



Product Description
Safety Instructions
Operating Instructions
for
BINKS
Piston Pump LP 0/4

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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1. Intended Use

BINKS piston pumps are used exclusively to discharge and apply spray materials, or as conveyor pumps. Materials that can be pumped include:

- Water-dilutable lacquers and lacquer paints
- Lacquers and lacquer paints containing solvents
- Base coats and primers
- Micaceous iron ore (with some restrictions; see below)
- Zinc dust paints
- Epoxide and polyurethane paints
- Oils
- Plastics, liquid
- Wax-based underbody protection materials
- Solvent-free spray materials or spray materials low in solvents

The processing guidelines and safety instructions of the spray material manufacturer must be observed.



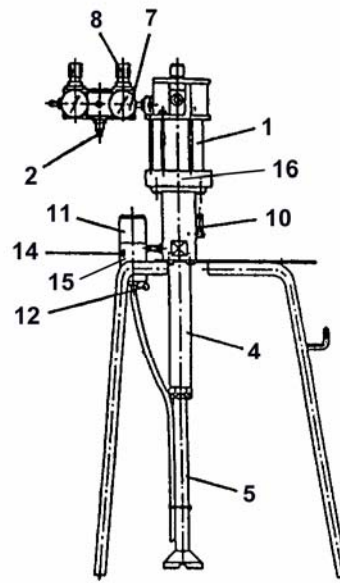
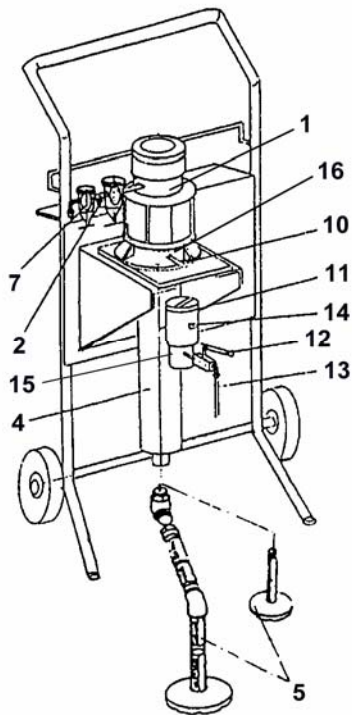
Avoid processing abrasive, grainy spray material. Spray material of this type will result in heavy wear of the valves and packing kits of the material pump as well as the nozzle and spray gun that are used.

PLEASE NOTE!

BEFORE START-UP, ADD SEPARATING AGENT:

**FOR WATER-SOLUBLE PAINT: 0114-014871
FOR SOLVENT-BASED PAINT: 0114-009433**

2. Short Description (Fig. 1)



- 1 Compressed air drive
- 2 Connector for compressed air supply
- 4 Spray material pump
- 5 Intake system
- 7 Compressed air control valve
- 8 Pressure reducer
- 10 Separating agent chamber

- 11 High pressure filter (if present)
- 12 High pressure filter relief valve
- 13 Return flow
- 14 Earth terminal
- 15 Connector for spray material output
- 16 Earth terminal (for use without high pressure 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.

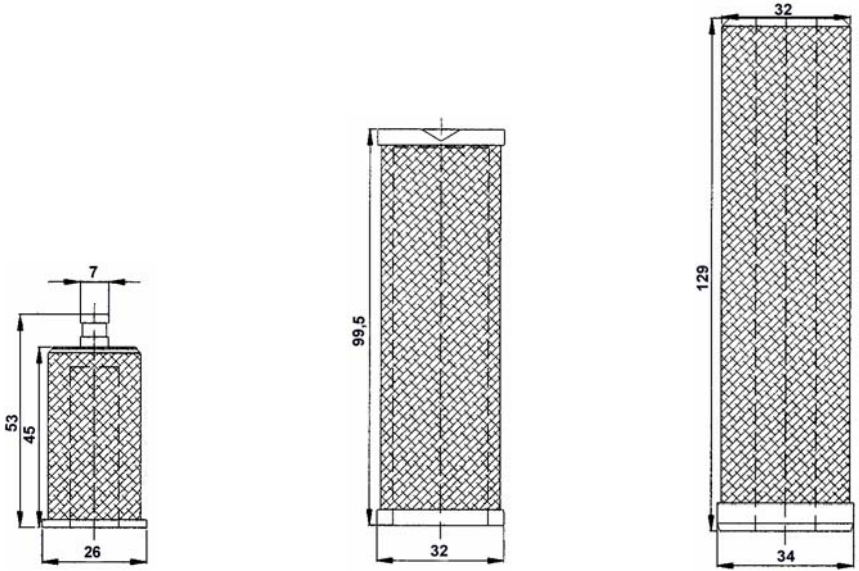
The spray material being pumped is filtered through the high pressure filter (optional with LP 10/4: type 03 - order no. 0110-009130) before it is discharged through the spray material line and spray gun. We recommend the following filter inserts for different types of spray material:

Filter size	Nozzle	Spray material
M 200	Less than 0.3 mm	Colourless coatings
M 150	Greater than 0.3 mm	Spatula, filler, red lead
M 100	Greater than 0.3 mm	Spatula, filler, red lead
M 70	Greater than 0.5 mm	Micaceous iron, red lead
M 50	Greater than 0.6 mm	Dispersion, filled spray material



Do not use a filter insert with fibre-filled spray material.

HD filter inserts (overview)

			
Filter type	01	03	11
Order no.	0114-013525	0110-009130	0114-011760
Strainer surface	29 cm ²	84 cm ²	118 cm ²
Core material	Polyamide	Stainless steel 1.4305	Polyamide

3. Technical Data

BINKS		LP 10/4
Theoretical pressure transmission ratio		4 : 1
Compressed air drive	Max. operating pressure	5 bar
	Cylinder diameter	70 mm
Spray material pump	Volume conveyed per double stroke	150 ccm
	Maximum allowable operating temperature	20 bar
	Piston stroke	75 mm
	Nominal volume flow conveyed	9 ltr./minute
Connections	Air input	Quick coupling nipple or R 3/8" (AG)
	Air gun	Angle screw connection NW 8x6 or 1/4" NPS (AG)
	Material output on high pressure filter	1/4" NPS (AG)
Dimensions of base pump	H x W x D in mm	575 x 120 x 120

The rating plate of your device is located on the spray material pump. Transfer the information from the rating plate in Fig. 3. Please have this information ready when you call customer service.

Fig. 3

ITW Oberflächentechnik GmbH & Co. KG			
Justus-von-Liebig-Str. 31			
D-63128 Dietzenbach			
Druckluft getriebene Kolbenpumpe		Packung	
Geräte-Typ	<input type="text"/>	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

In addition to the Operating Instruction and mandatory regulations for accident prevention applicable in the country where the system is installed, recognised technical rules for safety-conscious and professional work must be observed.

4.1. BASIC PRINCIPLE; PROPER USE

1. The BINKS piston pump is constructed according to the state of the art and recognised safety rules. However, it is still possible for dangers to life and limb of the user or other persons and/or damage to the BINKS piston pump or other property to occur while the pump is in use.
2. The BINKS piston pump must only be used if it is in proper condition, and only for its intended purpose in a safety-conscious manner with full knowledge of the dangers involved and while observing the Operating Instruction! In particular, faults that could have a negative effect on safety must be eliminated immediately! The spray material line must never be pulled across objects with sharp edges and must be checked to ensure it is in flawless condition each time before use.
3. BINKS piston pumps must only be used for the intended use specified in Section 1. Any other or any additional use beyond what is intended is considered improper use. The manufacturer/supplier shall not be liable for any resulting damages. The user alone assumes the risk.
4. Unauthorised modifications or repairs to BINKS piston pumps release the manufacturer of any liability.
5. According to accident prevention regulations for liquid jet sprayers ZH 1/406 of the relevant trade unions, spray paint systems must be inspected as needed, but at least every 12 months by an expert to determine whether they are still capable of operating safely. If devices have been taken out of service, the check can be delayed until the next time the system is started up. The operator is obligated to register the system for a test. The results of the test must be kept in writing.

4.2. OPERATING SAFETY

1. The conditions of accident prevention regulations "Processing Coating Substances" (VGB 23), the guidelines for liquid jet sprayers (ZH 1/406), and for static electricity (ZH 1/200) of the relevant trade unions must be observed.
2. Every person who uses a BINKS piston pump must have read and understood the Operating Instruction, especially the chapter entitled "Safety".
3. When working in enclosed areas, an effective technical ventilation system must be used.
4. Use only spray material lines and spray guns designed for the corresponding highest permissible operating pressure.



5. Make sure there are no ignition sources in the vicinity, for example, open fire, sparks, glowing wires, hot surfaces, burning cigarettes, etc. The distance between the spray jet outlet and a possible ignition source must be at least 5 m (danger of fire and explosion if ignitable spray mist is present).
6. Spray material emerges from the nozzle under pressure. Do not direct the spray jet at people or animals, as there is a risk of injury. In case of a skin injury and contact with paint, lacquer, or solvent, there is danger of infection. Call a physician immediately for fast, knowledgeable treatment. Inform the doctor immediately about the spray material or solvent being used. Present the safety data sheet.
7. Note that fumes hazardous to your health may be present when working with spray jets (see the information on the safety data sheet and material container). You should therefore use a personal respirator system as specified by the spray material manufacturer. Keep children and other persons away from your work area.
8. Keep the BINKS piston pump in a secure location that is not accessible for children and unauthorised persons. Make sure unauthorised persons (especially children) are not able to place the BINKS piston pump in operation.
9. Store the BINKS piston pump in a dry room.
10. Use only BINKS original accessories and BINKS original spare parts.
11. **Repair work must only be performed by authorised specialised company or by ITW Oberflächentechnik. You can receive addresses of specialised companies from ITW Oberflächentechnik or your retaining specialist.**
12. When the pump is being repaired or assembled, make certain that all screw connections are clean and properly seated.
Prior to restart-up of the pump, its correct resistance (1 MΩ) must be measured. The resistance is determined between the base valve and the top part of the pump.
13. **When performing spray tasks, make certain not to spray in the direction of the BINKS piston pump.**
14. Dispose of cleaning and spray material waste as described in the manufacturer's instructions of the relevant spray material and solvent.
15. During work interruptions, for example changing the nozzle, lock the safety lever on the spray gun. Release pressure from the device.

4.3. SPECIAL HAZARDOUS LOCATIONS

1. Due to the high pressure level, the flow of material emerging from the spray gun has a significant cutting effect.



Therefore you must **never** point the spray gun at yourself or other persons, animals, or objects. **Never** reach into the spray jet with your finger or hand or hold your finger or hand in front of the spray gun.

Note:

In case of injuries caused by the cutting effect of the flow of material, **consult a physician immediately**. Inform the doctor about the spray material (paint), solvent (diluting agent) and applicable manufacturer's information according to the safety data sheet (supplier, supplier's phone number, material number).

2. As the spray material emerges, a recoil force is generated. Therefore you should always keep a firm grip on the spray gun and make certain you have a secure footing and position.
3. In closed systems or systems under pressure in which aluminium or galvanised parts come in contact with the liquid, dangerous chemical reactions may occur when using 1.1.1 trichloroethane, methylene chloride, or other solvents containing halogenated chlorinated hydrocarbons.

If you want to use these solvents or lacquers containing them, we recommend contacting the manufacturer of the material or ITW Oberflächentechnik.

4. If problems occur because of clogging, always unlock the compressed air supply on the ball valve. Disconnect the device from the compressed air network, activate the spray gun, and open the high pressure filter relief valve before loosening the spray gun or hose.
5. To prevent fire or explosion due to static charge, the system must be properly grounded (device, material container, and object being coated). If you are using materials with a flashpoint below 21°C (for example nitro), of ignition group G1-G3, an additional conducting connection must be created between the material container and device (potential equalization cable). Use only material containers made of metal.
6. Prevent spray from returning into a closed container. Otherwise a mixture of gas and air capable of igniting will be formed. Be especially careful with materials that have a flashpoint below 21°C (for example nitro).
7. The A-weighted noise level of pumps can exceed 85 dB (A).

Depending on local conditions, a higher sound level may be generated, which may produce enough noise to cause noise induced hearing loss. In this case, operating personnel must be protected using appropriate safety measures.

5. Start-up and Operation

5.1. GROUNDING BINKS PISTON PUMPS



To prevent ignition of flammable spray material due to static charge, the BINKS piston pump must be grounded before start-up according to accident prevention regulation "Static Electricity" ZH 1/200 of the relevant trade unions. An earth cable is included with delivery.

1. Securely clamp the earth cable onto the terminal of the high pressure filter or the middle part of the pump (for use without a high pressure filter).
2. Connect the other end of the earth cable with a suitable grounding device (for example in earth rail).

5.2 PREPARING THE BINKS PISTON PUMP FOR START-UP

Follow the steps listed below:

1. Check whether the separating agent chamber (Section 2 Short Description) is completely filled (order no. 0114-014871 for water-dilutable paint, order no. 0114-009433 for paint containing solvents).
2. Using the table in Section 2, High Pressure Filter Inserts, select a suitable filter insert and place it in the high pressure filter.
3. Connect a suitable spray material line to the connector on the high pressure filter.



The spray material lines from the BINKS program are identified on the screw connection by the relevant maximum permissible operating pressure and bursting pressure.

The lower value, the maximum permissible operating pressure, must be greater than the highest permissible operating pressure of the spray material pump (see Section 3).

4. Connect a spray gun designed for at least the maximum permissible operating pressure of the spray material pump to the spray material line.
5. Make certain the ball valve on the compressed air reducer is closed.
6. Connect the compressed air supply to the connector of the compressed air supply.
7. The piston pump is equipped with a maintenance unit which varies depending on type and design and consists of a filter/pressure reducer/oiler. The purpose of the maintenance unit is to clean liquid and solid ingredients from the compressed air, regulate the air pressure, and spread very finely atomised oil through the air to lubricate cylinders, valves and similar elements.

If a maintenance unit with oiler and water separator is installed, we recommend adjusting the amount of oil during operation to 1 drop per 10 double strokes (adjust metering screw). The number of drops can be seen in the inspection glass.



The filter cleans condensed water, pipe scale, particles of soot, etc. from the compressed air.

Drain condensed water which has collected regularly and clean the sinter filter if it is dirty.

Prior to initial start-up of the compressed air line, release pressure on the pressure reducer by unscrewing the regulating screw. Then screw in the regulating screw anticlockwise again until the pressure gauge on the pressure reducer indicates the desired working pressure. Note the minimum and maximum values as they appear in Section 3 Technical Data.

8. You can readjust the clamping screw (0114-016052) for pretensioning packings with the tool included with delivery (5-mm pin-punch) through the holes on the adapter housing (0114-016053).
9. Recommended setting ex works: Tighten the clamping screw (0114-016052) so that the pump starts up at 0.5 to 1.0 bar.
10. Check regularly (and after every extended period without use) to ensure the clamping screw (0114-016052) is properly seated. Use the tool included with delivery to check tightness. The screw should be snugly seated, but the pump must start up at 0.5 to 1.0 bar. If material still emerges even though the clamping screw is tightened, the packing must be replaced.

5.3 FLUSHING BINKS PISTON PUMPS



Wear protective goggles.

Every BINKS piston pump is checked with water for final monitoring and flushed with a non-resinous preservative oil. There is a possibility that residual moisture of a water emulsion may remain in the device during this flushing process.

Before starting up the system for the first time, the remains of this preserving fluid and any impurities, which are unavoidable when the system is being assembled, must be thoroughly flushed out.

Followed these steps:

1. Prepare the BINKS piston pump for start-up as described in Section 5.2.
2. Close the high pressure filter relief valve.
3. Immerse the spray material pump or intake system in the container with solvent.
4. Guide the return flow of the high pressure filter into the container with solvent. Open the high pressure filter relief valve.
5. Open the ball valve and use the pressure control valve to adjust the compressed air supply to 1 bar. The spray material pump or intake system is now drawing in the solvent. The solvent flows back into the container through the high pressure filter, the high pressure filter relief valve, and the return flow.

6. Direct the spray gun into the container. Unlock the safety lever, activate the spray gun trigger, and close the high pressure relief valve. Then the solvent flows through the high pressure filter, spray material line, and spray gun back into the container.
The flushing time depends on the length of the line and solubility of the material. We recommend performing a brief second flushing with "fresh" solvent.
7. Release the spray gun trigger.
8. Slowly increase the pressure on the pressure control valve to the maximum operating pressure (see Section 3 Technical Data). As you do so, observe all lines and plug or screw connections and check for leaks. If leaks occur in the system, take the BINKS piston pump out of operation immediately. Do not place the BINKS piston pump in operation again until the leak is eliminated.
9. Reduce the pressure on the pressure control valve of the pressure reducer again and close the ball valve.
10. Make certain the return flow is always directed into the solvent container. Open the high pressure valve carefully to reduce the pressure in the spray material pump and high pressure filter.
11. Direct the spray gun into the container with solvent and activate the trigger to release any pressure that may still remain in the spray material line and spray gun.



If you will be working with water-dilutable spray material, the BINKS piston pump must be flushed again with water extremely thoroughly before start-up.

5.4 PREPARING AND ADJUSTING SPRAY MATERIAL

To achieve a problem-free surface, working with no faults, special care must be taken in setting up paints and lacquers (please consult with the material manufacturer).

If dilution is required, the spray material must be diluted before spraying work begins with the solvent recommended by the supplier. Add enough thinner so that the spray material runs off the stirring stick readily after sufficient stirring. To eliminate all uncertainty, we recommend avoiding an immersion measuring cup which indicates by the time it takes for the spray material to run out whether the spray material is still too thick and more thinner must therefore be added. Figures collected through experience have shown that the time it takes for paints and lacquers to run through is 18 to 22 DIN4 sec. For effect lacquers and coating fill materials, it may be 25 to 50 DIN4 sec. These values refer to DIN EN ISO 2431 and are determined at a temperature of 20 °C. Generally lacquer and paint manufacturers specify the most favourable spray consistency for their products. When using motor-driven agitators, make certain no air bubbles form in the spray material.



The measurement process is performed as follows:

Immerse the measuring cup into the paint or lacquer that has been adjusted to spray consistency until the cup is full to the brim. To measure, remove the immersion measuring cup quickly and count the seconds until the completely full content of the cup has run out through the 4-mm nozzle, i.e. until the time when a break is discerned in the paint that is draining out.

Count the number of seconds on a wrist watch or measure the time with a stop watch. For example, if a consistency of 19 DIN4 sec. is specified, but the result of the measurement is 24 DIN4 sec., an appropriate amount of additional thinner must be added and the measurement repeated.

We recommend cleaning the immersion measuring cup immediately after use so that it can be used again for the next measurement.

Because the BINKS piston pump uses two filters, an intake filter and a high-pressure filter, there is no need to filter the spray material before processing.

For especially high-quality lacquer jobs, an additional gun filter available as a BINKS accessory can be used.

5.5 START-UP

1. Prepare the BINKS piston pump for start-up as described in Section 5.2. If necessary, flush as described in Section 5.3.
2. Close the high pressure filter relief valve.
3. Immerse the spray material pump or intake system into the spray material being processed.
4. Guide the return flow of the high pressure filter into the container. Then open the high pressure filter relief valve.
5. Open the ball valve and use the pressure control valve to adjust the compressed air supply to 1 bar. Then the spray material pump draws in spray material. The spray material flows back into the container through the high pressure filter, the high pressure filter relief valve, and the return flow.
6. Direct the spray gun into the container. Unlock the safety lever on the spray gun. Activate the spray gun trigger and close the high pressure relief valve. Then the spray material flows through the high pressure filter, spray material line, and spray gun back into the container.
7. Release the spray gun trigger and adjust the operating pressure on the pressure release valve of the pressure reducer.

Before performing coating work, we recommend spraying a sample (for example on cardboard or wood). Work on the object being processed should not begin until satisfactory results are achieved with the sample. Make certain that coating is applied evenly to the sides and edges of the object being coated.

5.6 WORK INTERRUPTIONS



- When processing 2-K spray material, the set pot life must be noted and precisely observed. Within this time, the device must be carefully cleaned and flushed with the recommended solvent. There must be no residue in the spray material pump, high pressure filters, or spray gun.
- In case of work interruptions, lock the safety lever of the Airless gun.

For work interruptions of 10 to 30 minutes, please follow these instructions:



Wear protective goggles.

1. Lock the safety lever on the spray gun.
2. Lock the compressed air supply by closing the ball valve.
3. Open the high pressure release valve briefly, making certain as you do so that the return flow is not directed against other persons or yourself. Continue until pressure is reduced. Then close the high pressure release valve again.
4. Clean residue of the spray material off the outside of the air cap and/or Airless nozzle.

6. Taking the Piston Pump out of Operation



After work is complete, the BINKS piston pump must be thoroughly cleaned. Paint residue must never be left to dry in the device. Use a solvent corresponding to the spray material in use to clean the BINKS piston pump.



Wear protective goggles.

1. Close the ball valve for the compressed air supply.
2. Make certain the return flow is always directed into the spray material container. Open the high pressure valve carefully to reduce the pressure in the spray material pump and high pressure filter.
3. Direct the spray gun into the container with spray material and activate the trigger to release any pressure that may still remain in the spray material line and spray gun.
4. Lock the safety lever on the spray gun.
5. Remove the spray material pump or intake system from the spray material.

7. Cleaning the BINKS Piston Pump



Residue of spray material or solvent must never under any circumstances be allowed to enter the soil or sewer system.



Wear protective goggles.

1. Remove residue of spray material from the outside of the spray material pump or intake system and add it to the solvent belonging to the spray material.
2. Remove and clean the air cap, nozzle, or nozzle system as described in separate instructions for the spray gun. We recommend storing the nozzle or nozzle system in appropriate solvents.
3. Release the safety mechanism on the spray gun without air cap/nozzle, but with nozzle system or spray guard, and activate the spray gun trigger lever. Close the high pressure release valve, adjust the compressed air supply to max. 2.0 bar, and slowly open the ball valve so that the spray residue in the high pressure material line, high pressure filter, spray gun, and spray material pump can flow out of the spray gun and into an open collecting container. Leave the spray gun open until the remaining spray material is flushed out with the solvent.
4. Flush the entire system for several minutes with solvent in the circuit until solvent is emerging cleanly and with no problems from the spray gun. Turn off the compressed air with the ball valve and lock the spray gun.
5. Clean the outside of the spray gun thoroughly and check the pistol grip filter if there is one.
6. Clean the filter insert in the high pressure filter.
7. Clean the intake filter in the intake system.
8. We recommend always having the system filled with liquid.

If the BINKS piston pump is taken out of operation for an extended period of time, we recommend preserving the BINKS piston pump. To preserve the BINKS piston pump, flush with a silicon-free oil as described in Section 5.3.

8. Faults, Possible Causes, and Remedies

If the device should fail to perform as it should, please contact your specialised dealer or the manufacturer of the device, who will be able to perform repairs requiring specialised knowledge.

8.1 COMPRESSED AIR SUPPLY COMPONENT GROUP

Type of damage	Damage appears as	Possible cause	Remedy
BINKS piston pump does not start pumping.	Spray material pressure drops. BINKS piston pump does not start up.	No compressed air. Nozzle on the spray gun is clogged.	Check the compressed air supply. Clean or replace nozzle.
Constriction of cross section.	Air motor control locked.	Hose line kinked, pressure regulator dirty. Compressed air not clean.	Check lines. Clean compressed air valve. Filter compressed air.

8.2 COMPRESSED AIR DRIVE AND CONTROL COMPONENT GROUP

Type of damage	Damage appears as	Possible cause	Remedy
Works irregularly, stroke rate drops, compressed air drive stops	Control piston faulty.	Wear. Foreign object in control unit.	Replace parts. Remove foreign object, replace faulty parts.
Compressed air drive frozen.		Compressed air too moist. Condensed water in the compressed air supply. Stroke frequency too high.	Install water separator. Check compressor. Use smaller spray nozzle. Change operating conditions. Install oiler. Reduce compressed air.

8.3 MATERIAL PUMP COMPONENT GROUP

Type of damage	Damage appears as	Possible cause	Remedy
Material comes out of the rinsing agent chamber.		The upper packing of the spray material pump is faulty.	Tighten the clamping screw with the tool until no more material emerges, but not enough to block the pump. If material continues to emerge, the packing should be replaced.
BINKS piston pump continues running.	BINKS piston pump continues to run despite spray stop.	The lower packing of the spray material pump is faulty.	Replace the packing of the spray gun pump.
BINKS piston pump does not stop in the downward stroke.	Base valve or piston valve faulty or jammed.	Wear. Dried-on material.	Replace parts. More thorough cleaning required.
BINKS piston pump does not stop in the upward stroke.	Base valve or piston valve faulty or jammed.	Wear. Dried on material.	Replace parts. More thorough cleaning required.
Spray material emerges on the piston.	Grooves in the glide surfaces.	Wear.	Replace parts.

8.4 SUCTION SYSTEM COMPONENT GROUP

Type of damage	Damage appears as	Possible cause	Remedy
BINKS piston pump works irregularly.	Intake strainer clogged.	Spray material dirty.	Clean or replace intake strainer.
BINKS piston pump running, but not pumping.	No intake output.	Intake filter dirty. Base valve ball jammed in the valve seat. Intake system not screwed in correctly; spray material pump drawing air, screw in correctly.	Clean. Make functional.



9. Operating Instruction

Depending on the type of use and installation location, the operator must specify additional information for safe operation of BINKS piston pumps based on the Operating Instructions in the employee's language. These operating instructions must be kept in a suitable location at the work site and employees must be informed of their availability.

10. Testing Requirement

According to accident prevention regulations for liquid jet sprayers ZH 1/406 of the relevant trade unions, spray paint devices must be inspected as needed, but at least every 12 months by an expert to determine whether they are still capable of operating safely. If devices have been taken out of service, the check can be delayed until the next time the system is started up. The operator is required to register the system for a test. The results of the test must be kept in writing.

An expert is someone who on the basis of his or her training and experience has sufficient knowledge in the area of liquid jet sprayers and with relevant governmental labour safety requirements, accident prevention requirements, regulations, and generally recognised rules of technology to be able to evaluate whether liquid jet sprayers are in safe operating condition.

The contractor (operator) must ensure that written records of test results are made for each liquid jet sprayer and kept until the next test. We have prepared a pre-printed form entitled "Test Protocol for Spray Systems" for you for this purpose. Please duplicate this form as needed.


You must also ensure that the Record of Tests is available at the location where the liquid jet sprayer is used. A copy of the test protocol or a test sticker is sufficient for this purpose.

We also ask you to enter the test record, date, and expert in the "Test Records" table.


11. Test Protocol

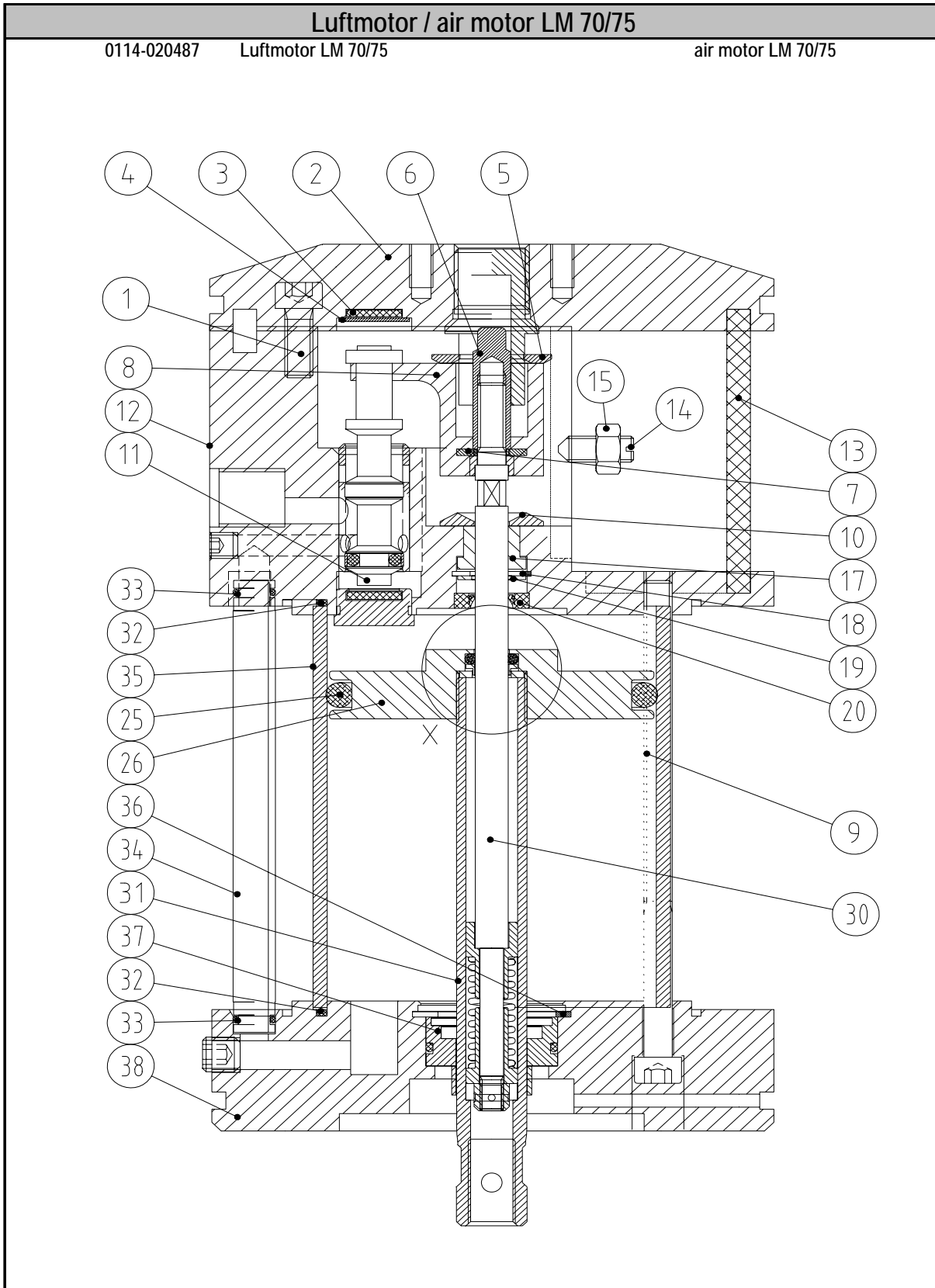
for spray systems

for safety test by an expert according to Regulations **VBG 87 "Working with Liquid Jet Sprayers"** of the relevant commercial trade unions

	ITW Oberflächentechnik GmbH & Co. KG Justus-von-Liebig-Strasse 31 D-63128 Dietzenbach Phone +49 (0) 6074 / 403-1 Fax +49 (0) 6074 / 403-281		Date: Inspector:	
<u>DEALER STAMP:</u> 		<u>ADDRESS OF OPERATOR:</u> Name: Street: City/postal code: Contact partner:.....Phone:		
<u>Tested device:</u>				
Manufacturer:		Device no.:		
Type:		Year of manufacture:		
<u>Parts of the system used:</u>				
<input type="checkbox"/> Spray material pump				
<input type="checkbox"/> Spray gun				
<input type="checkbox"/> Spray material line				
<input type="checkbox"/> Pump support chassis				
<input type="checkbox"/> Tripod				
<input type="checkbox"/> Wall holder				
Tested parts	Meets requirements	Not tested	Does n o t meet requirements	Retrofitting recommended
General status of the system				
<u>Liquid jet sprayer</u>				
Device rating plate				
Safety valve				
Pressure measurement fitting				
Pressure relief valve				
<u>Liquid jet sprayer with heater</u>				
Temperature limiting control				
Temperature display				
<u>Spray mechanism</u>				
Identification of max pressure				
Identification of device no.:				
Functional capability				
Safety equipment				
<u>Hoses and fittings</u>				
Identification of hose				
Identification of fitting				
<u>Earth</u>				
between components				
Complete system				
<u>Resistance measurement (1 MΩ)</u>				
<u>Operating Instruction</u>				
<u>Function of the entire system</u>				
<u>Operator instructions</u>				
Technical status				
Safety-related Status				
Health and safety protection mechanism				
<u>Overall evaluation of inspection</u>				
Notes:				

Ersatzteilliste / spare parts list

Niederdruckpumpe / low pressure pump NDP 150/04		
0114-016064	Niederdruckpumpe	low pressure pump
		
		Luftmotor air motor 0114-020487
		Materialpumpe material pump 0114-016110



Luftmotor / air motor LM 70/75

0114-020487	Luftmotor LM 70/75	air motor LM 70/75
-------------	--------------------	--------------------

The technical drawing illustrates the internal structure of the air motor LM 70/75. It features a perspective view at the top with a callout for part 16, a circular cross-section in the middle showing internal components 27, 28, and 29, and a longitudinal section at the bottom showing components 21, 22, 23, and 24.

Ersatzteilliste / spare parts list

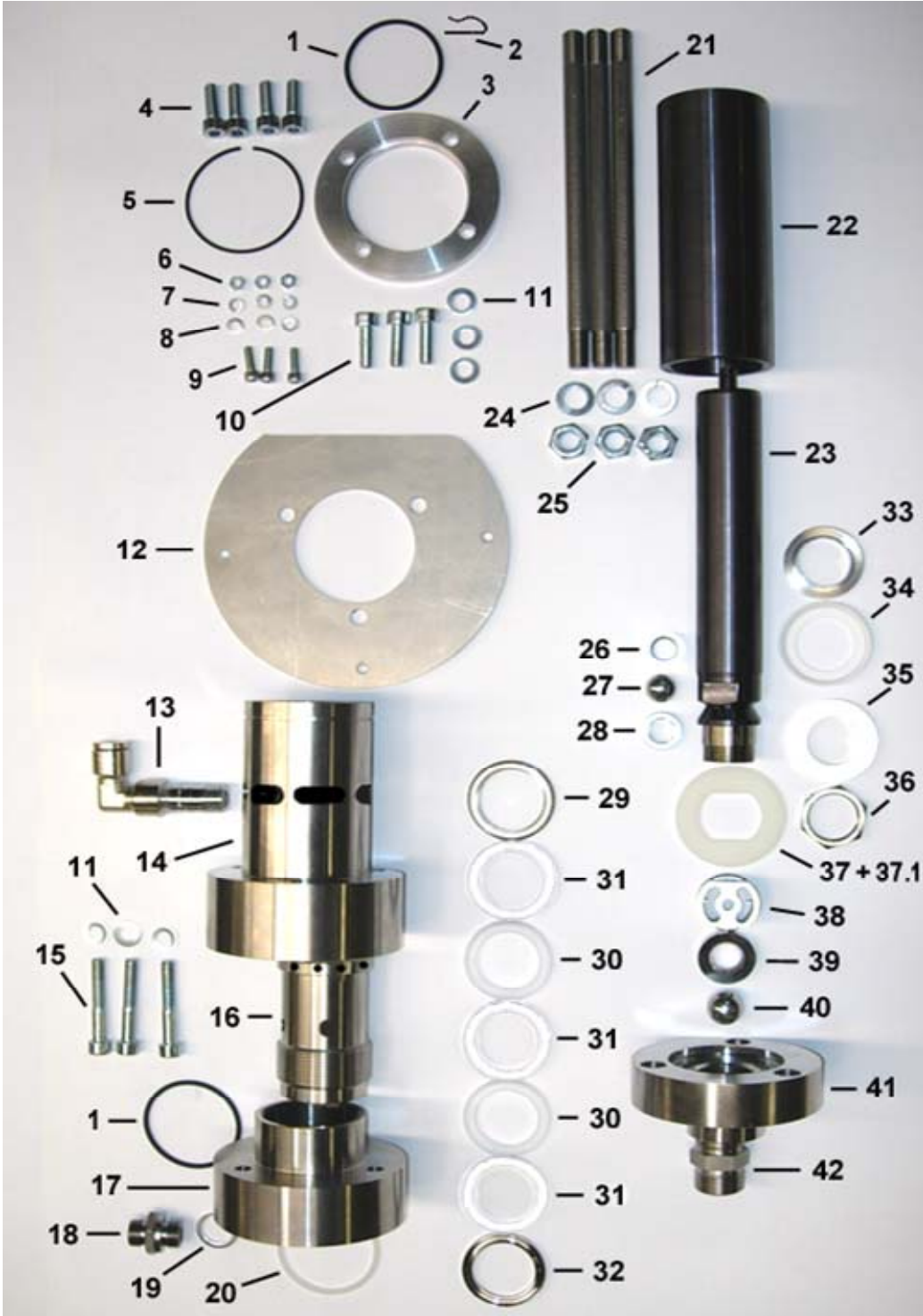
Luftmotor / air motor LM 70/75						
Pos.	Art.-Nr.	Bezeichnung	Description		Stück Pcs.	D / R
	0114-020487	Luftmotor LM 70/75	air motor LM 70/75			
1	0114-014182	Zylinderschraube	screw		4	
2	0114-013442	Deckel kpl.	cover ass.		1	
2.1	0114-011586	Führung	guide		1	
3	0114-014300	Dämpfungsscheibe	dampening 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	Schnepper	toggle	V	2	
22	0114-014340	Schnepperlager	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 150/75

0114-016110

Materialpumpe MP 150/75

material pump MP 150/75



Ersatzteilliste / spare parts list



Materialpumpe / material pump MP 150/75


Pos.	Art.-Nr.	Bezeichnung	Description		Stück Pcs.	R
	0114-016110	Materialpumpe MP 150/75	material pump MP 150/75			
1	0114-014006	O-Ring	o-ring	V	2	R
2	0114-014161	Sicherungsfeder	spring		1	R
3	0114-014314	Anzugring	connecting ring		1	
4	0114-014199	Schraube	screw		4	
5	0114-014364	Sicherungsring	retaining ring		1	R
6	DIN934M5	Mutter	nut		3	
7	0114-009743	Federring	ring		3	
8	0114-014167	U-Scheibe	disc		3	
9	ZZ-1892-D	Schraube	screw		3	
10	0114-014199	Schraube	screw		3	
11	0114-014165	U-Scheibe	disc		6	
12	0114-016054	Adapter Flansch	adaptor ring		1	
13	0114-014561	Einfüllstutzen	filler complete		1	
14	0114-016053	Adapter Gehäuse	adaptor housing		1	
15	DIN912M8X50	Schraube	screw		3	
16	0114-016052	Spannschraube	screw		1	
17	0114-016051	Gehäuse	housing		1	
18	0114-014750	Rückschlagventil	backflow valve		1	
19	0114-013952	Dichtung	gasket	V	1	R
20	41-1757	Dichtung	gasket	V	1	R
21	0114-016049	Stehbolzen	threaded bolt		3	
22	0114-016055	Zylinderrohr	cylinder tube		1	
23	0114-016056	Kolben	piston		1	
24	0114-014206	Federring	springring		3	
25	0114-014415	Mutter	nut		3	
26	41-1184	Kugelsitz	ball seat		1	
27	20-4208	Kugel	ball	V	1	R
28	0114-016048	Spannmutter	nut		1	
29	41-1251	Stützring	guiding ring		1	R
30	101-1610	Manschette UHMW	seal UHMW	V	2	R
31	41-1242	Manschette PTFE	seal PTFE	V	3	R
32	41-10265	Adapter	adaptor		1	R
33	41-2545	Platte	plate		1	
34	41-1153	Manschette	seal	V	1	R
35	41-2547	Ring	ring		1	
36	0114-016047	Mutter	nut		1	
37	0114-016112	Distanzstück	spacer		1	R
37.1	0114-016113	O-Ring für Distanzstück	O-ring for spacer		1	R
38	41-1177	Käfig	cage		1	
39	41-1178	Kugelsitz	ball seat		1	
40	20-5959	Kugel	ball	V	1	R
41	41-1747	Bodenventil	bottom valve		1	
42	0114-016050	Reduziernippel	connecting nipple			
	0114-016074	Reparatursatz Verschleißteil	repair kit wearing part	V		R

Vorbehaltl. Techn. Änderungen

Reparaturatz Luftmotor / repair kit air motor LM 70/75

0114-021210

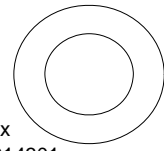
1x
0114-014300
Dämpfungsscheibe
12x2mm



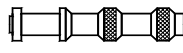
1x
0114-014345
Zackenring ZJ16



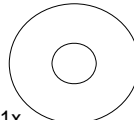
1x
0114-014301
Dämpfungsscheibe
25,5x2



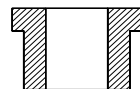
1x
0114-014346
Steuerkolben kpl.



1x
0114-014302
Dämpfungsscheibe
22x3



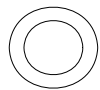
1x
0114-014296
Bundbuchse



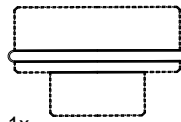
1x
0114-014307
SI-Ring 15x1




1x
0114-013956
Nutring DN15/DN7




1x
0114-014468
Führungsbuchse kpl.




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



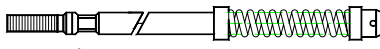
1x
0114-014766
U-Scheibe 13,7x8,3x1,5mm




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




1x
0114-014410
Umsteuerachse kpl.



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



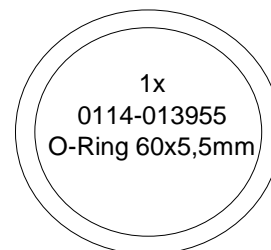
1x
0114-014355
SI-Ring JK30




2x
0114-013967
O-Ring
70x2mm



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



1x
0114-014306
Dämmplatte
140x63x3 mm

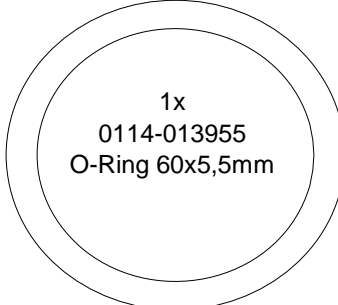


Dichtungssatz Luftmotor / seal kit air motor LM 70/75

0114-018645



1x
0114-013956
Nutring DN15DN7




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



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



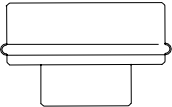
2x
0114-013967
O-Ring 70x2mm



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




1x
0114-014355
Si-Ring JK30




1x
0114-014468
Führungsbuchse kpl.

ERSATZTEILLISTE / SPARE PARTS LIST


Reparatursatz MP150/75
0114-016074




1x
20-4208
Kugel



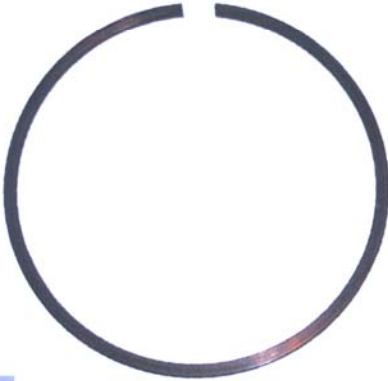
1x
20-5959
Kugel



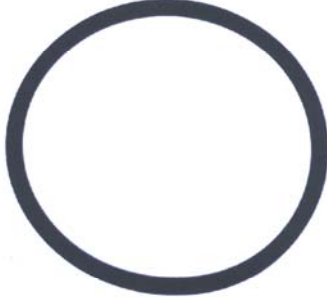
1x
0114-013952
Dichtring 24mm



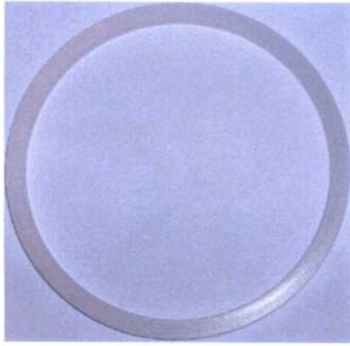
1x
0114-014161
Sicherungsfeder




1x
0114-014364
Sprengring 68x2mm



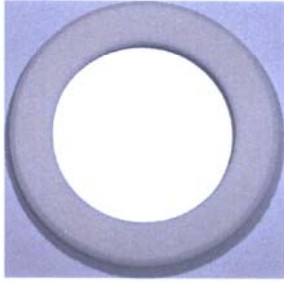
2x
0114-014006
O-Ring




1x
41-1757
Dichtung



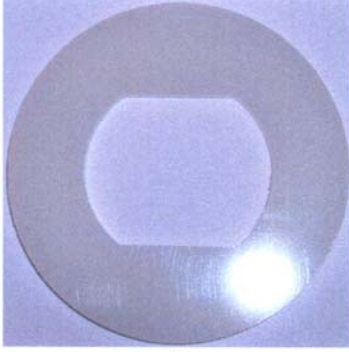
1x
41-1251
Stützring



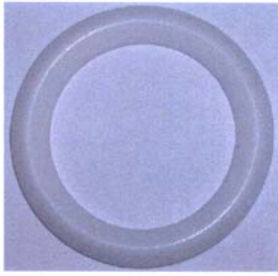
1x
41-1153
Manschette 47mm



1x
41-10265
Adapter



1x
0114-016112 / 0114-016113
Distanzstück mit O-Ring



1x
Packung kpl.
(3 x 41-1242 und 2 x 101-1610)

1/1

Technische Änderungen vorbehalten!

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Email: marketing@itw-finishing.de

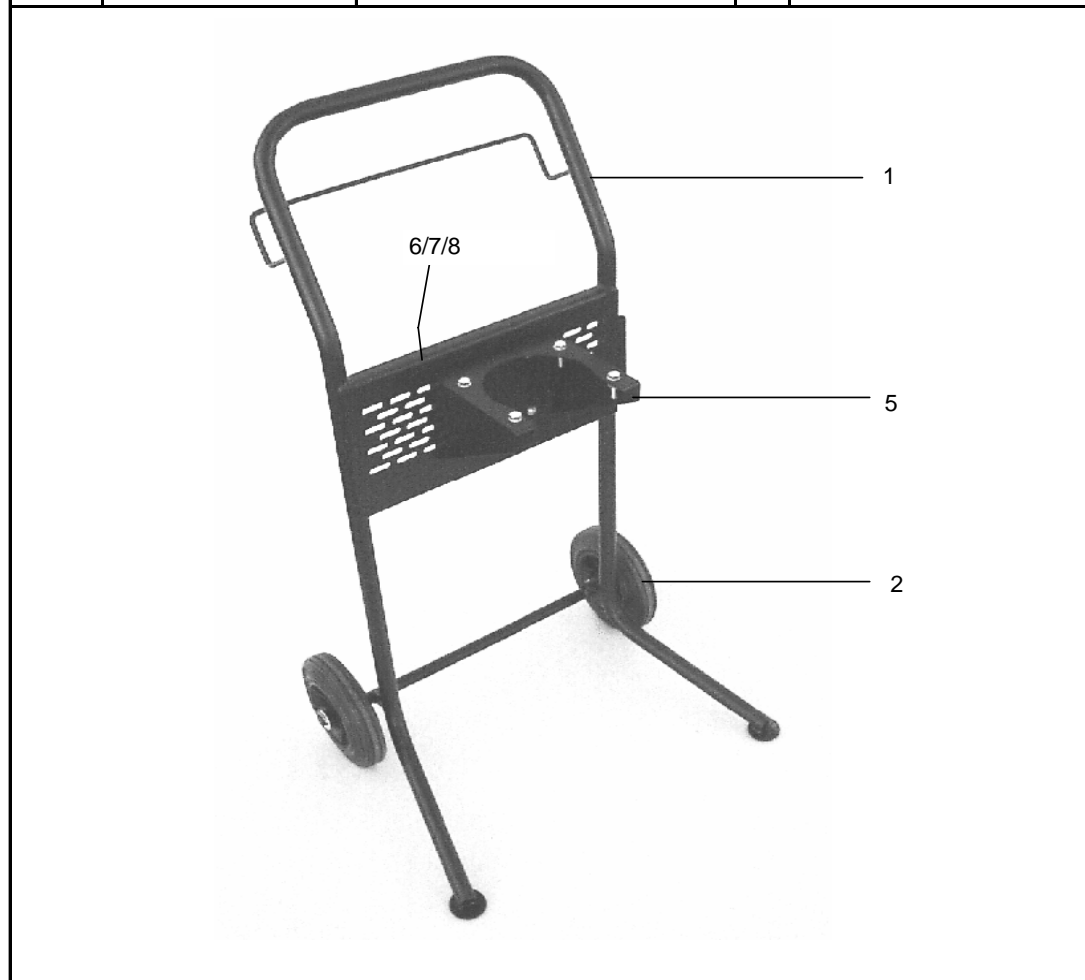
ITW Surfaces et Finitions

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26014 Valence cedex FRANCE
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Email: mkt@itwsf.com

Ersatzteilliste / spare parts list

Ersatzteile Fahrgestell / spare parts trolley

Pos.	Art.-Nr.	Bezeichnung	Stk. pcs.	Description
	0114-014614	Fahrgestell Typ 02		trolley type 02
1	0114-014640	Gestell	1	frame
2	0114-014057	Rad	2	wheel
5	0114-014795	Wandhalter kpl. bestehend aus:	1	wall holder cpl.
	0114-019005	Wandhalter	1	wall holder
	0114-014164	Mutter	4	nut
	0114-014165	U-Scheibe	4	washer
	0114-014216	Schraube	4	screw
6	0114-014164	Mutter	4	nut
7	0114-014165	U-Scheibe	4	washer
8	0114-014170	Schraube	4	screw

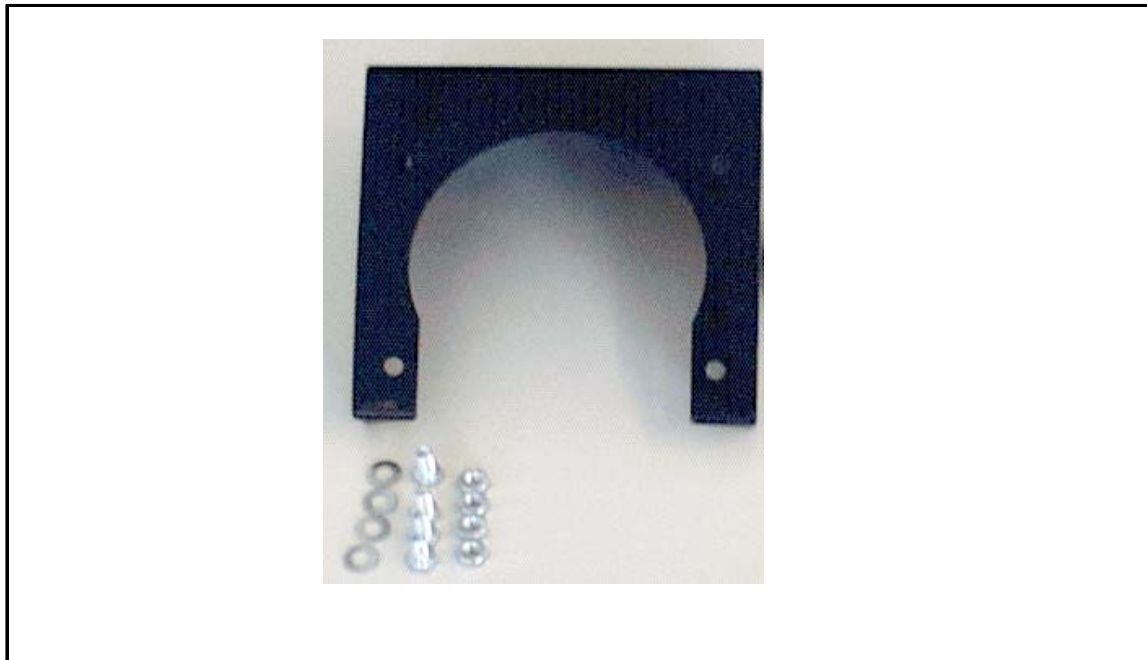


Vorbehaltl. Techn. Änderungen

Ersatzteilliste / spare parts list

Ersatzteile Wandhalter / spare parts wall bracket

Pos.	Art.-Nr.	Bezeichnung	Stk. pcs.	Description
------	----------	-------------	--------------	-------------



	0114-014795	Wandhalter Typ 02		wall bracket assy. type 02
	0114-019005	Wandhalter	1	wall bracket
	0114-014216	Schraube	4	screw
	0114-014165	U-Scheibe	4	washer
	0114-014164	Skt.Mutter	4	nut

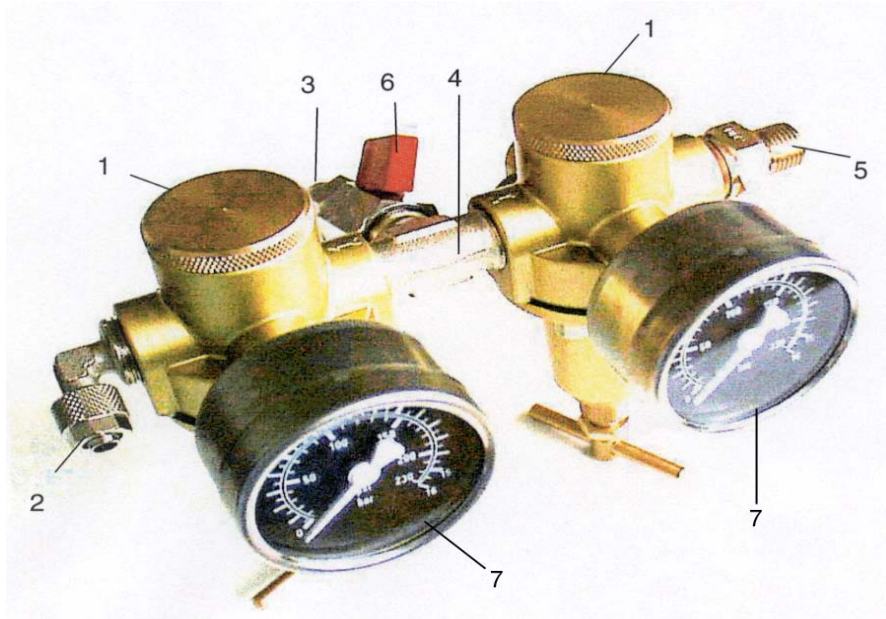
Vorbehaltl. Techn. Änderungen

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

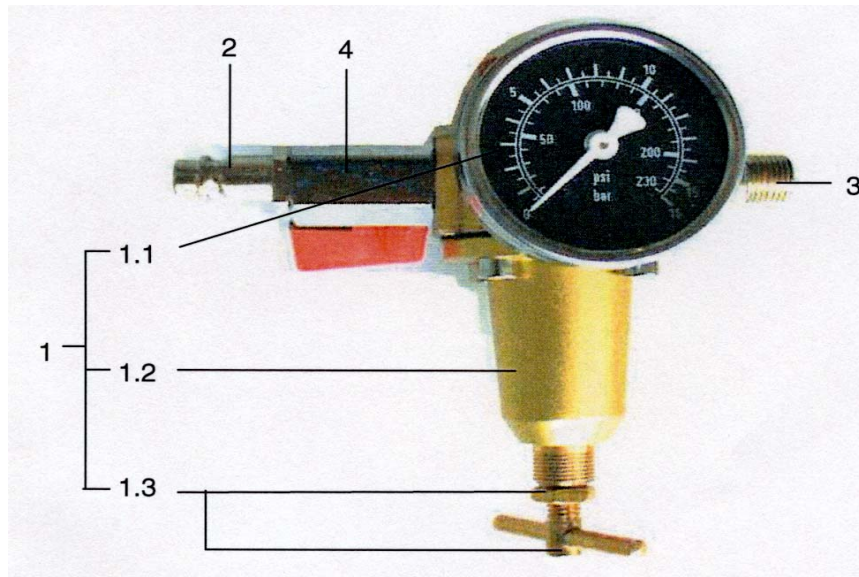
Vorbehaltl. Techn. Änderungen

Druckregler / air regulator G 3/8" Airless

0114-013531

Druckregler Airless

air pressure regulator Airless



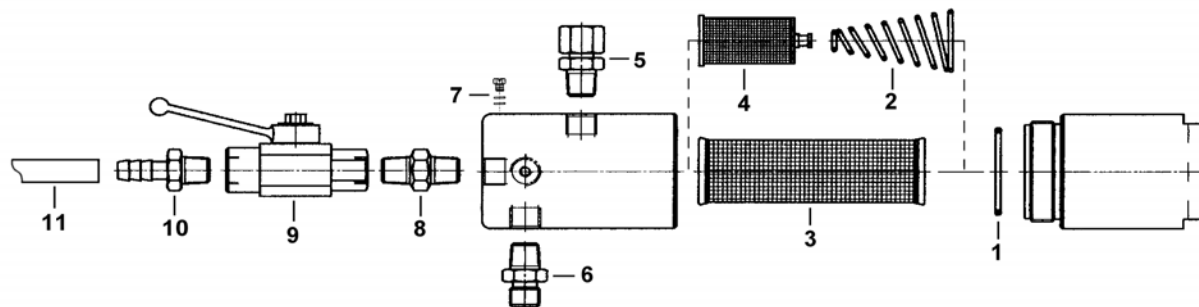
Pos	Art.-	Bezeichnung		Descriptio
1	0114-13531-01	Druckluftregler kpl.	1	air pressure regulator cpl.
1.1	0114-014048	Manometer	1	gauge
1.2	0114-020295	Druckreglergehäus	1	pressure regulator housing
1.3	0114-014597	Knebelschraube mit Mutter	1	t-handle with nut
2	0110-009091	Einstecknippel	1	nipple
3	0114-014538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

Vorbehaltl. Techn.

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

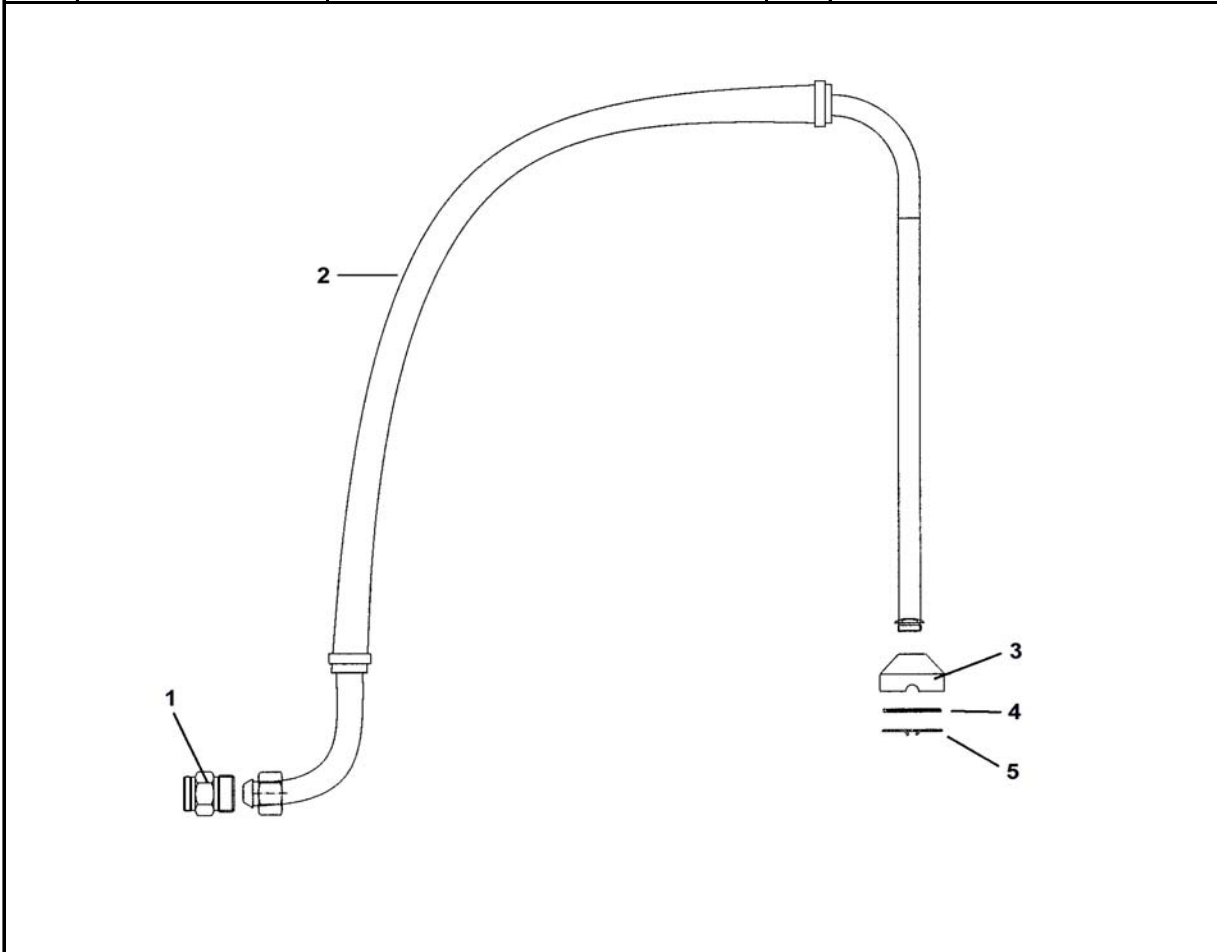
* standard



Ersatzteilliste / spare parts list

Ersatzteile 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
5	0114-014080	Sicherungsring	1	retaining ring



Vorbehaltl. Techn. Änderungen



13. Recommended Gun

High-pressure pump	Max. pressure range of pump (bar)	Recommended gun	Max. pressure range of gun (bar)
HP 3/28 Airless unit	224	HAP 50 Airless 1	500 420
HP 3/28 Aircombi unit	224	AA 4000 DSG-2000	275 250
LP 10/4 Piston pump	20	AA 4000 DSG-2000	275 250
HP 4/20 Airless unit	100	HAP 50 Airless 1	500 420
HP 4/20 Aircombi unit	100	AA 1500 AA 4000 DSG-2000	105 275 250
HP 4/32 Airless unit	256	HAP 50 Airless 1	500 420
HP 4/32 Aircombi unit	256	AA 4000 DSG-2000	275 250
HP 6/34 Airless unit	272	HAP 50 Airless 1	500 420
HP 6/34 Aircombi unit	272	AA 4000	275
HP 6/60 Airless unit	390	HAP 50 Airless 1	500 420
HP 10/32 Airless unit	256	HAP 50 Airless 1	500 420
HP 10/32 Aircombi unit	256	AA 4000	275
HP 20/66 Airless unit	429	HAP 50	500
HP 25/48 Airless unit	384	HAP 50 Airless 1	500 420
HP 30/32 Airless unit	256	HAP 50 Airless 1	500 420
HP 30/75 Airless unit	474	HAP 50	500



EC DECLARATION OF CONFORMITY

ITW Finishing Systems and Products

Ringwood Road,
Bournemouth
BH11 9LH,
England

As the representative/manufacturer of the items listed below:

Low- and High-Pressure Paint Pump Models BINKS

**LP 10/4, 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

13. 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', written in a cursive style.

David Smith
General Manager