

IMPORTANT:

This product manual contains important information. For further use always place it next to the related machine!

Quality Products**MADE IN GERMANY**

— by your famous brand —

K SPRITZTECHNIK T
KOPPERSCHMID TManufactured for **DÜRR**

Product Manual

For pressure regulators EcoFlow

EUROTECHNIK

Surface Technology in G

**Low pressure regulator**

- P20-RM - 3/8"

High pressure regulators

- P200/270-VM/RM - 3/8"
- P200-VP - 3/8"
- P320-VP - 3/4"
- P360-RP - 3/4"

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1. Preliminary

Dear customer,

you made the right decision to choose a „Kopperschmidt Spritztechnik“ brand product.

This product manual covers important technical information in order to handle your Kopperschmidt product properly. You will find information about **SAFETY; ASSEMBLY; STARTUP OPERATIONS; TECHNICAL DATA et cetera.**



Please read and understand the safety instructions and this product manual prior to the first operation of your Kopperschmidt product. Put out a copy of this manual next to the working place of your Kopperschmidt machine.

In case of any irregularities or complains about the machine it should be shut down immediately. In order to avoid damages please check your machine carefully or contact us for further help.

In case of non-designated use of the machine, a liability claim against L. R. Eurotechnik is forfeited.

The Kopperschmidt material pressure regulators were designed for material pressure regulating and keeping a constant material pressure at the desired level.

The material pressure regulators are:

- built for low or high pressure applications
- adjustable manually or pneumatically
- available to regulate forward- or back pressure

Material contact parts are made of stainless steel. This allows universal application for water- and solvent based materials.

Other kind of use must be authorized by your plant designer or the manufacturer prior to any activation of the machine. Otherwise this usage would be a „**non appropriate use**“. The material pressure regulators shall only be put into operation by especially trained personal.

For assembly and maintenance purposes of your Kopperschmidt machines use **Original Kopperschmidt accessories** and **spare parts** only. We explicitly point out that the **non-observance** of requirements shown in this product manual, also for individual components, **may void warranty, guarantee and product liability claims** with regard to the complete system!

Please make sure, that the product and service manuals for all machines are accessible for the workers on site and shall be read, understood and obeyed by them. In addition make sure that workers will obey the material **manufacturer's information** and the **instructions of usage** as well as all **rules, standards and safety regulations** for the material in any case!

In case of any questions or doubts do not hesitate to contact your machine or material supplier.

We wish you a successful usage and always excellent working results.

Your L. R. Eurotechnik - Team.

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Please make sure that product identity is in accordance with the service and product manuals. In case of any discrepancies, faults in the summary of the manuals or a missing or faulty machine label please contact us immediately!

For misprints and/or falsities which might have occurred during the establishing of this manual, any kind of liability is excluded. The original document was written in German language. In case of discrepancies the contents of the original German manual is valid.

2. Sings and Symbols

Safety instructions shall warn to be aware of potential safety hazards and indicate the necessary measures to avoid accidents. Safety instructions within this manual are especially highlighted and indicated as follows:



DANGER:

This sign indicates safety hazards which will rather sure cause serious injuries or even death in case of violation!



WARNING:

This sign indicates safety hazards which may cause serious injuries or even death in case of violation!



CAUTION:

This sign indicates safety hazards which may cause serious injuries in case of violation!



This sign indicates an important suggestion for an appropriate use of the machine! In case of disregarding damages to the machine or the environment might occur.

Risks of accidents or injury are indicated in this manual by different pictograms, depending on the source of:



Safety hazard, unspecified



Fire hazard



Explosion hazard caused by explosive



Crushing hazard caused by versatile machine parts



Danger of poisoning caused by toxic liquids



Respiratory protection



Reference to regulations, operating instructions or other important information's

3. Safety

General Information:

- The machine covered by this manual shall only be installed, operated or serviced by specially trained personal
- This manual must be available on site at any time
- The machine covered by this manual and all other components (such as regulators, filters, etc.) installed must be connected to the local protective ground terminal
- The machine covered by this manual shall only be put to appropriate use
- Only utilize hoses, nipples or connectors with the appropriate pressure range for the machine covered by this manual
- Always utilize the correct personal protective equipment (such as respirator mask, safety glasses, safety gloves, etc.)
- Always keep the machine covered by this manual clear of environmental residues in order to avoid accidents or injuries
- Always obey the applicable accident prevention rules
- Never try to repair damaged material hoses
- Never try to seal with your hand or by wrapping a cloth
- Memorize emergency escape routes and emergency sites
- Familiarize yourself with first aid measures



Non appropriate use of the machine covered by this manual will immediately cause the loss of any warranty and/or liability claims!

Surface Misuse of the machine covered by this manual can cause malfunctions or damages of the machine and can cause serious injuries.

CAUTION Always avoid utilizing solvents or detergents which contains one of the following chemicals:



- **Fluorinated hydrocarbons:**
 - Trichlorfluormethan (R-11)
 - 1.1.2 - Trichlor - 1.2.2. - Flourethan (R-113)
 - 1.1.2.2 - Tetrachlor - 1.2 - Diflourethan (R-112)
- **Chlorinated hydrocarbons:**
 - Tetrachlorethen - (Perchlorethylen)
 - Trichlorethen - (Trichlorethylen)
 - Dichlormethan - (Methylenchlorid)

These materials react with water and produce acids which can damage the surface of the machine covered by this manual. Never expose the machine covered by this manual to any acids or paint strippers. Frequently recycled solvents can also contain acids which can concentrate by distillation. Always make sure to buy an acid free cleaning solvent! The manufacturer of the machine covered by this manual does not take over liability for damages caused by disregarding the safety regulations mentioned in this manual.



The use of halogenated hydrocarbons can cause chemical reactions on galvanized surfaces. These parts can oxidize in an explosive reaction.

Please note:

All Kopperschmidt equipment is only meant for professional use with surface coating materials by especially trained personal. All applicable safety rules must be obeyed and all applicable safety measures must be taken. The surface coating materials are not manufactured by Eurotechnik. Therefore make sure the material intended to be used is compatible with the machine covered by this manual and check compatibility with your material supplier or manufacturer. Always observe the material manufacturers rules on material handling for the material in use. In order to avoid danger of serious damage to health by prolonged exposure take care of sufficient ventilation and exhaust ventilation at the workers activity area.

Appropriate use:

Kopperschmidt machines are meant for professional surface coating applications on materials like metal, plastic, ceramic, wood or other suitable surfaces. Typical application materials are solvent or water based paints, lacquers, adhesives, oil, releasing agents, etc. The coating material is fed to the system as liquid and processed under material pressures up to 400 bar. In low pressure applications the material is atomized by compressed air, or, in high pressure applications by airless or air assisted airless applications. In airless applications, the material is pressed through a nozzle at high pressure. Depending on the nozzle type the spray pattern is built. Any other use as described above is called non appropriate use. Also required is to obey the operation- service- and inspection- and test plans. Because of the mechanical and chemical stress on the paint and air hoses they should be inspected prior to any use, and, in case of any damages they should be replaced immediately. For high pressure applications the occupational insurance association requires an **annual check** of the liquid spraying equipment by a qualified person. Please check whether this check is required for your plant. Wear of functional parts can influence your machines performance. Never repair or disassemble any part as long as your application system is pressurized.

Explosion protection:



The machine covered by this manual accomplishes the requirements of ATEX directive 2014/34/EU for equipment group, equipment category, ignition protection type and the surface temperature please refer to the following identifier:

EX II 2 GD EX h IIC T6 Gb



Explosion protection marking.

Equipment Group II: suitable for usage outside of mines.

Equipment Category 2GD: for gas- / dust atmosphere.

Ignition protection Type EX h: non-electrical equipment

Explosion Group IIC: materials classified for explosion groups IIC can be processed.

Surface Temperature T6: the temperature class of the liquid to be processed must be above 85°C.

Equipment protection level Gb: Device with a high level of protection.

In case that the machine described in this manual is in use together with other machines in the same place it is important to check and to take care that all machines come with ATEX identifiers suitable for the area installed!

Grounding



Prior to initial operation it is necessary that a certified electrician connects the regulators ground clamp to the plants protective ground. Make sure to use the appropriate grounding wire required. In case of a damaged ground clamp, make sure to replace it immediately. For that reason contact your local electrician or your Kopperschmidt service partner.

Always avoid any kind of danger for you, your health and your environment. Never point the fan at humans or animals!

Solvents and diluents can cause severe burns, poisoning and, under circumstances, a mortal embolism. In case of operational interruptions or leaving the working area always interrupt the air supply to your machine and make sure that no pressurized residues of material are left inside the system

Therefore:

- Never position yourself in the direction of the spray pattern or between the parts to be sprayed and the exhaust ventilation.
- Always take care for sufficient lighting and ventilation within the working area.
- Never point with the fan at electrical devices or equipment!
- In case of usage of flammable or explosive material take precautionary measures to extinguish a possible fire rapidly.
- Do not spray on loose work pieces or instable surfaces. The energy contained in the fan could swirl up the parts and whirl them around.
- When spraying on a work piece a recoil effect can occur and the overspray will be in the surrounding atmosphere. Depending on the type of material this can cause environmental, fire, explosion and/or health hazards. This is the reason why spraying applications shall only be done in especially prepared working areas.
- Only work in sufficiently ventilated areas! When using solvent based materials a local exhaust ventilation is imperative.
- The complete equipment must be grounded to ensure protection against electrostatic charge. The correct grounding must be checked by a qualified electrician!
- In case of any operational interruption, even for a short period of time, secure the spraying gun with the safety lever and check for correct function.



Never exceed the machines limits indicated in the technical manuals!

- Exceeding the temperature limits can cause leaks, serious burns or even ruptures of the spraying gun, hoses or fittings.
- In case of any unexpected occurrence immediately release the guns trigger and secure it. Additionally shut off the pumps air supply valve.
- In case of a broken material hose immediately close the ball valve at the pumps outlet. Additionally shut off the pumps energy supply in order to prevent more leaking material.

i For service and/or extensions of your Kopperschmidt equipment use only „Original KOPPERSCHMIDT“ accessories and service parts. In case of using foreign NON KOPPERSCHMIDT PARTS and/or non appropriate use any warranty and liability of L. R. EUROTECHNIK KG will void.



There are no known hazardous situations in usage of Kopperschmidt equipment when safety regulations are observed and usage is in accordance with regulations. Should any dangerous situation occur or even accidents have happened although all safety precautions have been taken, please inform us about the situation so we can improve this manual.

What to do in case of an accident?

In case of any kind of injury:

Interrupt the pumps energy supply. Pull the guns trigger until the remaining material pressure is released.

Immediately visit the next first aid station or the next medical doctor for surgery. Never underestimate the possible hazard of an injury. Describe the complete incident to the doctor or surgeon. When reporting the accident use short and precise descriptions by using the following five Questions:



- **Where** did the incident happen?
- **What** has happened?
- **How many** persons are involved?
- **What** kind of injuries or symptoms of disease have the affected persons?
- **Always** wait for queries of the emergency call center!

Immediate and correct medical surgery can reduce the risk of serious and possible permanent consequences of the injury.

Please note:



When using spray equipment it is possible that, by electrostatic charge, such high voltages can build up that sparks can occur between the spraying equipment and the object or vicinity under work. These sparks can cause a fire hazard or even an explosion! Therefore make sure that your spraying equipment and the object under work are reliably grounded. The grounding installation must be done by an electrically qualified person. Always obey the material supplier's instructions of use for the material to be sprayed. In order to avoid serious damages to your health make sure there is sufficient ventilation and exhaust ventilation of pollutants at the working place.

Warning!

Use only hoses and fittings which are suitable for the equipments maximum working pressure.

The following conditions must be kept in order to select the right accessories for your spraying equipment:



- Use only original Kopperschmidt accessories and spares for your spraying equipment.
- Accessories must be proved for the same or a higher maximum pressure as it can be generated by the pump of your spraying equipment.
- There shall be leak, damage or wear to any component or part of your spraying equipment.



In case that the material hose has a leak or damage immediately deenergize the pump and release the material pressure within the system. It is a must to replace the damaged hose or fix the leak before you proceed with using your spray equipment. Under no conditions try to fix the leak with your hands, a tape or other means.

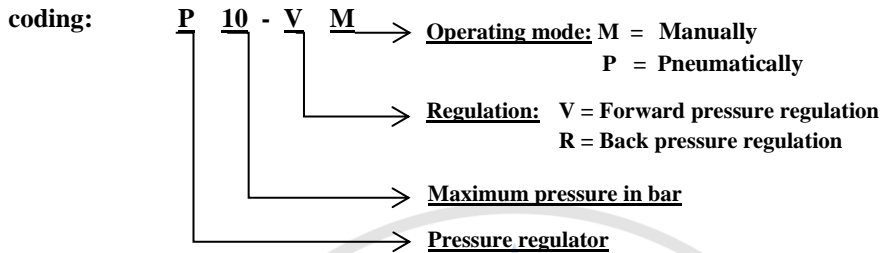
4. System construction:

General Notes

The Kopperschmidt material pressure regulators were designed for material pressure regulating and keeping a constant material pressure at the desired level.

The material pressure regulators are:

- space saving
- built for low or high pressure applications
- adjustable manually or pneumatically
- available to regulate forward- or back pressure
- available with- or without pressure gauge



Material contact parts are made of stainless steel. This allows universal application for water- and solvent based materials like paints, oils, hardeners, alcohol, water varnish, dispersions and many other liquids*. For most types of regulators the valve seats and balls are made of tungsten carbide. This means a long term usage.



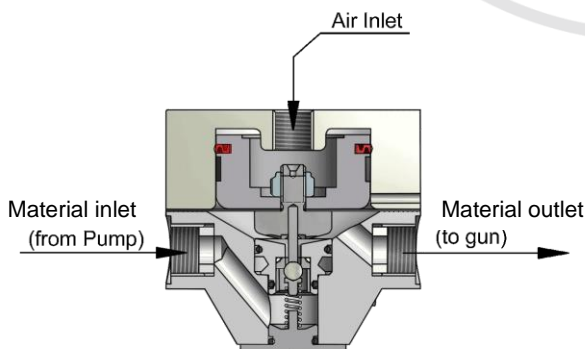
*** Please note:**

Prior to the application with high viscosity, aggressive or abrasive media we recommend to check the materials for compatibility or to contact us.

For further information, please contact our experts in the application department for the suitable equipment.

4.1 Installation instructions

Implementation example forward pressure regulator (pneumatically operated):



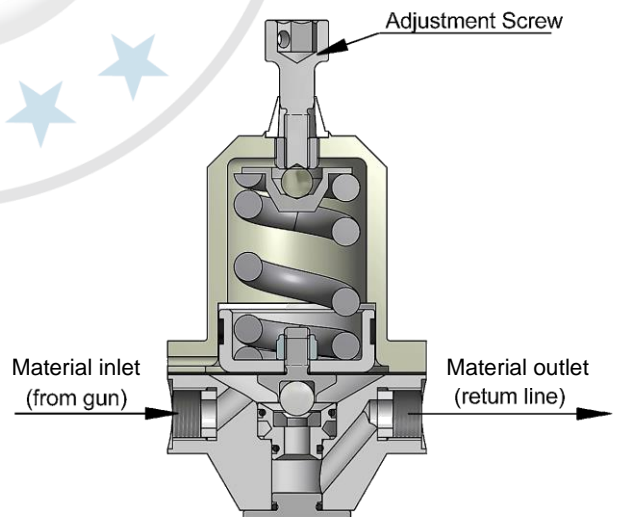
Forward pressure regulator working principle (VM/VP)

The forward regulator reduces the input pressure from the pump to a value which is determined by the force created by the spring through the adjustment screw (for VM or by the air pressure by VP). The regulator keeps the output pressure constant and eliminates pressure divergences by opening or closing the internal valve.

Note:

The minimum output pressure which can be adjusted depends on the input pressure. The higher the input pressure is, the more force is necessary to open the valve against the input pressure.

Application example of a back pressure regulator (manually operated):



Back Pressure regulator working principle (RM/RP)

The back pressure regulator limits the input pressure from the pump to a value not to exceed a pressure which is determined by the force created by the spring through the adjustment screw (for RM or by the air pressure for RP). The regulator limits the output pressure to the adjusted level. Below that value no material flow will happen. The back pressure regulator is ideal for recirculation systems.

Note:

The output pressure from the pump should exceed the regulator pressure by not more than 10% to 20% because a higher value will cause a high wear on the pump and the regulator.

4.2 Startup Operation:



Please check the material pressure regulator on receipt for possible transport damage and the completeness of the parts.

At first arrange all received parts of your delivery neatly for assembly.

Please note the „Short form information for material pressure regulators“ included with this delivery!

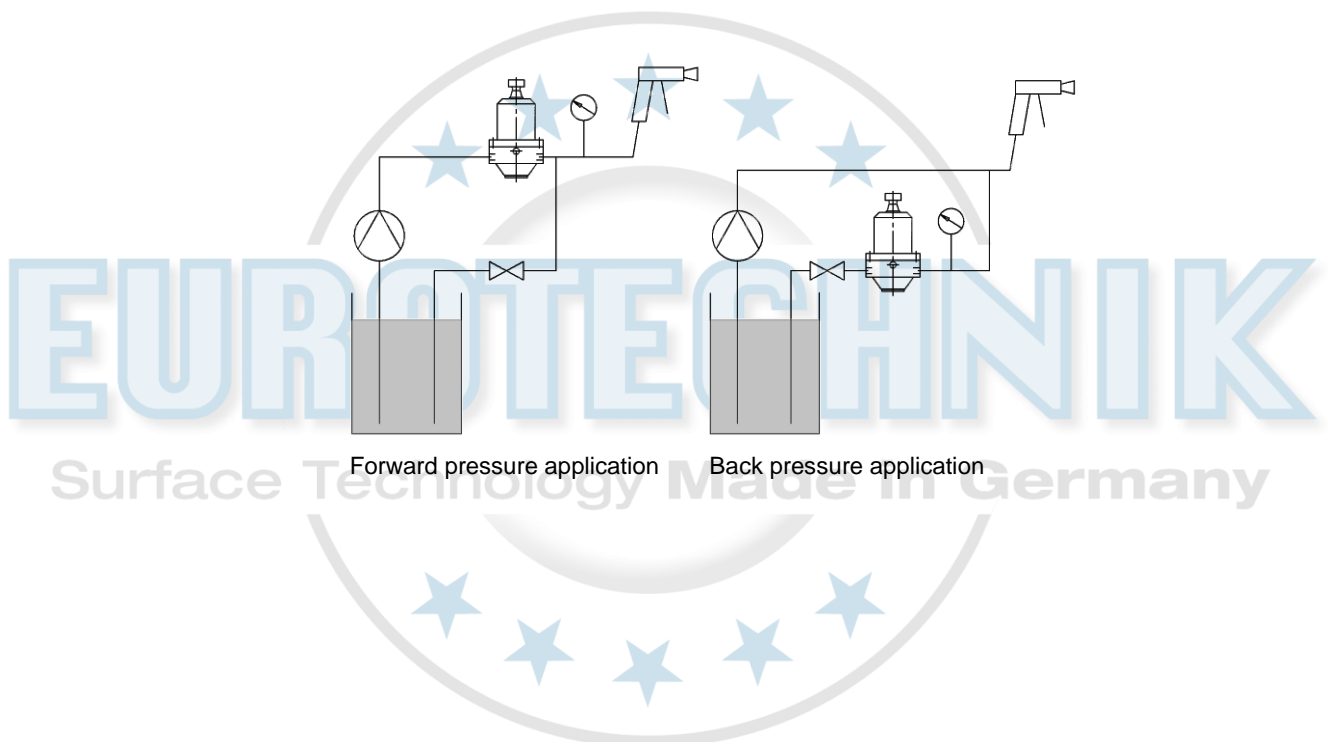
Compare and check all parts according to your shipping list.

Shipping list (sample)*:

- Material pressure regulator type: P10-VM = Low pressure regulator for forward pressure regulation / manually operated
- Pressure gauge

** Material pressure regulator types depend on the desired adjustment!*

Only use hoses and fittings which are suitable for the equipments maximum working pressure!



Maintenance:

When cleaning the system, allow the detergent to circulate through the entire circuit for a while in order to clean all elements well (*pump, hoses, regulator, gun*).

Prior to maintenance and repair jobs make sure that all supply lines (material and compressed air) are shut off and depressurized; then loose the device and secure against leakage.

In case the material pressure regulator is contaminated (internally or externally) it should be removed immediately. Dried materials are difficult to remove. Daily visual inspections of the system and the regulator should be made!

5. Technical data for low pressure regulators:



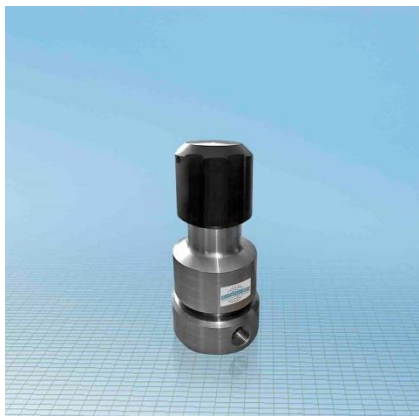
Technical data

Working range P20-RM:	1,0 to 20 bar
Input pressure P20-RM:	max. 20 bar
Flow rate RM:	15,0 l/min.
Temperature range:	0 to +70 °C
Material inlet- and outlet:	G3/8" i
Pressure gauge connection:	see page 13

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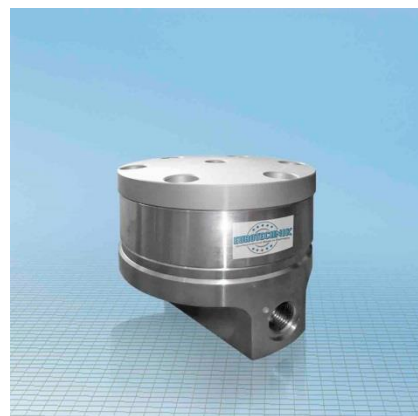
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5.1. Technical data for high pressure regulators:



Technical data

Working range P200-VM/RM:	90 to 200 bar
Working range P270-VM/RM:	90 to 270 bar
Input pressure P200-VM:	max. 360 bar
Input pressure P270-VM:	max. 360 bar
Input pressure P200-RM:	max. 235 bar
Input pressure P270-RM:	max. 270 bar
Flow rate VM:	14,8 l/min.
Flow rate RM:	23,4 l/min.
Temperature range:	0 to +70 °C
Material inlet- and outlet:	G3/8" i
Pressure gauge connection:	see page 14



Technical data

Working range P200-VP:	40 to 200 bar
Input pressure:	max. 360 bar
Max. air pressure P200-VP:	6 bar
Flow rate:	18,0 l/min.
Temperature range:	0 to +70 °C
Material inlet- and outlet:	G3/8" i
Pressure gauge connection:	see page 14

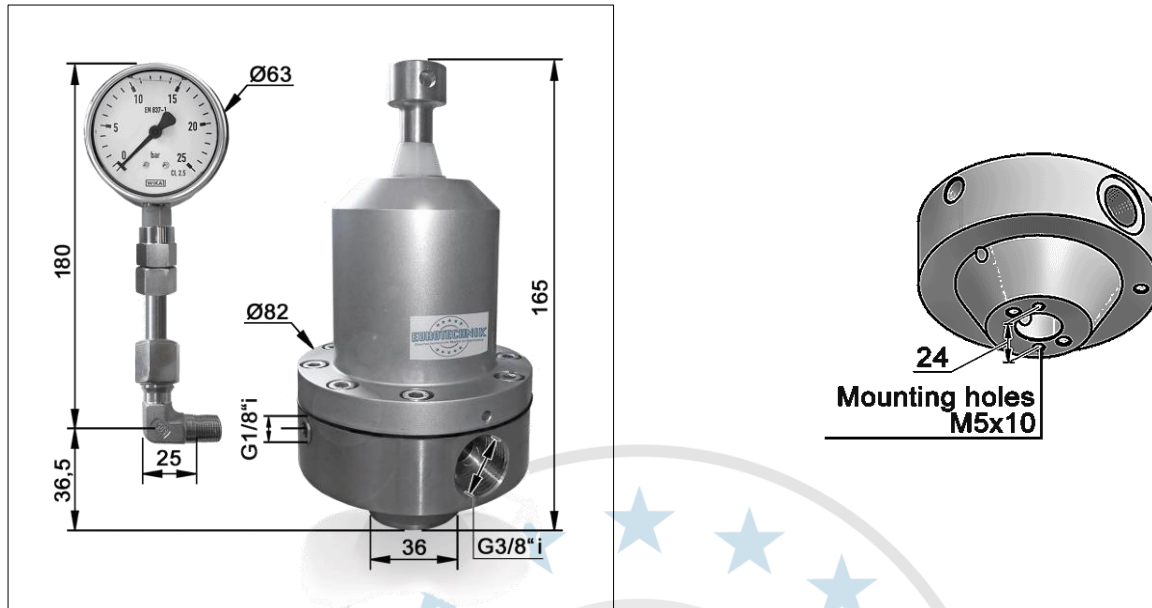


Technical data

Working range P320-VP:	40 to 320 bar
Working range P360-RP:	10 to 300 bar (max. 360 bar)
Input pressure:	max. 360 bar
Flow rate:	43,0 l/min.
Temperature range:	0 to +70 °C
Material inlet- and outlet:	G3/4" i
Pressure gauge connection:	see page 14

6. Assembly dimensions for low pressure regulators:

P20-RM - G3/8"



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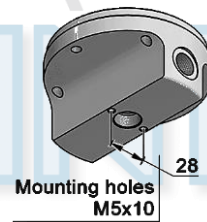
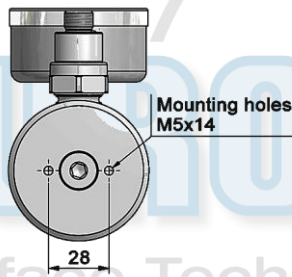
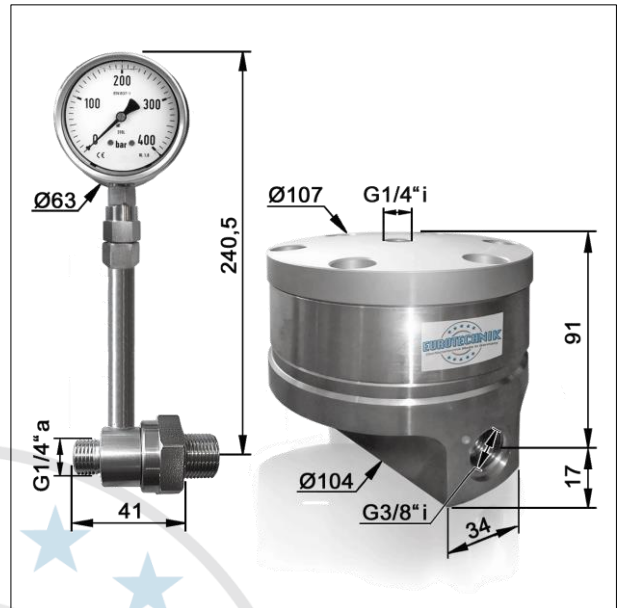
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6.1 Assembly dimensions for high pressure regulators:

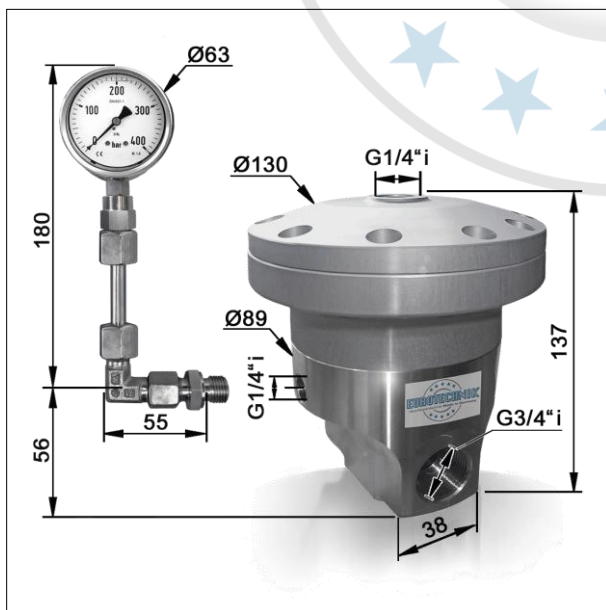
P270-VM/RM - G3/8"



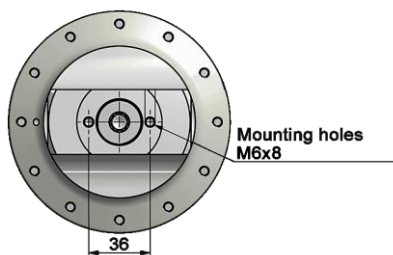
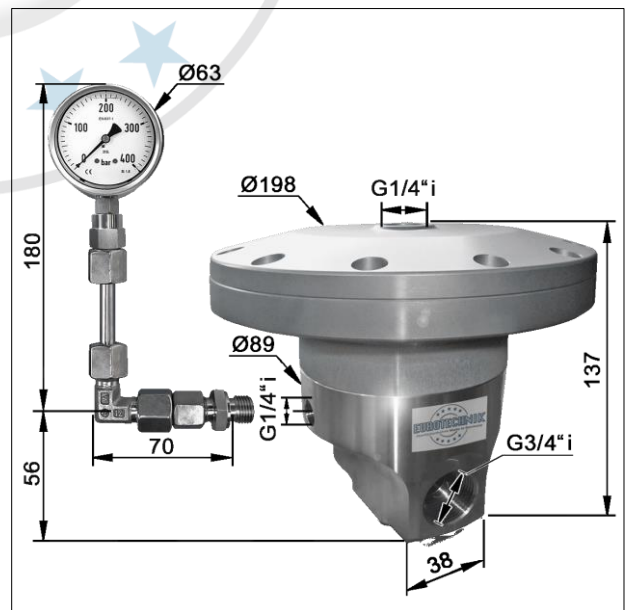
P200-VP - G3/8"



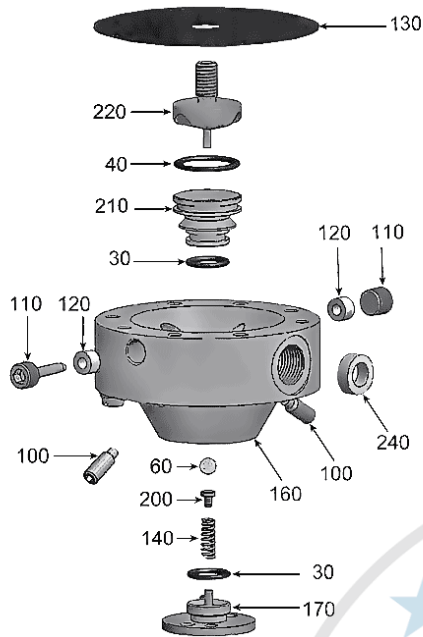
P360-RP - G3/4"



P320-VP - G3/4"



7. Material contact parts for low pressure regulators:



Material contact parts for - P20-RM - 3/8"

Pos.	Amount	Description	Material
30	2	o-ring	FPM *
40	1	o-ring	FPM *
60	1	ball	TC **
100	2	grub screw	Carbon steel
110	2	locking screw with pin	Stainless Steel
120	1	sealing ring	POM
130	1	diaphragm	NBR / PTFE
140	1	spring	Stainless Steel
160	1	lower housing	Stainless Steel
170	1	lid	Stainless Steel
200	1	ball thrust	Stainless Steel
210	1	valve seat	Tungsten carbide
220	1	valve tappet	Stainless Steel
240	2	sealing ring	POM

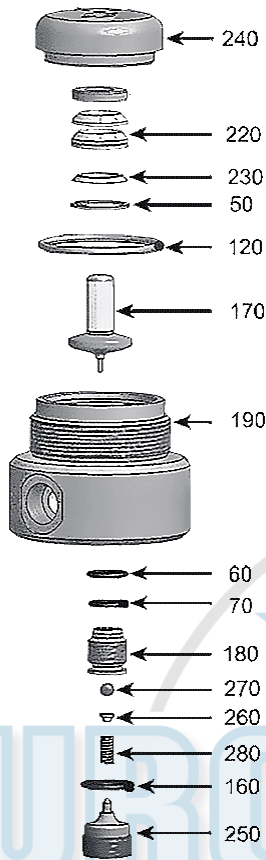
* FFKM possible on request

** Ceramic possible on request

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7.1 Material contact parts for high pressure regulators:

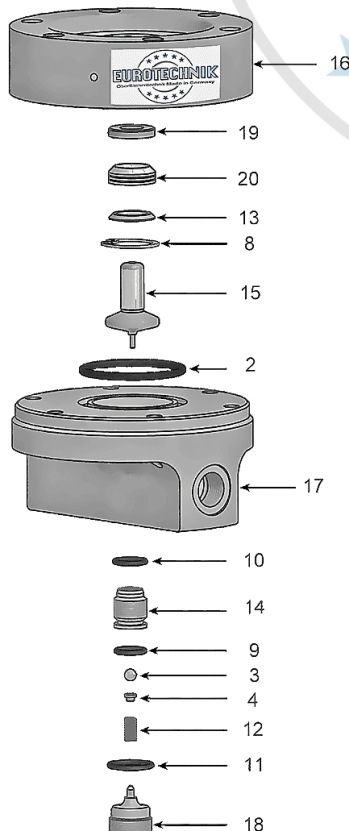


**Material contact parts for
- P200 / 270-VM/RM - 3/8"**

Pos.	Amount	Description	Material
50	1	lock ring	Stainless Steel
60	1	o-ring	FPM *
70	1	o-ring	FPM *
120	1	o-ring	PTFE
160	1	o-ring	FPM *
170	1	valve tappet	Stainless Steel / Tungsten carbide
180	1	valve seat	Stainless Steel / Tungsten carbide
190	1	lower housing	Stainless Steel
220	1	v-packing set	PTFE
230	1	lower gland	Stainless Steel
240	1	housing	Stainless Steel
250	1	locking screw	Stainless Steel
260	1	ball thrust	Stainless Steel
270	1	ball	Tungsten carbide **
280	1	spring	Stainless Steel

* FFKM possible on request

** Ceramic possible on request



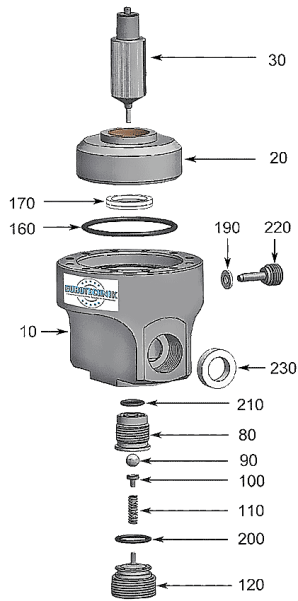
**Material contact parts for
- P200-VP - 3/8"**

Pos.	Amount	Description	Material
2	1	o-ring	Viton *
3	1	ball	Tungsten carbide **
4	1	ball thrust	Stainless Steel
8	1	lock ring	Stainless Steel
9	1	o-ring	FPM *
10	1	o-ring	FPM *
11	1	o-ring	FPM *
12	1	spring	Stainless Steel
13	1	packing ring	Stainless Steel
14	1	valve seat	Stainless Steel / Tungsten carbide
15	1	valve tappet	Stainless Steel / Tungsten carbide
16	1	housing	Stainless Steel
17	1	lower housing	Stainless Steel
18	1	locking screw	Stainless Steel
19	1	packing ring	Stainless Steel
20	1	v-packing set	PTFE

* FFKM possible on request

** Ceramic possible on request

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Material contact parts for**- P320-VP - G3/4"****- P360-RP - 3/4"**

Pos.	Amount	Description	Material
10	1	valve housing	Stainless Steel
20	1	packing housing	Stainless Steel
30	1	valve tappet	Stainless Steel / Tungsten carbide
80	1	hollow screw	Stainless Steel
90	1	ball	Tungsten carbide **
100	1	ball thrust	Stainless Steel
110	1	spring	Stainless Steel
120	1	locking screw	Stainless Steel
160	1	o-ring	FPM *
170	1	groove ring	UHMWPE
190	1	sealing ring	PE
200	1	o-ring	FPM *
210	1	o-ring	FPM *
220	1	locking screw	Stainless Steel
230	2	sealing ring	POM

* FFKM possible on request

** Ceramic possible on request

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8. Troubleshooting

Hints for fault tracing

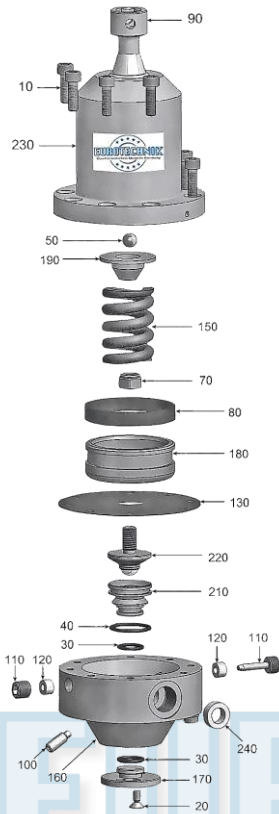
Failure description	Possible fault	Fault location
Uneven material flow	<ul style="list-style-type: none"> The regulator is in wrong installation position mounted The forward pressure from the pump is too high or too low Valve seat and/or valve ball are dirty or worn 	<ul style="list-style-type: none"> Mount the regulator in a horizontal position Optimize inlet pressure Check the regulator; clean or replace worn parts
Leakage at the regulator	<ul style="list-style-type: none"> Diaphragm broken Screws are not tight enough 	<ul style="list-style-type: none"> Replace diaphragm Tighten screws
Material doesn't reach or leave the regulator	<ul style="list-style-type: none"> Air pressure is too low (<i>pneumatic</i>) Adjusting screw (<i>mechanical</i>) is screwed out (VM) or screwed in (RM) too much Ball jammed in seat, valve tappet broken Material input pressure too low Material viscosity too high 	<ul style="list-style-type: none"> Check air pressure and increase if necessary Correct the adjusting screw Check the regulator; clean or replace worn parts Optimize material pressure Dilute material
The pressure rises too far at the regulator output	<ul style="list-style-type: none"> No tight sealing between valve ball and seat occurs 	<ul style="list-style-type: none"> Check the regulator; clean or replace defect parts
No material pressure regulation possible	<ul style="list-style-type: none"> Regulator is mounted in wrong flow direction 	<ul style="list-style-type: none"> Check installation direction and correct if necessary
No material flow at the regulator output (RM)	<ul style="list-style-type: none"> Adjusting screw (<i>mechanical</i>) is screwed in too much 	<ul style="list-style-type: none"> Turn the adjusting screw counterclockwise

How to recognize typical faults

In case you recognize any of the following irregularities you should plan a service for your pump very soon:

- **Unusual pressure variations**
- **Changes of the working sound**
- **Irregular operation**

9. Spare parts list for low pressure regulators:



Manually operated material back pressure regulator

P20-RM Part-No. 15010 021000-ECO

P20-RM FFKM Part-No. 15010 02100F-ECO

Pos.	Amount	Description	Part Number
10	8	screw	90711 005016
20	2	screw	96711 004010
30*#	2	o-ring	
40*#	1	o-ring	
50+	1	ball	
70+	1	hex nut	
80+	1	guiding band	
90	1	adjustment screw	15010 010090
100	2	screw	94710 206020
110	2	locking screw with pin	15010 010111
120	2	sealing ring	35450 004009
130*#	1	diaphragm	
150	1	spring for P20	99210 021059
160	1	lower housing	15010 012160
170	1	lid	15010 011170
180	1	piston	15010 010180
190	1	spring plate	15010 010190
210+	1	valve seat	
220+	1	valve tappet	
230	1	upper housing	15010 010230
240	2	sealing ring (optional)	35450 009015

Available service kits for material pressure regulator:

Sealing Kit includes marked * items **Part-No.: 20006 100001**

Sealing Kit FFKM includes marked # items **Part-No.: 20006 01000F**

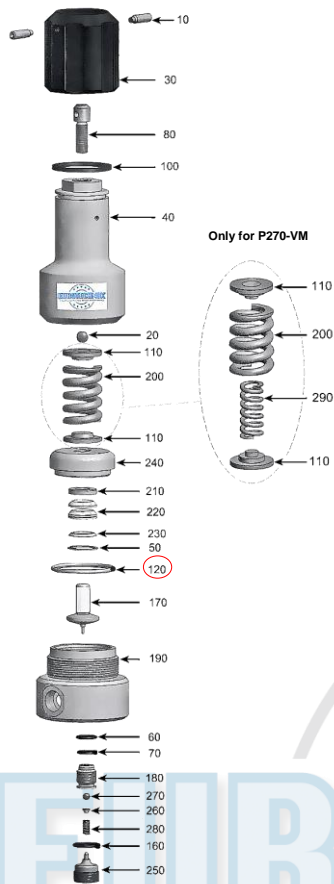
Service Kit wear parts includes marked + items **Part-No.: 20016 011001**

Service Kit includes marked * and + items **Part-No.: 20026 011001**

Service Kit includes marked * and + items **Part-No.: 20026 01100F**

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9.1 Spare parts list for high pressure regulators:



Manually operated material forward pressure regulator

P200-VM Part-No.: 15010 200000-ECO

P200-VM FFKM Part-No.: 15010 20000F-ECO

P270-VM Part-No.: 15010 270000-ECO

P270-VM FFKM Part-No.: 15010 27000F-ECO

Pos.	Amount	Description	Part-Number
10	2	screw	94710 206020
20+	1	ball	
30	1	cap	15010 100031
40	1	upper housing	15010 100045
50+	1	lock ring	
60*#	1	o-ring	
70*#	1	o-ring	
80	1	screw	15010 100081
100*#	1	piston seal	
110	2	spring plate P100/200	15010 100111
120*#	1	o-ring	
160*#	1	o-ring	
170+	1	valve tappet	
180+	1	valve seat	
190	1	lower housing	15010 100191
200	1	spring 200/270 bar	99210 017402
210	1	pressure ring	15010 100211
220*#	1	v-packing set	
230	1	thrust ring	15010 100231
240	1	housing	15010 100241
250	1	screw	15010 100251
260+	1	ball thrust	
270+	1	ball TC ~	
270+	1	ball ceramic ~	
290	1	spring, only for 270	99210 009381

~ Dependent on the ordered service kit **TC** or **ceramic!**

Available service kits for material pressure regulator:

Sealing Kit includes marked * items **Part-No.: 20006 100001**

Sealing Kit FFKM includes marked # items **Part-No.: 20006 10000F**

Service Kit TC wear parts includes marked + items **Part-No.: 20016 100001**

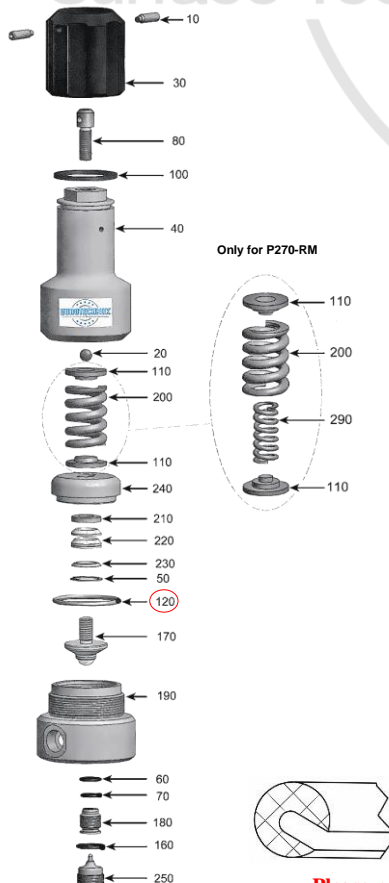
Service Kit ceramic wear parts includes marked + items **Part-No.: 20016 100002**

Service Kit TC includes marked * and + items **Part-No.: 20026 100001**

Service Kit TC FFKM includes marked * and + items **Part-No.: 20026 10000F**

Service Kit ceramic includes marked * and + items **Part-No.: 20026 100002**

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Manually operated material back pressure regulator

P200-RM Part-No. 15010 201000-ECO

P200-RM FFKM Part-No. 15010 20100F-ECO

P270-RM Part-No. 15010 271000-ECO

P270-RM FFKM Part-No. 15010 27100F-ECO

Pos.	Amount	Description	Part-Number
10	2	screw	94710 206020
20+	1	ball	
30	1	cap	15010 100031
40	1	upper housing	15010 100045
50+	1	lock ring	
60*#	1	o-ring	
70*#	1	o-ring	
80	1	screw	15010 100081
100*#	1	piston seal	
110	2	spring plate P 100/200	15010 100111
120*#	1	o-ring	
160*#	1	o-ring	
170+	1	valve tappet	
180+	1	valve seat	
190	1	lower housing	15010 100191
200	1	spring 200/270 bar	99210 017402
210	1	pressure ring	15010 100211
220*#	1	v-packing set	
230	1	thrust ring	15010 100231
240	1	housing	15010 100241
250	1	screw	15010 100251
290	1	spring, only for 270	99210 009381

Available service kits for material pressure regulator:

Sealing Kit includes marked * items **Part No.: 20006 100001**

Sealing Kit FFKM includes marked # items **Part No.: 20006 10000F**

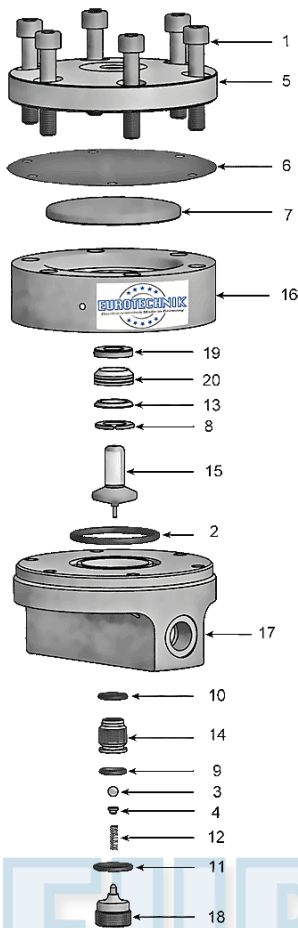
Service Kit wear parts includes marked + items **Part No.: 20016 101001**

Service Kit includes marked * and + items **Part No.: 20026 101001**

Service Kit FFKM bincludes marked * and + items **Part No.: 20026 10100F**

Please note Pos. 120: 1. Installation position of the o-ring, groove downwards!

2. The sealing ring can be used only once and must be replaced after each removal of the upper housing part.



Pneumatically operated material forward pressure regulator

P200-VP Part-No. 15010 202000-ECO

P200-VP FFKM Part-No. 15010 20200F-ECO

Pos.	Amount	Description	Part-Number
1	6	screw	90711 008045
2*#	1	o-ring	
3+	1	ball TC ~	
3+	1	ball ceramic ~	
4+	1	ball thrust	
5	1	lid	15010 202051
6*#	1	diaphragm	
7	1	diaphragm plate	15010 202071
8+	1	lock ring	
9*#	1	o-ring	
10*#	1	o-ring	
11*#	1	o-ring	
12+	1	spring	
13	1	retaining ring	15010 100231
14+	1	valve seat	
15+	1	valve tappet	
16	1	packing housing	15010 202161
17	1	lower housing	15010 202171
18	1	screw	15010 100251
19	1	pressure ring	15010 100211
20*#	1	v-packing set	

~ Dependent on the ordered service kit **TC** or **ceramic**!

Available service kits for material pressure regulator:

Sealing Kit includes marked * items **Part-No.: 20006 202001**

Sealing Kit FFKM includes marked # items **Part-No.: 20006 20200F**

Service Kit TC wear parts includes marked + items **Part-No.: 20016 202001**

Service Kit ceramic wear parts includes marked + items **Part-No.: 20016 202002**

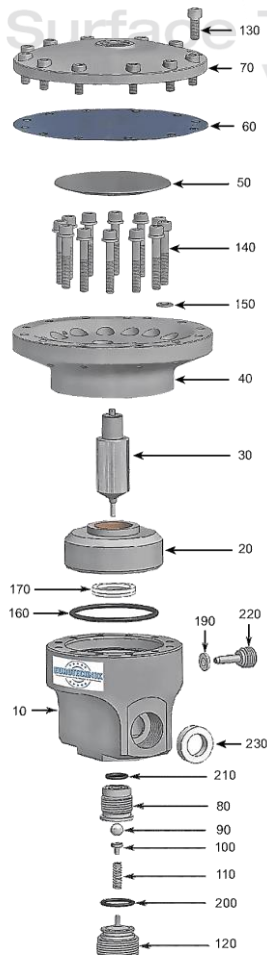
Service Kit TC includes marked * and + items **Part-No.: 20026 202001**

Service Kit TC FFKM includes marked * and + items **Part-No.: 20026 20200F**

Service Kit ceramic includes marked * and + items **Part-No.: 20026 202002**

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Pneumatically operated material forward pressure regulator

P320-VP Part-No. 15010 322000-ECO

P320-VP FFKM Part-No. 15010 32200F-ECO

Pos.	Amount	Description	Part-Number
10	1	valve housing	15010 062010
20	1	packing housing	15010 062020
30+	1	valve tappet	
40	1	diaphragm housing	15010 322040
50	1	diaphragm plate	15010 322050
60*#	1	diaphragm	
70	1	lid	15010 322070
80+	1	hollow screw	
90+	1	ball TC ~	
90+	1	ball ceramic ~	
100+	1	ball thrust	
110+	1	spring	
120	1	locking screw	15010 062120
130	12	cylinder screw	90711 006016
140	12	cylinder screw	90711 006040
150	12	washer	90711 906012
160*#	1	o-ring	
170*#	1	groove ring	
190*#	1	sealing ring	
200*#	1	o-ring	
210*#	1	o-ring	
220	1	locking screw	15010 062220
230*#	2	sealing ring	

~ Dependent on the ordered service kit **TC** or **ceramic**!

Available service kits for material pressure regulator:

Sealing Kit includes marked * items **Part-No.: 20006 322001**

Sealing Kit FFKM includes marked # items **Part-No.: 20006 32200F**

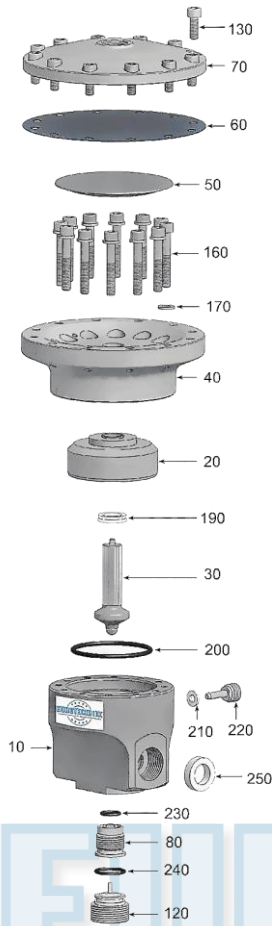
Service Kit TC wear parts includes marked + items **Part-No.: 20016 062001**

Service Kit ceramic wear parts includes marked + items **Part-No.: 20016 062002**

Service Kit TC includes marked * and + items **Part-No.: 20026 322001**

Service Kit TC FFKM includes marked * and + items **Part-No.: 20026 32200F**

Service Kit ceramic includes marked * and + items **Part-No.: 20026 322002**



Pneumatically operated material back pressure regulator

P360-RP Part-No. 15010 363000-ECO

P360-RP FFKM Part-No. 15010 36300F-ECO

Pos.	Amount	Description	Part-Number
10	1	valve housing	15010 062010
20	1	packing housing	15010 363020
30+	1	valve tappet	
40	1	diaphragm housing	15010 062040
50	1	diaphragm plate	15010 062050
60*#	1	diaphragm	
70	1	lid	15010 062070
80+	1	hollow screw	
120	1	allen screw	15010 062120
130	12	cylinder screw	90711 006016
160	12	cylinder screw	90711 006040
170	12	washer	90711 906012
190*#	1	groove ring	
200*#	1	o-ring	
210*#	1	sealing ring	
220	1	locking screw	15010 062220
230*#	1	o-ring	
240*#	1	o-ring	
250*#	2	sealing ring	

Available service kits for material pressure regulator:

Sealing Kit includes marked * items **Part-No.: 20006 363001**

Sealing Kit FFKM includes marked # items **Part-No.: 20006 36300F**

Service Kit wear parts includes marked + items **Part-No.: 20016 363001**

Service Kit includes marked* and + items **Part-No.: 20026 363001**

Service Kit FFKM includes marked* and + items **Part-No.: 20026 36300F**

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10. Declaration of Incorporation:

L. R. Eurotechnik KG

Hohnshecker Weg 18 * D-53881 Euskirchen
Tel.: +49(0)2255/948520



EINBAUERKLÄRUNG Declaration of Incorporation

Im Sinne der Maschinenrichtlinie 2006/42/EG
According to Machinery Directive 2006/42/EC

Der Hersteller: L. R. Eurotechnik KG,
The manufacturer: D-53881 Euskirchen, Germany

erklärt hiermit, daß folgendes Produkt: / herewith declares, that the following product:

Produktbezeichnung: Niederdruck – Materialdruckregler: / Low pressure material pressure regulator:
Product description: - P20-RM

Hochdruck – Materialdruckregler: / High pressure material pressure regulator:
- 270-VM, - P270-RM, - P320-VP, - P360-RP

Artikelnummer: N26120092, N26070028, N26170010, N26070027, N26170009

Typenbezeichnung: Mechanisch / Pneumatisch
Type reference: Mechanical / Pneumatic

Seriennummer: siehe Typenschild
Serial number: see type plate

Baujahr: siehe Typenschild
Construction year: see type plate

ATEX Klassifizierung: EX II 2 GD EX h IIC T6 Gb

Hiermit erklären wir, daß das oben genannte Produkt eine unvollständige Maschine im Sinne der EG-Maschinenrichtlinie 2006/42/EG ist.

We herewith declare that the following product is an incomplete machine according to According to Machinery Directive 2006/42/EC.

Die speziellen technischen Unterlagen gemäß Anhang VII Teil B wurden erstellt. Der Bevollmächtigte für das Zusammenstellen der technischen Unterlagen verpflichtet sich, die Unterlagen auf begründetes Verlangen an die einzelstaatlichen Stellen zu übermitteln. Die Übermittlung erfolgt postalisch in Papierform oder als PDF-Datei per E-Mail.

The technical documentation according to Appendix VII part B has been established. The commissioner for the assortment of these technical documents is under obligation to communicate these documents to the national authority upon substantiated demand. The transfer can happen as a printed version by mail or as a PDF-file by e-mail.

Folgende harmonisierte Normen wurden angewandt: / The following harmonized standards have been applied:

DIN EN ISO 12100:2011 Sicherheit von Maschinen - Allgemeine Gestaltungsleitsätze - Risikobeurteilung und Risikominderung / Safety of machinery - General principles of design - Risk assessment and risk reduction

DIN EN ISO 4414:2011 Fluidtechnik - Allgemeine Regeln und sicherheitstechnische Anforderungen an Pneumatikanlagen und deren Bauteile / Pneumatic fluid power - General rules and safety requirements for systems and their components

DIN EN ISO 80079-36:2016-12 Explosionsfähige Atmosphären - Teil 36: Nicht-elektrische Geräte für den Einsatz in explosionsfähigen Atmosphären - Grundlagen und Anforderungen (ISO 80079-36:2016) / Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres - Basic method and requirements (ISO 80079-36:2016)

DIN EN 12621 Förder- und Umlaufanlagen für Beschichtungsstoffe unter Druck - Sicherheitsanforderungen; Deutsche Fassung EN 12621:2006+A1:2010 / Machinery for the supply and circulation of coating materials under pressure - Safety requirements; German version EN 12621:2006+A1:2010

Die Inbetriebnahme ist so lange untersagt, bis festgestellt wurde, dass - soweit zutreffend - die Maschine, in die die o. a. unvollständige Maschine eingebaut werden soll, den Bestimmungen der Maschinenrichtlinie 2006/42/EG entspricht. / Startup operations is prohibited until the declaration (if applicable) according to machinery directive 2006/42/EC for the complete machinery (where this machine shall be implemented) is established.



Lena Radtke

Geschäftsführerin / managing director

Euskirchen, den 27.10.2021