



Danfoss USV-I Balancing Valve User Guide

[Home](#) » [Danfoss](#) » Danfoss USV-I Balancing Valve User Guide 



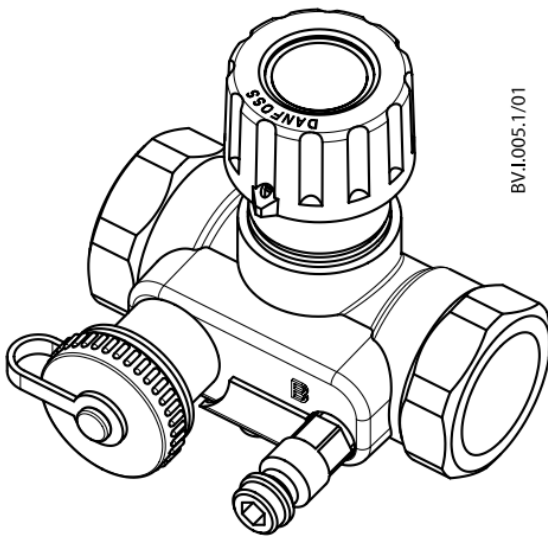
USV-I Balancing Valve
User Guide



Contents

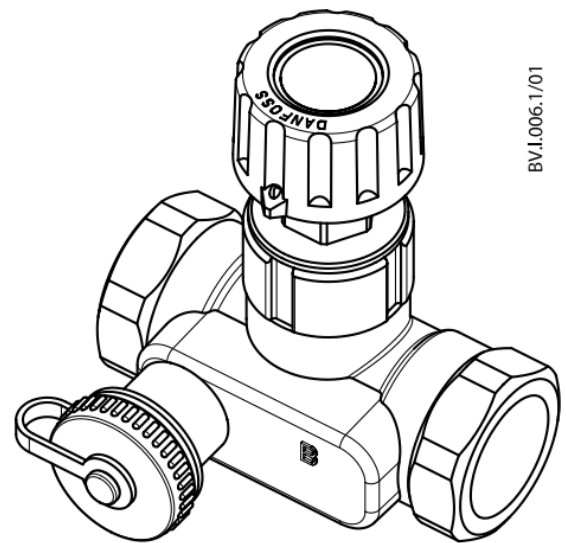
- [1 USV-I Balancing Valve](#)
- [2 Function](#)
- [3 Installation](#)
- [4 Measurement of flow](#)
- [5 Fault location](#)
- [6 Insulation](#)
- [7 Documents / Resources](#)
 - [7.1 References](#)
- [8 Related Posts](#)

USV-I Balancing Valve



BV.I.005.1/01

USV-I

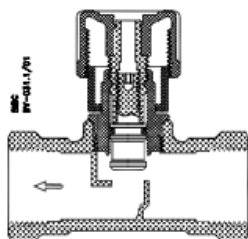


BV.I.006.1/01

USV-M

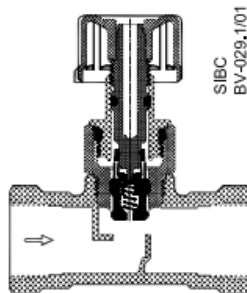
USV-I / USV-M

1



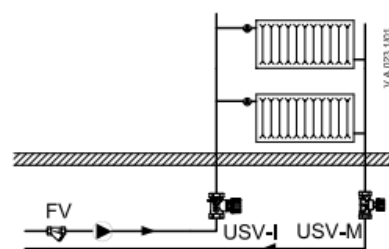
USV-I

2

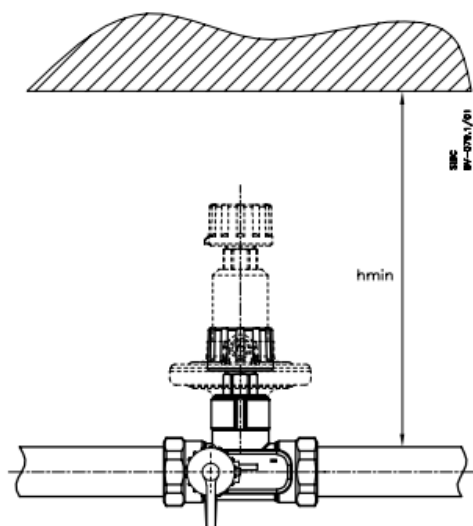


USV-M

3

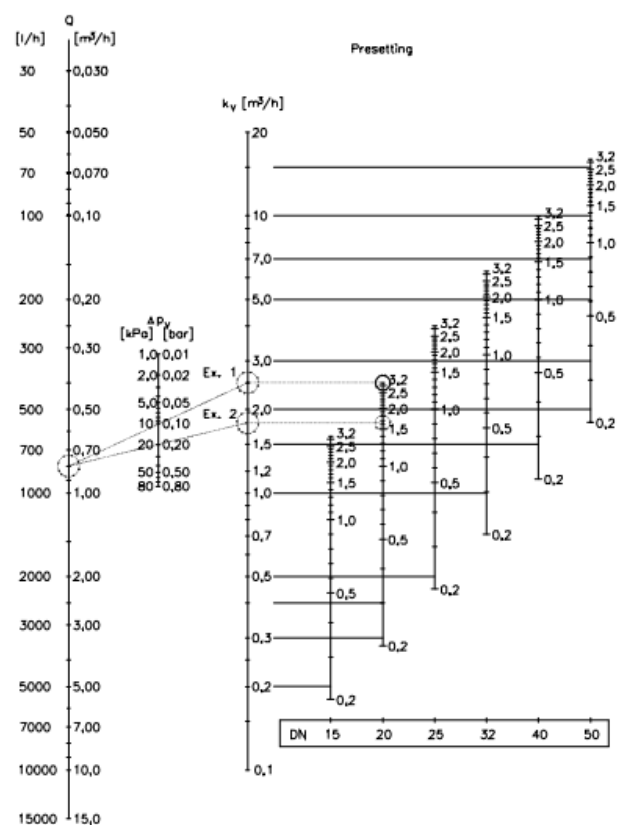


4

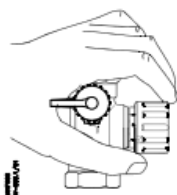


	h_{min} mm
DN 15	150
DN 20	200
DN 25	250
DN 32/40	320
DN 50	200

5



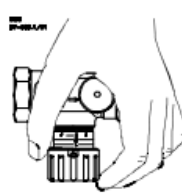
6



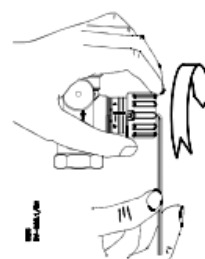
7



8



9



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 temperature120 °C
Max. test pressure25 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.

Measurement 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 ⑤ the actual differential 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 must be fully open.

Setting

To preset the valve:

- Turn the valve knob to the required setting ⑥.
- Hold the knob to keep the setting, use a hexagon socket key to turn the spindle fully counterclockwise (until a stop can be felt) ⑦.
- Turn the valve knob fully counter clock-wise, so that the mark on the knob is opposite “0” on the scale ⑧. 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) ⑨.

Check the setting

Close the valve by turning the valve knob fully clockwise and read the setting on the scale ⑥.

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

Danfoss A/S Climate Solutions

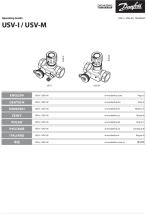
- danfoss.com
- +45 7488 2222

Any information, including, but not limited to information on selection of product, its application or use, product design, weight, dimensions, capacity or any other technical data in product manuals, catalogues descriptions, advertisements, etc. and whether made available in writing, orally, electronically, online or via download, shall be considered informative, and is only binding if and to the extent, explicit reference is made in a quotation or order confirmation. Danfoss cannot accept any responsibility for possible errors in catalogues, brochures, videos and other material. Danfoss reserves the right to alter its products without notice. This also applies to products ordered but not delivered provided that such alterations can be made without changes to form, fit or function of the product. All trademarks in this material are property of Danfoss A/S or Danfoss group companies. Danfoss and the Danfoss logo are trademarks of Danfoss A/S. All rights reserved.



© Danfoss I DCS-S/SI 12021.09
73693450 / AQ14688646059103-010601

Documents / Resources

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

References

-  [Danfoss - Engineering Tomorrow | Danfoss](#)
-  [Danfoss](#)

-  [Home \(Domovská stránka\) | Danfoss](#)
-  [Danfoss Deutschland | Klima | Kälte | Heizung | Antriebe | Hydraulik | Danfoss](#)
-  [Danfoss | Danfoss](#)
-  [Danfoss Italia | Soluzioni innovative e digitali per l'efficienza energetica industriale e residenziale | Danfoss](#)
-  [Danfoss – Engineering Tomorrow | Danfoss](#)
-  [Группа Danfoss A/S остановила деятельность на территории Российской Федерации и Республики Беларусь. | Danfoss](#)

Manuals+.