OPERATING INSTRUCTIONS & SPARE PARTS LIST

DIAPHRAGM PUMP MP-520

ORDER-NO. ■ 6550-200-0216 ■ 6560-200-0330

DOK-397-GB Rev.: 2

Krautzberger

CE DECLARATION OF CONFORMITY

in acc. with annex IIA of the EC Machine Directive 98/37/EC

Krautzberger

Krautzberger GmbH
Stockbornstrasse 13
65343 Eltville am Rhein

WE HEREBY DECLARE THAT THE FOLLOWING PRODUCT:

Description: Diaphragm pump MP 520
Unit no.: ■ 200-0216 ■ 200-0330
Function: Compressed air drivenpump for painting and coating applications

COMPLIES WITH THE FOLLOWING PROVISIONS IN ITS DELIVERED VERSION

EC Machine Directive 98/37/EC

THE FOLLOWING HARMONISED EU STANDARDS WERE APPLIED:

■ DIN EN 292 1/2 ■ DIN EN 12639 ■ DIN EN 809
■ DIN EN 1050

THE FOLLOWING NATIONAL STANDARDS WERE APPLIED:

■ DIN 24289 1/2 ■ DIN 24299 1/2

Date: 20.06.2005

Signature
Details of signatory: Head of design M. Stoffels

CE DECLARATION OF CONFORMITY

in acc. with Annex X of the EC Directive 94/9 (ATEX 100a)

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■ EG – Richtlinie 94/9 EG (ATEX)

THE FOLLOWING HARMONISED EU STANDARDS WERE APPLIED:

■ DIN EN 1127-1 (10-1997)
■ DIN EN 13463-1 (04-2002)

THE UNIT BEARS THE FOLLOWING ADDITIONAL MARKING:

Ex II 2 G c

Notified body: 0637 IBExU, Archive number: 287/07
Date / Signature: 31.10.2007, i.A.

Details of signatory: Head of design M. Stoffels

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Content

INTENDED PURPOSE

The diaphragm pump MP-520 is a compressed air-driven pump with 2 diaphragms and is used exclusively for the:

- conveying of material from pressureless storage containers
- supply of material to spray guns. automatic spray guns, metering devices and similar

It is mainly used for painting and coating operations.

Diaphragms are made of NBR or NBR-PTFE. Valve balls are made of tungsten carbide, polyurethan or stainless steel. Valve seats are made of tungsten carbide or stainless steel.

Material conveying properties

Material	Suitability
Paints (containing solvents)	good
Water-based paints, dispersion paints, wood preservative	good
Water	good
Oils, fuel oil, diesel oil	good
Emulsions, soaps, detergents	good
Alcohol, glazing agents, latex	with qualifications
Lime slurry	with qualifications
Cellulose and fibrous materials	unsuitable
Paste Sludge, mash, paste	unsuitable

In case of doubt, ask about the suitability of non listed materials. In special cases, we conduct trials to determine suitability.

GENERAL SAFETY NOTES

⚠ DIAPHRAGM PUMPS MAY ONLY BE OPERATED IN LINE WITH THE PARAMETERS (PRESSURE, TEMPERATURE ETC.) LISTED UNDER "TECHNICAL DATA"!

⚠ THE COMPATIBILITY OF THE PUMP MATERIALS WITH THE COATING SUBSTANCES USED MUST BE CHECKED BY THE OPERATOR. FOR THIS PURPOSE, PLEASE REFER TO THE SAFETY DATA SHEET OF THE MANUFACTURER OF THE COATING SUBSTANCE!

⚠ ALL WORK CONNECTED WITH INSTALLATION AND MAINTENANCE MUST BE PERFORMED BY SUITABLY QUALIFIED PERSONNEL. USE ONLY GENUINE PARTS WHEN REPLACING PARTS!

⚠ EACH TIME BEFORE YOU START WORKING, CHECK THE MATERIAL AND COMPRESSED AIR CONNECTIONS FOR FIRM SEAT AND DAMAGE! LOOSE, PRESSURISED HOSES MAY CAUSE ACCIDENTS DUE TO WHIPLASH-LIKE MOVEMENT AND THE DISCHARGE OF FLUIDS.

⚠ DO NOT POINT COMPRESSED AIR AT PERSONS OR ANIMALS!

⚠ HIGHLY ABRASIVE, CHEMICALLY AGGRESSIVE, EXTREMELY HOT OR EXTREMELY COLD MATERI-

ALS MAY ONLY BE USED IN CONSULTATION WITH KRAUTZBERGER GMBH!

UNDER NO-LOAD CONDITIONS THE PUMP MUST ONLY BE OPERATED FOR A SHORT TIME AND AT A SLOW RUNNING LEVEL < 4BAR).

Important when using with hazardous substances:

ALWAYS COMPLY WITH THE STIPULATIONS IN THE SAFETY DATA SHEET OF THE MANUFACTURER OF THE COATING SUBSTANCE. IN PARTICULAR, BE SURE TO OBSERVE INFORMATION:

- ON WEARING PERSONAL SAFETY EQUIPMENT
- THE AVOIDANCE OF HARMFUL OR EXPLOSIVE ENVIRONMENTS

ELECTROSTATIC CHARGES DURING OPERATION OF THE PUMP CAN LEAD TO ELECTRIC SHOCKS AND SPARK FORMATION. THE PUMP MUST THEREFORE BE EARTHED! ALSO EARTH AIR PIPES, OPERATING EQUIPMENT AND ELECTRICALLY CONDUCTIVE SURFACES IN THE WORKING ZONE. WHEN THE PUMP IS USED IN POTENTIALLY EXPLOSIVE AREAS, THE AIR AND COATING MATERIAL LINES MUST –BE ELECTRICALLY CONDUCTIVE (<1 MEGAOHM) AND MUST BE EARTHED .

ROOMS IN WHICH HAZARDOUS SUBSTANCES ARE STORED OR PROCESSED MUST HAVE ADEQUATE VENTILATION. IT MAY BE NECESSARY TO INSTALL A VENTILATION SYSTEM. IF THE VENTILATION SYSTEM FAILS, WORK MUST BE STOPPED IMMEDIATELY! ALWAYS COMPLY WITH THE RELEVANT NATIONAL AND REGIONAL REGULATIONS.

DO NOT STORE ANY FLAMMABLE SUBSTANCES, EMPTY COATING SUBSTANCE CONTAINERS OR OTHER MATERIALS THAT HAVE BEEN IN CONTACT WITH THE COATING SUBSTANCE (PAPER, CLOTHS ETC.) WITHIN OR IN THE WORKING ZONE.

DO NOT USE HALOGENATED DETERGENTS. CHEMICAL REACTIONS MAY CAUSE EXPLOSIVE AND CAUSTIC COMPOUNDS!

IN THE WORKING ZONE, AVOID OPEN FLAMES AND RED-HOT COMPONENTS AS WELL AS EQUIPMENT, TOOLS AND PARTS THAT CAN CREATE SPARKS. HANG UP "NO SMOKING" SIGNS IN A 5 METRE RADIUS OF THE WORKING ZONE. HAVE A FIRE EXTINGUISHER READY IF NECESSARY!

COMPLY WITH ALL NATIONAL AND REGIONAL WATER PROTECTION REGULATIONS! COMPLY WITH ALL NATIONAL AND REGIONAL WASTE DISPOSAL REGULATIONS!

BASICS OF OPERATION

The pump consists of the diaphragm hosing, the compressed air controller, material suction and pressure connection, compressed air connection and air regulator,

The material pressure desired at the extraction point can be adjusted steplessly via the air regulator.

As soon as the set material pressure is reached, the pump switches off automatically.

The material pressure is maintained until material is extracted at the extraction point. The pump switches on automatically and keeps the set material pressure constant.

ASSEMBLY

(Pic. 1-2)

Mount the pump vertically (material inlet at bottom!) on a wall or a suitable supporting structure.

- connect the suction hose at port (E)
- connect the pressure hose at port (A, B or H)
- connect the compressed air supply on port (C)
- connect the earting device (bracket D)

The compressed air supply must be dry, oil-free and protected using an safety valve. (quality demand 5 , ISO 8573-1)

Check the firm seat of all connections!

STARTUP

Ensure, that:

- an air pressure of 4-8bar is present at the compressed air connection
- the material suction hose is immersed in the material

The first time the unit is started up, there is air in the pump and in the supply line. You should therefore set a low air inlet pressure on the air regulator at the start. Activate the extraction point until material discharged.

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After performing venting using the air regulator, set the desired material pressure.

CLEANING

COMPLY WITH THE SAFETY INSTRUCTIONS OF THE DETERGENT MANUFACTURER. DETERGENTS MAY BE HARMFUL TO YOUR HEALTH AND BE EASILY FLAMMABLE!

Thoroughly clean the pump after use.

Immerse the material suction hose in a suitable detergent.

Rinse the pump through by activating the extraction point.

To ensure that material residues do not harden, you should leave the detergent in the pump until the next time it is used.

SUSPENSION OF WORK

Clean the pump as described above

- close the air regulation wheel by turning counter clockwise
- Interrupt the compressed air feed at a suitable point in your system
- Dissipate any remaining material pressure by activating the material extraction point

REGULAR CHECKS

DURING ALL INSPECTION AND MAINTENANCE WORK:

BEFORE OPENING THE PUMP -

- RINSE THE PUMP WITH DETERGENT
- SHUT OFF COMPRESSED AIR SUPPLY
- DISSIPATE MATERIAL PRESSURE BY ACTIVATING THE EXTRACTION POINT

Diaphragms and gaskets

Diaphragms and gaskets are subject to material fatigue and natural wear. We recommend regular safety checks and replacement of diaphragms and gaskets. Always change all diaphragms and gaskets.

Hoses and pipelines

Even when handled correctly, the lifespan of hoses and pipelines is always affected by environmental factors. As a precautionary measure, all hoses and pipelines should be regularly replaced (at intervals depending on the load to which they are subjected).

DISPOSAL

Clean the pump if necessary to ensure that no residues of toxic, flammable or explosive material remain in the housing.

After dismantling the pump:

Dispose of the individual components through the appropriate recycling channels.

Comply with the regulations of the local waste disposal authorities.

Replacement of valve parts (pic. 3)

- unscrew hexagonal screws 3
- remove parts 7-12
- replace wearing parts 7, 9, 10, 11 and 12

Re-assemble in reverse order

Replace diaphragms (pic. 4)

- unscrew hexagonal screws 17
- remove diaphragm cap 19
- remove the diaphragm 20 by turning to the left and replace

Re-assemble in reverse order

Replace regulator, control unit (pic. 5)

- unscrew screws 22
- take out cover panel 32
- unscrew screws 24
- remove control unit and regulator 28

Re-assemble in reverse order

TECHNICAL DATA

MP-520

Conveying capacity (based on water): 15l/min

material connection (outlet) .....G ¾" AG

maximum temperature coating substance 0°C...+50°C

Max. pressure capacity:.....8 bar

Max. admissible operating pressure .....8 bar

Compressed air feed ...4-8bar, non-lubricated, filtered

compressed air connection .....Hose nozzle NW 8/9

air pressure:.....4 to 8 bar

Transmission ratio.....1:1

maximum strokes (double strokes):.....120 DH/min

recommended strokes (double strokes):....100 DH/min

Weight :.....ca. 9,0Kg

Dimensions:.....ca.365x206x190mm

Sound pressure level:.....80dB(A)

(8,0bar air pressure, 100 double strokes)

ACCESSORIES

- surge tank with pressure gauge for constant pressure during material extraction and for indicitation of the material pressure
- pressure pipe with gauge
- several suction devices
- fluid strainer with drain valve
- precission pressure regulator
- pneumatic driven lifting device
- pump stand for mobile use
- wall brackets
- stand
- container lids
- drain valve
- double stroke counter for determination of maintenance intervals

DEFECT	CAUSE	REMEDY
Air in the pressure hose	Loose / Leaky suction line	Check / Tighten
Air in the pressure hose	Gasket (2) defective	Replace
	Diaphragm (20) defective	Replace
	Foreign body sucked in	Check valve parts 7-12
Uneven action of pump	Air is sucked in	Check suction device
	Suction line blocked	Check / Clean
	soiled / leaking valve balls / vlave seat (9-11)	Clean / Replace
	No working air	Switch on and/or check compressed air supply, open air regulation valve
Pump does not start	Pressure regulator defective	Replace pressure regulator
	Suction filter soiled or suction hose bent	Clean suction filter / Check suction hose
Pump works but does not build upany pressure or suction power	Suction device leaky, air is sucked in	Check gasket
	Valve parts soiled	Clean valve parts
	Valve parts (9-11) worn out	Replace valve seat / valve ball
	Seals (2, 7, 10, 12) worn out	Replace
	Diaphragms (20) worn out	Replace
Different running noise		
Please contact our service department for assistance with other queries / problems		

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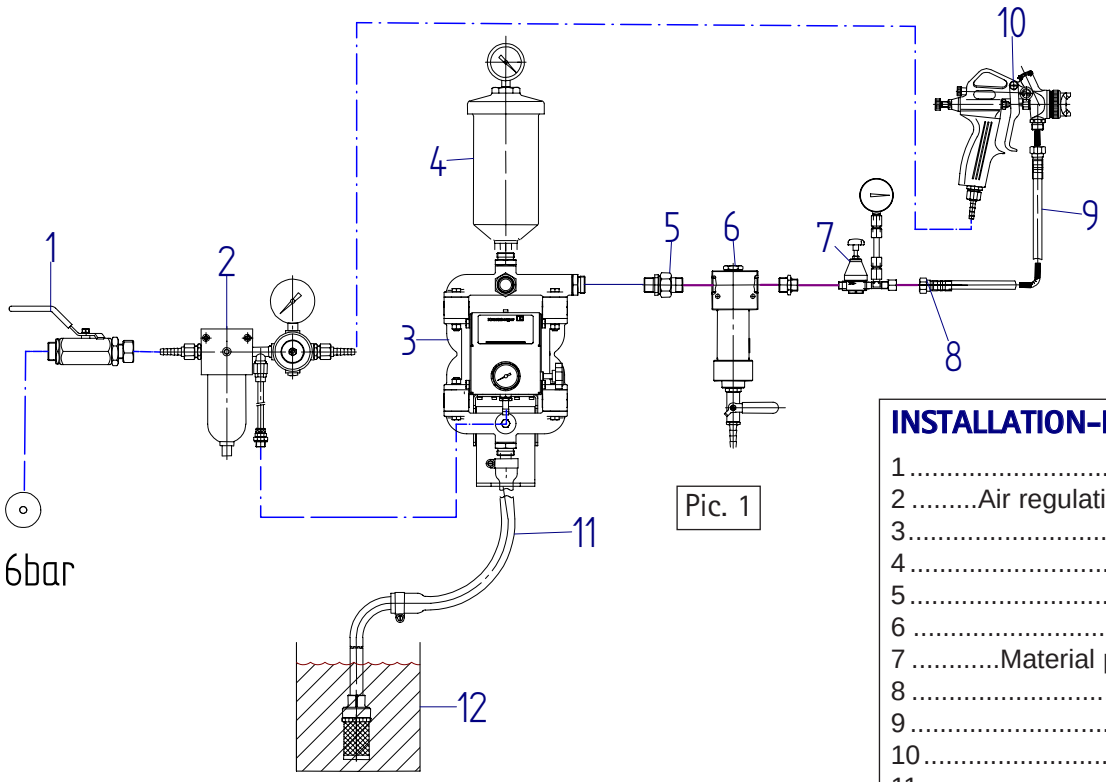
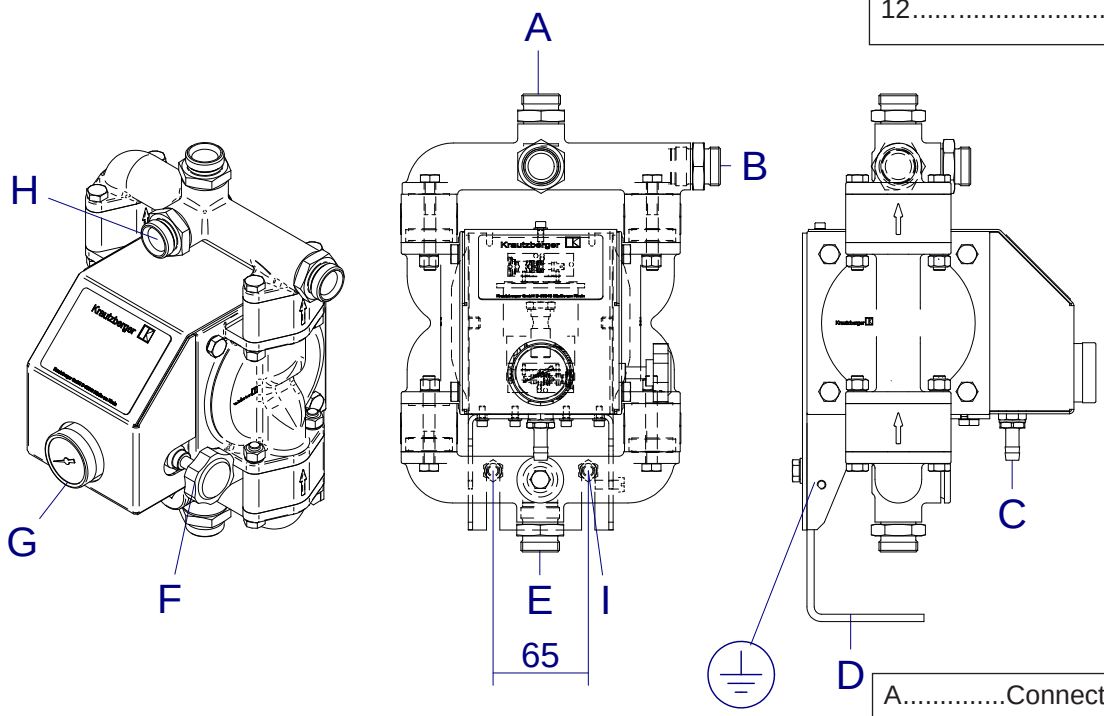


Pic. 1

INSTALLATION-PLAN

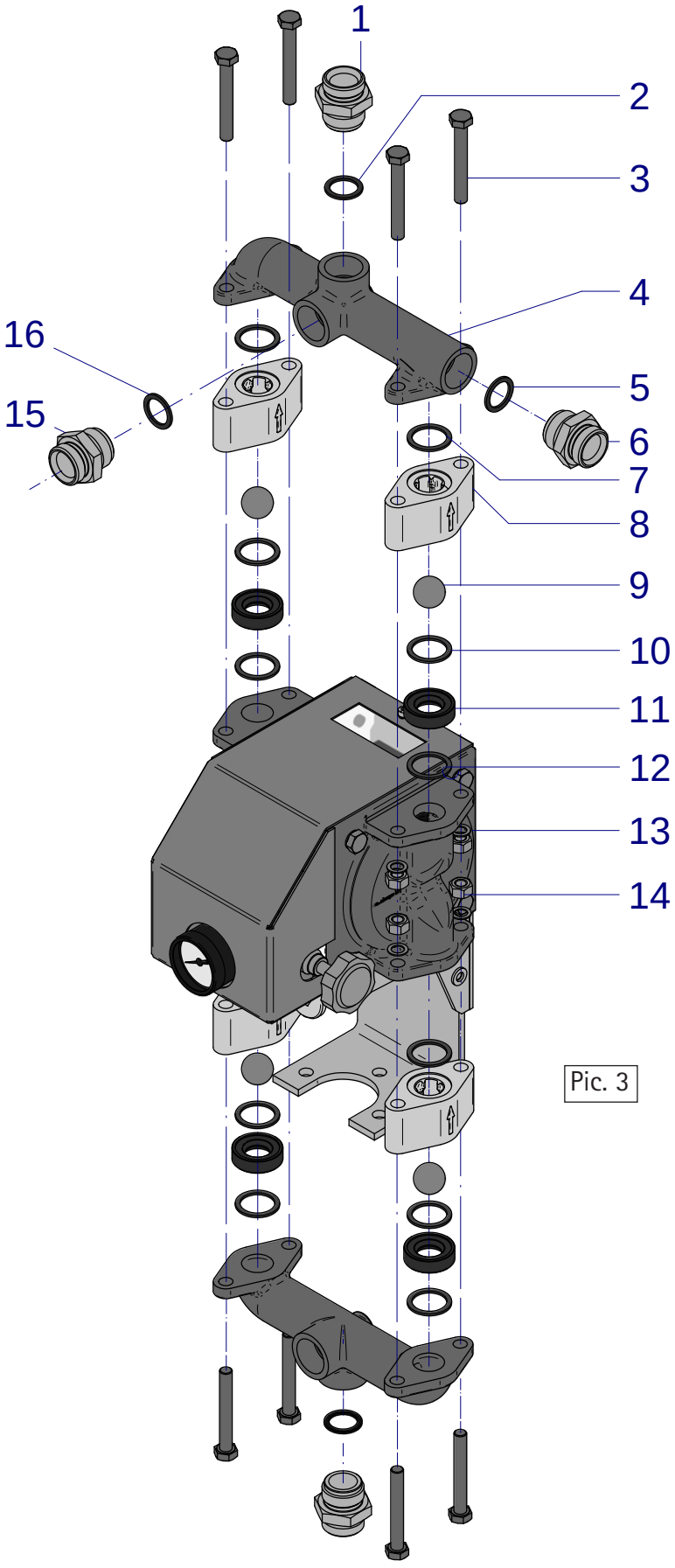
1 .....Ball cock
2 .....Air regulating valve with filter
3.....Diaphragm pump
4 .....Surge tank
5 .....Screw connection
6 .....Filter
7 .....Material pressure regulator
8 .....Reduction
9 .....Hose
10.....Consumer
11.....Suction hose
12.....Container



Pic. 2

A.....Connection for surge tank
B, H .....Pressure connection
C.....Compressed air connection
D.....Bracket
E .....Connection suction hose
F.....Air regulator
G .....Pressure gauges
I .....Boreholes

ASSEMBLY



Pic. 3

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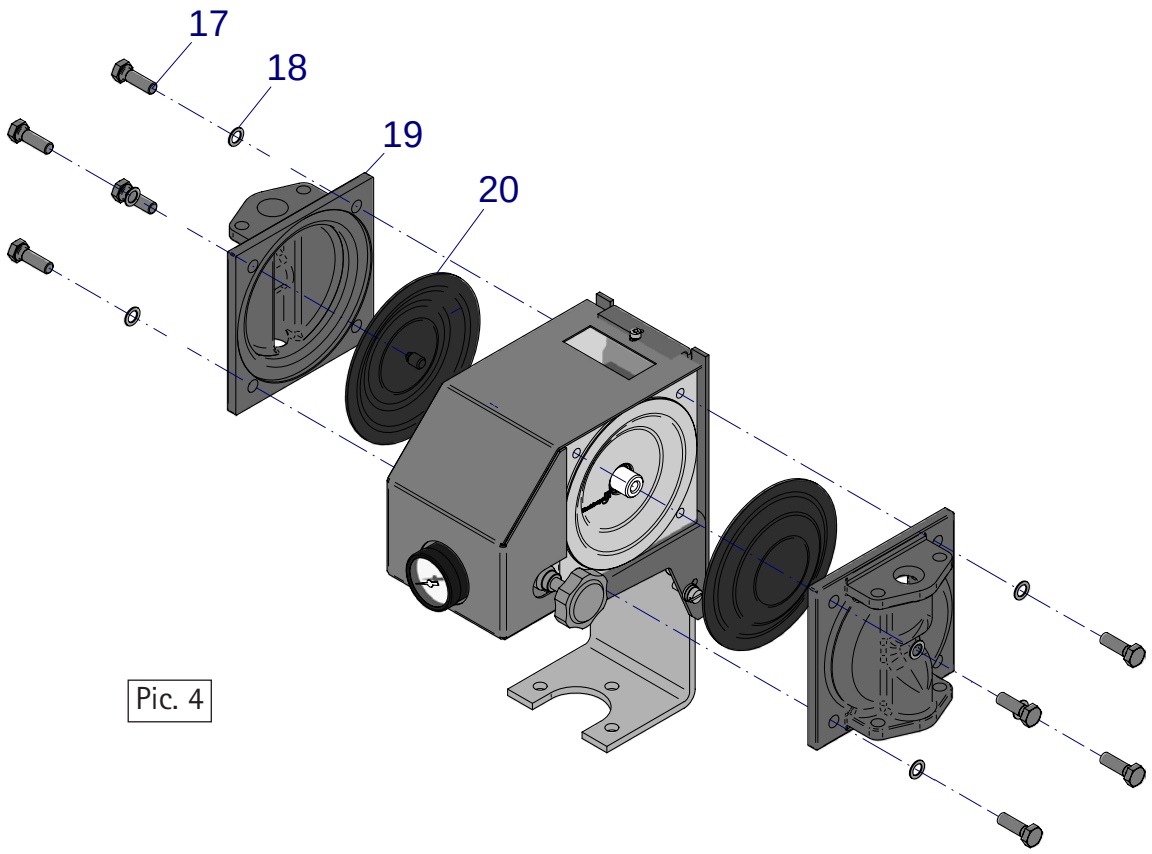
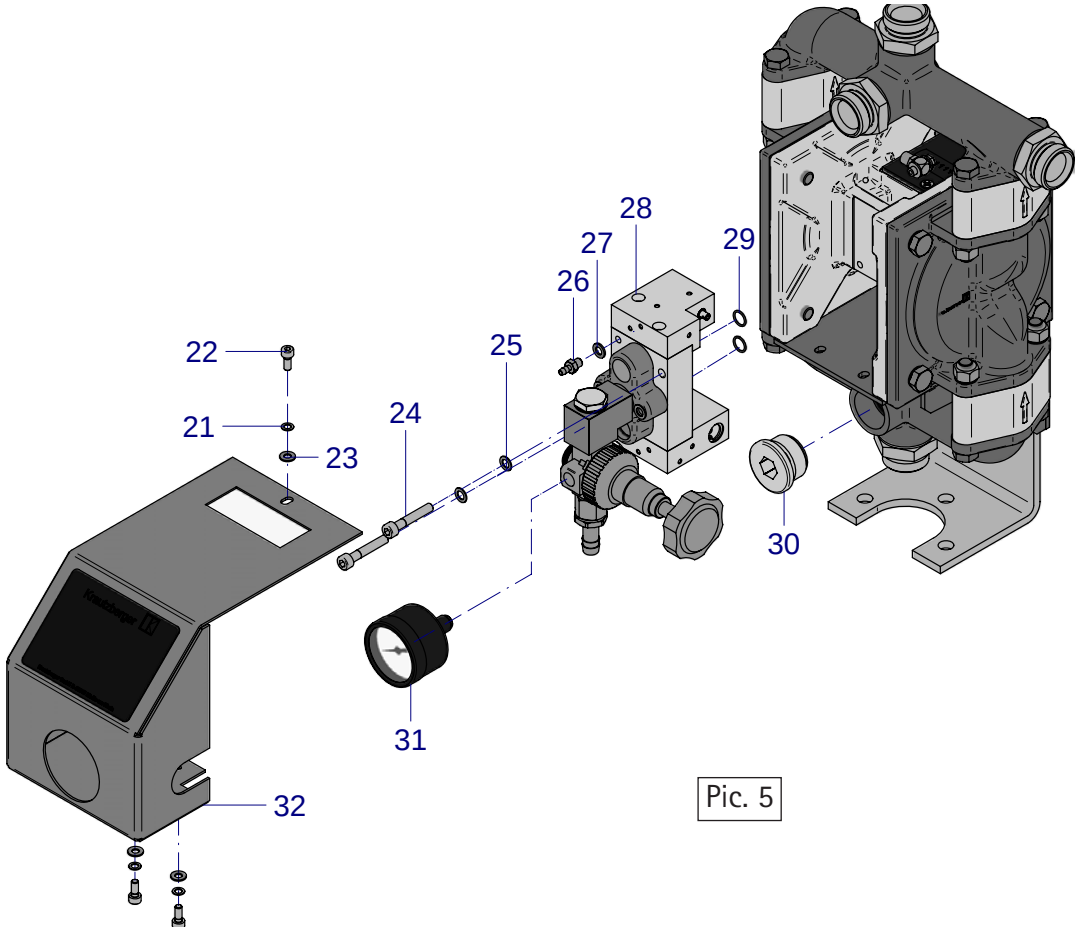


Pic. 4



Pic. 5

SPARE PARTS

Item	Description	Article no.
1	Double nipple , VA (1.4305)	040-0966
	Double nipple , brass	040-0963
2	Flat gasket	◆010-0932
3	Hexagon bolt M8x60	030-5599
4	Pressure part, 2 connections	040-7116
	Pressure part, PTFE-coated version	040-9406
	pressure part, 3 connections	040-8438
	Pressure part, PTFE-coated version	040-9399
5	Flat gasket	◆010-0932
6	Double nipple	040-0966
7	Gasket	◆010-0929
8	Ball cage	040-7115
	Ball cage, PTFE-coated version	040-9400
9	Ball tungsten carbide	◆030-2754
	Ball stainless steel	◆030-2753
	Ball polyurethan	◆030-2752
10	Gasket	◆010-0929
11	Valve seat: tungsten carbide	040-7971
	Valve seat: stainless steel	040-7845
12	Gasket	◆010-0929
13	Circlip	030-0714
14	Hexagon nut	030-2917
15	Double nipple	040-0966
16	Flat gasket	010-0932
17	Screw M8x30	030-5237
18	Pulley	030-0714
19	Diaphragm cap	040-7114
	Diaphragm cap, PTFE-coated version	040-9401
20	Diaphragm: NBR	◆010-0451
	Diaphragm NBR-PTFE	◆010-0455
21	Pulley	030-1897
22	Cap screw	030-5601
23	Washer	030-4395
24	Cap screw	030-0565
25	Washer	030-0707
26	Hose nozzle	030-2207
27	Gasket, copper	010-0203
28	Regulator + controller	080-3835
29	O-ring	010-0506
30	Screw plug	040-8986
31	Pressure gauge	080-5997
32	Casing	040-8122
	Casing with viewing window	080-3874

Wearing parts ◆

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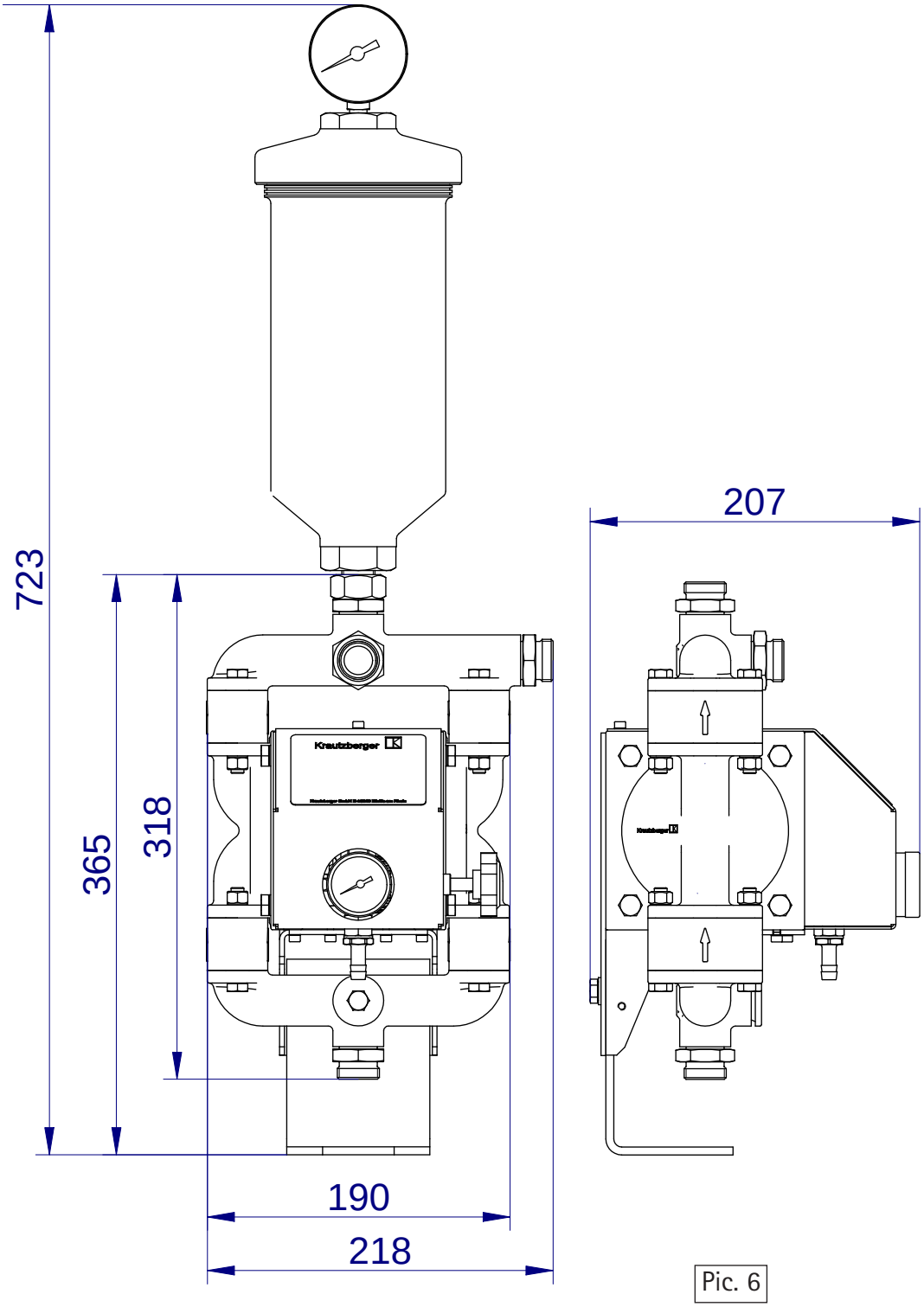
DIMENSIONS



Pic. 6