

Operating instructions and spare parts list

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Rev. 0

Designation "Airless" piston pump

Type 22-115

Order-No.: 7360-000

- keep for further use -

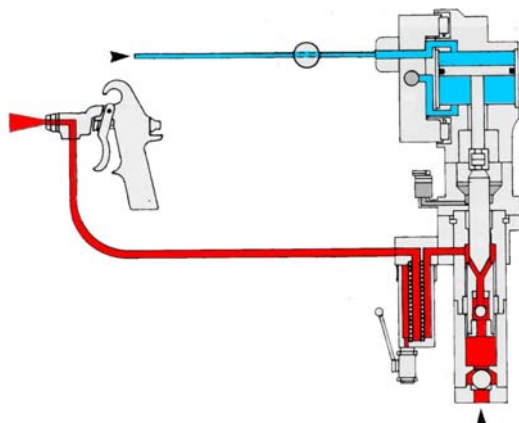
CE

Krautzberger 

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1 The Airless process



Atomization and agent application are brought about without the use of air, thus the term Airless. The agent is being atomized by squeezing it under an extremely high pressure through the small bore of the material nozzle. In the process the agent is disintegrated into individual particles.

The pressure required for the Krautzberger Airless process may attain up to **480bar** and is generated by compressed air operated positive-displacement piston pumps.

Advantages of the Airless spray

- upgrated spray performances
- instant surface coating due to a full and saturated homogeneous spray pattern and instant film formation
- reduced spray time
- increased material yield due to minimized spray fogs and low material rebound.
- fatigueless working brought about by a light and handy spray gun design equipped with only on material supply hose
- optimized atomisation even of high viscous materials

2 Method of operation of the positive-displacement pump

By means of an independently controlled air motor which is alternately applying pressure onto the motor piston, the recuperator piston of the pump is moved upwards and downwards.

Air motor and recuperator piston are interconnected via an coupling system.

Whilst moving upwards the suction valve is opened and the agent is sucked into the lower chamber of the hydraulic unit. Simultaneously the pressure valve located in the piston is being closed and the recuperator piston feeds the agent into the hydraulic unit.

The set spray pressure and the adopted nozzle size determine the stroke frequency, the air consumption. and thus the respective spray performance of the positive-displacement pump.

All agent conveying pump components consist of special steel 18/8

3 Mounting and installation



THE COMPRESSED AIR SUPPLY MUST BE DRY AND OIL-FREE !!!

The Airless pump is to be installed in such a way as to render it easily accessible for maintenance and cleaning purposes.

The pump holder is provided with an earthing screw to which the ground wire must be connected in order to ground the static charge generated by the agent flowing within the hose.

Connect the Airless pump only with a heavy duty compressed-air supply net: designed for a maximum compressed air consumption.

PRIOR TO START-UP, CLOSE THE PRESSURE REGULATOR OF THE AIRLESS PUMP BY COUNTER-CLOCKWISE TURNING THE HAND-WHEEL.

The piping supplying compressed air to the Airless-pump should have a nominal width of 9.

Furthermore we recommend to provide the compressed air supply net with an oil- and water separator in order to prevent foreign bodies from penetrating into both air motor and independently operating control system.

If need be a compressed air-oiler with deicing agent maybe installed between airless pump and oil/water separator.

Use only the original suction gear in order to ensure proper pump sucking.

Engage spray gun's safety catch and connect the material supply hose at the outlet of the high-pressure filter.

WHEN IT COMES TO MATERIAL SUPPLY HOSES WITH SAFETY CONDUCTOR IN ORDER TO PREVENT ELECTROSTATIC CHARGES FROM BEING GENERATED.

CAUTION:

With regard to operating the Airless pump we refer to the safety rules edited and published by the applicable employers liability insurance.

4 Start-up

- Entirely close pressure regulator at motor
- connect compressed air-hose (max. 6bar)
- in case the pump is provided with a material filter, (strongly recommended by us) a filter mesh matching the nozzle requirements must be used. See table
- Fill rinsing agent into the rinsing chamber, until the sight glass shows a 70% fillin level
- Slowly open pressure regulator until air motor starts working.
- Rinse the Airless pump by means of the rinsing agent in order to get the preservatives out of the pump
- put the suction hose into the spray agent

- open spray gun in order to evacuate the air still contained in the system
- When the spray agent starts to emerging from the spray gun, close spray gun and set the required working pressure at the pressure regulator (max 6bar)

CAUTION!

PAY ATTENTION TO THE PRESSURE TRANSFORMATION RATIO!

Under no-load conditions the Airless-pump must only be operated for a short time and at a slow running level.

Otherwise motor, suction valve, piston valve and the pump sealing may be damaged.

CAUTION!

The spray jet emerging from the spray gun is dangerous. For this reason aim the spray gun only downwards.

5 Switching off

Switching-off

- Entirely close pressure regulator at motor
- disconnect spray gun and render the system pressureless.
- remove and clean the spray nozzle
- remove suction hose out of the spray agent and put it in a thinner
- slowly open pressure regulator whilst the spray gun is being opened, until the air motor starts working
- rinse spray gun and pump by means of a thinner. In the process make sure that the motor runs at a slow level only
- for rough cleaning of the filter during rinsing , shortly open the cock at filter

Maintenance

Daily check rinsing agent level during operation. Sight glass must show a 70% filling level.

In case the rinsing agent is contaminated by the spray agent, replace the rinsing agent. If, after a short time only, the rinsing agent should again be contaminated or should the rinsing agent level displayed by the sight glass increase, we recommend to replace the gasket set, item 22 and item 30.

By replacing these gasket sets, the recuperator piston prevented from being worn out prematurely.

We recommend to open the material filter at fixed intervals in order to clean the filter housing, mesh inclusive.

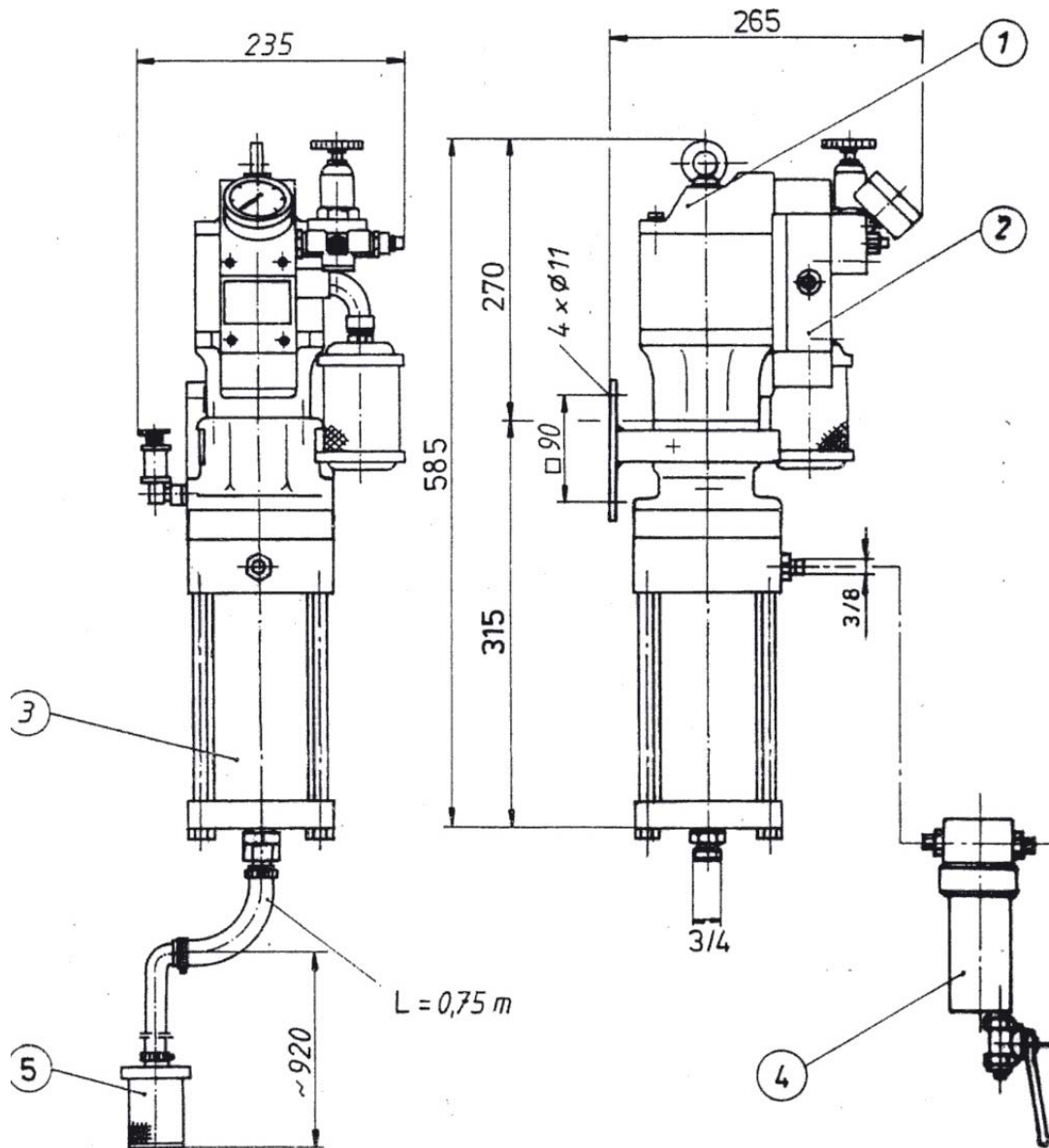
CAUTION!

Prior to opening material filter refer to instructions

7 Trouble shooting guide

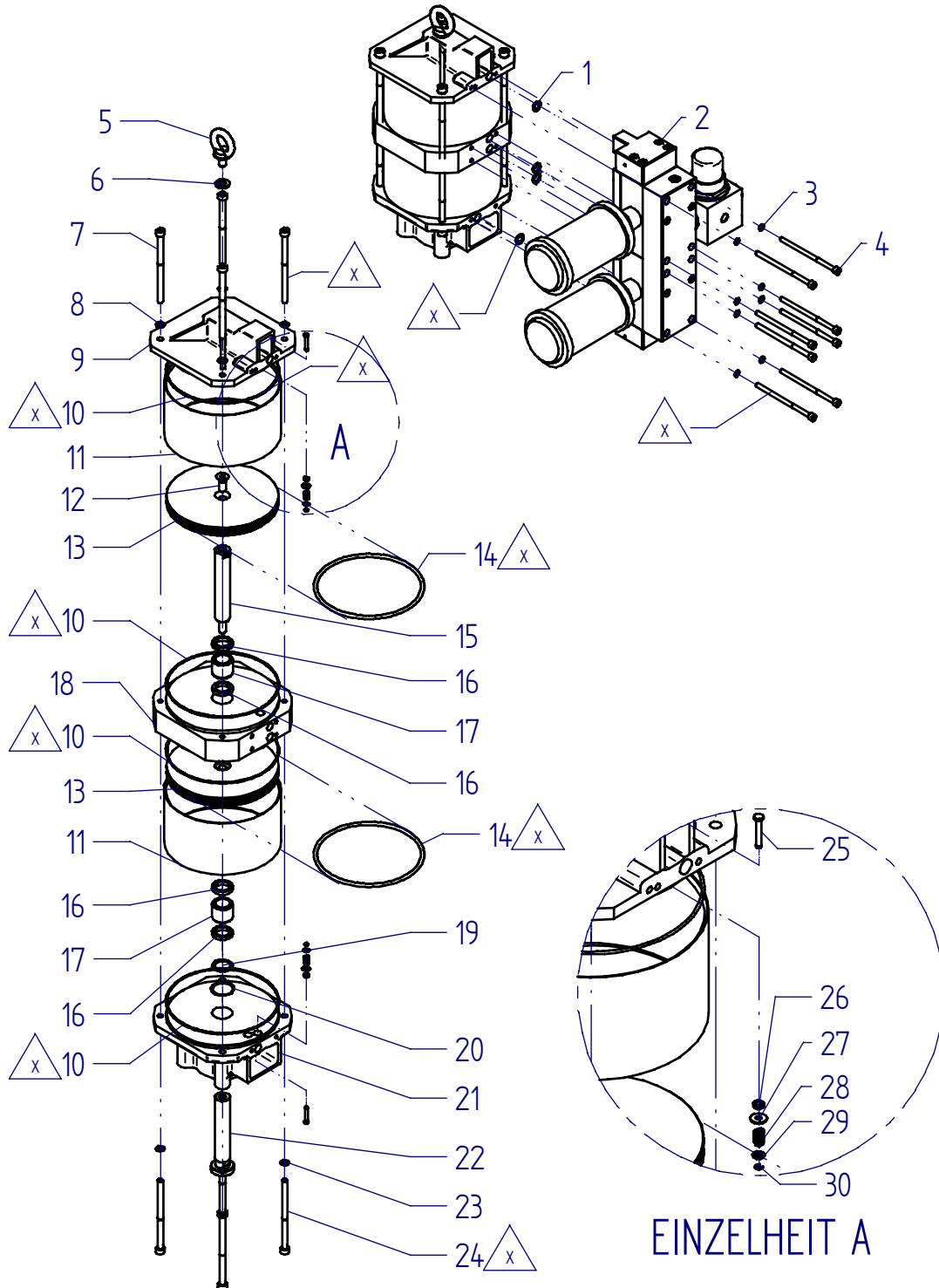
kind of mal- function	pump does not start or Stoppes run- ning durin operation	no or insuf- ficient pump sucking	spray pres- sure to low	uneven op- eration of pump	pump con- tinues run- ning even though spray gun is closed	pump feeds agent into rinsing chamber	iced control
origin of mal- function (unit)							
Drive	clean control and defective parts			clean control and defective parts			pump runs too fast
hydraulic unit		insufficient venting, leak- ing screwing between hy- draulic unit and suction gear		insufficient venting, leak- ing screwing between hy- draulic unit and suction gear			
suction gear		mesh basket obstructed		mesh basket obstructed			
high pressure filter	filter contaminated, check for passage and cleanliness						
high pressure material hose	choked hose, check for passage and cleanli- ness						
suc- tion/pressure valve		worn or blocked, replace defective parts					
sealing sets		leaking gaskets				upper gasket set leaking	
atomizer noz- zle	nozzle bore choked		excessive nozzle bore				excessive nozzle bore
pressure re- ducing valve	air pressure too low		air pressure too low				
compressed air piping	insufficient air quantity, air pressure too low		insufficient air quantity, air pressure too low				
spray agent		viscosity too high					

8 Units of the airless-pump 22-115



Item	designation	Order No.
1	motor, compl.	7360-090-1105
2	control unit, compl.	7360-080-0116
3	hydraulic system.	7360-080-1065
4	filter compl.	7261-080-0416
5	suction gear, compl. Ø 85mm	7261-080-0298
	suction gear, compl. Ø 40mm	7261-080-0288

9 Motor M 170-T

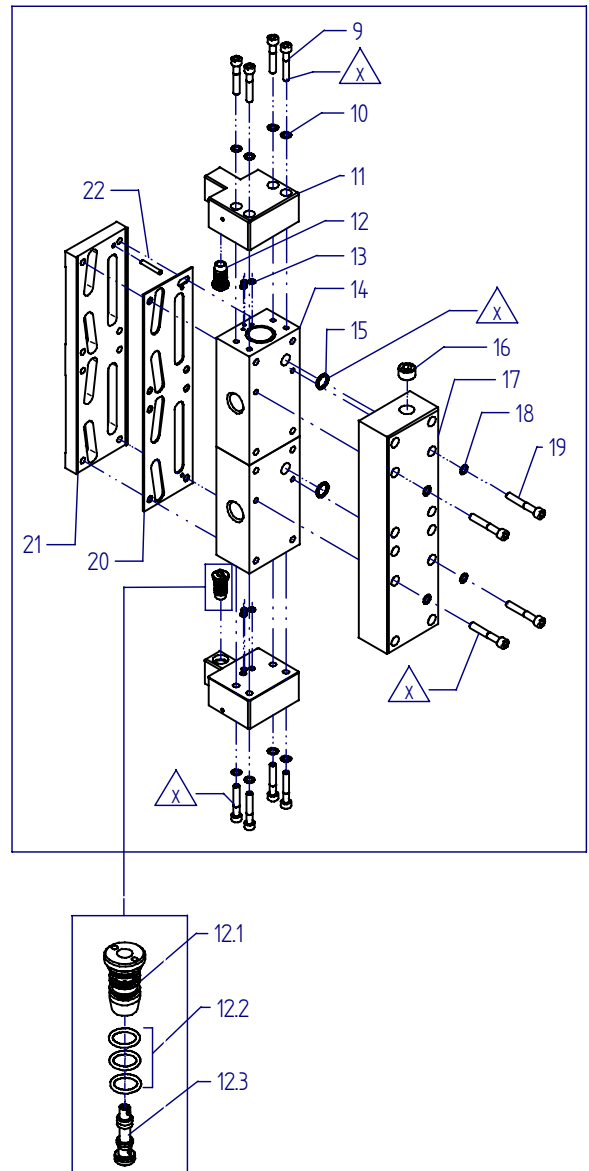
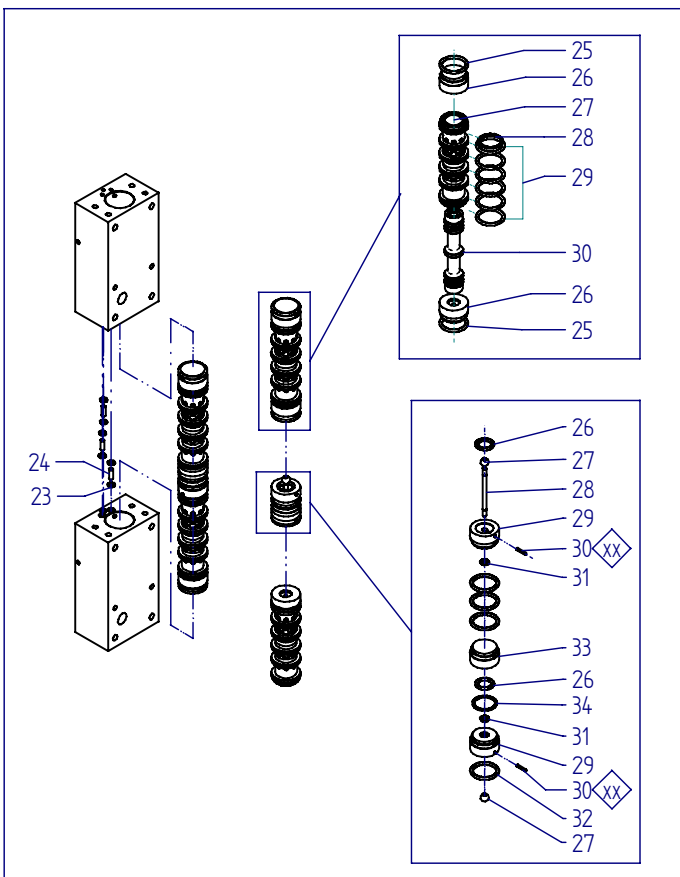
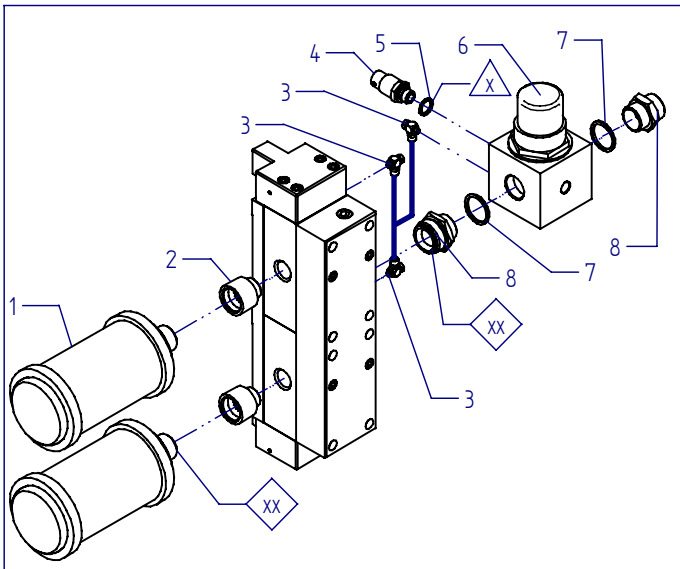


x = lightly grease parts

spare parts list motor 125

Item	Designation	Order.-no
1.	O-ring, NBR 70	010-0241
2.	Control unit cpl.	080-0116
3.	Circlip, VA	030-0706
4.	Screw M6x110	030-4848
5.	Ring bolt M10x17	030-0143
6.	Washer	030-2867
7.	Screw M8x120	030-0537
8.	Circlip, VA	030-0714
9.	Upper part motor	040-0026
10.	O-ring, NBR 70	010-0259
11.	Cylinder tube	040-0031
12.	Screw M10x25	030-0354
13.	Piston	040-0032
14.	O-ring, NBR 80	010-0258
15.	Piston rod	040-0029
16.	Slotted ring, NBR 90	010-0898
17.	Bearing bush	040-0041
18.	Floor part M-170T	040-0027
19.	washer motor	040-0042
20.	Circlip	030-0718
21.	Lower part motor	040-0028
22.	Piston rod motor	040-2006
23.	circlip, st.st.	030-0714
24.	Screw M8x120	030-0537
25.	Tapped rod	040-0034
26.	Slotted ring, NBR 90	010-0247
27.	Washer	030-2857
28.	Spring	020-0076
29.	Spring	030-2856
30.	Circlip	030-0719

10 Control unit

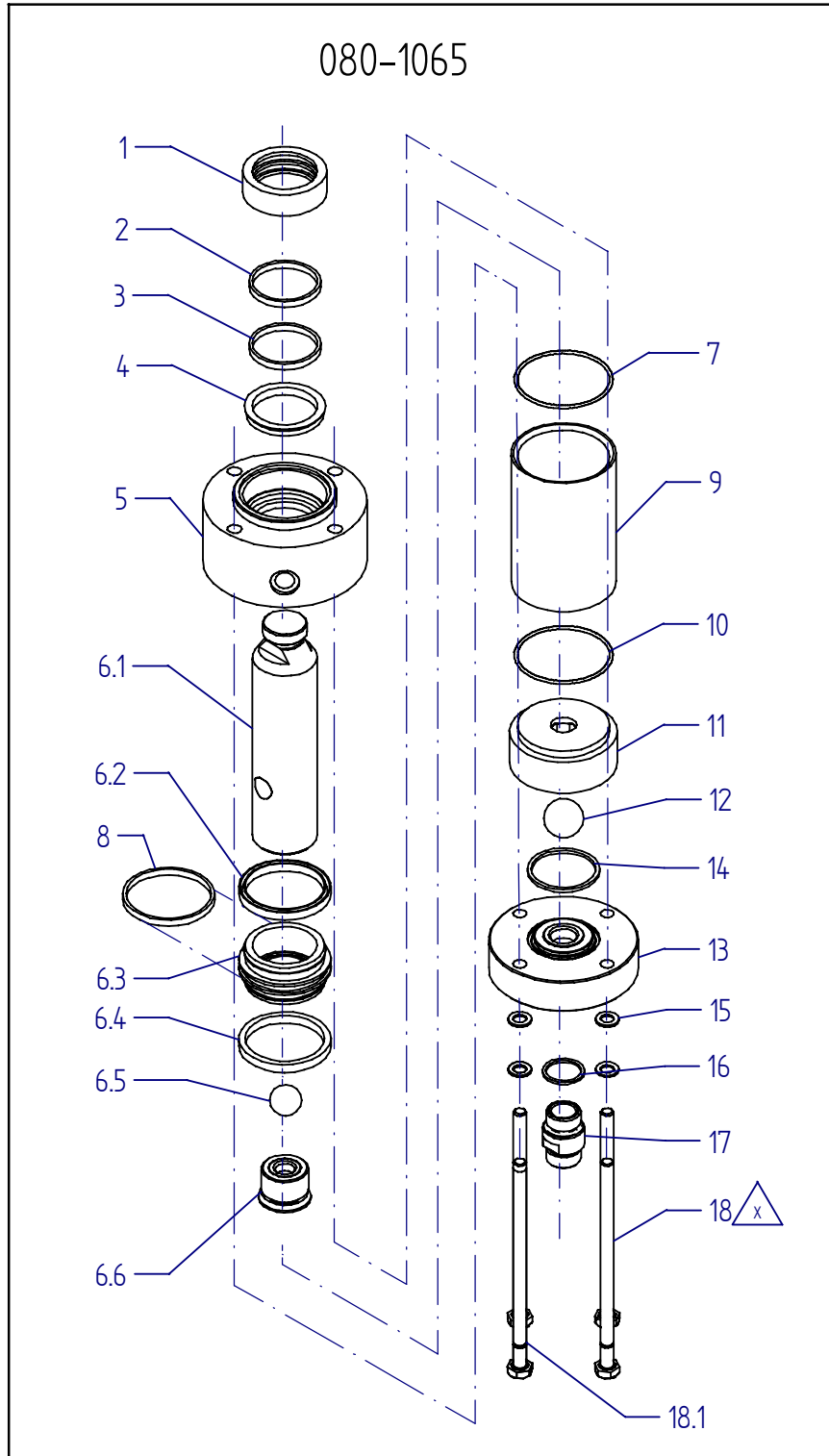


x = lightly grease parts

spare parts list control unit., 6bar

Item	Designation	Order-no.
1	Sound absorber	030-0711
2	Extension, IG3/4"-AG 1/2"	030-0708
3	Rapid screw connection, PK 3-5	080-0207
4	Mini-safety valve, 6,0bar	030-2838
5	Gasket, copper	010-0244*
6	Regulation valve, 0,5-10bar	030-0712
7	Gasket, copper	010-0288*
8	Double nipple, brass 2xG3/4"	030-2180
9	Screw, M6x35	030-0294
10	Washer, st.st. 1.4122	030-0706
11	Housing, valve	040-4618
12	Valve, cpl.	
12.1	Sleeve	040-3902
12.2	O-ring, EPDM	010-0188
12.3	Control bolt	010-0835
13	O-ring, NBR 70 Shore	010-0636
14	5/2 way-valve	080-3017
15	O-ring, NBR 70 Shore	010-0243
16	Sealing screw	030-0540
17	Connection motor 170T	040-0039
18	Circlip, VA 1.4122 für Schraube M6	030-0706
19	Screw M6x40	030-0613
20	Gasket, Perbunan 60	010-0346
21	Air distributor	040-0057
22	Split pin, st.st.	030-2720
23	O-ring, NBR 70 Shore	010-0311
24	Tube	030-1451
25	O-ring, NBR 70 Shore	010-0352
26	Spacer	040-3329
27	Inner part	030-4141
28	O-ring, NBR	010-0741
29	O-ring, NBR 70 Shore	010-0352
30	Pusher	030-3852
31	O-ring, NBR 70 Shore	010-0351
32	Ball, Al 2.0321	040-2123
33	Threaded pin, M4x57	040-2121
34	Closing piece	040-2124

11 Hydraulic system 22-115



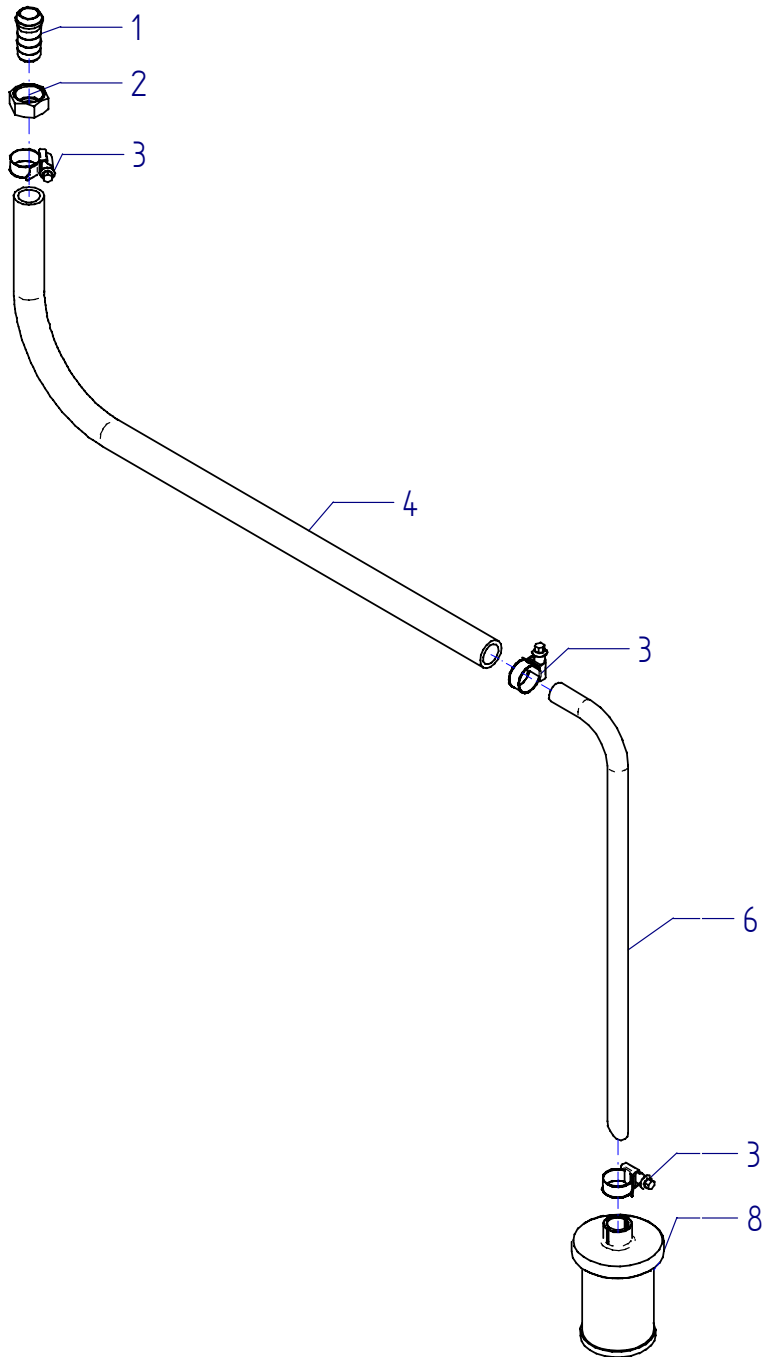
x = lightly grease parts

Spare parts list 080-1065

Item	Designation	Order-No.
1	Adapter	040-0024
2	Guide strap, 162mm	030-1884*
3	Guide strap, 162mm	030-1884*
4	Slotted ring, UHMW-PE	010-0374*
5	Upper part, pump	040-0011
6	Piston, cpl.	080-1064
6.1	Piston	040-0018
6.2	Slotted ring, UHMW-PE	010-0371*
6.3	Piston, lower part	040-0019
6.4	Slotted ring, UHMW-PE	010-0371*
6.5	Ball, VA	030-0700
6.6	Sealing screw	080-0119
7	O-ring, Viton	010-0373
8	Guide strap, 211cm	030-0703*
9	Hydraulic tube	040-0012
10	O-ring, Viton	010-0373
11	Pump, lower part	040-0013
12	Ball, VA	030-0701
13	Pump fastener, cpl.	080-0117
14	Gasket, UHMW-PE	010-0264*
15	Washer	030-2869
16	Gasket, copper	010-0288*
17	Double nipple, G3/4"AG	040-0025
18	Hexagonal screw, M-10x190 (3 pcs)	030-0652
18.1	Hexagonal screw, M-10x184,5 (1 pcs)	040-0056
*	Gasket set	010-0865

Item	Order-No.	Designation
1.	7100-030-0526	Sealing screw
2.	7100-040-0464	Transition piece
3.	7100-010-0264*	Gasket
4.	7100-030-1452	Nut
5.	7100-414	Mesh
6.	7100-030-0960	Stop cock
7.	7100-010-0260*	Gasket
8.	7100-040-0601	Connection nipple R ¼"
8.	7100-040-0061	Connection nipple R 3/8"
11.	7100-020-0056	Spring
12.	7100-040-0463	Filter housing
13.	7100-010-0244*	Gasket
14.	7100-040-0604	Fastener
15.	7100-030-0585	Screw
16.	7100-030-0714	Washer
17.	7100-030-2903	Hexagonal nut

13 spare parts drawing suction gear



spare parts list

Item	Designation	Order-No.
1	sleeve	040-1300
2	Screw cap	040-1246
3	Hose clip	030-1396
4	Suction hose	110-0005
6	Suction tube	040-0886
8	mesh dia. \varnothing 85 (standard)	080-0066
	mesh dia \varnothing 40	080-0014

EG-Konformitätserklärung CE Declaration of Conformity, Déclaration de conformité européenne, Declaración de conformidad CE

gemäß Anhang II A der EG – Maschinenrichtlinie 98/37/EG in acc. with Annex II A of the EC Machine Directive 98/37/EC, Selon la directive européenne 98/37/CEE, annexe II A, relative aux machines, según Anexo II A de la Directiva sobre maquinaria CE 98/37/EG



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HIERMIT ERKLÄREN WIR, DASS FOLGENDE PRODUKTE We hereby declare that the following product, garantissons que la version livrée des machines mentionnées ci-dessous, Por la presente declaramos que el siguiente producto

Bezeichnung Designation, Désignation, Denominación Kolbenpumpen 30-10, 9-20, 30-20, 60-20, 4-50, 15-50, 30-50, 60-50, 1-115, 5-115, 11-115, 22-115

Geräte-Nummer Unit no., N° de l'appareil, Núm. aparatos ■ 7110, ■ 7100, ■ 7120, ■ 7140 ■ 7200, ■ 7220, ■ 7240
■ 7260, ■ 7300, ■ 7320, ■ 7340 ■ 7360

Funktion Function, Fonction, Funcionamiento Druckluft betriebene Verdrängerkolbenpumpen zur Druckbeaufschlagung von flüssigen bis hochviskosen Medien Compressed air-driven pump for painting and coating applications, Pompe à commande pneumatique étudiée pour répondre aux besoins de la technologie de pulvérisation, Bomba accionada por aire comprimido para el sector de pintura y recubrimientos

IN DER GELIEFERTEN AUSFÜHRUNG FOLGENDEN BESTIMMUNGEN ENTSPRICHT complies with the following provisions in its delivered version:, satisfait aux exigences suivantes :, de la versión suministrada responde a las siguientes disposiciones:.

- **EG-Maschinenrichtlinie 98/37 EG** EC Machine Directive 98/37/EC, Directive européenne 98/37/CEE relative aux machines, Directiva sobre maquinaria CE 98/37/EG

FOLGENDE HARMONISIERTE EU-NORMEN WURDEN ANGEWENDET: The following harmonised EU standards were applied:, Les normes d'harmonisation européennes suivantes ont été appliquées :, Se han aplicado las siguientes normas UE armonizadas:

- DIN EN ISO 12100 Teil 1 und 2
- DIN EN 809
- DIN EN 12639
- DIN EN 1050

FOLGENDE NATIONALE NORMEN WURDEN ANGEWENDET The following national standards were applied:, Les normes nationales suivantes ont été appliquées :, Se han aplicado las siguientes normas nacionales:.

- DIN 24289 Teil 1 und 2
- DIN 24299 Teil 1 und 2

Datum / Unterschrift Date / Signature, Date/ signature, Fecha / Firma 06.04.2005

i.A. 

Angaben zum Unterzeichner Details of signatory, Fonction, Mención del firmante **Leiter Konstruktion** Head of Design, Directeur de la construction, Director de diseño

M. Stoffels

