LEADING IN
PRODUCTION
EFFICIENCY

EcoFlow LPR M

Low Pressure Regulator Return

Operation manual

MRE00006EN, V02

N26220004, N26220005, N26220006

www.durr.com

Information about the document

This document describes the correct handling of the product.

- Read the document prior to every activity.
- Prepare the document for the application.
- Pass on the product only together with the complete documentation.
- Always follow safety instructions, handling instructions and specifications of every kind.
- Illustrations can deviate from the technical construction.

Validity range of the document

This document describes the following products:

N26220004 **Eco**Flow LPR M 14 15 DN25 SST	
N26220005 **Eco**Flow LPR M 14 25 DN25 SST	
N26220006 **Eco**Flow LPR M 14 30 G3/4" SST	

Hotline and Contact

If you have queries or would like technical information, please contact your dealer or sales partner.

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1 Product overview

1.1 Overview

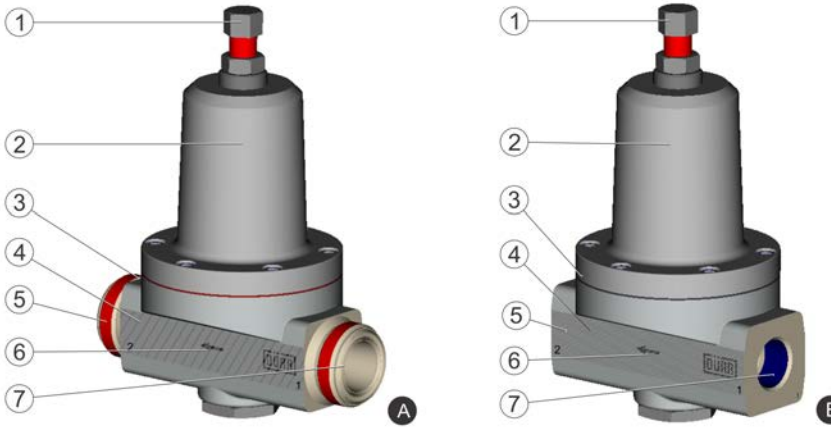

Fig. 1: Product overview N26220004/N26220005 (A) and N26220006 (B)

1 Adjusting screw
2 Regulator cap
3 Venting and leakage connection
4 Regulator housing
5 Material outlet
6 Flow direction
7 Material inlet

1.2 Short description

The low pressure regulator (“regulator") uses a spring to control the material pressure in the return line of the application. It also provides a constant flow rate to prevent material hardening.

2 Safety

2.1 Presentation of Notes

The following notes can appear in this instruction:

DANGER!

High risk situation that can lead to serious injuries or death.

WARNING!

Medium risk situation that can lead to serious injuries or death.

CAUTION!

Low risk situations that can lead to minor injuries.

NOTICE!

Situations that can lead to material damage.

ENVIRONMENT!

Situations that can lead to environmental damage.

Additional information and recommendations.

2.2 Intended Use

Use

The regulator **Eco**Flow LPR serves exclusively for pressure control in the return line of the application stations.

The **Eco**Flow LPR regulator may only be operated with substances of the Group 2 in conformance with the pressure devices guideline 2014/68/EU.

Misuse

If used improperly, it can cause serious injuries.

Examples of wrong use are:

- Use in explosive areas Ex zone 0
- Use along with hand guided atomizers
- Use of unapproved materials
- Making conversions or changes on your own

EX labeling

Ex II 2G Ex h IIA T6 Gb X

II	-	Device group II: all areas except mining
2G	-	Device category: 2 (for gaseous atmosphere)
h	-	Ignition protection category
IIA	-	Explosion group
T6	-	Temperature class
Gb	-	Device protection level: Gb (zone 1)
X	-	Restriction: The device is configured for operation in an ambient temperature of 15°C to 40°C.

2.3 Residual risks

Explosion

Sparks, open flames and hot surfaces can cause explosions in explosive atmospheres. Serious injury and death could be the consequence.

- Before carrying out any work on the product, ensure a non-explosive atmosphere.
- Do not use sources of ignition and open light.
- Do not smoke.
- Ground the product.
- Wear suitable protective equipment.

Flammable coating materials and their detergents and cleaning agents can cause a fire or an explosion.

- Ensure that the flashpoint of the fluid is at least 15K above the ambient temperature.
- Observe explosion group of the coating materials and their detergents and cleaning agents.
- Follow the safety data sheet.
- Ensure that technical ventilation and fire protection equipment are in operation.
- Do not use sources of ignition and open light.
- Do not smoke.
- Ground the product.
- Wear suitable protective equipment.

Danger due to escaping material

Material escaping under pressure can cause serious injuries.

Before the product:

- Switch off the system.
- Disconnect the system from energy and material supply.
- Depressurize the lines.
- Secure the system against switching on again.

2.4 Property damage

Hardening material

If the material in the product hardens, the product will be damaged or destroyed.

- 1K material: Note curing time ↳ 11.7 “Material specification”
- 2K material: Observe pot time ↳ 11.7 “Material specification”
- Purge product ↳ 6.2 “Rinsing”, e.g. in the case of:
  - Production interruptions
  - Production end

2.5 Staff qualification

WARNING!

Inadequate qualification

Wrong estimation of dangers can cause serious injury or death.

- Only sufficiently qualified persons may execute all work.
- Some work requires additional qualification. Additional qualifications of specialized personnel are marked with a “+”.

This document is intended for qualified personnel in industry and craftmanship.

Cleaning staff

The cleaning staff receives regular instructions from the operator about the following contents:

- Using the product
- Handling cleaning tools
- Handling cleaning agents
- Technical Measures for occupational safety and health

Electrician

Electricians assemble, install, service and repair electrical systems in a professional manner.

Furthermore, electrical engineers have the following knowledge:

- Guidelines, Standards and Rules of Engineering
- Local conditions
- Electrical Systems and Their Loading Limits
- Technical Measures for occupational safety and health

Mechanic
The mechanic is trained specifically for the field of work in which he works.

Furthermore, he has the following knowledge:

- Guidelines, Standards and Rules of Engineering
- Local conditions
- Technical Measures for occupational safety and health

The mechanic is responsible for the following activities on equipment and components:

- Assembly
- Waiting
- Maintenance
- Disassembly

+ additional qualification explosion protection
In addition to the knowledge of the various specialist fields, the mechanic has knowledge of regulations and safety measures when working in potentially explosive areas.

Dürr Systems offers special product training for ↳ “Hotline and Contact”.

2.6 Personal protective equipment

When working in explosive areas, the protective clothing, including gloves, must meet the requirements of DIN EN 1149-5. Footwear must meet the requirements of EN ISO 20344 and EN IEC 61340-4-3. The volume resistivity must not exceed 100MΩ.

Wear the specified personal protective equipment when working. Provide the following personal protective equipment:

Eye protection
Protects eyes from dust, paint drops and particles.

Protective gloves
Protect the hands from:

- mechanical forces
- Thermal forces
- Chemical effects

Protective workwear
Tight fitting workwear with low tear strength, tight sleeves and no hanging parts.

Respirator mask
Protects from hazardous gases, vapors, dust and similar materials and media.

Safety boots
Protect feet from crushing, falling items and slipping.

Use ear protection
Protects from auditory damage due to noise.

3 Transport, scope of supply and storage

3.1 Transport

NOTICE!

Incorrect Transport

Incorrect Transport can cause property damage.

- Protect Regulator from moisture.
- Protect Regulator from vibrations.
- Protect Regulator from falling down.
- Transport temperature: -30°C to 60°C

3.2 Unpacking

DANGER!

Electrostatically charged plastic films and foils in potentially explosive areas

The foil and the product can charge electrostatically at the time of the unpacking. Electrostatic discharge can cause sparks that in explosive atmosphere can cause a fire or an explosion. Serious injury and death could be the consequence.

- Unpack product outside Ex zones.
- Discharge the product.
- Dispose packaging outside of the Ex zone in accordance with the regulation or store properly for a later return.

3.3 Scope of delivery

The scope of supply includes the following components:

- Regulator

Inspect delivery on receipt for completeness and integrity.

Report defects immediately ↳ “Hotline and Contact”.

3.4 Handling of packaging material

ENVIRONMENT!

Incorrect disposal

Incorrectly disposed packaging material can damage environment.

- Dispose of material no longer required in an environment-friendly manner.
- Observe local disposal specifications.

3.5 Storage

Storage provisions:

- Do not store outdoors.
- Store Regulator only when dry.
- Store in a dust-free place.
- Do not expose to aggressive media.
- Protect from solar radiation.
- Avoid mechanical vibrations.
- Temperature: 10°C to 40°C
- Relative humidity: 35% to 90%

4 Assembly

4.1 Requirements for the Installation point.

- It should be possible to disconnect the material supply to the regulator and secure it from being switched back on.
- Lines, seals and screw connections must be designed to conform to the regulator requirements ↳ 11.3 “Operating values”.
- The regulator must be permanently fixed.
- The regulator must be grounded.
- A safety distance of 0.25cm/kV from the high voltage working room must be kept.

4.2 Assembly

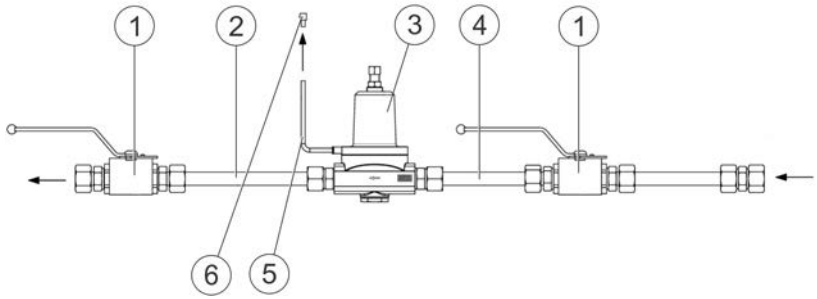

Fig. 2: Assembly drawing

Personnel:

- Mechanic
- + additional qualification explosion protection

Protective equipment:

- Protective workwear
- Eye protection
- Protective gloves
- Safety boots

Observe the following at assembly:

- Ensure a non-explosive atmosphere.
- Install the regulator on the return line between the applicator and the reservoir.
- Alignment: Lid on top, regulator housing at bottom.
- Flow direction
- Provide shut off valves (1).
- Provide pressure switch (6) if necessary. The pressure switch is integrated in the control and issues a pressure message to the control if leakage occurs. In the event of leakage, the control system switches the system off.
- Observe the tightening torques of the screw connections.
- Maximum tightening torque for material inlet and material outlet:
  - 110Nm (N26220004, N26220005)
  - 270Nm (N26220006)
- Nominal diameter of material inlet and material outlet:
  - **Eco**Tube DN25 (N26220004, N26220005)

– G3/4" (N26220006)

1. Screw the material discharge line (2) into the material outlet.
2. Screw the material supply line (4) into the material inlet.
3. Screw the leakage line (5) into the leakage connection.

> The leakage line also prevents dirt from entering the regulator housing through the leakage connection.

Ground the regulator

Personnel:

- Electrician
- + additional qualification explosion protection

Protective equipment:

- Protective workwear
- Safety boots

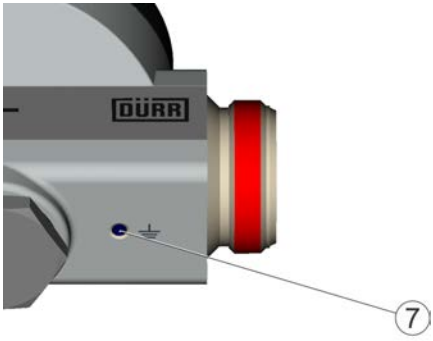

Fig. 3: Grounding thread

1. Ground the regulator (3) via the grounding thread (7) on the bottom of the regulator.

5 Commissioning

5.1 Safety Instructions

WARNING!

Danger from harmful or irritant substances

Serious injuries or death can result if you come into contact with dangerous fluids or steam.

- Regulator Check regularly for leakage. Observe local regulations and maintenance schedule.
- Ensure that the forced ventilation is operational.
- Follow the safety data sheet.
- Wear specified protective clothing.
- Avoid contact (e.g. with eyes, skin).

WARNING!

Squirting material

Escaping compressed material can cause serious injury.

- Check the product for leakage before commissioning.
- Put the product into operation only if the connections are made professionally.

WARNING!

Sparks due to electrostatic discharge

If the regulator is not grounded, there can be an electrostatic charge on the the regulator. Electrostatic discharge can cause sparks that in explosive atmosphere can cause a fire or an explosion. Serious injury and death could be the consequence.

- Ground Regulator as specified.
- Before carrying out any work, make sure that there is no explosive atmosphere.

NOTICE!

Material damage due to dry run

If the regulator is operated without material, it wears out faster.

- Always operate a regulator with material.

NOTICE!

Material damage due to unsuitable pipe conections

The piepeline or a bracket supports the regulator. A loose pipeline can make the regulator vibrate during operation. It ca nloosen screw connections. Paint or solvent can leak out. This results in property damage.

- Dimension the lines to conform to the regulator requirements .
- If necessary, support the regulator by using a bracket ↳ 12.3 “Accessories”.

5.2 Commissioning

The regulator is commissioned along with the system.

Personnel:

- Mechanic
- + additional qualification explosion protection

Protective equipment:

- Protective gloves
- Safety boots
- Use ear protection
- Protective workwear

1. Turn adjusting screw in (+) direction.
   ⇨ The spring is pre-tensioned.
2. Open ball valves in the supply lines.
3. Open the sampling point.
4. Turn adjusting screw in (-) direction until the material flows.
   ⇨ The spring is relieved.
5. Leave the sampling point opened until the material escapes without air.
6. Decrease spring pressure based on the following characteristic curve until the required material pressure is reached.
7. Secure with nut of the adjusting screw.

Characteristic curves

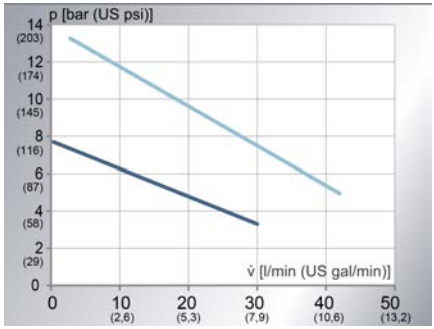

Fig. 4: Characteristic curve N26220004

p1
p2

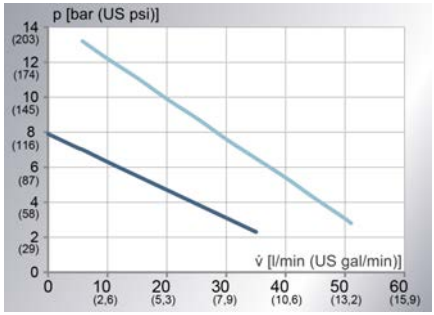

Fig. 5: Characteristic curve N26220005, N26220006

p1
p2

Specification of the characteristic curves:

- Material: Mobil DTE24
- Viscosity: 32mPa*s
- Input pressure:
  - p1 = 8bar
  - p2 = 14bar

Characteristic curves, spindle rotation to flow rate

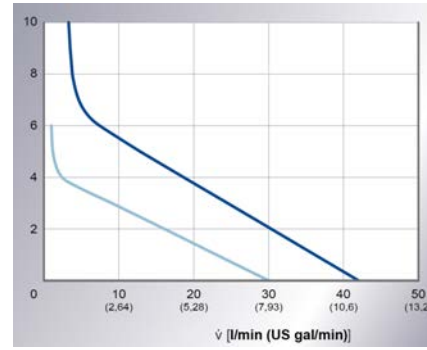

Fig. 6: Characteristic curve, spindle rotation (N26220004)

p1
p2

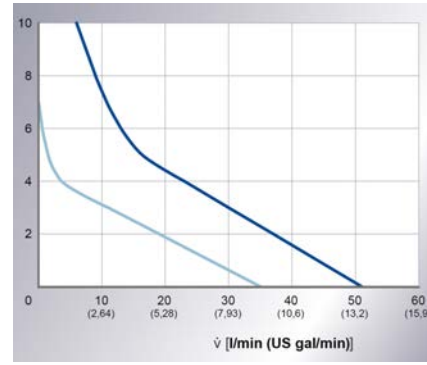

Fig. 7: Characteristic curve, spindle rotation (N26220005, N26220006)

p1
p2

Specification of the characteristic curves:
- Material: Mobil DTE24
- Viscosity: 32mPa*s
- Input pressure:
  - p1 = 8bar
  - p2 = 14bar

6 Operation

6.1 Safety recommendations

WARNING!

Sparks due to electrostatic discharge

If the grounding cable is removed during operation, it can cause electrostatic induction. Electrostatic discharge can cause sparks that in explosive atmosphere can cause a fire or an explosion. Serious injury and death could be the consequence.

- Do not remove grounding cable during operation.

WARNING!

Risk of injury due to escaping material

Escaping compressed material can cause serious injury.

Before working on the product:

- Disconnect the system, in which the product is installed, from material supply system.
- Secure the system against being switched on again.
- Depressurize the lines.

NOTICE!

Hardening material

If the material in the product hardens, the product will be damaged or destroyed.

- Note curing time. ↳ 11.7 “Material specification”
- Rinse product ↳ 6.2 “Rinsing”e.g. for:
  - Production interruptions
  - Production end

6.2 Rinsing

Personnel:

- Mechanic
- + additional qualification explosion protection

Protective equipment:

- Protective workwear
- Eye protection
- Safety boots

NOTICE!

Material damage due to unsuitable rinsing agent

If the rinsing agent reacts chemically with the components or the material, components get damaged.

- Use only the rinsing agents that are compatible with the components and the material.
- Refer to safety data sheet of material manufacturer.

The regulator must be rinsed.
- After end of work
- Before every change of material
- Prior to cleaning
- Prior to dismantling
- Before a long time of non-use
- Before placing in storage

Rinsing intervals depend on the material used.

1. Rinse regulator with low pressure. Possibly. Use rinsing equipment.

6.3 Relieving pressure

Personnel:
- Mechanic
- + additional qualification explosion protection

Protective equipment:
- Protective gloves
- Safety boots
- Use ear protection
- Protective workwear

1. Rinse regulator ↳ 6.2 “Rinsing”.
2. Close the ball valve on the material supply line.
3. Open the sampling point.
4. Turn adjusting screw in (-) direction.
   ⇨ The spring is relieved and the regulator opens.
5. Disassemble the regulator

7 Cleaning

7.1 Safety recommendations

WARNING!

Danger of fire and explosion

Flammable coating materials and their detergents and cleaning agents can cause a fire or an explosion.
- Ensure that the flashpoint of the fluid is at least 15K above the ambient temperature.
- Only electrically conductive containers may be used for the cleaning fluid. Containers must be grounded.
- Note explosion group of the fluid.
- Follow the safety data sheet.
- Ensure that forced ventilation and fire protection equipment are in operation.
- Do not use sources of ignition and open light.
- Do not smoke.
- Ground Regulator.

WARNING!

Danger from harmful or irritant substances

Serious injuries or death can result if you come into contact with dangerous fluids or steam.
- Regulator Check regularly for leakage. Observe local regulations and maintenance schedule.
- Ensure that the forced ventilation is operational.
- Follow the safety data sheet.
- Wear specified protective clothing.
- Avoid contact (e.g. with eyes, skin).

NOTICE!

Unsuitable cleaning agents

Unsuitable cleaning agents can damage the product.

- Only use cleaning agents approved by the material manufacturer.
- Follow safety data sheets.
- Place heavily soiled components in a cleaning bath.
  - Only place those parts in the cleaning bath, which are suitable for the cleaning bath.
  - Use only electrically conductive containers.
  - Ground the container.
  - Do not use ultrasound baths.

NOTICE!

Unsuitable Cleaning Tools

Unsuitable cleaning tools can cause damage.

- Only use cloths, soft brushes and paintbrushes.
- Do not use abrasive cleaning tools.
- Do not use compressed air for cleaning.
- Do not use any thinner spray guns.
- Do not use high pressure for cleaning agents.

7.2 Cleaning

Personnel:

- Cleaning staff
- + additional qualification explosion protection

Protective equipment:

- Protective workwear
- Respirator mask
- Eye protection
- Protective gloves
- Safety boots

Requirements:

- Regulator has been purged ↳ 6.2 “Rinsing”
- System has been depressurized ↳ 6.3 “Relieving pressure”.

1. Clean the regulator carefully using a piece of cloth.

8 Maintenance

8.1 Safety recommendations

WARNING!

Unsuitable tools in explosive areas

Tools that do not have Ex approval can generate sparks and cause a fire or an explosion in Ex zones. It can cause serious injuries or death.

- If possible, carry out cleaning and maintenance work outside the Ex zones.
- For work within the Ex zone, use tools with the corresponding Ex labeling.

WARNING!

Risk of injury due to escaping material

Escaping compressed material can cause serious injury.

Before working on the product:

- Disconnect the system, in which the product is installed, from material supply system.
- Secure the system against being switched on again.
- Depressurize the lines.

WARNING!

Sparks due to electrostatic discharge

If the regulator is not grounded, there can be an electrostatic charge on the the regulator. Electrostatic discharge can cause sparks that in explosive atmosphere can cause a fire or an explosion. Serious injury and death could be the consequence.

- Ground Regulator as specified.
- Before carrying out any work, make sure that there is no explosive atmosphere.

WARNING!

Danger from harmful or irritant substances

Serious injuries or death can result if you come into contact with dangerous fluids or steam.

- Regulator Check regularly for leakage. Observe local regulations and maintenance schedule.
- Ensure that the forced ventilation is operational.
- Follow the safety data sheet.
- Wear specified protective clothing.
- Avoid contact (e.g. with eyes, skin).

WARNING!

Danger of fire and explosion

Flammable coating materials and their detergents and cleaning agents can cause a fire or an explosion.

- Ensure that the flashpoint of the fluid is at least 15K above the ambient temperature.
- Only electrically conductive containers may be used for the cleaning fluid. Containers must be grounded.
- Note explosion group of the fluid.
- Follow the safety data sheet.
- Ensure that forced ventilation and fire protection equipment are in operation.
- Do not use sources of ignition and open light.
- Do not smoke.
- Ground Regulator.

WARNING!

Unsuitable replacement parts in explosive areas

Replacement parts not compliant with the specifications of the ATEX guidelines can cause explosions in an explosive atmosphere. Serious injury and death could be the consequence.

- Use exclusively original replacement parts.

NOTICE!

Damage due to improper maintenance work

Carrying out maintenance work that is not described in this instructions manual can result in errors in assembly and cause material damage.

- Only carry out work mentioned in this instructions manual.

NOTICE!

Material damage due to worn out components

Worn out components can damage the product.

- Observe the maintenance intervals ↳ 8.2 “Maintenance schedule”.

ENVIRONMENT!

Environmental damage caused by improper handling

Leaked out operating and auxiliary materials are a threat to the environment.

- Use suitable collector trays during servicing and maintenance work.
- Dispose of operating and auxiliary materials according to the disposal provisions in force.
- In case of doubt, refer to the local disposal authorities.

8.2 Maintenance schedule

If a maintenance assistant is used in the system visualizer, the maintenance intervals of the maintenance assistant are valid.

The maintenance intervals given below are based on experiential values. Adjust maintenance intervals individually if necessary.

Interval	Maintenance work
weekly	Check condition and tightness of the regulator, the connections and lines.
	Check leakage of liquids.
monthly	Clean regulator ↳ 7.2 “Cleaning”.
semi-annually	Check membrane in contact with material (10), sealing ring (15), membrane chuck (11) and valve seat (13), and replace if necessary ↳ 8.3 “Dismantling”.
annually	Check screw connections and fastening.
every 2 years	Check compression spring (7), replace if necessary ↳ 8.3 “Dismantling”.

8.3 Dismantling

Personnel:

- Mechanic
- + additional qualification explosion protection

Protective equipment:

- Protective workwear
- Eye protection
- Protective gloves
- Safety boots

Requirements:

- Regulator has been purged 6.2 “Rinsing”.
- Regulator has been disassembled 10.2 “Disassembly”.

You must dismantle the regulator to be able to perform maintenance work and to replace components. The requirement is a clean working place in a workshop.

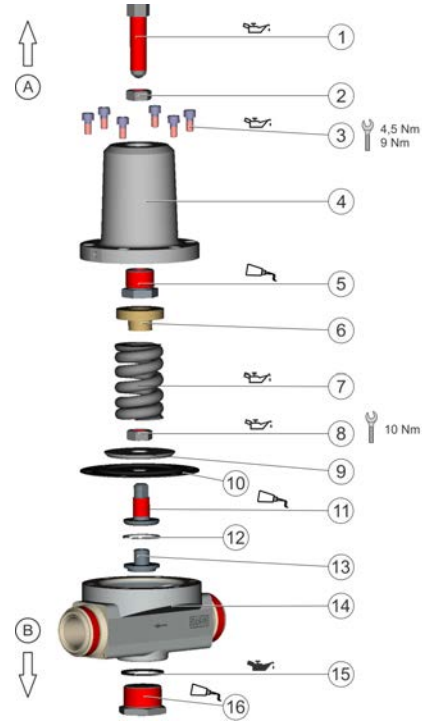

Fig. 8: Exploded view (example N26220004 / N26220005)

Molykote TP-42
Klüber Syntheso GLEP 1
Loctite 2701

1. Clamp the regulator with the control side (A) upward into a vise.

   Use protective jaws.

WARNING!

Danger from spring under compression

2. Turn the adjusting screw (1) in the (-) direction, until the compression spring (7) loses its tension.
3. Remove cheese-head screws on lid with a hexagon socket (4).
4. Remove lid (4).
5. Remove pressure disc (6) and compression spring (7).
6. Remove membrane package (8), (9), (10), (11).
7. Loosen hexagonal nut (8) and separate pressure disc (9), membrane (10) and membrane chuck (11).
8. Remove safety ring (12) and pull off valve seat (13) with circlip pliers.
9. Remove the regulator housing (14) from the vise and clamp it again with the material side (B) facing up.
10. Remove sealing screw (16) and sealing ring (15).
11. Clean, check and replace all components if damaged. Always replace sealing and membrane.

8.4 Assembly

Lubricate threads and seals before assembly.

Protective equipment:

- Protective workwear
- Eye protection
- Protective gloves
- Safety boots

1. Clamp the regulator housing (14) with the material side (B) upwards into a vise.

   Use protective jaws.
2. Grease and insert the new sealing ring (15).
3. Screw in sealing screw (16).
4. Remove the regulator housing (14) from the vise and clamp it again with the control side (A) facing upwards.
5. Insert valve seat (13).
6. Using circlip pliers, insert the retainer ring (12) into the designated groove in the housing.
   ⇨ The valve seat is fixed.
7. Check membrane (10) for damage and replace it if necessary.
8. **NOTICE!**

   Particles on the membrane damage it.

   Position membrane (10) over the membrane chuck (11) and insert with the black side facing up. Ensure cleanliness.
9. Place pressure disc (9) onto the membrane (10) and tighten with hexagonal nut (8).
   - Tightening torque: 10Nm
10. Place pressure disc (6) and compression spring (7) on the membrane chuck (11).
11. Place regulator lid (5) on regulator housing (14) and slightly fit the fastening screws (4).

12. Use the adjusting screw (1) to slowly compress the compression spring (7) until the membrane chuck (11) is flush with the valve seat (13).
13. Tighten fastening screws (4) crosswise in two steps.
    - Tightening torque, step 1: 4.5Nm
    - Tightening torque, step 2: 9Nm

Test the tightness and proper operation prior to recommissioning.

9 Faults

9.1 Defects table

For troubleshooting you have to (partly) dismantle the regulator ↳ 8.3 “Dismantling”. If faults cannot be remedied: ↳ “Hotline and Contact”.

Fault description	Cause	Remedy
Poor regulation.	Worn out membrane (10) or valve seat (13).	Replace membrane and valve seat.
	Damaged membrane (10).	Replace membrane.
	Damaged membrane chuck (13).	Replace membrane chuck.
	Particles between valve seat (13) and membrane (10).	Rinse system and check material quality.
Material leaking at the leakage connection.	Damaged membrane (10).	Replace membrane.
Loud whistling.	Regulator set incorrectly.	Wear hearing protection and adjust setting ↳ 5 “Commissioning”.

10 Disassembly and Disposal

10.1 Safety recommendations

WARNING!

Risk of injury due to escaping material

Escaping compressed material can cause serious injury.

Before working on the product:

- Disconnect the system, in which the product is installed, from material supply system.
- Secure the system against being switched on again.
- Depressurize the lines.

WARNING!

Unsuitable tools in explosive areas

Tools that do not have Ex approval can generate sparks and cause a fire or an explosion in Ex zones. It can cause serious injuries or death.

- If possible, carry out cleaning and maintenance work outside the Ex zones.
- For work within the Ex zone, use tools with the corresponding Ex labeling.

WARNING!

Danger from harmful or irritant substances

Serious injuries or death can result if you come into contact with dangerous fluids or steam.

- Regulator Check regularly for leakage. Observe local regulations and maintenance schedule.
- Ensure that the forced ventilation is operational.
- Follow the safety data sheet.
- Wear specified protective clothing.
- Avoid contact (e.g. with eyes, skin).

10.2 Disassembly

Personnel:

- Mechanic
- + additional qualification explosion protection

Protective equipment:

- Protective workwear
- Eye protection
- Protective gloves
- Safety boots

1. Rinse regulator ↳ 6.2 “Rinsing”.
2. Close material supply line with valve and secure against being switched on again.
3. Depressurize the line ↳ 6.3 “Relieving pressure”.
4. Loosen cap nut of material supply line.
5. Loosen cap nut of material discharge line.
6. Remove the regulator.

10.3 Disposal

ENVIRONMENT!

Improper waste disposal

Improper waste disposal threatens the environment and prevents re-use and recycling.

- Clean components before their disposal.
- Always dispose of components in accordance with their characteristics.
  ↳ 11.5 “Materials used”
- Collect leaked out utilities and auxiliaries completely.
- Dispose of work equipment soaked in coating materials or operating substances according to the disposal provisions in force.
- Dispose of utilities and auxiliaries according to the disposal provisions in force.
- In case of doubt, refer to the local disposal authorities.

11 Technical data

11.1 Dimensions and weight

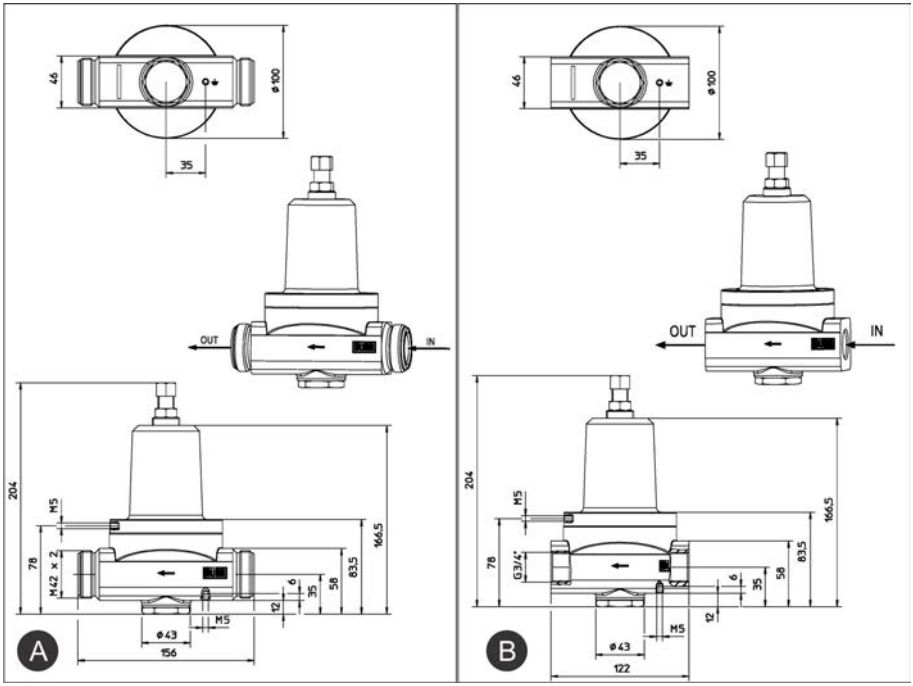

Fig. 9: Dimensions

Detail	N26220004 (A)	N26220005 (A)	N26220006 (B)
Total length	156mm	156mm	122mm
Height	204mm	204mm	204mm
Weight	3.7kg	3.7kg	3.5kg
Diameter	100mm	100mm	100mm

11.2 Operating conditions

Detail	Value
Operating temperature, min.	15°C
Operating temperature, max.	35°C
Ambient temperature, min.	15°C
Ambient temperature, max.	40°C

11.3 Operating values

Detail	Value
Media input pressure, max.	20 bar
Control range	1 to 16bar
Flow rate, max. N26220004	15L/min
Flow rate, max. N26220005	25L/min
Flow rate, max. N26220006	30L/min

11.4 Type plate

The type plate is also on the regulator housing and features the following data:

- Product name
- Material number
- Year of manufacture
- Serial number
- Maximum material pressure
- Manufacturer

11.5 Materials used

Materials used

Component	Material
Regulator housing	Stainless steel
Lid	Aluminum
Membrane	PTFE
Materials in contact with material	Stainless steel

11.6 Operating and auxiliary materials

Material	Specification
Screw connections lubricant	Molykote TP-42
Seal lubricant	Klüber Syntheso GLEP1
Thread protection	Loctite 2701

11.7 Material specification

Suitable Material:

- Flammable fluid coating materials of the explosion group IIA and their approved cleaning agents
- Non-flammable fluid coating materials and their approved detergents

Specification:

- Vapor pressure ≤0.5bar above atmosphere
- Ignition temperature >50°C
- Temperature ≤35°C, always 15K below flashpoint

Viscosity

Detail	Value
Viscosity, min.	10mPa S
Viscosity, max.	250mPa S

12 Replacement parts, tools and accessories

12.1 Replacement parts

Item numbers relate to the Fig. 8.

Item	Description	Quantity	Material number
1	Adjusting screw M14x1 L54 wrench size 17 VA6	1	
2	Nut	1	
3	Cheese-head screw M6x12 DIN912 8.8 z St	6	
4	Housing lid D100 d54 H95 TK87 Al	1	
5	Reduction nipple	1	
6	Pressure disc	1	
7	Compression spring	1	M68010040
8	Nut	1	
9	Lock washer	1	
10	Membrane	1	M08510019
11	Membrane chuck	1	M03020014
12	Retainer ring	1	
13	Valve seat (N26220004)	1	M08150018
13	Valve seat (N26220005 / N26220006)	1	M08150020
14	Regulator housing DN25 VA5	1	
14	Regulator housing 3/4"	1	
15	Sealing ring	1	M08010099
16	Sealing screw M32x1.5 wrench size 36 L23.5 VA8	1	

12.2 Tools

There are no special tools available for this product.

12.3 Accessories

Item	Denomination	Quantity	Material no.
-	O-Ring **Eco**Tube	1	M08420004

12.4 Order

WARNING!

Unsuitable replacement parts in explosive areas

Replacement parts not compliant with the specifications of the ATEX guidelines can cause explosions in an explosive atmosphere. Serious injury and death could be the consequence.

- Use exclusively original replacement parts.

WARNING!

Unsuitable replacement parts

Replacement parts of third-party suppliers may possibly not be able to hold the loads. Serious injury and death could be the consequence.

- Use exclusively original replacement parts.

Ordering replacement parts, tools and accessories as well as information on products that are listed without order number ↳ “Hotline and Contact”.

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Translation of the original operation manual
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