

2. Öffnen Sie die betreffenden Kugelhähne (Spindel SW 5), um den Entleer-, Füll-, oder Spülvorgang einzuleiten.

Auslassseitigen Anlagenabschnitt entleeren, füllen, spülen oder entlüften	Montieren Sie den Schlauch auf den Auslasskugelhahn (siehe Abb. 9)
Einlassseitigen Anlagenabschnitt entleeren, füllen, spülen oder entlüften	Montieren Sie den Schlauch auf den Einlasskugelhahn
Kompletten Anlagenabschnitt entleeren, füllen, spülen oder entlüften	Montieren Sie den Schlauch auf beide Kugelhähne (siehe Abb. 10).
	Das Ventil muss während dieses Vorganges geschlossen bleiben!

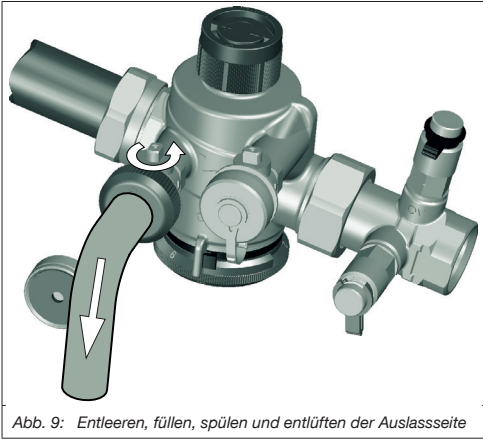


Abb. 9: Entleeren, füllen, spülen und entlüften der Auslassseite

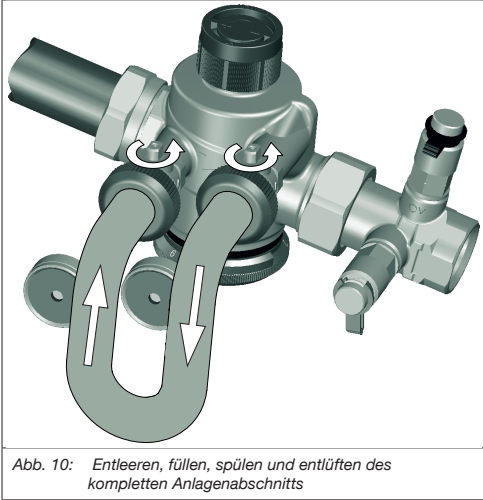


Abb. 10: Entleeren, füllen, spülen und entlüften des kompletten Anlagenabschnitts

5.2 Messblendeneinsatz einbauen bzw. wechseln

Verwendungsbereiche der Messblendeneinsätze nach Ventil-Ausführung					
Ausführung	Druchflussbereich/Einsatz				
DN15					
30-210 l/h	30-90 l/h Einsatz 1	90-210 l/h Einsatz 2			
150-700 l/h			150-450 l/h Einsatz 3	400-700 l/h Einsatz 4	
200-1300 l/h			200-600 l/h Einsatz 3		600-1300 l/h Einsatz 5
DN20					
250-1800 l/h	250-800 l/h Einsatz 4	700-1800 l/h Einsatz 5			

- Lösen Sie die Überwurfmutter (siehe Abb. 11).
- Entnehmen Sie den Messblendeneinsatz, soweit vorhanden (siehe Abb. 12).
- Setzen Sie den neuen Messblendeneinsatz ein (siehe Abb. 12).
- Ziehen Sie die Überwurfmutter an (siehe Abb. 13).

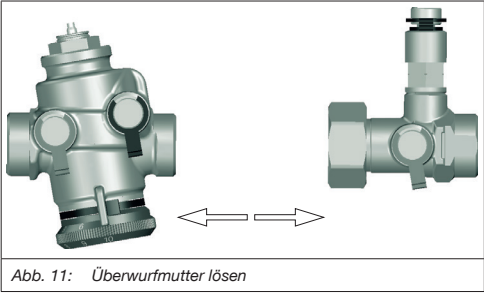


Abb. 11: Überwurfmutter lösen

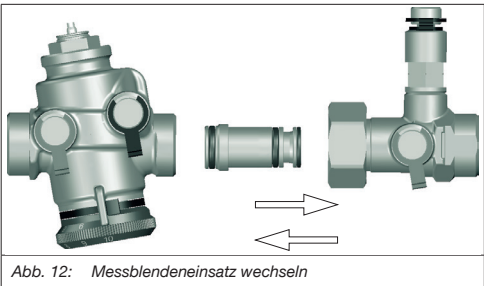


Abb. 12: Messblendeneinsatz wechseln

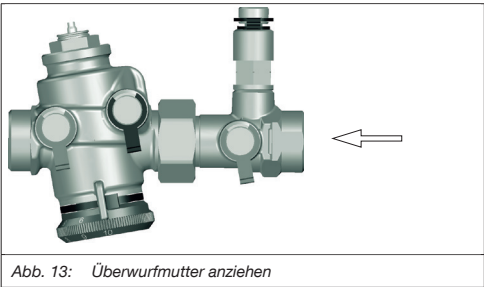


Abb. 13: Überwurfmutter anziehen

6. Inbetriebnahme

WARNUNG	Verletzungsgefahr durch Armaturen unter Druck! Unter Druck austretende Medien können zu Verletzungen führen. Wenn die Heizungsanlage in Betrieb ist besteht Verbrühungsgefahr durch ungewolltes Austreten von Heißwasser oder Wasserdampf. - Prüfen Sie während des Befüllens alle Verschraubungen und ziehen Sie undichte Verschraubungen fest. - Tragen Sie eine Schutzbrille.
--	---

ACHTUNG	Beschädigungsgefahr durch Druckschlag! Das schlagartige Einleiten von Wasser kann zu Beschädigungen führen. Öffnen und schließen Sie Absperrarmaturen immer langsam.
--	--

6.1 Volumenstrom einstellen

Stellen Sie den gewünschten Volumenstrom mit dem Handrad ein (siehe Abb. 14).

- Blockierring (2) entfernen.
- Handrad (3) drücken und drehen, bis die Sollwert-Markierung (1) auf den gewünschten Durchflusswert zeigt (Handrad schnappt danach in Verzahnung zurück).
- Blockierring (2) wieder einsetzen.

	Optional kann der Blockierring (2) mit dem Plombiersatz (4) (Zubehör, Art.-Nr. 1089091) an der Sollwert-Markierung (1) plombiert werden (siehe Abb. 15).
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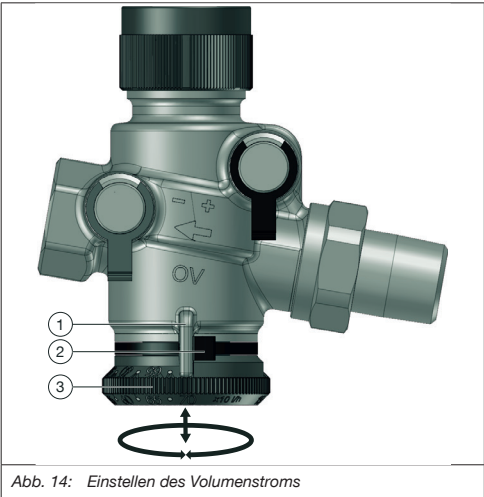


Abb. 14: Einstellen des Volumenstroms

(1)	Sollwert-Markierung
(2)	Blockierring
(3)	Handrad

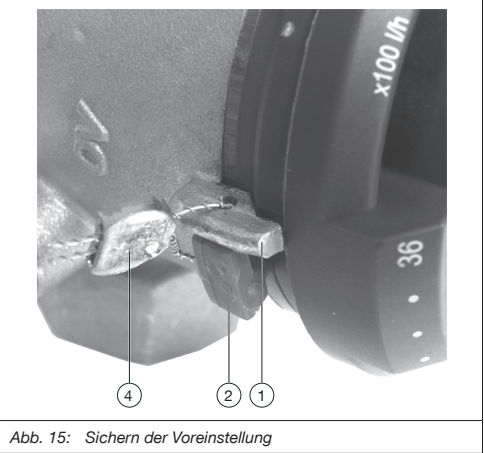


Abb. 15: Sichern der Voreinstellung

(4)	Plombiersatz
(2)	Blockierring
(1)	Sollwert-Markierung

6.2 Druckbeaufschlagung

- Befüllen Sie den Anlagenabschnitt mit dem Betriebsmedium nachdem die Montage abgeschlossen ist.

	Führen Sie nach der Druckbeaufschlagung eine Dichtheitsprüfung aller Montagestellen durch.
---	---

	Berücksichtigen Sie die Korrekturfaktoren der Frostschutzmittelhersteller bei der Durchflusseinstellung.
---	--

6.3 Absperrn des Ventils

Schrauben Sie die mitgelieferte Bauschutzkappe auf den M30 x 1,5-Gewindeanschluss auf (siehe Abb. 8).

	Nutzen Sie die Bauschutzkappe nur für eine kurzzeitige Absperrung. Für eine dauerhafte Absperrung muss entweder der Handregulierkopf (Zubehör, Art.-Nr. 1012565) oder die Kombikappe DB (Zubehör, Art.-Nr. 1627965) verwendet werden. Die Bauschutzkappe darf nicht zur Absperrung des Ventils gegen Umgebungsdruck (z.B. bei demontiertem Anlagenteil) verwendet werden.
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6.4 Mindest-Differenzdrücke für die Durchflussregelung

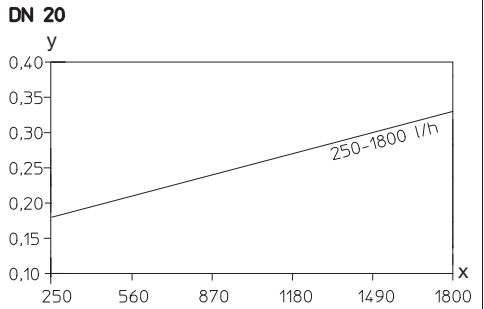
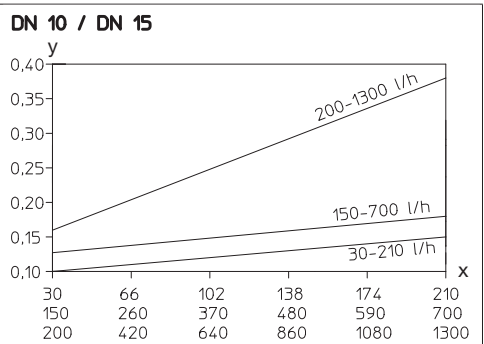


Abb. 16: Mindest-Differenzdrücke

(x- Achse)	Sollwerteinstellungen [l/h]
(y- Achse)	min Differenzdruck p1-p3 [bar]

Durchflussregelventile benötigen einen Mindestdifferenzdruck, um die Durchflussregelung durchzuführen. Ist die anliegende Druckdifferenz (p1–p3) größer als der im Diagramm (siehe Abb. 16) angegebene Mindestdifferenzdruck, arbeiten die „Cocon QTZ“-Ventile im Regelbereich.
Zur Überprüfung der Druckdifferenz (p1 – p3) kann ein Differenzdruckmesssystem (z.B. „OV-DMC 3“) an die Messventile (Positionen (1) und (3) in Abb. 1) angeschlossen werden.
Sobald der gemessene Differenzdruck gleich oder größer als der im Diagramm angegebene Differenzdruck ist, arbeitet das Ventil im Regelbereich.
Mit der Messfunktion lässt sich auch die Pumpeneinstellung opti-

mieren. Hierzu wird die Förderhöhe der Pumpe soweit herabgesetzt, dass für die hydraulisch ungünstigsten Ventile gerade noch der erforderliche Mindestdruck zur Verfügung gestellt wird.

7. Instandhaltung

Das Produkt ist wartungsfrei.

8. Hinweise für den Betreiber

- Überprüfen Sie regelmäßig im Rahmen der Anlagenwartung die Dichtheit und Funktion der Armatur und ihrer Verbindungsstellen.
- Bei einer Funktionsstörung oder im Falle von Undichtigkeiten muss das Produkt ausgetauscht werden. Wenden Sie sich in diesem Fall an Ihren Fachhandwerker.

9. Demontage und Entsorgung

9.1 Armatur demontieren

VORSICHT	Verletzungsgefahr durch Medien unter Druck! Unter Druck austretende Medien können zu Verletzungen führen. - Alle Arbeiten immer nur an einer drucklosen Anlage ausführen. - Schließen Sie die Absperrarmaturen im Leitungsverlauf vor und hinter dem „Cocon QTZ“. - Machen Sie den Anlagenabschnitt drucklos und leer. - Tragen Sie eine Schutzbrille.
---	--

VORSICHT	Verbrühungsgefahr durch heiße Medien! Wenn die Anlage in Betrieb war, dann besteht Verbrühungsgefahr durch ungewolltes Austreten von Heißwasser oder Wasserdampf. - Lassen Sie die Anlage abkühlen. - Tragen Sie eine Schutzbrille.
---	---

VORSICHT	Verbrennungsgefahr an heißen Bauteilen! Das Berühren heißer Bauteile kann zu Verbrennungen führen. - Lassen Sie die Anlage abkühlen. - Tragen Sie Schutzhandschuhe.
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- Demontieren Sie das Produkt aus Ihrer Anlage.

9.2 Entsorgung

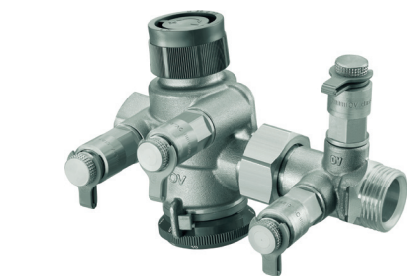
ACHTUNG	Verschmutzungsgefahr für die Umwelt! Nicht fachgerechte Entsorgung (z. B. im Hausmüll) kann zu Umweltschäden führen. - Entsorgen Sie Verpackungsmaterial umweltgerecht. - Entsorgen Sie Bauteile fachgerecht.
--	---

Sofern keine Rücknahme- oder Entsorgungsvereinbarung getroffen wurde, entsorgen Sie die Armatur.

- Führen Sie Bestandteile möglichst der Wiederverwertung zu.
- Entsorgen Sie nicht wiederverwertbare Bestandteile den lokalen Vorschriften entsprechend. Das Entsorgen im Hausmüll ist nicht zulässig.

EN

“Cocon QTZ”
Combined control and regulating valve, PN 25
with fitted metering orifice
Operating instructions



1. General information
2. Safety-related information
3. Technical description
4. Transport and storage
5. Installation
6. Commissioning
7. Maintenance
8. Advice to the user
9. Removal and disposal

1. General information

The original operating instructions were drafted in German.
The operating instructions in other languages have been translated from German.

1.1 Applicability of the operating instructions

These operating instructions apply to the combined control and regulating valve with the “Cocon QTZ” PN 25 metering orifice in the following models:

- DN 15 – 30 to 210 l/h (low flow)
- DN 15 – 150 to 700 l/h (medium flow)
- DN 15 – 200 to 1300 l/h (high flow)
- DN 20 – 250 to 1800 l/h

1.2 Scope of delivery

Please check the delivery for any damage caused during transit and for completeness.

Items included in the delivery:

- Cocon QTZ
- 2 x metering orifice inserts
Depending on model:
DN 15, low flow: inserts 1 & 2
DN 15, medium flow: inserts 3 & 4
DN 15, high flow: inserts 3 & 5
DN 20: inserts 4 & 5
- Operating instructions

1.3 Contact

Contact address

OVENTROP GmbH & Co. KG
Paul-Oventrop-Straße 1
59939 Olsberg
Germany

Technical Services

Telephone: +49 (0) 29 62 82-234

1.4 Copyright and property rights

These operating instructions are copyrighted. They are exclusively designed for persons involved with the product.

1.5 Declaration of conformity

Oventrop GmbH & Co. KG hereby declares that this product complies with the basic requirements and other relevant provisions of the EC Directives concerned.
The declaration of conformity can be obtained from the manufacturer.

1.6 Symbols used

	Highlights important information and further explanations.
	Action required
	List
1. 2.	Fixed order. Steps 1 to X.
	Result of action

2. Safety-related information

2.1 Normative requirements

Observe the legal requirements applicable at the installation location.
The current standards, regulations and guidelines apply.

2.2 Correct use

Safety in operation is only guaranteed if the product is used correctly.
The combined “Cocon QTZ” control and regulating valve is intended for installation in central heating and cooling systems (e.g. fan convectors (fan coil), cooling ceiling modules, induction devices, cooling and heating zones) with closed-loop circulation.
The valve is intended for automatic flow rate regulation (hydraulic balancing) and, with the aid of additional actuators, thermostats, or temperature regulators, for the regulation of a further magnitude (e.g. room temperature) by changing the flow rate.
Any other use of the product will be considered incorrect use.
Claims of any kind against the manufacturer and/or its authorised representatives due to damage caused by incorrect use will not be recognised.
Observance of the operating instructions is part of compliance with correct use.

2.3 Modifications to the product

Modifications to the product are not permitted. In case of modifications to the product, the warranty will become void. The manufacturer will not accept liability for damage and malfunctions caused by modifications to the product.

2.4 Warnings

Each warning contains the following elements:

Warning symbol	SIGNAL WORD
	Type and source of danger! Possible consequences if the danger occurs or the warning is ignored. Ways to avoid the danger.

The signal words identify the severity of the danger arising from a situation.

DANGER
Indicates an imminent danger with high risk. If the situation is not avoided, it will lead to death or serious injury.

WARNING
Indicates a possible danger with moderate risk. It may lead to death or serious injury if the situation is not avoided

CAUTION
Indicates a possible danger with lower risk. The situation may lead to minor and reversible injury if not avoided.

NOTICE
Indicates a situation which may lead to damage to property if not avoided.

2.5 Safety notes

We have developed this product in accordance with current safety requirements.
Please note the following information concerning safe use.

2.5.1 Danger caused by inadequately qualified personnel

These operating instructions and all other valid documents (e.g. accessory manuals) must be read and applied by any person working on the product. Work on this product may only be carried out by qualified tradespeople.

Sanitary, heating and air-conditioning specialists

Sanitary, heating and air-conditioning specialists are able to carry out work on heating and cooling systems as well as potable water installations as a result of their professional training, expertise, and experience, as well as their knowledge of the relevant standards and regulations. They must be able to independently identify possible dangers.

User

The user must be informed how to operate the product by a qualified tradesperson.

2.5.2 Risk of injury from pressurised components

- Only carry out work when the system is depressurised.
 - Observe the permissible operating pressures during operation.
- 2.5.3 Risk of burns due to an uncontrolled escape of hot fluids
- Only carry out work when the system is depressurised.
 - Allow the system to cool down before working on it.
 - Check the appliance is not leaking after work is complete.
 - Wear protective goggles.

2.5.4 Risk of burns due to hot components and surfaces

- Allow the appliance to cool down before working on it.
- Wear protective clothing to avoid unprotected contact with hot system components and fittings.

2.5.5 Risk of injury due to improper work precautions

Stored residual energy and sharp components, edges, and protrusions on the outside and inside of the product may cause injuries.

- Ensure that there is sufficient space before starting work.
- Handle open and sharp-edged components with care.
- Keep the workplace tidy and clean to avoid accidents.

2.5.6 Damage to property due to an unsuitable installation location

- Do not install the appliance in rooms subject to freezing.
- Do not install the appliance in rooms containing air which promotes corrosion.
- Observe the information about corrosion protection.

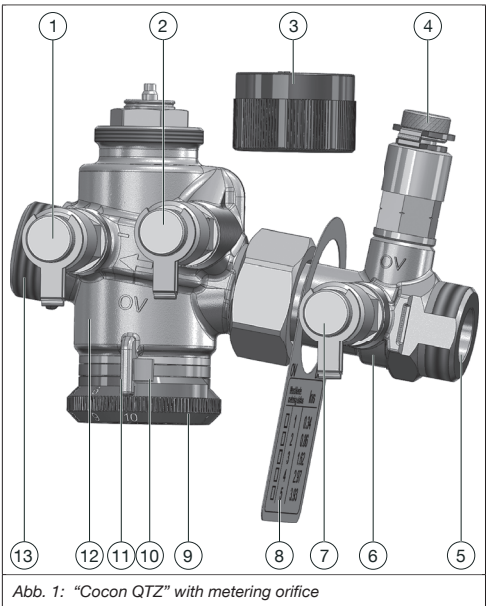
2.5.7 Availability of the operating instructions

These operating instructions and all other valid documents (e.g. accessory manuals) must be read and applied by any person working on the product.
The operating instructions must be available at the installation location.

- Hand these operating instructions and all other valid documents (e.g. accessory manuals) over to the user.

3. Technical description

3.1 Design



(1)	Measurement connection for return pressure (blue)
(2)	Measurement connection for supply pressure (red)
(3)	Protection cap
(4)	Metering orifice, measurement connection, supply pressure (red)
(5)	Medium inflow
(6)	Metering orifice
(7)	Metering orifice, measurement connection, return pressure (blue)
(8)	Type plate
(9)	Handwheel
(10)	Blocking ring
(11)	Target value marking
(12)	Housing
(13)	Medium outlet

3.2 Functional description

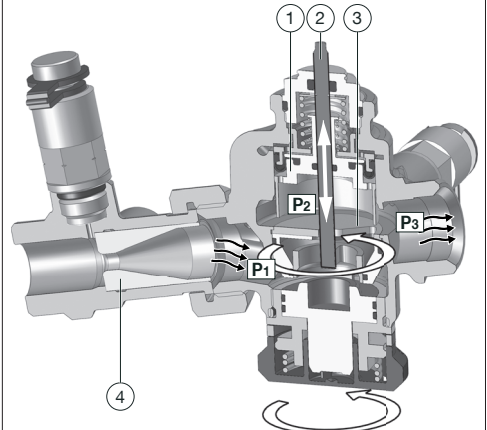


Abb. 2: “Cocon QTZ” with metering orifice cross-section

(1)	Membrane unit (flow rate regulating unit)
(2)	Regulating unit
(3)	Target value unit (flow rate regulating unit)
(4)	Metering orifice insert

The combined “Cocon QTZ” control and regulating valve made by Oventrop has the function of a flow rate regulator which keeps the differential pressure (p1 – p2) at a constant value using the integrated membrane unit (1). During this process, both the regulating unit (2) and the target value unit (3), which can be set to a maximum flow rate value (using handwheel settings), are protected against external pressure variations (p1 – p3). These may occur, for example, by system components being switched on or off.
The “Cocon QTZ” can also accommodate an actuator which operate the regulating unit (2).
This has an approximately linear characteristic curve (see Abb. 5). Actuators and room thermostats can be used to regulate room temperatures, among other things.
The maximum volume flow (full load) is selected during the process by being preset using the handwheel. Partial load operation is determined by the actuator stroke.
The valve authority of the “QTZ” valve within the effective valve stroke is 100 % (a = 1). This also applies to partial load operation during continuous control, e.g. in combination with 0 – 10 V actuators.

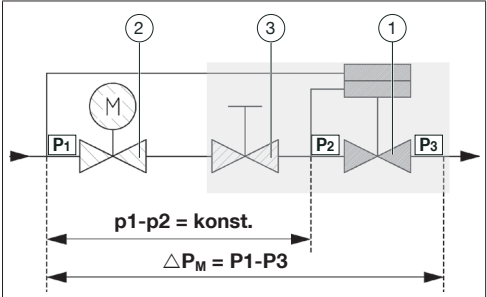


Abb. 3: “Cocon QTZ” functional diagram

(1)	Membrane unit (flow rate regulating unit)
(2)	Regulating unit
(3)	Target value unit (flow rate regulating unit)

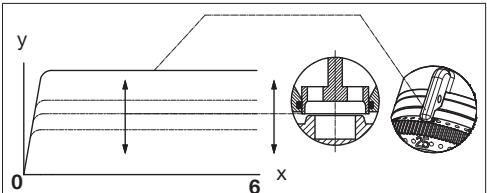


Abb. 4: Differential pressure p1 – p3 (bar)

(x-axis)	Differential pressure p1 – p3 (bar)
(y-axis)	Volume flow $\dot{V}$ [l/h]

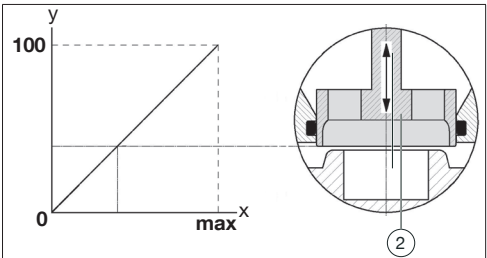


Abb. 5: Linear characteristic curve of the regulating unit

(2)	Regulating unit
(x-axis)	Volume flow $\dot{V}$ [l/h]
(y-axis)	Effective valve stroke [%]

3.3 Operating elements and displays

3.4 Technical data

Max. operating pressure (p _z)	25 bar (2500 kPa)
Operating temperature (t _z) (min.-max.)	-10 °C to +120 °C
Media	Non-hazardous, non-aggressive liquids (e.g. water or suitable water glycol mixtures as per VDI 2035/ÖNORM 5195).
Housing details	DN = nominal width PN = nominal pressure OV = Oventrop
Max. closing pressure	6 bar (600 KPa) in flow direction
Closure size	11.8 mm
Materials	Dezincification resistant brass (housing) EPDM (seals) Stainless steel (spindle)
Actuator connection data	
Threaded connection	M30 x 1.5

Closing force (actuator) Min. - Max.	90 – 150 N
Upper stroke position	15.8 or greater (14.6 or greater for valve models with 30 – 210 l/h)
Lower stroke position	11.3 mm or less

Control range			
Nominal width (DN)	Setting range [l/h] (min.-max.)	Valve stroke [mm]	Differential pressure p1 – p3 (min.-max.)
DN 15 (low flow)	30 – 210	2.8	10 – 600 KPa
15 (medium flow)	150 – 700	4	13 – 600 KPa
15 (high flow)	200 – 1300	4	16 – 600 KPa
20	250 – 1800	4	18 – 600 KPa

4. Transport and storage

Avoid mechanical agitation during transport.
Always store the appliance under the following conditions:

Temperature range	-20 °C to +55 °C
Relative air humidity	Max. 95 %
Particles	Store dry and free from dust
Mechanical influences	Protected from mechanical agitation
Weather influences	Do not store outdoors Protect from direct sunlight
Chemical influences	Do not store together with aggressive fluids

5. Installation

The valve can be installed in the supply or return flow piping in a heating and/or cooling system. The installation location can be wherever required.

	The installation or replacement of the metering orifice insert is described in section 5.2.
	Please note that some actuators may not be installed in the “vertical facing downwards” position. Please refer to the documentation for the actuator used to find out whether a “vertical facing downwards” installation position is permissible.

WARNING
Risk of injury from pressurised components! Fluids escaping under pressure may lead to injuries. - Only ever carry out installation work when the system is depressurised. - If refitting an existing system, drain the system or close the supply pipes feeding the relevant system section and depressurise it. - Wear protective goggles.

CAUTION
Risk of scalding due to hot fluids! If the system has been in operation, there is a risk of scalding due to the unintentional discharge of hot water or steam. - Allow the system to cool down. - Wear protective goggles.

CAUTION
Risk of burns due to hot components Any unprotected contact with hot components may lead to burns. Wear safety gloves.

	When installing, ensure that the valve has a flow direction matching the arrow (note marking on housing).
	- We recommend the installation of shut-off valves upstream and downstream of the valve or system section for maintenance purposes. - Ensure that the fittings remain easily accessible.

NOTICE

Property damage caused by foreign bodies (e.g. swarf, dirt), as well as by sealants and lubricants
Valve function can be destroyed or impaired by foreign bodies and the use of greases or oils.

- Please do not use any greases or oils during installation
- If necessary, rinse dirt particles and any grease and oil residue from the piping system
- When selecting the operating medium, please note the latest developments in technology (e.g. VDI 2035)
- If the product is being used with dirty operating media, use a strainer in the supply line (VDI 2035)

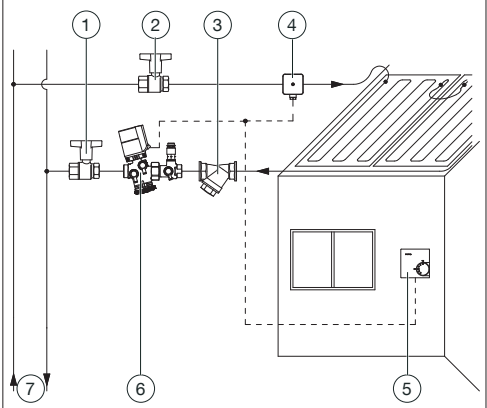


Abb. 6: Installation example 1: Dual-line system

(1)	Shut-off
(2)	Shut-off
(3)	Strainer
(4)	Dewpoint monitor
(5)	Room thermostat
(6)	“Cocon QTZ” with actuator and metering orifice
(7)	Cooling

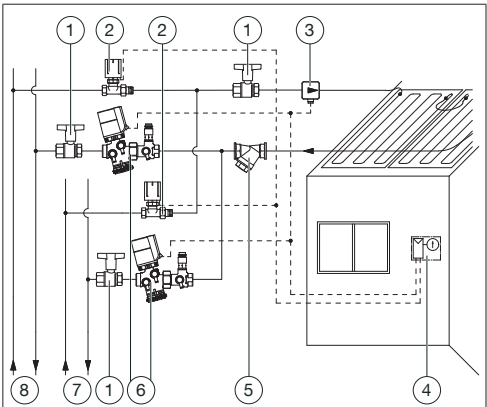


Abb. 7: Installation example 2: Four-line system

(1)	Shut-off
(2)	Control valve
(3)	Dewpoint monitor
(4)	Room thermostat
(5)	Strainer
(6)	“Cocon QTZ” with actuator and metering orifice
(7)	Heating
(8)	Cooling

5.1 Emptying, filling, flushing and venting with the “Cocon QTZ”

The “Cocon QTZ” enables the emptying, filling, flushing, and venting of system sections when installed. F+E ball valves (accessory, item no. 1060191) installed in the measurement connections of the fitting are used for this purpose.

	Empty the “Cocon QTZ” PN 25 valve or the affected system section before fitting the F+E ball valves.
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1. Block the valve off, for example by using the protection cap.

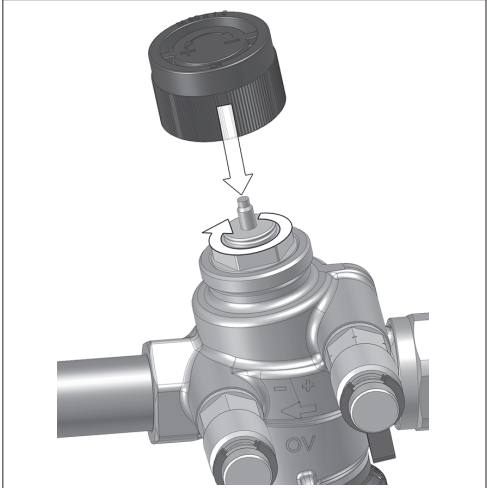


Abb. 8: Blocking the valve off

2. Open the affected ball valve (spindle WAF 5) to initiate the emptying, filling, or flushing process.

Emptying, filling, flushing, or venting the outlet-side system section	Fit the hose to the outlet ball valve (see Abb. 9)
Emptying, filling, flushing or venting the supply-side system section	Fit the hose to the supply ball valve
Emptying, filling, flushing or venting the complete system section	Fit the hose to both ball valves (see Abb. 10).
	i The valve must remain closed during this process!

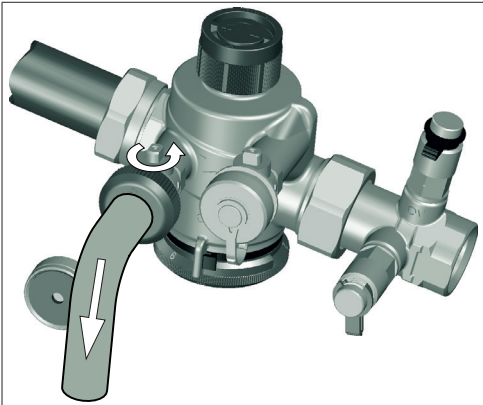


Abb. 9: Emptying, filling, flushing, and venting the outlet side

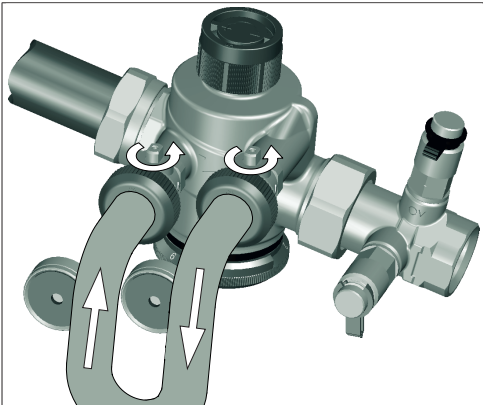


Abb. 10: Emptying, filling, flushing, and venting the complete system section

5.2 Installing or replacing the metering orifice insert

Application range of metering orifice insert as per valve model					
Model	Flow range/use				
DN15					
30 – 210 l/h	30–90 l/h Insert 1	90–210 l/h Insert 2			
150 – 700 l/h			150–450 l/h Insert 3	400–700 l/h Insert 4	
200 – 1300 l/h			200–600 l/h Insert 3		600–1300 l/h Insert 5
DN20					
250 – 1800 l/h	250–800 l/h Insert 4	700–1800 l/h Insert 5			

- Undo the union nut (see Abb. 11).
- Remove the metering orifice insert if fitted (see Abb. 12).
- Insert the new metering orifice insert (see Abb. 12).
- Retighten the union nut (see Abb. 13).

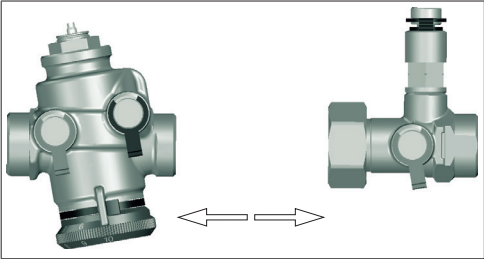


Abb. 11: Undo union nut

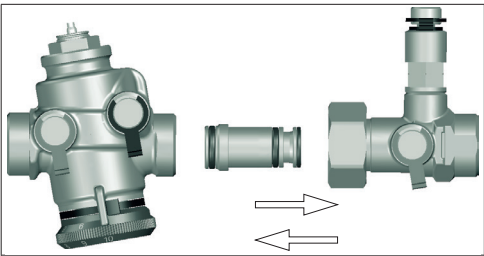


Abb. 12: Replace metering orifice insert

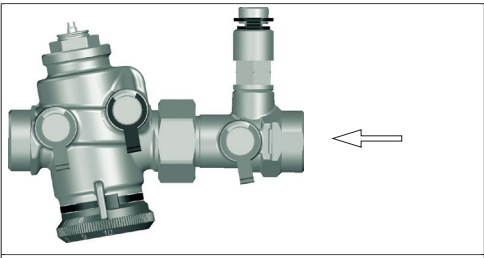


Abb. 13: Retighten union nut

6. Commissioning

!

WARNING

Risk of injury from pressurised components!

Fluids escaping under pressure may lead to injuries. If the heating system is in operation there is a risk of scalding due to the unintentional discharge of hot water or steam.

- During filling, check all couplings and tighten any leaking couplings.
- Wear protective goggles.

!

NOTICE

Risk of damage due to pressure surges!

Sudden entry of water into the system may result in damage.

- Always open and close shut-off valves slowly.

6.1 Adjusting the volume flow

Set the required volume flow using the handwheel (see Abb. 14).

- Remove the blocking ring (2).
- Press and turn the handwheel (3) until the target value marking (1) shows the desired flow rate value (handwheel will then click into place).
- Reinsert the blocking ring (2).

i

Optionally, the blocking ring (2) can be lead-sealed with the lead seal set (4) (accessory, item no. 1089091) at the target value marking (1) (see Abb. 15).

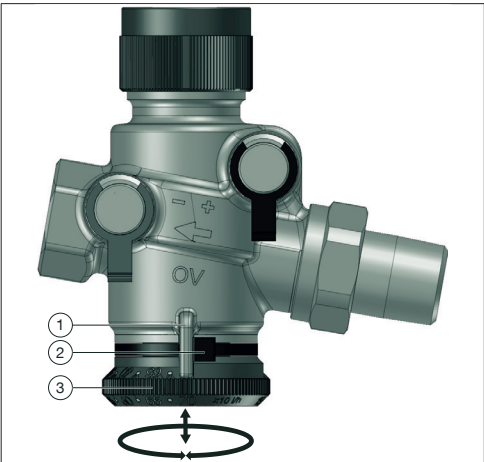


Abb. 14: Adjusting the volume flow

(1)	Target value marking
(2)	Blocking ring
(3)	Handwheel

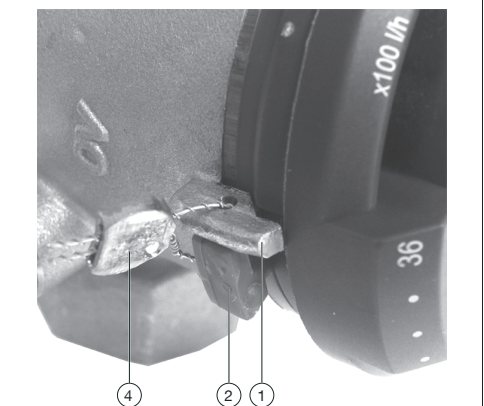


Abb. 15: Securing the preset

(4)	Lead seal set
(2)	Blocking ring
(1)	Target value marking

6.2 Pressurisation

- After installation is complete, fill the system section with the operating medium.

i

After pressurisation, always carry out a **leakage test** on all installation points.

i

Pay attention to the correction factors supplied by the antifreeze liquid manufacturers when setting the flow rate.

6.3 Shutting off the valve

Screw the protection cap supplied onto the M30 x 1.5 threaded connection (see Abb. 8).

i

Only use the protection cap for brief shut-offs. If you require a permanent shut-off, you must use either the manual head (accessory, item no. 1012565) or the DB combined cap (accessory, item no. 1627965). The protection cap may not be used to shut off the valve against the ambient pressure (e.g. if system components have been dismantled).

6.4 Minimum differential pressure for flow rate regulation

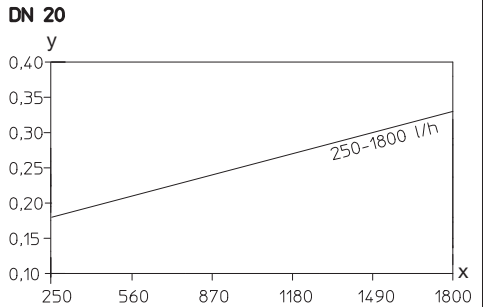
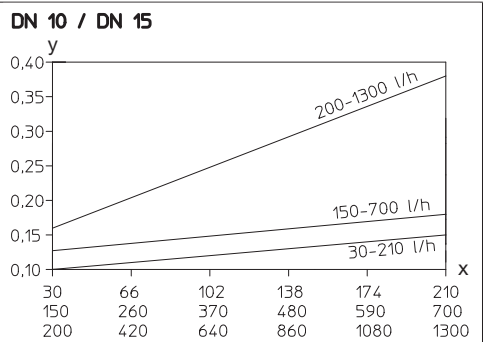


Abb. 16: Minimum differential pressures

(x-axis)	Target value settings [l/h]
(y-axis)	Min. differential pressure p1 – p3 [bar]

Flow rate regulating valves require a minimum differential pressure in order to carry out regulation of the flow rate. If the differential pressure applied (p1 – p3) is greater than the minimum differential pressure stated in the diagram (see Abb. 16), the “Cocon QTZ” valves are operating within the control range. A differential pressure measuring system (e.g. the “OV-DMC 3”) can be connected to the measuring valve (items (1) and (3) in Abb. 1) to check the pressure difference (p1 – p3). As soon as the measured differential pressure is the same or greater than the differential pressure stated in the diagram, the valve is working within the control range. The pump setting can also be optimised using the measurement

function. For this purpose, the pump discharge head is decreased until the necessary minimum pressure for the hydraulically least favourable valve is being provided.

7. Maintenance

The product is maintenance-free.

8. Advice to the user

- During system maintenance, regularly check for leaks and the correct functioning of the fittings and their connection points.
- The product must be replaced if there is a malfunction or a leak. In this case, please contact your specialist tradesman.

9. Removal and disposal

9.1 Dismantling the fitting

!

CAUTION

Risk of injury from pressurised fluids!

Fluids escaping under pressure may lead to injuries.

- Only ever carry out any work on a depressurised system.
- Close the shut-off valves in the piping system upstream and downstream of the “Cocon QTZ”.
- Depressurise and empty the system section.
- Wear protective goggles.

!

CAUTION

Risk of scalding due to hot fluids!

If the system has been in operation, there is a risk of scalding due to the unintentional discharge of hot water or steam.

- Allow the system to cool down.
- Wear protective goggles.

!

CAUTION

Risk of burns due to hot components!

Any unprotected contact with hot components may lead to burns.

- Allow the system to cool down.
- Wear safety gloves.

- Remove the product from your system.

9.2 Disposal

!

NOTICE

Risk of environmental pollution!

Incorrect disposal (for instance with domestic waste) may lead to environmental damage.

- Dispose of packaging material in an environmentally-friendly manner.
- Dispose of the components appropriately.

If no return or disposal agreement has been made, you must dispose of the fitting yourself.

- Return components to the recycling system if possible.
- Always dispose of non-recyclable components in accordance with local regulations. Disposal with domestic waste is not permitted.

2. Ouvrir les robinets à boisseau sphérique correspondants (broche 5 pans) pour commencer le processus de vidange, de remplissage ou de rinçage.

Vidanger, remplir, rincer ou purger la section de l'installation côté évacuation	Monter le flexible sur le robinet à boisseau sphérique de sortie (voir Abb. 9).
Vidanger, remplir, rincer ou purger la section de l'installation côté admission	Monter le flexible sur le robinet à boisseau sphérique d'arrivée.
Vidanger, remplir, rincer ou purger la totalité de la section de l'installation	Monter le flexible sur les deux robinets à boisseau sphérique (voir Abb. 10).
	i Le robinet doit rester fermé tout au long du processus.

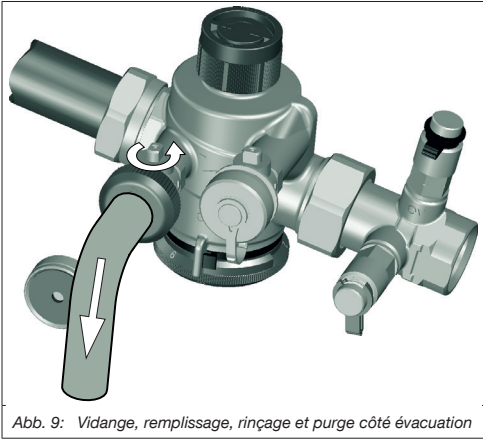


Abb. 9: Vidange, remplissage, rinçage et purge côté évacuation

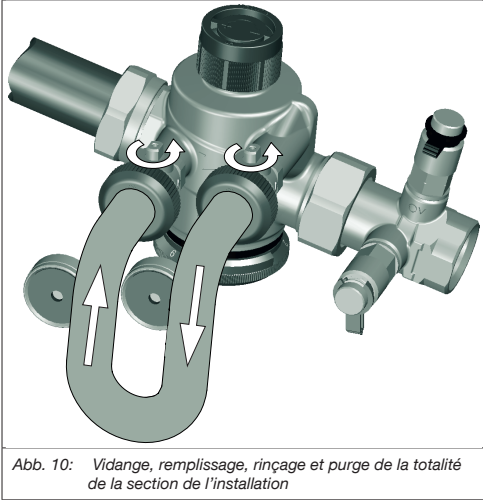


Abb. 10: Vidange, remplissage, rinçage et purge de la totalité de la section de l'installation

5.2 Montage ou remplacement de la monture du diaphragme de mesure

Champs d'application des montures de diaphragme de mesure selon le modèle de robinet					
Modèle	Plage de débit/Monture				
DN 15					
30–210 l/h	30–90 l/h Mon-ture 1	90–210 l/h Mon-ture 2			
150–700 l/h			150–450 l/h Mon-ture 3	400–700 l/h Mon-ture 4	
200–1300 l/h			200–600 l/h Mon-ture 3		600–1300 l/h Mon-ture 5
DN 20					
250–1800 l/h	250–800 l/h Mon-ture 4	700–1800 l/h Mon-ture 5			

- Desserrer l'écrou d'accouplement (voir Abb. 11).
- Retirer la monture du diaphragme de mesure le cas échéant (voir Abb. 12).
- Installer la monture du diaphragme de mesure neuve (voir Abb. 12).
- Serrer l'écrou d'accouplement (voir Abb. 13).

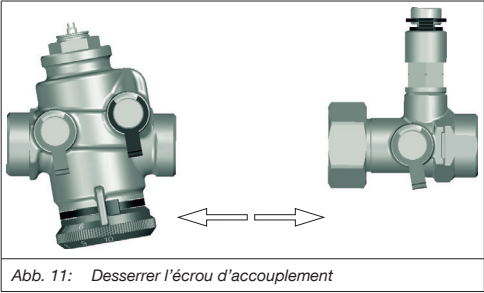


Abb. 11: Desserrer l'écrou d'accouplement

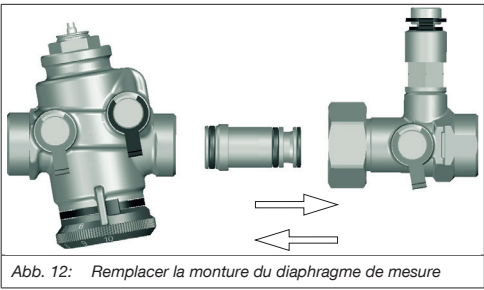


Abb. 12: Remplacer la monture du diaphragme de mesure

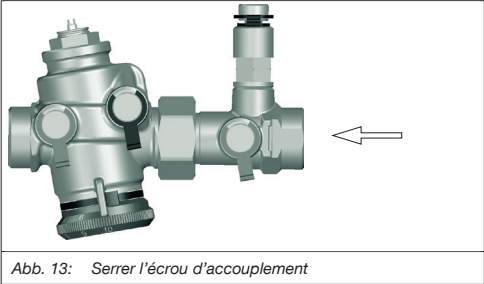


Abb. 13: Serrer l'écrou d'accouplement

6. Mise en service

A VERTISSEMENT	Risque de blessure par robinetterie sous pression ! Des fluides s'échappant sous pression peuvent entraîner des blessures. Si l'installation de chauffage est en service, il y a un risque de brûlure par échappement involontaire d'eau chaude ou de vapeur d'eau. ▶ Contrôler tous les raccords pendant le remplissage et serrer les raccords non étanches. ▶ Porter des lunettes de protection.
AVIS	Risque de dommages par coups de bélier ! Le remplissage soudain d'eau peut entraîner un endommagement. ▶ Ouvrir et fermer lentement les robinets d'isolement.

6.1 Réglage du débit

Régler le débit souhaité à l'aide de la poignée manuelle (voir Abb. 14).

- Retirer la bague de blocage (2).
- Pousser et tourner la poignée manuelle (3) jusqu'à ce que le marqueur de la valeur de consigne (1) indique la valeur de débit souhaitée (la poignée manuelle revient ensuite en place dans la denture).
- Remettre la bague de blocage (2) en place.

i La bague de blocage (2) peut également être scellée à l'aide du set de plombage (4) (accessoire, réf. 1089091) sur le marqueur de la valeur de consigne (1) (voir Abb. 15).

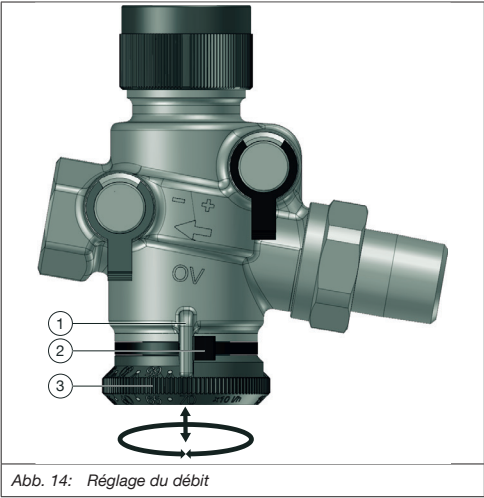


Abb. 14: Réglage du débit

(1)	Marqueur de la valeur de consigne
(2)	Bague de blocage
(3)	Poignée manuelle

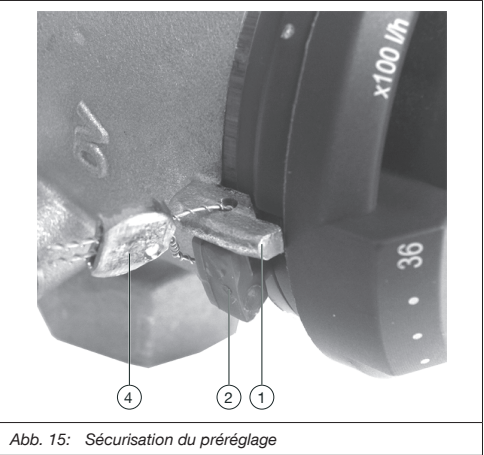


Abb. 15: Sécurisation du pré-réglage

(4)	Set de plombage
(2)	Bague de blocage
(1)	Marqueur de la valeur de consigne

6.2 Mise en pression

- Une fois le montage terminé, remplir la section de l'installation avec le fluide de service.

i Au terme de la mise en pression, réaliser un test d'étanchéité de tous les points de montage.
--

i Les facteurs de correction des fabricants d'antigel doivent être respectés lors du réglage du débit.
--

6.3 Obturation du robinet

Visser le cache de protection fourni sur le raccord fileté M30 x 1,5 (voir Abb. 8).

i Utiliser le cache de protection pour un blocage de courte durée uniquement. Pour un blocage durable, utiliser soit la tête de réglage manuel (accessoire, réf. 1012565), soit le bouchon combiné DB (accessoire, réf. 1627965). Le cache de protection ne doit pas être utilisé pour obturer le robinet contre la pression ambiante (par ex. sur une section d'installation démontée).
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6.4 Pressions différentielles minimales pour la régulation du débit

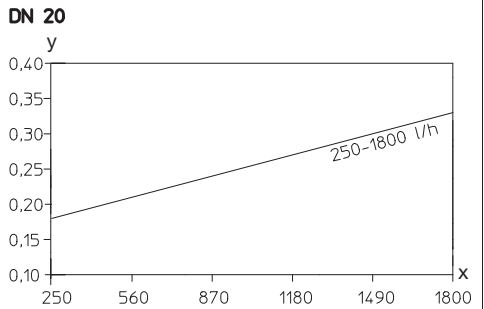
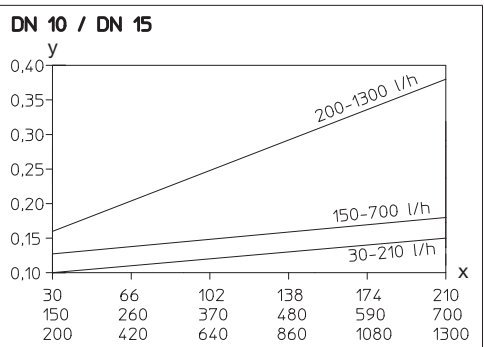


Abb. 16: Pressions différentielles minimales

(axe x)	Réglages de la valeur de consigne [l/h]
(axe y)	Pression différentielle min. p1 – p3 [bar]

Les robinets de régulation de débit ont besoin d'une pression différentielle minimale pour réguler le débit. Si la pression différentielle présente (p1–p3) est supérieure à la pression différentielle minimale indiquée dans le diagramme (voir Abb. 16), les robinets « Cocon QTZ » fonctionnent dans la plage de réglage. Pour contrôler la pression différentielle (p1 – p3), il est possible de raccorder un système de mesure de pression différentielle (par ex. « OV-DMC 3 ») sur les robinets de mesure (positions (1) et (3) à la Abb. 1).

Dès que la pression différentielle mesurée est égale ou supérieure à la pression différentielle indiquée dans le diagramme, le robinet

fonctionne dans la plage de réglage. La fonction de mesure permet également d'optimiser le réglage du circulateur. À cet égard, la hauteur manométrique du circulateur est abaissée de telle sorte que, pour les robinets défavorables en termes hydrauliques, la pression minimale requise soit toujours disponible.

7. Maintenance

Le produit ne nécessite aucune maintenance.

8. Instructions pour l'utilisateur

- Dans le cadre de l'entretien de l'installation, le fonctionnement et l'étanchéité du robinet et de ses points de raccordement doivent être contrôlés régulièrement.
- En cas de dysfonctionnement ou de fuites, le produit doit être remplacé. Contacter un professionnel qualifié.

9. Démontage et traitement des déchets

9.1 Démontage du robinet

A TTENTION	Risque de blessure par fluides sous pression ! Des fluides s'échappant sous pression peuvent entraîner des blessures. ▶ Tous les travaux doivent être réalisés lorsque l'installation n'est pas sous pression. ▶ Fermer les robinets d'isolement de la tuyauterie en amont et en aval du « Cocon QTZ ». ▶ Vidanger et purger totalement la section concernée. ▶ Porter des lunettes de protection.
--	---

A TTENTION	Risque de brûlure par fluides chauds ! Si l'installation était en service, il existe alors un risque de brûlure par échappement involontaire d'eau chaude ou de vapeur d'eau. ▶ Laisser l'installation refroidir. ▶ Porter des lunettes de protection.
--	---

A TTENTION	Risque de brûlure par composants chauds ! Il y a un risque de brûlure lors du contact avec des composants chauds. ▶ Laisser l'installation refroidir. ▶ Porter des gants de protection.
--	--

- Démonter le produit de l'installation.

9.2 Traitement des déchets

AVIS	Risque de pollution ! Une mauvaise élimination (par ex. avec les déchets ménagers) peut entraîner des dommages environnementaux. ▶ L'emballage est à éliminer dans le respect de l'environnement. ▶ Éliminer les composants dans le respect de la réglementation.
------	--

Si aucun accord de reprise ou d'élimination n'a été conclu, mettre le robinet au rebut.

- Si possible, amener les composants au recyclage.
- Éliminer les composants non recyclables selon les réglementations locales. L'élimination avec les déchets ménagers est interdite.