

## Product Description Safety Instructions Operating Instructions for BINKS Airless Model HP 20/66

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. 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.

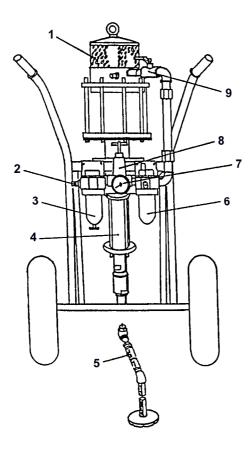
## **ATTENTION !**

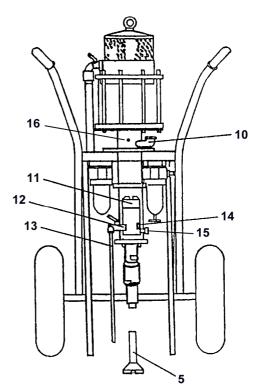
#### **BEFORE STARTING UP PUMP FILL UP LUBRICATION FLUID**

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



#### 2. BRIEF DESCRIPTION (FIGURE 1)





- 1 Pneumatic drive
- 2 Compressed air supply connection piece
- 3 Water seperator
- 4 Spray material pump
- 5 Suction system
- 6 Oiler
- 7 Compressed air control valve
- 8 Pressure reducer

- 9 Ball valve
- 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 drive (1) drives the BINKS airless pump. An airflow controller in the pneumatic drive applies compressed air alternately to the pneumatic drive butt plate. This sets the butt plate moving upwards and downwards.

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

The ascending stroke of the double piston draws in the spray through the suction system (5) and the foot valve of the spray material pump. At the same time, the material spray, which is already in the spray 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 spray material which has been drawn in, is forced through a plunger valve into the space above the double piston. At the same time, the spray 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 spray material line. The pump will stop. Remove spray material from the airless gun and the BINKS airless pump will start up again.

The area of the butt plate is greater than the area of the double 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 release agent chamber (10) physically separates the butt plate of the pneumatic drive from the double piston of the spray material pump. The release agent chamber is filled with release agent (Order Code 0114-014871 for waterborne paint, Order Code 0114-009433 for solvent paint). The release agent 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 spray 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 drive is exceeded.

The spray 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 spray 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 20/66: type 11 - order-no. 0114-011760), before being driven out through the spray material line 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	surfacer, filler, red lead
M 100	greater than 0.3 mm	surfacer, 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 materi- al



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

#### HD filter cartridges (overview)

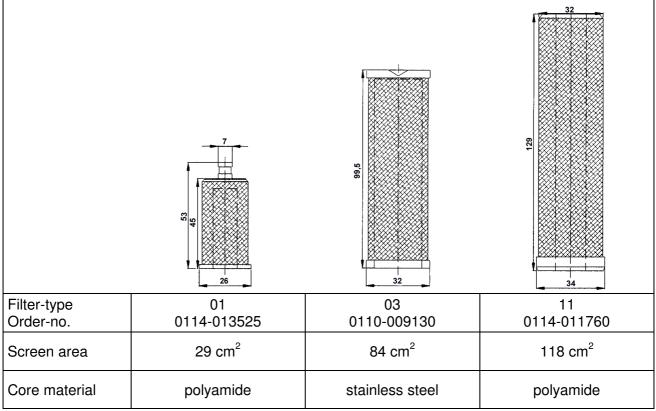


Figure 2



#### Packing:

The lifetime and the maintenance rate of a pump depend crucially on the right packing. The packing for solvent and waterbased paint are different.

For the use of high viscosity or high corrosion materials we recommend high-strength packing. Depending on the field of application there are different packing for solvent and waterbased materials.

#### Standard packing:

Upper packing: Mixed standard packing (for solvent paint materials) Consisting of: PTFE/Leather packing	Part-no.: 0114-013680
Standard packing (for waterborne paint materials) Consisting of: PTFE packing	Part-no.: 0114-016008
Lower packing: Mixed standard packing (for solvent paint materials) Consisting of: PTFE/Leather packing	Part-no.: 0114-013677
Standard packing (for waterborne paint materials) Consisting of: PTFE packing	Part-no.: 0114-016009
Packings for high-strength and corrosion materials:	
Upper packing: Mixed high-strength packing (for solvent paint materials) Consisting of: PTFE(high-strength)/Leather packing	Part-no.: 0114-016291
High-strength packing (for waterborne paint materials) Consisting of: PTFE(high-strength) packing	Part-no.: 0114-016077
Lower packing: Mixed high-strength packing (for solvent paint materials) Consisting of: PTFE(high-strength)/Leather packing	Part-no.: 0114-016292
High-strength packing (for waterborne paint materials) Consisting of: PTFE(high-strength) packing	Part-no.: 0114-016078

Note:

To the high-strength packings graphite is added to the PTFE. This improves the lubrication qualities. High strength packings are not recommended for bright finish paint. Graphite can change the colour of the finish paint.

If you need special packings without graphite admixture please contact your dealer.

Our pumps are equipped work-sided with mixed packing for the application of solvent paint.



#### 3. TECHNICAL DATA

BINKS		HP 20/66
Theoretical transmission		66 : 1
Air motor	Min. intake pressure	3 bar
	Air intake pressure	6,5 bar
	Diameter cylinder	200 mm
Material pump	Volume double stroke	115 ccm
	Operating pressure max.	429 bar
	Piston stroke	120 mm
	Free flow capacity nominal	6,9 ltr./min.
	Piston diameter D1	25 mm
	Piston diameter D2	35 mm
Connections	Air inlet	Geka coupling or R 1" (f)
	Fluid outlet on HP-filter	1/4" NPS (m) and 3/8" NPS (m)
Dimensions of bare pump	L x W x D in mm	1160 x 320 x 275

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.



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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 affect-ing 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 jet stream units, 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

- The requirements of the (German) accident prevention and safety regulation "Working with surface coating compounds" (VBG 23) and the (German) directives governing jet stream units (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 Oberflächentechnik. You can obtain the addresses of specialised companies from ITW Oberflächentechnik or from your specialised dealer.
- 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 MΩ) 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 Oberflächentechnik.

- 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 ℃ (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 ℃ (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 release agent chamber is full. To do this, open the screw plug on the filler neck of the release agent chamber. If necessary, top up the release agent (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 spray material line 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 spray material line.

#### We recommend BINKS Airless spray gun HAP 50.

#### Max. pressure 500 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 maintenance unit, consisting of filter, pressure regulator and fog lubricator. The air maintenance unit is intended for cleaning compressed air for workshop purposes from liquid and solid contamination, for pressure regulation and for providing a fine oil spray for lubrication of cylinders, valves etc.

Set the amount of oil (drops per minute) on the dosing screw as required during operation. The number of drops can be seen in the sight-glass.



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 take-off 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 take-off, 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 pre-scribed, 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

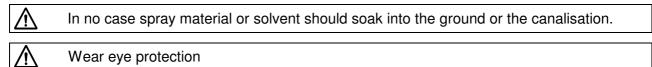
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Once work is completed, the BINKS airless unit must be thoroughly cleaned. Under no circumstances must you allow paint residue to dry out in the unit. To clean the airless unit, use a solvent appropriate to the spray material.

#### 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



- 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.

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

#### 8.1 COMPRESSED AIR SUPPLY UNIT

#### 8.2 PNEUMATIC DRIVE AND CONTROL SYSTEM UNIT

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



Type of defect	Appearance of de- fect	Possible cause	Remedy	
Material coming from the spray material chamber.		Upper packing of spray material pump faulty.	Replace spray mate- rial pump packing.	
BINKS airless pump runs non-stop.	BINKS airless pump runs on despite stop- ping spraying.	Lower packing of spray material pump faulty	Replace spray mate- rial packing.	
BINKS airless pump does not stop on	Foot valve or plunger valve faulty or stuck.	Wear.	Replace parts.	
down-stroke.	valve laulty of stuck.	Dried material.	Careful cleaning nec- essary.	
BINKS airless pump does not stop on up-	Foot valve or plunger valve faulty or stuck.	Wear.	Replace parts.	
stroke.	,	Dried material.	Careful cleaning nec- essary.	
Spray material es- cape at double piston.	Grooving in the slide faces.	Wear.	Replace parts.	

#### 8.3 SPRAY MATERIAL PUMP UNIT

#### 8.4 SUCTION SYSTEM UNIT

Type of defect	Appearance of de- fect	Possible cause	Remedy
BINKS airless pump works erratically.	Suction screen blocked.	Spray material con- taminated.	Clean or replace suc- tion 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 jet stream units, 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 text. 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.



#### **11. TEST DOCUMENTS**

### Test record for spraying equipment

	ITW Oberflächen	technik	GmbH & Co. KG		
			-Straße 31	Date:	
		D-63128 Dietzenbach		2 4.0	
S BINKS		fon +49 (0) 6074 / 403-1			
			74 / 403-281	Examiner:	
DEALER STAMP:		ADDR	ESS OF OPERATO		
			:		
			ode/Town:		
		Conta	ct:	Phone:	
Tested unit:					
Manufacturer:		Ec	qptNo.:		
Туре:		Ye	ear of manufacture:		
System components used:					
O Airless pump		0	Pump head	Cart O	
O Airless gun				Triprod O	
O Spray material line				Wall bracket O	
Tested components	comj	plies	not tested	does not comply	retrofit recom- mended
General condition of system					
Jet stream unit					
Equipment name plate					
Safety valve					
Pressure gauge fitting					
Pressure relief valve					
Jet stream unit with heater					
Temperature limitation / control					
Temperature display					
Spraving device					
Max. pressure identification					
Equipment number identification					
Efficiency					
Safety equipment					
Hoses and fittings					
Hose identification					
Fitting identification					
Grounding					
Between components					
Overall system					
Measuring of resistance (1 $M\Omega$ )					
Operating instructions					
Function of the overall system					
User instructions					
Technical condition					
Safe condition					
Health and safety at work regulation	ons				
Overall assessment of the examin				1	
Comments:				1	



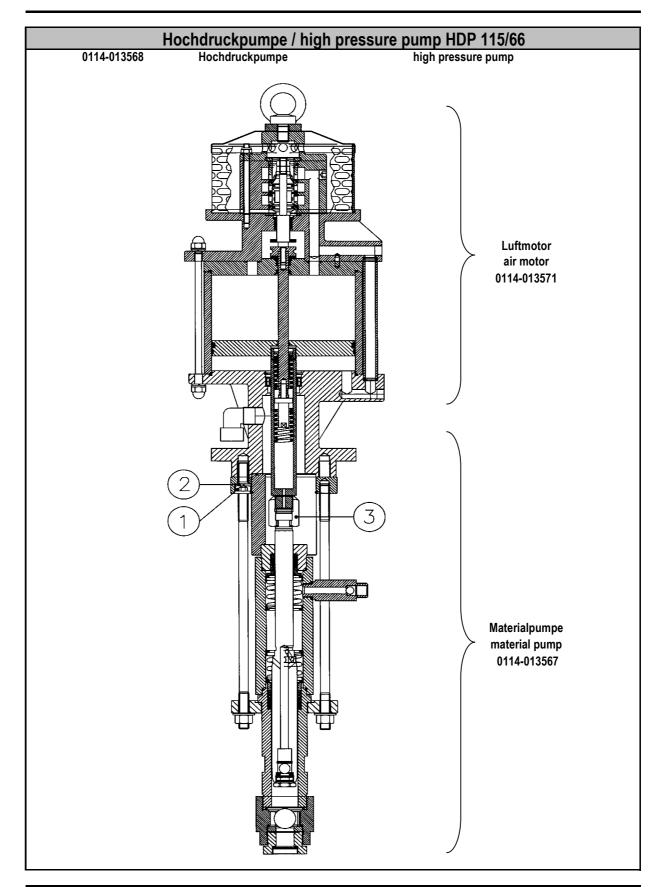
#### **TEST DOCUMENTS**

Test document no.	Date of test	Expert	
		Company	Name

#### 12. SPARE PARTS LISTS

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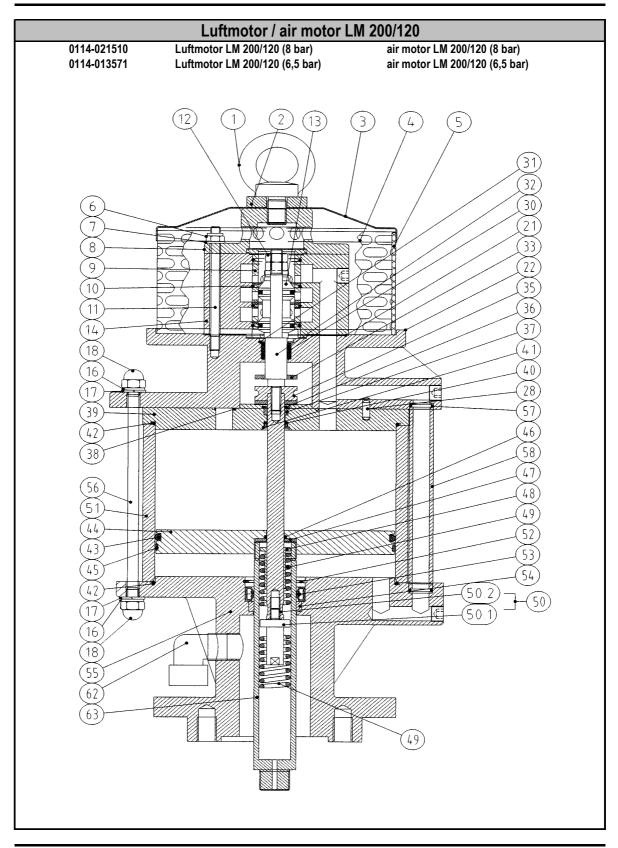




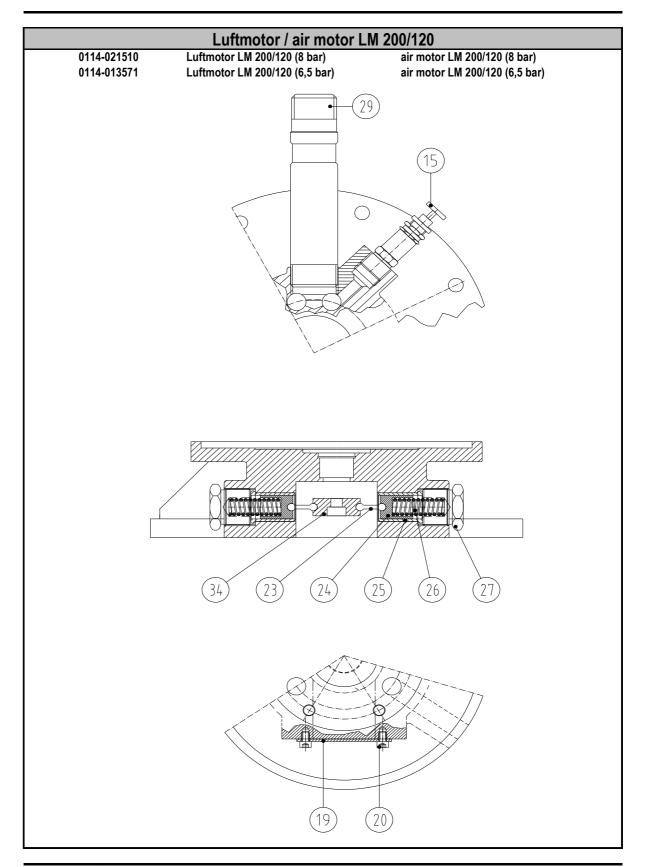
	Hochdruckpumpe / high pressure pump HDP 115/66						
Pos.	ArtNr.	Bezeichnung	Description	Stück Pcs.	D/R		
	0114-013568	Hochdruckpumpe	high pressure pump				
	0114-015500	поспигискритре	ingii pressure puinp				
1 2 3	0114-021285 0114-021286 0114-013896	Zyl.Schraube Federring Kupplung	cyl.screw spring ring coupling	4 4 1			

#### Hochdruckpumpe / high pressure pump HDP 115/66









Vorbehaltl. Techn. Änderungen



Luftmotor / air motor LM 200/120								
Pos.	Pos. ArtNr. Bezeichnung Description Stück							
		-			Pcs.			
	0114-021510	Luftmotor LM 200/120 (8 bar)	air motor LM 200/120 (8 bar)					
	0114-013571	Luftmotor LM 200/120 (6,5 bar)	air motor LM 200/120 (6,5 bar)					
	0444 044005	B's set of the			4			
	0114-014205	Ringschraube	ring screw		1			
	0114-013903 0114-013901	Scheibe Deckel	washer		1			
	0114-013901	Lochblech	cover		1 1			
	0114-013699	Dämplatte	perf. metal housing muffler		1			
	0114-013087	Sicherungsmutter	safety nut		4	D/R		
	0114-014203	U-Scheibe	washer		4	D/R D/R		
	0114-013876	Карре	cap		4			
	0114-013872	Steuerzylinder	control cylinder		1			
	0114-013982	O-Ring	o-ring	v	4	D/R		
	0114-013877	Stehbolzen	threaded bolt	۷	4	D/IX		
	0114-014188	Mutter	nut		2	R		
	0114-013689	Steuerkolben kpl.	control piston ass.	v	1	R		
	0114-013869			v	1	ĸ		
		Steuergehäuse	control housing		1			
15	0114-014019	Sicherungsventil 8 bar HP 30/32 und 25/48			I			
40	0114-014018	Sicherungsventil 6,5 bar HP 20/66	safety valve 6,5 bar HP 20/66		40			
	0114-014186	U-Scheibe	washer		16			
	0114-014206	Federring	spring ring		16			
	0114-014168	Hutmutter	nut		16			
	0114-013667	Deckel	cover		1			
	0114-014179	Zyl. Schraube	cyl. Screw		2			
	0114-013873	Gehäusedichtung	gasket		1	D/R		
	0114-013874	Oberteil	cylinder head ass.		1			
	0114-013695	Schnepper	toggle	۷	2			
24	0114-013882	Schnepperlager	toggle bearing	۷	2			
25	0114-013881	Lagerbuchse	bearing bush		2			
26	0114-014134	Druckfeder	pressure spring	V	2	R		
27	0114-013879	Halteschraube	clamping nut		2			
28	0114-014208	Zylinderstift	cylinder pin		1			
29	0114-014449	Langnippel	long nipple		1			
30	0114-013875	Sinterlager	sintered bearing	۷	1	R		
31	0114-014210	Sicherungsring	retaining ring		1	R		
32	0114-013921	Steuerachse	control axle	۷	1			
33	0114-014142	Dämpfungsscheibe	dampening spacer		1	R		
	0114-013878	Mitnehmer	carrier	v	1			
	0114-014263	Dämpfungsscheibe	dampening spacer		1	R		
	0114-014212	Sicherungsring	retaining ring		1			
	0114-013886	Sinterlager	sintered bearing	v	1	R		
	0114-013985	O-Ring	o-ring		2	D/R		
	0114-013885	Platte	piston plate		1			
	0114-013978	Nutring	u-seal	v	1	D/R		
	0114-014212	Sicherungsring	retaining ring	•	1	D/R		
	0114-013995	O-Ring	o-ring	v	2	D/R		
	0114-013995	O-Ring	o-ring	v	2 1	D/R D/R		
	0114-013889	Kolbenplatte	piston plate	۷	1			

uftmotor / air motor LM 200/120

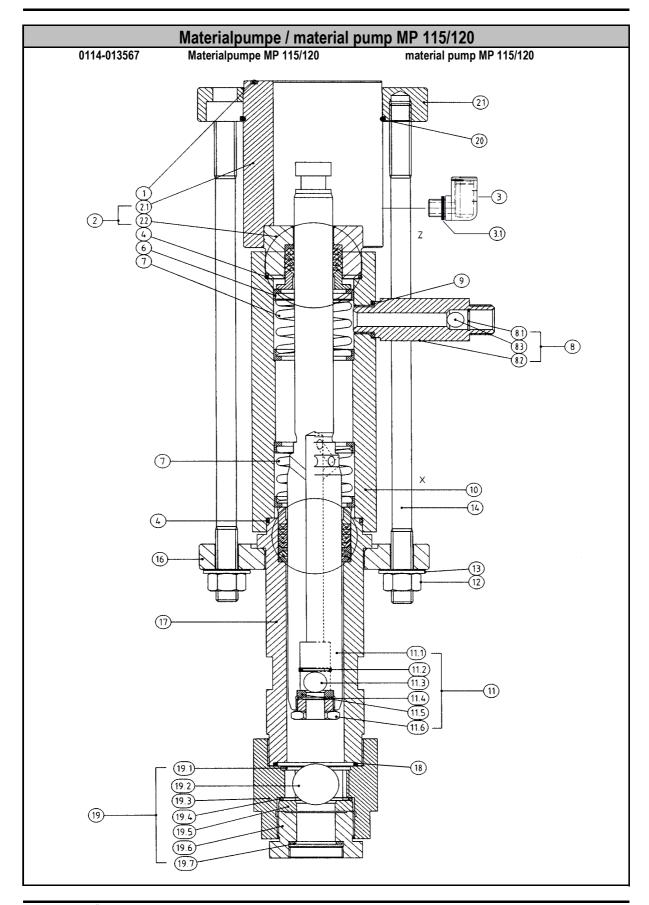
Verbathattl. Jeche, Änderungen



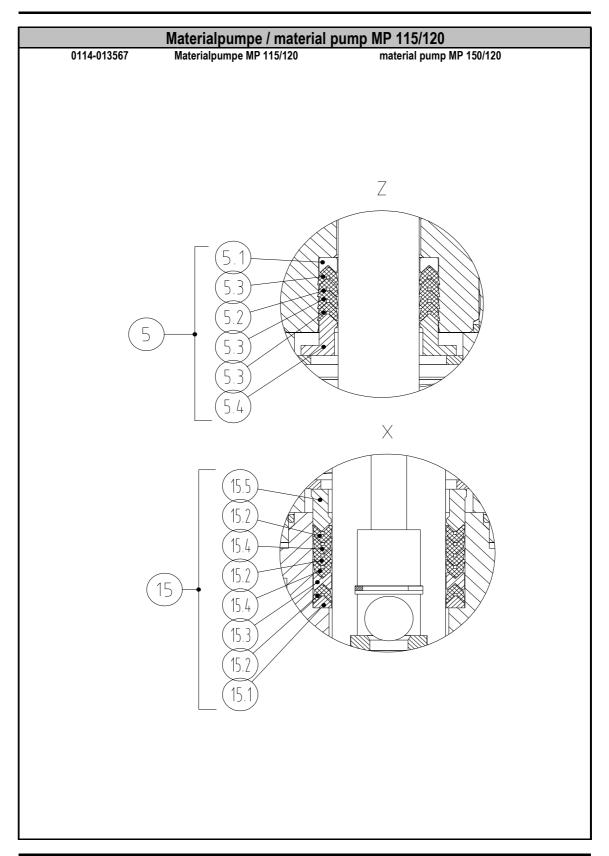
	Luftmotor / air motor LM 200/120							
Pos.	ArtNr.	Bezeichnung	Description		Stck. Pcs.	D/R		
<u> </u>		Luftmotor / air motor LM 200/120	Seite 2					
45	0114-014418	Führungsband	guide ring		1	D/R		
46	0114-013984	O-Ring	o-ring	l v	1	D/R		
47	0114-013890	Scheibe	washer		1			
48	0114-013893	Anschlagbuchse	stop guide	l v	1			
49	0114-014135	Druckfeder	pressure spring	v	2	R		
50	0114-013685	Umsteuerachse kpl.	guide axle ass.	l v	1			
51	0114-013887	Zylinder	cylinder		1			
52	0114-014204	Sicherungsring	retaining ring		1	D/R		
53	0114-013962	Nutring	u-seal	v	2	D/R		
54	0114-014219	Sinterlager	sintered bearing	l v	1	R		
55	0114-013897	Unterteil	bottom assembly		1			
56	0114-013898	Stehbolzen	threaded bolt		8			
57	0114-013985	O-Ring Viton	o-ring	l v	4	D/R		
58	0114-013888	Belüftungsrohr	air inlet pipe		2			
62	0114-013436	Winkel	elbow		1			
63	0114-013895	Motorachse	motor axle	v	1			
	0114-013569	Dichtungssatz	seal kit			D		
	0114-013574	Reparatursatz	repair kit			R		
		Verschleißteil	wearing part	v				

#### Luftmotor / air motor LM 200/120







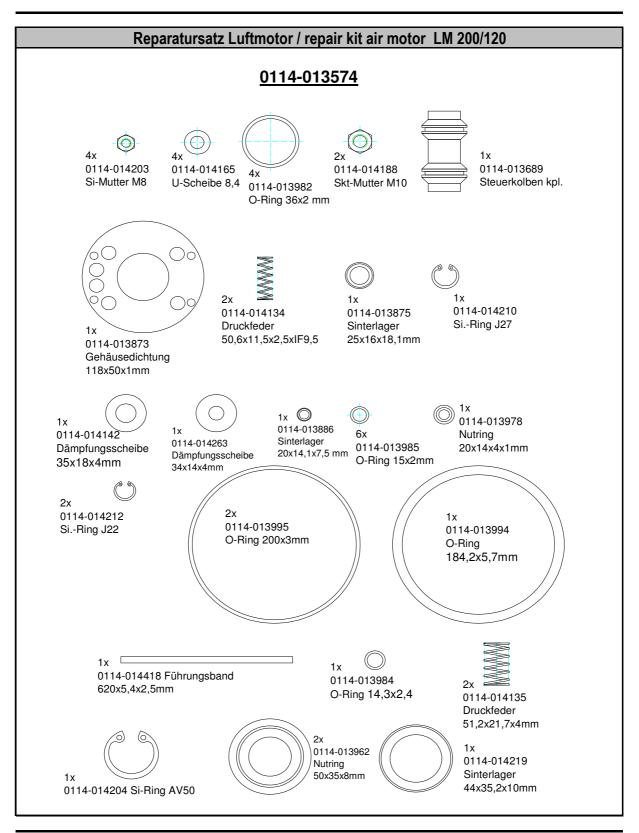


Vorbehaltl. Techn. Änderungen



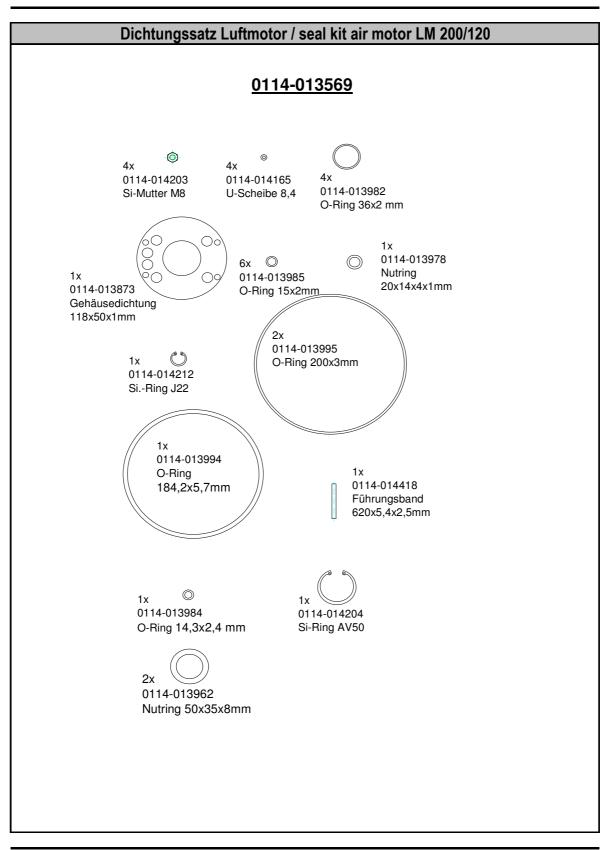
Materialpumpe / material pump MP 115/120								
Pos.	ArtNr.	Bezeichnung	Description		Stück	D/R		
					Pcs.			
	0114-013567	Materialpumpe MP 115/120	material pump MP 115/120					
1	0114-014005	O-Ring	o-ring		1	D/R		
2	0114-013918	Zwischenkörper kpl.	body		1			
3	0114-016101	Schauglas mit Deckel	sight glass with lid		1			
3.1	0114-016102	O-Ring	o-ring		1			
4	0114-013828	Dichtung	gasket		2	D/R		
5	0114-013680	Packung gemischt kpl. oben	upper mixed packing cpl.	V	1	R		
wahlw.	0114-016008	Packung PTFE kpl. oben	upper PTFE packing cpl.	V	1	R		
wahlw.	0114-016291	Packung hochfest gemischt kpl. oben	upper high-strength packing mixed cpl.	V	1			
wahlw.	0114-016077	Packung hochfest kpl. oben	upper high-strength packing cpl.	V	1			
6	0114-013915	Hülse	bushing .		4			
7	0114-014030	Druckfeder	pressure spring		2			
8	0114-013536	Rückschlagventil kpl.	return valve cpl.		1	D / D		
9	0114-014202	Cu-Dichtung	gasket		1	D/R		
10	0114-013914	Federgehäuse	spring housing		1			
11	0114-013909	Doppelkolben kpl.	dual piston cpl.		1			
11.1	0114-013908	Doppelkolben	dual piston	V	1			
11.2	0114-014144	Kugelstop	ball stop		1			
11.3	0114-014237	Kugel 15mm	ball 15mm	V	1	R		
11.4	0114-013910	Cu-Dichtung	gasket		1	D/R		
11.5	0114-014146	Ventilplatte	valve plate	V	1			
11.6	0114-013913	Schraube	screw		1			
12	0114-014207	Mutter	nut		4			
13	0114-014158	U-Scheibe	washer		4			
14	0114-013907-1	Stehbolzen	threaded bolt		4			
15	0114-013677	Packung gemischt unten kpl.	lower mixed packing cpl.	V	1	R		
wahlw.	0114-016009	Packung PTFE unten kpl.	lower PTFE packing cpl.	V	1	R		
wahlw.	0114-016292	Packung hochfest gemischt kpl. unten	lower high-strength packing mixed cpl.	V	1			
wahlw.	0114-016078	Packung hochfest kpl. unten	lower high-strength packing cpl.	V	1			
16	0114-014233	Flansch	flange		1			
17	0114-014234	Druckzylinder	pressure cylinder		1			
18	0114-013843	Dichtung	gasket		1	D/R		
19	0014-013592	Fussventil kpl.	foot valve		1			
19.1	0114-013676	Kugelanschlag	ball stop		1			
19.2	0114-014079	Kugel 30 mm	ball 30 mm	۷	1	R		
19.3	0114-013911	Ventilgehäuse	valve housing		1			
19.4	0114-013912	Dichtung	gasket		1	D/R		
19.5	0114-014143	Ventilplatte	valve plate	V	1			
19.6	0114-013904	Schraube	screw		1			
19.7	0114-013838	Dichtung	gasket		1	D/R		
20	0114-020015	Runddraht Sprengring	wave ring		1			
21	0114-019936	Flansch	flange		1			
	0114-013570	Dichtungssatz	seal kit			D		
	0114-013575	Reparatursatz (Packung gem.)	repair kit (packing mixed)			R		
	0114-013575 0114-016010	Reparatursatz (Packung gem.)	repair kit (packing mixed)			R		
	0114-010010	reparatursatz (rackung rire)	TEPAIL KIL (PACKING FIFE)			ĸ		
		Verschleißteil	wearing part	v				





Vorbehaltl. Techn. Änderungen





Vorbehaltl. Techn. Änderungen

Edition 06/08

#### **ERSATZEILLISTE / SPARE PARTS LIST**





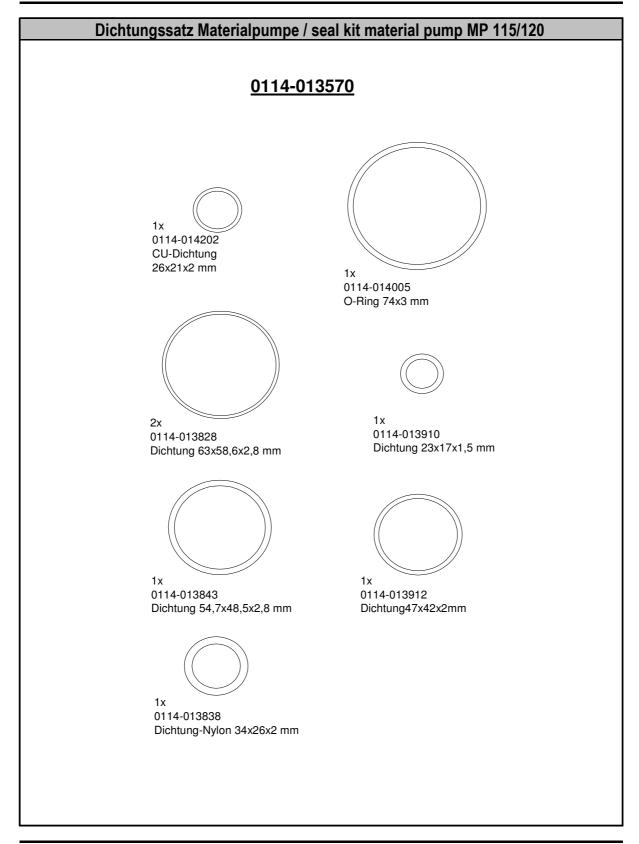
## **ERSATZEILLISTE / SPARE PARTS LIST**

## **SBINKS**



Rev. 02





Vorbehaltl. Techn. Änderungen Edition 06/08



Ersatzteile Fahrgestell / spare parts trolley						
Pos.	ArtNr.	Bezeichnung	Stck. Pcs.	Description		
	0114-013565	Fahrgestell Typ 04		trolley type 04		
1 2 3 4 5 6 7 8	0114-013565 0114-014096 0114-014141 0114-014063 0114-014213 0114-014188 0.Abb 0114-014186 0.Abb 0114-014183 1 2 - 3 3 4/	Griff Gestell Rad Splint U-Scheibe Mutter U-Scheibe Schraube		trolley type 04 handle frame wheel split pin washer nut washer screw		

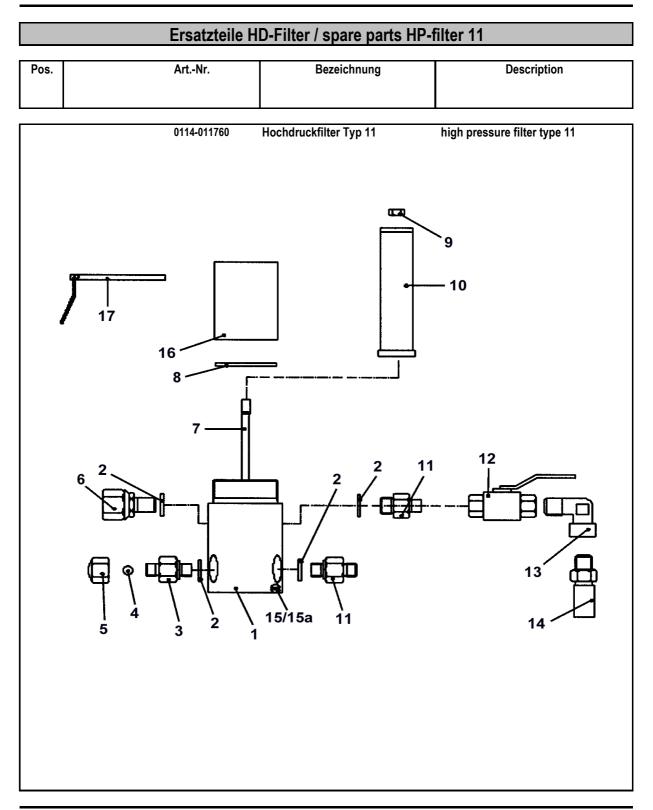


Ersatzteile Wandhalter / spare parts wall bracket							
Pos. ArtNr.		Bezeichnung	Stck. pcs.	Description			
0114-018	217	Wandhalter Typ 04		wall bracket assy. type 04			
0114-018	364	Wandhalter	1	wall bracket			
0114-014		Schraube	4	screw			
0114-014 0114-014		U-Scheibe Skt.Mutter	4 4	washer nut			
0114-014	104		4	nut			



Ersatzteile Wartungseinheit / spare parts air maintenance 1"							
Pos.	ArtNr.	Bezeichnung	Stck. Pcs.	Description			
	0114-016033	Kombi-Wartungsheinheit R1"		maintenance R1"			
1 2 3 4 5 6 7 8	0114-016046 0114-016036 0114-016038 0114-014048 0114-016037 0114-016035 0114-016039 0114-016034	Knebelschraube mit Mutter Membrane, kpl. Öler-Aufsatz Manometer Dichtkegel (über Filtereinsatz) Filter Einsatz Ablaßventil, kpl. Kombi-Wartungseinheit, kpl. mit Anschlussnippeln, Kugelhahn und Verbindungselementen	1 1 1 1 1 1 1	t-handle with nut diaphragm, cpl. oiler assy. gauge sealing (above filter insert) filter insert drain valve, cpl. maintenance, cpl. with nipples, ball valve and connection parts			
			3				







	Ersatzteile HD-Filter / spare parts HP-filter 11							
Pos.	ArtNr.	Bezeichnung	Stck. Pcs.	Description				
	0114-011760	HD-Filter Typ 11		high pressure filter type 11				
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 15a 16 17	0114-013847 0114-013952 0114-013780 0114-013780 0114-013799 0114-013849 0114-013850 0114-013850 0114-014884 0114-014884 0114-014883 0114-014883 0114-014881 0114-013855 0114-01485 0114-014087 0114-014085 0114-014085 0114-013848 0114-013848 0114-013848	Filtergehäuse Dichtung Doppelnippel Kugel 12 mm Hutmutter Anschlussnippel Stehbolzen O-Ring Nylon Mutter VA Filtereinsatz Kunststoff 70 M gelb Filtereinsatz Kunststoff 30 M blau Filtereinsatz Kunststoff 50 M orange Filtereinsatz Kunststoff 150 M rot Filtereinsatz Kunststoff 150 M not Filtereinsatz Kunststoff 200 M natur Reduziernippel Kugelhahn IG 1/4" Winkelverschraubung G 1/4" Entlastungsschlauch Flachkopfschraube Federring Filterverschluß Stiftschlüssel kpl.	1 4 1 1 1 1 1 1 1 1 2 1 1 1 2 1 1	filter casing gasket connection nipple ball 12 mm dome nut connection nipple threaded bolt o-ring nut filter insert 70 M yellow filter insert 30 M blue filter insert 30 M blue filter insert 50 M orange filter insert 100 M black filter insert 150 M red filter insert 200 M nature nipple relief pipe suction tube hose screw spring ring filter cap key pin				



Ersatzteile Ansaugleitung / spare parts suction system							
Pos.	ArtNr.	Bezeichnung	Stck. Pcs.	Description			
	0114-013563	Flexibles Ansaugsystem NW25 mit Sieb D 140		suction system DN 25 and sieve D 140			
1 2 3 4	0114-013681 0114-014136 0114-013767 0114-013768	Ansaugschlauch Winkel Ansaugrohr Siebgehäuse	1 1 1 1	suction hose elbow suction tube filter housing			
5 6	0114-014052 0114-014064	Materialsieb Sicherungsring	1	material filter retaining ring			
		1	:	2 3			
14							
	-						
			4	5 6			

Ersatzteile Ansaugleitung / spare parts suction system



#### 13. RECOMMENDED GUN

High Pressure	Max. Pressure	Recommended	Max. Pressure
Pump	Pump (bar)	Gun	Gun (bar)
HP 3/28		HAP 50	500
Airless-Outfit	224	Airless 1	420
HP 3/28	224	AA 4000	275
Aircombi-Outfit	224	DSG-2000	250
HP 4/20	100	HAP 50	500
Airless-Outfit	100	Airless 1	420
HP 4/20		AA 1500	105
Aircombi-Outfit	100	AA 4000	275
		DSG-2000	250
HP 4/32	256	HAP 50	500
Airless-Outfit	230	Airless 1	420
HP 4/32	256	AA 4000	275
Aircombi-Outfit	230	DSG-2000	250
HP 6/34	272	HAP 50	500
Airless-Outfit	212	Airless 1	420
HP 6/34	272	AA 4000	275
Aircombi-Outfit	212		
HP 6/60	390	HAP 50	500
Airless-Outfit		Airless 1	420
HP 10/32	256	HAP 50	500
Airless-Outfit	200	Airless 1	420
HP 10/32	256	AA 4000	275
Aircombi-Outfit	200	707 4000	215
HP 20/66	429	HAP 50	500
Airless-Outfit	720		
HP 25/48	384	HAP 50	500
Airless-Outfit	7007	Airless 1	420
HP 30/32	256	HAP 50	500
Airless-Outfit	200	Airless 1	420
HP 30/75	474	HAP 50	500
Airless-Outfit			000



#### 14. EC DECLARATION OF CONFORMITY

We: ITW Oberflächentechnik GmbH & Co. KG Justus-von-Liebig-Str. 31 63128 Dietzenbach Germany

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 292 1-2, EN 1953, EN 12621, EN 13463 1-8:2001

And thereby conform to the protection requirements of Council Directive 89/392/EEC relating to *Machinery Safety Directive* and council Directive 94/9/EC relating to *Equipment and Protective Systems intended for use in Potentially Explosive Atmospheres protection* 

**€ €** 🐼 II 2G T6

Issued on: 10/07/03

Authorised by:

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 Oberflächentechnik GmbH & Co KG ("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 1<sup>st</sup>, 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 respectively 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 role 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:

It de Mgd

André de Neergaard General Manager