

ENGINEERING  
TOMORROW

*Danfoss*

LENO™ MSV-BD

## Saving time is easy Just pack **the right tools**

Flexible Solution with LENO™ balancing valves.

Life is challenging for all of us. Projects to complete, deadlines to meet, and customers to satisfy. That is why Danfoss has asked its engineers to look at a manual balancing valve and design the best products imaginable. The result is the LENO™ product range. It offers many possibilities to make your daily job easier and more effective.

**360°**  
**working angle**

For easy measuring and  
draining.

[www.leno.danfoss.com](http://www.leno.danfoss.com)

# LENO™ MSV-BD designed with you in mind

## 1. Easy mounting

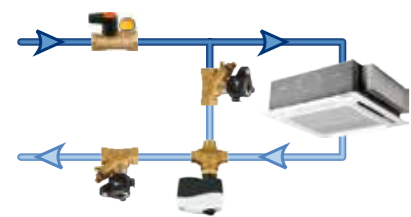
Space inside buildings is money. The LENO™ is very compact and the handle is easy to remove so you need very little room for the installation. Conventional balancing valves need to be mounted in straight pipe to ensure accurate measurement. The LENO™ can be placed anywhere, for example just after an elbow, without influencing its accuracy.

## 2. Easy and accurate measuring

LENO™ has measuring nipples on a measuring station so they are always accessible. The digital scale is also readable from all angles. Furthermore, the precision of the valve is independent of the setting and much more precise than competing solutions. Danfoss also introduces a high-tech measuring device. The PFM5000 allows you to carry out measurement with your mobile phone (Android App) with either bluetooth or wireless which saves a lot of time.

## 3. Easy set point locking

A simple tap on the top of the handle is enough to lock the LENO's setting. For more convenience we ship the LENO™ MSV-BD with a green disposable key for unlocking. Simply press the green latch and the valve is unlocked. To make LENO™ tamper-proof a plastic tie-wrap (accessory) can be inserted, making it easily visible when the valve has been tampered with.



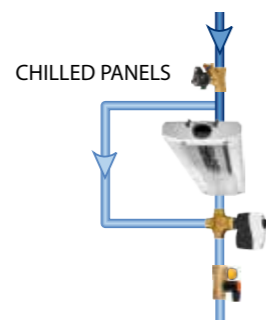
Fan coil unit application.

## 4. Easy shut-off function

When the LENO™ MSV-BD is locked, the valve becomes a ball valve. This feature has several advantages: The valve has zero leakage, opening and closing the valve is much easier because it takes only a quarter turn and closing the valve will not influence the setting in any way because the setting mechanism and the shut-off mechanism are completely separate. The position of the LENO™ (open or closed) is clearly shown by a red indicator.

## 5. Easy and practical draining

LENO™ MSV-BD has a built-in drain tap. To drain you can turn one of the measuring nipples with a 13 mm. spanner. When the LENO™ is closed, you can even choose from which side of the valve you want to drain by selecting the appropriate measuring nipple, saving you the expense of mounting additional drain taps.



Chilled beam application.



# LENO™ The perfect partnership

## 1. Partner valve for LENO™ MSV-BD

LENO™ MSV-S can be used together with LENO™ MSV-BD or another manual balancing valve from the LENO™ series. The two valves can be mounted together insuring the right flow, and you have the possibility to shut off a part of the system or a terminal unit and drain it. The valves have a broad working area. LENO™ valves are constructed to deliver high flows, and they are very accurate at low flows. The precision of the valves is independent of the setting, and much more precise than competing solutions.

## 2. High Quality ball valve

LENO™ MSV-S has a handle where the distance from the handle to the pipe, insures the installer space to mount insulation. The cover cap on the handle comes in 3 different colours:

- Red (pre-mounted, used to identify flow or domestic hot water)
- Blue (In the box when you buy LENO™ MSV-S, used to identify return or domestic cold water)
- Green (comes as an accessory, used to identify circulation pipe in the domestic hot water application)

## 3. Easy mounting

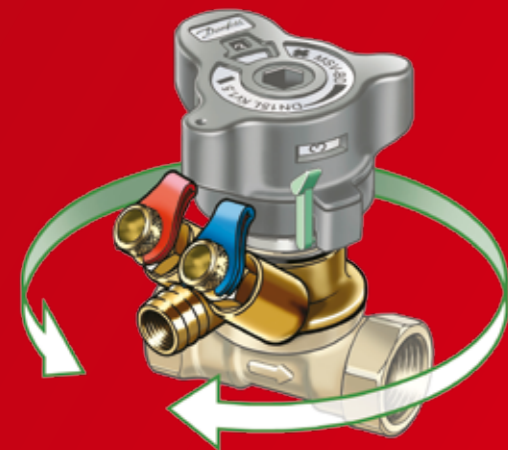
Space inside buildings is money. The LENO™ is very compact and the handle is easy to remove so you need very little room for the installation. When the cover cap is taken off there is a screw inside the handle, when the screw is loosened you can take off the handle. Even though the handle is pointing downwards the screw will always stay in the handle. You don't have to look for a missing screw on the floor.

## 4. Easy shut-off function

LENO™ MSV-S is a zero leakage ball valve. You can close the handle in both directions, this feature can be used when LENO™ is mounted on limited space. The valve is very easy to close, because it only takes a quarter turn of the handle.

## 5. Easy and practical draining

LENO™ MSV-S has a built-in drain tap. To drain you can use a 6mm allen key. When the handle is closed drain follows from the side where the drain is placed. Draining can be done very efficient, since the capacity of the drain is very big compared to competing solutions. LENO™ will save you the expense of mounting additional drain taps. The drain tap can also be used to measure pressure.



LENO™ MSV-BD valve with internal thread

Type	K <sub>vs</sub> (m³/h)	Connection	Code No.
MSV-BD DN 15 LF	2.5	R <sub>p</sub> ½"	003Z4000
MSV-BD DN 15	3.0	R <sub>p</sub> ½"	003Z4001
MSV-BD DN 20	6.0	R <sub>p</sub> ¾"	003Z4002
MSV-BD DN 25	9.5	R <sub>p</sub> 1"	003Z4003
MSV-BD DN 32	18	R <sub>p</sub> 1¼"	003Z4004
MSV-BD DN 40	26	R <sub>p</sub> 1½"	003Z4005
MSV-BD DN 50	40	R <sub>p</sub> 2"	003Z4006

LENO™ MSV-BD valve with external thread

Type	K <sub>vs</sub> (m³/h)	Connection	Code No.
MSV-BD DN 15 LF	2.5	G ¾ A*	003Z4100
MSV-BD DN 15	3.0	G ¾ A*	003Z4101
MSV-BD DN 20	6.0	G 1 A	003Z4102

All LENO™ MSV-BD valves are made of DZR, corrosion resistant brass.

\* Eurocone DIN V 3838

LENO™ MSV-S valve with internal thread

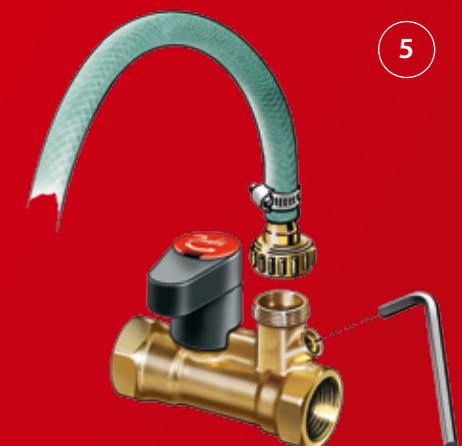
Type	K <sub>vs</sub> (m³/h)	Drain flow K <sub>vs</sub> (m³/h)	Connection	Code No.
MSV-S DN 15	3.0	0.3	R <sub>p</sub> ½"	003Z4011
MSV-S DN 20	6.0		R <sub>p</sub> ¾"	003Z4012
MSV-S DN 25	9.5		R <sub>p</sub> 1"	003Z4013
MSV-S DN 32	18.0		R <sub>p</sub> 1¼"	003Z4014
MSV-S DN 40	26.0		R <sub>p</sub> 1½"	003Z4015
MSV-S DN 50	40.0		R <sub>p</sub> 2"	003Z4016

LENO™ MSV-S valve with external thread

Type	K <sub>vs</sub> (m³/h)	Drain flow K <sub>vs</sub> (m³/h)	Connection	Code No.
MSV-S DN 15	3.0	0.3	G ¾ A*	003Z4111
MSV-S DN 20	6.0		G 1"	003Z4112

All LENO™ MSV-S valves are made of DZR, corrosion resistant brass.

\* Eurocone DIN V 3838.



# LENO™ ...ask for two!

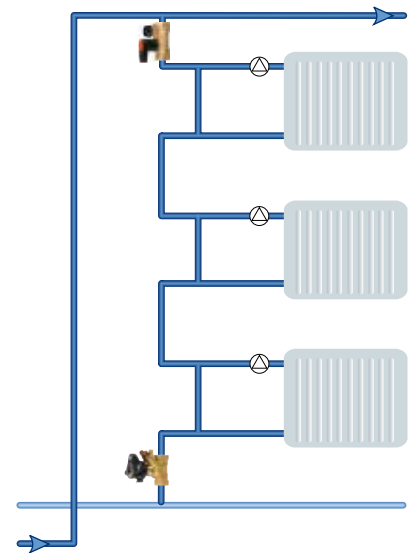
Almost every terminal unit and system has at least two pipes – one supply pipe and one return pipe. This could be with boiler connections, solar systems, air handling units, heat pumps, 1-pipe systems etc...

To save you time and simplify logistics, Danfoss has bundled up the perfect match of LENO™ valves in order to propose LENO™ sets.

LENO™ sets contain two valves placed in one box. These are LENO™ MSV-BD and LENO™ MSV-S, both of the same diameters.

**If that sounds interesting to you, please ask your wholesaler about code numbers listed in the table below.**

1-pipe system



LENO™ MSV-BD/S set solution

Type	$K_{vs}$ (m <sup>3</sup> /h)	Drain flow $K_{vs}$ (m <sup>3</sup> /h)	Connection	Code No.
MSV-BD/S DN 15	3.0	0.3	R <sub>p</sub> 1/2"	003Z4051
MSV-BD/S DN 20	6.0		R <sub>p</sub> 3/4"	003Z4052
MSV-BD/S DN 25	9.5		R <sub>p</sub> 1"	003Z4053
MSV-BD/S DN 32	18.0		R <sub>p</sub> 1 1/4"	003Z4054
MSV-BD/S DN 40	26.0		R <sub>p</sub> 1 1/2"	003Z4055
MSV-BD/S DN 50	40.0		R <sub>p</sub> 2"	003Z4056

All LENO™ valves are made of DZR, corrosion resistant brass.

For more info visit us at  
[www.leno.danfoss.com](http://www.leno.danfoss.com)



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