information see "Technical information":

Tailpipe sets: Pages 1.54, 1.95, 3.45

3

	Article	Article-No.	Hint
	**Insulation shells** for higher temperatures		Insulation, consisting of two shells. Comply with the specifications of the German Energy Saving Directive (EnEV), appendix 5, table 1, line 5. Not suitable for item no. 1068667 and "Hycocon DTZ". Building material class B2 according to DIN 4102. Max. operating temperature t_s: +120 °C
	DN 15	**1061771**	
	DN 20	**1061772**	
	DN 25	**1061773**	
	DN 32	**1061774**	
	DN 40	**1061775**	
	additionally required for cooling systems		Not suitable for item no. 1068667 and "Hycocon DTZ". For "Hycocon ETZ/HTZ" only suitable in combination with item no. 1061771-75. Building material class B1 according to DIN 4102. Operating temperature ts: -10 °C up to +120 °C Cold insulation: Min. fluid temperature: +6 °C The insulation shells have to be bonded hermetically (restricted diffusion tightness at low fluid temperature and at high ambient temperature and/or humidity).
	DN 15	**1061781**	
	DN 20	**1061782**	
	DN 25	**1061783**	
	DN 32	**1061784**	
	DN 40	**1061785**	

	Article	Packing unit	Article-No.	Hint
	Accessories			For the conversion of isolating and orifice valves "Hycocon ATZ/APZ" to double regulating and commissioning valves "Hycocon VTZ/VPZ".
	Handwheel for double regulating commissioning valves “Hycocon VTZ/VPZ”			
	DN 15	(10)	**1061793**	
	DN 20	(10)	**1061794**	
	DN 25	(10)	**1061795**	
	DN 32	(10)	**1061796**	
	DN 40	(10)	**1061797**	
	Locking pin with locking wire			For locking the set nominal values. For double regulating and commissioning valves "Hycocon VTZ/VPZ" as well as item no. 42055/56/65/66..
	for double regulating and commissioning valves "Hycocon VTZ/VPZ" as well as for "Aquastrom T plus"	(50)	**1061792**	
	for differential pressure regulator "Hycocon DTZ"	(25)	**1062092**	
	Fill and drain tool for valves with "eco" measuring technique		**1061791**	**“eco” measuring technique:** For draining, venting and filling the installation.
	Measuring adapter	(50)	**1060297**	Measuring adapter with quick-coupling technic to be screwed onto the fill and drain tool.
	Set = 2 measuring needles for valves with "eco" measuring technique	(25)	**1061799**	For measurement with measuring systems "OV-DMC 3", "OV-DMC 2" and "OV-DMPC".
	Diaphragm actuators Nominal value: 50 to 300 mbar, infinitely adjustable			Used for the conversion of "Hycocon VTZ/VPZ" or "Hycocon HTZ" valves to differential pressure regulators "Hycocon DTZ". The valve insert required for the conversion of "Hycocon VTZ/VPZ" DN 15 - DN 25 is supplied with the diaphragm actuators.
	DN 15 - DN 25	(10)	**1062082**	
	DN 32 / DN 40	(10)	**1062085**	
	Nominal value: 250 to 600 mbar, infinitely adjustable			
	DN 15 - DN 25	(10)	**1062282**	
	DN 32 / DN 40	(10)	**1062285**	
	Adapter G ¼ male thread	(50)	**1609302**	Adapter for the connection of the “Hycocon DTZ” capillary to the “classic” measuring technique connection G ¼ female thread.
	Adapter G ¾ female thread	(50)	**1062090**	Adapter for the connection of the “Hycocon DTZ” capillary to a G ¾ male thread (flat sealing).
	Capillary 2 m long for "Hycocon DTZ" and "Hydromat DTR"	(10)	**1062095**	The capillary can also be used for "Hydromat DTR" manufactured since 2012.
	Capillary 5 m long for "Hycocon DTZ" and "Hydromat DTR"	(10)	**1062097**	

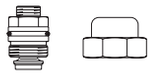
	Article	Packing unit	Article-No.	Hint
	Set for presetting for series "Hycocon HTZ"	(10)	**1068585**	
	Presetting key for thermostatic valves "AV 9, ADV 9, RFV 9, CV 9, E" and fittings "Multiblock T/TU/TFU/T-RTL" (manufactured since 2016)	(10)	**1183962**	The presetting value can be adjusted with the help of the marking on the hexagon of the valve insert. The presetting key fits only in one position.  Alternatively, presetting can also be carried out with a spanner sized 13 mm.

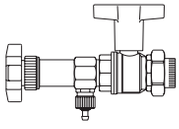
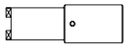
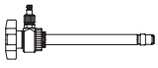
Article	kv at 2K P-dev.	Packing unit	Article-No.	Hint
Valve inserts suitable for "Hycocon" valves sizes DN 15 - DN 25 (except for 1068667)				All valve inserts DN 15 - DN 25 (except for item no. 1026981 and 1187071) are replaceable by using the special tool "Demo-Bloc" without draining the system.
 "AV 9, CV 9, RFV 9, E" and "Multiblock T-RTL" (manufactured since 2016)	0.67	(100)	**1187047**#	Also for "Hycocon ETZ" (manufactured since 2016).
 for return flow valves connection thread M 30 x 1.5		(100)	**1026981**	Valve insert with double disc. Prevents inadvertent overheating, with frost protection.
 "AV 6, RFV 6, E" and "Multiblock T-RTL" (manufactured up to 2015)	0.65	(100)	**1187057**#	Also for "Hycocon ETZ" (manufactured up to 2015 inclusive).
 "A" (DN 10 - DN 15) and "RF"	0.95	(100)	**1187069**°#	# These valve inserts are suitable for all valve bodies with connection thread M 30 x 1.5 of all sizes of the thermostatic valves "A, AV 9, AQ, AV 6, ADV 9, ADV 6, CV 9, E, EQ, AF, RF, RFV 9, RFQ and RFV 6".
 "A" (DN 20 - DN 32) and "AZ"	1.10	(100)	**1187060**°#	
 "AF"	0.32	(100)	**1187352**#	

Distinctive features of the valves:

Series	Protection cap	Gland nut (since end of 1993)
A	black	unplated brass
ADV 6	grey-green	grey-green
ADV 9	grey-green (3 frontal lugs)	grey-green
AF	red	red
AQ/ EQ/ RFQ	light grey	
AV 9/ CV 9/ E	white (3 frontal lugs)	
AZ H	orange	
AZ V	green	
RF	blue	unplated brass
RFV 9	light green (3 frontal lugs)	

 for thermostatic valves "AQ, RFQ, EQ", fittings "Multiblock TQ, TQ-RTL", and "Unibox TQ, Q plus" "QA"		(25)	**1187065**#	
 "ADV 6"	0.65	(100)	**1186001**#	The double function of the "ADV 6" and "ADV 9" inserts provokes an automatic closing of the valve to 5 % of the nominal flow (frost protection) should the thermostat be removed or destroyed. Presetting as "AV 6" and "AV 9".

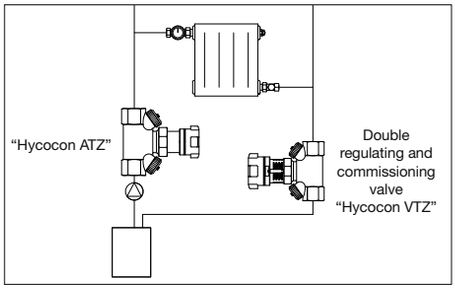
	Article	kv at 2K P-dev.	Packing unit	Article-No.	Hint
	"PTB" and "Cocon 2TZ"				#These valve inserts are suitable for all valve bodies with connection thread M 30 x 1.5 of all sizes of the thermostatic valves "A, AV 6, ADV 6, AZ, E, F, RF and RFV 6".
	kvs = 0.45 P1		(100)	**1186052**#	
	kvs = 1.0 P2		(100)	**1186053**#	
	kvs = 1.8 P3		(100)	**1186054**	
	with stainless steel seat				
	(especially for steam installations)		(100)	**1186200**#	
	"Combi LR" with cap		(100)	**1187071**	
	Special valve insert for reversed supply and return pipe for thermostatic valves "A, AV 9, AV 6, ADV 6, ADV 9, CV 9, E, AF, RF, RFV 9, RFV 6" without presetting				
		0.45	(100)	**1187070**#	
	Thermostatic valves "KTB" Valve inserts		(100)	**1147169**	
	for "Hycocon HTZ/DTZ"				
	DN 15 - DN 25	0.95 - 1.08	(10)	**1067085**	
	for "Hycocon HTZ", "Hycocon DTZ", "Hycocon VTZ/VPZ"				The valve insert 1067066 is also suitable for item no. 1068867 ("Hycocon HTZ", DN 20 with kvs value 5.0).
	DN 32	1.39	(10)	**1067066**	
	DN 40	1.58	(10)	**1067067**	
	for "Hycocon VTZ/VPZ" and "Hycocon ATZ/APZ"				
	DN 15 - DN 25		(10)	**1067065**	
	for "Hycocon ATZ/APZ"				
	DN 32		(10)	**1067068**	
	DN 40		(10)	**1067069**	
	Measuring and draining unit for valves with "eco" measuring technique				"eco" measuring technique: Information: page 3.98
	DN 15 - DN 40		(10)	**1061790**	
	Plug for valves with "eco" measuring technique				
	DN 15 - DN 40		(10)	**1061798**	

	Article	Packing unit	Article-No.	Hint
	"Demo-Bloc" special tool for replacing the valve inserts, suitable for "Hycocon" DN 15, 20 and 25 (except for "Hycocon DTZ" and item no. 1068667) without draining the system Basic tool also suitable for all Oventrop thermostatic radiator valves			The "Demo-Bloc" is supplied in a handy bag.
	connection thread M 30 x 1.5		**1188051**	Including coupling set for valve insert "QA".
	Cleaning head for all valves	(100)	**1188400**	The valve seat can be cleaned by use of the "Demo-Bloc" and the cleaning head.
	Differential pressure measuring stem		**1188093**	The differential pressure above the valve seat can be measured with the “Demo-Bloc” and the differential pressure measuring stem.

Body	Inserts	Control unit	Valves (examples)	Accessories
DN 15–DN 40	Valve insert item no. 1067065 for "Hycocon VTZ/VPZ/ATZ/APZ", DN 15–DN 25 Valve insert item no. 1067068 for "Hycocon ATZ/APZ", DN 32 Valve insert item no. 1067069 for "Hycocon ATZ/APZ", DN 40 Valve insert item no. 1067066 for "Hycocon VTZ/VPZ/HTZ/DTZ", DN 32 Valve insert item no. 1067067 for "Hycocon VTZ/VPZ/HTZ/DTZ", DN 40	Handwheel for isolation DN 15–DN 25 DN 32–DN 40	"Hycocon ATZ" DN15–DN 25	Measuring and draining unit Item no. 1061790 Plug Item no. 1061798
		Handwheel for control DN 15–DN 25 Item no. 1061793–95 DN 32–DN 40 Item no. 106196–97	"Hycocon VTZ" DN15–DN 40	
	Valve insert item no. 1067085 for "Hycocon HTZ", DN15-DN25 Valve insert item no. 1067066 for "Hycocon VTZ/VPZ/HTZ/DTZ", DN 32 Valve insert item no. 1067067 for "Hycocon VTZ/VPZ/HTZ/DTZ", DN 40	Diaphragm actuator DN 15–DN 25 Item no. 1062082/ 1062282 (including valve insert) Item no. 1067085) DN 32–DN 40 Item no. 1062085/ 1062285	"Hycocon DTZ" DN15–DN 40	
	other valve inserts DN 15–DN 25 "A" Item no. 1187069 "AZ" Item no. 1187060 P1 kvs 0.45 Item no. 1186052 P2 kvs 1.0 Item no. 1186053 Reversed supply/ return Item no. 1187070 "AF" Item no. 1187352 "KTB" Item no. 1147169 "ADV 9" Item no. 1186002 "Hycocon ETZ" and "AV 9" Item no. 1187047 Steam insert Item no. 1186200 Valve insert „QA" Item no. 1187065	Thermostats and actuators DN 15–DN 40 e. g. item no. 1011365 Electrothermal actuators Two point Item no. 10124../ 10129.. 24 V/0–10 V Item no. 1012952 Electromotive actuators 230 V/two point Item no. 1012710 24 V/0–10 V Item no. 1012705 24 V/three point Item no. 1012708 230 V/three point Item no. 1012709 Manual heads Electromotive actuators System EIB Item no. 1156065 Item no. 1156066 System LON Item no. 1157065 Further thermostats: page 1.08 and onwards Further actuators: page 1.26 and onwards	"Hycocon ETZ/HTZ" thermostatic operation DN15–DN 40 "Hycocon ETZ/HTZ" with actuator DN15–DN 40	
	Valve insert for return temperature limitation DN 15–DN 25 Item no. 1026981	"Uni RTLH" DN 15–DN 25 Item no. 1027165	"Hycocon ETZ/HTZ" with temperature controller DN15–DN 40	
	"Combi LR" DN 15–DN 25 Item no. 1187071	Spanner Control unit inside the insert		

The combination summary is not valid for item no. 1068667 (DN 20 – "Hycocon HTZ" with kvs value 5.0)

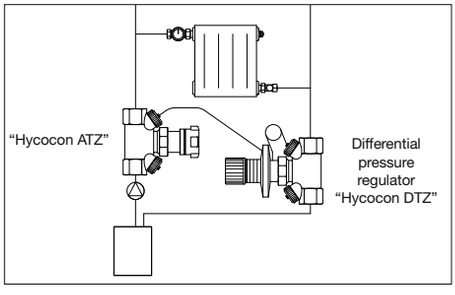
Further examples can be found in the product range “Flow, pressure and temperature balancing”.
Note: The connection thread of all “Hycocon” valves sized DN 15 to DN 40 is M 30 x 1.5.



Hydronic balancing

Standard installation:

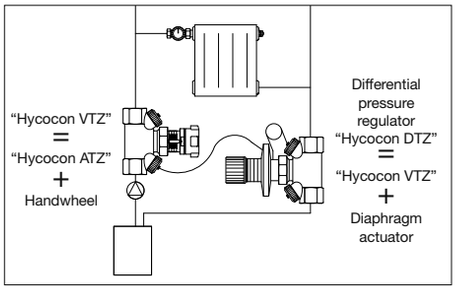
The valves “Hycocon VTZ/VPZ” and “Hycocon ATZ/APZ” allow a subsequent conversion as illustrated below.



Differential pressure regulation:

for instance consisting of the differential pressure regulators “Hycocon DTZ” and the isolating and orifice valve “Hycocon ATZ” for installations with presettable thermostatic valves.

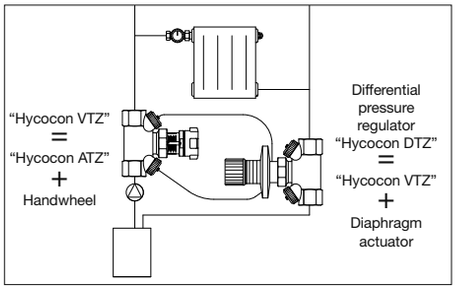
A subsequent conversion of the “Hycocon VTZ” (DN 15 – DN 40) with diaphragm actuator to differential pressure regulator “Hycocon DTZ” is possible.



Differential pressure regulation with flow limitation:

for instance consisting of the differential pressure regulator “Hycocon DTZ” and the double regulating and commissioning valve “Hycocon VTZ” for installations without presettable thermostatic valves or radiator lockshield valves in which the flow rate shall additionally be limited to the calculated value (capillary connection at the inlet nipple of the “Hycocon VTZ”).

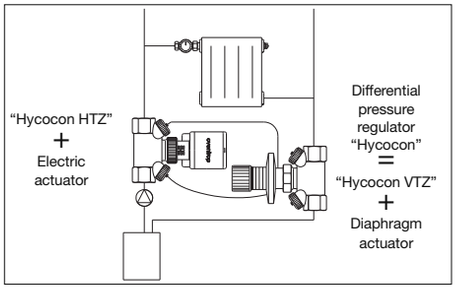
A subsequent conversion of the “Hycocon VTZ” (DN 15 – DN 40) with diaphragm actuator and use of the dismounted handwheel of the “Hycocon ATZ” is possible.



Flow regulation (DN 15 – DN 40):

for instance consisting of the differential pressure regulator “Hycocon DTZ” and the double regulating and commissioning valve “Hycocon VTZ” for installations without presettable thermostatic valves and radiator lockshield valves or for one pipe systems (capillary connection at the inlet and outlet nipple of the “Hycocon VTZ”).

A subsequent conversion of the “Hycocon VTZ” with diaphragm actuator and use of the dismounted handwheel of the “Hycocon ATZ” is possible.

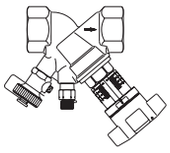


Flow regulation (DN 15 – DN 40):

for instance consisting of the regulating valve “Hycocon HTZ” and the differential pressure regulator “Hycocon DTZ” for electronically controlled installations (capillary connection at inlet and outlet nipple of the “Hycocon HTZ”).

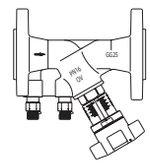
A subsequent conversion of the “Hycocon VTZ” with diaphragm actuator is required.

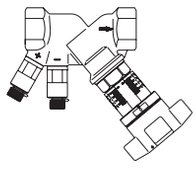
3

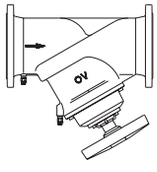


3.c "Hydrocontrol" Regulating and isolating valves

Content



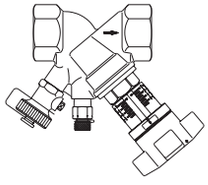




3

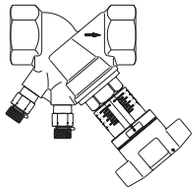
Article	kvs	Packing unit	Article-No.	Hint

"Hydrocontrol VTR" Double regulating and commissioning valves PN 25 / PN 16 (presettable, threaded connection, bronze) "classic" measuring technique



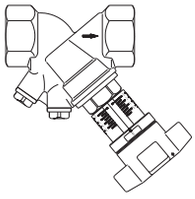
PN 25 with mounted accessories set no. 3 = 1 pressure test point G ¼ and 1 fill and drain ball valve G ¼
both ports female thread according to EN 10226

DN 10	2.88	(10)	**1060303**
DN 15	3.88	(10)	**1060304**
DN 20	5.71	(10)	**1060306**
DN 25	8.89	(10)	**1060308**
DN 32	19.45	(5)	**1060310**
DN 40	27.51	(5)	**1060312**
DN 50	38.78	(5)	**1060316**



PN 25 with mounted accessories set no.2=2 pressure test points G ¼
both ports female thread according to EN 10226

DN 10	2.88	(10)	**1060203**
DN 15	3.88	(10)	**1060204**
DN 20	5.71	(10)	**1060206**
DN 25	8.89	(10)	**1060208**
DN 32	19.45	(5)	**1060210**
DN 40	27.51	(5)	**1060212**
DN 50	38.78	(5)	**1060216**

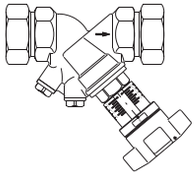


PN 25 both ports with connection for "classic" measuring technique (closed with blind plugs)
both ports female thread according to EN 10226

DN 10	2.88	(10)	**1060103**
DN 15	3.88	(10)	**1060104**
DN 20	5.71	(10)	**1060106**
DN 25	8.89	(10)	**1060108**
DN 32	19.45	(5)	**1060110**
DN 40	27.51	(5)	**1060112**
DN 50	38.78	(5)	**1060116**

PN 16
both ports female thread according to EN 10226

DN 65	50.00		**1060120**



PN 16 both ports with connection for "classic" measuring technique (closed with blind plugs)
both ports male thread with collar nut

DN 10	2.88	(10)	**1060503**
DN 15	3.88	(10)	**1060504**
DN 20	5.71	(10)	**1060506**
DN 25	8.89	(10)	**1060508**
DN 32	19.45	(5)	**1060510**
DN 40	27.51	(5)	**1060512**
DN 50	38.78	(5)	**1060516**

Application:
Central heating and cooling systems with closed circuits, for operation with non-aggressive, harmless fluids, (e. g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).

Measuring method:
Determination of the flow rate by measuring the differential pressure and taking the presetting values into consideration.
Measuring gauges: page 3.96 to 3.94
Function:
Oventrop double regulating and commissioning valves are installed in the pipework of central heating and cooling systems and serve to achieve the hydronic balance between the various circuits of the system. The double regulating and commissioning valves may be installed in either the supply or the return pipe. The valves DN 10 - DN 20 are suitable for use with compression fittings, item no. 10271.., page 3.45.
Body and bonnet made of bronze, stem and disc made of brass resistant to dezincification (DZR), disc with PTFE seal, fill and drain ball valve, blind plug and pressure test point made of brass resistant to dezincification (DZR). Colour rings to mark the supply (red) and return pipe (blue) are supplied with each valve (except for item no. 1060120).

Description "Hydrocontrol VTR":
Max. operating pressure p_s: 25 bar (PN 25), 362,5 psi
or 16 bar (PN 16), 232 psi for DN 65
Operating temperature t_s: -20 °C up to +150 °C

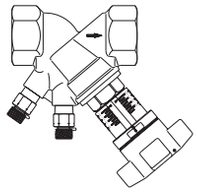
10601:
The sizes DN 40 and DN 50 are ACS (France) certified for installation in potable water systems.

Male thread:
DN 10 - G ⅝
DN 15 - G ¾
DN 20 - G 1
DN 25 - G 1¼
DN 32 - G 1½
DN 40 - G 1¾
DN 50 - G 2⅛

Awards:
International Design Award Baden-Württemberg
Good Design Award Japan
Industrial Design Forum Hanover Award iF

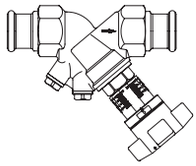
For further information see "Technical information":

Accessories: Page 3.42
Bonnets: Page 3.43
Insulation shells: Page 3.44
Tailpipe sets: Pages 1.54, 1.95, 3.45



Article	kvs	Packing unit	Article-No.	Hint
PN 25 with mounted accessories set no.2=2 pressure test points G ¼ both ports female thread according to EN 10226				16887..: Type approval for shipbuilding (DNV-GL).
DN 10	2.88	(10)	**1688703**	
DN 15	3.88	(10)	**1688704**	
DN 20	5.71	(10)	**1688706**	
DN 25	8.89	(10)	**1688708**	
DN 32	19.45	(5)	**1688710**	
DN 40	27.51	(5)	**1688712**	
DN 50	38.78	(5)	**1688716**	

3



"Hydrocontrol VPR" Double regulating and commissioning valves PN 16 (presettable, press connection, bronze) "classic" measuring technique

PN 16 both ports with connections for "classic" measuring technique (closed with blind plugs)
both ports press connection

Article	kvs	Packing unit	Article-No.
DN 15 Ø 15 mm	3.88	(10)	**1060151**
DN 15 Ø 18 mm	3.88	(10)	**1060152**
DN 20 Ø 22 mm	5.71	(10)	**1060154**
DN 25 Ø 28 mm	8.89	(10)	**1060156**
DN 32 Ø 35 mm	19.45	(5)	**1060158**
DN 40 Ø 42 mm	27.51	(5)	**1060160**
DN 50 Ø 54 mm	38.78	(5)	**1060162**

Application:
Central heating and cooling systems with closed circuits, for operation with non-aggressive, harmless fluids (e.g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).

Measuring method:
Determination of the flow rate by measuring the differential pressure and taking the presetting values into consideration.
Measuring gauges: page 3.96 to 3.94
Function:
Oventrop double regulating and commissioning valves are installed in the risers of central heating and cooling systems and serve to achieve the hydronic balance between the various circuits of the system. Installation is possible in either the supply or the return pipe.

Body and bonnet made of bronze, stem and disc made of brass resistant to dezincification (DZR), disc with PTFE seal, blind plug made of brass resistant to dezincification (DZR). Colour rings to mark the supply (red) and return pipe (blue) are supplied with each valve.

Description "Hydrocontrol VPR":
Max. operating pressure p_s: 16 bar (PN 16)
Operating temperature t_s: -20 °C up to +120 °C
Press connection:
For the direct connection of copper pipes according to DIN EN 1057 / DVGW GW 392, stainless steel pipes according to DIN EN 10088 / DVGW GW 541 and thin-walled C-steel pipe (material no. E195/1.0034) according to DIN EN 10305-3. Pressing must be carried out to tighten the connection. Only use press jaws with the original contours SANHA (SA), Geberit-Mapress (MM) or Viega (Profipress) in corresponding size. Processing must be carried out according to the installation instructions.

Awards:
International Design Award Baden-Württemberg
Good Design Award Japan
Industrial Design Forum Hanover Award iF

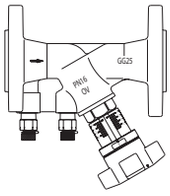
For further information see "Technical information":

Accessories: Page 3.42
Bonnets: Page 3.43
Insulation shells: Page 3.44

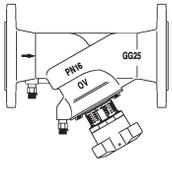
	Article	kvs	Article-No.	Hint

"Hydrocontrol VFC" Double regulating and commissioning valves PN 16 (presettable, flanged connection, cast iron) "classic" measuring technique

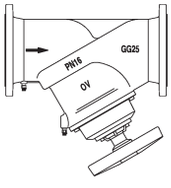
both ports flanged according to **DIN EN 1092-2**
with mounted accessories set no. 2 = 2 pressure test points G ¼



DN 20	4.80	**1062646**
DN 25	8.40	**1062647**
DN 32	17.10	**1062648**
DN 40	26.90	**1062649**
DN 50	36.00	**1062650**



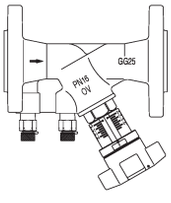
DN 65	98.00	**1062651**
DN 80	122.20	**1062652**
DN 100	201.00	**1062653**
DN 125	293.00	**1062654**
DN 150	404.30	**1062655**



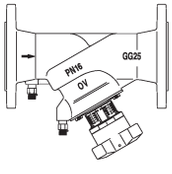
DN 200	814.50	**1062656**
DN 250	1,200.00	**1062657**
DN 300	1,600.00	**1062658**
DN 350	2,250.00	**1062659**
DN 400	3,750.00	**1062660**

Larger sizes on demand.

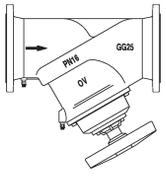
both ports flanged with hole circle according to **ANSI***
with mounted accessories set no. 2 = 2 pressure test points G ¼



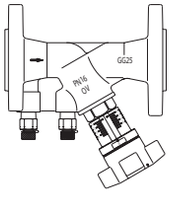
DN 20	4.80	**1062946**
DN 25	8.40	**1062947**
DN 32	17.10	**1062948**
DN 40	26.90	**1062949**
DN 50	36.00	**1062950**



DN 65	98.00	**1062951**
DN 80	122.20	**1062952**
DN 100	201.00	**1062953**
DN 125	293.00	**1062954**
DN 150	404.30	**1062955**



DN 200	814.50	**1062956**
DN 250	1,200.00	**1062957**
DN 300	1,600.00	**1062958**
DN 350	2,250.00	**1062959**
DN 400	3,750.00	**1062960**



both ports flanged according to **DIN EN 1092-2**
with mounted accessories set no. 2 = 2 pressure test points G ¼

DN 20	4.80	**1688746**
DN 25	8.40	**1688747**
DN 32	17.10	**1688748**
DN 40	26.90	**1688749**
DN 50	36.00	**1688750**

Application:
Central heating and cooling systems with closed circuits, for operation with non-aggressive, harmless fluids (e. g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).

For cooling systems: Please provide frost protection and diffusion tight insulation!

Measuring method:
Determination of the flow rate by measuring the differential pressure and taking the presetting values into consideration.
Measuring gauges: page 3.96 to 3.94

Oventrop double regulating and commissioning valves with secured infinitely adjustable presetting controllable at any time by use of the flow limiting device.
Lengths according to DIN EN 558-1, basic series 1.
All functioning components in one plane.

The double regulating and commissioning valves may be installed in either the supply or the return pipe.

Function:
Oventrop double and regulating commissioning valves are installed in the pipework of central heating and cooling systems and serve to achieve the hydronic balance between the various circuits of the system.
Further additional functions:
Regulation, isolation.
Infinitely adjustable presetting.
The pressure loss can be controlled exactly by using the pressure test points.

Description "Hydrocontrol VFC":
Max. operating pressure p_s: 16 bar (PN 16)
Operating temperature t_s: -10 °C up to +150 °C

Body (DN 20 - DN 300) made of cast iron (EN-GJL - 250 DIN EN 1561), DN 350 and DN 400 made of nodular cast iron (EN-GJS-500 DIN EN 1563).
Disc with PTFE or EPDM seal.
Maintenance-free stem seal due to double O-ring made of EPDM.

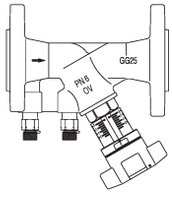
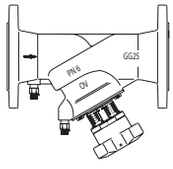
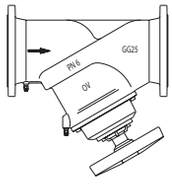
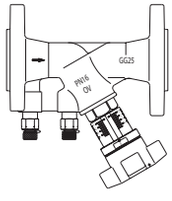
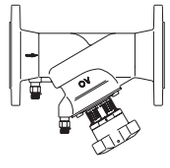
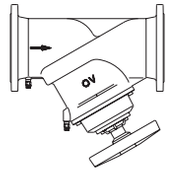
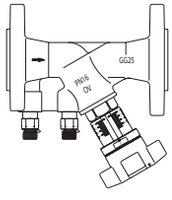
Award "Hydrocontrol VFC":
Pragotherm Prag

*US standard, class 150

For further information see "Technical information":

16887..:
Type approval for shipbuilding (DNV-GL).

Accessories: Page 3.42
Insulation shells: Page 3.44

Article	kvs	Article-No.
"Hydrocontrol VFC" Double regulating and commissioning valves PN 6		
both ports flanged according to **DIN EN 1092-2**		
with mounted accessories set no. 2 = 2 pressure test points G ¼		
		
DN 20	4.80	**1062676**
DN 25	8.40	**1062677**
DN 32	17.10	**1062678**
DN 40	26.90	**1062679**
DN 50	36.00	**1062680**
		
DN 65	98.00	**1062681**
DN 80	122.20	**1062682**
DN 100	201.00	**1062683**
DN 125	293.00	**1062684**
DN 150	404.30	**1062685**
		
DN 200	814.50	**1062686**
"Hydrocontrol VFR" Double regulating and commissioning valves PN 16 (presettable, flanged connection, bronze) "classic" measuring technique		
both ports flanged according to **DIN EN 1092-2**		
with mounted accessories set no. 2 = 2 pressure test points G ¼		
		
DN 50	36.00	**1062350**
		
DN 65	98.00	**1062351**
DN 80	122.20	**1062352**
DN 100	201.00	**1062353**
DN 125	293.00	**1062354**
DN 150	404.30	**1062355**
		
DN 200	814.50	**1062356**
both ports flanged according to **DIN EN 1092-2**		
with mounted accessories set no. 2 = 2 pressure test points G ¼		
		
DN 50	36.00	**1688350**
DN 200	814.50	**1688356**

Accessories: Page 3.42
Insulation shells: Pages 8.20, 3.44

Application:
Central heating and cooling systems with closed circuits, for operation with non-aggressive, harmless fluids (e. g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).
Measuring method:
Determination of the flow rate by measuring the differential pressure and taking the presetting values into consideration.

Measuring gauges: page 3.94 to 3.96
Oventrop double regulating and commissioning valves with secured infinitely adjustable presetting controllable at any time by use of the flow limiting device.
Lengths according to DIN EN 558-1, basic series 1.
All functioning components in one plane.

Function:
Oventrop double regulating and commissioning valves are installed in the pipework of central heating and cooling systems and serve to achieve the hydronic balance between the various circuits of the system.
Further additional functions:
Regulation, isolation.
Infinitely adjustable presetting.
The pressure loss can be controlled exactly by using the pressure test points.
Lead lockable presetting.
The double regulating and commissioning valves may be installed in either the supply or the return pipe.

Description "Hydrocontrol VFC":
Max. operating pressure p_s: 16 bar (PN 6)
Operating temperature t_s: -10 °C up to +150 °C

Body (DN 20 - DN 200) made of cast iron (EN-GJL - 250 DIN EN 1561).
Disc with PTFE seal.
Maintenance-free stem seal due to double O-ring made of EPDM.

Description "Hydrocontrol VFR":
Max. operating pressure p_s: 16 bar (PN 16)
Operating temperature t_s: -20 °C up to +150 °C
Body, bonnet and disc made of bronze, stainless steel stem, disc with PTFE seal.
Maintenance-free stem seal due to double O-ring made of EPDM.

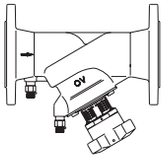
The bronze double regulating and commissioning valves "Hydrocontrol VFR" may also be used for cold salt water (max. 38 °C) and domestic water.

For further information see "Technical information":

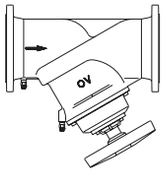
16883..:
Type approval for shipbuilding (DNV-GL).

Article	kvs	Article-No.	Hint

"Hydrocontrol VFN" Double regulating and commissioning valves PN 25
(presettable, flanged connection, nodular cast iron)
"classic" measuring technique
both ports flanged according to **DIN EN 1092-2**
with mounted accessories set no. 2 = 2 pressure test points G ¼



DN 65	98.00	**1062451**
DN 80	122.20	**1062452**
DN 100	201.00	**1062453**
DN 125	293.00	**1062454**
DN 150	404.30	**1062455**



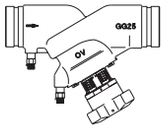
DN 200	814.50	**1062456**
DN 250	1,200.00	**1062457**
DN 300	1,600.00	**1062458**

Application:
Central heating and cooling systems with closed circuits, for operation with non-aggressive, harmless fluids (e. g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).
Measuring method:
Determination of the flow rate by measuring the differential pressure and taking the presetting values into consideration.
Measuring gauges: page 3.94 to 3.96

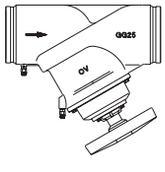
Function:
Oventrop double regulating and commissioning valves are installed in the pipework of central heating and cooling systems and serve to achieve the hydronic balance between the various circuits of the system.
Further additional functions:
Regulation, isolation.
Infinitely adjustable presetting.
The pressure loss can be controlled exactly by using the pressure test points.
Lead lockable presetting.
The double regulating and commissioning valves may be installed in either the supply or the return pipe.

Description "Hydrocontrol VFN":
Max. operating pressure p_s: 25 bar (PN 25)
Operating temperature t_s: -20 °C up to +150 °C
Body made of nodular cast iron (EN-GJS - 500 DIN EN 1563), stem made of brass resistant to dezincification. Disc with PTFE seal.
Maintenance-free stem seal due to double O-ring made of EPDM.

"Hydrocontrol VGC" Double regulating and commissioning valves PN 25
(presettable, groove connection, cast iron)
"classic" measuring technique
both ports groove connection for couplings
with mounted accessories set no. 2 = 2 pressure test points G ¼



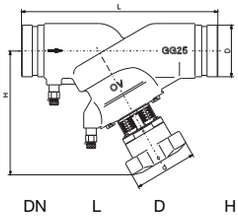
DN 65	98.00	**1063051**
DN 65	98.00	**1064051**
DN 80	122.20	**1063052**
DN 100	201.00	**1063053**
DN 125	293.00	**1063054**
DN 125	293.00	**1064054**
DN 150	404.30	**1063055**
DN 150	404.30	**1064055**



DN 200	814.50	**1063056**
DN 250	1,200.00	**1063057**
DN 300	1,600.00	**1063058**

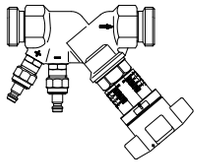
Suitable for couplings of the systems Victaulic and Grinell and similar.

Description "Hydrocontrol VGC":
Max. operating pressure p_s: 25 bar (PN 25)
Operating temperature t_s: -10 °C up to +150 °C
Body made of cast iron (EN-GJL - 250 DIN EN 1561), stem made of brass resistant to dezincification.
Disc with PTFE seal. Maintenance-free stem seal due to double O-ring made of EPDM.



Item no.	DN	L	D	H	d
1063051	65	290	73.0	200	160
1064051	65	290	76.1	200	160
1063052	80	310	88.9	215	160
1063053	100	350	114.3	244	160
1064054	125	400	139.7	289	160
1063054	125	400	141.3	289	160
1064055	150	480	165.1	293	160
1063055	150	480	168.3	293	160
1063056	200	600	219.1	467	300
1063057	250	730	273.0	480	300
1063058	300	850	323.9	515	300

Accessories: Page 3.42
Insulation shells: Pages 8.20, 3.44



"Hydrocontrol STR" Double regulating and commissioning valves PN 25
(solar, threaded connection, bronze)
with integrated metering station, quick-coupling measuring technique,
both ports compression connection for compression fittings "Regusol"

Article	kvs	Packing unit	Article-No.
DN 20 LF	1.04	(10)	**1369050**
DN 20 MF	2.60	(10)	**1369055**

both ports female thread according to EN 10226

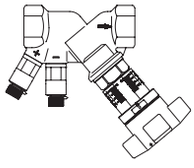
Article	kvs	Packing unit	Article-No.
DN 20 LF	1.04	(10)	**1369062**
DN 20 MF	2.60	(10)	**1369065**

Application "Hydrocontrol STR":
Solar plants with closed circuits, for operation with non-aggressive, harmless fluids (e. g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).
Measuring method:
Determination of the flow rate by measuring the differential pressure via the metering station.

Description "Hydrocontrol STR":
Max. operating pressure p_s: 25 bar (PN 25)
Operating temperature t_s: -20 °C up to +200 °C
Especially for solar plants. As the valve has no isolation function, a minimum flow rate is guaranteed. It is used for the hydronic balancing of collector fields.
Accessories:
Compression fittings "Regusol": page: 9.31

"Hydrocontrol MTR" Double regulating and commissioning valves PN 25
(metering station, threaded connection, bronze)
with integrated metering station, "classic" measuring technique

both ports female thread according to EN 10226



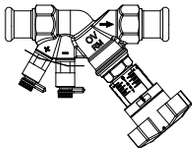
Article	kvs	Packing unit	Article-No.
DN 15 LF	0.55	(10)	**1060464**
DN 15 MF	1.15	(10)	**1060434**
DN 15 HF	2.10	(10)	**1060404**
DN 20	3.70	(10)	**1060406**
DN 25	6.10	(10)	**1060408**
DN 32	12.50	(5)	**1060410**
DN 40	18.10	(5)	**1060412**
DN 50	30.50	(5)	**1060416**

Application "Hydrocontrol MTR/MPR":
Central heating and cooling systems with closed circuits, for operation with non-aggressive, harmless fluids (e.g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).
Measuring method:
Determination of the flow rate by measuring the differential pressure via the metering station.
Modification of the flow rates irrespective of the presetting values can be read off directly with the help of the measuring gauges "OV-DMC 3"/OV-DMC 2"/"OV-DMPC".

Description "Hydrocontrol MTR":
Max. operating pressure p_s: 25 bar (PN 25), 362,5 psi
Operating temperature t_s: -20 °C up to +150 °C
Colour rings to mark the supply (red) and the return pipe (blue) are supplied with each valve.

"Hydrocontrol MPR" Double regulating and commissioning valves PN 16
(metering station, press connection, bronze)
with integrated metering station, "classic" measuring technique

both ports press connection



Article		kvs	Packing unit	Article-No.
DN 15 LF	Ø 15 mm	0.55	(10)	**1060651**
DN 15 MF	Ø 15 mm	1.15	(10)	**1061651**
DN 15 HF	Ø 15 mm	2.10	(10)	**1060451**
DN 15 HF	Ø 18 mm	2.10	(10)	**1060452**
DN 20	Ø 22 mm	3.70	(10)	**1060454**
DN 25	Ø 28 mm	6.10	(10)	**1060456**
DN 32	Ø 35 mm	12.50	(5)	**1060458**
DN 40	Ø 42 mm	18.10	(5)	**1060460**
DN 50	Ø 54 mm	30.50	(5)	**1060462**

Description "Hydrocontrol MPR":
Max. operating pressure ps: 16 bar (PN 16), 232 psi
Operating temperature ts: -20 °C up to +120 °C

Colour rings to mark the supply (red) and the return pipe (blue) are supplied with each valve.

Press connection:
For the direct connection of copper pipes according to DIN EN 1057 / DVGW GW 392, stainless steel pipes according to DIN EN 10088 / DVGW GW 541 and thin-walled C-steel pipe (material no. E195/1.0034) according to DIN EN 10305-3. Pressing must be carried out to tighten the connection. Only use press jaws with the original contours SANHA (SA), Geberit-Mapress (MM) or Viega (Profipress) in corresponding size. Processing must be carried out according to the installation instructions.

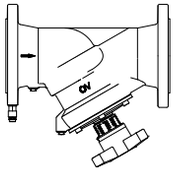
kvs values of the metering-stations "Hydrocontrol MTR/MPR":

DN 15 LF:	0.55
DN 15 MF:	1.2
DN 15 HF:	2.2
DN 20:	4.25
DN 25:	8.6
DN 32:	15.9
DN 40:	23.4
DN 50:	47

Accessories: Page 3.42

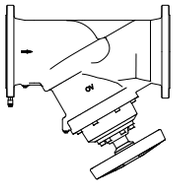
Article	kvs	Article-No.	Hint

"Hydrocontrol MFC" Double regulating and commissioning valves PN 16
(metering station, flanged connection, cast iron)
"classic" measuring technique



both ports flanged according to **DIN EN 1092-2**
with mounted accessories set no. 2 = 2 pressure test points G ¼

DN 65	86.70	**1065851**
DN 80	102.00	**1065852**
DN 100	198.00	**1065853**
DN 125	271.00	**1065854**
DN 150	400.00	**1065855**



DN 200	750.00	**1065856**
DN 250	1,090.00	**1065857**
DN 300	1,500.00	**1065858**

Application:
Central heating and cooling systems with closed circuits, for operation with non-aggressive, harmless fluids (e.g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).

For cooling systems: Please provide frost protection and diffusion tight insulation!

Measuring method:
Determination of the flow rate by measuring the differential pressure via the metering station.
Measuring gauges: page 3.96 to 3.94

Oventrop double regulating and commissioning valves, with secured infinitely adjustable presetting controllable at any time by use of the flow limiting device.
Lengths according to DIN EN 558-1, basic series 1.

All functioning components in one plane.

The double regulating and commissioning valves may be installed in either the supply or the return pipe.

Function:
Oventrop double regulating and commissioning valves are installed in the pipework of central heating and cooling systems and serve to achieve a hydronic balance between the various circuits of the system.

Further additional functions:
Regulation, isolation.
Infinitely adjustable presetting.

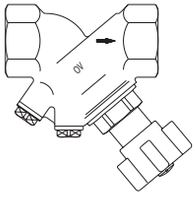
Description "Hydrocontrol MFC":
Max. operating pressure p_s: 16 bar (PN 16)
Operating temperature t_s: -10 °C up to +150 °C

Body made of cast iron (EN-GJL - 250 DIN EN 1561).
Disc with PTFE or EPDM seal.
Maintenance-free stem seal due to double EPDM O-ring.

Accessories: Page 3.42

Article	kvs	Packing unit	Article-No.	Hint

"Hydrocontrol ATR" Isolating and orifice valves PN 25 / PN 16 (with isolating facility, threaded connection, bronze)
with two threaded ports for "classic" measuring technique
(closed with blind plugs)
without presetting

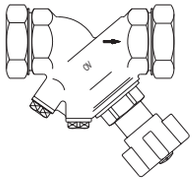


PN 25 both ports female thread according to EN 10226

DN 10	2.88	(10)	**1067503**
DN 15	3.88	(10)	**1067504**
DN 20	5.71	(10)	**1067506**
DN 25	8.89	(10)	**1067508**
DN 32	19.45	(5)	**1067510**
DN 40	27.51	(5)	**1067512**
DN 50	38.78	(5)	**1067516**

PN 16 both ports female thread according to EN 10226

DN 65		50.00	**1067520**

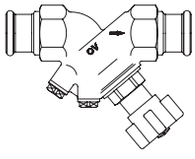


PN 16 both ports male thread with collar nut

DN 10	2.88	(10)	**1067603**
DN 15	3.88	(10)	**1067604**
DN 20	5.71	(10)	**1067606**
DN 25	8.89	(10)	**1067608**
DN 32	19.45	(5)	**1067610**
DN 40	27.51	(5)	**1067612**
DN 50	38.78	(5)	**1067616**

"Hydrocontrol APR" Isolating and orifice valves PN 16 (with isolating facility, press connection, bronze)

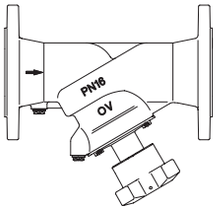
with two threaded ports for "classic" measuring technique
(closed with blind plugs)
without presetting
PN 16 both ports press connection



DN 15 Ø 15 mm	3.88	(10)	**1067551**
DN 15 Ø 18 mm	3.88	(10)	**1067552**
DN 20 Ø 22 mm	5.71	(10)	**1067554**
DN 25 Ø 28 mm	8.89	(10)	**1067556**
DN 32 Ø 35 mm	19.45	(5)	**1067558**
DN 40 Ø 42 mm	27.51	(5)	**1067560**
DN 50 Ø 54 mm	38.78	(5)	**1067562**

"Hydrocontrol AFC" Isolating and orifice valves PN 16 (with isolating facility, flanged connection, cast iron)

with two threaded ports for "classic" measuring technique
(closed with blind plugs)
without presetting
both ports flanged according to DIN EN 1092-2



DN 65		98.00	**1062051**
DN 80		122.00	**1062052**
DN 100		201.00	**1062053**
DN 125		293.00	**1062054**
DN 150		404.30	**1062055**

Application:
Central heating and cooling systems with closed circuits, for operation with non-aggressive, harmless fluids (e. g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).

Description "Hydrocontrol ATR":
Max. operating pressure p_s: 25 bar (PN 25) or 16 bar (PN 16)
Operating temperature t_s: -20 °C up to +150 °C

Body and bonnet made of bronze, stem and disc made of brass resistant to dezincification (DZR), disc with PTFE seal, blind plugs made of brass resistant to dezincification (DZR).

Colour rings to mark the supply (red) and the return pipe (blue) are supplied with each valve.

Male thread
DN 10 - G ⅝
DN 15 - G ¾
DN 20 - G 1
DN 25 - G 1¼
DN 32 - G 1½
DN 40 - G 1¾
DN 50 - G 2 ⅜

Description "Hydrocontrol APR":
Max. operating pressure p_s: 16 bar (PN 16)
Operating temperature t_s: -20 °C up to +120 °C

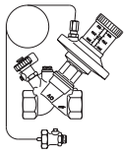
Press connection:
For the direct connection of copper pipes according to DIN EN 1057 / DVGW GW 392, stainless steel pipes according to DIN EN 10088 / DVGW GW 541 and thin-walled C-steel pipe (material no. E195/1.0034) according to DIN EN 10305-3. Pressing must be carried out to tighten the connection. Only use press jaws with the original contours SANHA (SA), Geberit-Mapress (MM) or Viega (Profipress) in corresponding size. Processing must be carried out according to the installation instructions.

For further information see "Technical information":

Description "Hydrocontrol AFC":
Max. operating pressure p_s: 16 bar (PN 16)
Operating temperature t_s: -10 °C up to +150 °C

Body made of cast iron.

Insulation shells: Pages 8.20, 3.44

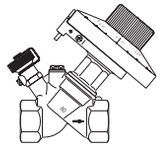


3.d "Hydromat" Differential pressure and flow regulators

Content

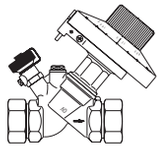
Article	Flow range	Article-No.	Hint

"Hydromat QTR" Flow regulators PN 16
(flow control, threaded connection, bronze)
with draining facility



both ports female thread according to EN 10226

DN 15	100 - 800 kg /h	**1061504**
DN 20	100 - 1,200 kg /h	**1061506**
DN 25	200 - 1,900 kg /h	**1061508**
DN 32	300 - 3,000 kg /h	**1061510**
DN 40	400 - 4,000 kg /h	**1061512**



both ports male thread with collar nuts

DN 15	100 - 800 kg /h	**1061604**
DN 20	100 - 1,200 kg /h	**1061606**
DN 25	200 - 1,900 kg /h	**1061608**
DN 32	300 - 3,000 kg /h	**1061610**
DN 40	400 - 4,000 kg /h	**1061612**

Application:
Central heating and cooling systems with closed circuits, for operation with non-aggressive, harmless fluids (e. g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).

Function:
Oventrop flow regulators for a local or central regulation of the flow in existing or new buildings. Installation is possible in either the supply or the return pipe. The flow rate is set to the required nominal value. Oventrop flow regulators are proportional regulators working without auxiliary energy. With the flow in the installation increasing, the valve disc closes down to maintain a constant flow within a necessary proportional band.

Description "Hydromat QTR":
Max. operating pressure p_s: 10 bar (PN 16)
Operating temperature t_s: -10 °C up to +120 °C
Body and bonnet made of bronze.
The regulators DN 15 and DN 20 with female thread are suitable for use with the compression fittings, item no. 10271.., page 3.45.

Male thread:
DN 15 - G ¾
DN 20 - G 1
DN 25 - G 1¼
DN 32 - G 1 ½
DN 40 - G 1¾

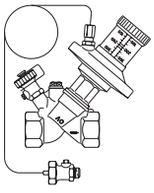
For further information see "Technical information":

Awards:
Industrial Design Forum Hanover
Award iF
Interclima Paris
Trophée du Design
Aqua-Therm Prague
Design Award Switzerland

Accessories: Page 3.42
Bonnets: Page 3.43
Tailpipe sets: Pages 1.54, 1.95, 3.45
Measuring gauges: Page 3.96

Article	kvs	Article-No.	Hint

"Hydromat DTR" Differential pressure regulators PN 16 (differential pressure control, threaded connection, bronze)
with connection set and draining facility

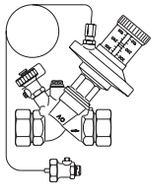


both ports female thread according to EN 10226
Nominal value: 50 to 300 mbar, infinitely adjustable

DN 15	2.50	**1064504**
DN 20	5.00	**1064506**
DN 25	7.50	**1064508**
DN 32	10.00	**1064510**
DN 40	15.00	**1064512**
DN 50	34.00	**1064516**

both ports female thread according to EN 10226
Nominal value: 250 to 700 mbar, infinitely adjustable

DN 15	2.50	**1064704**
DN 20	5.00	**1064706**
DN 25	7.50	**1064708**
DN 32	10.00	**1064710**
DN 40	15.00	**1064712**
DN 50	34.00	**1064716**



both ports male thread with collar nut
Nominal value: 50 to 300 mbar, infinitely adjustable

DN 15	2.50	**1064604**
DN 20	5.00	**1064606**
DN 25	7.50	**1064608**
DN 32	10.00	**1064610**
DN 40	15.00	**1064612**
DN 50	34.00	**1064616**

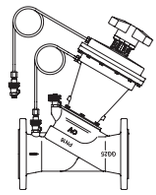
both ports male thread with collar nut
Nominal value: 250 to 700 mbar, infinitely adjustable

DN 15	2.50	**1064804**
DN 20	5.00	**1064806**
DN 25	7.50	**1064808**
DN 32	10.00	**1064810**
DN 40	15.00	**1064812**
DN 50	34.00	**1064816**

Application:
Central heating and cooling systems with closed circuits, for operation with non-aggressive, harmless fluids (e. g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).
All functioning components in one plane.
Function:
Oventrop differential pressure regulators are proportional regulators working without auxiliary energy. They are used in existing or new buildings for a local or central regulation of the differential pressure.
With the differential pressure in the installation increasing, the valve disc closes down to maintain a constant differential pressure within a necessary proportional band.
The differential pressure is set to the desired nominal value. The nominal value is infinitely adjustable and lockable.
The differential pressure regulators are designed for installation in the return pipe.
Further additional functions: Isolating, filling and draining.
The regulators are supplied complete with connection set (capillary length 1 m).
Male thread:
DN 15 - G ¾
DN 20 - G 1
DN 25 - G 1¼
DN 32 - G 1½
DN 40 - G 1¾
DN 50 - G 2⅜
Description "Hydromat DTR":
Max. operating pressure p_S: 10 bar (PN 16), 232 psi
Operating temperature t_s: -10 °C up to +120 °C
Body and bonnet made of bronze. Disc and stem made of brass resistant to dezincification (DZR), disc with EPDM seal.
Maintenance-free stem seal due to double O-ring made of EPDM.
The regulators DN 15 and DN 20 are suitable for use with the compression fittings, item no. 10271.., page 3.45.

For further information see "Technical information":

Bonnets: Page 3.43
Insulation shells: Pages 8.20, 3.44
Tailpipe sets: Pages 1.54, 1.95, 3.45



Article	kvs	Article-No.	Hint

"Hydromat DFC" Differential pressure regulators PN 16 (differential pressure control, flanged connection, cast iron)
with connection set and draining facility

both ports flanged according to EN 1092-2
Nominal value: 200 to 1000 mbar, infinitely adjustable

DN 65	52.00	**1064651**
DN 80	75.00	**1064652**
DN 100	110.00	**1064653**
DN 125	145.00	**1064654**
DN 150	170.00	**1064655**

both ports flanged according to EN 1092-2
Nominal value: 400 to 1800 mbar, infinitely adjustable

DN 65	52.00	**1064751**
DN 80	75.00	**1064752**
DN 100	110.00	**1064753**
DN 125	145.00	**1064754**
DN 150	170.00	**1064755**
DN 200	420.00	**1064756**

both ports flanged with hole circle according to ANSI
Nominal value: 400 to 1800 mbar, infinitely adjustable

DN 65	52.00	**1064951**
DN 80	75.00	**1064952**
DN 100	110.00	**1064953**
DN 125	145.00	**1064954**
DN 150	170.00	**1064955**

Application:
Central heating and cooling systems with closed circuits, for operation with non-aggressive, harmless fluids (e.g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).
All functioning components in one plane.
Function:
Oventrop differential pressure regulators are proportional regulators working without auxiliary energy. They are used in existing or new buildings for a local or central regulation of the differential pressure. With the differential pressure in the installation increasing, the valve disc closes down to maitain a constant differential pressure within a necessary proportional band.
The differential pressure ist set to the required nominal value.
The nominal value is infinitely adjustable and lockable.
The differential pressure regulators are designed for installation in the return pipe.
Further additional functions:
Isolation, filling and draining

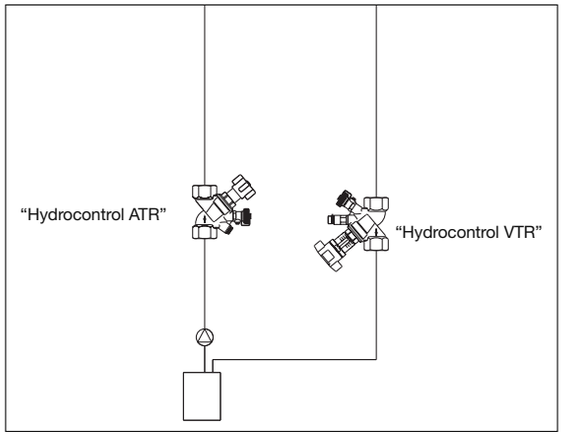
The regulators are supplied complete with connection set (capillary length 1 m).

Description "Hydromat DFC":
Max. operating pressure p_s: 16 bar (PN 16)
Operating temperature t_s: -10 °C up to +120 °C
Body made of cast iron (EN-GJL-250 DIN EN 1561).
Lengths according to DIN EN 558-1, basic series 1.
Bonnet made of bronze, stem made of brass resistant to dezincification (DZR), disc made of stainless steel with EPDM seal.
Maintenance-free stem seal due to double O-ring made of EPDM.

For further information see "Technical information":

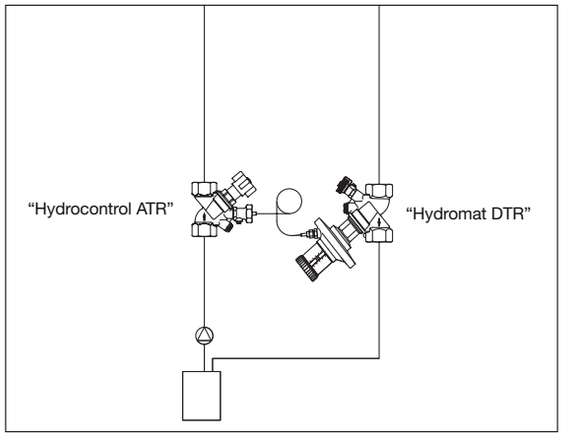
Accessories: Page 3.42

Further examples can be found in the product range “Flow, pressure and temperature balancing”.



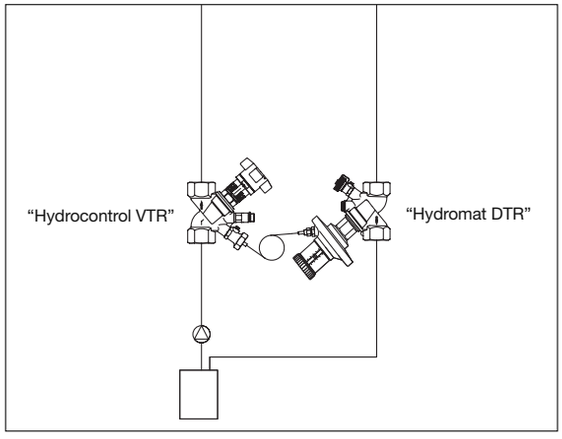
Standard installation:

for instance consisting of the double regulating and commissioning valve “Hydrocontrol VTR” and the isolating and orifice valve “Hydrocontrol ATR” for installations in which a hydronic balancing between the individual supply risers is required.



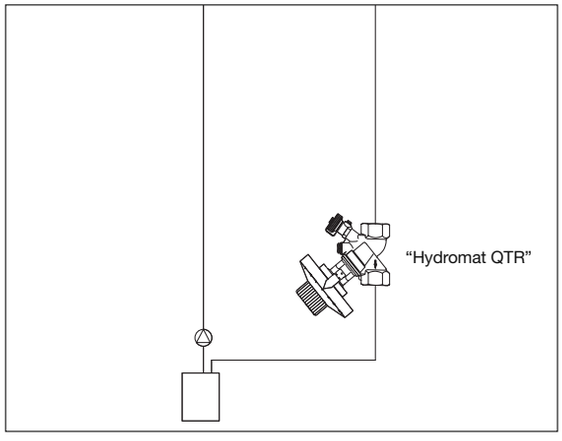
Differential pressure regulation:

for instance consisting of the differential pressure regulator “Hydromat DTR” and the isolating and orifice valve “Hydrocontrol ATR” for installations with presettable thermostatic valves.



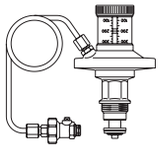
Differential pressure regulation with flow limitation:

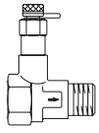
for instance consisting of the differential pressure regulator “Hydromat DTR” and the double regulating and commissioning valve “Hydrocontrol VTR” for installations without presettable thermostatic valves or radiator lockshield valves in which the flow rate shall additionally be limited to the calculated value.



Flow regulation:

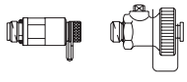
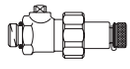
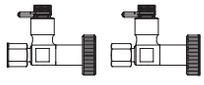
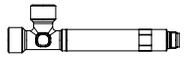
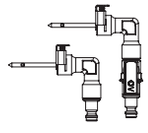
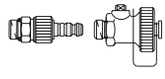
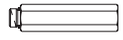
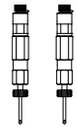
for instance consisting of the flow regulator “Hydromat QTR” for installations in which the rate in the individual supply risers shall be constantly maintained.

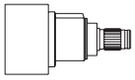
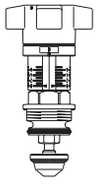
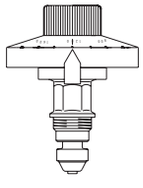
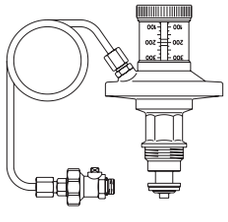


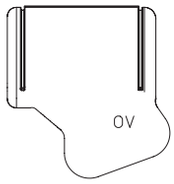
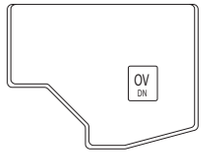
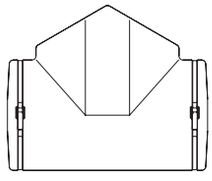


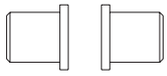
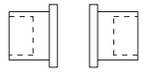
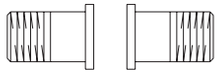
3.e Accessories for "Hydrocontrol", "Hydromat", "Hycocon"

Content

	Article	Packing unit	Article-No.	Hint
	Connection sets for subsequent conversion of double regulating and commissioning valves "Hydrocontrol" and for valves with "classic" measuring technique			
	Set 1 = 1 fill and drain ball valve G ¼	(50)	**1060191**	
	Set 2 = 2 pressure test point G ¼, "classic" measuring technique	(50)	**1060281**	Pressure test points made of brass resistant to dezincification (DZR).
	Set 3 = 1 pressure test point G¼, "classic" measuring technique 1 fill and drain ball valve G ¼	(50)	**1060381**	
	Measuring adapter, "classic" measuring technique	(50)	**1060298**	
	Set 13 = measuring adapter, "classic" measuring technique with fill and drain ball valve G ¼	(50)	**1060296**	Extended measuring adapter.
	2 measuring adapters, "classic" measuring technique	(10)	**1060299**	For differential pressure measurement at the differential pressure regulators “Hydromat DTR/DFC“.
	Extension pressure test point (L = 80 mm) with T-piece connection	(50)	**1688290**	For differential pressure measurement, for instance at the double regulating and commissioning valve, and simultaneous connection of the capillary of the differential pressure regulator.
	Set 9 = 2 measuring needles for	(50)	**1069199**	
	Set 10 = 2 pressure test points G ¼	(50)	**1060291**	Quick-coupling technic.
	Set 11 = 1 pressure test point G ¼ 1 fill and drain ball valve G ¼	(50)	**1060391**	Quick-coupling technic.
	L = 80 mm (1 extension) L = 40 mm (1 extension)	(50)	**1060295** **1688295**	Pressure test point extension, can only be mounted after having drained the system.
	L = 100 mm (2 pressure test points with extensions)	(50)	**1060282**	The pressure test point extensions can be mounted without draining the system.
	Bronze pressure test points "classic" measuring technique	(50)	**4209090**	Set = 2 pressure test points G ¼

	Article	Packing unit	Article-No.	Hint
	Stem extensions			For double regulating and commissioning valves "Hydrocontrol VTR/ VPR/ MTR/ VFR/ VFC/ VFN/ VGC/ AFC".
	DN 10 - DN 50		**1688296**	L = 35 mm. For valve insulation with standard insulation material. Not suitable for use with Oventrop insulation shells.
	DN 65 - DN 150		**1688297**	
	Capillary 2 m long for "Hycocon DTZ" and "Hydromat DTR"	(10)	**1062095**	The capillary can also be used for "Hydromat DTR" manufactured since 2012.
	Capillary 5 m long for "Hycocon DTZ" and "Hydromat DTR"	(10)	**1062097**	
	Bonnets for bronze double regulating and commissioning valves "Hydrocontrol VTR/VPR", "Hydrocontrol MTR/MPR" and cast iron double regulating and commissioning valves "Hydrocontrol VFC"			
	DN 10		**1069003**	The bonnets are required for replacement purposes or for the conversion of e. g. orifice and isolating valves to double regulating and commissioning valves. Bonnets item no. 4208192 (page 8.32) only for "Hydrocontrol MTR/MPR" DN 15 LF.
	DN 15		**1069004**	
	DN 20		**1069006**	
	DN 25		**1069008**	
	DN 32		**1069010**	
	DN 40		**1069012**	
	DN 50		**1069016**	
	for flow regulator "Hydromat QTR"			
	DN 15		**1061592**	
	DN 20		**1061593**	
	DN 25		**1061594**	
	DN 32		**1061595**	
	DN 40		**1061596**	
	Diaphragm actuators for differential pressure regulator "Hydromat DTR", complete with connection set			
	Nominal value: 50 to 300 mbar, infinitely adjustable			
	DN 15		**1064592**	
	DN 20		**1064593**	
	DN 25		**1064594**	
	DN 32		**1064595**	
	DN 40		**1064596**	
	DN 50		**1064597**	
	Nominal value: 250 to 700 mbar, infinitely adjustable			
	DN 15		**1064792**	
	DN 20		**1064793**	
	DN 25		**1064794**	
	DN 32		**1064795**	
	DN 40		**1064796**	
	DN 50		**1064797**	

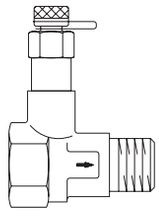
Article	Packing unit	Article-No.	Hint
Insulation shells			
 **Insulation shells made of polyethylene flexible foam** for “Hydrocontrol VTR/VPR”, “Hydrocontrol ATR/APR”, “Hydromat QTR” and “Hydromat DTR” Operating temperature t_s: +100 °C			Meet the requirements of the German Energy Saving Directive (EnEV) according to appendix 5, table 1, line 5. Only for heating systems. Building material class B1 according to DIN 4102.
DN 10 - DN 15	(100)	**1060481**	
DN 20	(100)	**1060482**	
DN 25	(125)	**1060483**	
DN 32	(100)	**1060484**	
DN 40	(100)	**1060485**	
DN 50	(100)	**1060486**	
 **Insulation shells made of polyurethane rigid foam** for "Hydrocontrol VTR/VPR", "Hydrocontrol ATR/APR", "Hydromat QTR", "Hydromat DTR", as well as for free-flow valves "Aquastrom F" and "Aquastrom KFR" valves Operating temperature t_s: +130°C (for short periods up to +150°C)			Insulation shells (two-part) made of polyurethane with tongue-and-groove fitting. Meet the requirements of the German Energy Saving Directive (EnEV), appendix 5, table 1, line 5. Building material class B2 according to DIN 4102.
DN 10 - DN 15		**1060081**	
DN 20		**1060082**	
DN 25		**1060083**	
DN 32		**1060084**	
DN 40		**1060085**	
DN 50		**1060086**	
 **Insulation shells made of polyurethane rigid foam with polystyrene shell** for double regulating and commissioning valves “Hydrocontrol VFC”, “Hydrocontrol VFR”, “Hydrocontrol VFN”, “Hydrocontrol VGC” and "Hydrocontrol AFC" Operating temperature t_s: –10 °C up to +130 °C			For heating and cooling systems. Building material class B2 according to DIN 4102. Meet the requirements of the German Energy Saving Directive (EnEV) according to appendix 5, table 1, line 5.
Cold insulation: Min. fluid temperature: +6 °C The insulation shells have to be bonded hermetically (restricted diffusion tightness at low fluid temperature and at high ambient temperature and/or humidity).			
DN 20		**1062581**	
DN 25		**1062582**	
DN 32		**1062583**	
DN 40		**1062584**	
DN 50		**1062585**	
DN 65		**1062586**	
DN 80		**1062587**	
DN 100		**1062588**	
DN 125		**1062589**	
DN 150		**1062590**	
Accessories for the double regulating and commissioning valves "Hydrocontrol VTR/VPR" (up to DN 50), "Hydrocontrol VFC" (up to DN 50) and "Hydrocontrol MTR/MPR"			
 Lead sealing set (10 fold)	(10)	**1089091**	Consisting of lead seal and locking wire.
Locking set (1 fold)	(25)	**1060180**	Consisting of locking cap, lead seal and locking wire.
Marking ring			Colour rings for marking the risers to be clipped onto the handwheel.
blue	(50)	**1069650**	
red	(50)	**1069651**	
violet	(50)	**1069652**	
green	(50)	**1069653**	

Article	Packing unit	Article-No.	Hint
Tailpipe sets **for "Hycocon", "Hydrocontrol" and "Hydromat"**			Application: Central heating and cooling systems with closed circuits, for operation with non-aggressive, harmless fluids (e. g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195). Max. operating pressure p_s: 16 bar (PN 16) Operating temperature t_s: -20 °C up to +150 °C
 Set 5 = 2 weldable tailpipes			
for valve DN 10	(10)	**1060591**	
for valve DN 15	(10)	**1060592**	
for valve DN 20	(10)	**1060593**	
for valve DN 25	(10)	**1060594**	
for valve DN 32	(5)	**1060595**	
for valve DN 40	(5)	**1060596**	
for valve DN 50	(5)	**1060597**	
 Set 6 = 2 solder tailpipes			
18 mm for valve DN 15	(10)	**1061091**	
15 mm for valve DN 15	(10)	**1061092**	
18 mm for valve DN 20	(10)	**1061093**	
22 mm for valve DN 20	(10)	**1061094**	
28 mm for valve DN 25	(10)	**1061095**	
35 mm for valve DN 32	(5)	**1061096**	
42 mm for valve DN 40	(5)	**1061097**	
54 mm for valve DN 50	(5)	**1061098**	
 Set 7 = 2 male threaded tailpipes			
R ⅜ for valve DN 10	(10)	**1061491**	
R ½ for valve DN 15	(10)	**1061492**	
R ¾ for valve DN 20	(10)	**1061493**	
R 1 for valve DN 25	(10)	**1061494**	
R 1¼ for valve DN 32	(5)	**1061495**	
R 1½ for valve DN 40	(5)	**1061496**	
R 2 for valve DN 50	(5)	**1061497**	
 Set 8 = 2 female threaded tailpipes			
Rp ½ for valve DN 15	(10)	**1061392**	
Rp ¾ for valve DN 20	(10)	**1061393**	
Rp 1 for valve DN 25	(10)	**1061394**	
Rp 1¼ for valve DN 32	(5)	**1061395**	
"Ofix" Compression fittings brass **for female thread** "Ofix CEP" for copper pipes according to DIN EN 1057 compression nut nickel plated, metal to metal sealing			Application: Central heating and cooling systems with closed circuits, for operation with non-aggressive, harmless fluids (e. g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195). Max. operating pressure p_s: 25 bar (PN 25) Operating temperature t_s: -20 °C up to +150 °C The "Ofix" compression fittings for female thread are **not** supplied as a set of 2 pieces.
			
G ⅜ x 10 mm	(10)	**1027151**	
G ⅜ x 12 mm	(10)	**1027152**	
G ½ x 10 mm	(10)	**1027150**	
G ½ x 12 mm	(10)	**1027153**	
G ½ x 14 mm	(10)	**1027154**	
G ½ x 15 mm	(10)	**1027155**	
G ½ x 16 mm	(10)	**1027156**	
G ¾ x 18 mm	(10)	**1027157**	
G ¾ x 22 mm	(10)	**1027158**	

"Cofit P" Press fittings: Page 11.12

Article	kvs	Packing unit	Article-No.	Hint

Metering stations

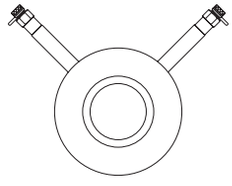


PN 25 with 2 pressure test points
“classic” measuring technique

made of brass resistant to dezincification (DZR)

inlet port female thread, outlet port male thread

DN 15 LF	0.55	(10)	**1060644**
DN 15 MF	1.20	(10)	**1060634**
DN 15	2.20	(10)	**1060604**
DN 20	4.25	(10)	**1060606**
DN 25	8.60	(10)	**1060608**
DN 32	15.90	(10)	**1060610**
DN 40	23.70	(10)	**1060612**
DN 50	48.00	(10)	**1060616**



Wafer type to fit between two flanges
“classic” measuring technique

made of stainless steel PN 16
with 2 extended pressure test points

DN 65	102.00	**1060751**°
DN 80	120.00	**1060752**°
DN 100	234.00	**1060753**
DN 125	335.00	**1060754**
DN 150	522.00	**1060755**
DN 200	780.00	**1060756**
DN 250	1,197.00	**1060757**
DN 300	1,810.00	**1060758**
DN 350	2,050.00	**1060759**
DN 400	2,650.00	**1060760**
DN 450	3,400.00	**1060761**
DN 500	4,200.00	**1060762**
DN 600	6,250.00	**1060763**
DN 700	10,690.00	**1060764**
DN 800	14,000.00	**1060765**
DN 900	17,577.00	**1060766**
DN 1,000	22,540.00	**1060767**

made of stainless steel PN 25
with 2 extended pressure test points

DN 100	234.00	**1060853**
DN 125	335.00	**1060854**
DN 150	522.00	**1060855**
DN 200	780.00	**1060856**
DN 250	1,197.00	**1060857**
DN 300	1,810.00	**1060858**
DN 350	2,050.00	**1060859**
DN 400	2,650.00	**1060860**
DN 450	3,400.00	**1060861**
DN 500	4,200.00	**1060862**
DN 600	6,250.00	**1060863**

made of cast iron (EN-GJL-250 DIN EN 1561) PN 16
with 2 extended pressure test points (L = 32 mm)

DN 65 °	93.00	**1060771**
DN 80 °	126.00	**1060772**
DN 100	244.00	**1060773**
DN 125	415.00	**1060774**
DN 150	540.00	**1060775**
DN 200	1,010.00	**1060776**
DN 250	1,450.00	**1060777**
DN 300	2,400.00	**1060778**

Application:
Central heating and cooling systems with closed circuits, for operation with non-aggressive, harmless fluids (e. g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).

The metering stations DN 15 and DN 20 are suitable for use with "Ofix" compression fittings, item no. 10271.., page 3.45 and 1028155, page 1.140.

Measuring method:
Determination of the flow rate by measuring the differential pressure via the metering station. Modification of the flow rates irrespective of the presetting values can be read off directly with the help of the measuring gauges "OV-DMC 3"/"OV-DMC 2"/"OV-DMPC".
Measuring gauges: page 3.94 to 3.96
Description:
Metering stations made of brass resistant to dezincification.
Max. operating pressure: p_s 25 bar (PN 25)
Operating temperature t_s: -20 °C up to +150 °C

The metering stations made of brass resistant to dezincification (DZR) can be combined with any valves with female thread according to EN 10226, e. g.

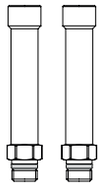
"Hydrocontrol ATR"
item no.. 10675..
"Hycocon ATR"
item no. 10673..
Gate valves
item no.. 10400/30..
Oblique pattern globe valves
item no.. 10502/03.. and 10520/21..
"Aquastrom" valves
item no. 420....

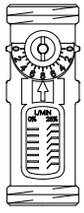
Double regulating and commissioning valves "Hydrocontrol MTR/MPR/MFC" with integrated metering station: pages 3.32 and 3.33

Description:
Metering stations for installation between flanges.
Max. operating pressure p_s: 16 bar/ 25 bar (PN 16/ PN 25)
Operating temperature t_s: -10 °C up to +150 °C (1060771 - 78: t_s: -10 °C up to +120 °C)
The metering stations for installation between flanges can be combined with any flanged valves according to DIN EN 1092, e. g.
"Hydrocontrol VFR" (PN 16)
item no. 10626..
"Hydrocontrol VFC" (PN 16)
item no. 10623..
"Hydrocontrol VFN" (PN 25)
item no.: 10624..

Larger sizes on demand.

°Metering stations DN 65 and DN 80 are also suitable for flanges PN 25.

	Article	Packing unit	Article-No.	Hint
	**Pressure test point extension**			For wafer type metering stations made of cast iron item no. 1060771-78.
	L = 80 mm (2 extensions)	(50)	**1688291**	



3.f "Hycoflow" Double regulating and commissioning valves with flow display

Content

Article	Control-range	kvs	Packing unit	Article-No.
"Hycoflow VTB" Double regulating and commissiong valve with flow display PN 10				
both ports male thread, flat sealing				
DN 20	4 - 17 l/min	3.00	(10)	**1060906**
DN 25	10 - 40 l/min	8.30	(10)	**1060908**
DN 32	20 - 70 l/min	13.70	(5)	**1060910**
Inlet port: collar nut, outlet port: male thread				
DN 25	5 - 40 l/min	5.50		**1060925**

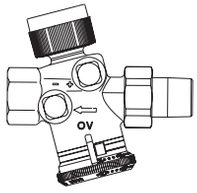
Application:
Central heating and cooling systems with closed circuits, for operation with non-aggressive, harmless fluids (e. g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).

Measuring method:
Direct reading of the set volume flow.

Function:
Double regulating and commissioning valves with isolating facility and flow display. They facilitate the hydronic balancing of circuits or parts of the system and can be installed in the supply as well as in the return pipe either horizontally or vertically.

Description:
Max. operating pressure p_s: 10 bar (PN10)
Operating temperature t_s: up to 100 °C

Thread:
DN 20: G ¾
DN 25: G 1
DN 32: G 1¼



3.g "Cocon" Regulating valves

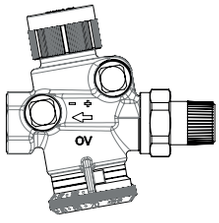
Content

3

Article	Control range	Packing unit	Article-No.	Hint

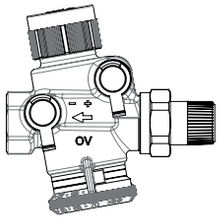
"Cocon QTZ" Pressure independent control valves PN 25 (flow control, threaded connection, dezincification resistant brass)

connection thread M 30 x 1.5
both ports with connections for "classic" measuring technique (closed with blind plugs)



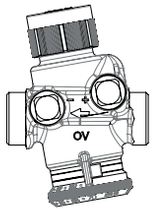
Inlet port: coupling, outlet port: female thread

DN 15	30 - 210 l/h	(10)	**1143504***
DN 15	150 - 700 l/h	(10)	**1143604***
DN 15	200 - 1300 l/h	(10)	**1143704***
DN 20	250 - 1800 l/h	(10)	**1143606***
DN 25	400 - 2500 l/h	(10)	**1143608***
DN 32	600 - 4800 l/h	(5)	**1143610***



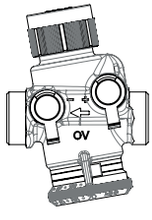
with pressure test points "classic" measuring technique
Inlet port: coupling, outlet port: female thread

DN 15	30 - 210 l/h	(10)	**1143104***
DN 15	150 - 700 l/h	(10)	**1143204***
DN 15	200 - 1300 l/h	(10)	**1143304***
DN 20	250 - 1800 l/h	(10)	**1143206***
DN 25	400 - 2500 l/h	(10)	**1143208***
DN 32	600 - 4800 l/h	(5)	**1143210***



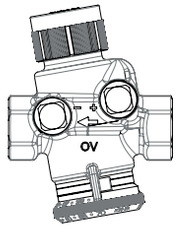
both ports with connections for "classic" measuring technique (closed with blind plugs)
both ports male thread

DN 10	30 - 210 l/h	(10)	**1143563***
DN 10	150 - 700 l/h	(10)	**1143663***
DN 15	30 - 210 l/h	(10)	**1143564***
DN 15	150 - 700 l/h	(10)	**1143664***
DN 15	200 - 1300 l/h	(10)	**1143764***
DN 20	250 - 1800 l/h	(10)	**1143666***
DN 25	400 - 2500 l/h	(10)	**1143668***
DN 32	600 - 4800 l/h	(5)	**1143670***



with pressure test points "classic" measuring technique
both ports male thread

DN 10	30 - 210 l/h	(10)	**1143163***
DN 10	150 - 700 l/h	(10)	**1143263***
DN 15	30 - 210 l/h	(10)	**1143164***
DN 15	150 - 700 l/h	(10)	**1143264***
DN 15	200 - 1300 l/h	(10)	**1143364***
DN 20	250 - 1800 l/h	(10)	**1143266***
DN 25	400 - 2500 l/h	(10)	**1143268***
DN 32	600 - 4800 l/h	(5)	**1143270***



both ports with connections for "classic" measuring technique (closed with blind plugs)
both ports female thread

DN 15	30 - 210 l/h	(10)	**1147204***
DN 15	150 - 700 l/h	(10)	**1147304***
DN 15	200 - 1300 l/h	(10)	**1147404***
DN 20	250 - 1800 l/h	(10)	**1147306***
DN 25	400 - 2500 l/h	(10)	**1147308***
DN 32	600 - 4800 l/h	(5)	**1147310***

Application:
Central heating and cooling systems (like fan convectors (fan coil units), chilled ceiling modules, induction air systems, cooling and heating zones) with closed circuits, for operation with non-aggressive, harmless fluids (e. g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).

Max. operating pressure ps: 25 bar (PN 25)
Operating temperature ts: -10 °C up to +120 °C

Function:
Oventrop pressure independent control valves "Cocon QTZ" control the room temperature with the help of actuators and thermostats. The max. flow is set to the required nominal value and is constantly maintained within the necessary proportional band. The installation can be drained, filled, bled and flushed via the measuring connections.

Fill and drain ball valve: page 3.42

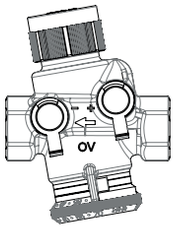
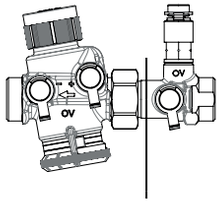
Model both ports male threaded:
DN 10: G ½ male threaded connection, flat sealing
DN 15: G ¾ male threaded connection for compression fittings "Ofix", pages 1.140, 1.141 and 1.143.
With insert item no. 1661100 (page 1.125) suitable for flat sealing tailpipes.

DN 20: G 1 male threaded connection for compression fittings, page 9.31.
With insert item no. 1650796 (page 3.59) suitable for flat sealing tailpipes.

DN 25: G 1¼ male threaded connection, flat sealing

DN 32: G 1¾ male threaded connection, flat sealing

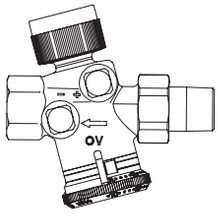
Tailpipe sets: Page 3.58
Flexible hoses: Page 3.62
Combination possibilities of valves and actuators: Page 3.08

Article	Control range	Packing unit	Article-No.	Hint
	both ports with connections for "classic" measuring technique both ports female thread			
DN 15	30 - 210 l/h	(10)	**1149204***	
DN 15	150 - 700 l/h	(10)	**1149304***	
DN 15	200 - 1300 l/h	(10)	**1149404***	
DN 20	250 - 1800 l/h	(10)	**1149306***	
DN 25	400 - 2500 l/h	(10)	**1149308***	
DN 32	600 - 4800 l/h	(5)	**1149310***	
	with mounted metering station and pressure test points "classic" measuring technique both ports male thread			
DN 15	30 - 210 l/h	(10)	**1144864***	
DN 15	150 - 700 l/h	(10)	**1144964***	
DN 15	200 - 1300 l/h	(10)	**1145064***	
DN 20	250 - 1800 l/h	(10)	**1144966***	

Article	Control range	Packing unit	Article-No.

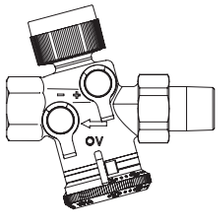
"Cocon QTZ" Pressure independent control valves PN 16 (flow control, threaded connection, brass resistant to dezincification)

connection thread M 30 x 1.5
both ports with connections for "classic" measuring technique (closed with blind plugs)



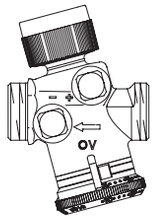
Inlet port: coupling, outlet port: female thread

DN 15	30 - 210 l/h	(10)	**1145504°**
DN 15	90 - 450 l/h	(10)	**1145604°**
DN 15	150 - 1050 l/h	(10)	**1145704°**
DN 20	150 - 1050 l/h	(10)	**1145506°**
DN 20	180 - 1300 l/h	(10)	**1145606°**
DN 25	300 - 2000 l/h	(5)	**1145608°**
DN 32	600 - 3600 l/h	(5)	**1145610°**



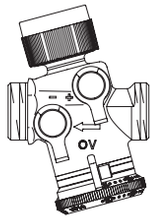
with pressure test points "classic" measuring technique
Inlet port: coupling, outlet port: female thread

DN 15	30 - 210 l/h	(10)	**1146004°**
DN 15	150 - 1050 l/h	(10)	**1146204°**
DN 15	90 - 450 l/h	(10)	**1146104°**
DN 20	150 - 1050 l/h	(10)	**1146006°**
DN 20	180 - 1300 l/h	(10)	**1146106°**
DN 25	300 - 2000 l/h	(5)	**1146108°**
DN 32	600 - 3600 l/h	(5)	**1146110°**



both ports with connections for "classic" measuring technique (closed with blind plugs)
both ports male thread

DN 10	30 - 210 l/h	(10)	**1145563°**
DN 10	90 - 450 l/h	(10)	**1145663°**
DN 15	30 - 210 l/h	(10)	**1145564°**
DN 15	90 - 450 l/h	(10)	**1145664°**
DN 15	150 - 1050 l/h	(10)	**1145764°**
DN 20	150 - 1050 l/h	(10)	**1145566°**
DN 20	180 - 1300 l/h	(10)	**1145666°**
DN 25	300 - 2000 l/h	(5)	**1145668°**
DN 32	600 - 3600 l/h	(5)	**1145670°**



with pressure test points "classic" measuring technique
both ports male thread

DN 10	30 - 210 l/h	(10)	**1146063°**
DN 10	90 - 450 l/h	(10)	**1146163°**
DN 15	30 - 210 l/h	(10)	**1146064°**
DN 15	90 - 450 l/h	(10)	**1146164°**
DN 15	150 - 1050 l/h	(10)	**1146264°**
DN 20	150 - 1050 l/h	(10)	**1146066°**
DN 20	180 - 1300 l/h	(10)	**1146166°**
DN 25	300 - 2000 l/h	(5)	**1146168°**
DN 32	600 - 3600 l/h	(5)	**1146170°**

Application:
Central heating and cooling systems (like fan convectors (fan coil units), chilled ceiling modules, induction air systems, cooling and heating zones) with closed circuits, for operation with non-aggressive, harmless fluids (e. g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).

Max. operating pressure p_s: 16 bar (PN 16), 232 psi
Operating temperature t_s: -10 °C up to +120 °C

Function:
Oventrop pressure independent control valves "Cocon QTZ" control the room temperature with the help of actuators and thermostats. The maximum flow is set to the required nominal value and is constantly maintained within the necessary proportional band.

All valves DN 15 and DN 20 are suitable for the installation with copper pipes.

Model one port coupling, one port female thread:
Compression fittings page 1.140, reinforcing sleeves page 1.143.

Model both ports male threaded:
DN 10: G ½ male threaded connection, flat sealing

DN 15: G ¾ male threaded connection for compression fittings "Ofix", pages 1.140, 1.141 and 1.143.
With insert item no. 1661100 (page 1.125) suitable for flat sealing tailpipes.

DN 20: G 1 male threaded connection for compression fittings, page 9.31.
With insert item no. 1650793 (page 3.59) suitable for flat sealing tailpipes.

DN 25: G 1¼ male threaded connection, flat sealing

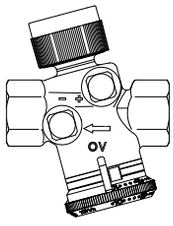
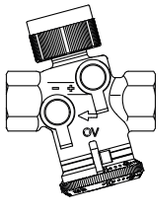
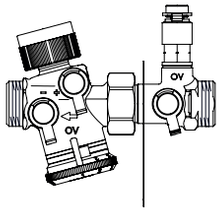
DN 32: G 1¾ male threaded connection, flat sealing

Award:
The Chicago Athenaeum: Museum of Architecture and Design GOOD DESIGN Award

Nominated for Design Award of the Federal Republic of Germany

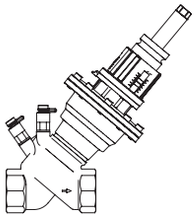
For further information see "Technical information":

Tailpipe sets: Page 3.58
Flexible hoses: Page 3.62
Combination possibilities of valves and actuators: Page 3.08
"Unofix" Refurbishment of one pipe heating systems Page 1.98

Article	Control range	Packing unit	Article-No.	Hint
				
both ports with connections for "classic" measuring technique (closed with blind plugs) both ports female thread				
DN 15	30 - 210 l/h	(10)	**1147504°**	
DN 15	90 - 450 l/h	(10)	**1147604°**	
DN 20	150 - 1050 l/h	(10)	**1147506°**	
DN 15	150 - 1050 l/h	(10)	**1147704°**	
DN 20	180 - 1300 l/h	(10)	**1147606°**	
DN 25	300 - 2000 l/h	(5)	**1147608°**	
DN 32	600 - 3600 l/h	(5)	**1147610°**	
				
with pressure test points "classic" measuring technique both ports female thread				
DN 15	30 - 210 l/h	(10)	**1148504°**	
DN 15	90 - 450 l/h	(10)	**1148604°**	
DN 15	150 - 1050 l/h	(10)	**1148704°**	
DN 20	150 - 1050 l/h	(10)	**1148506°**	
DN 20	180 - 1300 l/h	(10)	**1148606°**	
DN 25	300 - 2000 l/h	(5)	**1148608°**	
DN 32	600 - 3600 l/h	(5)	**1148610°**	
				
with mounted metering station and pressure test points "classic" measuring technique both ports male thread				
DN 15	30 - 210 l/h	(10)	**1144564°**	
DN 15	90 - 450 l/h	(10)	**1144664°**	
DN 15	150 - 1050 l/h	(10)	**1144764°**	
DN 20	150 - 1050 l/h	(10)	**1144566°**	
DN 20	180 - 1300 l/h	(10)	**1144666°**	

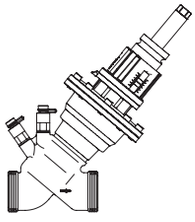
Article	Control range	Article-No.	Hint

"Cocon QTR" Pressure independent control valves PN 25 / PN 16 (flow control, threaded connection, bronze) "classic" measuring technique



both ports female thread according to EN 10226, PN 25

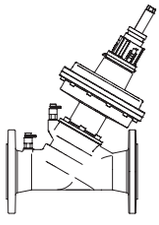
DN 40	1.5 - 7.5 m³/h	**1146112**
DN 50	2.5 - 10.0 m³/h	**1146116°**
DN 50	3.5 - 14 m³/h	**1143116***



both ports male thread, PN 16

DN 40	1.5 - 7.5 m³/h	**1146172**
DN 50	2.5 - 10.0 m³/h	**1146174**

"Cocon QFC" Pressure independent control valves PN 16 (flow control, flanged connection, cast iron) "classic" measuring technique

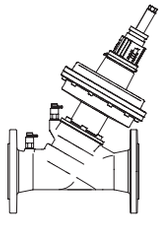


both ports flanged according to EN 1092-2

DN 40	1.5 - 7.5 m³/h	**1146149**
DN 50	2.0 - 8.0 m³/h	**1146150**
DN 65	5.0 - 20.0 m³/h	**1146151**
DN 80	7.5 - 30.0 m³/h	**1146152**
DN 100	12.5 - 50.0 m³/h	**1146153**
DN 125	27.0 - 108.0 m³/h	**1146154**
DN 150	36.0 - 150.0 m³/h	**1146155**
DN 200	55.0 - 190.0 m³/h	**1146156**

High-flow model

DN 125		**1143154***
DN 150		**1143155***



both ports flanged with hole circle according to ANSI

DN 40	1.5 - 7.5 m³/h	**1676149**
DN 50	2.0 - 8.0 m³/h	**1676150**
DN 65	5.0 - 20.0 m³/h	**1676151**
DN 80	7.5 - 30.0 m³/h	**1676152**
DN 100	12.5 - 50.0 m³/h	**1676153**
DN 125	27.0 - 108.0 m³/h	**1676154**
DN 150	36.0 - 150.0 m³/h	**1676155**
DN 200	55.0 - 190.0 m³/h	**1676156**

Application:
Central heating and cooling systems (like fan convectors (fan coil units), chilled ceiling modules, induction air systems, cooling and heating zones) with closed circuits, for operation with non-aggressive, harmless fluids (e. g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).

Max operating pressure p_s : 16 bar (PN 16), 232 psi
or 25 bar (PN 25), 362.5 psi
Operating temperature t_s: -10 °C up to +120 °C
Male thread:
DN 40: Connection G 1¾, flat sealing
DN 50: Connection G 2⅜, flat sealing

Function:
Oventrop pressure independent control valves "Cocon QTR/QFC" control the flow rate with the help of actuators. The maximum flow is set to the required nominal value and is constantly maintained within the necessary proportional band.

Description "Cocon QTR":
Body made of bronze.

Description "Cocon QFC" (11461.., 16761..):
Body made of cast iron (EN-GJL-250 DIN EN 1561)

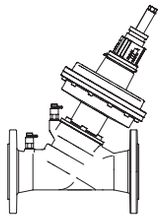
Description "Cocon QFC (11466..):
Body made of nodular cast iron (EN-GJS-500 DIN EN 1563), DN 40 and DN 50 made of cast iron (EN-GJL-250 DIN EN 1561)

Actuators: page 3.91

For further information see "Technical information":

Combination possibilities of valves and actuators: Page 3.08

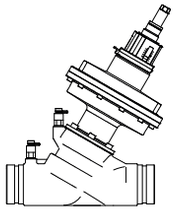
Article	Control range	Article-No.	Hint



"Cocon QFC" Pressure independent control valves PN 25
(flow control, flanged connection, cast iron)
"classic" measuring technique

both ports flanged according to DIN EN 1092-2

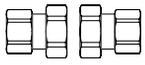
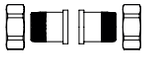
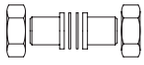
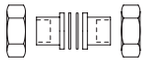
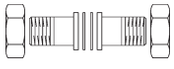
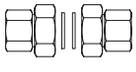
DN 40	1.5 - 7.5 m³/h	**1146649**
DN 50	2.0 - 8.0 m³/h	**1146650**
DN 65	5.0 - 20.0 m³/h	**1146651**
DN 80	7.5 - 30.0 m³/h	**1146652**
DN 100	12.5 - 50.0 m³/h	**1146653**
DN 125	27.0 - 108.0 m³/h	**1146654**
DN 150	36.0 - 150.0 m³/h	**1146655**
DN 200	55.0 - 190.0 m³/h	**1146656**



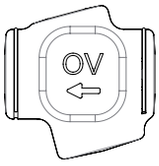
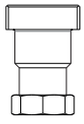
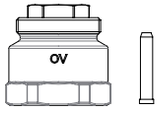
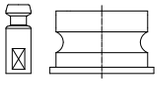
"Cocon QGC" Pressure independent control valves PN 16
(flow control, flanged connection, cast iron)
"classic" measuring technique

both ports groove connection for couplings

DN 65	5.0 - 20.0 m³/h	**1676251**
DN 80	7.5 - 30.0 m³/h	**1676252**
DN 100	12.5 - 50.0 m³/h	**1676253**

	Article	Packing unit	Article-No.	Hint
	Accessories for "Cocon QTZ" PN 25 and "Cocon 2TZ" **Tailpipe sets, flat sealing/tapered sealing,** **with collar nut and O-ring**			
	Set = 2 female threaded tailpipes			DN 15 and DN 20 with tapered sealing.
	Rp ½ for valve DN 15	(10)	**1141292***	
	Rp ¾ for valve DN 20	(10)	**1141293***	
	Rp 1 for valve DN 25	(10)	**1141294***	
	Rp 1¼ for valve DN 32	(5)	**1141295***	
	Set = 2 male threaded tailpipes			DN 15 and DN 20 with tapered sealing.
	R ⅜ for valve DN 10	(10)	**1140281***	
	R ½ for valve DN 15	(10)	**1140282**	
	R ¾ for valve DN 20	(10)	**1140284**	
	R 1 for valve DN 25	(10)	**1140285***	
	R 1¼ for valve DN 32	(5)	**1140286***	
	Accessories for "Cocon QTZ" PN 16 and "Cocon QTR" **Tailpipe sets, flat sealing** **with collar nut and ring gasket**			
	Set = 2 weldable tailpipes			DN 15 and DN 20: Supplied with insert (change-over from tapered to flat sealing).
	for valve DN 10	(10)	**1140591**	
	for valve DN 15	(10)	**1140592**	
	for valve DN 20	(10)	**1140593**	
	for valve DN 25	(10)	**1140594**	
	for valve DN 32	(5)	**1140595**	
	for valve DN 40	(5)	**1140596**	
	for valve DN 50	(5)	**1140597**	
	Set = 2 solder tailpipes			
	18 mm for valve DN 15	(10)	**1140691**	
	15 mm for valve DN 15	(10)	**1140692**	
	18 mm for valve DN 20	(10)	**1140693**	
	22 mm for valve DN 20	(10)	**1140694**	
	28 mm for valve DN 25	(10)	**1140695**	
	35 mm for valve DN 32	(5)	**1140696**	
	42 mm for valve DN 40	(5)	**1140697**	
	54 mm for valve DN 50	(5)	**1140698**	
	Set = 2 male threaded tailpipes			
	R ⅜ for valve DN 10	(10)	**1140791**	
	R ½ for valve DN 15	(10)	**1140792**	
	R ¾ for valve DN 20	(10)	**1140793**	
	R 1 for valve DN 25	(10)	**1140794**	
	R 1¼ for valve DN 32	(5)	**1140795**	
	R 1½ for valve DN 40	(5)	**1140796**	
	R 2 for valve DN 50	(5)	**1140797**	
	Set = 2 female threaded tailpipes			
	Rp ½ for valve DN 15	(10)	**1140892**	
	Rp ¾ for valve DN 20	(10)	**1140893**	
	Rp 1 for valve DN 25	(10)	**1140894**	
	Rp 1¼ for valve DN 32	(5)	**1140895**	

Tailpipe sets: Pages 3.60, 3.65
Flexible hoses: Page 3.62

	Article	Packing unit	Article-No.	Hint
	**Insulation shells for "Cocon QTZ" PN 16**			Insulation, consisting of two shells. For heating and cooling systems. Meet the requirements of the German Energy Saving Directive (EnEV) according to appendix 5, table 1, line 5. Operating temperature ts: -10 °C up to +120 °C Cold insulation: Min. fluid temperature: +6 °C The insulation shells have to be bonded hermetically (restricted diffusion tightness at low fluid temperature and at high ambient temperature and/or humidity).
	DN 15 - DN 20		**1149104**	
	DN 20 (model: 180 - 1300 l/h)		**1149106**	
	DN 25 - DN 32		**1149108**	
	Insert	(100)	**1650793**	For "Cocon QTZ" DN 20 with male threaded connection G 1. Suitable for flat sealing tailpipes.
	**Adapter for "Cocon QTZ"**			
	For the conversion of the rotary movement of the actuator (90°) into a stroke lift required for the valve	(25)	**1149095**	
	Adapter with stem for "Cocon QTZ", thermostatic valves Extension = 25 mm	(10)	**1149190**	Is required if the "Cocon QTZ" valves shall be equipped with insulation shells and actuators.
	Accessories for "Cocon QTR" and "Cocon QFC"			Actuator types: **1149011:** DN 40 - 100 SAX 61.03 DN 65 - 200 SKC 60 **1149021:** DN 65 - 100 ML 7421 A3004 DN 65 - 100 ML 7420 A6009 DN 125 - 200 ML 7421 B3003 (restricted flow in combination with DN 150/ 200) **1149031:** DN 65 - 100 VA 7810-GGA-12 DN 125 - 200 VA 1125-GGA-1 **1149041:** DN 40 - 200 AV24-MFT
	Adapter set for the adaptation of actuators of other manufacturers to Oventrop "Cocon QTR/QFC" valves			
	Adapter (Siemens)	(10)	**1149011**	
	Adapter (Honeywell)	(10)	**1149021**	
	Adapter (Johnson Controls)	(10)	**1149031**	
	Adapter (Belimo)	(10)	**1149041**	

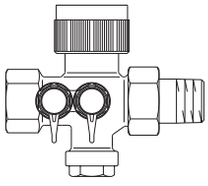
3

Article	Packing unit	Article-No.	Hint
Tailpipe sets with tapered sealing, with O-ring, for "Cocon 2TZ" and "Cocon QTZ"			
 Solder tailpipe, 2-fold			
12 mm DN 15	(10)	**1140181**	
15 mm DN 15	(10)	**1140182**	
18 mm DN 20	(10)	**1140183**	
22 mm DN 20	(10)	**1140184**	
 Plug-in tailpipe, 2-fold			
10 mm DN 15	(10)	**1140380**	
12 mm DN 15	(10)	**1140381**	
15 mm DN 15	(10)	**1140382**	
18 mm DN 20	(10)	**1140383**	
22 mm DN 20	(10)	**1140384**	

Article	kvs	Packing unit	Article-No.	Hint

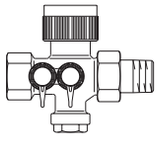
"Cocon 2TZ" Regulating valves PN 10
(two-way valve, threaded connection,
brass resistant to dezincification)

"eco" measuring technique
Components in contact with water are made of brass resistant to dezincification (DZR), both ports with mounted pressure test points and drain valves, with linear flow characteristic line at kvs values 0.45 and 1.0
connection thread M 30 x 1.5



Inlet port: coupling, outlet port: female thread

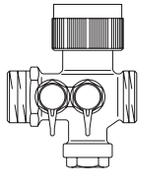
DN 15	0.45	(10)	**1145004**
DN 15	1.00	(10)	**1145104**
DN 15	1.80	(10)	**1145204**



"classic" measuring technique
both ports with mounted pressure test points,
with linear flow characteristic line at kvs values 0.45 and 1.0
connection thread M 30 x 1.5

Inlet port: coupling, outlet port: female thread

DN 15	0.45	(10)	**1145074**
DN 15	1.00	(10)	**1145174**
DN 15	1.80	(10)	**1145274**



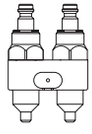
both ports male thread

DN 15	0.45	(10)	**1145371**
DN 15	1.00	(10)	**1145372**
DN 15	1.80	(10)	**1145373**
DN 20	4.50	(10)	**1145475**

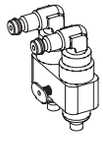
Tailpipe sets: page 3.60

Measuring devices for "Cocon 2TZ" regulating valves with "eco" measuring technique
for measurement with
measuring gauge "OV-DMC 2"

Measuring devices



Straight pattern (10) **1145099**



Angle pattern (10) **1145085**

Application:
Central heating and cooling systems (like fan convectors (fan coil units), chilled ceiling modules, induction air systems, cooling and heating zones) with closed circuits, for operation with non-aggressive, harmless fluids (e. g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).

Max. operating pressure p_s: 10 bar (PN 10)
Operating temperature t_s: -10 °C up to +120 °C

General information:
DN 15: G ¾ male threaded connection for compression fittings "Ofix", page 3.45. With insert item no. 1661100 (page 3.65) suitable for flat sealing tailpipes.

DN 20: G 1 male threaded connection for compression fittings, page 9.31.

"Cocon 2TZ":
Oventrop regulating valves "Cocon 2TZ" control the room temperature with the help of actuators and thermostats. Regarding the measuring procedure, the technical information "Cocon 2TZ" has to be observed.

The valves are installed in the return pipe. Presettable, determination of the flow rate by measuring the differential pressure via the integrated metering station.

Modification of the flow rates irrespective of the presetting values can be read off directly with the help of the measuring gauges "OV-DMC 3"/"OV-DMC 2".

Measuring gauges: page 3.94 to 3.96

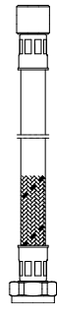
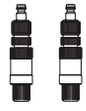
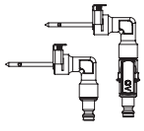
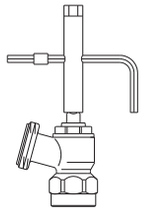
Advantages:
- presetting
- with draining, filling and isolating facility
- measuring
- regulating
- exact control of the flow rate/differential pressure via the pressure test points

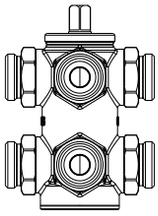
Valve inserts: page 3.19

Award:
Interclima Paris
Concours de l'Innovation

For further information see "Technical information":

Accessories: Pages 3.17, 3.62, 3.98
Combination possibilities of valves and actuators: Page 3.08

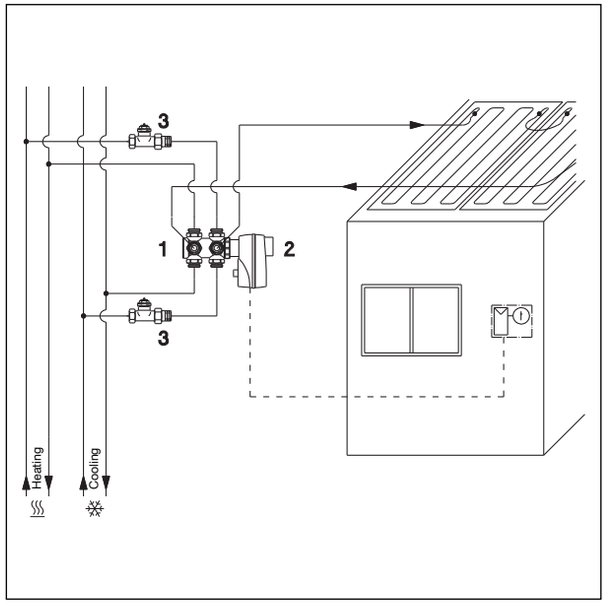
	Article	Packing unit	Article-No.	Hint
	**„OV-Flex HC“ Flexible hoses for heating an cooling systems**			Diffusion impeding, flexible hose made of EPDM with outer sleeve made of stainless steel wire mesh.
	one port G ¾ collar nut with tapered sealing, one port plug-in fitting for copper pipe according to EN 1057			Application: Heating and cooling systems (e. g. for the connection of radiant and chilled ceilings) with closed circuits, for operation with non-aggressive, harmless fluids (e. g. water or water and glycol mixtures according to VDI 2035/ÖNORM 5195).
	for 12 mm copper pipe	(100)	**1140351**	
	for 15 mm copper pipe	(100)	**1140352**	
	one port G ¾ collar nut, flat sealing, one port plug-in fitting for copper pipe according to EN 1057			Max. operating pressure p_s: 10 bar (PN 10) Operating temperature t_s: 0 °C up to 70 °C
	for 12 mm copper pipe	(100)	**1140551**	
	for 15 mm copper pipe	(100)	**1140552**	
	Accessories			Tapered sealing connection: Suitable for "Cocon QTZ/2TZ" with G ¾ male thread.
	Fill and drain tool for valves with "eco" measuring technique		**1061791**	**“eco” measuring technique:** For draining, venting and filling the installation.
	Set = 2 measuring needles for valves with "eco" measuring technique	(25)	**1061799**	For measurement with measuring systems "OV-DMC 3", "OV-DMC 2" and "OV-DMPC".
	Measuring adapter, "classic" measuring technique	(50)	**1060298**	
	Set 9 = 2 measuring needles for	(50)	**1069199**	
	**"FSA" Filling and isolation device** for chilled ceilings			Max. operating pressure p_s: 16 bar (PN 16) Operating temperature t_s: -10 °C up to +120 °C
	DN 15	(10)	**1149004**	Function: Filling and isolation device "FSA" for filling, draining and isolating by turning the handle by 90°.
	Service tool		**1090551**	



3.h "Optibal W6" Six-way ball valve

Content

3



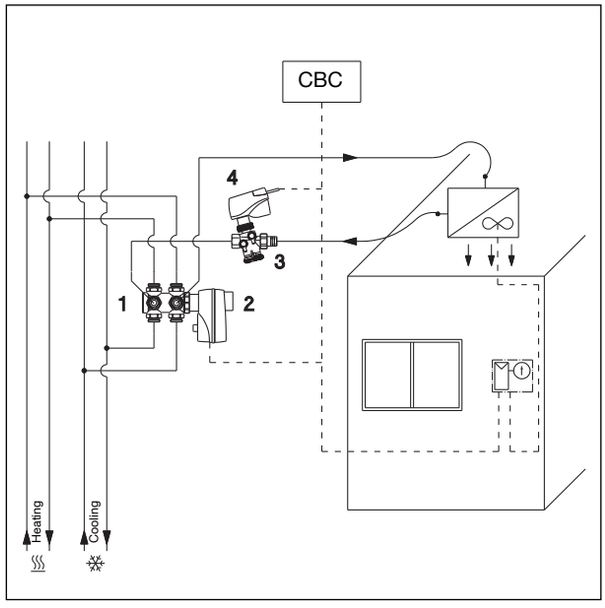
Six-way ball valve with rotary actuator and thermostatic valves “AQ” in the supply of the heating and cooling circuit.

Automatic hydronic balancing is carried out by the thermostatic radiator valves “AQ” with combined control and regulating function in any position of the six-way ball valve during heating and cooling operation. The infinitely adjustable presetting of the maximum permissible volume flow can be carried out separately for both types of operation.

In case of larger volume flows, the pressure independent control valves “Cocon QTZ” can be installed instead of the thermostatic valves “AQ”.

As the volume flow is constantly maintained in the terminal unit “chilled/radiant ceiling” by the valve combination, the terminal unit is not affected by differential pressure variations in the heating or cooling system.

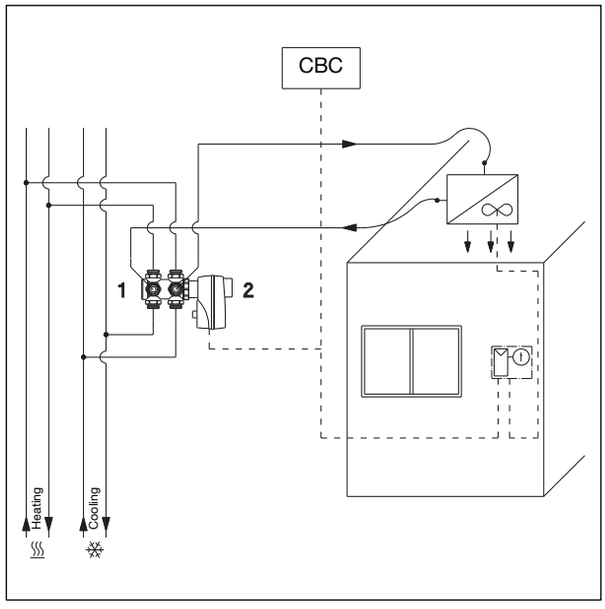
Example:
1 Six-way ball valve, item no. 1132004
2 Rotary actuator, item no. 1132030
3 Thermostatic valve “AQ”, item no. 1183164



Six-way ball valve with rotary actuator, pressure independent control valve “Cocon QTZ” and stroke actuator in the return of the terminal unit.

Contrary to the application with the thermostatic valves “AQ” in the supply of the heating and cooling circuit, automatic hydronic balancing is guaranteed by the pressure independent control valve “Cocon QTZ” in the return of the terminal unit. The different volume flows which are required for the operating conditions heating/cooling can be realised with the help of the different characteristic lines of the actuator and stroke limitations.

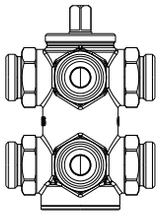
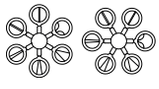
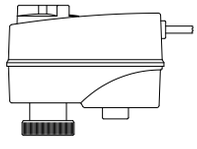
Example:
1 Six-way ball valve, item no. 1132004
2 Rotary actuator, item no. 1132030
3 Pressure independent control valve “Cocon QTZ”, item no. 1143264
4 Electromotive actuator “Aktor M”, item no. 1012705

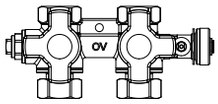


Six-way ball valves with rotary actuator as change-over and control ball valve with kvs orifice.

Integration option into a centralised building control system.

Example:
1 Six-way ball valve, item no. 1132004 with mounted kvs orifices of set item no. 1132020
2 Rotary actuator, item no. 1132030

	Article	Packing unit	Article-No.	Hint
	**"Optibal W6" Six-way ball valve** for switching between heating and cooling in a four-pipe system			Application: Four-pipe heating and cooling systems for the connection of radiant/chilled ceilings and fan coils.
	DN 15, G ¾ with inner taper		**1132004***	PN 16 Max. differential pressure: 2 bar Operating temperature t_s: - 10 °C* up to +120°C *free from ice
	DN 20, G 1 with inner taper		**1132006***	
				Body made of dezincification resistant brass. Kvs value (without orifice): 4.0 Distance between pipe centres: 50 mm
				Connections: DN 15: G ¾ male thread with cone "Euro" according to EN 16313 DN 20: G 1 male thread with taper
	**Kvs orifice set** with integrated control contour Kvs values: 0.25/ 0.4/ 0.63/ 1,0/ 1.6 and 2.5 The set consists of 2 Kvs orifices.		**1132020***	Kvs orifices for the supply pipes for flow limitation. High quality plastic. The orifices feature a control contour which allows for a linear up to equal percentage flow control via the rotary actuator.
	**"Aktor R ST L"** Rotary actuator for six-way ball valve, 24 V, proportional rotary atuator 0 - 10 V (or two point via forced control 24 V) with position feedback signal 0 - 10 V			Rotary actuator for Oventrop six-way ball valve Torque: 5 Nm Angle of rotation: 90 ° With manual setting
	For DN 15 and DN 20		**1132030***	
	Tailpipe sets with tapered sealing with O-ring			
	Solder tailpipe, 2-fold			
	12 mm DN 15	(10)	**1140181**	
	15 mm DN 15	(10)	**1140182**	
	18 mm DN 20	(10)	**1140183**	
	22 mm DN 20	(10)	**1140184**	
	Plug-in tailpipe, 2-fold			
	10 mm DN 15	(10)	**1140380**	
	12 mm DN 15	(10)	**1140381**	
	15 mm DN 15	(10)	**1140382**	
	18 mm DN 20	(10)	**1140383**	
	22 mm DN 20	(10)	**1140384**	
	Inserts			
	Insert	(100)	**1650793**	For "Cocon QTZ" DN 20 with male threaded connection G 1. Suitable for flat sealing tailpipes.
	Insert as set = 2 pieces			For "Multiflex F", "Multiblock T/TU/TFU/TQ/ T-RTL/TQ-RTL" and "Cocon QTZ" DN 15.
	for cone according to DIN EN 16313 (cone "Euro")	(50)	**1661100**	

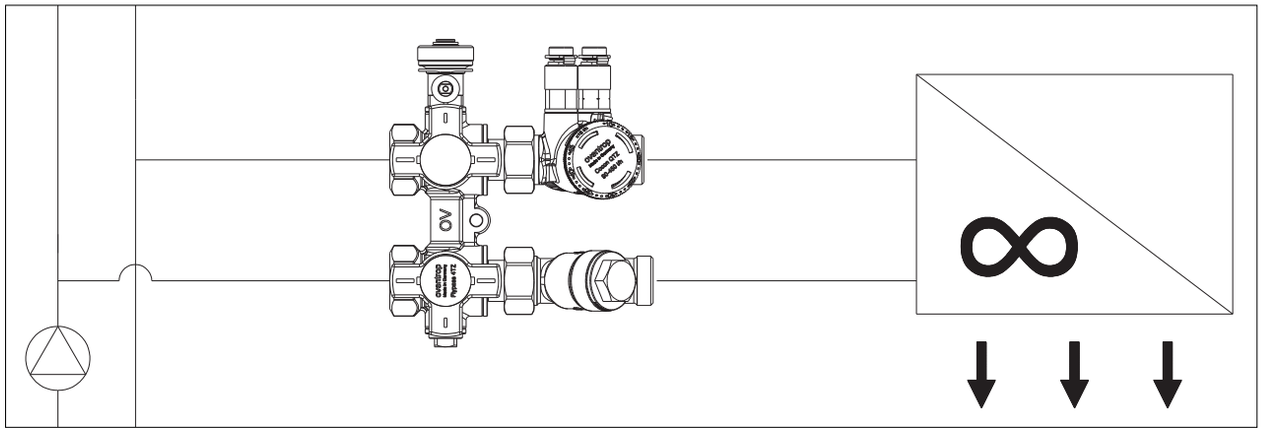


3.i "Flypass" Connection systems, valves and fittings

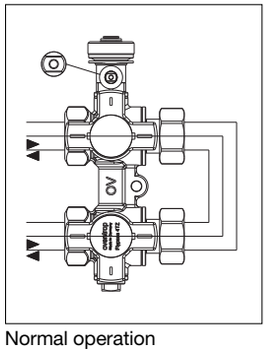
Content

3

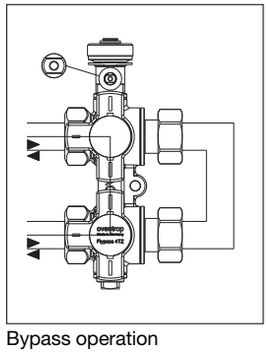
System example with “Flypass set 1”:



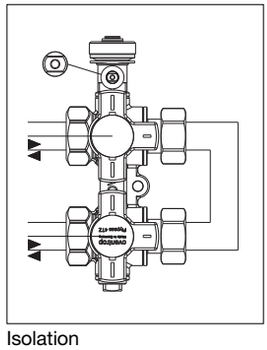
Functions “Flypass 4TZ”, connection fitting/installation example:



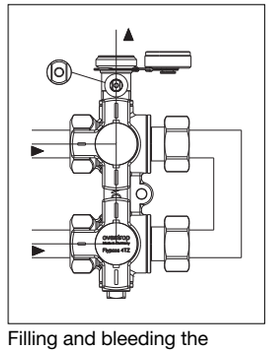
Normal operation



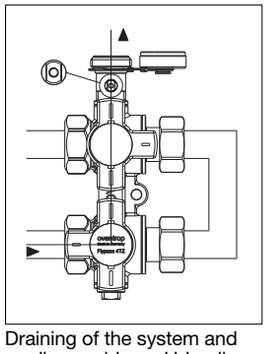
Bypass operation



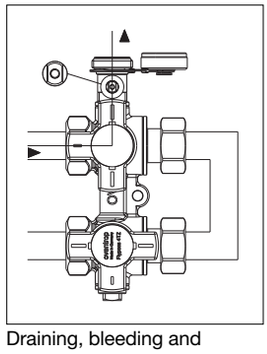
Isolation



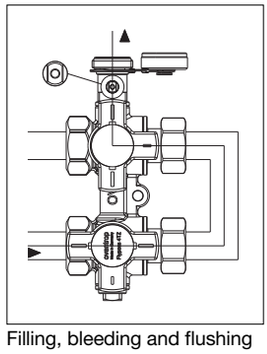
Filling and bleeding the system side



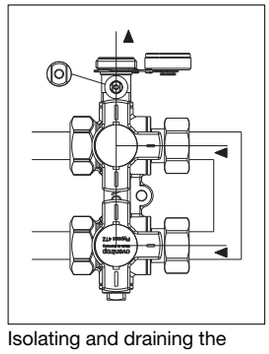
Draining of the system and appliance side and bleeding and flushing the system side



Draining, bleeding and flushing the system side

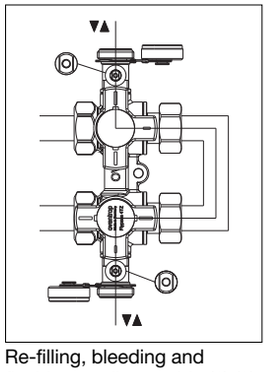


Filling, bleeding and flushing the appliance side (1)

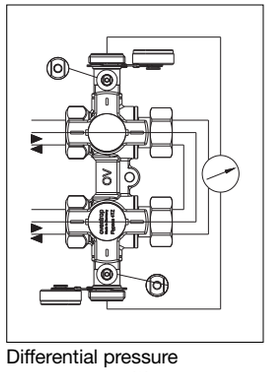


Isolating and draining the appliance side

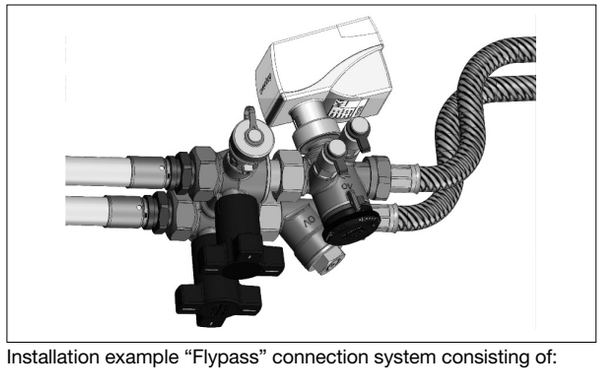
Functions “Flypass 4TZ” with accessories (fill and drain ball valve 1060191)



Re-filling, bleeding and flushing appliance side (1) (2)



Differential pressure measurement (3)



Installation example “Flypass” connection system consisting of: “Flypass 4TZ” and accessories (to be ordered separately)

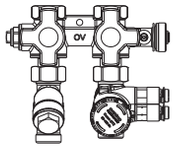
(1) If required, open all components on the appliance side completely.

(2) Accessory fill and drain valve required

(3) Accessory fill and drain valve as well as measuring system “OV-DMC2” or “OV-DMPC” required

Article	Article-No.	Hint

"Flypass" Connection sets



"Flypass set 1"

DN 15 **1149450**

consisting of:
1x "Flypass 4TZ" 1149504
1x Strainer 1141004
1x "Cocon QTZ" (30 - 210 l/h) 1146064
1x Insert 1661100 (2 pces.)

DN 15 **1149550**

consisting of
1x "Flypass 4TZ" 1149504
1x Strainer 1141004
1x "Cocon QTZ" (90 - 450 l/h) 1146164
1x Insert 1661100 (2 pces.)

DN 15 **1149650**

consisting of:
1x "Flypass 4TZ" 1149504
1x Strainer 1141004
1x "Cocon QTZ" (150 - 1050 l/h) 1146264
1x Insert 1661100 (2 pces.)

DN 15 **1149553**

coniisting of:
1x "Flypass 4 TZ" 1149504
1x Strainer 1141004
1x "Cocon QTZ" (30 - 210 l/h)
with mounted metering station 1144564
1x Female threaded tailpipe set 1140892 (2 pces.)

DN 20 **1149551**

consisting of:
1x "Flypass 4TZ" 1149506
1x Strainer 1141006
1x "Cocon QTZ" (150 - 1050 l/h) 1146066
2x Insert 1650793 (1 pce.)

DN 20 **1149651**

consisting of:
1x "Flypass 4TZ" 1149506
1x Strainer 1141006
1x "Cocon QTZ" (180 - 1300 l/h) 1146166
1x Insert 1650793 (2 pces.)

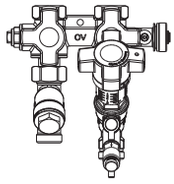
DN 20 **1149554**

consisting of:
1x "Flypass 4TZ" 1149506
1x Strainer 1141006
1x "Cocon QTZ" (180 - 1300 l/h)
with mounted metering station 1144666
1x Female threaded tailpipe set 1140893 (2 pces.)

DN 25 **1149552**

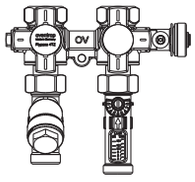
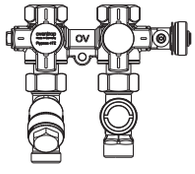
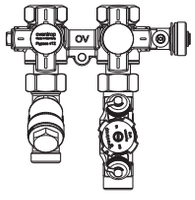
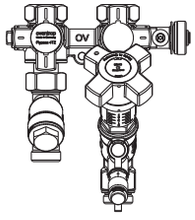
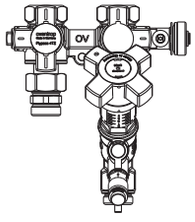
consisting of:
1x "Flypass 4TZ" 1149506
1x Strainer 1141006
1x "Cocon QTZ" (300 - 2000 l/h) 1146168

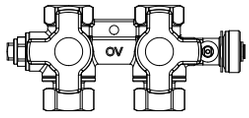
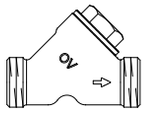
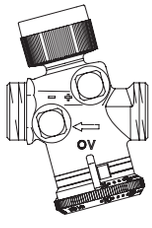
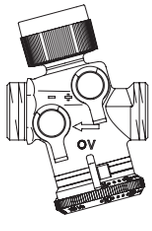
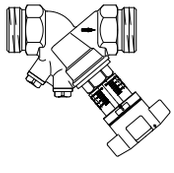
3



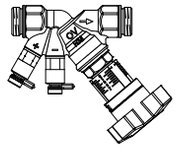
Article	Article-No.	Hint
"Flypass set 2"		
DN 15	**1149560**	
consisting of:		
1x "Flypass 4TZ"	1149504	
1x Strainer	1141004	
1x "Hydrocontrol VTR"	1060564	
DN 15	**1149562**	
consisting of:		
1x "Flypass 4TZ"	1149504	
1x Strainer	1141004	
1x "Hydrocontrol MTR"	1061964	
1x Female threaded tailpipe set	1140892 (2 pces.)	
DN 15	**1149563**	
consisting of:		
1x "Flypass 4TZ"	1149504	
1x Strainer	1141004	
1x "Hydrocontrol MTR"	1061904	
1x Female threaded tailpipe set	1140892 (2 pces.)	
DN 20	**1149561**	
consisting of:		
1x "Flypass 4TZ"	1149506	
1x Strainer	1141006	
1x "Hydrocontrol VTR"	1060566	
DN 20	**1149564**	
consisting of:		
1x "Flypass 4TZ"	1149506	
1x Strainer	1141006	
1x "Hydrocontrol MTR"	1061906	
1x Female threaded tailpipe set	1140893 (2 pces.)	

Further connection sets

	Exemplary valve sets:	Components:	Item no. DN 15	Item no. DN 20
	**“Flypass set 3”** consisting of “Flypass” fitting with strainer and double regulating and commissioning valve with flow display “Hycoflow VTB”	1x “Flypass 4TZ” 1x Strainer 1x “Hycoflow VTB” Double regulating and commissioning valve with flow display	**1149504** **1141004** **1060906**	**1149506** **1141006** **1060908**
	**“Flypass set 4”** consisting of “Flypass” fitting with strainer and regulating valve “Hycocon ETZ”	1x “Flypass 4TZ” 1x Strainer 1x “Hycocon ETZ” Regulating valve	**1149504** **1141004** **1063964**	**1149506** **1141006** **1063966**
	**“Flypass set 5”** consisting of fitting “Flypass” with strainer and double regulating and commissioning valve “Hycocon VTZ”	1x “Flypass 4TZ” 1x Strainer 1x “Hycocon VTZ” Double regulating and commissioning valve	**1149504** **1141004** **1061854**	**1149506** **1141006** **1061855**
	**“Flypass Set 6”** consisting of “Flypass” fitting with strainer and double regulating and commissioning valve “Hydrocontrol MTR”	1x “Flypass 4TZ” 1x Strainer 1x “Hydrocontrol MTR” Double regulating and commissioning valve	**1149504** **1141004** **10619..**	**1149506** **1141006** **1061906**
	**“Flypass Set 7”** consisting of “Flypass” fitting with double nipple and double regulating and commissioning valve “Hydrocontrol MTR”	1x “Flypass 4TZ” 1x Double nipple 1x “Hydrocontrol MTR” Double regulating and commissioning valve	**1149504** **1149070** **10619..**	**1149506** **1149071** **1061906**

Article	Control range	kvs	Packing unit	Article-No.	Hint
 **"Flypass 4TZ" Connection fitting** PN 16 one port female thread, one port collar nut (flat sealing with enclosed ring gasket)					Application: Central heating and cooling systems (like fan convectors (fan coil units), chilled ceiling modules, induction air systems, cooling and heating zones) with closed circuits, for operation with non-aggressive, harmless fluids (e.g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195). Max. operating pressure p_s: 16 bar (PN 16) Operating temperature t_s: -10 °C up to 120 °C Function: The Oventrop connection fitting "Flypass 4TZ" is used for the isolation, flushing, draining and bleeding of the supply and return pipe installed in the flow direction in front of the fitting or the succeeding sections of the system. The connection fitting can be converted to bypass operation. The ball positions and thus the flow directions are displayed by the shape of the handle.
DN 15		22.00		**1149504**	
DN 20		34.00		**1149506**	
Valves for combination with the "Flypass 4TZ"					On principle, all flat sealing Oventrop valves in corresponding size with male thread ¾ (DN 15) or male thread 1 (DN 20) can be combined with the connection fitting "Flypass 4TZ". The adapter 1149075/76 is required when using female threaded valves.
 **Strainer PN 25** both ports male thread, flat sealing with double wire basket 250 µm					
DN 15		2.70	(10)	**1141004**	
DN 20		4.80	(10)	**1141006**	
"Cocon QTZ" Pressure independent control valve PN 16					"Cocon QTZ" DN 15: G ¾ male threaded connection for compression fittings "Ofix", pages 1.140, 1.141 and 1.143. With insert item no. 1661100 (page 3.74) suitable for flat sealing tailpipes. DN 20: G 1 male threaded connection for compression fittings, page 9.31. With insert item no. 1650793 (page 3.74) suitable for flat sealing tailpipes.
 both ports with connections for "classic" measuring technique (closed with blind plugs) both ports male thread					
DN 15	30 - 210 l/h		(10)	**1145564°**	
DN 15	90 - 450 l/h		(10)	**1145664°**	
DN 15	150 - 1050 l/h		(10)	**1145764°**	
DN 20	150 - 1050 l/h		(10)	**1145566°**	
DN 20	180 - 1300 l/h		(10)	**1145666°**	
 with pressure test points "classic" measuring technique both ports male thread					
DN 15	30 - 210 l/h		(10)	**1146064°**	
DN 15	90 - 450 l/h		(10)	**1146164°**	
DN 15	150 - 1050 l/h		(10)	**1146264°**	
DN 20	150 - 1050 l/h		(10)	**1146066°**	
DN 20	180 - 1300 l/h		(10)	**1146166°**	
 **"Hydrocontrol VTR"** **Bronze double regulating and commissioning valves PN 16** both ports male thread, flat sealing					
DN 15		3.88	(10)	**1060564**	
DN 20		5.71	(10)	**1060566**	

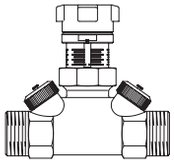
Spare parts for strainers: Page 5.34
"Unofix" Refurbishment of one pipe heating systems Page 1.98
Accessories: Page 3.42
Tailpipe sets:

Article	Control range	kvs	Packing unit	Article-No.	Hint
					
"Hydrocontrol MTR" with integrated metering station "classic" measuring technique both ports male thread, flat sealing					
DN 15 LF		0.55	(10)	**1061964**	
DN 15 MF		1.15	(10)	**1061934**	
DN 15 HF		2.10	(10)	**1061904**	
DN 20		3.70	(10)	**1061906**	

3

Article	Control-range	kvs	Packing unit	Article-No.	Hint

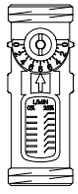
"Hycocon VTZ"
Double regulating and commissioning valves PN 16



both ports male thread, flat sealing

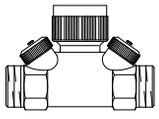
DN 15		1.70	(10)	**1061854**
DN 20		2.70	(10)	**1061856**

"Hycoflow VTB"
Double regulating and commissioning valves with flow display PN 10



both ports male thread, flat sealing

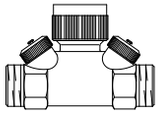
DN 20	4 - 17 l/min	3.00	(10)	**1060906**
DN 25	10 - 40 l/min	8.30	(10)	**1060908**



"Hycocon ETZ" Regulating valves PN 16

both ports male thread, flat sealing

DN 15	0.90	(10)	**1063964**
DN 20	0.90	(10)	**1063966**



"Hycocon HTZ" Regulating valves PN 16

both ports male thread, flat sealing

DN 15	1.70	(10)	**1064264**
DN 20	2.70	(10)	**1064266**
DN 20	5.00	(10)	**1064267**

Accessories

Adapter
one port male thread (valve connection), one port male thread, flat sealing

DN 15	(10)	**1149075**	For the connection of female threaded valves to the connection fitting "Flypass 4TZ". The adapter has to be screwed into the female threaded connection of the valve.
DN 20	(10)	**1149076**	

Double nipple
both ports male thread, flat sealing

DN 15	(10)	**1149070**	For the direct connection of flat sealing pipes or valves with collar nut to the connection fitting "Flypass 4TZ" . Both ports male thread.
DN 20	(10)	**1149071**	

Insert (100) **1650793**

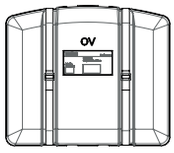
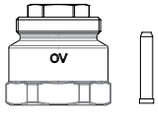
For "Cocon QTZ" DN 20 with male threaded connection G 1.
Suitable for flat sealing tailpipes.

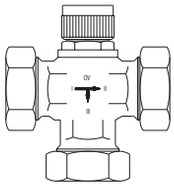
Insert as set = 2 pieces

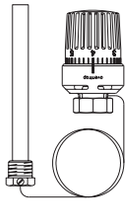
for cone according to DIN EN 16313 (cone "Euro") (50) **1661100**

For "Multiflex F", "Multiblock T/TU/TFU/TQ/T-RTL/TQ-RTL" and "Cocon QTZ" DN 15.

Accessories: Page 3.42
Tailpipe sets:
Flexible hoses: Page 3.62

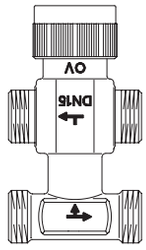
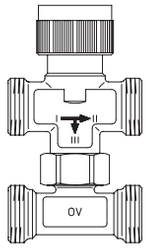
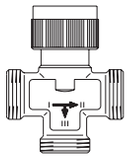
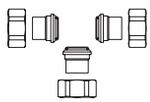
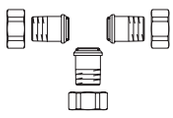
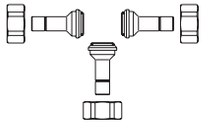
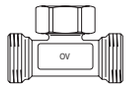
	Article	Packing unit	Article-No.	Hint
	**Insulation shell made of polyurethane rigid foam with polystyrene shell for connection sets "Flypass"** DN 15 - DN 20 (LF)		**1149581**	Insulation, consisting of two shells. For heating and cooling systems. Meet the requirements of the German Energy Saving Directive (EnEV) according to appendix 5, table 1, line 5. Building material class B2 according to DIN 4102. Operating temperature t_s: -10 °C up to +120 °C Cold insulation: Min. fluid temperature: +6 °C The insulation shells have to be bonded hermetically (restricted diffusion tightness at low fluid temperature and at high ambient temperature and/or humidity). Suitable for "Flypass set 1" (except for item no. 1149651, 1149552, 1149553, 1149554 and 1149564) and "Flypass sets 3 - 7".
	Adapter with stem for "Cocon QTZ", thermostatic valves Extension = 25 mm	(10)	**1149190**	Is required if the "Cocon QTZ" valves shall be equipped with insulation shells and actuators.





3.j "Tri-M", "Tri-D", "Tri-CTR"
Two-way valves, three-way valves, temperature controllers

Content

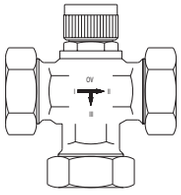
	Article	kvs	Packing unit	Article-No.	Hint
	**"Tri-M plus TR" Four-port mixing valves PN 10 with integrated T-piece (mixing valve, threaded connection, bronze)**				Application: Central heating and cooling systems (like fan convectors (fan coil units), chilled ceiling modules, induction air systems, cooling and heating zones) with closed circuits, for operation with non-aggressive, harmless fluids (e. g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).
	connection thread M 30 x 1.5 G ½ male thread, flat sealing				
	DN 15	0.45	(10)	**1142751**	
	DN 15	1.00	(10)	**1142752**	
	DN 15	1.80	(10)	**1142753**	
					Max. operating pressure p_s: 10 bar (PN 10) Operating temperature t_s: -10 °C up to +120 °C
	**"Tri-D plus TB" Three-way diverting valve PN 16 with screwed T-piece (diverting valve, threaded connection, brass)**				**"Tri-M plus TR":** Function: The Oventrop four-port mixing valves "Tri-M plus TR" control the room temperature by changing the volume flow to the terminal unit by use of actuators whilst maintaining an almost constant volume flow within the distribution circuit.
	tapered sealing connection thread M 30 x 1.5 G ¾ male thread, tapered connection				
	DN 15	2.50	(10)	**1142604°**	
	**"Tri-D TB" Three-way diverting valve PN 16 (diverting valve, threaded connection, brass)**				Description "Tri-M plus TR": Body made of bronze, seals made of EPDM or PTFE, bonnet made of brass resistant to dezincification (DZR), valve stem made of stainless steel with double seal.
	tapered sealing connection thread M 30 x 1.5 G ¾ male thread, tapered connection				
	DN 15	2.50	(10)	**1142504**	**"Tri-D plus TB":**
	Tailpipe sets (for item no.1142504) with tapered sealing, with O-ring Solder tailpipe 3-fold				Function: The Oventrop three-way diverting valve "Tri-D plus TB" with T-piece controls the room temperature with the help of actuators by diverting or changing-over the volume flow.
	12 mm		(10)	**1140191**	
	15 mm		(10)	**1140192**	
	Threaded tailpipe, 3-fold				Description: Body and bonnet made of brass, seal made of EPDM, valve stem made of stainless steel with double seal.
	DN 15		(10)	**1140292**	
	Plug-in tailpipe, 3-fold				G 3/4 male threaded connection for compression fitting "Ofix", pages 1.140, 1.141 and 1.143.
	10 mm		(10)	**1140390**	
	12 mm		(10)	**1140391**	With insert item no.1661100 (page1.125) suitable for flat sealing tailpipes.
	15 mm		(10)	**1140392**	
	T-piece		(10)	**1142561**	Isolating fittings: Item no. 1016166/68: page 1.121
					"Tri-D TB": Same as "Tri-D plus TB", but three-way diverting valve and T-piece as single component.
					Award: DESIGN PLUS „light + building“ Frankfurt

Combination possibilities of valves and actuators Page 3.08

Article	kvs	Packing unit	Article-No.	Hint

"Tri-D TR" Three-way diverting valves PN 16
(diverting valve, threaded connection, bronze)

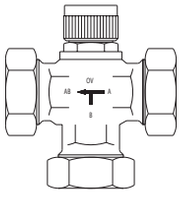
connection thread M 30 x 1.5
with collar nuts, flat sealing



DN 20	4.50		**1130206**
DN 25	6.50		**1130208**
DN 40	9.50		**1130212**

"Tri-M TR" Three-way mixing valves PN 16
(mixing valve, threaded connection, bronze)

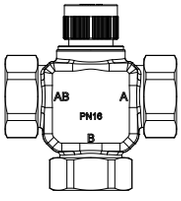
connection thread M 30 x 1.5
with collar nuts, flat sealing



DN 20	4.50		**1131706°**
DN 25	6.50		**1131708°**
DN 40	9.50		**1131712°**

"Tri-CTR" Three-way diverting and mixing valves PN 16
(three-way valve, threaded connection, bronze)

connection thread M 30 x 1.5
with collar nuts, flat sealing



DN 15		(10)	**1131204**
DN 20		(10)	**1131206**
DN 25		(10)	**1131208**
DN 32		(5)	**1131210**
DN 40		(5)	**1131212**
DN 50		(5)	**1131216**

Application:
Central heating and cooling systems with closed circuits, for operatoin with non-aggressive, harmless fluids (e. g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).
Max. operating pressure p_s: 16 bar (PN 16)
Operating temperature t_s: 0 °C up to 120 °C
Diverting or changing-over ("Tri-D TR") or mixing ("Tri-M TR") of volume flows in heating and cooling systems in combination with thermostatic or electric actuators.

Application, for instance for storage cylinder loading function or heating installations with two heat generators, for instance in solar plants or heat pump systems (bivalent heating systems).

Male thread:
DN 20: G 1
DN 25: G 1¼
DN 40: G 2

The valves can be used in combination with Oventrop temperature controllers or actuators. For further information see "Technical information":

"Tri-D TR":

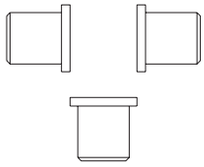
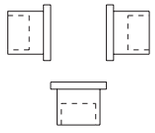
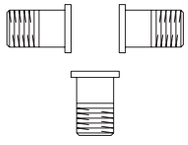
"Tri-M TR":

Item no.	kvs	Δp max.
11302/07/1706	4.5	0.75 bar
11302/07/1708	6.5	0.5 bar
11302/07/1712	9.5	0.2 bar

"Tri-CTR":
Function:
For use as diverting valve, the three-way valve has one inlet port (AB) and two outlet ports (A and B). Depending on the position of the valve disc, the direction of flow is diverted from one to the other outlet port.
For use as mixing valve, the three-way valve has two inlet ports (A and B) and one outlet port (AB). Depending on the position of the valve disc, the cold and hot water is mixed.
Operating temperature t_s: -10 °C up to +120 °C

The three-way valves "Tri-CTR" can be used for high differential pressures.

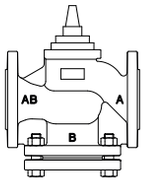
Combination possibilities of valves and actuators: Page 3.08

Article	Packing unit	Article-No.	Hint
Accessories sets for three-way valves"Tri-D TR", "Tri-M TR" and "Tri-CTR"			
 Weldables tailpipe 3-fold			
for valve DN 15	(10)	**1130091**	
for valve DN 20	(10)	**1130093**	
for valve DN 25	(10)	**1130094**	
for valve DN 32	(5)	**1130095**	
for valve DN 40	(5)	**1130096**	
for valve DN 50	(5)	**1130098**	
 Solder tailpipes 3-fold			
15 mm for valve DN 15	(10)	**1130191**	
15 mm for valve DN 20	(10)	**1130192**	
18 mm for valve DN 20	(10)	**1130193**	
22 mm for valve DN 20	(10)	**1130194**	
28 mm for valve DN 25	(10)	**1130195**	
35 mm for valve DN 32	(5)	**1130199**	
35 mm for valve DN 40	(5)	**1130196**	
42 mm for valve DN 40	(5)	**1130197**	
54 mm for valve DN 50	(5)	**1130198**	
 Threaded tailpipes 3-fold			
R ½ for valve DN 15	(10)	**1130291**	
R ½ for valve DN 20	(10)	**1130292**	
R ¾ for valve DN 20	(10)	**1130293**	
R 1 for valve DN 25	(10)	**1130294**	
R 1¼ for valve DN 32	(5)	**1130299**	
R 1¼ for valve DN 40	(5)	**1130295**	
R 1½ for valve DN 40	(5)	**1130296**	
R 2 for valve DN 50	(5)	**1130298**	

Article	kv s	Packing unit	Article-No.	Hint
Temperature controllers connection thread M 30 x 1.5 Temperature controller with immersion sensor Immersion pocket G ½ connection				Application: Water, max. sensor temperature 30 K above the set value. For industrial installations, water heaters, air heaters, hot cabinets, dish-washers, surface heating systems or similar. The control range can be limited or locked.
Control range		Capillary length		
20 - 50 °C		2 m	**1140561**	For further information see "Technical information":
40 - 70 °C		2 m	**1140562**	
50 - 80 °C		2 m	**1140563**	
70 - 100 °C		2 m	**1140564**	
20 - 50 °C		5 m	**1140571**	
40 - 70 °C		5 m	**1140572**	
70 - 100 °C		5 m	**1140574**	
Immersion pocket only			**1141091**	
Temperature controller with contact sensor and heat transfer unit				
Control range		Capillary length		
20 - 50 °C		2 m	**1142861**	
30 - 60 °C		2 m	**1142862**	
40 - 70 °C		2 m	**1142863**	
50 - 80 °C		2 m	**1142864**	
"Combi LR" Radiator lockshield valves Presetting, isolating brass, nickel plated				Acts as throttling valve in combination with the temperature controller to limit the flow temperature of surface heating installations. Selection of valves: up to 85 m² DN 15 straight DN 20 "Combi LR" up to 120 m² DN 20 straight DN 25 "Combi LR"
Straight pattern				
10 DN	1.80	(25)	**1027662**	
15 DN	1.80	(25)	**1027664**	
20 DN	2.40	(10)	**1027666**	
25 DN	3.20	(10)	**1027668**	
Two-way valve PN 16 **(can also be used as three-way valve)**				Application: Central heating and cooling systems with closed circuits, for operation with non-aggressive, harmless fluids (e.g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195). Description: Max. operating pressure p_s: 16 bar (PN 16) Operating temperature t_s: 0 °C up to 130 °C Body made of cast iron, disc made of brass and stem made of stainless steel. DN 15 up to DN 50 metal to metal seal between disc and seat. DN 65 up to DN 150 soft sealing with EPDM seal between disc and seat. The central nipple is closed with a cap. The valve can be used as three-way valve after removal of the cap.
Flanged connections AB, A and B according to DIN EN 1092-2				
DN 15	1.00		**1130875**	
DN 15	1.60		**1130865**	
DN 15	2.50		**1130845**	
DN 20	4.00		**1130866**	
DN 20	6.30		**1130846**	
DN 25	10.00		**1130847**	
DN 32	16.00		**1130848**	
DN 40	25.00		**1130849**	
DN 50	35.00		**1130850**	
DN 65	63.00		**1130851**	
DN 80	100.00		**1130852**	
DN 100	160.00		**1130853**	
DN 125	220.00		**1130854**	
DN 150	320.00		**1130855**	

Combination possibilities of valves and actuators: Page 3.08

Article	kvs	Article-No.	Hint



Two-way valve PN 16

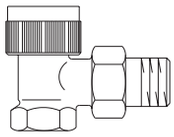
Flanged connections AB and A with hole circle according to ANSI*

DN 65	63.00	**1670851**
DN 80	100.00	**1670852**
DN 100	160.00	**1670853**
DN 125	220.00	**1670854**
DN 150	320.00	**1670855**

Application:
Central heating and cooling systems with closed circuits, for operation with non-aggressive, harmless fluids (e.g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).

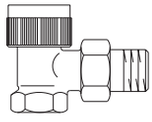
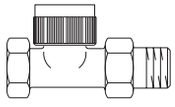
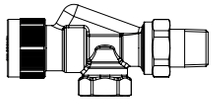
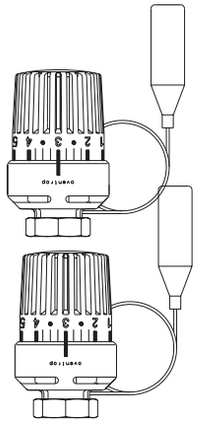
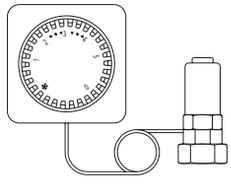
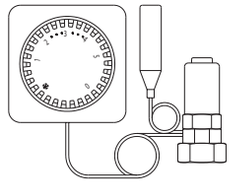
Description:
Max. operating pressure ps: 16 bar (PN 16)
Operating temperature ts: 0 °C up to 130 °C
Body made of cast iron, disc made of brass and stem made of stainless steel.
DN 15 up to DN 50 metal to metal seal between disc and seat.
DN 65 up to DN 150 soft sealing with EPDM seal between disc and seat.
The central nipple is closed with a blind flange (flanged connection according to DIN).

*US-American standard.

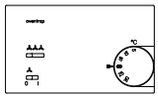


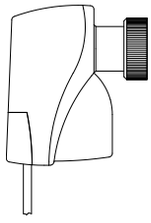
3.k "KTB" Thermostatic valves for cooling systems

Content

Article	kv at 1K P-dev.	kv at 2K P-dev.	kvs	Packing unit	Article-No.	Hint
Thermostatic valves "KTB" (cooling, threaded connection, brass) with reversed closing function						**Valves for thermostats** brass, nickel plated connection thread M 30 x 1.5
 Angle pattern valve						Application: Cooling systems (like fan convectors (fan coil units), chilled ceiling modules, induction air systems, cooling zones) with closed circuits, for operation with non-aggressive, harmless fluids (e. g. water or suitable water and glycol mixtures according to VDI 2035/ÖNORM 5195).
DN 15	0.25	0.50	1.00	(25)	**1141704**	
DN 20	0.25	0.50	1.00	(25)	**1141706**	
DN 25	0.25	0.50	1.00	(10)	**1141708**	
 Straight pattern valve						Max. operating pressure p_s: 10 bar PN 10 Max. differential pressure: 0.5 bar Operating temperature t_s: –20 °C up to +120 °C
DN 15	0.25	0.50	1.00	(25)	**1141804**	
DN 20	0.25	0.50	1.00	(25)	**1141806**	
DN 25	0.25	0.50	1.00	(10)	**1141808**	
 Reversed angle pattern valve						Valve opens with the temperature at the sensor rising. Marking of the glands of the valve inserts: "K". The valves can be used in combination with the thermostats "Uni XH", "Uni LH", "vindo TH" and "Uni SH", page 1.08.
DN 15	0.25	0.50	1.00	(25)	**1141904**	
DN 20	0.25	0.50	1.00	(25)	**1141906**	
 Thermostatic valves "KTB" Valve inserts				(100)	**1147169**	For further information see "Technical information":
Thermostats for thermostatic valves "KTB" **Temperature range 7 - 28 °C** **Thermostat "Uni LH"** connection thread M 30 x 1.5 Thermostat with remote sensor white						
 white, with remote sensor						
capillary 2 m long					**1011665**	with '0' setting
capillary 5 m long				(75)	**1011666**	
capillary 10 m long				(75)	**1011667**	
capillary 2 m long				(75)	**1011682**	without '0' setting
Thermostat with remote control "Uni FH" white						
 capillary 2 m long					**1012295**	with '0' setting
capillary 5 m long					**1012296**	
capillary 10 m long					**1012297**	
white, with additional remote sensor						
 capillary 2 m long					**1012395**	with '0' setting
capillary 5 m long					**1012396**	For further information see "Technical information":

Combination possibilities of valves and actuators: Page 3.08

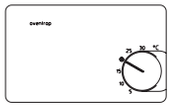
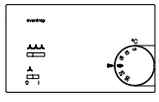
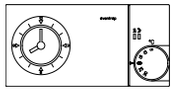
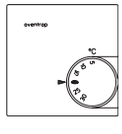




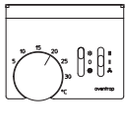
3.I Room thermostats, actuators

Content

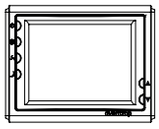
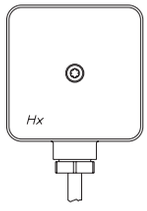
3

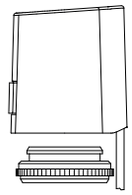
	Article	Packing unit	Article-No.	Hint
	Room thermostats			
	**Room thermostat - surface mounting (heating and cooling)** Heating 0 - 10 V control Cooling 0 - 10 V control 24 V	(25)	**1152151**	The room thermostat is used for individual room temperature control in combination with the electrothermal actuator (0- 10 V) "Aktor T ST L NC", item no. 1012953, page 1.27, or the electromotive actuator "Aktor M ST L", item no. 1012705/06, page 1.28 (may also be used in three- or four-pipe systems). With one analogue output 0–10 V each for heating and cooling as well as adjustable neutral zone (0.5–7.5 K). Temperature range: 5 °C up to 30 °C For further information see "Technical information":
	**Room thermostat - surface mounting (heating and cooling)** Heating 0 - 10 V control Cooling 0 - 10 V control with fan drive 24 V	(25)	**1152153**	The room thermostat does not only feature analogue outlets 0-10 V for heating and cooling, but also a 3-stage ventilator switch (24 V - 240 V) for the activation of fan convectors (fan coil units). The room thermostat is used for individual room temperature control in combination with the electrothermal actuator (0-10 V) "Aktor T ST L NC", item no. 1012953, page 1.27 or the electromotive actuator "Aktor M ST L", item no. 1012705/06, page 1. 00 (may also be used in three- or four-pipe systems). Temperature range: 5 °C up to 30 °C
	**Room thermostat-clock - surface mounting (heating)** Heating two point control with daily setting 230 V	(78)	**1152551**	The electric room thermostat-clock is required for individual room temperature control of heating systems in combination with the electrothermal actuators (two point) "Aktor T 2P". Output signal pulse-width modulation. Temperature range: 5 °C up to 30 °C Heating: Use electrothermal actuators (two point) “closed with current off”. Central temperature setback is carried out according to a timed programme. Limitation of the control range by using the concealed limiting elements.
	with weekly setting 230 V 24 V	(78)	**1152552** **1152554**	
	**Room thermostat - surface mounting (heating)** Heating two point control 230 V 24 V	(25) (25)	**1152051** **1152052**	The electric thermostat is used for individual room temperature control in combination with the electrothermal actuators (two point) "Aktor T 2P". Temperature range: 5 °C up to 30 °C Heating: Use electrothermal actuators (two point) "closed with current off". As for item no. 1152051/52/55/71/72, temperature may be set back by use of an external time switch (item no. 1152551/52 for 230 V, item no. 1152554 for 24 V). Cooling: Use electrothermal actuators (two point) "open with current off".
	230 V with concealed temperature setting	(25)	**1152055**	Limitation of the control range of item no. 1152051/52/71/72 by using the concealed limiting elements.

3

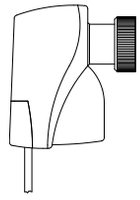
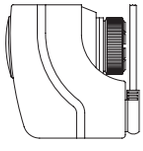
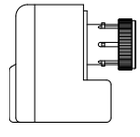
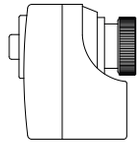
	Article	Packing unit	Article-No.	Hint
	**Room thermostat - flush mounting (heating)** Heating two point control			
	230 V	(128)	**1152071**	
	24 V	(128)	**1152072**	
	**Room thermostat - flush mounting (heating)** with display Heating two point control			With LCD display and adjustable timed programme. Temperature range: 5 °C up to 35 °C
	230 V	(40)	**1152561**	Operating current range (item no. 1152561): 100 up to 230 V AC
	24 V	(40)	**1152562**	Heating: Use electrothermal actuators (two point) "closed with current off" (terminal "NC") or "open with current off" (terminal "NO").
	**Room thermostat - surface mounting (heating or cooling)** Heating two point control Cooling two point control with fan drive			The room thermostat is used for heating or cooling in combination with electrothermal actuators (two point) "Aktor T 2P" and fan convectors (fan coil units). The room temperature is maintained at the chosen level. With switch for “Heating-Off-Cooling” and fan switch. Temperature range: 5 °C up to 30 °C Heating/cooling: Use electrothermal actuators (two point) “closed with current off”. For further information see "Technical information":
	230 V		**1152351**	
	**Room thermostat - surface mounting (heating or cooling)** with display Heating two point control Cooling two point control with fan drive			With LCD display and adjustable timed programme. Temperature range: 5 °C up to 35 °C Heating or cooling: Use electrothermal actuators (two point) closed with current "off". For further information see "Technical information":
	230 V		**1152451**	
	24 V		**1152452°**	

3

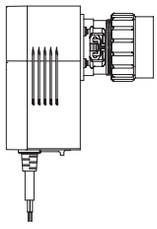
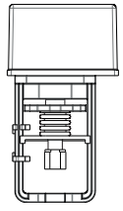
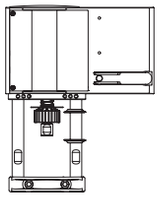
	Article	Article-No.	Hint
	**Room thermostat - surface mounting (heating and cooling)** with display Heating two point control Cooling 0 - 10 V control with fan drive		Electronic room thermostat with digital display for ventilation systems with heating and cooling function.
	24 V	**1152065**	
	Room thermostat - surface mounting (heating or cooling) with display Heating or cooling 0 - 10 V control with fan drive		
	24 V	**1152064**	
	"Sensor GA FD" Dew point control		
	"Sensor GA FD" Dew point control 24 V		Is required in combination with room thermostats to protect chilled ceilings against condensation. An actuator interrupting the cooling water flow is for instance activated in combination with the "Regufloor HC". Connection to the cooling water supply. Connecting cable 1 m.
	with alternating contact	**1141951**	

Article	Packing unit	Article-No.	Hint
"Aktor T" Electrothermal actuators			Oventrop electrothermal actuators are used for heating, ventilation and air conditioning. The actuators serve to control the room temperature and can be used e. g. with conventional radiators, radiators with integrated distributor, radiant ceiling panels, chilled ceiling systems and induction air systems in combination with two point room thermostats. Further applications in bivalent heating installations. Connecting cable 1 m. With "First-Open" function and stroke index. Simple plug-in connection with valve adapter. Actuators can be installed in any position. Due to their construction, the electrothermal actuators are secured against overvoltage which could occur when switching on neon tubes. A varistor is thus not necessary.
 **"Aktor T 2P" Electrothermal actuators (two point)** connection thread M 30 x 1.5			
"H NC", closed with current "off", 230 V		**1012415**	
"H NO", open with current "off", 230 V		**1012425**	
"L NC", closed with current "off", 24 V		**1012416**	
"L NO", open with current "off", 24 V		**1012426**	
"H NC", closed with current "off", 230 V with mounted auxiliary switch		**1012435**	
"L NC", closed with current "off", 24 V cable 2 m long		**1012442**	
"H NC", closed with current "off", 230 V cable 2 m long		**1012452**	
"H NC", closed with current "off", 230 V cable 5 m long		**1012455**	
"H NC", closed with current "off", 230 V cable 10 long		**1012459**	
"M NC", closed with current "off", 120 V only in approved countries outside the EU		**1012420**#	
 **"Aktor T ST" Electrothermal actuator (0-10 V)** Proportional actuator connection thread M 30 x 1.5			The actuator (0-10 V) can be used in centralised building control systems in combination with the electronic room thermostat, item no. 1152151/1152153, or with a central controller. Plug-in connecting cable 1 m. With "First-Open" function and stroke index. Easy plug-in connection with valve adapter. Due to their construction, the electrothermal actuators are secured against overvoltage which could occur when switching on neon tubes. A varistor is thus not necessary.
"L NC", closed with current "off", 24 V with automatic recognition of neutral point and valve travel		**1012953**	
Valve adapter			
 high model connection thread M 30 x 1.5	(5)	**1012462**	The high model is required when using the actuators, item no. 10124.. and 1012953, in combination with the regulating valves "Hycocon ETZ/HTZ" as well as the fittings "Multiblock T/TU/TFU/TQ" and the design cover (11 mm higher than standard).

Combination possibilities of valves and actuators: Page 3.08

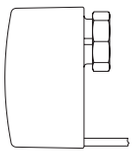
	Article	Packing unit	Article-No.	Hint
	**"Aktor M" Electromotive actuators** connection thread M 30 x 1.5 with manual setting, adjustable mode of operation			Description electromotive actuators 0 - 10 V: The actuators can be used in centralised building control systems in combination with the electronic room thermostat, item no. 1152151, or with a central controller. Connecting cable 1.5 m. With stroke index.
	"ST L", 24 V, modulating proportional actuator, 0-10 V, automatic anti-blocking function and recognition of neutral point, multiple characteristic lines adjustable		**1012705**	
	as item no. 1012705, but for "Cocon QTZ" PN 25		**1012735***	Description electromotive actuators (10127..): Connecting cable 1.5 m. Anti-blocking function: The valve is completely opened and closed every 24 hours.
	"ST L", 24 V, modulating proportional actuator, 0-10 V, with position feedback, automatic anti-blocking function and recognition of neutral point, mutiple characterstic lines adjustable		**1012706**	
	as item no. 1012706, but for "Cocon QTZ" PN 25		**1012736***	
	"3P L", 24 V, three point actuator, without anti-blocking function		**1012708**	
	"3P H", 230 V, three point actuator, without anti-blocking function, mode of operation not adjustable		**1012709**	In case of emergency function, the actuator returns to zero position if the power supply is interrupted.
	"ST L NC", 24 V modulating proportional actuator, 0 - 10 V, with electric emergency function and automatic recognition of neutral point		**1012717**	
	"3P H", 230 V, three point actuator, without anti-blocking function	(10)	**1012703°**	
	"2P H", 230 V, two point actuator, without anti-blocking function		**1012710**	Short operating time (about 3 sec.). Connecting cable 1.5 m.
	"2P L", 24 V, two point actuator, without anti-blocking function		**1012711**	
	"2P H NC", 230 V, two point actuator, with emergency function		**1012715**	In case of emergency function, the actuator returns to zero position if the power supply is interrupted. Connecting cable 1.5 m.
	"2P L NC", 24 V, two point actuator, with emergency function		**1012716**	

Combination possibilities of valves and actuators: Page 3.08

	Article	Article-No.	Hint
	"Aktor M" Electromotive actuators squeeze connection, 24 V		
	Steady control with 0-10 V or switching as two or three point control. Type of characteristic line (linear, equal percentage) adjustable. With position feedback signal 0-10 V.		
	"ST/ 2P/ 3P L", 10 mm piston stroke, with adapter	**1158010**	For "Cocon QTR/QFC" DN 40 and DN 50.
	"ST/ 2P/ 3P L", 10 mm piston stroke, without adapter	**1158011**	For two-way valves 11308.. and 16708.. DN 15 up to DN 50.
	Steady control with 0(2) - 10 V or switching as three point control. Linear characteristic line. With position feedback signal 0-10 V.		For "Cocon QTR/QFC" DN 40 up to DN 100.
	"ST/ 3P L", 20 mm piston stroke, with adapter	**1158020**	
	Steady control with 0(2) - 10 V or 0(4) - 20 mA or switching as two or three point control. Linear characteristic line. With position feedback signal 0 - 10 V.		For "Cocon QTR/QFC" DN 40 up to DN 100.
	"ST/ 3P L", 20 mm piston stroke, with spring return and adapter	**1158021**	Valves opening with current "off".
	"ST/ 2P/ 3P L", 20 mm piston stroke, with spring return and adapter	**1158022**	Valves closing with current "off".
	Steady control with 0 - 10 V or 4 - 20 mA or switching as two or three point control. Type of characteristic line (linear, square-law, equal percentage) adjustable. With position feedback signal 0 - 10 V.		For "Cocon QFC" DN 125 up to DN 200 as well as two-way valves, item no. 11308.. and 16708.. DN 65 up to DN 150.
	"ST/ 2P/ 3P L", 40 mm piston stroke, with adapter	**1158030**	
	"ST/ 2P/ 3P L", 40 mm piston stroke, with spring return and adapter	**1158031**	Valves opening with current "off".
	"ST/ 2P/ 3P L", 40 mm piston stroke, with spring return and adapter	**1158032**	Valves closing with current "off".
			For further information see "Technical information":
	Connection module 230 V	**1158033**	For the connection of the 24 V actuators "Aktor M", item no. 1158030/ 31/ 32, to the 230 V supply voltage. Module for plug-in connection to the actuator.

Combination possibilities of valves and actuators: Page 3.08

Article	Article-No.	Hint



"Aktor M ST EIB" Electromotive actuators system "EIB"
with integrated bus coupling
connection thread M 30 x 1.5

"Uni EIB H"

with one binary entry **1156065**
with two binary entries **1156066**

Description EIB/LON:
The electromotive actuator EIB is suitable for a direct connection to the European installation bus control system. The power absorption is extremely low, so that a separate power supply is not needed. Moreover, the actuator is equipped with one or two integrated binary entries to which a window contact may for instance be connected. The connection of the bus and the binary entries is made via a 4- or a 6-core cable (1 m).

"Aktor M ST LON®" Electromotive actuators system "LON®"
with integrated bus coupling
connection thread M 30 x 1.5

"OV LON H"

with one binary entry **1157065**

Product data bank "KNX/EIB" and application programmes "LON" **1156051**

The electromotive actuator LON is suitable for a direct connection to the LonWorks® networks. The power absorption is extremely low, so that a separate power supply is not needed when using the Link-Power-Technology. Moreover, the actuator is equipped with an integrated binary entry to which a window contact may for instance be connected. The connection of the bus and the binary entry is made via a 4-core cable (1 m).
3.5" diskette with Oventrop specific data to be read in the ETS data banks or the LonTalk®-Software.
The data to be read in the ETS data banks or the LonTalk®-Software can be downloaded from the internet under www.oventrop.de (category "Software") free of charge.

"Aktor MH CON B" (ENOCEAN)

connection thread M 30 x 1.5 **1150765**
Electronic actuator
with bi-directional wireless communication,
battery operated

traffic white (RAL 9016)

Only functions in combination with communication centres/gateways and room thermostats using the EEP (EnOcean Equipment Profile) A5-20-01.

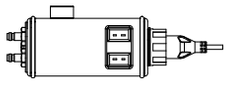
Electronic actuator for room temperature control. The actuator supports the EnOcean profile A5-20-01 and can be connected to communication centres/gateways or room thermostats of other manufacturers.

enocean®

The actuator is not compatible with the gateway "Synet CR" and the wireless thermostats "R-Tronic".

System	Oventrop actuators	Item no.	The Oventrop actuators can e.g. be used with the following bus systems:
KNX/EIB	"Uni EIB H" with one binary entry with two binary entries "Uni EIB D" with one binary entry with two binary entries	 1156065 1156066 1156075 1156076	– GIRA Instabus KNX/EIB – ABB i-bus KNX – Busch-Jäger installation bus – Jung KNX-System – Merten KNX – Siemens GAMMA instabus – Woertz Building Control Systems – and others
LON	"OVLONH" with one binary entry "OVLOND" with one binary entry	 1157065 1157075	– Gesytec – SVEA Building Control Systems – Echelon – ELKA Electronics – Kieback & Peter – t.a.c. TAC Vista – Regulex – and others
EnOcean (wireless)	"Aktor MH CON B" (ENOCEAN) with wireless module	1150765	– iEXERGY (wibutler) – and others

Combination possibilities of valves and actuators: Page 3.08



3.m "OV-DMC 3", OV-DMC 2" and "OV-DMCP" Measuring systems

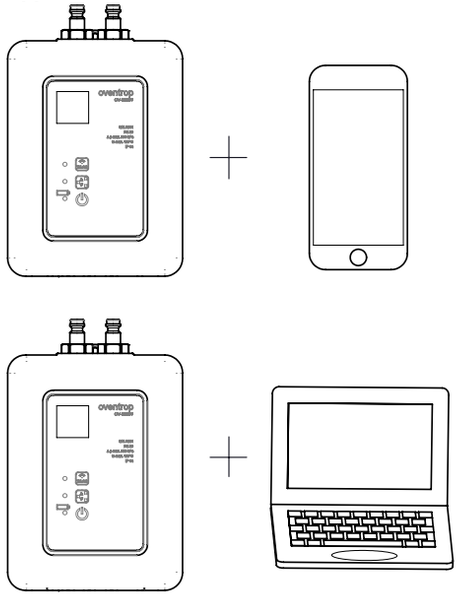
Content

Article	Article-No.	Hint

"OV-DMC 3"
for measurement, transfer and determination of pressure, flow, temperature and performance data

without display device	**1069278**
with display device	**1069279**

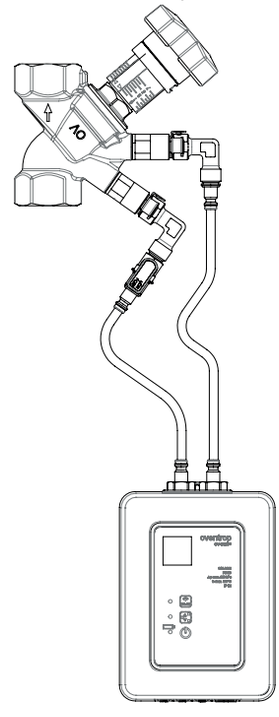
Applications of "OV-DMC 3":

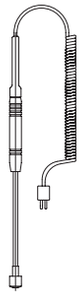
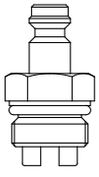


Application:
The measuring system "OV-DMC 3" can be used in combination with Oventrop products with "classic" or "eco" measuring technique (e.g. "Hycocon", "Hydrocontrol" and "Cocon" valves as well as Oventrop metering stations).

Description "OV-DMC 3":
The measuring system "OV-DMC 3" has especially been designed for the regulation of heating and cooling systems.
The interfaces for communication with standard smartphones, tablets and personal computers enable an easy regulation of heating and cooling systems as well as a simple generation of measured records.
The data obtained via the calculation programmes "OVplan" and "OVselect" can be accessed retrospectively.
Measuring system "OV-DMC 3" for differential pressure measurement and the resulting determination of the flow rate.
Calculation of the presetting for a double regulating and commissioning valve is possible after having entered the valve data and the required nominal flow rate. The permanent measurement of differential pressure and flow is possible, too. The measurement of two temperatures (e.g. supply and return) with the help of temperature sensors which can be connected to the "OV-DMC 3" allows for a direct calculation of the heating capacity.

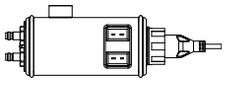
Connection example "OV-DMC 3":



	Article	Packing unit	Article-No.	Hint
	"OV-DMC 2" Measuring system			Application: The measuring system "OV-DMC 2" can be used in combination with Oventrop products with "classic" or "eco" measuring technique (e. g. "Hycocon", "Hydrocontrol" and "Cocon" valves as well as Oventrop metering stations). Description "OV-DMC 2": The measuring system "OV-DMC 2" has especially been designed for the regulation of heating and cooling systems. Measuring system "OV-DMC 2" for differential pressure measurement and the resulting determination of the flow rates. Having entered the valve data and the required nominal flow rate, calculation of the presetting for a double regulating and commissioning valve is possible with the help of the constant pressure, computer or OV Balance method. Furthermore, the system offers the kv-value method, permanent differential pressure measurement, Data Logging and the measurement of temperatures by use of the enclosed temperature sensor. The device works off-line with rechargeable batteries. In order to increase the accuracy of the values obtained during differential pressure measurement, an adjustment to neutral point is carried out automatically.
	with differential pressure transmitter "DMC-sensor", computer (manual appliance) and extensive accessories for the "classic" and "eco" measuring technique		**1069177°**	
	"OV-DMC 2", "OV-DMPC" Accessories			
	Contact thermometer		**1069197**	
	Set 16 = 2 measuring hoses Set 14 = 2 measuring hoses	(5) (5)	**1069178** **1069179**	For “OV-DMC 2” and “OV-DMPC”. L = 0.5 m. L = 2 m, red and blue
	Set 17 = 2 measuring nipples G ⅜ with screen	(50)	**1069186**	For replacement purposes for measuring systems "OV-DMC 2" and "OV-DMPC". Quick-coupling technic.
	USB conncting cable	(50)	**1069299**	Connecting cable for the transmission of data from the "OV-DMC 2" to the USB interface. Supplied with software for the data transmission to the USB stick.

3

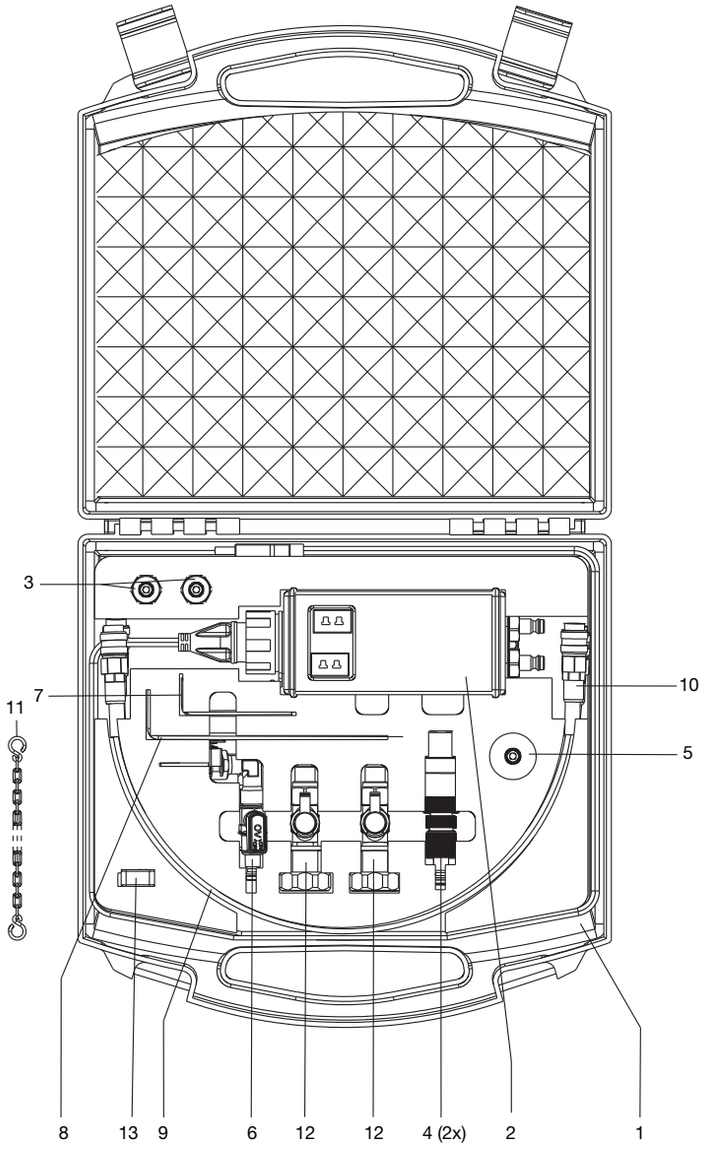
Article	Article-No.	Hint



"OV-DMPC" Measuring system

consisting of **1069277°**
differential pressure transmitter "DMPC-sensor" with USB interface and software including extensive accessories for "classic" and "eco" measuring technique

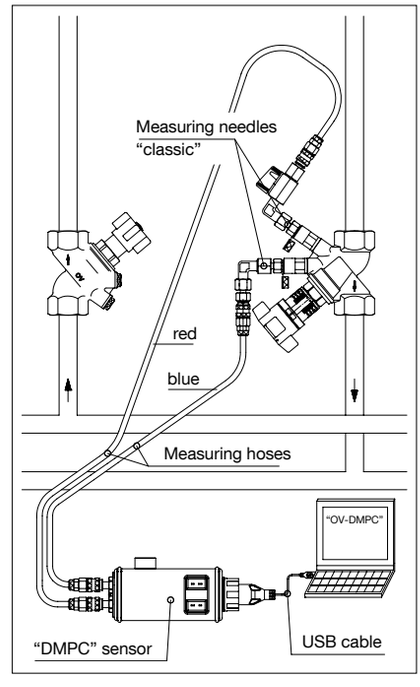
Application:
The "OV-DMPC" measuring system can be used in combination with Oventrop products with "classic" or "eco" measuring technique (e. g. "Hycocon", "Hydrocontrol" and "Cocon" valves as well as Oventrop metering stations).



Description “OV-DMPC”:
The measuring system “OV-DMPC” is especially designed for the regulation of heating and cooling systems and is equipped with an USB interface for the connection to a commercial computer. Together with the software included, it enables an easy regulating of heating and cooling systems as well as a simple generation of measured records. The data obtained via the calculation programmes “OVplan” and “OVselect” can be accessed retrospectively.

Measuring system “OV-DMPC” for differential pressure measurement and the resulting determination of the flow rate. Calculation of the presetting for a double regulating and commissioning valve is possible after having entered the valve data and the required nominal flow rate.
A permanent measurement of differential pressure and flow is possible, too.
The measurement of two temperatures (e.g. supply and return) with the help of temperature sensors (not included) which can be connected to the “OV-DMPC” sensor, allows a direct calculation of the heating capacity.

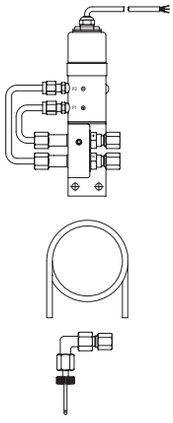
Example: Measurement with measuring technic “classic”



Extent of supply:

1. Measuring case
2. Differential pressure transmitter “DMPC” sensor with USB interface
3. 2 connection nipples 106 91 86 for replacement at differential pressure transmitter
4. Set of measuring needles 106 17 99 for “eco” measuring technique of double regulating and commissioning valves, e.g. “Hycocon”
5. 2 measuring adapters with connection thread G ¾ for quick coupling technique
6. Set of measuring needles 106 91 99 for “classic” measuring technique of double regulating and commissioning valves, e.g. “Hydrocontrol”
7. Allen key 3 mm
8. Allen key 4 mm
9. Measuring hose blue with quick couplings
10. Measuring hose red with quick couplings
11. Fixing chain
12. 2 measuring adapters 106 02 99 for differential pressure measurement at “Hydromat DTR/DFC”
13. USB stick with installation software and operating instructions

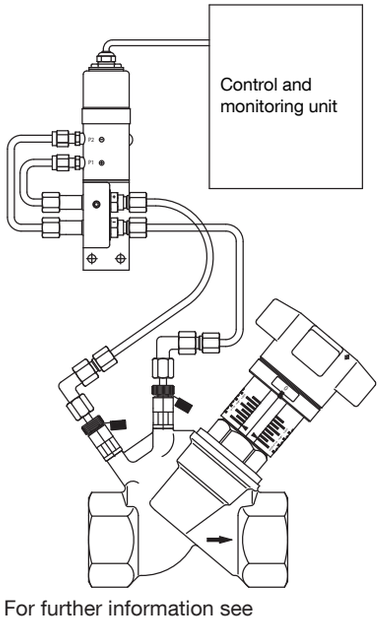
Article	Packing unit	Article-No.	Hint



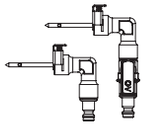
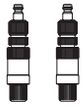
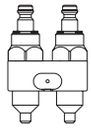
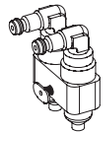
"OV-Connect" Differential pressure transmitter

including measuring needles and connecting cable (5) **1069180**

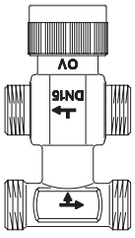
The Oventrop "OV-Connect" differential pressure transmitter permanently controls the differential pressure of Oventrop products with "classic" measuring technique in heating, cooling and potable water systems which are operated with water or water and glycol mixtures. The signals can be processed via an electric control and monitoring unit.
The differential pressure of the valve is measured via the measuring needles and 6 mm copper pipes at the pressure test points.
Measuring range: 0 - 1000 mbar
During working conditions, the appliance provides an output signal proportional to the measured differential pressure (0 – 10 V).
Supply voltage 24 V DC
(18 up to 33 V) or 24 VAC ± 15%



For further information see "Technical information":

	Article	Packing unit	Article-No.	Hint
	"classic" measuring technique Function: - differential pressure measurement			
	Set 9 = 2 measuring needles for	(50)	**1069199**	
	Accessories "eco" measuring technique			
	Fill and drain tool for valves with "eco" measuring technique		**1061791**	**“eco” measuring technique:** For draining, venting and filling the installation.
	Measuring adapter	(50)	**1060297**	Measuring adapter with quick-coupling technic to be screwed onto the fill and drain tool.
	Set = 2 measuring needles for valves with "eco" measuring technique	(25)	**1061799**	For measurement with measuring systems "OV-DMC 3", "OV-DMC 2" and "OV-DMPC".
	Measuring adapter, "classic" measuring technique	(50)	**1060298**	
	Measuring devices			
	Straight pattern	(10)	**1145099**	
	Angle pattern	(10)	**1145085**	

Page

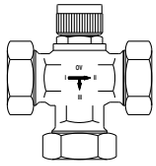


3.n Products for air conditioning and ventilation

Content

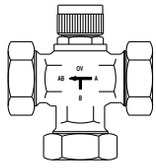
3

Devices, such as e.g. fan convectors, chilled ceilings, hot air curtain systems, façade ventilation devices, have to be hydraulically integrated into heating and cooling installations, balanced and regulated. The following Oventrop valves comply with these requirements.



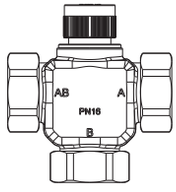
“Tri-D TR” Three-way diverting valves
with connection thread M 30 x 1.5 for thermostats and actuators

Divert and change over of volume flows.
page 3.79



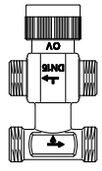
“Tri-M TR” Three-way mixing valves
with connection thread M 30 x 1.5 for thermostats and actuators

Mix and change over of volume flows.
Page 3.79



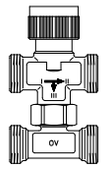
“Tri-CTR” Three-way diverting and mixing valves
with connection thread M 30 x 1.5 for thermostats and actuators

Divert and mix of volume flows.
Page 3.79



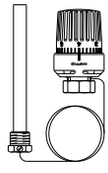
“Tri-M plus TR” Four-way mixing valves
with connection thread M 30 x 1.5 for thermostats and actuators

For the operation in a secondary circuit (e.g. in fan coil units).
Page 3.78



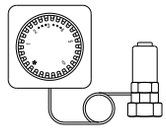
“Tri-D plus TB” Three-way diverting valves with integrated T-piece
with connection thread M 30 x 1.5 for thermostats and actuators

Divert and change over of volume flows (e.g. in fan coil units).
Page 3.78



Temperature controllers
with connection thread M 30 x 1.5

For different temperature control ranges.
Page 3.81

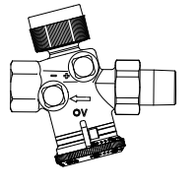


Thermostat with remote control
with connection thread M 30 x 1.5

Page 1.12

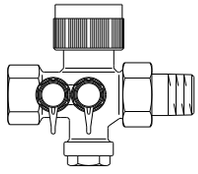
“Hycoflow” Double regulating and commissioning valves with flow display

Allows direct reading of the balanced flow values.
Page 3.50



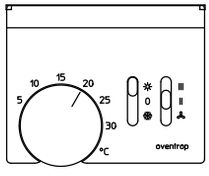
“Cocon QTZ” Pressure independent control valves
with connection thread M 30 x 1.5 for thermostats and actuators

Control of e.g. a room temperature via actuators and thermostats and automatic limitation of the volume flow to a pre-settable maximum value.
Page 3.52



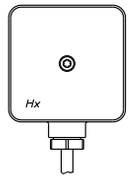
“Cocon 2TZ” Regulating valves

Control of e.g. a room temperature via actuators and thermostats and automatic limitation of the volume flow to a presettable fixed value.
Page 3.61



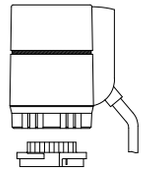
Room thermostat with fan drive

Room temperature control with connection facility for electrothermal actuators (two point).
Page 3.87



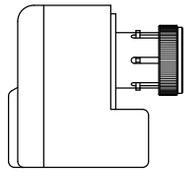
Dew point control

To avoid condensation.
Page 3.88



Electrothermal actuators
with connection thread M 30 x 1.5

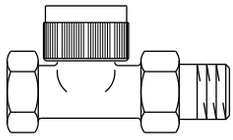
With two point, three point or 0-10 control.
Page 3.89



Electromotive actuators
with connection thread M 30 x 1.5

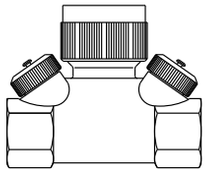
With two point, three point or 0-10 V control for the installation bus control systems EIB and LON.
Page 3.90

3



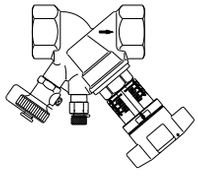
“A” Thermostatic straight pattern valves
with connection thread M 30 x 1.5

With high kvs value.
Page 1.62



“Hycocon HTZ” Regulating valves
with connection thread M 30 x 1.5

Regulating valve with high kvs value.
Page 3.14



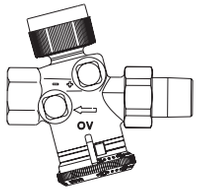
“Hydrocontrol VTR” Bronze double regulating and commissioning valves

For the hydronic balancing.
Page 3.26

DDC “CR-BX” Central control and regulating techniques

For central temperature control. Setback periods and monitoring functions.
Page 12.31

Page

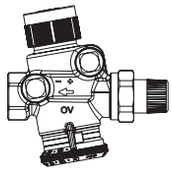


3.o Products for radiant and chilled ceiling systems

Content

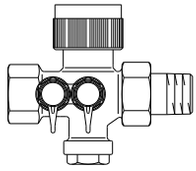
3

This is a summary of valves which are required for radiant and chilled ceiling systems, for the hydronic balancing and for the temperature and flow control.



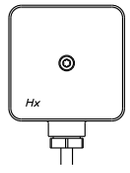
“Cocon QTZ” Pressure independent control valves
with connection thread M 30 x 1.5 for thermostats and actuators

Control for instance of a room temperature via actuators and thermostats and automatic limitation of the volume flow to a presettable maximum value.
Page 3.52



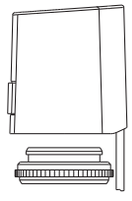
“Cocon 2TZ” Regulating valves

Control for instance of a room temperature via actuators and thermostats and automatic limitation of the volume flow to a presettable fixed value.
Page 3.61



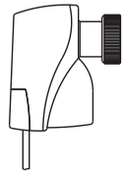
Dew point control

To avoid condensation.
Page 3.88



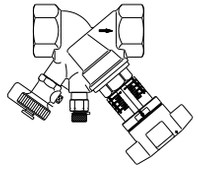
Electrothermal actuators
with connection thread M 30 x 1.5

With two point or 0-10 V control.
Page 3.89



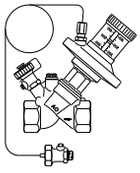
Electromotive actuators
with connection thread M 30 x 1.5

With two point, three point or 0-10 V control for the installation bus control systems EIB and LON.
Page 3.90



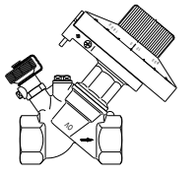
“Hydrocontrol VTR” Bronze double regulating and commissioning valves

For the hydronic balancing.
Page 3.26



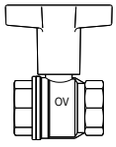
“Hydromat DTR” Differential pressure regulators

With the differential pressure in the installation changing, the differential pressure regulator maintains a constant fixed differential pressure between supply and return in the riser.
Page 3.37



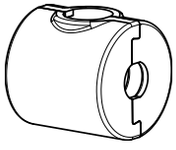
“Hydromat QTR” Flow regulators

With the flow in the installation changing, the flow regulator maintains a constant fixed volume flow in the riser.
Page 3.36



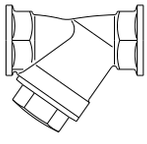
“Optibal” Ball valves

For fluids in heating and cooling systems.
Page 5.04



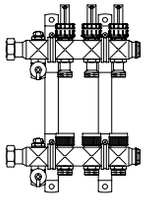
Insulation for “Optibal” ball valves

Meets the requirements of the German Energy Saving Directive according to appendix 5, table 1, line 5.
Page 5.06



Strainers
bronze

For fluids in heating and cooling systems, with wire baskets with different mesh sized to choose.
Page 5.32



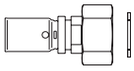
“Multidis SF” Stainless steel distributors/collectors for surface heating and cooling

Models for 2 up to 12 circuits with flow measuring and regulating devices.
Page 2.58

“Ofix” Compression fittings

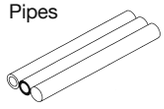
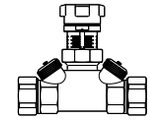
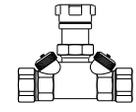
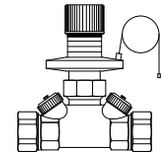
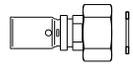
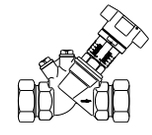
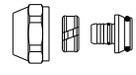
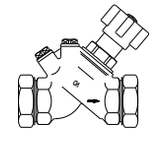
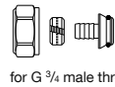
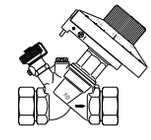
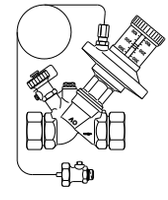
For different pipe materials and their connection to valves and distributors/ collectors.
Pages 1.140 and 2.51

Page

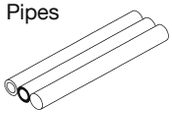
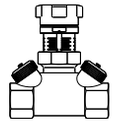
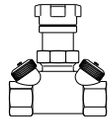
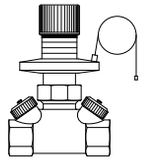
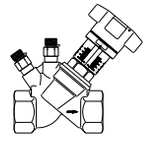
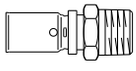
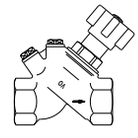
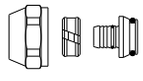
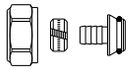
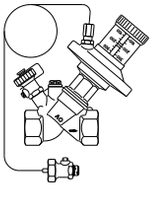


3.p Connection system

Content

Pipes 	Connection method	Connection system		Male threaded connection
		Connection fitting	Additional fitting	Oventrop valves (examples)
Copper pipe, stainless steel pipe, precision steel pipe [1)]	Screwed connection	Collar nut, compression ring and ring gasket  for G 3/4 male thread according to DIN EN 16313 (cone "Euro") soft sealing Item no. 102744. Page 1.141	Connection piece  Item no. 15030.. Page 11.32	Valves for hydronic balancing 
Copper pipe [1)]	Screwed connection	Collar nut and compression ring  for G 3/4 male thread according to DIN EN 16313 (cone "Euro") metal to metal sealing Item no. 102747. Page 1.141		
	Soldering connection	 Item no. 10610.. Page 3.45	–	
Stainless steel pipe [1)]	Press connection	 Item no. 42015.. Page 8.69	–	
"Copipe" Composition pipe	Press connection	 Item no. 15121.. Page 11.12	–	
	Screwed connection	 Item no. 15079.. Page 11.32	Connection piece  Item no. 15030.. Page 11.32	
PE-Xc pipe	Screwed connection	Collar nut, compression ring and outlet  for G 3/4 male thread according to DIN EN 16313 (cone "Euro") Item no. 10277.. Page 1.141		
Steel pipe as well as screwed fittings	Screwed connection	 Item no. 10613.. Page 3.45  Item no. 10614.. Page 3.45	–	
	Welding connection	 Item no. 10605.. Page 3.45	–	
Other pipes e.g. stainless steel pipe, thick walled plastic pipe	All other pipes – with their special connection – may be connected with flat sealing tailpipes (with ring gaskets and collar nuts) to Oventrop flat sealing and male threaded valves.			

This table is not exhaustive.

Pipes 	Connection method	Connection system		Female threaded connection
		Connection fitting	Additional fitting	Oventrop valves (examples)
Copper pipe [1]	Screwed connection	Compression nut and compression ring  Item no. 10271.. Female thread G 3/8–G 3/4, Page 3.45	–	Valves for hydronic balancing 
		Collar nut and compression ring  for G 3/4 male thread according to DIN EN 16313 (cone “Euro”) metal to metal sealing Item no. 102747. Page 1.141	Double nipple  Item no. 15031.. Page 11.32	
Copper pipe, stainless steel pipe, precision steel pipe [1]		Collar nut, compression ring and ring gasket  for G 3/4 male thread according to DIN EN 16313 (cone “Euro”) soft sealing Item no. 102744 . Page 1.141		
Stainless steel pipe	Press connection	 Item no. 42015/16.. Page 3.46/3.47	–	
“Copipe” Composition pipe	Press connection	 Item no. 15120.. Page 11.12		
	Screwed connection	 Item no. 15079.. Page 11.32	Double nipple  Item no. 15031.. Page 11.32	
PE-Xc pipe thin walled plastic pipe		Collar nut, compression ring and outlet  Item no. 10277.. Page 1.141		
Steel pipe		seal directly		

[1] Pipes with a wall thickness ≤ 1 mm will need reinforcing sleeves, except when the soft sealing fitting 102744. is used! Page 1.141