

Infographic

How AB-QM 4.0 redefines the value of PICVs

An interactive comparison between Danfoss AB-QM and new AB-QM 4.0

Almost 20 years ago Danfoss created a new way of hydronic balancing and control in HVAC heating and cooling systems by introducing AB-QM Pressure Independent balancing and Control Valves (PICVs).

Now we redefine PICV value with AB-QM 4.0. The successor of AB-QM is designed to be the indisputable best PICV on the market. Find out what we did and how that helps your PICV designs.

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Specification and installation



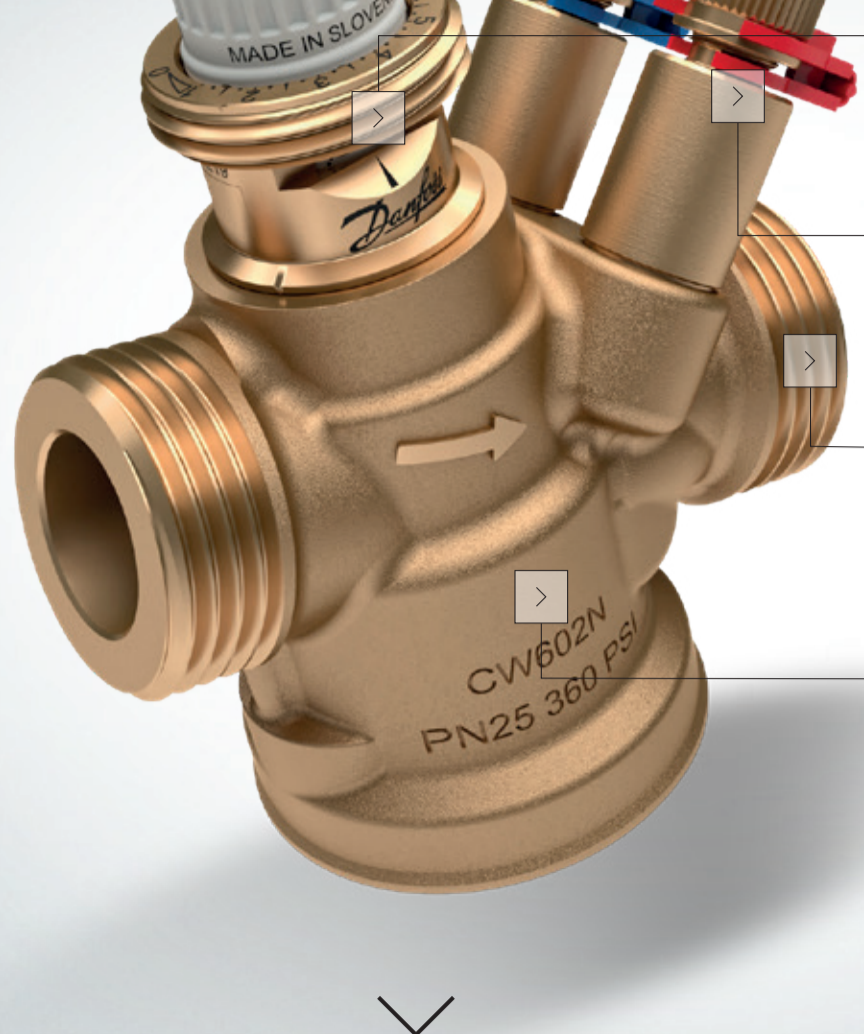
Specification and installation

For those who want to win tenders

AB-QM is designed to comply with modern specifications. It has multiple features and functionalities that simplify installation and commissioning.

For example, the control accuracy, especially at low flow settings, has been improved for optimized energy efficiency and comfort.

Also, the flow range per DN size has been increased, allowing smaller valves to perfectly control larger flows. This results in competitive project prices with best-in-class products.



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Setting

Specification and installation



NEW AB-QM 4.0

Visible setting with mounted actuator

Nominal flow in l/h and US GPM

1-10 scale for 10-100% flow setting

Stroke limitation principle

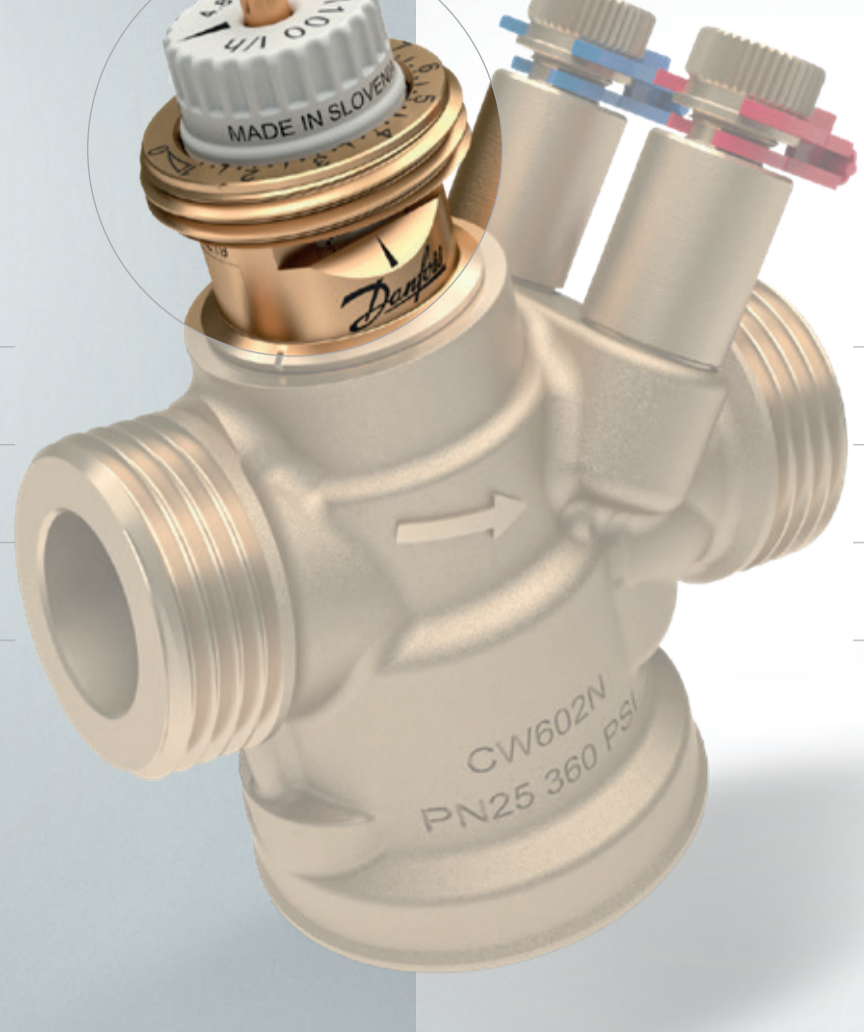
AB-QM

Invisible setting with mounted actuator

Nominal flow in l/h

20-100 scale for 20-100% flow setting

Stroke limitation principle



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Measuring

Specification and installation



NEW AB-QM 4.0

Accurate flow measuring

Test plugs optional (DN 15LF - DN 20HF)

Test plugs standard (DN 25 - DN 32HF)

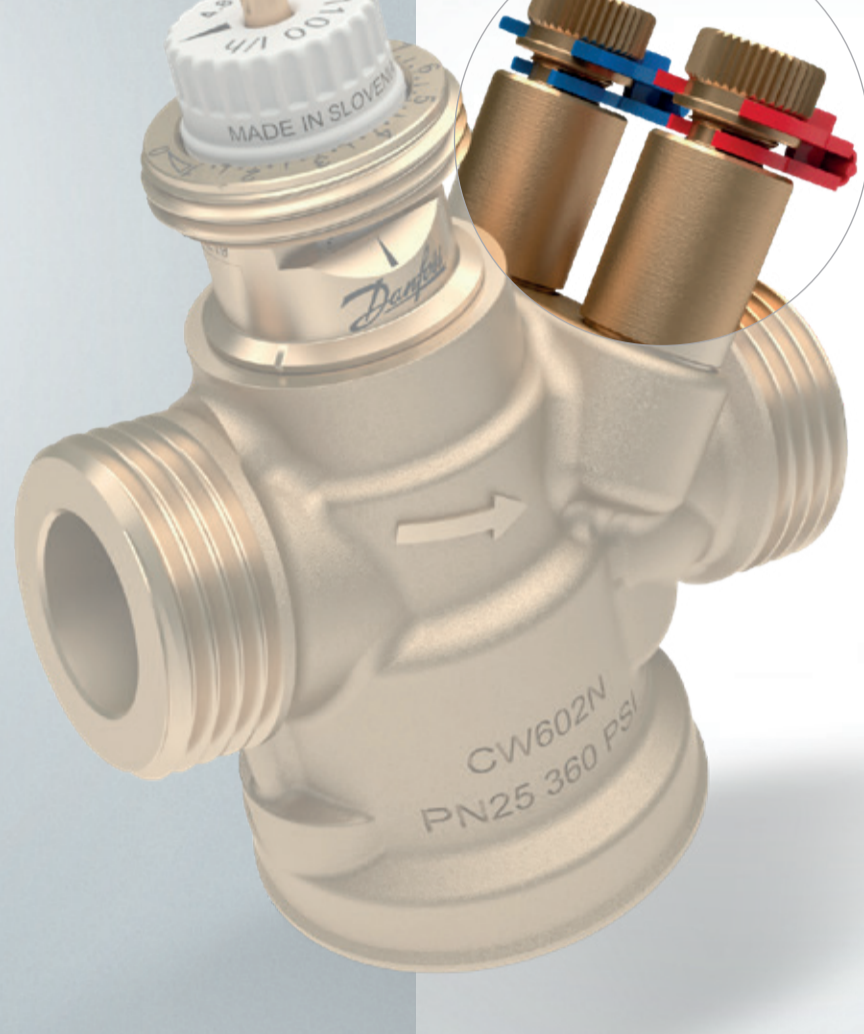
Standard test plugs c.t.c. distance

AB-QM

Flow indication

Test plugs optional

Non-standard test plugs c.t.c. distance



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Connections

Specification and installation



NEW AB-QM 4.0

Standard external thread acc. ISO 228/1

Standard internal thread acc. ISO 7/1

Available in DN 15LF - DN 32HF

AB-QM

Short external thread acc. ISO 228/1

No internal thread version

Available in DN 10LF - DN32HF



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[Pressure and Flow](#)



Pressure and Flow

Specification and installation



NEW AB-QM 4.0

PN 25 / 360 PSI

ΔP min. = 16 kPa (DN 15-20 LF and NF)
= 25 kPa (DN 15/20 HF)
= 20 kPa (DN 25/32 NF)
= 30 kPa (DN 25/32 HF)

ΔP max. = 600 kPa

Qmin. = 10% of Qnom.

Increased design flow settings:

- DN 10: **not available**

- DN 15: **20 - 1200 l/h**

- DN 20: **110 - 1900 l/h**

- DN 25: **230 - 3800 l/h**

- DN 32: **360 - 5000 l/h**

AB-QM

PN 16 / 300 PSI

ΔP min. = 16 kPa (DN 15-20 LF and NF)
= 32 kPa (DN 15/20 HF)
= 20/25 kPa (DN 25/32 NF)
= 35 kPa (DN 25/32 HF)

ΔP max. = 600 kPa

Qmin. = 20% of Qnom.

Design flow settings:

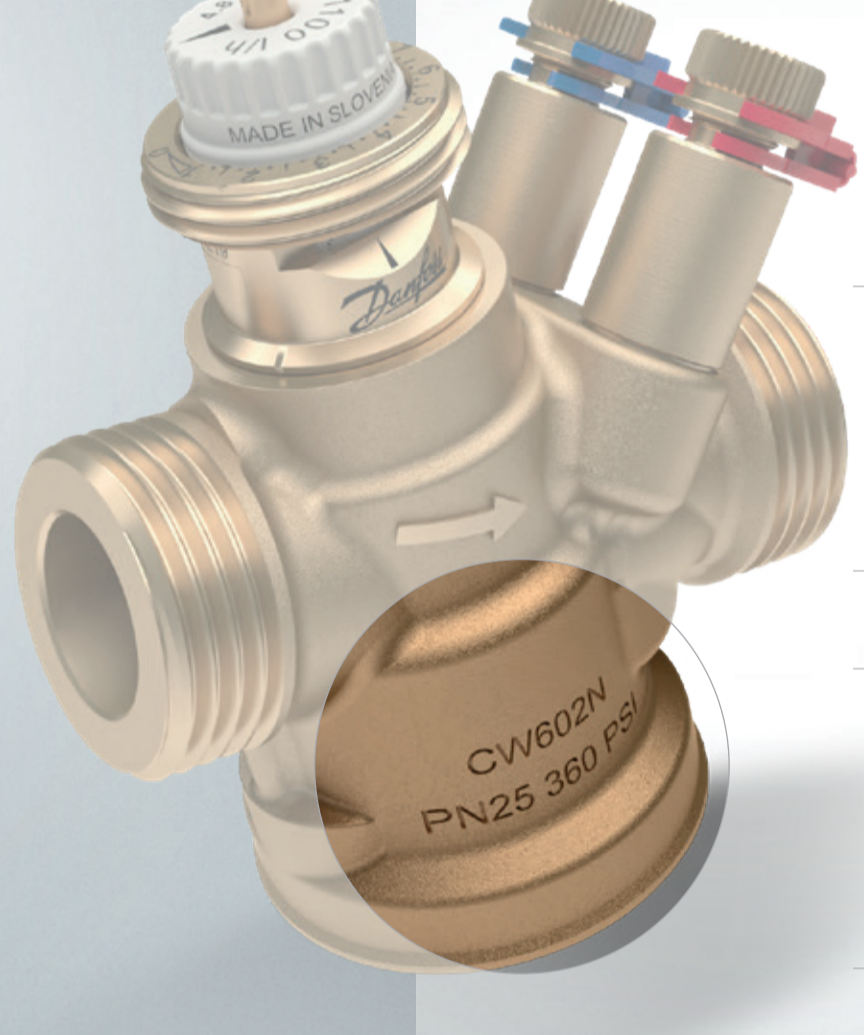
- DN 10: 15 - 275 l/h

- DN 15: 55 - 1135 l/h

- DN 20: 180 - 1700 l/h

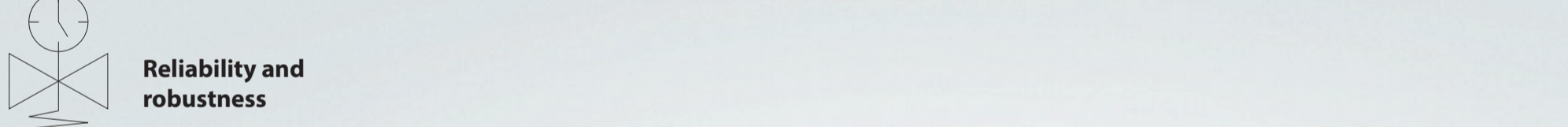
- DN 25: 340 - 2700 l/h

- DN 32: 640 - 4000 l/h



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[Control valve](#)



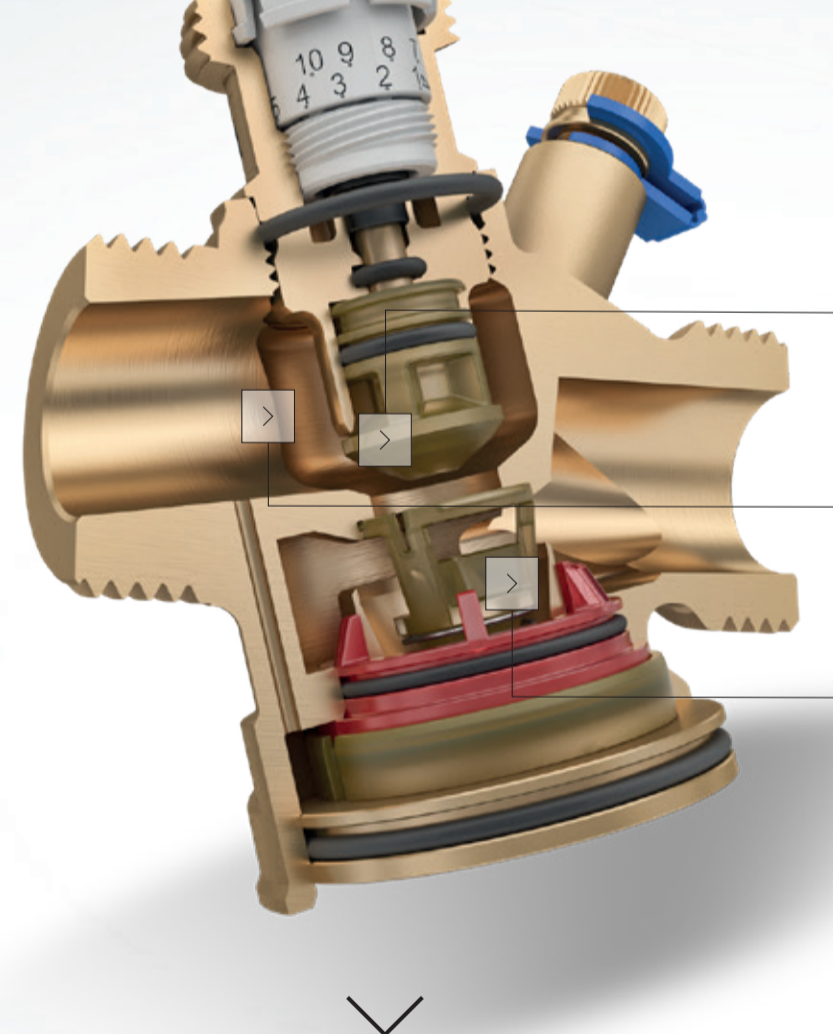
Reliability and robustness

For those who want superior quality

AB-QM 4.0 is designed for a long lifetime value to reduce the buildings' total costs of ownership. For example the presence of scaling and clogging in heating and cooling systems can't be avoided.

By using innovative PPSU polymer for the inner components most sensitive to scaling, we reduce the effect and maintain the high control performance over a longer lifetime.

Flushing and filling of the system can now be performed in both directions, saving precious time before commissioning and hand-over of the system.



[Control valve](#)

[Valve body](#)

[Pressure controller](#)

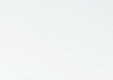
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Control valve

Reliability and robustness



NEW AB-QM 4.0

PPSU polymer and DZR brass materials

Superior protection against scaling and clogging through extensive testing and intensive use of new materials

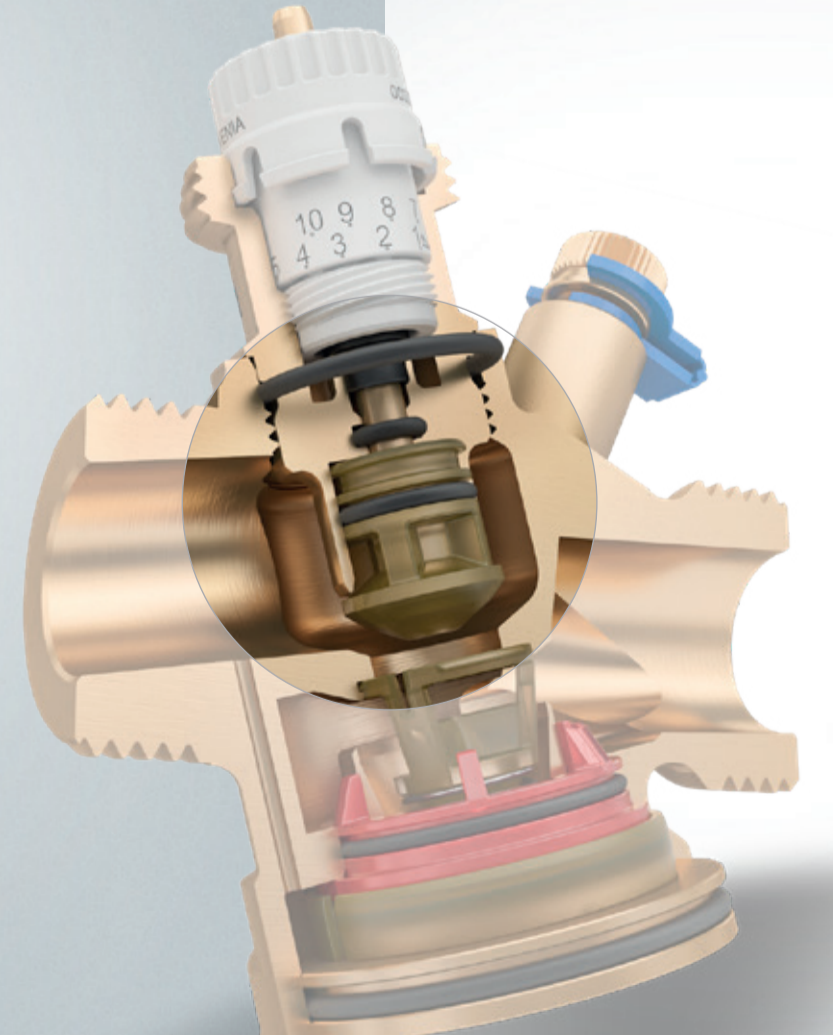
Stroke 4 mm for all valve sizes

AB-QM

DZR brass materials

Better protection against scaling and clogging compared to other PICVs on the market

Stroke 2.25 - 4.5 mm depending on valve size



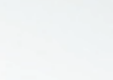
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[Valve body](#)



Valve body

Reliability and robustness



NEW AB-QM 4.0

DZR brass

Bi-directional flushing and filling

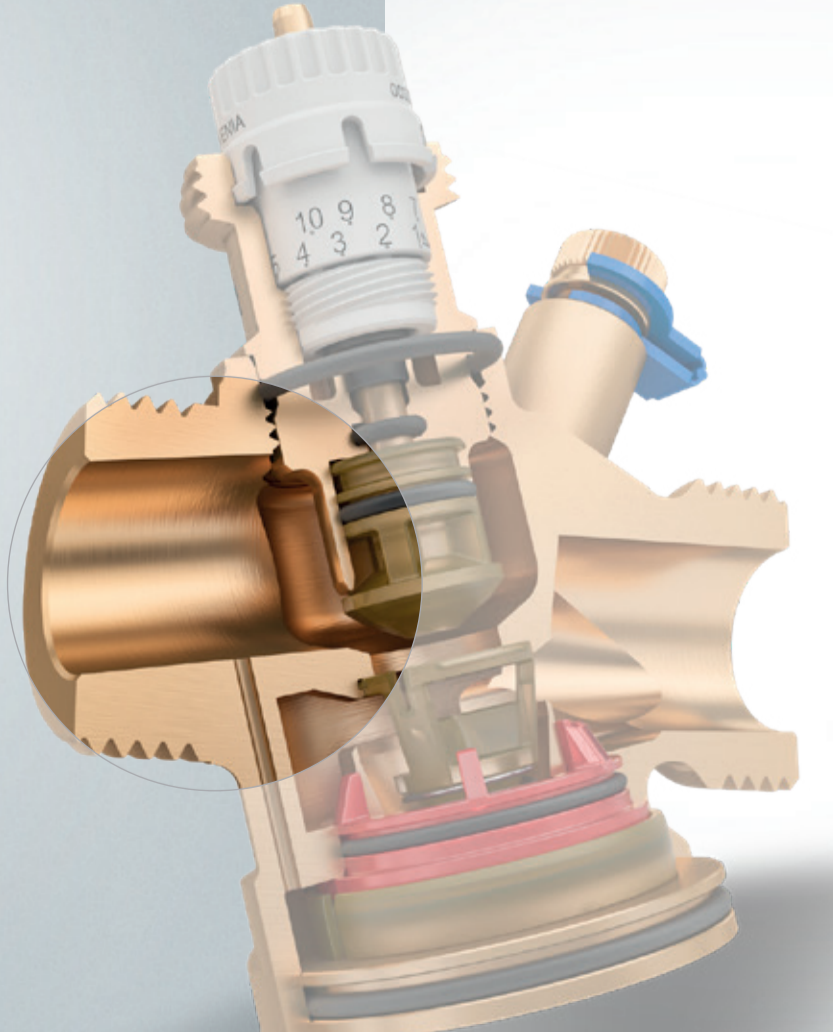
Made as 1 part

AB-QM

DZR Brass

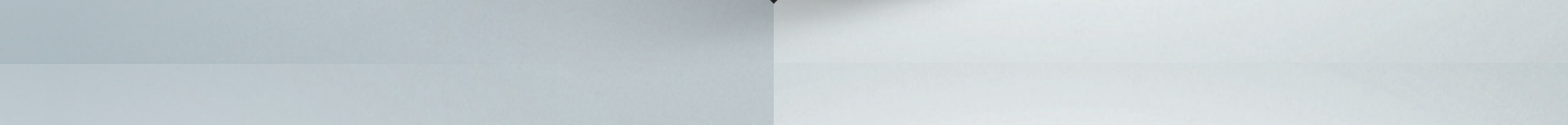
Flow-direction flushing and filling

Made from 2 parts



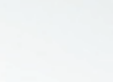
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[Pressure controller](#)



Pressure controller

Reliability and robustness



NEW AB-QM 4.0

Re-designed, low friction, differential pressure controller that reduces the hysteresis

PPSU polymer and DZR brass materials

Superior protection against scaling and clogging through extensive testing and intensive use of new materials

Functions over control valve only for 100% valve authority to ensure high accuracy pressure independent control performance

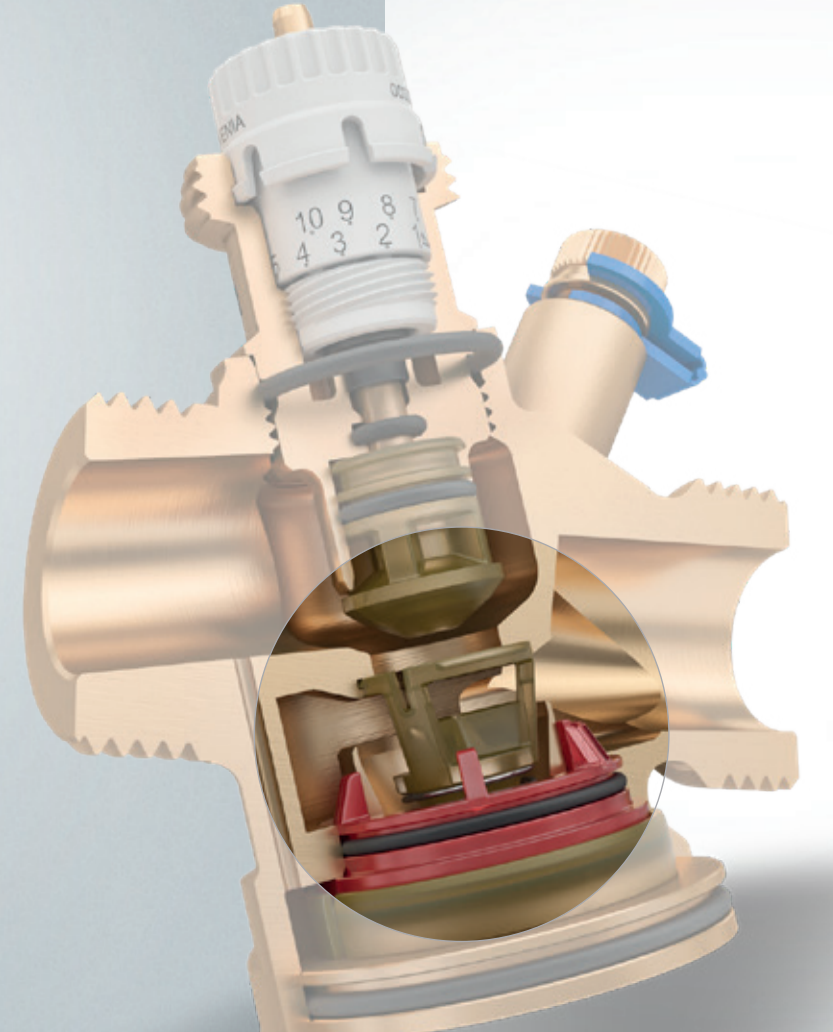
AB-QM

Membrane-driven differential pressure controller that reduces the hysteresis

DZR Brass materials

Better protection against scaling and clogging compared to other PICVs on the market

Functions over control valve only for 100% valve authority to ensure high accuracy pressure independent control performance



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