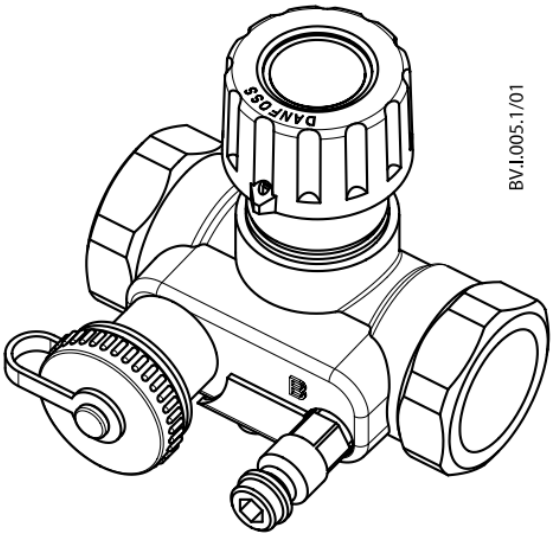
Danfoss USV-I Balancing Valve User Guide

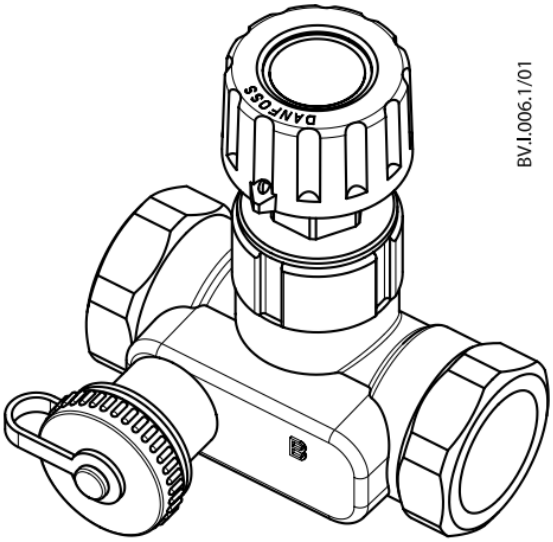
USV-I Balancing Valve
User Guide

Contents

USV-I Balancing Valve



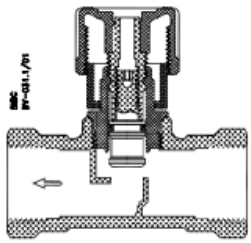
USV-I



USV-M

USV-I / USV-M

1



USV-I

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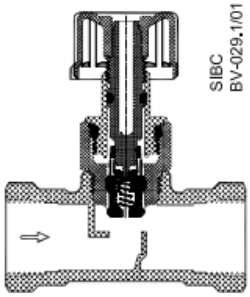

USV-M

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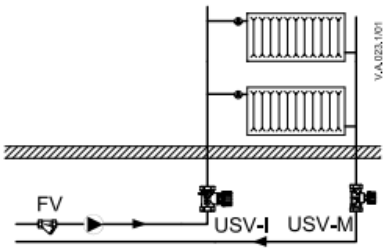

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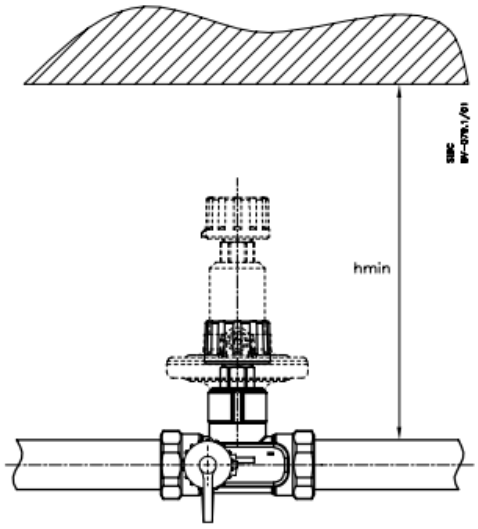
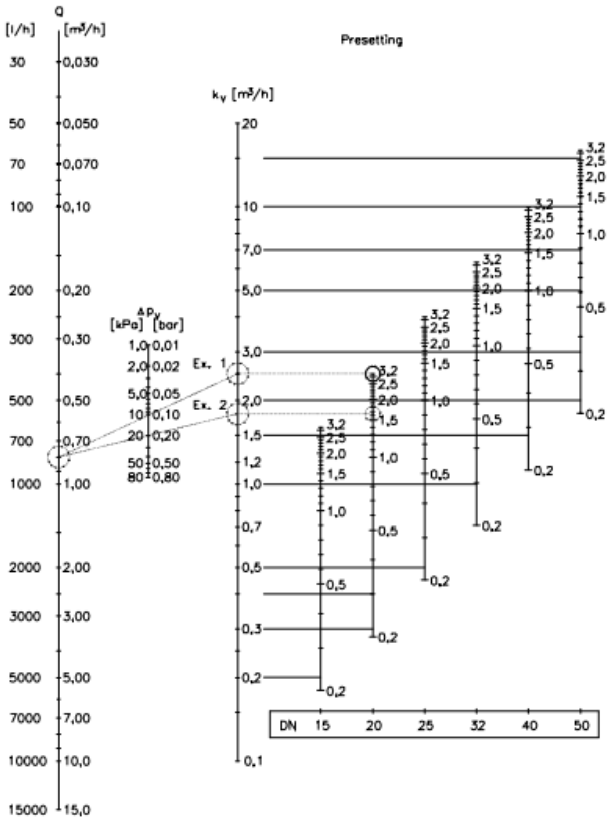


	h_{min} mm
DN 15	150
DN 20	200
DN 25	250
DN 32/40	320
DN 50	200

5



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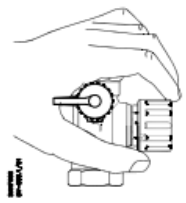

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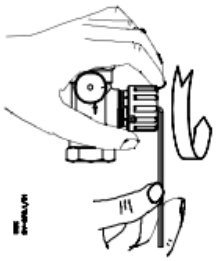

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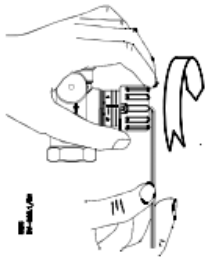

Presetting valve USV-I is used together with shut-off upgradeable valve USV-M to balance the flow in heating installations. After upgrading with PV controller, USV-M becomes an automatic balancing valve.

Function

USV-I gives maximum limitation of water flow and the riser can be shut off by turning the knob fully clockwise.
USV-M can shut-off the riser by turning the knob fully clockwise.
USV-M (after upgrading to USV-PV) regulates together with USV-I the differential pressure and flow across the riser to the preset value.

Data

Max. working pressure……16 bar
Max. differential pressure across the valve …… 80 kPa
Max. flow temperature ……..120 °C
Max. test pressure ……25 bar

Installation

USV-I must be installed in the flow pipe and USV-M must be installed in the return pipe. The direction of the flow must be according to the arrow on the valve body.It is recommended that an FV-filter is installed in the supply pipe.
The valve must in addition be installed as determined by installation conditions.

Measurment of flow

Measuring connector (accessory) can be fitted to the drain connection, and the differential pressure and flow across the valve can be measured using ordinary equipment, by doing the following:

- When the quick couplings on the measuring instrument are connected, turn the test plug one turn counterclockwise and open the drain connection
- Using the graph ❺ the actual definitely pressure across the valve can be converted to actual flow.
- Close the test plug and drain connection again, before removing the quick couplings.

Note: When measuring sized flow, all radiator valves mus be fully open.

Setting

To preset the valve:

- Turn the valve knob to the required setting ❻.
- Hold the knob to keep the setting, use a hexagon socket key to turn the spindle fully counterclockwise (until a stop can be felt) ❼.
- Turn the valve knob fully counter clock-wise, so that the mark on the knob is opposite “0” on the scale ❽. The valve is now open as many turns as required.

Resetting

To reset the setting, hold the knob and turn the spindle fully clockwise (until a stop can be felt) ❾.

Check the setting

Close the valve by turning the valve knob fully clockwise and read the setting on the scale ❻.

Fault location

Check the following if the riser valve does not function correctly:

1. Is the flow direction through the valve correct?
2. Is the USV-I valve open?

Insulation

The stropper packaging (accessories) can be used as an insulation jacket for temperature up to 120 °C.

Valve size	Internal thread	External thread
DN 15	Rp 1/2	G 3/4 A
DN 20	Rp 3/4	G 1 A
DN 25	Rp 1	G 1 1/4 A
DN 32	Rp 1 1/4	G 1 1/2 A
DN 40	Rp 1 1/2	G 1 3/4 A
DN 50	Rp 2	G 2 1/4 A

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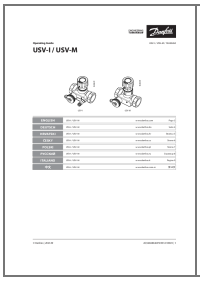
Documents / Resources

	Danfoss USV-I Balancing Valve [pdf] User Guide USV-I, USV-M, USV-I Balancing Valve, USV-I, Balancing Valve, Valve

References

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