FRICO

VLSP

SD230

TAC

BPV10

AV

TAC   SD230   AV   BPV10

Components

VLSP, pressure independent valve kit on/off
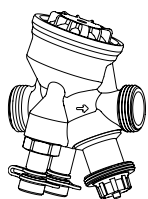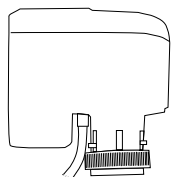
TAC (TA Compact-P)   SD230   AV   BPV10
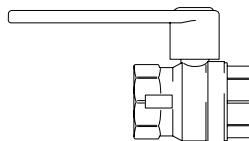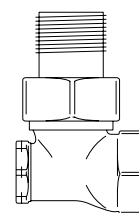
VLSP15LF

Type		Specification
TAC15LF	Two way pressure independent regulation and adjustment valve	Low flow, DN15
SD230	Actuator on/off 230V	230V~
AV15	Shut off valve	DN15
BPV10	By-pass valve	DN10

VLSP15NF

Type		Specification
TAC15NF	Two way pressure independent regulation and adjustment valve	Normal flow, DN15
SD230	Actuator on/off 230V	230V~
AV15	Shut off valve	DN15
BPV10	By-pass valve	DN10

VLSP20

Type		Specification
TAC20	Two way pressure independent regulation and adjustment valve	Normal flow, DN20
SD230	Actuator on/off 230V	230V~
AV20	Shut off valve	DN20
BPV10	By-pass valve	DN10

VLSP25

Type		Specification
TAC25	Two way pressure independent regulation and adjustment valve	Normal flow, DN25
SD230	Actuator on/off 230V	230V~
AV25	Shut off valve	DN25
BPV10	By-pass valve	DN10

VLSP32

Type		Specification
TAC32	Two way pressure independent regulation and adjustment valve	Normal flow, DN32
SD230	Actuator on/off 230V	230V~
AV32	Shut off valve	DN32
BPV10	By-pass valve	DN10

VLSP, pressure independent valve kit on/off

Two way pressure independent control and adjustment valve with on/off actuator, shut-off valve and bypass. DN15/20/25/32. 230V.

The valve set consists of the following:
- TAC, pressure independent regulation and adjustment valve
- SD230, actuator on/off 230V
- AV, shut off valve
- BPV10, bypass valve

The shut off valve (AV) consists of a ball valve which is either open or closed and is used to shut off the flow, when servicing for example.
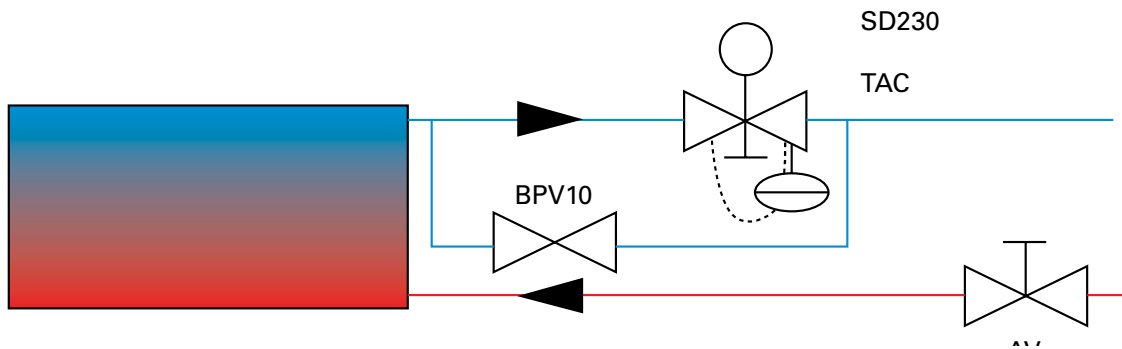
The regulation and adjustment valve (TAC) can be used to finely adjust or shut off the water flow manually. TAC is independent of the available differential pressure, which contributes to stable and accurate regulation (ensures the correct flow to the heater even if the differential pressure in the rest of the pipe system changes). The water flow is set using the gray adjustment knob on the valve

If the valve (TAC) is closed, a low flow passes through the by-pass valve (BPV10) so that there is always hot water in the water coil. This is to provide quick heat supply when a door is opened but also to provide a degree of frost protection.

The actuator (SD) controls the heat supply on/off. In unpowered mode SD230 is open.

The valve set is available in 4 different valve dimensions, DN15 (1/2"), DN20 (3/4"), DN25 (1") and DN32 (1 1/4"). The by-pass valve is DN10 (3/8").

Used with SIRe Basic and Competent or supplemented with suitable thermostat.

Two way pressure independent regulation and adjustment valve TAC (TA Compact-P)

Dimensions and technical specifikations
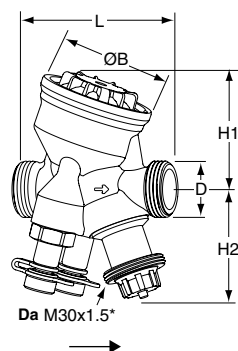
Da M30x1.5*

Type	DN	Flow	D	Da*1	L [mm]	H1 [mm]	H2 [mm]	B [mm]	Vikt [kg]
TAC15LF	15	Low flow	G3/4	M30x1,5	74	55	55	54	0,54
TAC15NF	15	Normal flow	G3/4	M30x1,5	74	55	55	54	0,54
TAC20	20	Normal flow	G1	M30x1,5	85	64	55	64	0,69
TAC25	25	Normal flow	G1 1/4	M30x1,5	93	64	61	64	0,79
TAC32	32	Normal flow	G1 1/2	M30x1,5	112	78	61	78	1,5

[1]) Connection to actuator.

Pressure class: PN16

Max. working temperature: 90 °C

Min. working temperature: 0 °C

Lift: 4 mm

Material

Valve body: AMETAL®
Valve insert: AMETAL®
Valve plug: Stainless steel
Spindle: Stainless steel
Spindle seal: EPDM O-ring
Δp insert: PPS
Membrane: EPDM and HNBR
Springs: Stainless steel
O-rings: EPDM

AMETAL® is a dezincification resistant alloy.

Media:

Water or neutral fluids, water-glycol mixtures.

Flow range:

The flow (q_{max}) can be set within the range:
DN 15 LF: 44-245 l/h
DN 15 NF:88-470 l/h
DN 20: 210-1150 l/h
DN 25: 370-2150 l/h
DN 32: 800 - 3700 l/h
q_{max} = l/h at each setting and fully open valve plug.

Differential pressure (ΔpV):

Max. differential pressure (ΔpV_{max}):
400 kPa = 4 bar
Min. differential pressure (ΔpV_{min}):
DN15, DN20 = 15 kPa = 0,15 bar
DN25, DN32 = 23 kPa = 0,23 bar
(Valid for position 10, fully open. Other positions will require lower differential pressure.)
ΔpV_{max} = The maximum allowed pressure drop over the valve, to fulfi ll all stated performances.
ΔpV_{min} = The minimum recommended pressure drop over the valve, for proper differential pressure control.

Leakage rate:
Leakage flow ≤ 0,01% of max. q_{max} (setting 10) and correct flow direction.
(Class IV according to EN 60534-4).

Connection:
Male thread according to ISO 228.

Marking
TA, IMI, PN 16, DN and flow direction arrow. Grey setting wheel: TA-COMPACT-P and DN. For low flow version also LF.

Application
The regulation and adjustment valve (TAC) can be used to finely adjust or shut off the water flow manually. TAC is independent of the available differential pressure, which contributes to stable and accurate regulation (ensures the correct flow to the heater even if the differential pressure in the rest of the pipe system changes). The water flow is set using the gray adjustment knob on the valve.

Functions
- Control
- Pre-setting (max. flow)
- Differential pressure control
- Measuring (ΔH, T, q)
- Shut-off

Noise

In order to avoid noise in the installation the valve must be correctly installed and the water de-aerated.
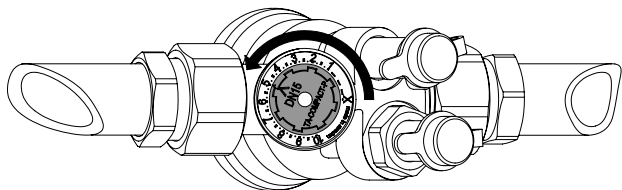
Measuring

Measuring q
1. Remove any actuator.
2. Connect IMI TA* balancing instrument to the measuring points.
3. Input the valve type, size and setting and the actual flow is displayed.
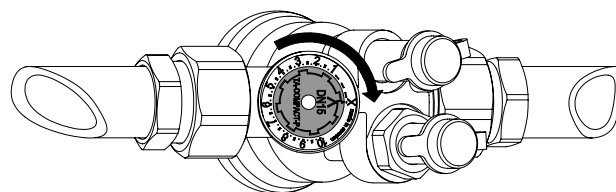
Measuring ΔH
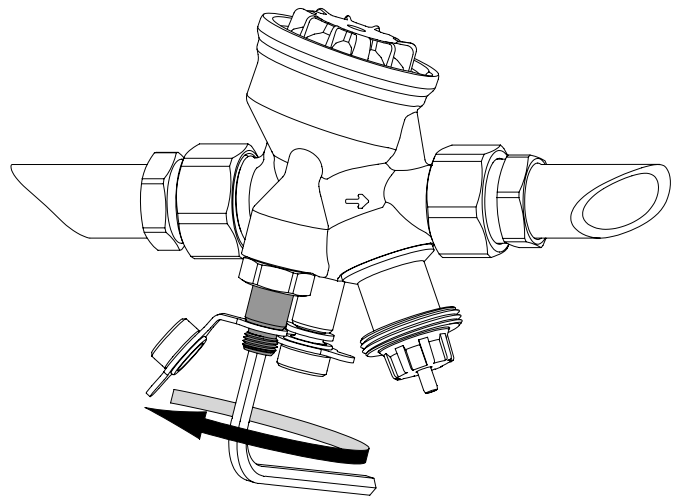
1. Remove any actuator.
2. Close the valve according to "Shut-off".
3. Bypass the Δp part by opening the bypass spindle ≈1 turn anticlockwise, with a 5 mm Allen key.
4. Connect IMI TA* balancing instrument to the measuring points and measure.
Important! Close the bypass spindle after the measurement is completed.
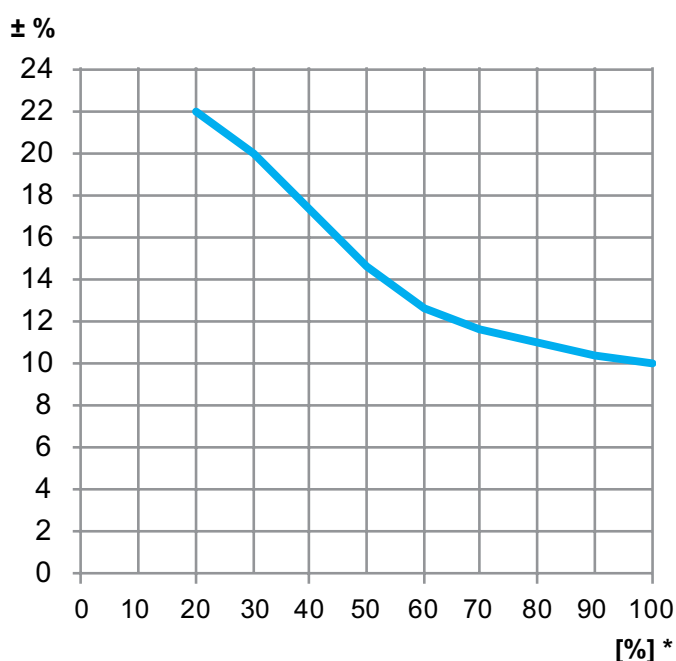
* www.imi-hydronic.com/

Setting

1. Turn the setting wheel to desired value, e.g. 5.0.

Shut-off

1. Turn the setting wheel clockwise to X.

Measuring accuracy

Maximum flow deviation at different settings.

± %


[%] *

*) Setting (%) of fully open valve.

Sizing

1. Choose the smallest valve size that can obtain the design flow with some safety margin, see "q_{max} values". The setting should be as open as possible.
2. Check that the available ΔpV is within the working range 15-400 kPa or 23-400 kPa.

q_{max} values

	Position									
	1	2	3	4	5	6	7	8	9	10
DN15LF	44	71	97	123	148	170	190	210	227	245
DN15	88	150	200	248	295	340	380	420	450	470
DN20	210	335	460	575	680	780	890	990	1080	1150
DN25	370	610	830	1050	1270	1490	1720	1870	2050	2150
DN32	800	1220	1620	2060	2450	2790	3080	3350	3550	3700

q_{max} = l/h at each setting and fully open valve plug.
LF = Low flow

Closing force

Working range: X (closed - fully open) =
11,6 - 15,8
Closing force: Min. 125 N (max. 500 N)

The maximum recommended pressure drop
over a valve and actuator combination for
close off (ΔpV_{close}) and to fulfill all stated
performances (ΔpV_{max}).
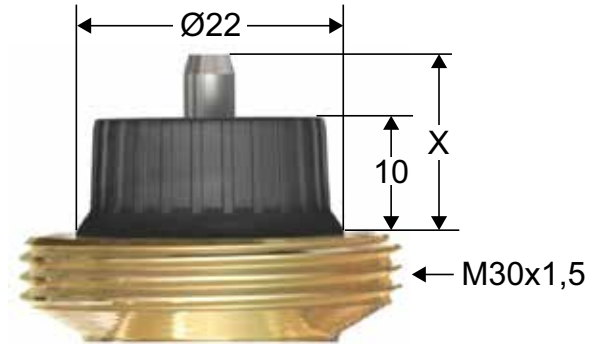
|	kPa*
DN15	400
DN20	400
DN25	400
DN32	400

*) Closing force 125 N.

ΔpV_{close} = The maximum pressure drop that
the valve can close against from an opened
position, with a specified force (actuator)
without exceeding stated leakage rate.

ΔpV_{max} = The maximum allowed pressure
drop over the valve, to fulfill all stated
performances.

Shut off valve (AV15/20/25/32)

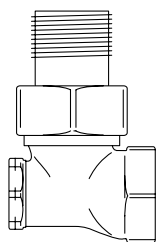### Dimensions and technical specifikations

Type	DN	A [mm]	B [mm]	C [mm]	D [mm]	Weight [kg]
AV15	15	119	57	25	57	0,2
AV20	20	130	57	32	70	0,3
AV25	25	140	62	42	85	0,3
AV32	32	178	81	57	104	0,5
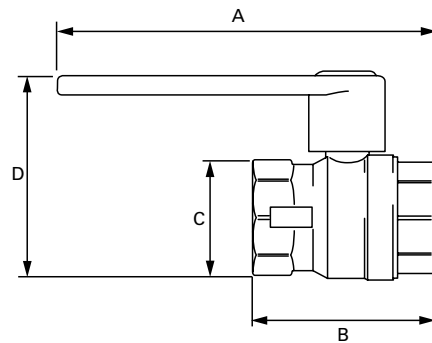
Application

The shut off valve is used to shut off the water
flow to the unit and consists of a ball valve
which is either open or closed. The shut off
valve have no adjustment function and is only
used for maintance and service.

By-passvalve (BPV10)

Dimensions and technical specifikations

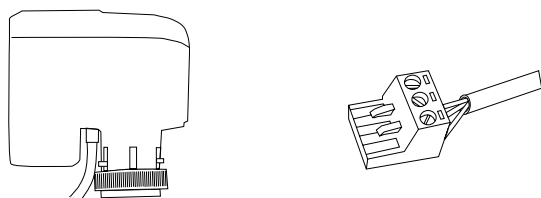| Type	HxWxD [mm]	Weight [kg]
BPV10	63x45x28	0,17

Application

The by-pass valve is used when a small amount flow of water should pass by the unit at all times. The purpose of this is that the water should always stay hot in the watercoil, in cases when a door opens and a quick heat supply is needed.

This kind of valve has the dimension DN10 (3/8").

When mounting the plug inside the valve must be screwed entirely at first and then screwed back a whole lap. In cases where the distance between inlet and the unit is far away, open the plug even more by screwing the plug backwards.

Actuator (SD230)

Dimensions and technical specifikations

Type	HxWxD [mm]	Weight [kg]
SD230	81x88x56	0,2

|	
Action	On/Off-regulation, linear motion
Supply voltage	230V, 50-60 Hz
Power consumption	<1,5 VA in operation
	<0,5 VA in the end position
Stroke force	100 N
Stroke length	6,5 mm
Full stroke time "On"	Nominal 3 s
Full stroke time "Off"	Nominal 12 s
Protection class	IP54
Screw-nut	M30x1,5
Cable length	1,5 m
Isolation class	II
Surrounding temp.	0-60 °C

Application

The electrical actuator in combination with the valve is used for regulating the heat supply to the unit. It's function is to open or close the valve (on/off). In unpowered mode SD230 is open.

The electrical actuator can be mounted and rotated after that the valve has been installed.

For regulating the actuator in combination with valve complement with SIRe or appropiate thermostat.
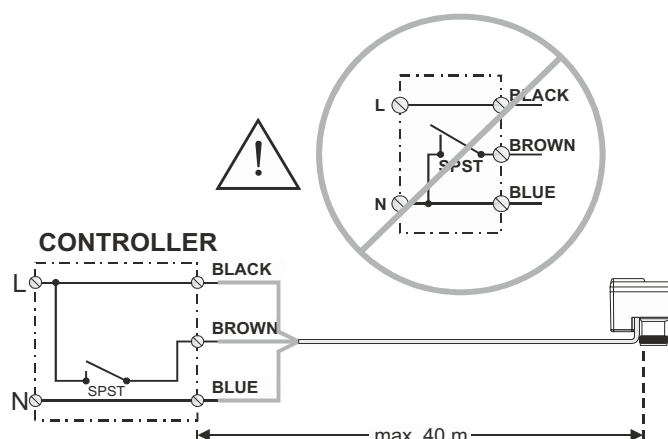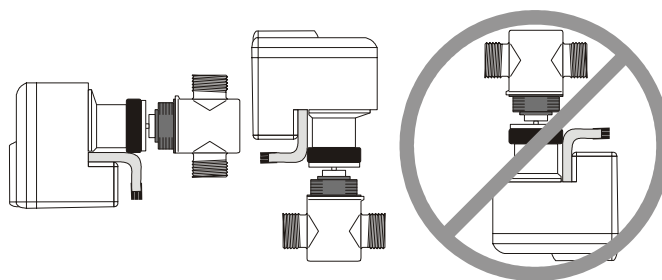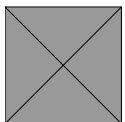
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