Installation of the TBVA Valve (set) GOLD/SILVER C/COMPACT

1. General

The TBVA Valve (set) consists of a 3-way seat valve (pressure class PN16) with male threads. The valve can easily be converted for 2-way operation by securing the cover plate supplied with the valve (not applicable to TBVA-400, TBVA-490, TBVA-630 and TBVA-780).
The valve actuator for variable valve control in included. The actuator has a knob for setting by hand.

2. Field of application

Can be used in ventilation systems with water or water mixed with up to max. 50% anti-freezing solution. Media temperature from +2°C to +120°C.

GOLD RX/PX/CX/SD version E/F

The valve kit is intended for use with air coolers/air heaters when the All Year Comfort function is installed.

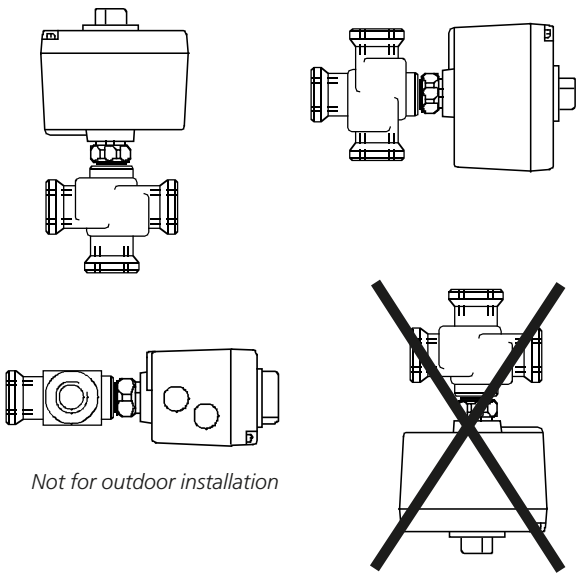
GOLD LP/COMPACT

The valve kit is intended for use with type TBKA air coolers and type TBLF air heaters serving as pre-heating coils, as well as for zone control.

SILVER C

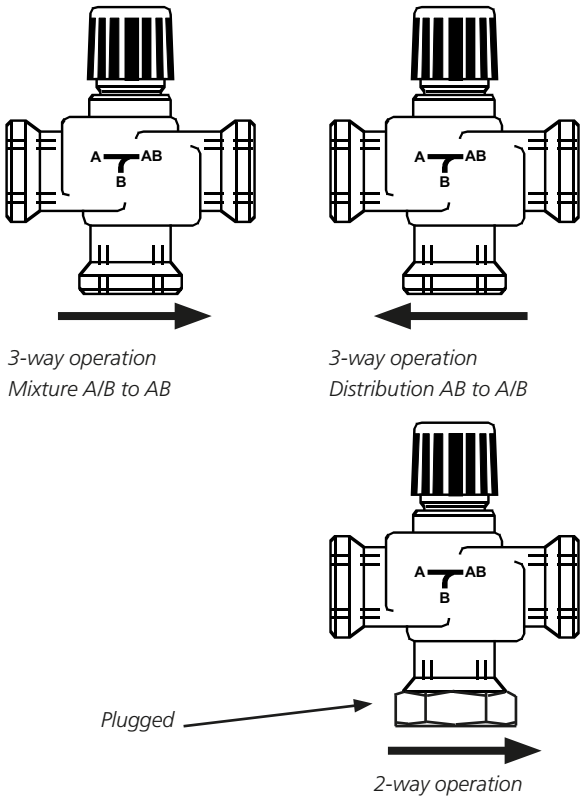
The valve kit is intended for use with type TBKA air coolers and type TBLA air heaters.

Fig. 1 Mounting position (outline diagram)



Not for outdoor installation

Fig. 2 Direction of flow



3-way operation
Mixture A/B to AB

3-way operation
Distribution AB to A/B

2-way operation

3. Installation

A skilled heating, ventilation and sanitation fitter shall install the valve.

If the actuator is installed outdoors or in a cold space, consideration should be given to the enclosure class of the actuator and the permissible ambient temperature. If necessary, make sure that required protection devices are fitted.

The valve and the cooling medium circuit should be insulated in accordance with local standards.

When fitting the actuator on the valve, remove the knob on the valve by turning it counter-clockwise. Then tighten the actuator by hand (SAS 61) or with a size 32 socket spanner (wrench), (other items, max. 30 Nm torque).

Install the valve as illustrated in Figures 1 and 2.

If actuators of the type SAS 61 and SAX 619 are used, after mounting the actuator onto the valve, manually check how it controls the valve to its end positions, the first time you switch on the power. See below.

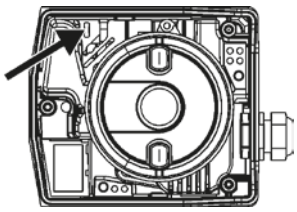
Actuator SAS 61/SAX 619
Two pin connectors, placed under the actuator's cover plate, are strapped with the help of e.g. a screwdriver. Check that the LED flashes green, which indicates that the end position check is in progress.

Once the end position check has been completed the LED is lit green or red. A green light indicates that the actuator is in normal mode. A red light indicates that the end position check must be performed again.

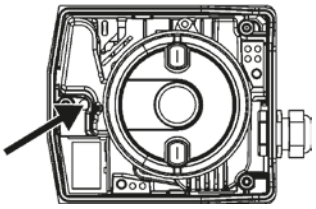
Also see the diagrams to the right.

SAS 61

The pin connectors are strapped with, e.g. a screwdriver

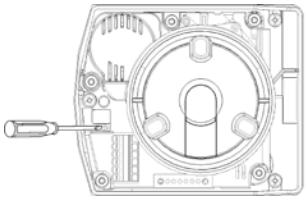


LED. A flashing green light indicates that the end position check is in progress

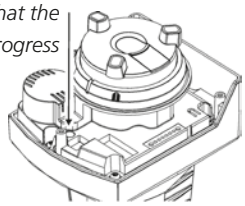


SAX 619

The pin connectors are strapped with, e.g. a screwdriver



LED.
A flashing green light indicates that the end position check is in progress



4. Technical Details

Valve actuator, SAS 61

Power supply voltage	24 VAC ± 20 % 50/60 Hz
Power consumption	4.5 VA
Signal input (Y)	0 - 10 VDC max 0.1 mA
Signal output (U)	0 - 10 VDC max 1.0 mA
Actuating time	30 sec. for 50 Hz
Perm. ambient temp. and hum. while in operation	-5° to +55°C, 5 - 95 %rH
Cable grommets	1 pc. M16, 1 pc. M20
Enclosure class	IP 54

Valve actuator, SAX 619

Supply voltage	24 V AC ± 20 %, 50/60 Hz
Power consumption	8 VA
Signal input (Y)	0 – 10 V DC, max. 0.1 mA
Signal output (U)	0 – 10 V DC, max. 1.0 mA
Period in operation	35 sec. for 50Hz
Permissible ambient temp. and humidity in oper.	-5 till +55°C, 5 – 95 % RH
Cable glands	Two 20.5 glands (for M20), One 20.5 gland (for M25)
Enclosure class	IP 54

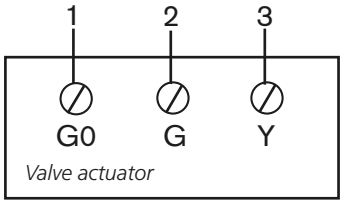
5. Electrical connection

The electrical connections are to be wired by a qualified electrician in accordance with local regulations.

GOLD RX/PX/CX/SD, version E/F

For particulars on electrical connections, see separate instructions for the All Year Comfort control box.

SILVER C

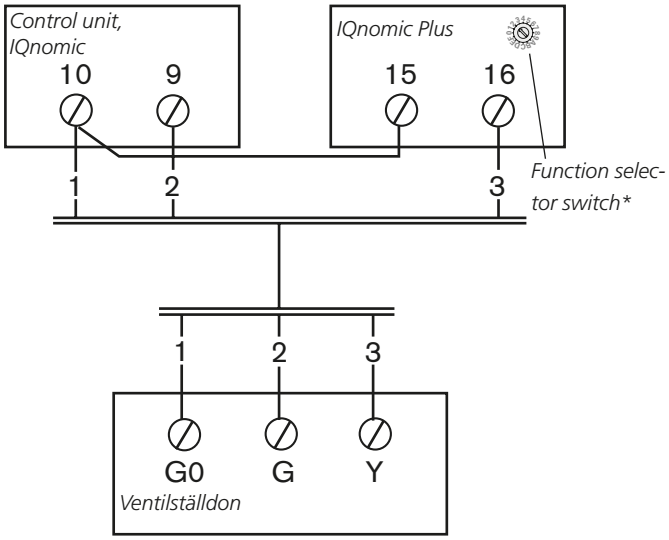


GOLD LP/COMPACT

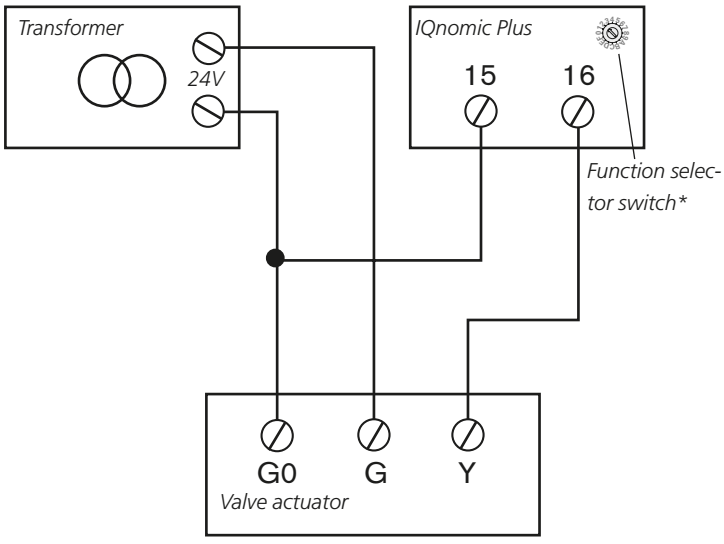
As a cooling medium valve for the TBKA or as a heating water valve for the TBLF, connected to the IQnomic control unit.

An IQnomic plus module is required for controlling the cooling valve from the air handling unit.

24 V power supply from the control unit



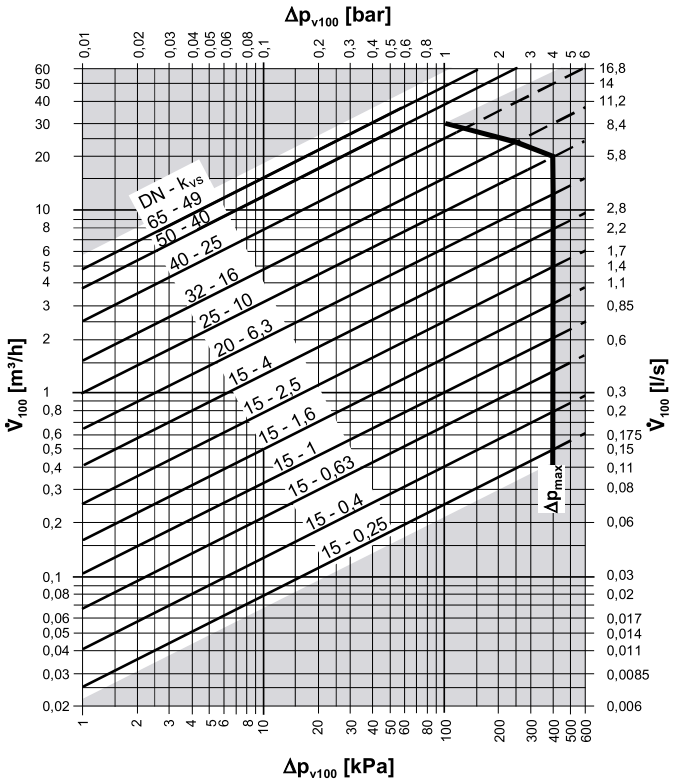
24 V power supply from separate transformer



**Position on the IQnomic Plus function selector switch*
Hot water valve for preheating = 9
Cooling valve for TBKA = 6
For further particulars, see the relevant function guide.

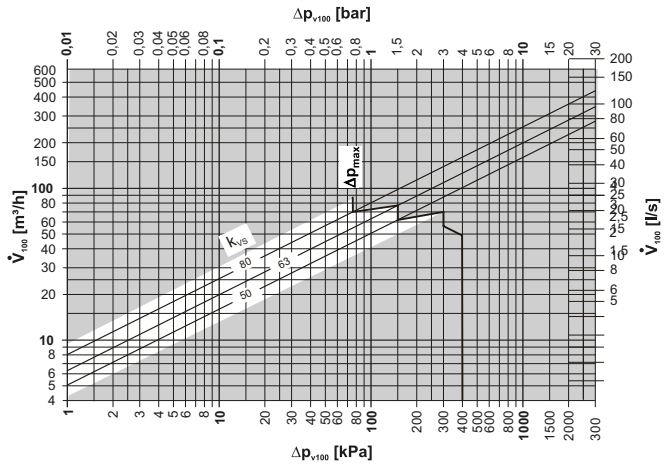
6. Sizing

TBVA-1-002 – TBVA-1-490

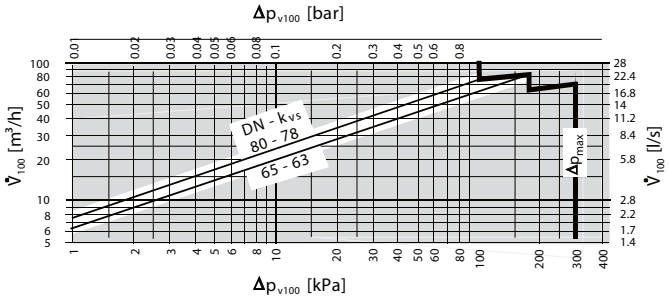


——— max. Δ p_{v100} *1m³/h =0,278 kg/s water at 20 °C*

TBVA-2-490 – TBVA-2-780

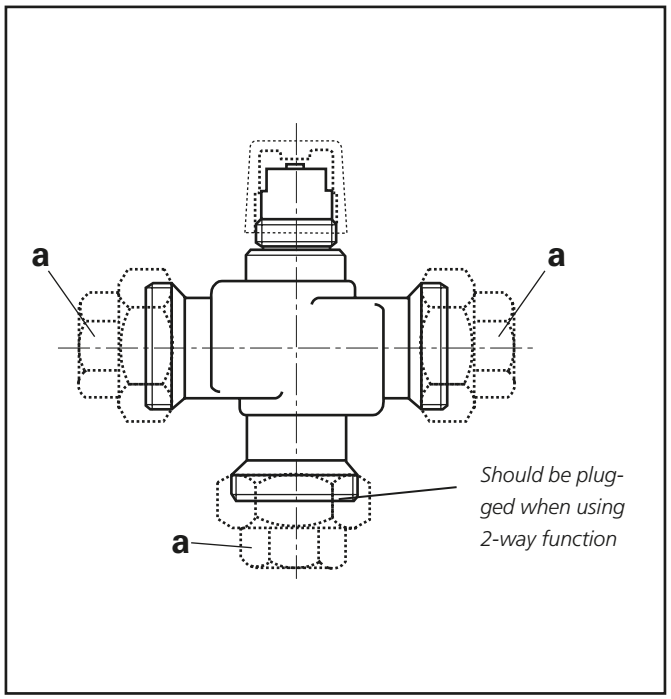


TBVA-1-630 – TBVA-1-780



——— max. Δ p_{v100} *1m³/h =0,278 kg/s water at 20 °C*

7. Valve connections



Part number	Valve	Actuator	Kvs value	***a*** int. threads
TBVA-1-002	VXG44.15-0.25	SAS 61	0,25	DN 15
TBVA-1-004	VXG44.15-0.40	SAS 61	0,4	DN 15
TBVA-1-006	VXG44.15-0.63	SAS 61	0,63	DN 15
TBVA-1-010	VXG44.15-1	SAS 61	1	DN 15
TBVA-1-016	VXG44.15-1.6	SAS 61	1,6	DN 15
TBVA-1-025	VXG44.15-2.5	SAS 61	2,5	DN 15
TBVA-1-040	VXG44.15-4	SAS 61	4	DN 15
TBVA-1-063	VXG44.20-6.3	SAS 61	6,3	DN 20
TBVA-1-100	VXG44.25-10	SAS 61	10	DN 25
TBVA-1-160	VXG44.32-16	SAS 61	16	DN 32
TBVA-1-250	VXG44.40-25	SAS 61	25	DN 40
TBVA-1-400	VXG41.50	SAX 619	40	DN 50
TBVA-1-490	VXF31.65	SAX 619	49	Flange 65
TBVA-1-630	VXF31.65-63	SAX 619	63	Flange 65
TBVA-1-780	VXF31.80	SAX 619	78	Flange 80
TBVA-2-490	VXF42.65-50	SAX 619	50	Flange 65
TBVA-2-630	VXF42.65-63	SAX 619	63	Flange 65
TBVA-2-780	VXF42.80-80	SAX 619	80	Flange 80