

Product Description
Safety Instructions
Operating Instructions
for
BINKS
Airless Model HP 4/20

These operating instructions are part of the equipment. Please read and follow all instructions and safety precautions before using the equipment. Disregarding can causes injuries on people and/or damages on the unit.

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TABLE OF CONTENTS

1. DESIGNATED USE	4
2. BRIEF DESCRIPTION.....	5
3. TECHNICAL DATA	8
4. SAFETY.....	9
4.1 Principle of operation; intended use	9
4.2 Safe working conditions	9
4.3 Particular danger spots	11
5. START UP AND OPERATION	12
5.1 Grounding the BINKS airless pump.....	12
5.2 Preparing to start up the BINKS airless pump.....	12
5.3 Rinsing the BINKS airless pump.....	13
5.4 Preparing and adjusting the spray material	14
5.5 Start-up.....	14
5.6 Work stoppages.....	15
6. SHUT-DOWN.....	16
7. CLEANING YOUR BINKS UNIT	16
8. MALFUNCTIONS, POSSIBLE CAUSES AND REMEDIAL MEASURES.....	17
8.1 Compressed air supply unit	17
8.2 Pneumatic drive and control system unit	17
8.3 Spray material pump unit	18
8.4 Suction system unit	18
9. INSTRUCTION MANUAL	19
10. COMPULSORY TESTING.....	19
11. TEST DOCUMENTS.....	20
12. SPARE PARTS LISTS	21
13. RECOMMENDED GUN	41
14. EC DECLARATION OF CONFORMITY	42
15. WARRANTY STATEMENT.....	42

1. DESIGNATED USE

BINKS airless pumps are used exclusively to output and apply spray material. Any materials can be sprayed, if they are approved by spray material manufacturers for use with airless spraying equipment. These include:

- Water-thinnable lacquers and paints
- Solvent-based lacquers and paints
- Base paints and primers
- Micaceous iron ore
- Zinc-rich paints
- Epoxy and polyurethane paints
- Oils
- Liquid synthetic materials
- Wax-based underbody sealant materials
- Low-solvent and solvent-free spray material

Please observe the working guidelines and safety instructions supplied by the spray material manufacturer.



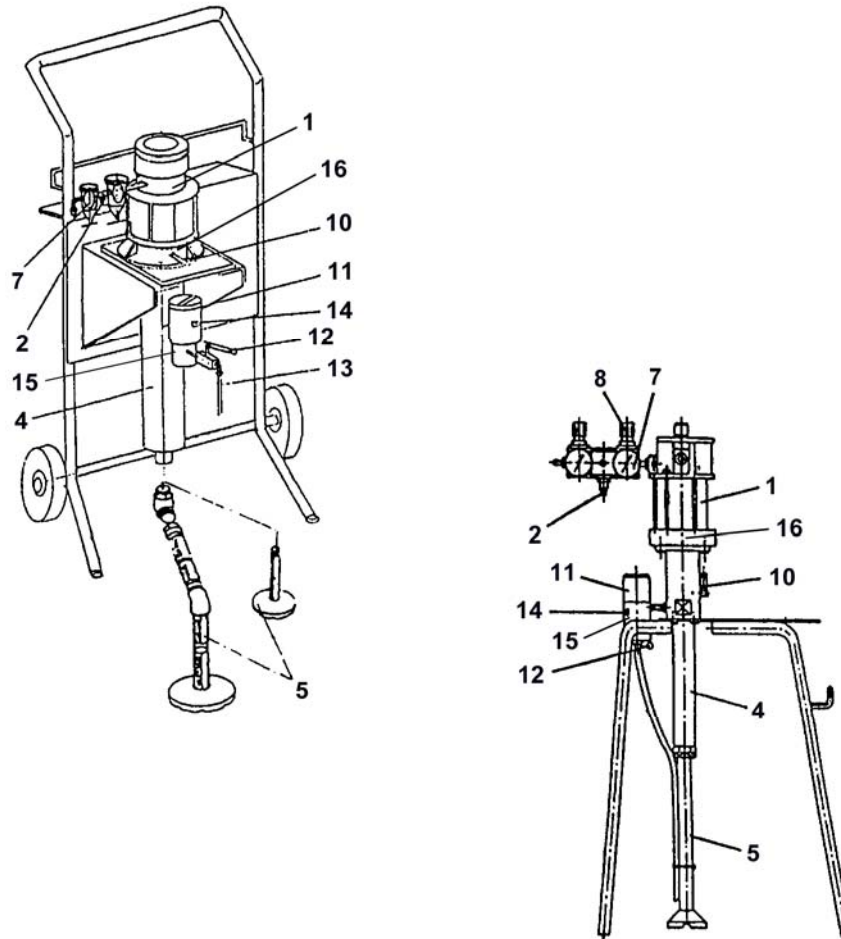
You should avoid using abrasive, granular spray material. Such spray material can cause heavy wear and tear on the valves and packing sets of the material pump, and on the nozzles used on the airless gun.

ATTENTION !

BEFORE STARTING UP PUMP FILL UP LUBRICATION FLUID

**FOR WATERBORNE PAINT: 0114-014871
FOR SOLVENT PAINT: 0114-009433**

2. BRIEF DESCRIPTION (FIGURE 1)



- 1 Pneumatic drive
- 2 Compressed air supply connection piece
- 4 Spray material pump
- 5 Suction system
- 7 Compressed air control valve
- 8 Pressure reducer
- 10 Release agent chamber

- 11 High pressure filter
- 12 High pressure filter relief valve
- 13 Return pipe
- 14 Grounding terminal
- 15 Spray material outlet connection piece
- 16 Grounding terminal (if used without HP-filter)

Comments on figure 1

The pneumatic motor (1) drives the BINKS airless pump. An airflow controller in the pneumatic drive applies compressed air alternately to the pneumatic motor piston. This sets the piston moving upwards and downwards.

The pneumatic motor is flange-mounted directly to the material pump (4). A moving axle connects the pneumatic drive butt plate to the double piston of the material pump.

The ascending stroke of the double piston draws in the material through the suction system (5) and the foot valve of the spray material pump. At the same time, the material which is already in the material pump above the double piston, is ejected through a check valve into the high pressure filter (11).

The descending stroke of the double piston closes the foot valve and the material which has been drawn in, is forced through a plunger valve into the space above the double piston. At the same time, the material which is already there is ejected into the high pressure filter.

If the airless gun take-off is not operative, counter pressure will build up in the material line. The pump will stop. Spray material from the airless gun and the BINKS airless pump will start up again.

The area of the motor piston is greater than the area of the material piston. This difference in area causes the pressure to intensify. With an area ratio of 60/1, for example, a working pressure of 1 bar at the pneumatic drive will be intensified to a working pressure of 60 bar at the spray material pump.

The lubrication chamber (10) physically separates the pneumatic motor from the material pump. The lubrication chamber is filled with lubricant (Order Code 0114-014871 for waterborne paint, Order Code 0114-009433 for solvent paint). The lubricant cleans the double piston of the spray material pump and lubricates the packing and the moving axle.

The volume of air and thus the delivered volume of material is regulated by the working pressure at the compressed air control valve (7). The compressed air control valve is equipped with an excess pressure safety valve, which is triggered if the maximum working pressure at the pneumatic motor is exceeded.

The material pump can draw in spray material in two ways.

Direct suction:

This involves immersing the suction system in the spray material.

Suction through a flexible suction system:

This involves connecting the material pump to a flexible suction system. The free end of the suction system is inserted into the tank containing the spray material.

The extracted spray material is filtered through the high pressure filter (standard filter on HP 4/32: type 03 - order-no. 0110-009130), before being driven out through the spray hose and the airless gun. We recommend the following filter cartridges for the various types of spray material:

Filter size	Nozzle	Spray material
M 200	less than 0.3 mm	colourless lacquer
M 150	greater than 0.3 mm	surfacers, filler, red lead
M 100	greater than 0.3 mm	surfacers, filler, red lead
M 70	greater than 0.5 mm	micaceous iron ore, red lead
M 50	greater than 0.6 mm	emulsion, loaded spray material



Do not use a filter cartridge for fibre-loaded spray material!

HD filter cartridges (overview)

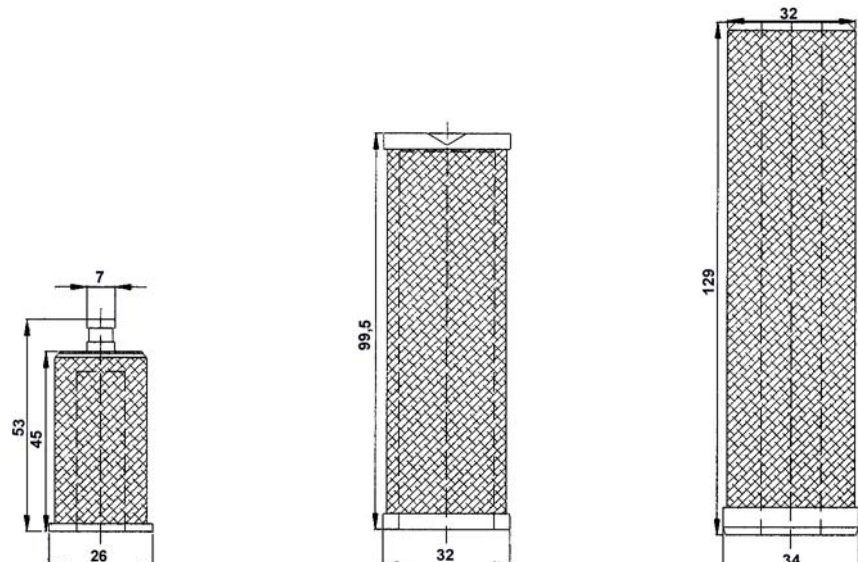
			
Filter-type	01	03	11
Order-no.	0114-013525	0110-009130	0114-011760
Screen area	29 cm ²	84 cm ²	118 cm ²
Core material	polyamide	stainless steel	polyamide

Figure 2

3. TECHNICAL DATA

BINKS		HP 4/20
Theoretical transmission		20 : 1
Air motor	Air inlet pressure	5 bar
	Diameter cylinder	70 mm
Material pump	Volume double stroke	27 ccm
	Operating pressure max.	100 bar
	Piston stroke	75 mm
	Free flow capacity nominal	1,6 ltr./min.
	Piston diameter D1	15 mm
	Piston diameter D2	21,5 mm
Connections	Air inlet	Stem for quick disconnection or R 3/8" (m)
	Air to gun (Aircombi only)	90° connection for hose 8x6 or 1/4" NPS (m)
	Fluid outlet on HP-filter	1/4" NPS (m)
Dimensions of bare pump	L x W x D in mm	595 x 165 x 120

The nameplate on your outfit is attached to the spray material pump. Enter the data from the nameplate into figure 3. Have this information ready when you call customer service.

Figure 3

ITW Finishing Systems and Products Ringwood Road, Bournemouth BH11 9LH, England	
Druckluft getriebene Kolbenpumpe	
Geräte-Typ	<input type="text"/>
	Packung PTFE <input type="checkbox"/> Leder/PTFE <input type="checkbox"/>
Herstell-Nr./Baujahr	<input type="text"/>
Fördermenge/Doppelhub	<input type="text"/> cm ³ Mat.Temp.max. <input type="text"/> °C
Materialüberdruck max.	<input type="text"/> bar Übersetzung <input type="text"/> :1
Lufteingangsdruck max.	<input type="text"/> bar

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4. SAFETY

As well as the operating instructions and the applicable legal and other mandatory regulations relevant to accident prevention in the country of use and at the place of use, you must also observe the recognised special engineering regulations governing safe and professional working practices.

4.1 PRINCIPLE OF OPERATION; INTENDED USE

1. BINKS airless spraying equipment has been built to comply with state-of-the-art standards and recognised safety rules. Nevertheless, its use may constitute a risk to life and limb for the user or for third parties, or cause damage to the BINKS airless pump and other assets.
2. The BINKS airless pump must only be used in technically perfect condition in accordance with the regulations and the instructions set out in the operating instructions and only by safety-conscious persons fully aware of the risks involved. Any malfunctions, especially those affecting safety, must be rectified immediately. The spray material line must not be dragged across sharp-edged objects and must always be checked before use to ensure that it is in perfect condition.
3. BINKS airless pumps are designed exclusively for the designated use stated in Section 1. Using them for purposes other than those mentioned is considered contrary to the intended use. The manufacturer/supplier cannot be held liable for any damage resulting from such use. The user alone must bear the risk.
4. The manufacturer is not liable for any unauthorised modifications or repairs made to the BINKS airless pump.
5. In accordance with the professional association directives governing spray equipment, ZH 1/406, paint spraying equipment should be checked by experts on request, or at least every 12 months, to ensure that there is no risk involved in its continued operation. If the units are idle, the examination can be delayed until the next period of operation. The operator is obliged to register the equipment for testing and to keep written records of the results of such testing.

4.2 SAFE WORKING CONDITIONS

1. The requirements of the (German) accident prevention and safety regulation “Working with surface coating compounds” (VBG 23) and the (German) directives governing spray equipment (ZH 1/406) and static electricity (ZH 1/200) provided by the professional associations, must be observed.
2. Every person using a BINKS airless pump must have read and understood the operating instructions, in particular the chapter on “Safety”.
3. If work is to be carried out in enclosed areas, effective, technical ventilation must be provided.
4. Use only those spray material lines and airless guns that are designed for use at the relevant maximum permitted working pressure of the spray material pump.
5. Be careful that there are no sources of ignition in the vicinity, for example, an open fire, sparks, glowing wires, hot surfaces, burning cigarettes, etc. There must be a distance of at

least 5 m between the spray jet outlet and any possible source of ignition (the spray mist is ignitable and there is a risk of fire or explosion).

6. The spray material leaves the nozzle under pressure. Do not direct the spray jet towards people or animals, as this could cause injuries. If the skin is broken and comes into contact with paint, lacquer or solvent, there is a risk of infection. Consult a doctor immediately to obtain professional, expert treatment. Tell the doctor which spray material or solvent is involved. Present the safety data sheet.
7. Be aware that working with sprays may produce vapours which can damage your health (see information on the safety data sheet and the tins of material). You must therefore use a personal breathing equipment, as indicated by the spray material manufacturer. Keep children and all people right away from the work area.
8. Keep the BINKS airless pump in a safe place to which children and unauthorised persons do not have access. Make sure that unauthorised personnel (and children in particular) cannot start up the BINKS airless pump.
9. Store the BINKS airless pump in a dry place.
10. Use only original BINKS accessories and original BINKS replacement parts.
11. **Repair work must only be carried out by authorised specialised companies or by ITW. You can obtain the addresses of specialised companies from ITW or from your specialised dealer.**
12. When repairing and mounting the pump it is necessary that all connections are clean and mounted correctly.
Before re-starting the pump the correct resistance (1 M Ω) must be measured.
The resistance has to be determined between foot valve and upper top point of the pump.
13. **You must be careful when carrying out spraying work, not to direct the jet towards the BINKS airless pump unit.**
14. Dispose of cleaning and spraying material waste in accordance with the information provided by the respective spray material and solvent manufacturers.
15. If work is interrupted, to change the nozzle, for example, lock the safety lever on the airless gun. Release pressure from the system.

4.3 PARTICULAR DANGER SPOTS

1. The flow of material escaping from the airless gun is under great pressure and thus has a powerful cutting effect.



You must therefore **never** point the airless gun at yourself or any other person, animal or plant. **Never** touch the spray jet with your fingers or hand, or hold them in front of the airless gun.

Note:

If the cutting effect of the flow of material causes injury **seek medical advice immediately**. Tell the doctor which spray material (paint) and/or solvent (thinners) was involved and provide the relevant information from the manufacturer as per the safety data sheet (supplier, his phone number, the material number).

2. The escaping spray material generates recoil power. You must therefore always hold the airless gun securely and make sure that you have a well-balanced stance.
3. In enclosed systems, or systems which are under pressure, where aluminium or galvanised parts come into contact with the liquid, there can be dangerous chemical reactions if 1.1.1 trichloroethane, methylene chloride or other solvents containing halogenated chlorinated hydrocarbons, are used.

If you use the named solvents or paints which contain these solvents, we recommend that you contact the spray material manufacturer or ITW.

4. If there are malfunctions or obstructions, you must immediately shut off the compressed air supply at the ball valve. Disconnect the unit from the compressed air system, operate the airless gun and open the high pressure filter relief valve before removing the airless gun or the hose.
5. To prevent static charging from causing a fire or an explosion, the equipment must be properly grounded (the pump, the material tank, the object to be coated). If using materials with a flash point under 21°C (e.g. nitro) of ignition group G1-G3, there must be an additional conductive connection between the material tank and the pump (potential equalisation cable). The material tank must always be made of metal.
6. Prevent spray back into a closed tank, as an ignitable gas/air mixture will build up. Take particular care with materials with a flash point less than 21°C (e.g. nitro).
7. The A-weighted sound level of pumps may exceed 85 dB (A).

Local conditions may dictate a higher noise level, which could cause noise deafness. If this is the situation, operating personnel must be protected by suitable protective equipment or safety measures.

5. START-UP AND OPERATION

5.1 GROUNDING THE BINKS AIRLESS PUMP



To prevent static charging igniting the flammable spray material, the BINKS airless pump must be grounded in accordance with professional association regulation ZH 1/200 (Germany), "Static Electricity", before it is started up. A grounding cable is included in the supply schedule.

1. Grounding wire has to be mounted on the grounding terminal of the high pressure filter or (if pump is used without HP-filter) on the middle section of the pump.
2. Connect the other end of the grounding cable to a suitable grounding device (e.g. grounding bar).

5.2 PREPARING TO START UP THE BINKS AIRLESS PUMP

Proceed as follows:

1. Check that the lubrication chamber is full. To do this, open the screw plug on the filler neck of the lubrication chamber. If necessary, top up the lubricant (Order Code for solvent paint: 0114-009433, for waterborne paint: 0114-014871) and close the screw plug again.
2. Select a suitable filter cartridge using the table in section 2, Brief Description and insert it into to the high pressure filter.
3. Attach a suitable hose to the spray material outlet connection piece on the high pressure filter.



The spray material lines in the BINKS supply programme are identified on the screw fitting with the maximum permitted working pressure and the bursting pressure. The lesser value, the maximum permitted working pressure, must be greater than the maximum permitted working pressure of the spray material pump (see 3, Technical Data).

4. Connect the airless gun designed at least for the maximum permitted working pressure of the spray material pump, to the fluid hose.

We recommend for Airless: BINKS Airless spray gun HAP 50 with max. pressure 500 bar or BINKS Airless spray gun Airless 1 with max. pressure 420 bar.

We recommend for Aircombi: BINKS Aircombi spray gun AA 4000 with max. pressure 275 bar or BINKS Aircombi spray gun DSG-2000 with max. pressure 250 bar.

5. Make sure that the ball valve on the pneumatic drive is closed.
6. Connect the compressed air supply at the compressed air supply connection piece.
7. The airless pump is equipped with an air pressure regulator.

The filter cleans the compressed air from water condensate, scale, rust particles etc. Drain off the water condensate at regular intervals and clean the sintered filter if it is dirty.

Before putting the pressure line into operation, relieve the filter regulator by fully unscrewing the regulating screw. Thereafter rotate the regulating screw clockwise until the pressure gauge on the filter regulator indicates the required pressure (please consider the min. and the max. data - see section 3 Technical Data).

5.3 RINSING THE BINKS AIRLESS PUMP



Wear eye protection

Every BINKS airless pump is tested with water during final inspection and thoroughly rinsed with a non-gumming preservative oil. With this rinsing process, it is possible that the residual moisture of water emulsion will be left in the pump.

Before the unit is started up for the first time, a suitable solvent must be used to thoroughly rinse out the remains of the preservative fluid and the unavoidable impurities introduced during equipment assembly.

Proceed as follows:

1. Prepare the BINKS airless pump for start-up in accordance with section 5.2.
2. Close the high pressure filter relief valve.
3. Immerse the spray material pump or the suction system in the tank of solvent.
4. Insert the high pressure filter return pipe into the tank of solvent. Open the high pressure filter relief valve.
5. Open the ball valve of the air supply and set the compressed air control valve on the pressure regulator to approximately 1 bar. The spray material pump or the suction system now draws in the solvent. The solvent runs back to the tank through the high pressure filter, the high pressure filter relief valve and the return pipe.
6. Point the airless gun into the tank. Unlock the safety lever on the airless gun, operate the airless gun trigger and close the high pressure relief valve. The solvent will now flow through the high pressure filter, the spray material line and the airless gun, back into the tank. The time of rinsing depends on the length of the material lines and the solubility of the spray material. We recommend a short reflush with "fresh" solvent.
7. Release the airless gun take-off.
8. Slowly increase the pressure at the compressed air control valve of the pressure reducer to maximum working pressure (see section 3, Technical Data), while checking and testing that all lines and screw and plug caps are tightly sealed. If there are any leaks in the system, shut down the BINKS airless pump immediately. Only re-start the BINKS airless pump once you have repaired the leak.
9. Reduce the pressure at the compressed air control valve of the pressure reducer again and close the ball valve.

10. Make sure that the return pipe is still directed into the solvent tank. Carefully open the high pressure filter relief valve to reduce the pressure in the spray material pump and in the high pressure filter.
11. Point the airless gun into the tank of solvent and operate the trigger, to reduce any pressure which may still exist in the spray material line and in the airless gun.



If working with waterborne spray material, the BINKS airless pump must again be thoroughly rinsed with water before it is started up.

5.4 PREPARING AND ADJUSTING THE SPRAY MATERIAL

To be able to work without trouble and obtain a perfect surface, special care must be taken in preparing and adjusting the lacquers and paints (please contact spray material manufacturer).

Before starting to spray, it may be necessary to use the solvent prescribed by the manufacturer to thin the spray material. Add thinners until, after a good stir, the spray material runs easily off the stick used for stirring. To prevent any uncertainty, we recommend that you use a dip measuring cup, where the run-out time of the spray material indicates whether the spray material is still too thick and therefore whether it is necessary to add more thinners. According to experience, the flow time for lacquers and paints is 18 to 22 DIN4 sec. and for effect lacquer and coating filler materials 25 to 50 DIN4 sec. These figures relating to DIN EN ISO 2431 and have been established at a temperature of 20°C. The lacquer and paint manufacturers generally state the best spraying consistency for each of their products. If you use motor driven mixers, you must ensure that no air bubbles form in the spray material.

To take a measurement, proceed as follows:

Immerse the measuring cup into the lacquer or paint which is ready for spraying until it is full to the brim. To make the measurement, quickly take out the dip measuring cup and count how many seconds it takes for the entire contents of the cup to run through the 4mm nozzle, i.e. up to the time when you can establish the break-off point of the out-flowing paint. Count off the seconds on a wristwatch, or time with a stopwatch. If, for example, a consistency of 19 DIN4 sec. is prescribed, but the measurement is 24 DIN4 sec., you must add some more thinners and make the measurement again.

We recommend that once you have used it, you clean the dip measuring cup immediately, so that it can be used again for the next measurement.

Because two filters are used in the BINKS airless unit, a suction filter and the high pressure filter, it is not necessary to filter the spray material before working with it.

If particularly high-quality coating work is involved, you can also use a gun filter from the BINKS accessories range.

5.5 START-UP

1. Prepare the BINKS airless pump for start-up in accordance with section 5.2 and if necessary, rinse in accordance with section 5.3.

2. Close the high pressure filter relief valve.
3. Immerse the spray material pump or the suction system in the spray material to be used for working.
4. Place the high pressure filter return pipe in the tank. Then open the high pressure filter relief valve.
5. Open the ball valve for the compressed air supply and use the pressure regulator to set the compressed air supply to 1 bar. The material spray pump will now draw in the spray material. The spray material flows back into the tank through the high pressure filter, the high pressure filter relief valve and the return pipe.
6. Point the airless gun into the tank. Unlock the safety lever on the airless gun. Operate the airless gun take-off and close the high pressure relief valve. The spray material will now flow through the high pressure filter, the spray material line and the airless gun, back into the tank.
7. Release the airless gun take-off and set the working pressure at the pressure control valve of the pressure reducer.³

Before carrying out any coating work, we recommend a test spray (e.g. on to paper or wood). Only if the test gives you the desired result should you start to coat the actual object.

Make sure that the edges and the fringe areas of the object to be coated are also given an even coating.

5.6 WORK STOPPAGES



- If working with 2-K spray material, you must note the given pot life and follow it precisely. Within this time, the unit must be carefully cleaned and rinsed with the recommended solvent. There must be no residue left in the spray material pump, the high pressure filters or the airless gun.
- When work is stopped, the safety lever of the airless gun must be locked.

For work stoppages of between 10 and 30 minutes, please proceed as follows:



Wear eye protection

1. Lock the safety lever on the airless gun.
2. Shut off the compressed air supply by closing the ball valve.
3. Briefly open the high pressure relief valve, taking care that the return pipe is not pointed at other people or at yourself, until the pressure has reduced. Then close the high pressure relief valve again.
4. Clean the outside of the airless nozzle from spray material residue.

6. SHUT-DOWN



Once work is completed, the BINKS airless unit must be thoroughly cleaned. Under no circumstances must you allow paint residue to dry out in the unit. To clean the airless unit, use a solvent appropriate to the spray material.



Wear eye protection

1. Close the ball valve for the compressed air supply.
2. Make sure that the return pipe is still directed into the spray material tank. Carefully open the high pressure filter relief valve to reduce the pressure in the spray material pump and in the high pressure filter.
3. Point the airless gun into the tank of spray material and operate the take-off to reduce any pressure which may still exist in the spray material line and in the airless gun.
4. Lock the safety lever on the airless gun.
5. Remove the spray material pump or suction system from the spray material.

7. CLEANING YOUR BINKS UNIT



In no case spray material or solvent should soak into the ground or the canalisation.



Wear eye protection

1. Clean the pump and the suction system from the outside. Immerse the spray material pump or the suction system in the tank of solvent.
2. Clean the fluid tip / tip system as described in the service bulletin of the spray gun. We recommend to stock the fluid tip in solvent.
3. Unlock the safety lever of the airless gun without fluid tip but with mounted tip system or tip guard. Operate the gun. Close the high pressure filter relief valve. Set the incoming air pressure to max. 2 bars and open slowly the ball valve. Let the solvent runs through the system so that the spraying material could rinse out.
4. Let the solvent runs through the system for a couple of minutes until the solvent runs clear through the airless gun. Close the ball valve and lock the safety lever of the gun
5. Clean the airless gun from the outside and check the filter on the handle (if mounted).
6. Clean the filter insert of the high pressure filter.
7. Clean the filter of the suction pipe.
8. We recommend to remain the equipment filled with liquid.

We recommend to preserve the BINKS airless equipment if it is not used for a longer period of time. Please rinse the complete system with silicon-free oil as described in section 5.3.

8. MALFUNCTIONS, POSSIBLE CAUSES AND REMEDIAL MEASURES

In case of a break down of your equipment please contact your dealer or the manufacturer of the unit who will lead a professional repair.

8.1 COMPRESSED AIR SUPPLY UNIT

Type of defect	Appearance of defect	Possible cause	Remedy
No flow through BINKS airless pump.	Spray material pressure drops.	No compressed air.	Check compressed air supply.
	BINKS airless pump does not start.	Nozzle on airless gun blocked.	Clean or replace nozzle.
Reduction of area.		Pipeline kinked, pressure controller contaminated.	Check lines. Clean pressure control valve.
		Air motor controller blocked.	Contaminated compressed air. Filter compressed air.

8.2 PNEUMATIC DRIVE AND CONTROL SYSTEM UNIT

Type of defect	Appearance of defect	Possible cause	Remedy
Erratic operation, number of strokes reduced, pneumatic drive stops.	Faulty piston valve.	Wear.	Replace parts.
		Foreign matter in the control system.	Remove foreign matter, replace faulty parts.
Pneumatic drive frozen up.		Compressed air too damp.	Install water separator.
		Condensation in the compressed air supply.	Check compressor.
		Too many strokes.	Use smaller spray nozzle. Modify working conditions. Install oiler. Reduce air pressure.

8.3 SPRAY MATERIAL PUMP UNIT

Type of defect	Appearance of defect	Possible cause	Remedy
Material coming from the spray material chamber.		Upper packing of spray material pump faulty.	Replace spray material pump packing.
BINKS airless pump runs non-stop.	BINKS airless pump runs on despite stopping spraying.	Lower packing of spray material pump faulty	Replace spray material packing.
BINKS airless pump does not stop on down-stroke.	Foot valve or plunger valve faulty or stuck.	Wear. Dried material.	Replace parts. Careful cleaning necessary.
BINKS airless pump does not stop on up-stroke.	Foot valve or plunger valve faulty or stuck.	Wear. Dried material.	Replace parts. Careful cleaning necessary.
Spray material escape at double piston.	Grooving in the slide faces.	Wear.	Replace parts.

8.4 SUCTION SYSTEM UNIT

Type of defect	Appearance of defect	Possible cause	Remedy
BINKS airless pump works erratically.	Suction screen blocked.	Spray material contaminated.	Clean or replace suction screen.
BINKS airless pump runs, but there is no flow.	No suction power.	Suction filter dirty. Foot valve ball sticks to valve seat. Suction system not properly screwed down. Spray material pump draws air, screw down properly.	Clean. Make practicable.

9. INSTRUCTION MANUAL

Depending on the type of application and the place of installation, the operator must use the operating instructions to provide more details on the safe operation of the BINKS airless pump, in the form of an instruction manual in the language of the workforce. This instruction manual is to kept in a suitable location at the place of work and the workforce informed of its whereabouts. The workforce should comply with the instructions contained in this instruction manual.

10. COMPULSORY TESTING

In accordance with the professional association directives governing spray equipment, ZH 1/406, paint spraying equipment should be checked by an **expert** on request, or at least every 12 months, to ensure that there is no risk involved in its continued operation. If the units are idle, the examination can be delayed until the next period of operation. The operator is obliged to register the equipment for testing and to keep written records of the results of such testing.

An **expert** is someone whose professional training and experience has given him adequate knowledge and understanding of jet stream units and who is sufficiently acquainted with the relevant national health and safety and work and accident prevention regulations, directives and generally recognised technical regulations, that he is able to assess whether jet stream units are safe to operate.

The employer (operator) must make sure that **test results** for each jet stream unit are kept as a **written record** and that this is retained until the next test. We provide a blank "Test record for spraying equipment" form for this purpose. Please make as many copies of this as you need.

Furthermore, you must ensure that this test document is available at the place where the jet stream unit is in use. A copy of the test record or a test plaque is sufficient for this.

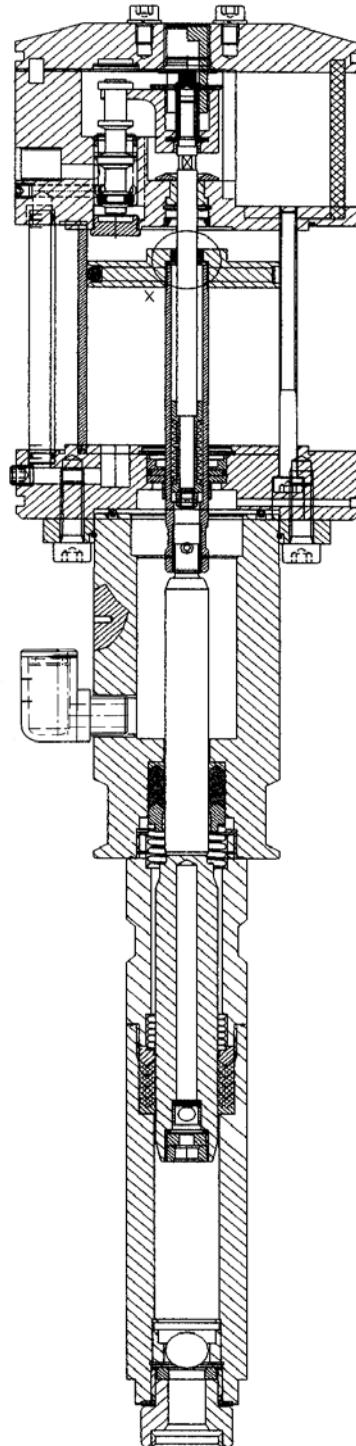
But we also ask you to enter the test document, date and expert in the "Test Document" table.

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0114-021203

Hochdruckpumpe

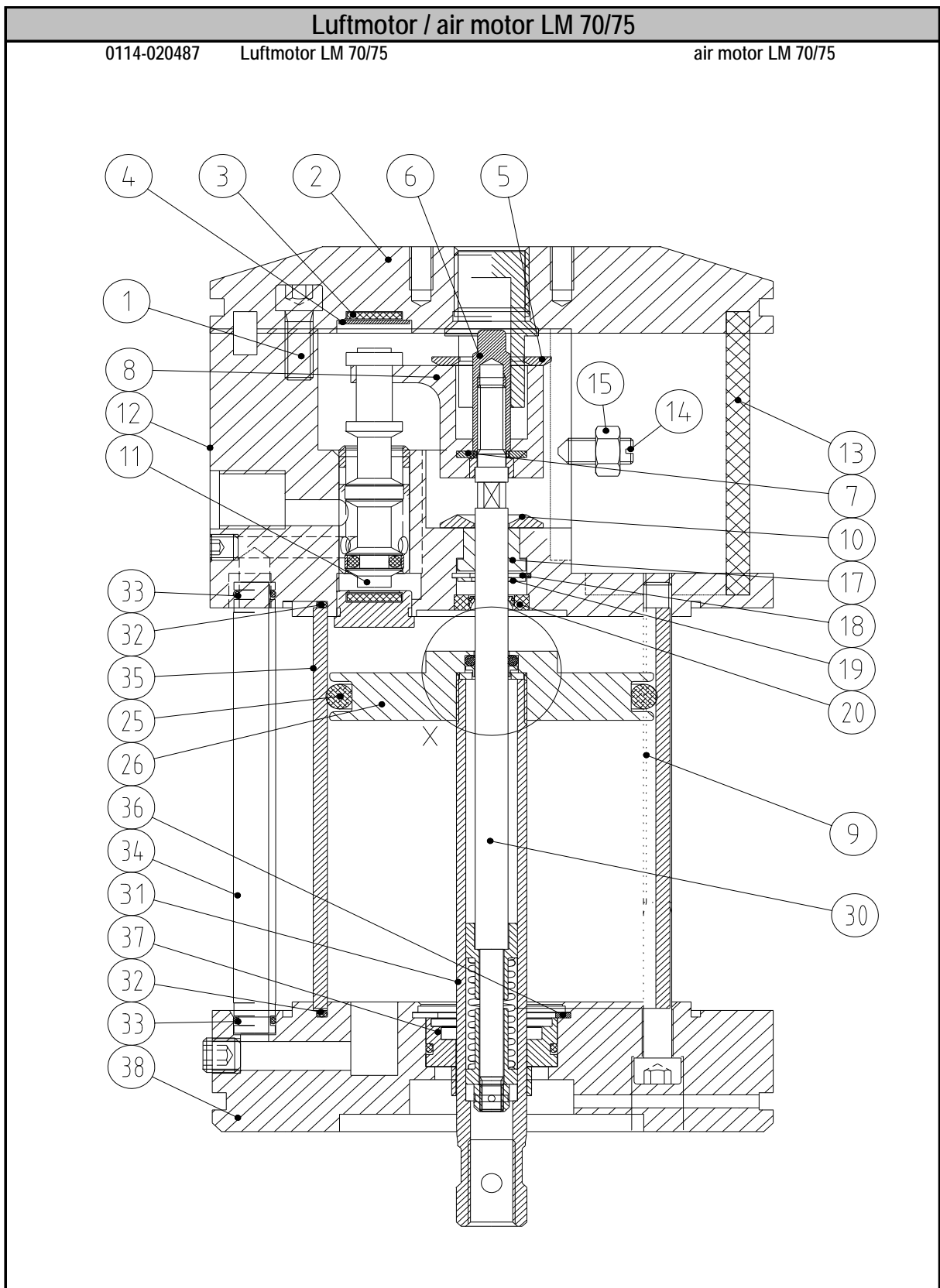
high pressure pump



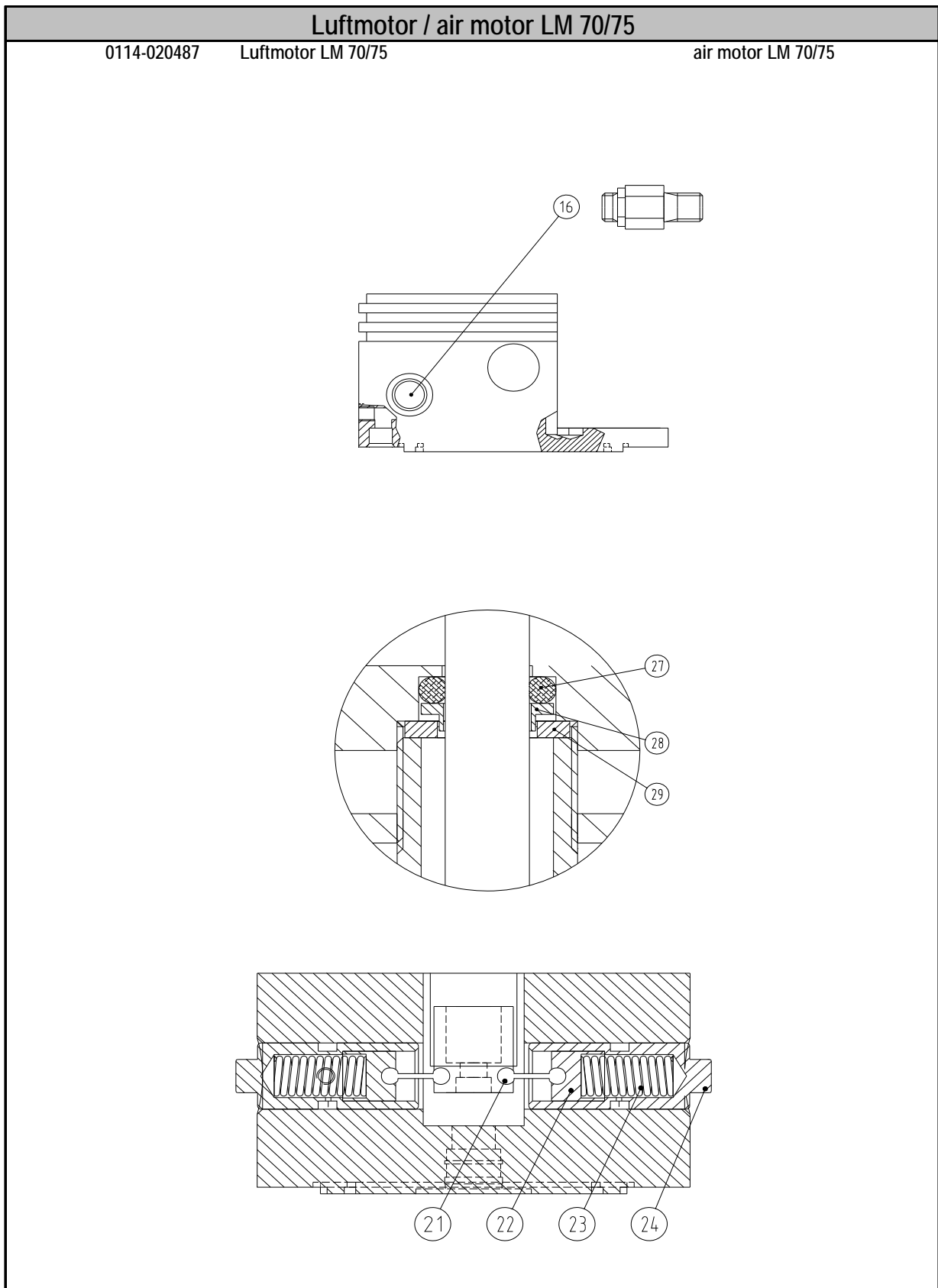
Luftmotor
air motor
0114-020487

Materialpumpe
material pump
0114-013447

Ersatzteilliste / spare parts list



Ersatzteilliste / spare parts list



Luftmotor / air motor LM 70/75

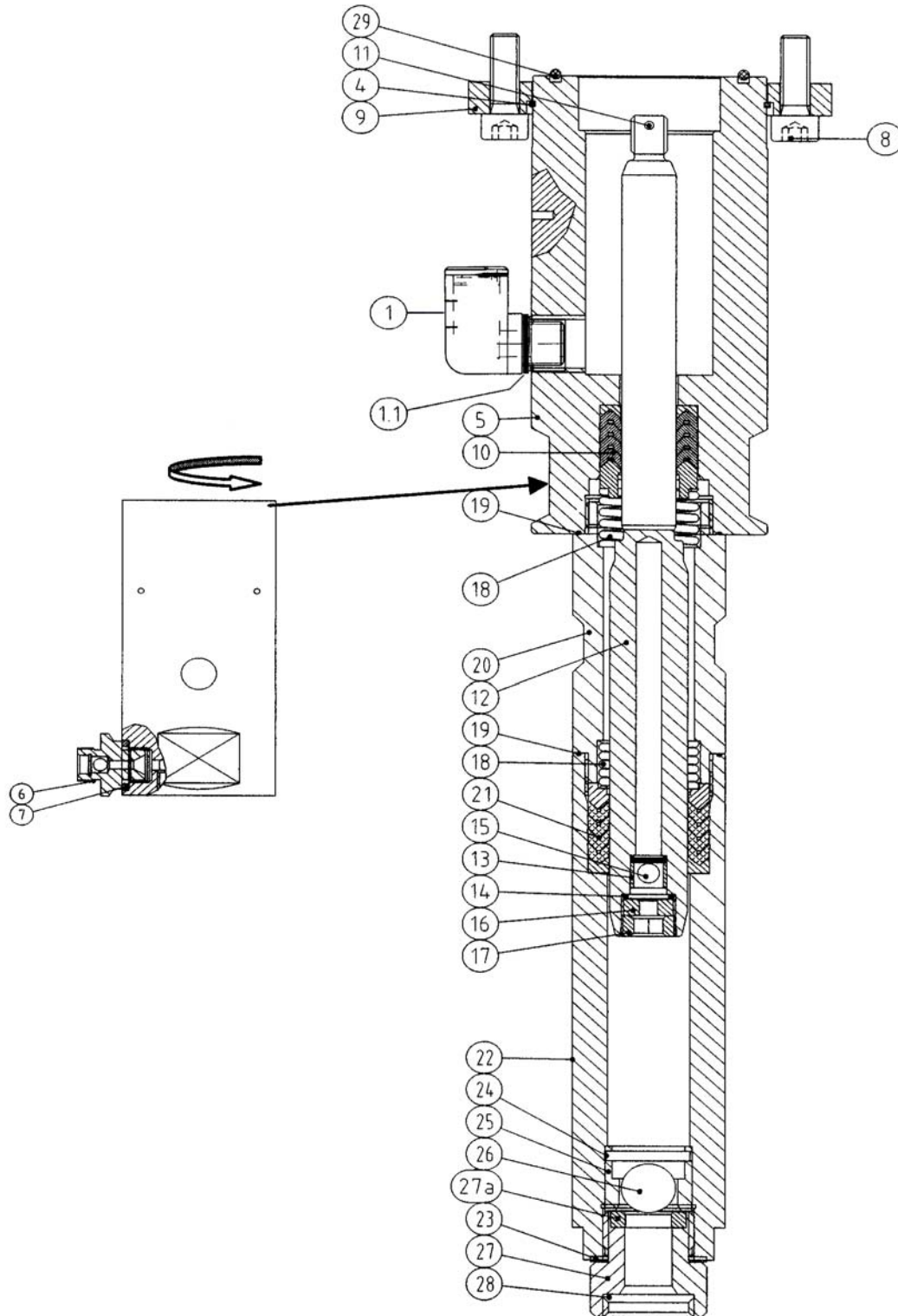
Pos.	Art.-Nr.	Bezeichnung	Description		Stück Pcs.	D / R
	0114-020487	Luftmotor LM 70/75	air motor LM 70/75			
1	0114-014182	Zylinderschraube	screw		4	
2	0114-013442	Deckel kpl.	cover ass.		1	
2.1	0114-011586	Führung	guide		1	
3	0114-014300	Dämpfungsscheibe	dampening spacer		1	R
4	0114-014345	Zackenring	serregated washer		1	R
5	0114-014301	Dämpfungsscheibe	dampening spacer		1	R
6	0114-014298	Zapfen	bolt		1	
7	0114-014295	Scheibe	spacer		1	
8	0114-014341	Mitnehmer kpl.	carrier ass.	V	1	
9	0114-014584	Zyl.Schraube	screw		4	R
10	0114-014302	Dämpfungsscheibe	dampening spacer		1	R
11	0114-014346	Steuerkolben kpl.	control piston ass.	V	1	R
12	0114-013443	Oberteil.kpl.	cylinder head ass.		1	
13	0114-014306	Dämmplatte	dampening plate		1	R
14	0114-014367	Gew.Stift	threaded pin		2	
15	0114-014163	Mutter	nut		2	
16	0114-014716	Mini Sicherheitsventil 5 bar	safety valve 5 bar		1	
17	0114-014296	Bundbuchse	shoulder bush	V	1	R
18	0114-014307	Si-Ring	retaining ring		1	R
19	0114-014409	Scheibe	spacer		1	
20	0114-013956	Nutring	u-seal	V	1	D / R
21	0114-014305	Schnepfer	toggle	V	2	
22	0114-014340	Schnepferlager	toggle bearing	V	2	
23	0114-014032	Druckfeder	spring	V	2	
24	0114-014297	Lagerbuchse	bearing bush		2	
25	0114-013955	O-Ring	o-rin	V	1	D / R
26	0114-014764	Kolbenplatte	piston plate		1	
27	0114-013953	O-Ring	o-ring		1	D / R
28	0114-014765	Führungsring	guide ring		1	
29	0114-014766	Scheibe	spacer		1	R
30	0114-014410	Umsteuerachse kpl.	guide axle ass.	V	1	R
31	0114-014412	Motorachse	motor axle	V	1	
32	0114-013967	O-Ring	o-ring	V	2	D / R
33	0114-014308	O-ring	o-ring	V	4	D / R
34	0114-014413	Belüftungsrohr	air inlet pipe		2	
35	0114-019997	Zylinder	cylinder		1	
36	0114-014355	Si-Ring	retaining ring		1	D / R
37	0114-014468	Führungsbuchse kpl.	guide bush ass.	V	1	D / R
38	0110-013444	Unterteil kpl.	bottom cpl.		1	
	0114-018645	Dichtungssatz	seal kit			D
	0114-021210	Reparatursatz	repair kit			R
		Verschleißteil	wearing part	V		

Materialpumpe / material pump MP 27/75

0114-013447

Materialpumpe MP 27/75

material pump MP 27/75



Vorbehaltl. Techn. Änderungen

Materialpumpe / material pump MP 27/75

Pos.	Art.-Nr.	Bezeichnung	Description		Stück Pcs.	D / R
	0114-013447	Materialpumpe MP 27/75	material pump MP 27/75			
1	0114-016101	Schauglas mit Deckel	sight glass with lid		1	
1.1	0114-016102	O-ring	o-ring		1	
4	0114-014364	Sicherungsring	retaining ring		1	R
5	0114-011281	Hochdruckkopf	pump head		1	
6	0114-014750	Rückschlagventil kpl.	non return vale		1	
7	0114-013952	Dichtung	gasket		1	D / R
8	0114-014199	Schraube	screw		4	
9	0114-014314	Anzugring	connecting ring		1	
10	0114-014513	Packung gemischt kpl. oben	upper packing mixed cpl.	V	1	R
wahlw.	0114-014559	Packung PTFE kpl. oben	upper packing PTFE cpl.	V	1	R
11	0114-014161	Sicherungsfeder	locking spring		1	R
12	0114-014605	Doppelkolben	dual piston	V	1	
13	0114-014508	Kugelschlag kpl.	ball stop assembly		1	R
14	0114-014527	Dichtung	gasket		1	D / R
15	0114-014745	Kugel	ball	V	1	R
16	0114-014034	Ventilplatte	valve seat	V	1	
17	0114-013863	Schraube	screw		1	
18	0114-014480	Druckfeder	spring		2	
19	0114-011284	O-ring	o-ring		2	
20	0114-011282	Federgehäuse	spring housing		1	
21	0114-014512	Packung gemischt kpl. unten	lower packing mixed cpl.	V	1	R
wahlw.	0114-014558	Packung PTFE kpl. unten	lower packing PTFE cpl.	V	1	R
22	0114-011283	Druckzylinder	pressure cylinder		1	
23	0114-014739	Dichtung	gasket		1	D / R
24	0114-014450	Zylinderstift	cylindrical pin		1	R
25	0114-014738	Kugelführung	ball guide		1	
26	0114-014237	Kugel	ball	V	1	R
27	0114-014741	Bodenventil kpl.	bottom valve		1	
27a	0114-014056	Ventilplatte	valve plate		1	
28	0114-013834	Dichtung	gasket		1	D / R
29	0114-014006	O-Ring	o-ring		1	D / R
	0114-018597	Dichtungssatz	seal kit			D
	0114-013448	Reparatursatz (Packung gem.)	repair kit (packing mixed)			R
	0114-016006	Reparatursatz (Packung PTFE)	repair kit (packing PTFE)			R
		Verschleißteil	wearing part	V		


Vorbehaltl. Techn. Änderungen

Ersatzteilliste / spare parts list


Reparatursatz Luftmotor / repair kit air motor LM 70/75

0114-021210

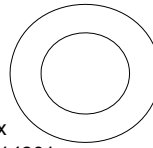
1x
0114-014300
Dämpfungsscheibe
12x2mm



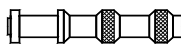
1x
0114-014345
Zackenring ZJ16



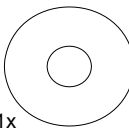
1x
0114-014301
Dämpfungsscheibe
25,5x2



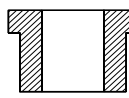
1x
0114-014346
Steuerkolben kpl.



1x
0114-014302
Dämpfungsscheibe
22x3




1x
0114-014296
Bundbuchse



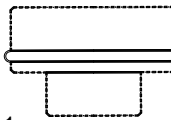
1x
0114-014307
SI-Ring 15x1




1x
0114-013956
Nutting DN15/DN7




1x
0114-014468
Führungsbuchse kpl.




1x
0114-013953
O-Ring 6,5x2,5mm



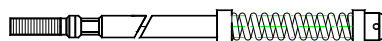
1x
0114-014766
U-Scheibe 13,7x8,3x1,5mm




1x
0114-014765
Führungsring
11,2x7,3mm




1x
0114-014410
Umsteuerachse kpl.



4x
0114-014308
O-Ring 6,5-1,5mm



1x
0114-014355
Si-Ring JK30




2x
0114-013967
O-Ring
70x2mm



1x
0114-013955
O-Ring 60x5,5mm



1x
0114-014306
Dämmplatte
140x63x3 mm



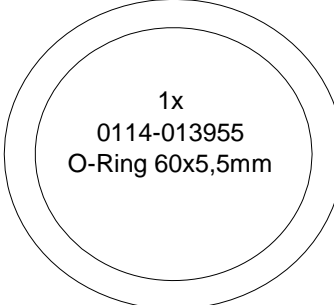
Ersatzteilliste / spare parts list

Dichtungssatz Luftmotor / seal kit air motor LM 70/75


0114-018645



1x
0114-013956
Nutring DN15DN7




1x
0114-013955
O-Ring 60x5,5mm



1x
0114-013953
O-Ring
6,5x2,5mm



2x
0114-013967
O-Ring 70x2mm



4x
0114-014308
O-Ring 6,5x1,5mm



1x
0114-014355
Si-Ring JK30

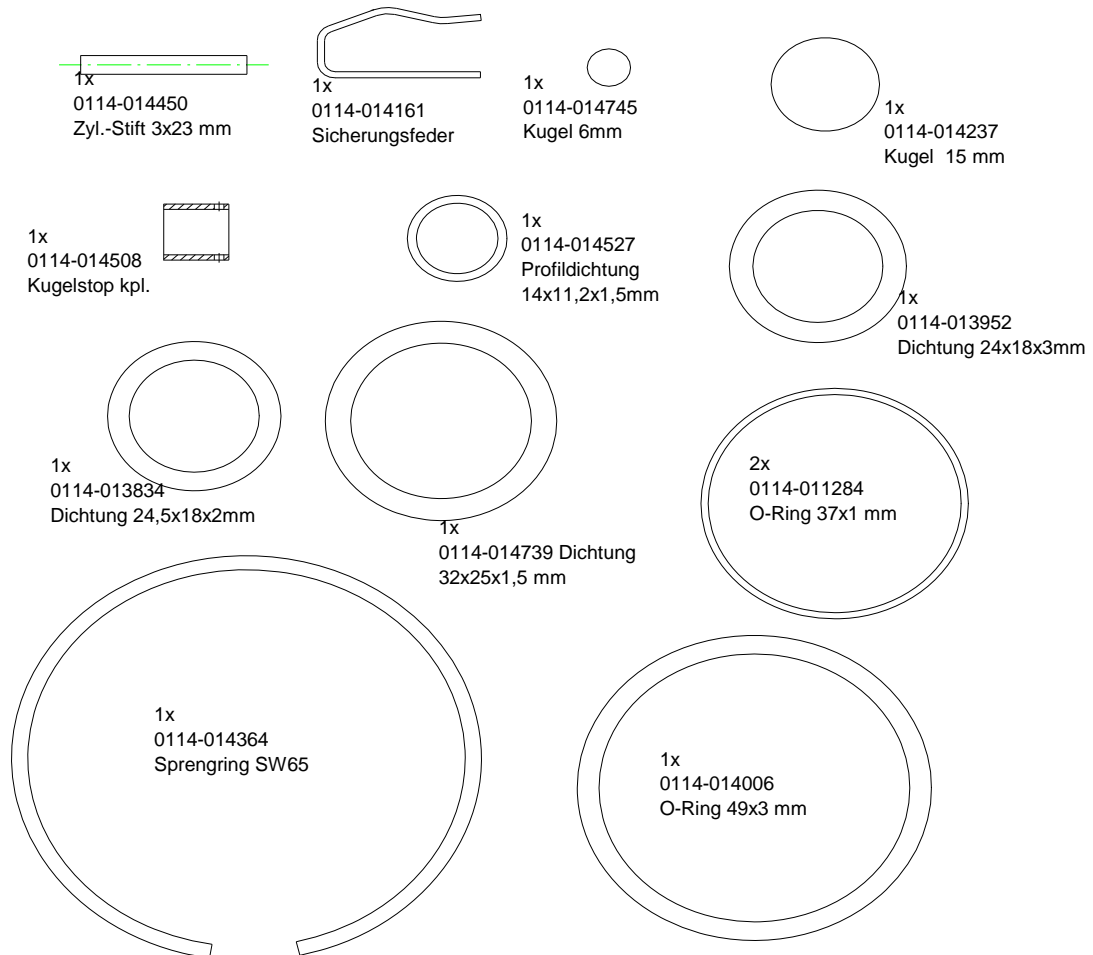


1x
0114-014468
Führungsbuchse kpl.

Ersatzteilliste / spare parts list

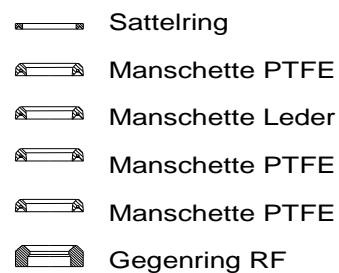
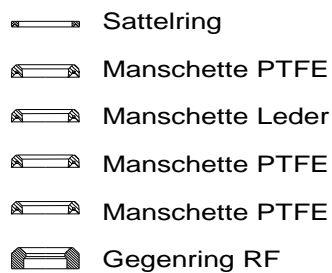
Reparatursatz Materialpumpe / repair kit material pump MP 27/75

0114-013448



Packung gem. oben 0114-014513

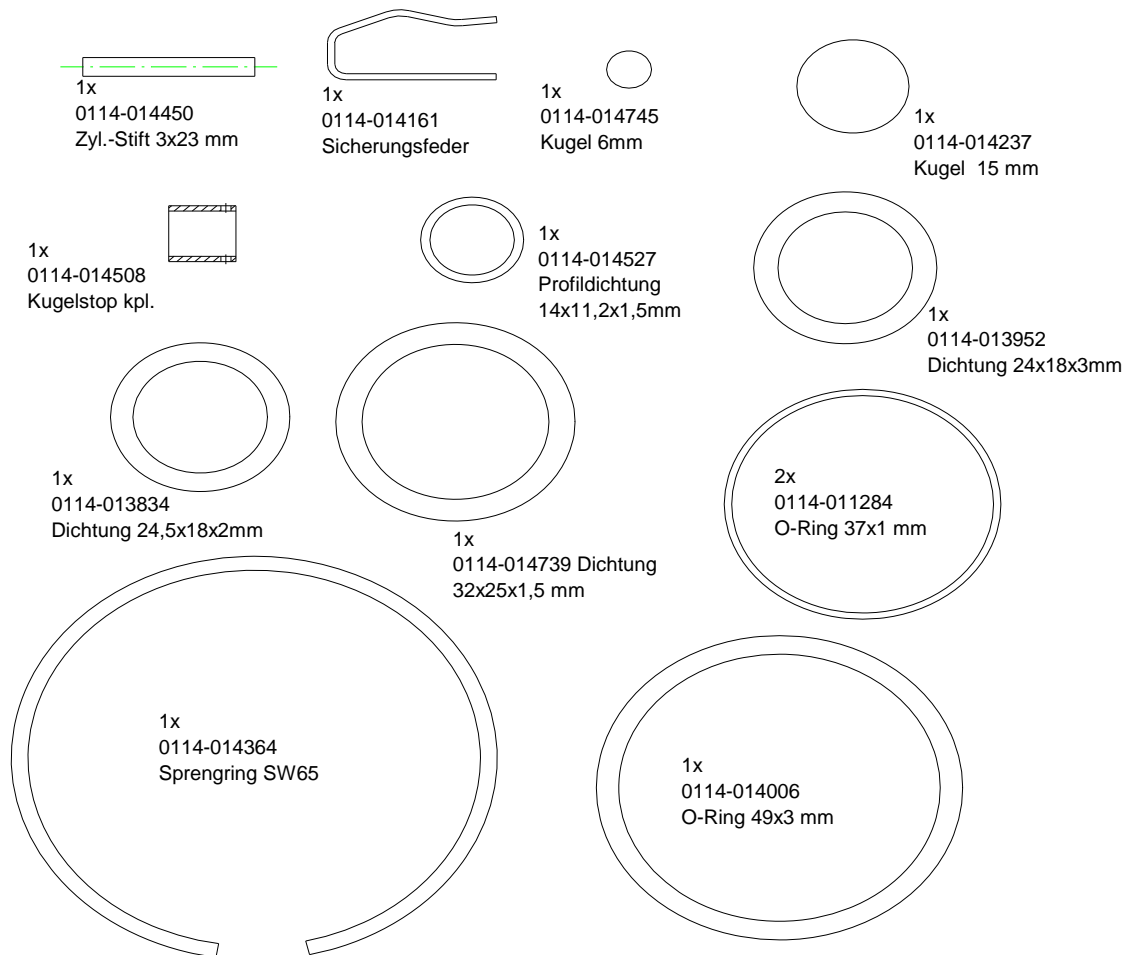
Packung gem. unten 0114-014512



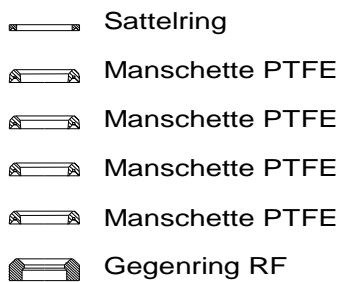
Ersatzteilliste / spare parts list

Reparatursatz Materialpumpe / repair kit material pump MP 27/75

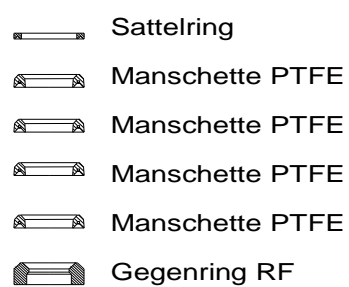
0114-016006



Packung PTFE oben 0114-014559



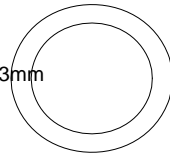
Packung PTFE unten 0114-014558



Dichtungssatz Materialpumpe / seal kit material pump MP 27/75

0114-018597

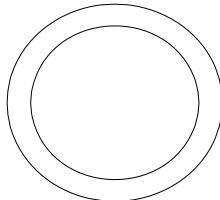
1x
0114-013952
Dichtung 24x18x3mm



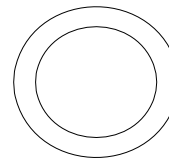
1x
0114-014527
Profildichtung
14x11,2x1,5mm



1x
0114-014739
Dichtung 32x25x1,5



1x
0114-013834
Dichtung
24,5x18x2mm



2x
0114-011284
O-Ring
37x1 mm



1x
0114-014006
O-Ring
49x3 mm

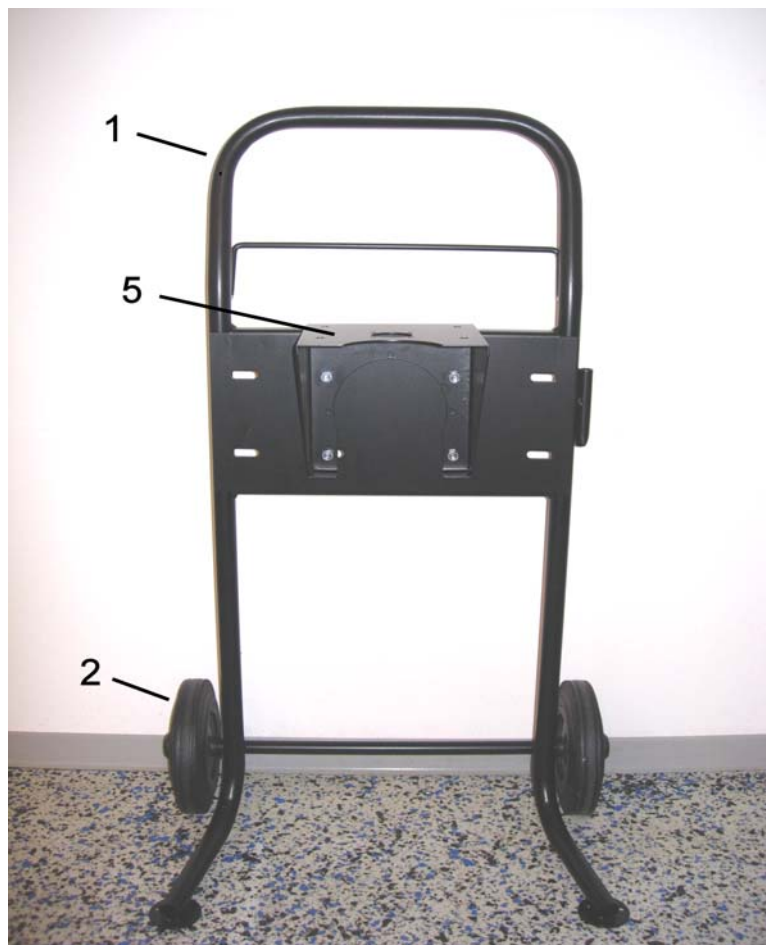


Ersatzteilliste / spare parts list

Ersatzteile Fahrgestell / spare parts trolley

Pos.	Art.-Nr.	Bezeichnung	Stk. pcs.	Description
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	0114-019203	Fahrgestell Typ 02 (M)		trolley type 02 (M)
1	0114-014640	Gestell	1	frame
2	0114-014057	Rad	2	wheel
5-11	0114-014806	Wandhalter kpl. bestehend aus:	1	wall holder cpl.
5	0114-019005	Wandhalter	1	wall holder
7	0114-014216	Schraube	4	screw
8	0114-014164	Mutter	4	nut
9	0114-014165	U-Scheibe	4	washer
10	o.Abb 0114-014179	Zyl.Schraube	4	cyl.screw
11	o.Abb 0114-009743	Federring	4	spring ring



Vorbehaltl. Techn. Änderungen

Ersatzteilliste / spare parts list

Ersatzteile Wandhalter / spare parts wall bracket
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Pos.	Art.-Nr.	Bezeichnung	Stk. pcs.	Description
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	0114-014806	Wandhalter Typ 02 (M)		wall bracket assy. type 02 (M)
	0114-019005	Wandhalter	1	wall bracket
	0114-014179	Schraube	4	screw
	0114-009743	Federring	4	ring

Vorbehaltl. Techn. Änderungen

Ersatzteile Dreibein / spare parts tripod

Pos.	Art.-Nr.	Bezeichnung	Stk. pcs.	Description
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	0110-011802	Dreibein kpl.		triprod assy.
	0114-009743	Federring	4	spring washer
	ZZ-1892-D	Zylinderschraube	4	cylinder screw

Vorbehaltl. Techn. Änderungen

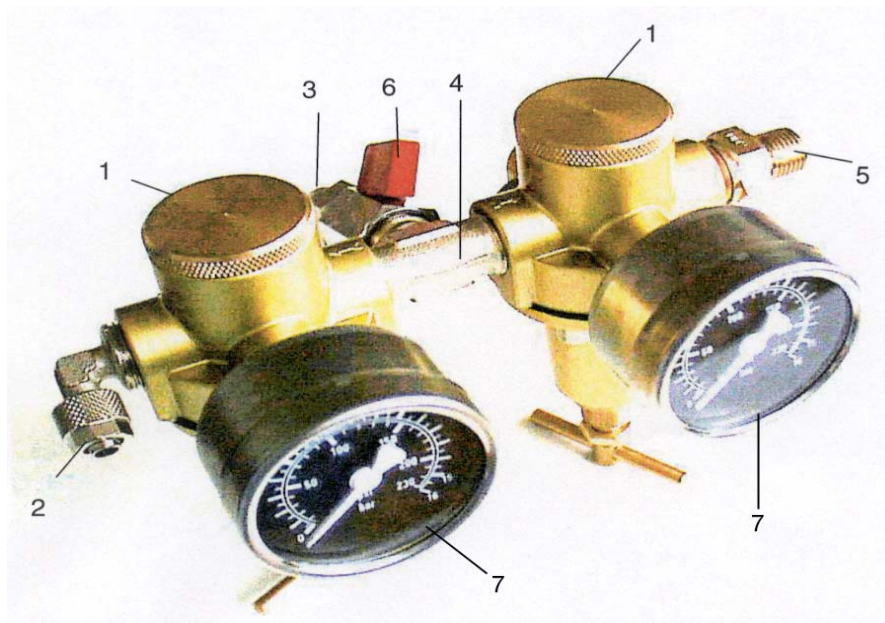
Ersatzteilliste / Spare parts list

Druckregler / air regulator G 3/8" Aircombi

0114-009350

Druckregler Aircombi

air pressure regulator Aircombi



Pos.	Art.-Nr.	Bezeichnung	Description
1	0114-13531-01	Druckluftregler kpl.	2 air pressure regulator cpl.
2	0114-009164	Winkel	1 elbow
3	0114-009048	Einstecknippel	1 nipple
4	0114-009049	T-Stück	1 T-piece
5	0114-014538	Doppelnippel	1 nipple
6	0114-021608	Kugelhahn	1 relief valve
7	0114-014048	Manometer	2 gauge

Vorbehaltl. Techn. Änderungen

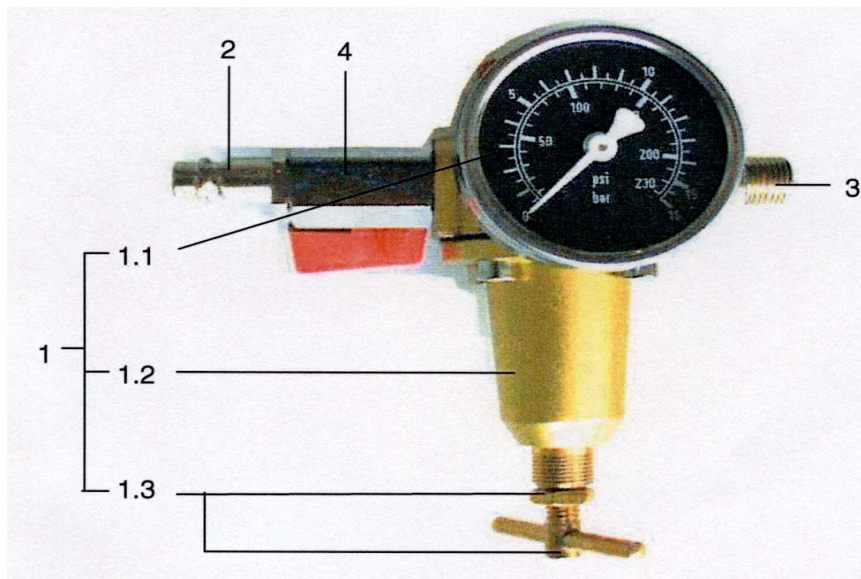
Ersatzteilliste / Spare parts list

Druckregler / air regulator G 3/8" Airless

0114-013531

Druckregler Airless

air pressure regulator Airless



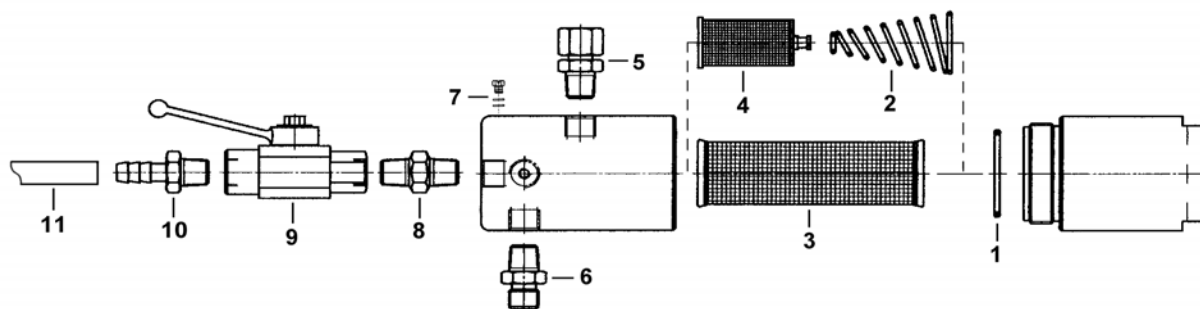
Pos.	Art.-Nr.	Bezeichnung	Description
1	0114-13531-01	Druckluftregler kpl.	1 air pressure regulator cpl.
1.1	0114-014048	Manometer	1 gauge
1.2	0114-020295	Druckreglergehäuse	1 pressure regulator housing
1.3	0114-014597	Knebelschraube mit Mutter	1 t-handle with nut
2	0110-009091	Einstecknippel	1 nipple
3	0114-014538	Doppelnippel	1 Doppelnippel
4	0114-021608	Kugelhahn	1 relief pipe

Vorbehaltl. Techn. Änderungen

Ersatzteile HD-Filter 03 / spare parts HP-filter 03

Pos.	Art.-Nr.	Bezeichnung	Stück Pcs.	Description
	0110-009130	HD-Filter 03 kpl. mit Sieb 100 M		HP-filter cpl. + filter insert 100 m
1	0114-016061	Dichtung	1	gasket
2	0114-016060	Feder für Siebeinsatz klein	1	spring for filter insert small
3	0110-009131	Siebeinsatz 50 M, SS		filter insert 50 mesh, SS
	0110-009132	Siebeinsatz 100 M, SS *	1	filter insert 100 mesh, SS
	0110-009133	Siebeinsatz 150 M, SS		filter insert 150 mesh, SS
	0110-009134	Siebeinsatz 200 M, SS		filter insert 200 mesh, SS
4	0114-014916	Siebeinsatz klein 30 M, blau		filter insert small 30 mesh, blue
	0114-014887	Siebeinsatz klein 50 M, orange		filter insert small 50 mesh, orange
	0114-014876	Siebeinsatz klein 70 M, gelb		filter insert small 70 mesh, yellow
	0114-014875	Siebeinsatz klein 100 M, schwarz *	1	filter insert small 100 mesh, black
	0114-014877	Siebeinsatz klein 150 M, rot		filter insert small 150 mesh, red
	0114-014878	Siebeinsatz klein 200 M, weiss		filter insert small 200 mesh, white
5	0114-016058	Einlaufverschraubung	1	inlet screwing
6	0114-016059	Auslassverschraubung	1	outlet screwing
7	0110-009065	Erdungsklemme	1	grounding clamp
8	0114-019090	Ablassverschraubung	1	outflow screwing
9	0114-019091	Kugelhahn	1	ball valve
10	0114-019092	Schlauchnippel	1	hose connection
11	0110-009103	Rücklaufschlauch	1	return flow hose

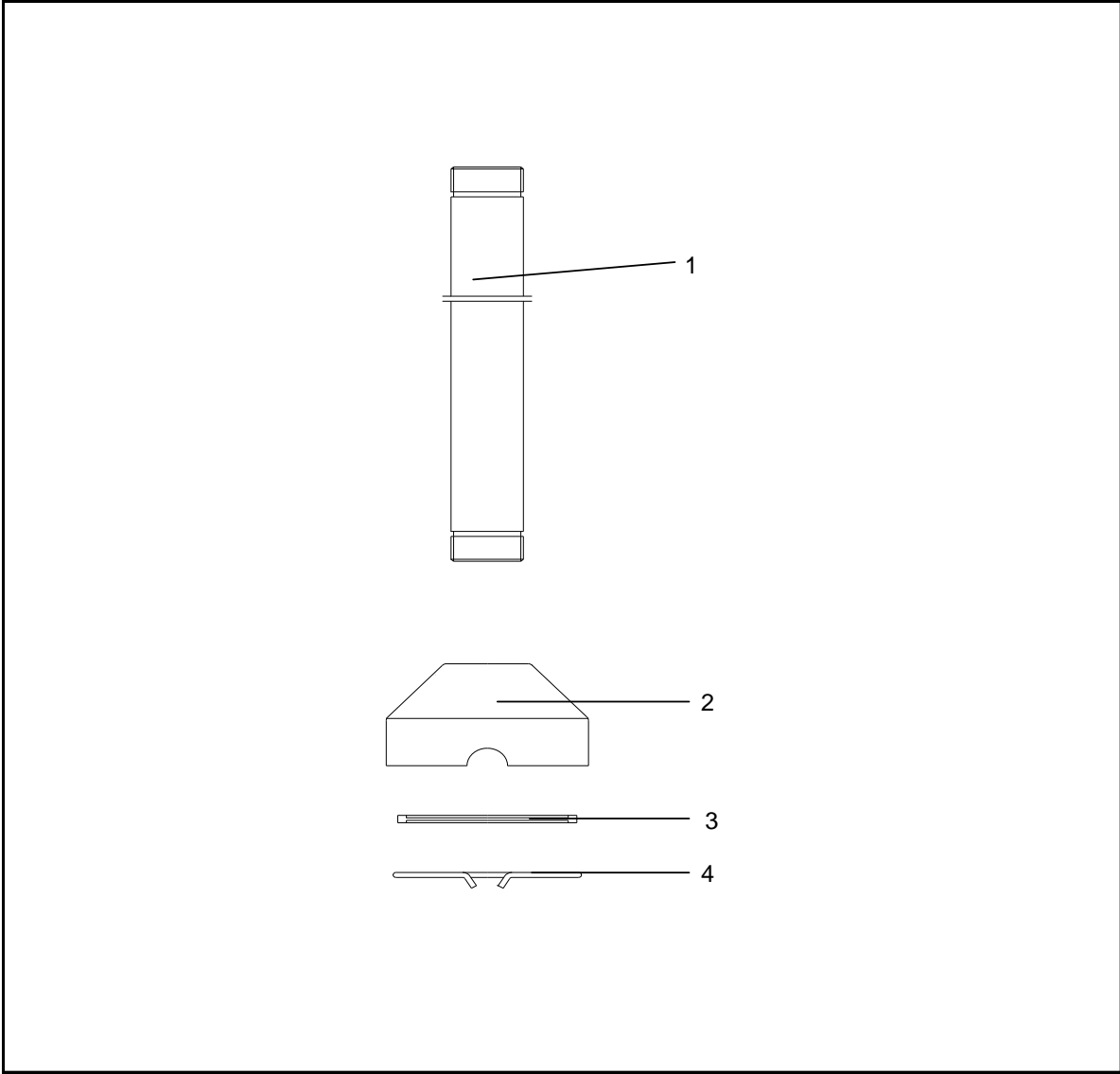
* standard



Ersatzteilliste / spare parts list

Ersatzteile Ansaugsystem / spare parts suction system

Pos.	Art.-Nr.	Bezeichnung	Description
	0110-011726	Ansaug syst. NW 20 Dreibein	suction system DN 20 tripod
1	0114-011515	Ansaugrohr NW 20	suction tube
2	0114-013734	Saugglocke D 70	filter housing
3	0114-014112	Materialsieb D 70 M 20	strainer 20 mesh
		wahleise :	optional :
	0114-014068	Materialsieb D 70 M 50	strainer 50 mesh
	0114-014221	Materialsieb D 70 M 70	strainer 70 mesh
4	0114-014080	Sicherungsring	safety ring

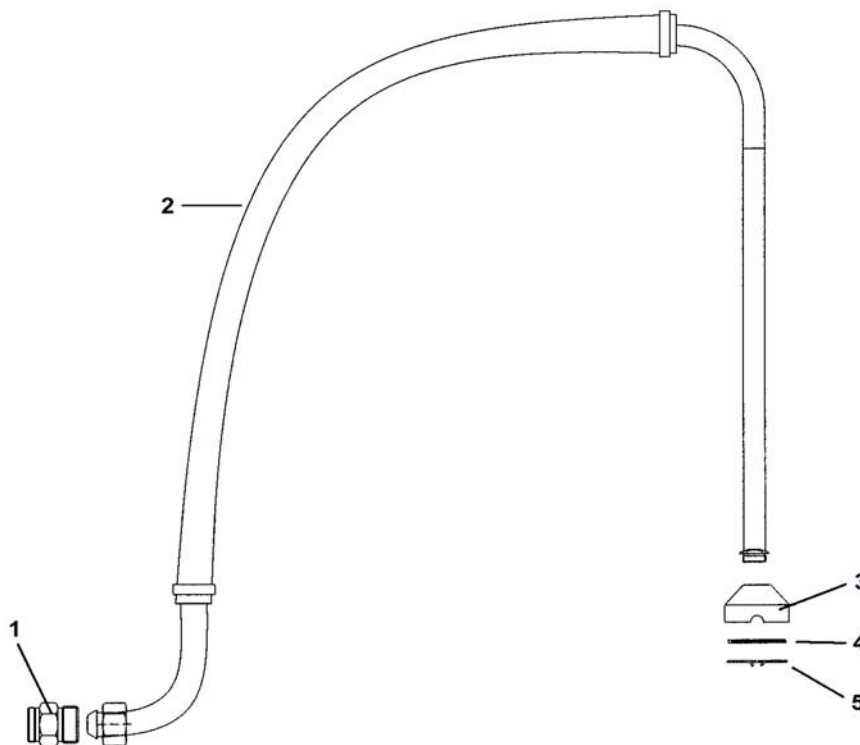


Vorbehaltl. Techn. Änderungen

Ersatzteilliste / spare parts list

Ersatzteile Ansaugleitung / spare parts suction system

Pos.	Art.-Nr.	Bezeichnung	St. Pcs.	Description
	0114-014844	Ansaugsystem NW 20 flexibel		suction system DN 20 flexible
1	0114-013801	Reduziernippel	1	reducing nipple
2	0114-018506	Ansaugleitung NW 20	1	suction hose DN 20
3	0114-013734	Siebgehäuse	1	filter housing
4	0114-014112	Materialsieb D 70 M 20	1	strainer 20 mesh
	0114-014068	Materialsieb D 70 M 50		strainer 50 mesh
	0114-014221	Materialsieb D 70 M 70		strainer 70 mesh
	0114-014080	Sicherungsring		retaining ring



Vorbehaltl. Techn. Änderungen

13. RECOMMENDED GUN

High Pressure Pump	Max. Pressure Pump (bar)	Recommended Gun	Max. Pressure Gun (bar)
HP 3/28 Airless-Outfit	224	HAP 50 Airless 1	500 420
HP 3/28 Aircombi-Outfit	224	AA 4000 DSG-2000	275 250
HP 4/20 Airless-Outfit	100	HAP 50 Airless 1	500 420
HP 4/20 Aircombi-Outfit	100	AA 1500 AA 4000 DSG-2000	105 275 250
HP 4/32 Airless-Outfit	256	HAP 50 Airless 1	500 420
HP 4/32 Aircombi-Outfit	256	AA 4000 DSG-2000	275 250
HP 6/34 Airless-Outfit	272	HAP 50 Airless 1	500 420
HP 6/34 Aircombi-Outfit	272	AA 4000	275
HP 6/60 Airless-Outfit	390	HAP 50 Airless 1	500 420
HP 10/32 Airless-Outfit	256	HAP 50 Airless 1	500 420
HP 10/32 Aircombi-Outfit	256	AA 4000	275
HP 20/66 Airless-Outfit	429	HAP 50	500
HP 25/48 Airless-Outfit	384	HAP 50 Airless 1	500 420
HP 30/32 Airless-Outfit	256	HAP 50 Airless 1	500 420
HP 30/75 Airless-Outfit	474	HAP 50	500

14. EC DECLARATION OF CONFORMITY

ITW Finishing Systems and Products

Ringwood Road,
Bournemouth
BH11 9LH,
England

As the representative/manufacturer of the items listed below:

High-Pressure Paint Pump Models BINKS

HP 4/20, HP 3/28, HP 4/32, HP 10/32, HP 6/34, HP 25/48, HP 6/60,
HP 20/66, HP 30/32, HP 30/75

Declare, under our sole responsibility, that the equipment to which this document relates is in conformity with the following standards or other normative documents:

EN 13463 1:2009, EN 13463 5-2005, EN 982 :1996 + A1 :2008 and EN 12621 :2006

And thereby conform to the protection requirements of Council Directive 98/37/EC relating to **Machinery Safety Directive** and council Directive 94/9/EC relating to **Equipment and Protective Systems intended for use in Potentially Explosive Atmospheres**;

CE  2 II Gc T4

Issued on: 23/02/10

Authorised by:



Dave Smith
General Manager

15. WARRANTY STATEMENT

5 – Year HP Piston Pump Warranty

All Piston Pumps are backed by our 5-year warranty, as a measure of the confidence we place in the quality of these products - a confidence that you can share.

BINKS HP Piston Pumps Five-Year Warranty

ITW Finishing Systems and Products (“ITW”) warrants to the original use purchaser of ITW manufactured HP Piston Pumps that ITW will repair or replace, free of charge, including return shipping costs within Europe, any such products which under normal use and service proves defective in material or workmanship, as determined by ITW inspection, within FIVE YEARS from date of shipment from ITW, provided the claimed defective product, or part thereof, is promptly returned to the ITW factory or ITW authorised warranty repair centre with transportation pre-paid.

This warranty does not cover failure of parts or components due to normal wear or damage, which in the judgement of ITW, arises from misuse, abrasion, corrosion, negligence, accident, substitution of non ITW parts, faulty installation or tampering.

If ITW inspection discloses no defect in material or workmanship, repair or replacement and return will be made at customary charges.

This warranty covers ITW manufactured Piston Pumps manufactured and shipped on or after January 1st, 2004.

Equipment not covered by this ITW warranty such as accessories or components of equipment (switches, connections, fittings, hoses) which are sold by ITW are subject to the ITW Standard Terms of Sales & Delivery and the terms of the individual manufacturer.

The foregoing warranty supersedes, voids and is lieu of all or any other ITW warranties, express or implied, and no warranty or merchantability or fitness for particular purpose is intended or made. ITW’s sole obligation and the original use purchaser’s sole remedy is as stated above and in no event shall ITW be liable for any special, direct, indirect, incidental, consequential or other damages, or expenses of any nature including, without limitation, loss of profits or production time incurred by the original use purchaser or any other party.

Authorised by:

A handwritten signature in black ink, appearing to read 'D. Smith', is written over a light grey rectangular background.

David Smith
General Manager