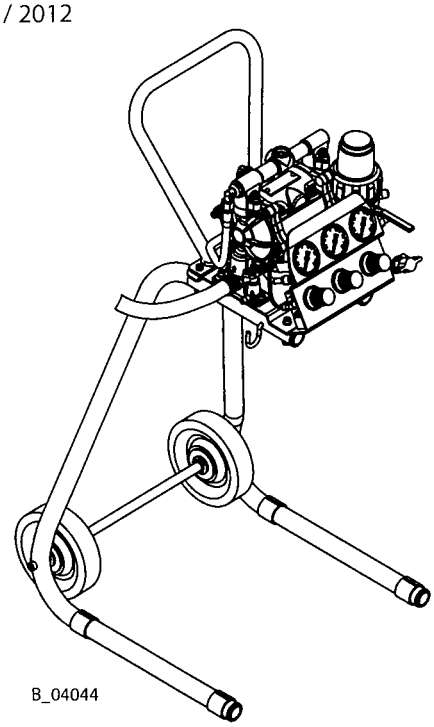
WAGNER

Translation of the Original Operating Manual

ZIP52 Finishing
ZIP52 PF Eco-Finishing

Version 12 / 2012

Pneumatic Double Diaphragm Pump Spray Pack



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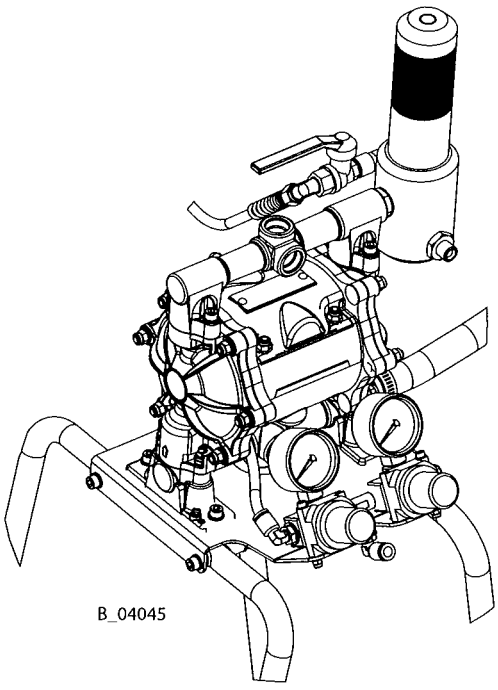

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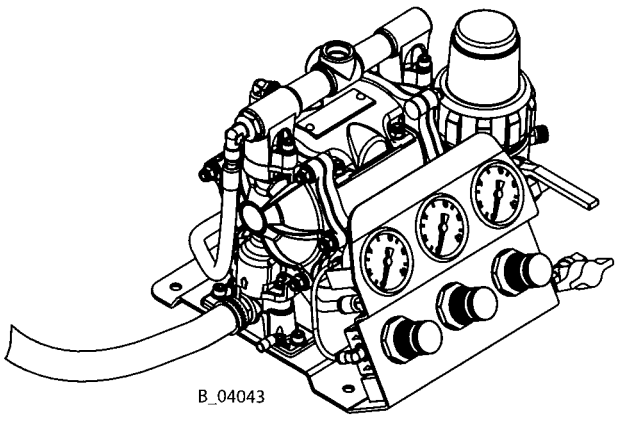

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Contents

Contents

1 ABOUT THESE INSTRUCTIONS

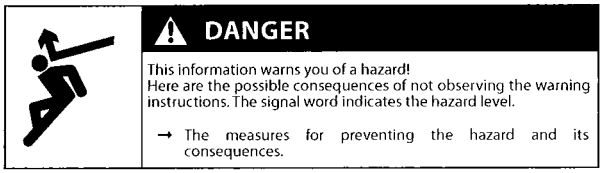
1.1 PREFACE

The operating manual contains information about safely operating, maintaining, cleaning and repairing the device.
The operating manual is part of the device and must be available to operating and service staff.
The operating and service staff should be instructed according to the safety instructions.
The device may only be operated in compliance with this operating manual.
This equipment can be dangerous if it is not operated according to the definitions in this operating manual.

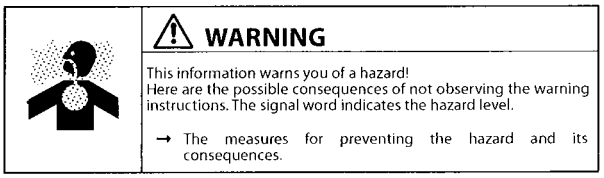
1.2 WARNINGS, NOTES AND SYMBOLS IN THESE INSTRUCTIONS

Warning instructions in this operating manual highlight particular dangers to users and device and state measures for avoiding the hazard. These warning instructions fall into the following categories:

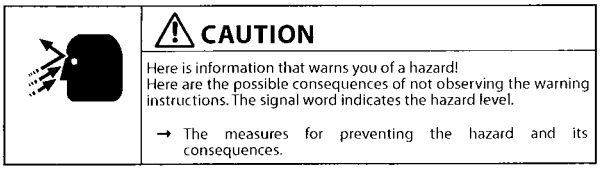
Danger - immediate risk of danger.
Non-observance will result in death or serious injury.



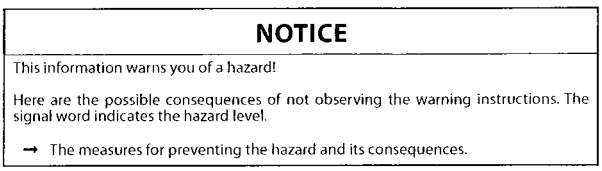
Warning - possible imminent danger.
Non-observance may result in death or serious injury.



Caution - a possibly hazardous situation.
Non-observance may result in minor injury.



Notice - a possibly hazardous situation.
Non-observance can cause material damage.



Note - provides information about particular characteristics and how to proceed.

1.3 LANGUAGES

The operating manual is available in the following languages:

Language:	Order No.	Language:	Order No.
German	2332847	English	2332848
Italian	2332849	French	2335763
Spanish	2335762		

1.4 ABBREVIATIONS IN THE TEXT

Stk	Number of pieces
Pos	Position
K	Labeling in the spare parts lists
Order No.	Order number
DH	Double stroke
FFC	Fine-Flow Controller (precisely adjustable filter flow controller with filter and integrated pulsation damper)
2K	Two components

Materials:	
POM	Polyoxymethylen (Acetal)
PPS	Polypropylene sulfide
PTFE	Polytetrafluorethylene
UHMWPE	High molecular weight Polyethylene

2 CORRECT USE

2.1 DEVICE TYPES

A) Metallic versions (aluminium and stainless steel):
Pneumatic double diaphragm pumps with order number

ZIP52 Finishing	ZIP52 Finishing	ZIP52 PF Eco-Finishing
Aluminum	Stainless steel	Aluminum
U760.00	U765.00	U731.00

B) Conductive acetal versions:
Pneumatic double diaphragm pumps with order number

ZIP52 Finishing
(POM) acetal
U773.00

2.2 TYPE OF USE

The unit is suitable for working liquid materials like paints and varnishes in accordance with the classification into explosion classes IIA or IIB.

2.3 USE IN POTENTIALLY EXPLOSIVE AREAS

Metallic (aluminium and stainless steel) and conductive acetal versions:
The pneumatic double diaphragm pumps can be employed in explosion hazard zones (Zone 1).

2.4 SAFETY PARAMETERS

WAGNER accepts no liability for any damage arising from incorrect use.

- → Use the unit only to work with the materials recommended by WAGNER.
- → Operate only the entire unit.
- → Do not deactivate safety fixtures.
- → Use only WAGNER original spare parts and accessories.

The operation of the pneumatic double diaphragm pump is only allowable under the following conditions:

- → The operating staff have previously been trained on the basis of this operating manual.
- → The safety regulations listed in this operating manual must be observed.
- → The operating, maintenance and repair information in this operating manual must be observed.
- → The statutory requirements and accident prevention regulations standard in the country of use must be observed.

2.5 PROCESSIBLE MATERIALS

- → Fluid materials like paints and varnishes.

NOTICE

Abrasive materials and pigments!
Greater wear of the parts carrying the material.

- → Use the application-oriented model (flow rate/cycle, material, valves, etc.) as indicated in Section 5.3.2.
- → Check if the fluids and solvents used are compatible with the pump construction materials as indicated in Section 5.3.1.

2.6 REASONABLY FORESEEABLE MISUSE

The following is prohibited:
- → coating work pieces which are not grounded,
- → unauthorized conversions and modifications to the device,
- → processing dry or similar coating materials, and
- → using defective components, spare parts or accessories other than those described in Chapter 10 of this operating manual.

The forms of misuse listed below may result in health issues and/or damage to property:
- → use of powder as a coating material, and
- → incorrectly set values for processing.

Wagner double diaphragm pumps are not designed for pumping food.

2.7 RESIDUAL RISKS

Residual risks are risks which cannot be excluded even in the event of correct use.
If necessary, warning and prohibition signs at the relevant points of risk indicate residual risks.

Residual risk	Source	Consequences	specific measures	Lifecycle phase
Skin contact with paints and cleaning agents	Handling of paints and cleaning agents	Skin irritations, allergies	Wear protective clothing, observe safety data sheets	Operation, maintenance, disassembly
Paint in air outside the defined working area	Painting outside the defined working area	Inhalation of substances which are hazardous to health	Observe working and operating instructions.	Operation, maintenance

3 IDENTIFICATION

3.1 EXPLOSION PROTECTION IDENTIFICATION

Metallic (aluminium and stainless steel) and conductive acetal versions:
Pneumatic double diaphragm pumps with order number

ZIP52 Finishing			ZIP52 PF Eco-Finishing
Aluminium	Stainless steel	(POM) acetal	Aluminum
U760.00	U765.00	U773.00	U731.00

As defined in the Directive 94/9/EC (ATEX 95), the unit is suitable for use in areas where there is an explosion hazard.

CE Ex II 2G IIB T4
+4°C Tamb +40°C

CE: European Communities
Ex: Symbol for explosion protection
II: Unit class II
2: Category 2 (Zone 1)
G: Ex-atmosphere gas
IIB: Explosion group
T4: Temperature class: maximum surface temperature < 135 °C; 275 °F
Tamb +4 °C to +40 °C: permissible ambient temperature area

3.2 MAXIMUM SURFACE TEMPERATURE

		ZIP52 Finishing			ZIP52 PF Eco-Finishing
		U760.00	U765.00	U773.00	U731.00
		Aluminium	Stainless steel	Conductive acetal	Aluminium
Maximum surface temperature	°C	+90	+90	+80	+90
	°F	+194	+194	+176	+194
Permissible ambient temperature:	°C	+4 ÷ +40			
	°F	+39 ÷ +104			

4 GENERAL SAFETY INSTRUCTIONS

4.1 SAFETY INSTRUCTIONS FOR THE OPERATOR

- → Keep this operating manual at hand near the device at all times.
- → Always follow local regulations concerning occupational safety and accident prevention.

4.1.1 ELECTRICAL EQUIPMENT

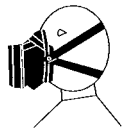
Electrical devices and equipment

- → To be provided in accordance with the local safety requirements with regard to the operating mode and ambient influences.
- → May only be maintained by skilled electricians or under their supervision.
- → Must be operated in accordance with the safety regulations and electrotechnical regulations.
- → Must be repaired immediately in the event of problems.
- → Must be decommissioned if they pose a hazard.
- → Must be de-energized before work is commenced on active parts. Inform staff about planned work. Observe electrical safety regulations.

4.1.2 PERSONNEL QUALIFICATIONS

- → Ensure that the device is operated and repaired only by trained persons.

4.1.3 SAFE WORK ENVIRONMENT

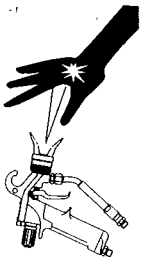


- → Make sure that the floor in the area where you are working is electrostatically conductive in accordance with EN 61340-4-1.
- → Ensure that all persons within the working area wear electrostatically conductive shoes.
- → Ensure that during spraying, persons wear electrically conductive gloves. The grounding takes place via the handle of the spray gun.
- → Paint mist extraction systems must be fitted on site according to local regulations.
- → Ensure that the following components of a safe working environment are available:
  - material/air hoses adapted to the working pressure.
  - Personal safety equipment (breathing and skin protection).
- → Ensure that there are no ignition sources such as naked flames, sparks, glowing wires or hot surfaces in the vicinity. Do not smoke.

4.2 SAFETY INSTRUCTIONS FOR STAFF

→ Always follow the information in these instructions, particularly the general safety instructions and the warning instructions.
→ Always follow local regulations concerning occupational safety and accident prevention.

4.2.1 SAFE HANDLING OF WAGNER SPRAY UNITS



The spray jet is under pressure and can cause dangerous injuries.
Avoid injection of paint or cleaning agents:
→ Never point the spray gun at people.
→ Never reach into the spray jet.
→ Before all work on the device, in the event of work interruptions and functional faults:
- Switch off the energy/compressed air supply.
- Secure the spray gun against actuation.
- Relieve the pressure from the spray gun and unit.
In the event of functional faults: remedy the fault as described in the "Trouble Shooting" Chapter.
→ The liquid emitters are to be checked for safe working conditions by an expert (e.g. Wagner Service Technician) as often as necessary or at least every 12 months, in accordance with the guidelines for liquid emitters (ZH 1/406 and BGR 500 Part 2 Chapter 2.36).
– For shut down devices, the examination can be suspended until the next start-up.
In the event of skin injuries caused by paint or cleaning agents:
→ Note down the paint or cleaning agent that you have been using.
→ Consult a doctor immediately.
Avoid danger of injury through recoil forces:
→ Ensure that you have firm footing when operating the spray gun.
→ Only hold the spray gun briefly in a position.

4.2.2 EARTHING THE UNIT

Depending on the electrostatic charge and the flow speed of the spray, an electrostatic charge may occur in the equipment. In the event of discharge, this may result in the formation of sparks or flames.
→ Ensure that the unit is grounded for every spraying operation.
→ Ground the work pieces to be coated.
→ Ensure that all persons inside the working area are grounded, e.g. that they are wearing electrostatically conductive shoes.
→ Wear electrostatically conductive gloves when spraying. The grounding takes place via the handle of the spray gun.

4.2.3 MATERIAL HOSES

→ Ensure that the hose material is chemically resistant to the sprayed materials.
→ Ensure that the material hose is suitable for the pressure generated in the unit.
→ Make sure that the hoses are laid only in suitable places. In no case, should hoses be laid in the following places:
  – in high traffic areas,
  – on sharp edges,
  – on moving parts or
  – on hot surfaces
→ Make sure that the hoses are never used to pull or move the equipment.
→ The electrical resistance of the complete high pressure hose must be less than 1 MOhm.

Several liquids have a high expansion coefficient. In some cases its volume can rise with consequent damage to pipes, fittings, etc. and cause fluid leakage.
When the pump sucks liquid from a closed container, ensure that air or suitable gas can enter the container to avoid a vacuum being generated in the container itself. Thus a negative pressure is avoided. The vacuum could implode the container (squeeze) and can cause it to break. The container would leak and the liquid would flow out.
The pressure ratio is 1:1. Therefore the pressure generated by the pump is equal to the input air pressure.

4.2.4 CLEANING

→ De-energize the unit electrically.
→ Disconnect the pneumatic supply line.
→ Relieve the pressure from the unit.
→ Ensure that the flash point of the cleaning agent is at least 5 K above the ambient temperature.
→ To clean, use cloths and brushes moistened with solvent. Never use hard objects or spray on cleaning agents with a gun.

An explosive gas/air mixture forms in closed containers.
→ When cleaning units with solvents, never spray into a closed container.
→ Ground the container.

4.2.5 HANDLING HAZARDOUS LIQUIDS, VARNISHES AND PAINTS

→ When preparing or working with paint and when cleaning the unit, follow the working instructions of the manufacturer of the paints, solvents and cleaning agents being used.
→ Take the specified protective measures. In particular, wear safety goggles, protective clothing and gloves, as well as hand protection cream if necessary.
→ Use a mask or a breathing apparatus if necessary.
→ For sufficient health and environmental safety: Operate the unit in a spray booth or on a spraying wall with the ventilation (extraction) switched on.
→ Wear suitable protective clothing when working with hot materials.

4.2.6 TOUCHING HOT SURFACES

→ Touch hot surfaces only if you are wearing protective gloves.
→ When operating the unit with a coating material with a temperature of > 43 °C; 109.4 °F:
- Identify the unit with a warning sticker "Warning - hot surface".

Order No.	
9998910	Instruction sticker
9998911	Protection sticker

Note: Order the two stickers together.

4.2.7 EXPLOSION AZARD

Never use chloride or halogenated solvents (such as trichloroethane and methylene chloride) with units containing aluminium or galvanized and zinc-plated parts. They may react chemically thus producing an explosion danger.
Read the classification and information leaflet concerning the product and solvent to be used.

4.2.8 NOISE RISK

In some working conditions, the pump can be particularly noisy: for example when the air feeding pressure is high and when there is no pressure or a very low pressure in the pumped fluid (free flow operation). In these cases, all personnel working next to the pump shall wear adequate individual protections and/or use valves and seats in plastic material, provided the working conditions and the compatibility with the pumped fluid allow it.

4.2.9 MATERIAL CHEMICAL COMPATIBILITY

Make sure the materials employed in manufacturing the pump are chemically compatible with the fluid to be pumped. A wrong choice can cause harming people (as a result of prosection of noxious and irritant products) as well as polluting the environment, besides prematurely damaging the pump and its hoses.

4.2.10 EMERGENCY STOP

To quickly stop the unit in case of emergency, close the air cut-off valve or the pressure regulator; to interrupt the air supply to the pump's motor. For the ZIP52 PF Eco-Finishing, the cut-off valve is not supplied with the pump. It has to be provided and properly installed by the user.
Caution : delivery circuits of pneumatic pumps can remain pressurized, even when the air input valve is closed.

4.2.11 TIGHTNESS CHECK

When using the pump after a long period of inactivity, check tightness of all parts subject to pressure.

4.2.12 MAINTENANCE

Depending on the type of use and the substances used, the user has to check for the presence of deposits on the pump as well as check its cleanliness at regular intervals and the state of wear of the components and proper operation of the pump assembly.
The operation has to be carried out in conformity with what is written in this manual.

4.3 USE IN AREAS SUBJECT TO EXPLOSION HAZARDS

Only the pneumatic double diaphragm metallic pumps (aluminium and stainless steel) and conductive acetal versions can be used in explosion hazard zones. The following safety regulations must be observed and followed.

4.3.1 SAFETY REGULATIONS

Safe handling of WAGNER spray units

Mechanical sparks can form if the unit comes into contact with metal.
In an explosive atmosphere:
→ Do not knock or push the unit against steel or rusty iron.
→ Do not drop the unit.
→ Use only tools that are made of a permitted material.

Ignition temperature of the pumped material
→ Check that the ignition temperature of the pumped material is higher than the max. allowable surface temperature.

Medium supporting atomizing
→ To atomize the material, use only weakly oxidizing gases, e.g. air.

Surface spraying, electrostatic
→ Do not spray system parts with electrostatic.

Cleaning
If there are deposits on the surfaces, the unit may form electrostatic charges. Flames or sparks can form during discharge.
→ Remove deposits from the surfaces to maintain conductivity.
→ Use only a damp cloth to clean the unit.

4.3.2 OPERATION WITHOUT FLUID

Avoid running the pump sucking air, without fluid inside. The air, combined with the vapour of flammable fluids, can generate internal areas with an explosion hazard.
Periodically check that the pump is working regularly, paying special attention to the presence of air in the pumped fluid, which may be caused by a breakage in the pump.
Avoid operating the pump with damaged diaphragms.

4.3.3 MAXIMUM SURFACE TEMPERATURE

The maximum surface temperature of the pump depends on the temperature of the pumped fluid, that must not exceed the values indicated in the section "Technical Data".

4.3.4 MAXIMUM SURFACE TEMPERATURE - EXOTHERMIC REACTIONS

Fluids incompatible with the pump's materials or particularly reactive mixtures of products with several components may cause exothermic reactions and develop dangerous temperatures or pressure.

4.3.5 CONNECTION PIPES

Connection pipes must be made of conductive material and properly grounded.

4.3.6 PUMP PROTECTION

Pumping fluids can contain solid particles, which could damage the internal parts of the pump. The suction filter prevents solid bodies which are too large from entering the pump.
Refer to the paragraph Technical Data to verify the maximum size of solids that can be pumped.
Keep metal surfaces clean. Electric conductivity of the surfaces is essential for explosion protection.
Frequently clean the equipment so as to prevent insulating substance residue from accumulating.
Do not use rusted parts or metal tools that may cause sparks of a mechanical origin inside the explosion hazard area.

5 DESCRIPTION

5.1 AREAS OF APPLICATION

NOTICE

Abrasive materials and pigments!
Greater wear of the material transporting parts.

→ Use the application-oriented model (flow rate/cycle, material, valves, etc.) as indicated in Section 5.3.2.
→ Check if the fluids and solvents used are compatible with the pump construction materials as indicated in Section 5.3.1.

5.2 SCOPE OF DELIVERY

- Diaphragm pump
- Suction hose with filter
- On ZIP52 Finishing: Fine-Flow Controller FFC (precisely adjustable filter flow controller with filter and integrated pulsation damper)
- On ZIP52PF Eco-Finishing: Materialfilter (as an alternative to the above-mentioned FFC)
- Connection elements
- On ZIP52 PF Eco-Finishing: stand

CE Conformity	see Chapter 12
Operating manual German	Order No.: 2332847
Operating manual for other languages	see Chapter 1

The delivery note shows the exact scope of delivery.
Accessories: see Chapter 10

5.3 DATA

5.3.1 MATERIALS OF THE FLUID TRANSPORTING PARTS

Pump No.	Pump body	Diaphragm	Diaphragm disc	Valve seat	Valve ball	O-rings
U550.AHSS0-A	Aluminium	UHMWPE	PPS	Stainless steel	Stainless steel	PTFE
U550.SHSS0-B	Stainless steel	UHMWPE	PPS	Stainless steel	Stainless steel	PTFE
U552.GHSS1	Acetal (POM)	UHMWPE	POM	Stainless steel	Stainless steel	PTFE
U551.AHSS1	Aluminium	UHMWPE	PPS	Stainless steel	Stainless steel	PTFE

Positions of the individual parts: see spare parts list.

5.3.2 TECHNICAL DATA

Description		Unit	ZIP52 Finishing			ZIP52 PF Eco-Finishing
			U760.00	U765.00	U773.00	U731.00
Wetted parts materials			Aluminum	Stainless steel	Conductive acetal	Aluminum
Transmission ratio			1:1	1:1	1:1	1:1
Flow volume per double stroke (DH)		cm^3 cc	108	108	108	62
Maximum operating pressure		MPa bar psi	0.8 8 116	0.8 8 116	0.8 8 116	0.8 8 116
Maximum possible speed		DH/min	490	490	490	490
Maximum flow rate (free flow - flooded inlet)	(1) (5)	l/min GPM	52 13.7	52 13.7	52 13.7	28 7.4
Minimum air inlet pressure		MPa bar psi	0.15 1.5 22	0.15 1.5 22	0.15 1.5 22	0.10 1.0 15
Maximum air inlet pressure		MPa bar psi	0.8 8 116	0.8 8 116	0.8 8 116	0.8 8 116
Air inlet connection		BSP(G)	1/4" F	1/4" F	1/4" F	ø 8 mm
Maximum suction height	(2)	m feet	4.8 15.7	4.8 15.7	4.8 15.7	2.8 9.2
Maximum solid body size	(5)	mm inches	2.0 0.08	2.0 0.08	2.0 0.08	2.0 0.08
Sound pressure equivalent 50 cycles/min. (feeding 5 bar)	(3) (5)	dB(A)	73	73	73	73
Sound pressure equivalent maximum flow rate (feeding 8 bar)	(3) (5)	dB(A)	85	85	85	85
Sound power at maximum flow rate (feeding 8 bar)	(4) (5)	dB(A)	99	99	99	99
Fluid connections		BSP(G)	1/4" M	1/4" M	1/4" M	1/4" M
Weight		kg lb	9 19.8	11.8 26	8.9 19.6	7.9 17.4
Material temperature		°C °F	+4 ÷ 90 +39 ÷ 194	+4 ÷ 90 +39 ÷ 194	+4 ÷ 80 +39 ÷ 176	+4 ÷ 90 +39 ÷ 194
Ambient temperature		°C °F	+4 ÷ +40 +39 ÷ +104			
Allowable inclination for operation		<) °	10°			

(1) PF = Perfect Flow = low pulsation pump with a shorter stroke
(2) Pump with stainless steel valves (start condition: empty pump / dry valves)
(3) LqA (10s)
(4) ISO 3744
(5) Technical data apply to the pump without using a filter

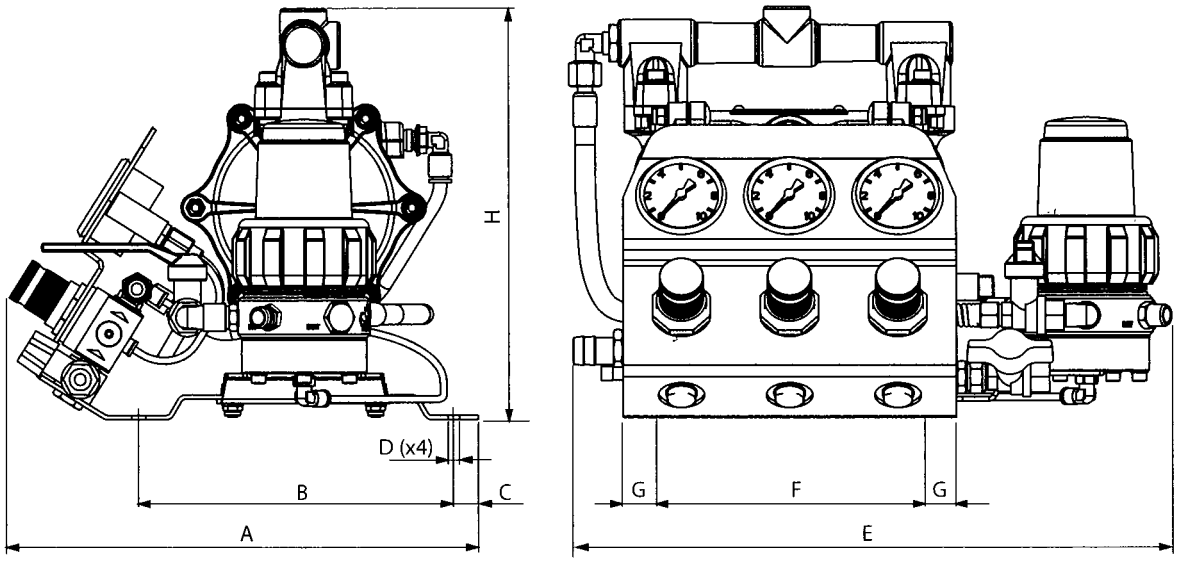
⚠ WARNING

Outgoing air containing oil!
Risk of poisoning if inhaled.
Air motor switching problems.

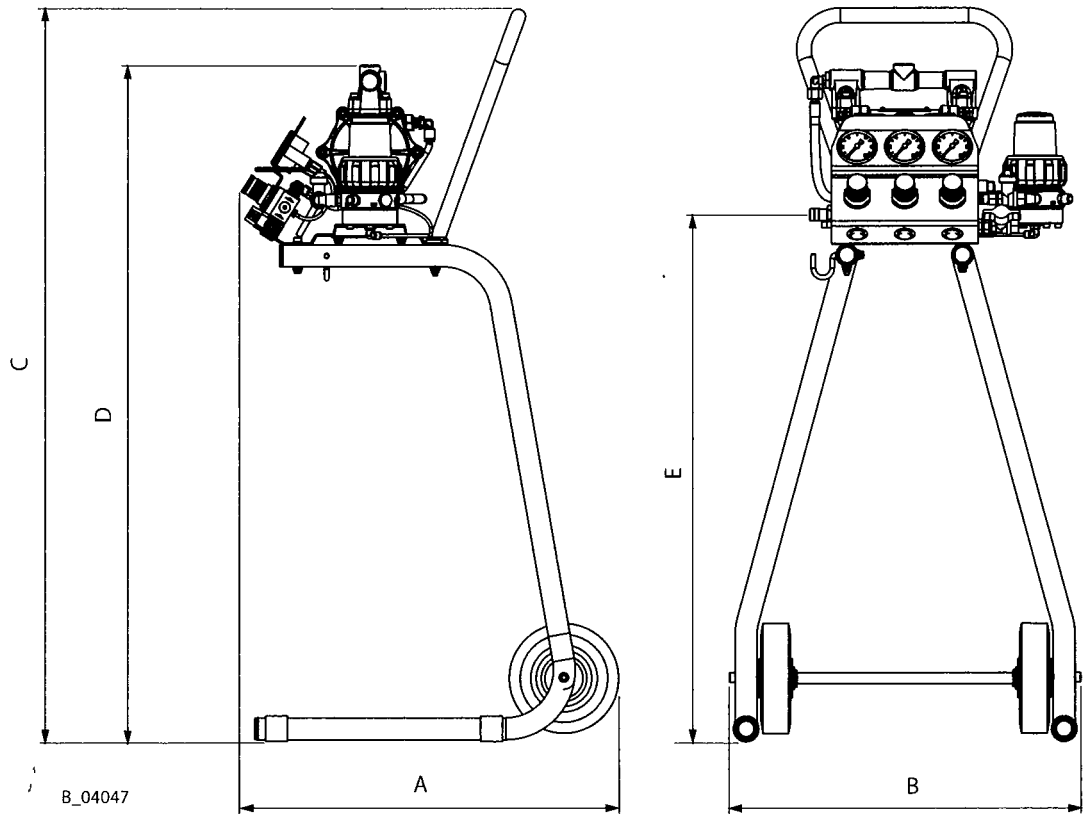
→ Provide compressed air free from oil and water (Quality Standard 5.5.4 according to ISO 8573.1) 5.5.4 = 40 µm / +7 / 5 mg/m^3.

5.3.3 DIMENSIONS AND CONNECTIONS

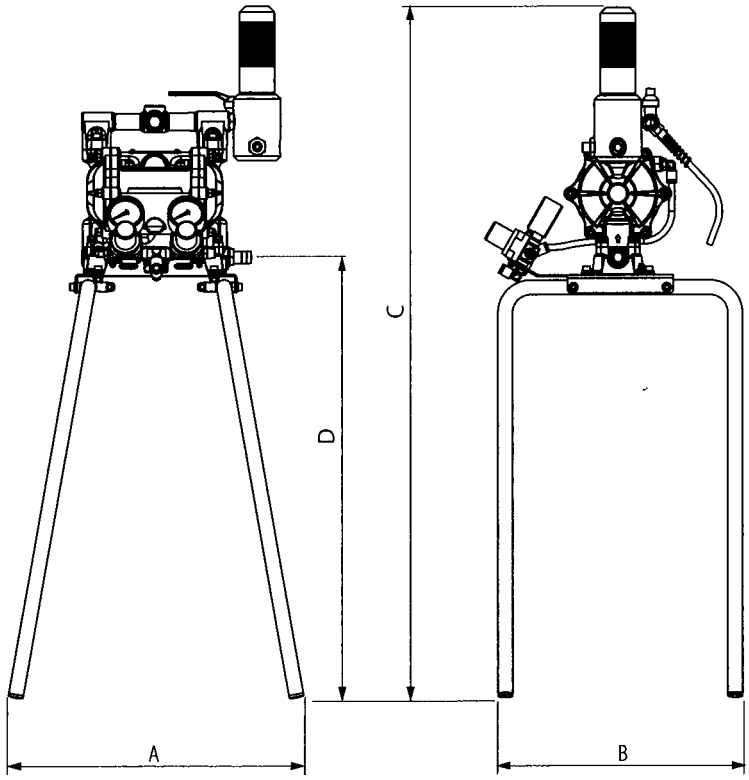
ZIP52 Finishing



ZIP52 Finishing on the trolley



ZIP52 PF Eco-Finishing



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	ZIP52 Finishing mm; inch	ZIP52 Finishing on the trolley mm; inch	ZIP52 PF Eco-Finishing mm; inch
A	280.0; 11.02	520.0; 20.47	405.0; 15.94
B	189.0; 7.44	481.0; 18.94	335.0; 13.19
C	15.0; 0.59	1015.0; 39.96	940.0; 37.01
D	ø9.0; ø0.35	930.0; 36.61	602.0; 23.70
E	360.0; 14.17	720.0; 28.35	--
F	158.0; 6.22	--	--
G	21.0; 0.83	--	--
H	250.0; 9.84	--	--

5.3.4 PERFORMANCE DIAGRAMS

Example

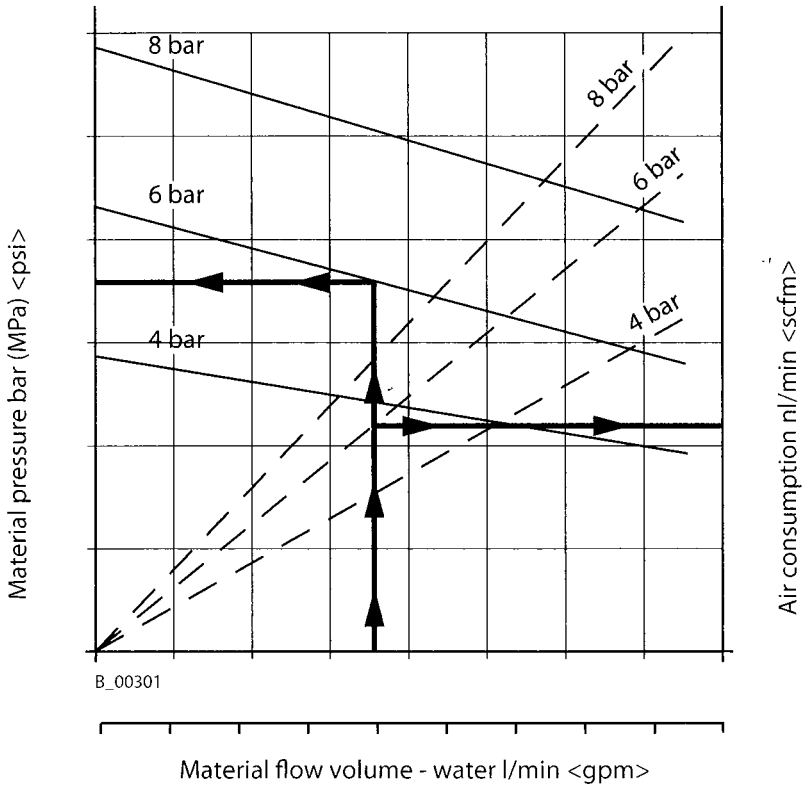
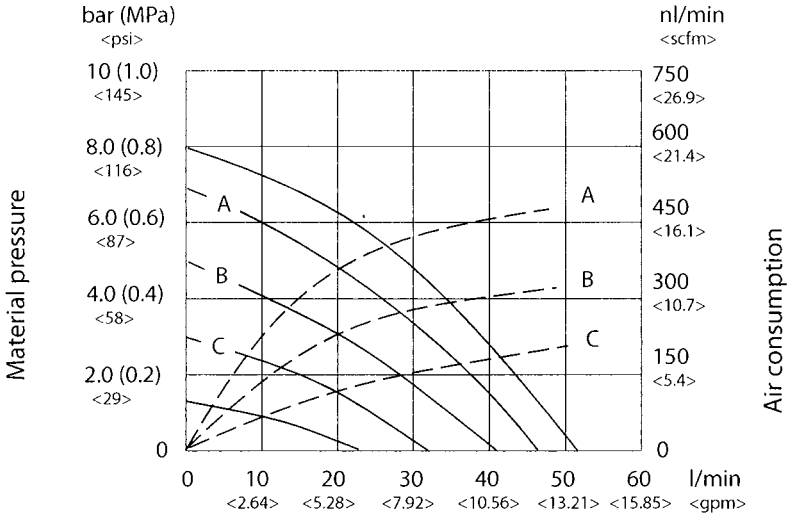


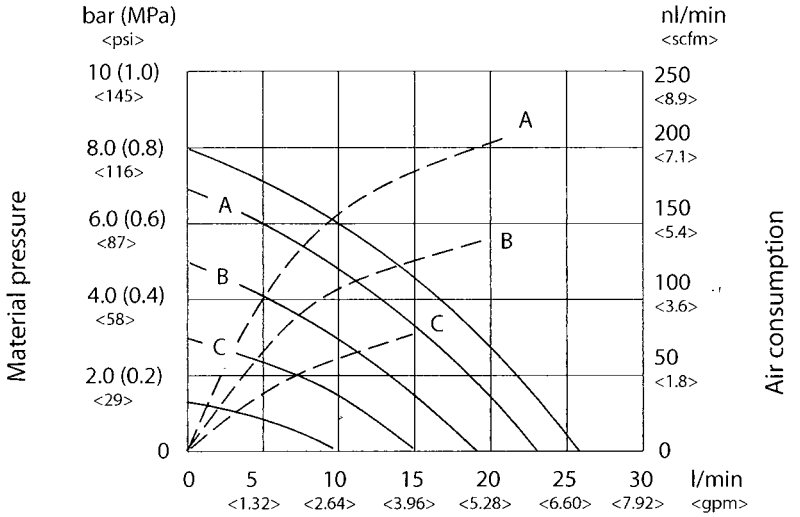
Diagram ZIP52



A = 8 bar; 0.8 MPa; 116 psi air pressure
B = 6 bar; 0.6 MPa; 87 psi air pressure
C = 4 bar; 0.4 MPa; 58 psi air pressure

The chart above refers to the aluminium version with stainless steel valves without an attached filter.

Diagram ZIP52 PF

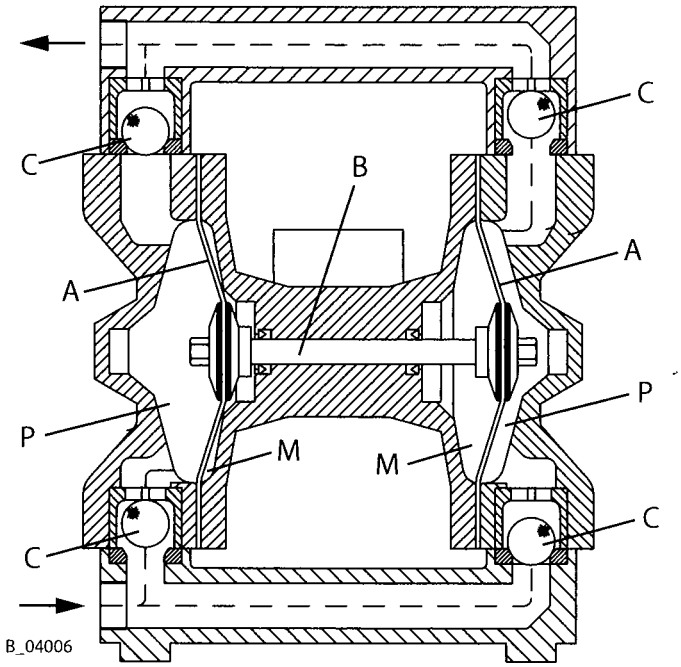


Material flow volume - water

A = 8 bar; 0.8 MPa; 116 psi air pressure
B = 6 bar; 0.6 MPa; 87 psi air pressure
C = 4 bar; 0.4 MPa; 58 psi air pressure

The chart above refers to the aluminium version with stainless steel valves without an attached filter.

5.4 MODE OF OPERATION



Double diaphragm pump - operating principle
The double diaphragm pump is driven with compressed air.
Two diaphragms (A) are mechanically connected to each other by means of a shaft (B).
Each diaphragm generates two chambers: pumping chamber (P) and motor chamber (M).
A pneumatic distributor alternately supplies compressed air into one of the driving chambers (M), thus producing the diaphragm's movement and consequently causing one of the pumping chambers (P) to empty (as a result of volume decrease), while at the same time the other chamber (P) sucks the fluid in (as a result of volume increase). A series of four non-return valves (C) prevents the liquid from flowing back, thus producing the suction and delivery phases in each pumping chamber, and generating the pumping effect.
The ZIP models are equipped with an internal safety valve that opens when the maximum allowed value of air pressure supply is exceeded.

⚠ WARNING

Overpressure!
Risk of injury from bursting components.

→ Never change the safety valve setting.

6 ASSEMBLY AND COMMISSIONING

6.1 TRANSPORTATION

The pump may be moved manually, without lifts and cranes.

6.2 STORAGE

Store the pump in a closed and dry environment.
Thoroughly clean the pump, if a long-term decommissioning is planned.
When resuming pump operation, proceed as described in the following sections.

⚠ WARNING

Discharge of electrostatically charged components in atmospheres containing solvents!
Explosion hazard from electrostatic sparks.

→ Clean the pump only with a damp cloth.

6.3 ASSEMBLY

Install the unit on a flat and horizontal surface.
Ensure that all fixing screws (diaphragm covers, manifold, etc.) are correctly tightened.
Tighten the fixing screws regularly depending on pump use. In the case of continuous or prolonged operation, it is advisable to check at least once a week that there are no air and/or liquid leaks.

⚠ WARNING

Inclined ground!
Risk of accidents if the unit rolls away/falls.

→ If the surface is inclined, position the feet of the trolley towards the gradient.
→ Secure the trolley.

Material connection:
Connect the suction hose (on the underside) and the paint/air double hose to the corresponding connections.
Note: Make sure that the color hose does not get mixed up with the air hose, as the connections are the same size.
Connect a suitable air spray gun to the other end of the double hose.
For pumps installed in areas subject to explosion hazards, all hoses and pipes must be made of conductive material and must be grounded.

All hoses and components connected to the supply line must be able to operate at the pump's maximum pressure with the pump working at a pulsating pressure.

Compressed air supply connection:
Connect the unit's air inlet fittings to the distribution network.
Caution: The connection must be carried out on the pump's fitting. Do not replace the original fitting.
Use a pipe with a suitable diameter for the connection.
Provide an external air cut-off valve for the ZIP52 PF Eco-Finishing.

The pressure must not exceed the maximum value indicated on the type plate.

Air pressure quality:
The unit must be fed with clean and dry industrial air. Make sure efficient filter and condensation separation systems are installed on the air line.
The pump can be run with non-lubricated air.
Air pressure quality: 5.5.4 = 40 µm / +7 / 5 mg/m^3

Reversing valve:
The reversing valve of the pump is lubricated at the factory and does not need any lubrication.

Safety valve:
The ZIP models are equipped with an internal safety valve that opens if the maximum allowed value of air pressure supply is exceeded.

6.4 GROUNDING

⚠ WARNING

Discharge of electrostatically charged components in atmospheres containing solvents!
Explosion hazard from electrostatic sparks.

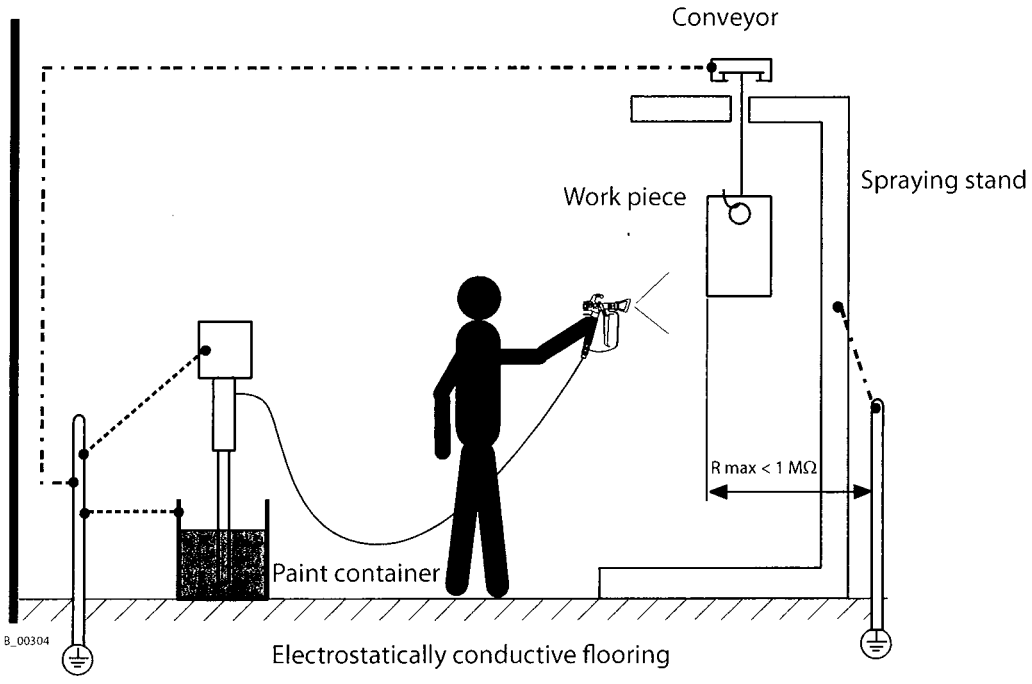
→ Clean the pump only with a damp cloth.

⚠ WARNING

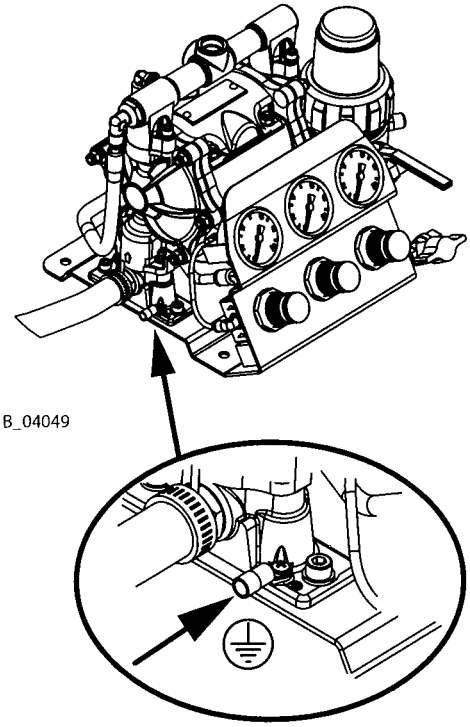
Heavy paint mist if grounding is insufficient!
Danger of poisoning.
Insufficient paint application quality.

→ Ground all device components.
→ Ground the work pieces to be coated.

Grounding schema (example)



The ground connection is imperative.



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Procedure:

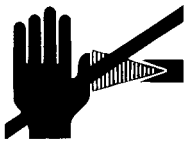
1. Remove the crimp connection delivered with the pump.
2. Crimp the grounding cable on the terminal and screw it back onto the pump's foot.
3. Ground the material/paint container to a local ground connection.
4. Ground the other parts of the system to a local ground connection.

6.5 COMMISSIONING

6.5.1 SAFETY REGULATIONS

Before carrying out any work, the following points must be observed in accordance with the operating instructions:

- Observe all safety regulations in accordance with Chapter 4.
- Carry out commissioning properly.



⚠ WARNING

High pressure spray jet!
Danger to life from injecting paint or solvent.

→ Never reach into the spray jet.
→ Never point the spray gun at people.
→ Consult a doctor immediately in the event of skin injuries caused by paint or solvent. Inform the doctor about the paint or solvent used.
→ Never seal defective high pressure parts, instead relieve the pressure from them and replace them.

⚠ WARNING

Toxic and/or flammable vapor mixtures!
Risk of poisoning and burns.

→ Operate the unit in a spray booth approved for the working materials.
-or-
→ Operate the unit on an appropriate spraying wall with the ventilation (extraction) switched on.
→ Observe national and local regulations for the outgoing air speed.

⚠ WARNING

Gas mixtures can explode if there is an incompletely filled pump!
Danger to life from flying parts.

→ Ensure that the pump and suction system are always completely filled with cleaning agent or working medium.
→ Do not spray the unit empty after cleaning.

Emergency stop
In the case of unforeseen occurrences close the air cut-off valve immediately and open the return valve (if installed) and/or delivery devices (valves or guns).

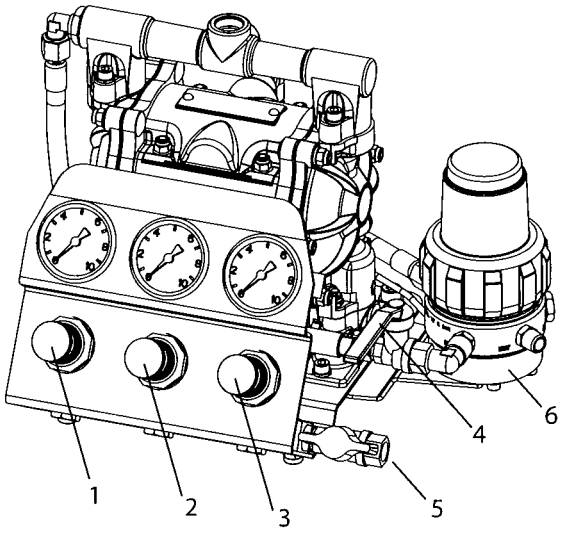
Zip52 Finishing	An air cut-off valve is installed.
ZIP52 PF Eco-Finishing	An air cut-off valve must be provided by the user.

6.5.2 PRELIMINARY OPERATIONS

Preliminary flushing

The pump was tested with oil or other fluids, depending on the model.
Before use, it is necessary to flush the pump once using an adequate solvent.
Ensure that:

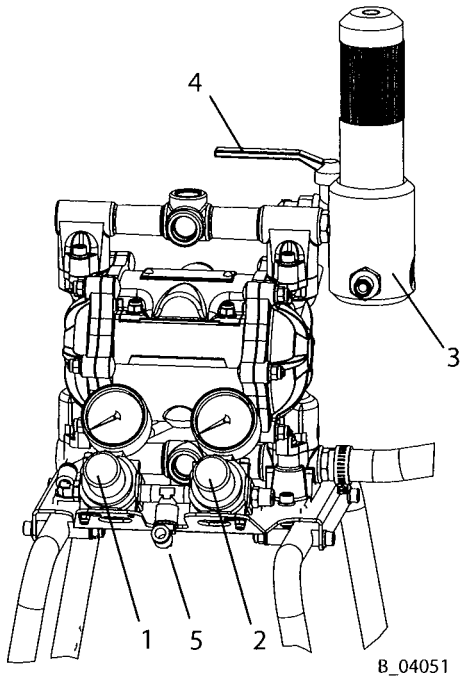
- The pressure regulator knob is turned fully counterclockwise (0 bar pressure).
- The air cut-off valve is closed.
- The material return valve is opened.



B_04050

ZIP52 Finishing

1.	Pump pressure regulator
2.	Material pressure regulator
3.	Atomizing air pressure regulator
4.	Material return valve (closed position)
5.	Air cut-off valve
6.	Fine-Flow Controller (precisely adjustable filter flow controller with filter and integrated pulsation damper)



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ZIP52 PF Eco-Finishing

1.	Pump pressure regulator
2.	Atomizing air pressure regulator
3.	Material filter
4.	Material return valve (opened position)
5.	Air inlet connection

Open the air supply and turn the pump's regulator knob clockwise until the pump starts.
Set the material pressure regulator (if available - ZIP52 Finishing) to 1-2 bar.

Don't let the pump run too quickly while priming.
Subsequently, close the return valve.
Let the flushing agent flow for 2 or 3 minutes. The flushing agent comes out through the spray gun.

Start-up problems:

If the pump doesn't start up, carry out the following steps:

→ Close the air cut-off valve.
→ Turn the pressure regulator knob off counterclockwise (0 bar pressure).
→ Open the air cut-off valve for air.
→ Turn the pressure regulator knob clockwise until the pump starts.

If necessary, repeat the operation several times.

6.5.3 UNIT PRESSURE TIGHTNESS TEST

Close the spray gun and the material return valve, when the pump is filled.
Gradually increase the pressure of the material pressure regulator (if available - ZIP52 Finishing), until the maximum allowed value for the pump and the devices connected to it is reached. Ensure that the fittings do not leak.

7 OPERATION

7.1 OPERATION

Priming:
Make sure that the air pressure regulator knob is turned fully counterclockwise (0 bar pressure).
Open the air cut-off valve and the spray gun. Increase the air pressure until the pump starts. Don't let the pump run too quickly while priming.

Insert the suction pipe into the paint container.
Wait until the pump is full.
Set the pump air pressure to 5-5.5 bar or even more, depending on the paint viscosity.
Open the spray gun and drain the flushing agent contained inside the hose. Close the gun as soon as paint starts coming out. The pump stops while it is still pressurized.
Set the material pressure regulator to 1-1.5 bar.
Readjust the atomizing air pressure to 1.5-2 bar.
The unit is ready to spray.

Return valve:
To facilitate priming, open the return valve.
Once the suctioning is over, close the return valve.
If the product requires continuous circulation, adjust the return valve opening accordingly.

Pump shaking / air suctioning:
If the pump speeds up suddenly and starts to shake, it means that there is no paint left inside it and that the pump is sucking air. In this case, more paint must be supplied.
If enough paint is available but the pump still shakes as if no more paint were available, most likely the suction filter is clogged and must be cleaned.

→ In case air accidentally flows into the pump suction inlet, the compressed air pressure must be reduced to avoid the pump working at an excessive speed.

Material pressure and atomizing air pressure:
The previously indicated values for the material pressure (1-1.5 bar), and for the atomizing air pressure (1.5-2 bar) should be considered reference values, since the pressure is dependent upon the characteristics of the paint to be used, above all on its viscosity.
If paints or other very fluid products are to be used, the material pressure should be set extremely low - to approximately 0.5 bar or even lower if necessary.
On the other hand, highly viscous paints may require a pressure as high as 3 bar or even higher.

The atomizing air pressure should be set to 1-2.5 bar, depending on the paint characteristics. To obtain perfect atomization and to avoid spray mist, the lowest possible atomizing air pressure should be used.
In very few cases, the gun must be provided with a very low material pressure and a very high atomizing air pressure.
Carefully choose the appropriate atomizing cap for the spray gun.

7.2 ENDING OR INTERRUPTING WORK

To stop the pump, simply close the gun - (or any other cut-off device installed along the delivery pipe).
When the work is completed, close the air cut-off valve. Relieve the pressure in the material line by opening the return valve or the spray gun.

Dealing with hardening liquids:
In case of hardening liquids such as 2-component mixed resins, the pump, and anything connected to it, must be thoroughly flushed out at the end of working session by using a solvent suitable for the type of resin being used. The solvent must be left inside the pump, until its next use.

7.3 ENDING WORK: CLEANING

Make sure to flush the pump out carefully at the end of the working session.
Once finished spraying, decrease the atomization air pressure to zero.
Reduce the air pressure to 2.5 bar.
Open the return valve.
Lift the suction pipe from the paint container and wait until the pump has purged all of the paint.
Immerse the suction pipe into the flushing agent container.
Close the return valve.
Open the spray gun while holding it over the paint container until you see flushing agent come out.
Note on this step: catalyzed paints (2K) must be drained into a separate waste container.

Keep the spray gun open over the grounded flushing agent container, and let it circulate for a few minutes.
To flush the return pipe, open the return vale and then close it again. Set the pump pressure to zero. Open the return valve's pressure release once more and then close it.
Close gun. Flushing is completed.

Note:
We recommend leaving the pump full of flushing agent after work is completed. This prevents possible paint residues, particularly catalyzed paint residues (2K), left over after a hurried cleaning cycle, from drying up: these residues are then removed upon restarting work.
When using mono-component paints, it is not necessary to flush the unit every time. Cleaning once or twice a week is sufficient. Ask the product supplier for more detailed information, by identifying the paint used.

7.4 STORAGE OVER LONGER PERIODS OF TIME

When storing the device for longer periods of time, it is necessary to thoroughly clean it and protect it from corrosion. Use a suitable preserving fluid, according to the material of the wetted parts of the pump.

8 TROUBLE SHOOTING AND RECTIFICATION

Problem	Cause	Remedy
The unit does not work.	The unit has no compressed air.	Check the compressed air supply line and the air cut-off valve.
		Check the compressed air maintenance unit (if available).
	The material pressure regulator is set to 0 (ZIP52 Finishing).	Check the pressure setting on the material pressure regulator. If necessary, increase the pressure.
	The pump is blocked near the switch-over point.	Close the air cut-off valve. Turn the pressure regulator knob approximately half a turn clockwise. Open the air cut-off valve again. Repeat until the pump starts.
	Fine Flow Controller (or material filter on the ZIP52 PF Eco-Finishing) is clogged.	Clean or replace the filter.
The unit is working (i.e. the pump is moving), but no fluid is delivered.	No fluid is available at the pump's inlet.	Check the fluid level in the tank or container.
	Air suction filter clogged.	Carefully clean the filter.
	The suction pipe is clogged or leaking (possibility of sucking air in from the atmosphere).	Check the suction pipe. Replace it if necessary.
The material flow is irregular or decreases during work.	Suction problems.	Check the suction pipe to see if it is partially clogged. Replace it if necessary.
	Conveying problems.	Partial clogging of the delivery line or the paint hose. Clean or replace.
	Non-return valves are leaking.	Contamination or wear in the non-return valves. Check the non-return valves and replace if necessary.
The unit works even if the spray guns are closed.	Non-return valves are leaking.	Contamination or wear in the non-return valves. Check the non-return valves and replace if necessary.
	The return valve is not closed properly.	Check the return valve to see if it is open or leaking.
The pump stops often.	Low air pressure to the pump.	Increase the air pressure.
	Non-return valves' guides/stops are worn.	Check the non-return valves. Replace the delivery manifold or pump cover if necessary. When acetal pump, the ball-guide can be replaced.
	Ice formation inside the air outlet pipes.	Check the compressed air quality. Install a condensation separator on the air line. Install an air dryer if necessary. Fill one lubricant with special de-icing fluid.

If the problem is not listed above, consult your WAGNER Service Center.

9 CLEANING AND MAINTENANCE

⚠ WARNING

Incorrect maintenance/repair!
Danger to life and equipment damage.

→ Only a WAGNER service center or a suitably trained person may carry out repairs and replace parts.
→ Only repair and replace parts that are listed in the Chapter "Spare Parts Catalogue" and that are assigned to the unit.
→ Before all work on the unit and in the event of work interruptions:
- Disconnect the control unit from the mains.
- Relieve the pressure from the spray gun and unit.
- Secure the spray gun against actuation.
→ Observe the operating and service instructions when carrying out all work.

1. Check and clean the material and suction filters daily or as necessary.
2. Carry out every decommissioning as explained in paragraph 7.2.
3. As necessary, check and replace hoses, pipes, and connections daily.

→ In accordance with the guideline for liquid emitters (ZH 1/406 and BGR 500 Part 2 Chapter 2.3):
- The liquid emitters should be checked by an expert (e.g. Wagner service technician) for their safe working conditions as required and at least every 12 months.
- For shut down devices, the examination can be suspended until the next start-up.

9.1 SAFETY INSTRUCTIONS

Prior to maintenance and cleaning measures note:

- → Wear protective clothing and use specific protection devices with regard to the nature of the fluids involved.
- → Close the compressed air supply and release the pressure from the pump and pipes connected to it.
- → Depending on the operation, disconnect the material and air side connection pipes.
- → Remove the pump from the base or support it is fastened to. Turn the pump upside-down over a container suitable for collecting any liquid it may contain.
- → After the pump has been reassembled and reinstalled following maintenance operations:
  Check the efficiency of the grounding connection of the individual parts of the pump. Carry out pressure retention test in accordance with Chapter 6.5.3. Check that no air flows out.

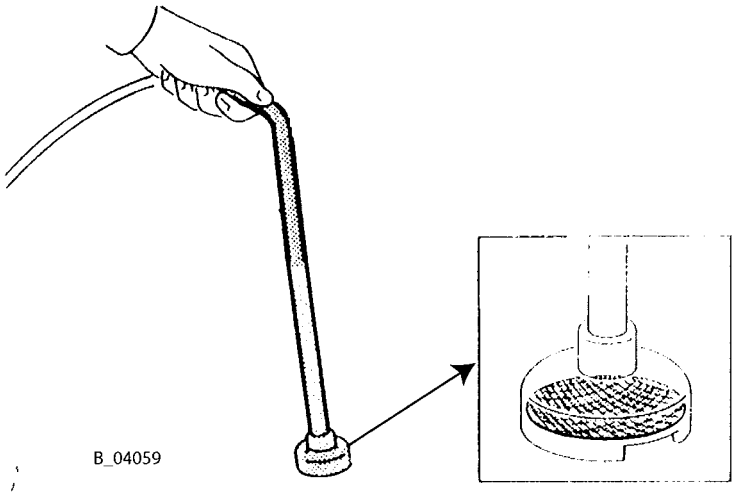
Note: All threads are right-hand threads.

9.2 FILTER CLEANING

This pump has one filter inside the suction pipe and another inside the delivery circuit (Fine-Flow Controller for the ZIP52 Finishing and filter for the ZIP52PF Eco-Finishing).
All filters must be cleaned frequently. It is also necessary to clean the filters when changing the paint color.

- → Before cleaning the filters, close air cut-off valve and release the pressure contained inside the pump and the pipes attached to it.

Suction pipe filter
To clean the suction pipe filter remove the spring, take out the suction filter and filter disc and place them in flushing agent. Then brush them and blow them off with compressed air.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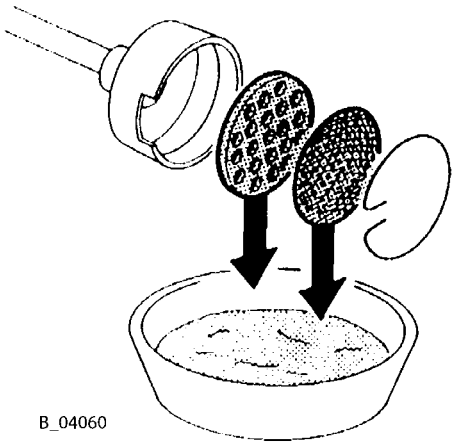
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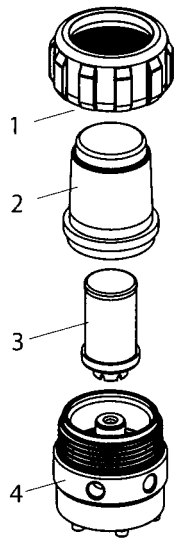
Fine Flow Controller (ZIP52 Finishing)

To clean the filter of the Fine-Flow controller, unscrew the plastic ring nut (1) from the metal body, lift the cup (2) paying attention to the PTFE gasket on the edge. There pay attention to the PTFE-Sealing on the edge. Remove the filter (3) from the base (4), pulling it upward, since it has a very simple fixing (clip). Plunge the filtering cartridge into the solvent, then brush and blow it. Make sure that the inside of the filter is cleaned with flushing agent and is blown out.

Insert the filter by pushing it onto the filter seat until the fixing clip audibly clicks into place. Do not push the filter any further, to avoid damaging it. Reposition the cup making sure the PTFE seal is in the perfect position. Then screw the ring nut tight.



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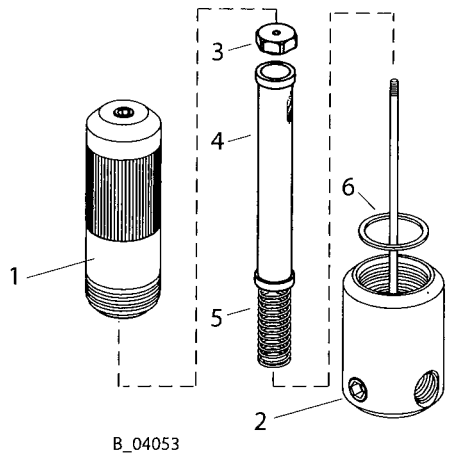
Filter ZIP52 PF Eco-Finishing

To clean the Filter of the ZIP52 Eco-Finishing unit, simply remove the upper cover (1) from the filter housing (2), by unscrewing it, then unscrew the filter's lock-ring (3) and remove the filter element (4).

Remove the internal spring (5). Place the filter cartridge and the internal spring into the flushing agent. Then brush and blow them out. Make sure that the inside of the filter is cleaned with flushing agent and is blown out.

Reassemble in reverse order, taking care not to damage the plastic seal (6).



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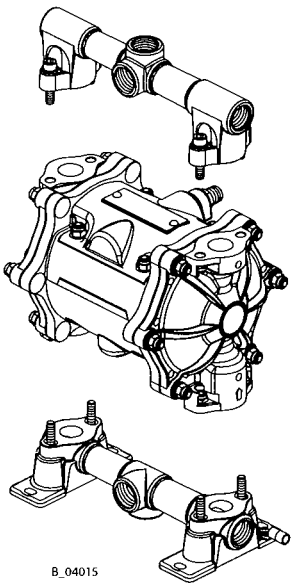
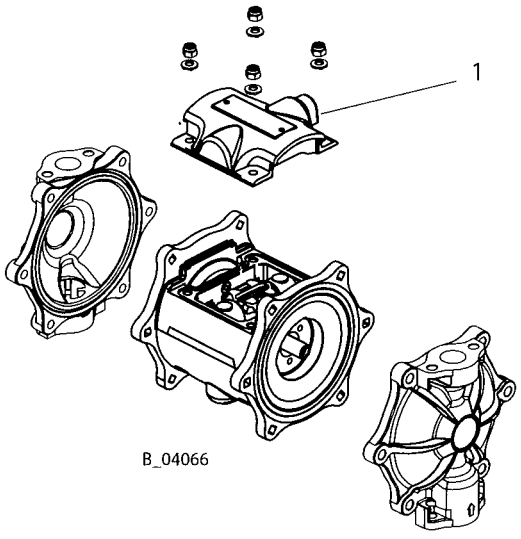
9.3 DIAPHRAGM REPLACEMENT (PREVENTIVE MAINTENANCE)

Mark the coupled parts (Diaphragm covers, distributor, covers) with a felt-tip pen so as to make subsequent reassembly easier.

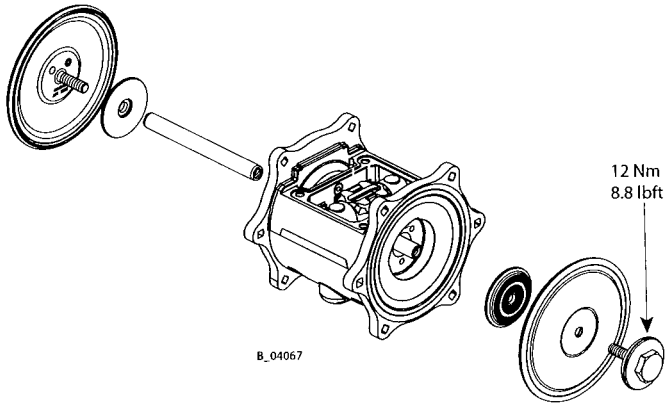
a) Remove the suction and delivery manifolds.



b) Disassemble the fastening nuts and remove the outer diaphragm covers.
Disassemble the pressure side cover (1).



c) Hold the end nut of the one outer diaphragm disc with a wrench. Loosen the end nut of the other diaphragm disc and dismantle it.
d) Remove the released diaphragm with its corresponding internal disc, and remove the shaft from the motor block.

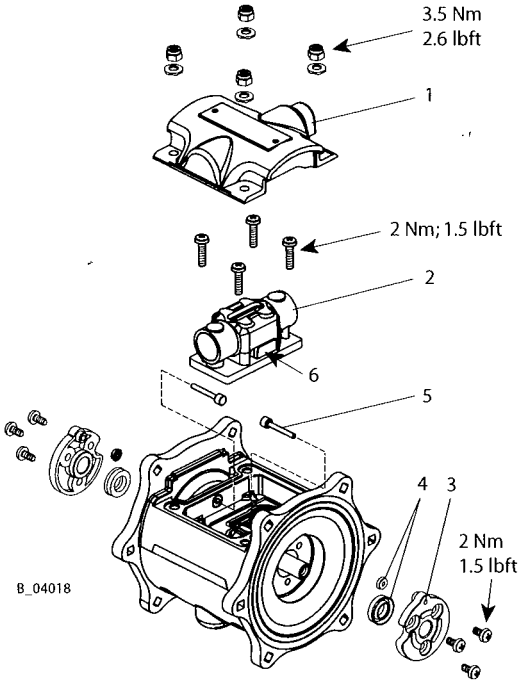


e) Lock the end of the shaft released from the diaphragm in a bench vice (with soft jaws to avoid damaging it) and disassemble the external diaphragm disc from the opposite end of the shaft. Then remove the second diaphragm with its internal disc.
f) Assemble the new diaphragm with its internal disc and properly fasten it to the relevant external disc.
g) Remove the shaft from the bench vice and put it in the motor block. Grease the shaft inside and outside (beyond the underside of the motor block. Thereby move the shaft in different positions. See Chapter 11.
h) Mount the inner diaphragm disc, the diaphragm and the outer disc and tighten them properly onto the nut of the opposite outer discs using two wrenches.
i) Attach the noise reduction and the pressure side cover. Check the correct positioning of the cover and its seal.
k) Attach the outer diaphragm cover and the manifolds. Ensure correct position of seals of the ball valves when doing so.
l) Screw on and tighten the cover screws. Tighten the manifold screws. To the directions in Chapter 11 apply the right torque.

9.4 DIAPHRAGM REPLACEMENT (DUE TO BREAKAGE)

If the diaphragms are replaced as a result of breakage, all the internal parts of the motor must be cleaned and the condition of the seals and reversing valve, which may have been damaged by contact with the pump fluid, must be checked.

a) According to Chapter 9.3, Points a), b), c) d) and e):
Follow the disassembly procedure of the diaphragms.
b) Disassemble the reversing valve (2).
c) Remove the shaft's plastic bushings (3) located at each end of the motor block, the lip seals (4) and the feeler pins (5).
d) Clean all the components, openings and spaces within the motor block. Blow the housing cavity of the reversing valve out thoroughly with a jet of compressed air (wear safety goggles).
e) Check the condition of the reversing valve. If necessary replace.
f) Grease feeler pins (5) (see Chapter 11).



g) Assemble all the parts described under point c) paying attention to properly orient the seals lips (see Chapter 11, exploded view).
h) Grease feeler pins (5) with lip seal (4) once more from outside.
i) Put the reversing valve back in its housing. There apply the right torque. Mount the valve slider (6) on one of the stroke stop positions. There are four possible positions, each of them is suitable.
k) According to Chapter 9.3, points f), g), h), i), k) and l):
Reassemble the remaining components.

9.5 CLEANING / REPLACEMENT OF THE SUCTION AND DELIVERY BALL VALVES

a) Remove the suction and delivery manifold.
b) Remove the seals, seats and balls from the diaphragm covers and the manifolds' housings.
c) Check the condition of wear of the ball guide/stops inside the diaphragm covers and manifolds. Replace if worn.
d) Remove all dirt particles as well as hardened material residues. Check the ball and seats for excessive wear. Clean or replace the components.
e) Clean the contact surfaces of the manifolds and the diaphragm covers and assemble the components.
To the directions in Chapter 11 apply the right torque.

It is recommended that the static seals be replaced when reassembling.

9.6 REPLACEMENT OF THE REVERSING VALVE

a) Disassemble the pressure side cover and remove the reversing valve.
b) To clean it, blow the housing cavity of the reversing valve out with a jet of compressed air (wear safety goggles).
c) Put the new reversing valve in its housing. There apply the right torque (see picture in Chapter 9.4). Mount the valve slider (6) on one of the stroke stop positions. There are four possible positions, each of them is suitable. Attach the pressure side cover.

During the performance of the operations described above, check the positioning of the valve's seals and cover including the seal. To the directions in Chapter 11 apply the right torque.

9.7 MATERIAL HOSES

The lifetime of the fluid hoses is, even with appropriate handling, reduced due to environmental influences.

→ Check pipes, tubes, and couplings every day and replace if necessary.
→ As a precaution fluid hoses should be replaced after a period specified by the plant operator.

⚠ WARNING

Bursting hose, bursting threaded joints!
Danger to life from injection of material.

→ Ensure that the hose material is chemically resistant to the sprayed materials.
→ Ensure that the spray gun, threaded joints and material hose between the unit and the spray gun are suitable for the pressure generated in the unit.

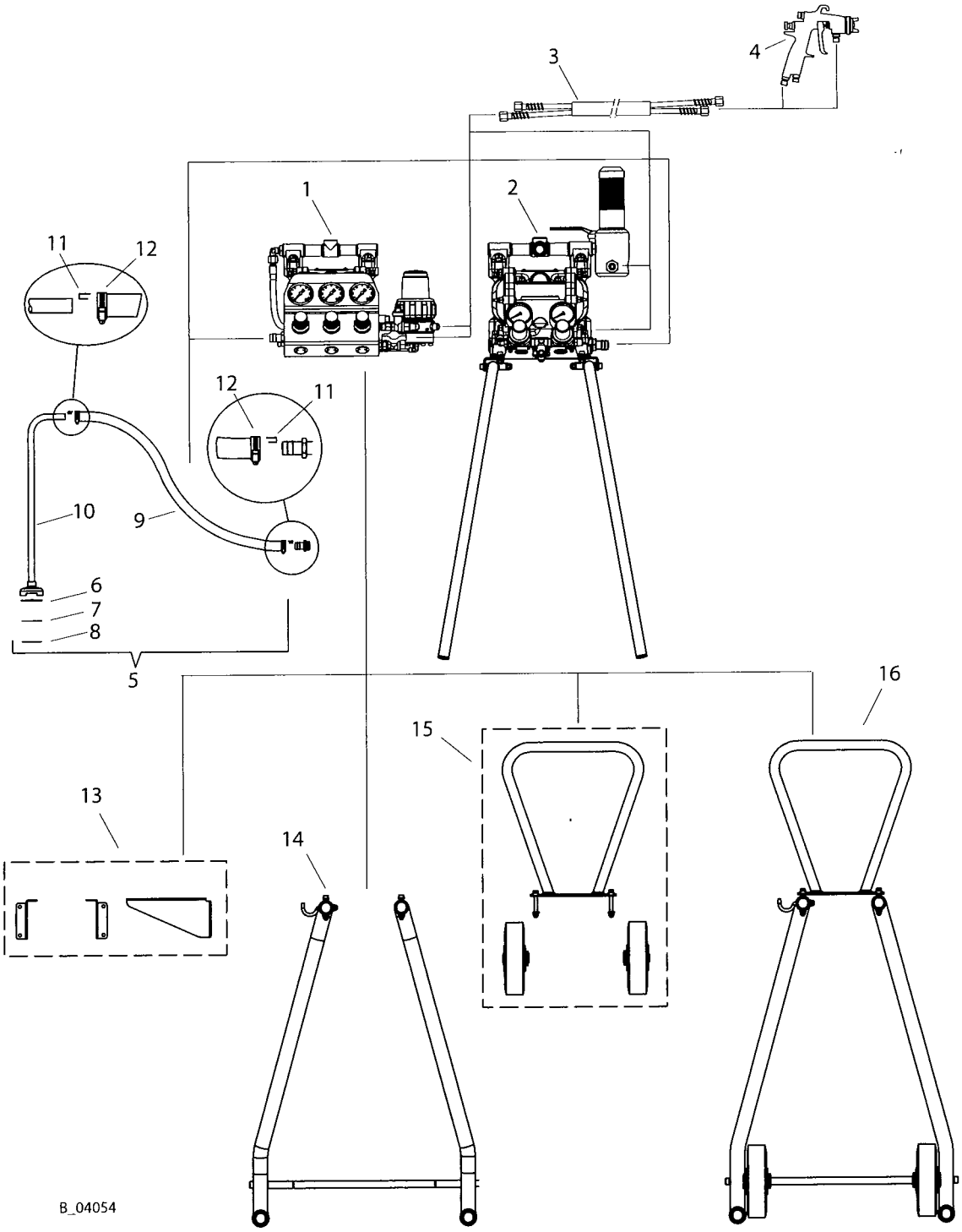
9.8 DECOMMISIONING

When the equipment must be scrapped, please differentiate the disposal of the waste materials.
The following materials have been used:

- → Steel
- → Aluminium
- → Elastomerics
- → Plastics
- → Carbide

The consumable materials (paints, adhesives, sealers, solvents) must be disposed of according to the valid specific standards.

10 ACCESSORIES



Pos K	Order No.	Description
1	U760.00	ZIP52 Finishing, aluminium
1	U765.00	ZIP52 Finishing, stainless steel
1	U773.00	ZIP52 Finishing, (POM) acetal
2	U731.00	ZIP52 PF Eco-Finishing
3	S419.00G	Low pressure double hose
3	S419.00GI	Low pressure double hose, stainless steel
4	R950.xx	Spray gun, SP5
4	V1061304xx3	Spray gun, Pilot Trend MP
4	V1060203xx3	Spray gun, Pilot Trend HP
4	V1070203xx3	Spray gun, Pilot Premium HP
4	V1070404xx3	Spray gun, Pilot Premium HVLP PLUS
4	V1070603xx3	Spray gun, Pilot Premium HVLP
5	T406.00	Suction hose, stainless steel, complete
6	H401.07	Filter disc
7	T453.03	Air suction filter
8	H206.03	Spring
9	S402.06A	Solvent-resistant suction hose
10	T420.00	Suction pipe, stainless steel
11	E0107.03	Contact clamp, stainless steel
12	R601.00	Hose clamp
13	T760.00M	Wall mount
14	T760.00S	Stand set
15	T760.00R	Wheel set with handle
16	T760.00SR	Trolley, complete

11 SPARE PARTS

11.1 HOW CAN SPARE PARTS BE ORDERED?

Always supply the following information to ensure delivery of the right spare part:

Order number, designation and quantity
The quantity need not be the same as the number given in the quantity column "**Stk**" on the list. This number merely indicates how many of the respective parts are used in each module.

The following information is also required to ensure smooth processing of your order:
- Address for the invoice
- Address for delivery
- Name of the person to be contacted in the event of any queries
- Type of delivery (normal mail, express delivery, air freight, courier etc.)

Identification in spare parts lists

Explanation of column "**K**" (labeling) in the following spare parts lists:

◆ Wearing part
Note: No liability is assumed for wearing parts.

● Not part of standard equipment, available, however, as additional extra.

⚠ WARNING

Incorrect maintenance/repair!
Risk of injury and damage to the device.

→ Have repairs and part replacements carried out by specially trained staff or a WAGNER service center.
→ Before all work on the unit and in the event of work interruptions:
- Switch off the energy/compressed air supply.
- Relieve the pressure from the spray gun and unit.
- Secure the spray gun against actuation.
→ Observe the operating and service instructions when carrying out all work.

11.2 ZIP52 FINISHING

⚠ WARNING

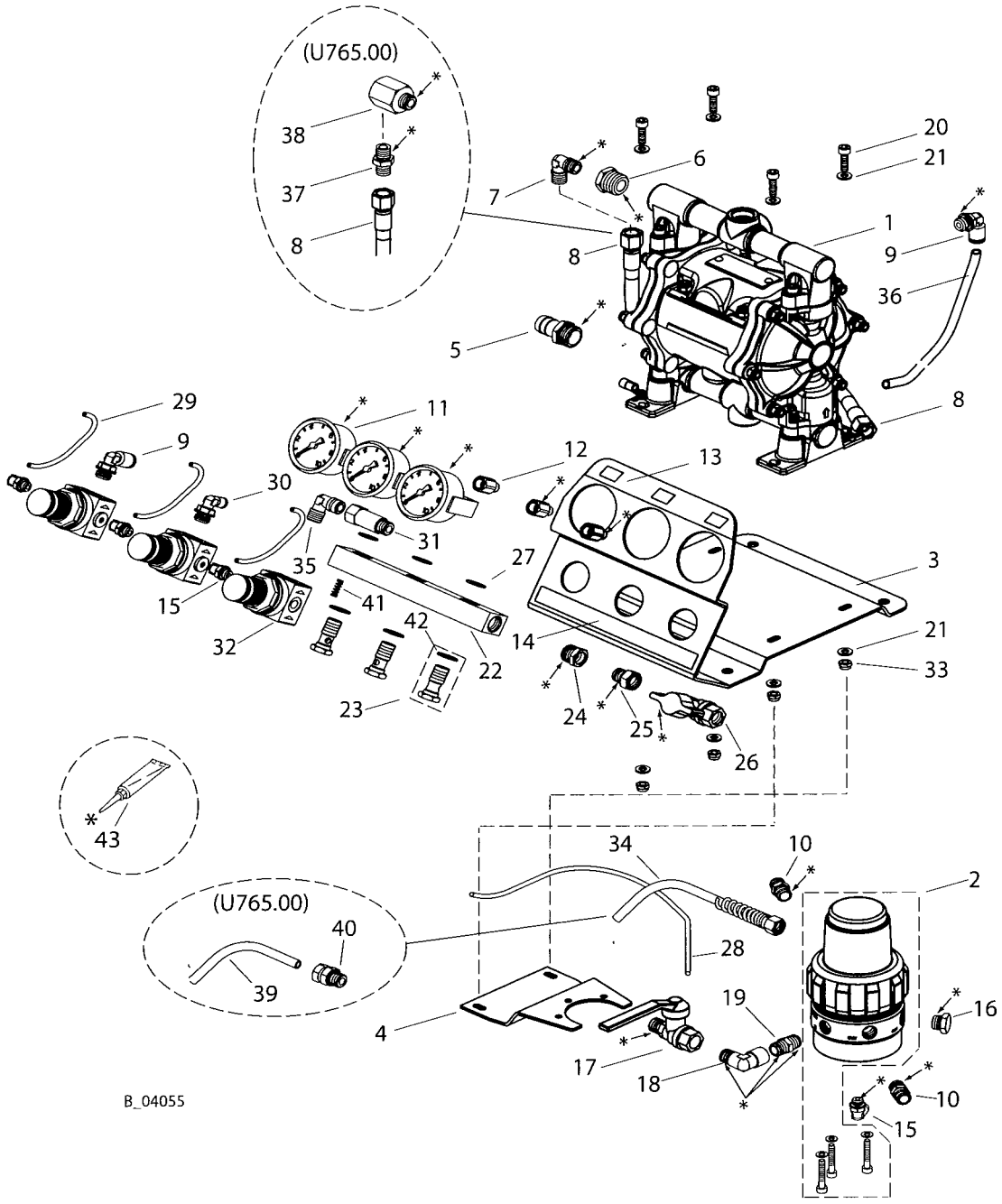
Incorrect maintenance/repair!
Risk of injury and damage to the device.

- → Have repairs and part replacements carried out only by specially trained staff or a WAGNER service center.
- → Before all work on the unit and in the event of work interruptions:
  - Switch off the energy/compressed air supply.
  - Relieve the pressure from the spray gun and unit.
  - Secure the spray gun against actuation.
- → Observe the operating and service instructions when carrying out all work.

ZIP52 Finishing

		U760.00	U765.00	U773.00	
Pos K	**Stk**	**Order No.**	**Order No.**	**Order No.**	**Description**
	1	U760.00	U765.00	U773.00	Zip52 Finishing
1	1	U550.AHSS0-A	U550.SHSS0-B	U552.GHSS1	DDP ZIP52
2	1	T0180.00A	T0180.00AI	T0180.L0AI	FFC 14/0,5-8 bar pneum., aluminium
3	1	E3105.92	E3105.92	E3105.92	Zip52 pump bracket
4	1	E3106.92	E3106.92	E3106.92	Mounting plate for FFC
5	1	M208.04	B274.03	B274.03	Hose connection, 1/2"x16
6	1	M247.00	--	--	MF Reducer, 1/2-1/4
7	1	9998039	--	--	Elbow fitting, MM 1/4"
8	1	S591.00C	S591.00C	S591.00C	Paint hose
9	2	9998253	9998253	9998253	Screw-in connection, 8-1/4"
10	2	M205.04A	M801.03B	M801.03B	Fitting 1/4"
11	3	P904.00	P904.00	P904.00	Pressure gauge 0-10 bar
12	3	M286.00	M286.00	M286.00	Quick fitting D F 1/8"x4
13	1	Z547.00	Z547.00	Z547.00	Controller plate
14	1	Z548.C0	Z548.C0	Z548.C0	Zip52 Finishing Label
15	4	M335.00	M335.00	M335.00	Fitting L 1/8"x4
16	1	9904307	M826.03B	M826.03B	Plug E 1/4"
17	1	M109.00	M513.00IA	M513.00IA	Ball valve, MF 1/4"
18	1	9992265	M881.03	M881.03	Fitting L MF 1/4"
19	1	M205.04	M801.03C	M801.03C	Double nipple, 1/4"
20	4	K107.62	K107.62	K107.62	Screw, M6x20

ZIP52 Finishing

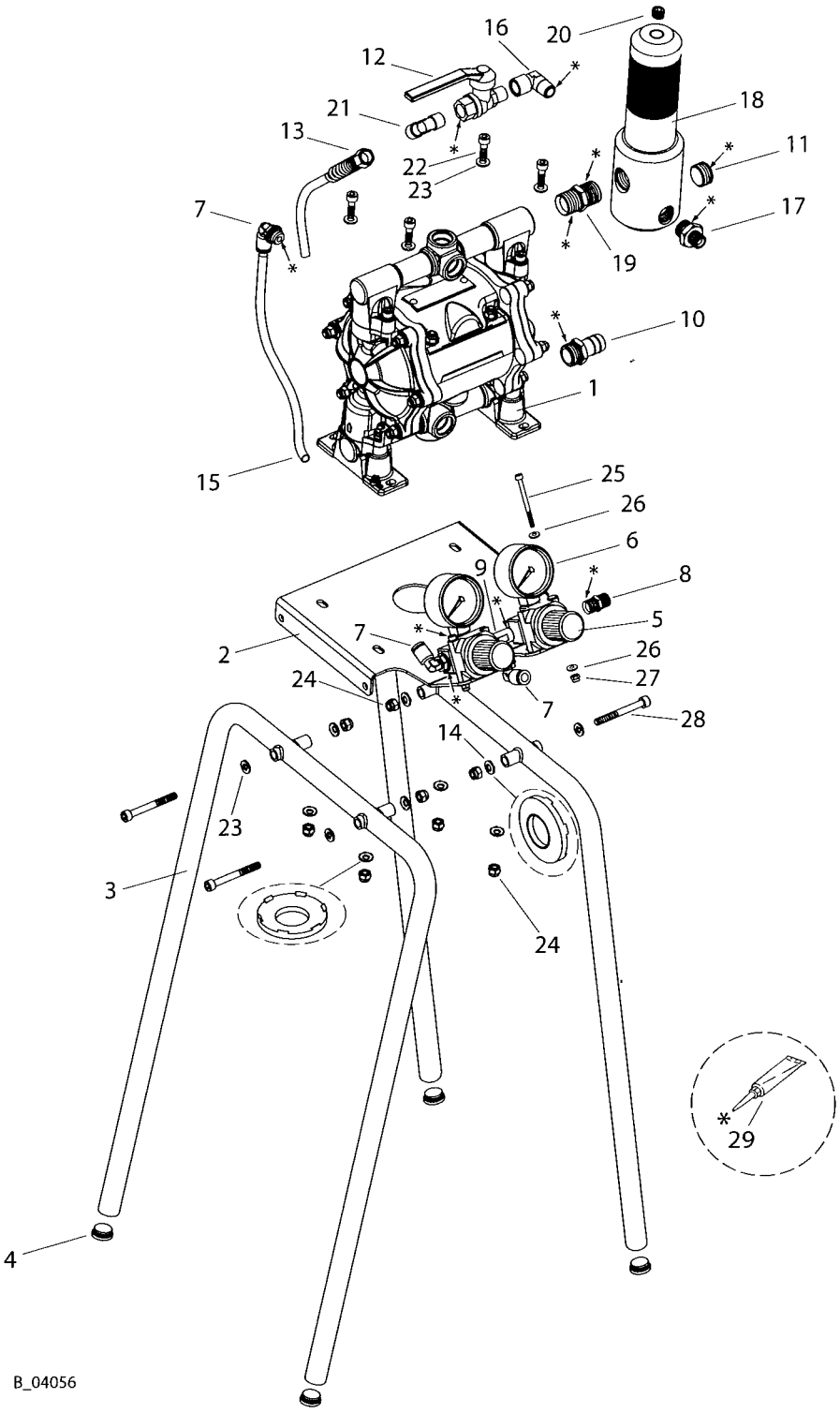


ZIP52 Finishing

			U760.00	U765.00	U773.00	
Pos	**K**	**Stk**	**Order No.**	**Order No.**	**Order No.**	**Description**
21		8	9920103	9920103	9920103	Washer, A6.4, DIN 125
22		1	T139.01	T139.01	T139.01	Air manifold
23		3	M404.00	M404.00	M404.00	Hollow screw
24		1	M250.00	M250.00	M250.00	MF Reducer, 3/8"--1/4"
25		1	9985682	9985682	9985682	Reducing nipple, 1/4"A-1/4"I
26		1	M101.00	M101.00	M101.00	Ball valve, FM 1/4"
27	◆	3	L212.06	L212.06	L212.06	O-ring
28		1	S455.07A	S455.07A	S455.07A	Paint reducer air pipe
29		3	S455.07	S455.07	S455.07	Pressure gauge reducer pipe
30		1	M354.00	M354.00	M354.00	Revolving quick fitting L 1/4"x4
31		1	M204.14A	M204.14A	M204.14A	Extension, MF 1/4"
32		3	P123.00	P123.00	P123.00	Air pressure regulator, 1/4"
33		4	9910204	9910204	9910204	Self-locking nut, M6
34		1	S401.00	--	--	Return hose BP MT 2 D 8
35		1	9998039	9998039	9998039	Screw-in connection's elbow, MM 1/4"
36		1	S455.07B	S455.07B	S455.07B	Pump feeding air pipe
37		1	--	M801.03A	M801.03B	Fitting 1/4" stainless steel
38		1	--	B0264.03	B0264.03	Fitting, 1/2" stainless steel
39		2 m	--	S103.07N	S103.07N	Hose, Nylon D8
40		1	--	M057.07	M057.07	Fitting, 1/4"x8
41		1	H261.03	H261.03	H261.03	Spring
42	◆	3	M404.00G	M404.00G	M404.00G	Seal
43		1	9992831	9992831	9992831	Loctite, 542 50 ml; 50 cc

◆ Wearing part

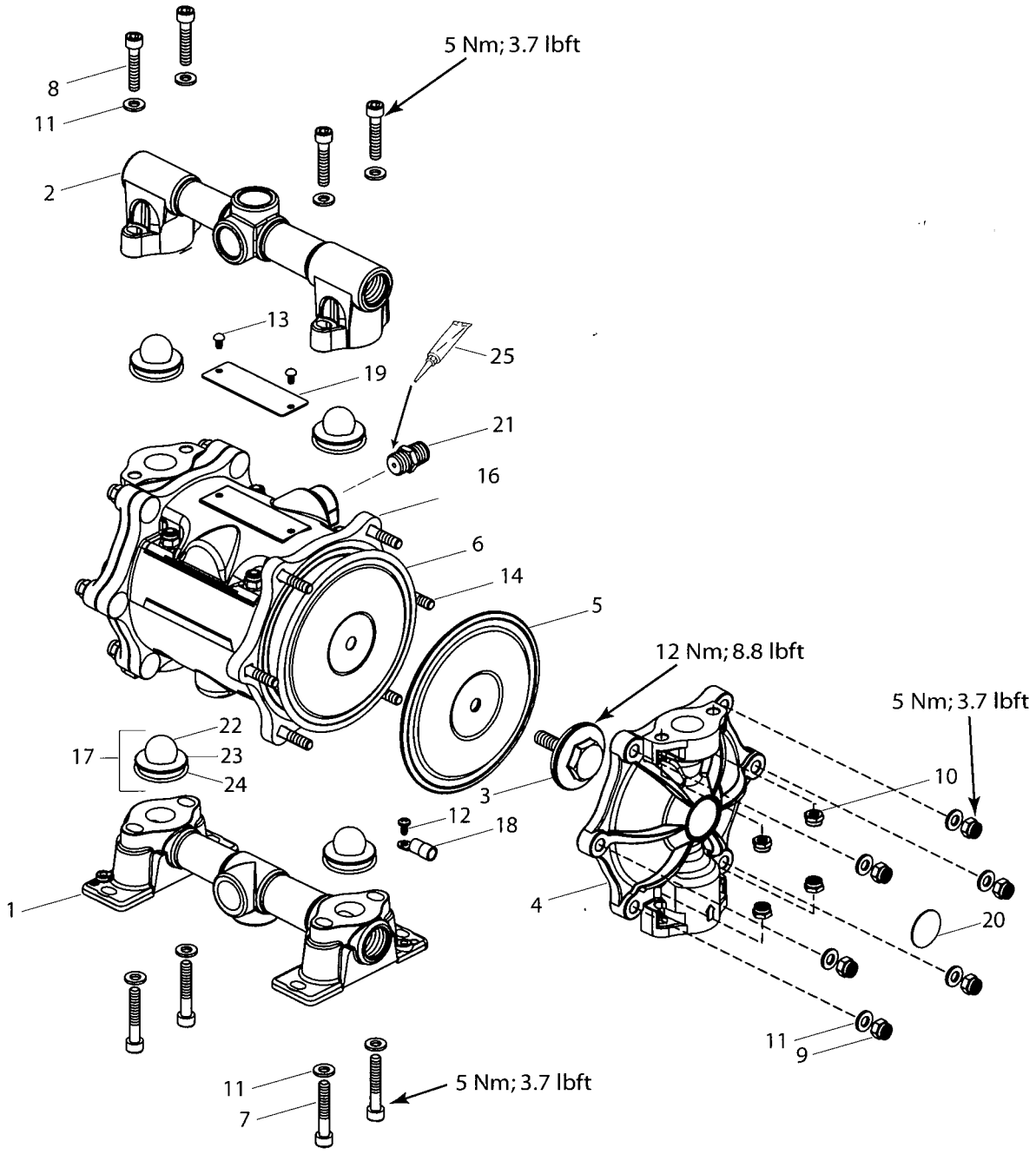
11.3 ZIP52 PF ECO-FINISHING – ALUMINIUM



ZIP52 PF Eco-Finishing

Pos K	Stk	Order No.	Description
	1	U731.00	ZIP52 PF Eco-Finishing
1	1	U551.AHSS1	DDP Zip52 PF AHSS1
2	1	E3112.92	Mounting plate for Zip52
3	2	E111.92b	Leg ZIP52 Eco
4	4	R211.07	Closure cap D20
5	2	P123.00E	Compressed air regulator, 1/4"
6	2	P936.00	Pressure gauge 0-10 bar D50x1/8"
7	3	M336.00	Screw-in connection elbow 8-1/4
8	1	M205.04	Double nipple, 1/4"
9	1	M340.00	Fitting T MFM, 1/4"
10	1	M208.04	Hose connection, 1/2"x16
11	1	M254.14A	Plug, 1/2"
12	1	M109.00	Ball valve, MF 1/4"
13	1	S401.00	Return hose D8
14	8	K564.72	Contact washer
15	300 mm	S103.07N	Hose, Nylon D8
16	1	M215.04	Screw-in connection's elbow, MM 1/4"
17	1	M618.62	Fitting 3/8"-1/4"
18	1	T4005.00ALS	LP-ZIP-Filter-PN15-G1/4"-CS
19	1	M631.62	Fitting 1/2"
20	1	M623.12	Plug, 1/4"
21	1	M213.04	Elbow screw-in connection, MF 1/4"
22	4	K107.62	Screw, M6x20
23	8	K505.62	Washer, A6.4, DIN 125
24	8	K311.62	Self-locking nut, M6
25	2	K166.62	Screw, M4x50
26	4	K501.62	Washer, A4.3
27	2	K302.62	Self-locking nut, M4
28	4	K134.62	Screw, M6x55
29	1	9992831	Loctite, 542 50 ml; 50 cc

11.4 ZIP52 PUMP – METAL

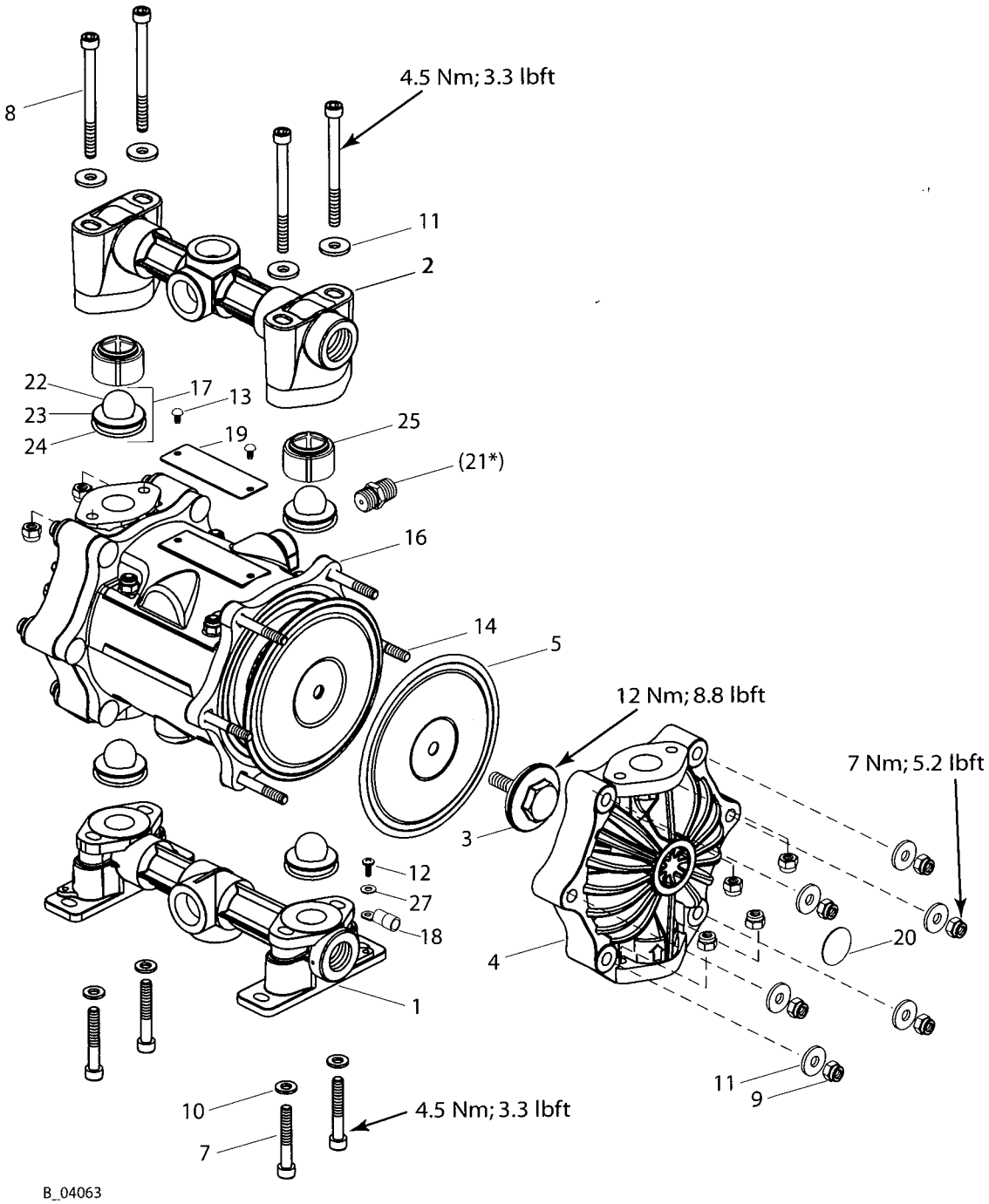


ZIP52 Pump

			ZIP52	ZIP52	ZIP52 PF	
			Aluminium	Stainless steel	Aluminium	
Pos	**K**	**Stk**	**Order No.**	**Order No.**	**Order No.**	**Description**
		1	U550.AHSS0-A	U550.SHSS0-B	U551.AHSS1	ZIP52 Pump
1		1	F184.01	F188.03	F184.01	Suction manifold - left
2		1	F185.01	F189.03	F185.01	Delivery manifold - left
3		2	F834.07R	F834.07R	F834.07R	Outer diaphragm disc
4		2	F978.01	F192.03	F978.01	Diaphragm cover
5	★ ◆	2	G921.07B	G921.07B	G921.07B	Material diaphragm
6		--	--	--	--	Support diaphragm
7		4	K142.62	K142.62	K142.62	Screw, M6x35
8		4	K183.62	--	K183.62	Screw, M6x30
8		4	--	K142.62	--	Screw, M6x35
9		12	K311.62	K311.62	K311.62	Self-locking nut, M6
10		8	9910204	9910204	9910204	Nut, M6
11		20	9920103	9920103	9920103	Washer, A6.4
12		1	K1012.62	K1012.62	K1012.62	Screw
13		2	K1041.62	K1041.62	K1041.62	Rivet
14		12	K1044.62	K1044.62	K1044.62	Screw
15		--	--	--	--	Plug, 1/2"
16		1	T6103.00	T6103.00	T6103.00S	Motor
17	★ ◆	4	T6105.00	T6105.00	T6105.00	Zip52 valve unit
18		1	Y622.00A	Y622.00A	Y622.00A	Cable lug
19		1	--	--	--	Zip52 ATEX Cover Label
20		2	--	--	--	Round type plate
21		1	--	--	B017.7.14A	Reducing nipple
22	★	4	K805.03	K805.03	K805.03	Ball, 3/4"
23	★	4	B0148.03A	B0148.03A	B0148.03A	Seat
24	★ ▲	4	L206.05	L206.05	L206.05	O-ring
25		1	9992831	9992831	9992831	Loctite, 542 50 ml; 50 cc
		1	T9080.00	T9080.00	T9080.00	Pump service set
		1	T9077.00	T9077.00	T9077.00	O-ring set

◆ Wearing part
★ included in service set
▲ included in product's O-ring set

11.5 ZIP52 PUMP - CONDUCTIVE ACETAL



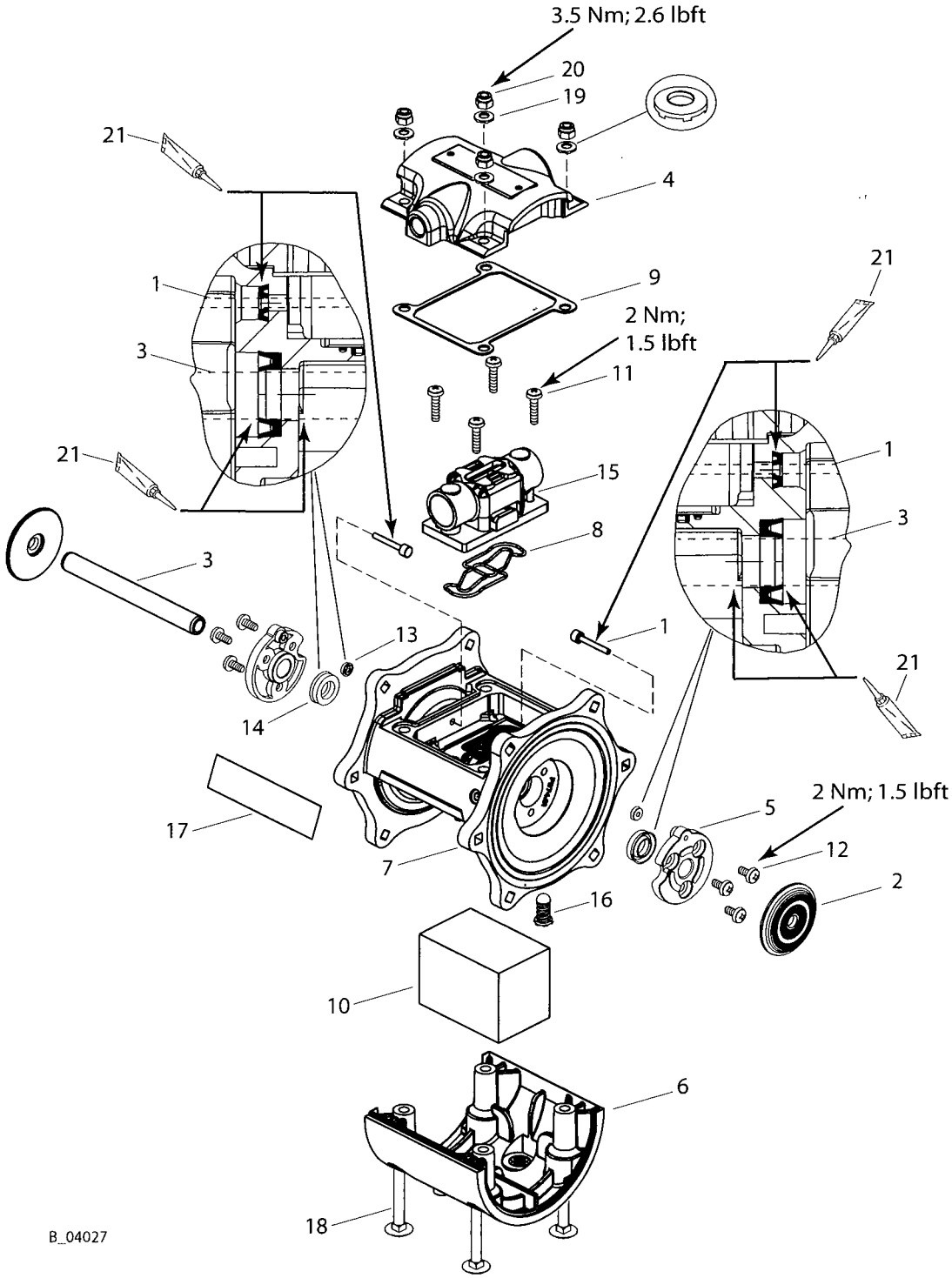
ZIP52 Conductive acetal

			U552.GHSS1	
Pos	**K**	**Stk**	**Order No.**	**Description**
		1	U552.GHSS1	DDP ZIP52
1		1	F833.07G-A	Suction manifold - left
2		1	F859.07G	Delivery manifold - left
3		2	F834.07D	External diaphragm disc
4		2	F831.07G-A	Conductive diaphragm cover
5	★ ◆	2	G921.07B	Diaphragm
7		4	K128.62	Screw, M6x40
8		4	K1076.62	Screw, M6x75
9		20	K311.62	Self-locking nut, M6
10		4	9920103	Washer, 6
11		16	K508.62	Washer, 6x18
12		1	K1012.62	Screw
13		2	K1041.62	Rivet
14		12	K1043.62	Screw, M6x45
16		1	T6103.00	Motor
17	★ ◆	4	T6105.00	Valve unit
18		1	Y622.00A	Cable lug
19		1	--	Cover type plate
20		2	--	Round type plate
21		1	--	Fitting
22	★	4	K805.03	Ball, 3/4"
23	★	4	B0148.03A	Seat
24	★ ▲	4	L206.05	O-ring
25	◆	2	F856.07D	Ball guide
26		1	9992831	Loctite 542
27		1	K558.62	Washer

◆ Wearing part
★ included in service set
▲ included in product's O-ring set

(21*): If the complete double diaphragm pump is ordered as a spare part, the fitting (item. 21) must be removed.

11.6 ZIP MOTOR



⚠ WARNING

Incorrect maintenance/repair!
Danger to life and equipment damage.

- → Only a WAGNER service center or a suitably trained person may carry out repairs and replace parts.
- → Only repair and replace parts that are listed in the Chapter "Spare Parts Catalogue" and that are assigned to the unit.
- → Before all work on the unit and in the event of work interruptions:
  - Disconnect the control unit from the mains.
  - Relieve the pressure from the spray gun and unit.
  - Secure the spray gun against actuation.
- → Observe the operating and service instructions when carrying out all work.

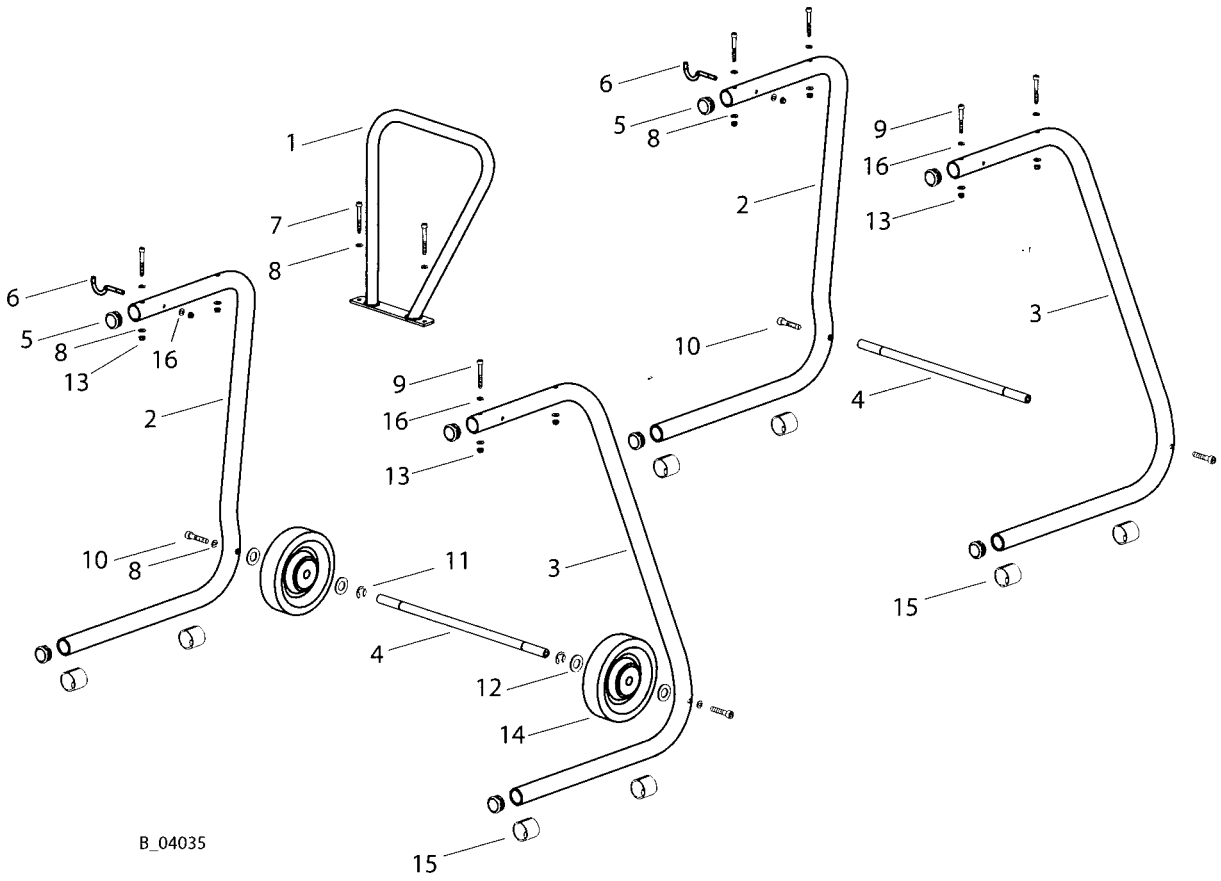
ZIP motor

Pos	K	Stk	ZIP52 Order No.	ZIP52 PF Order No.	Description
		1	T6103.00	T6103.00S	Motor
1		2	B0146.04	B0146.04	Feeler pin
2		2	B0147.71	B0147.71	Inner diaphragm disc
3		1	B0150.03	B0150.03S	Shaft
4		1	F194.91	F194.91	Cover (pressure side)
5	★ ◆	2	F829.07	F829.07	Shaft guide bushing
6		1	F830.07	F830.07	Cover (exhaust side)
7		1	T6103.00A	T6103.00A	Motor block with safety valve
8	◆	1	G925.06	G925.06	Reversing valve seals
9	◆	1	G7020.06	G7020.06	Pressure cover seals
10	◆	1	H618.07	H618.07	Silencer
11		4	K1038.62	K1038.62	Screw
12		6	K1039.62	K1039.62	Screw
13	★ ◆	2	L470.06	L470.06	Lip seal
14	★ ◆	2	L471.06	L471.06	Lip seal
15		1	P4003.00	P4003.00	Reversing valve (*)
16		1	see pos. 7	see pos. 7	Safety valve (**)
17		1	Z546.C0	Z546.C0	Side label
18		4	K1040.62	K1040.62	Screw
19		4	K564.72	K564.72	Contact washer
20		4	K311.62	K311.62	Self-locking nut, M6

(*) Includes pos. 8 and 9.
(**) Not available separately

◆ Wearing part
★ included in pump's service set

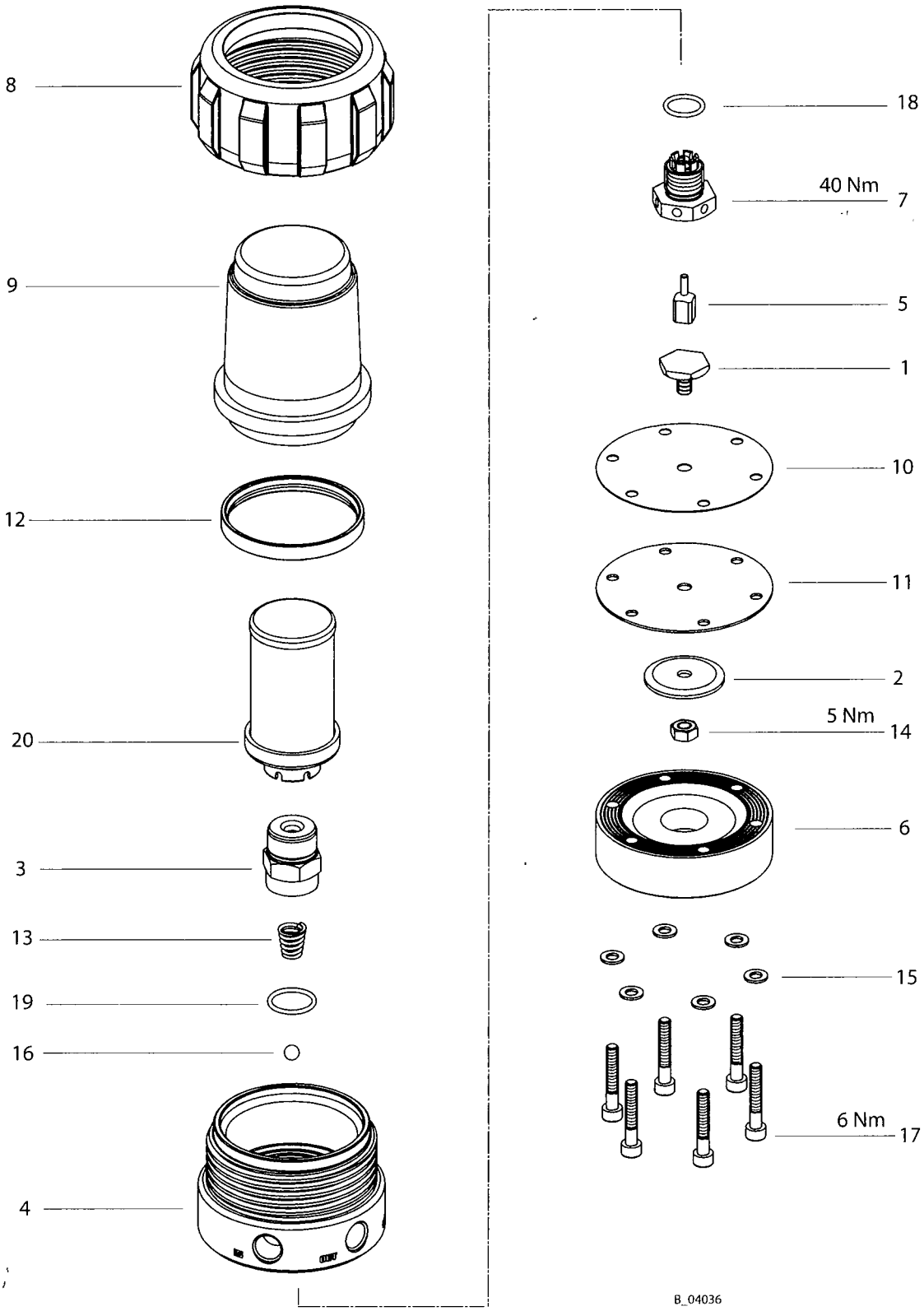
11.7 TROLLEY, STAND SET, AND WHEEL SET



Trolley, stand set, and wheel set

	Trolley		Stand set		Wheel set		
Pos K	**Stk**	**Order No.**	**Stk**	**Order No.**	**Stk**	**Order No.**	**Description**
	1	T760.00SR		--		--	Trolley
	1	T760.00S		T760.00S		--	Stand set
	1	T760.00R		--		T760.00R	Wheel set with handle
1	1	E3108.92	--	--	1	E3108.92	Trolley handle
2	1	E3107.92A	1	E3107.92A	--	--	Stand, left
3	1	E3107.92	1	E3107.92	--	--	Stand, right
4	1	H1156.62	1	H1156.62	--	--	Stand pin
5	4	R204.07	4	R204.07	--	--	Plug
6	1	H009.62	1	H009.62	--	--	Spray gun hook
7	2	9900316	--	--	2	9900316	Socket screw, M6x50
8	9	3155404	--	--	4	3155404	Contact washer, M8
9	2	9900389	4	9900389	--	--	Socket screw, M6x45
10	2	9900309	2	9900309	--	--	Socket screw, M8x40
11	2	K607.02	--	--	2	K607.02	Lock washer for shaft
12	4	9925011	--	--	4	9925011	Washer
13	5	9910204	5	9910204	2	9910204	Self-locking nut, M6
14	2	R118.00	--	--	2	R118.00	Wheel, D150
15	4	R244.07	4	R244.07	--	--	Saddle feet for round tubes
16	2	9920103	--	--	--	--	Washer, A6.4

11.8 FINE FLOW CONTROLLER

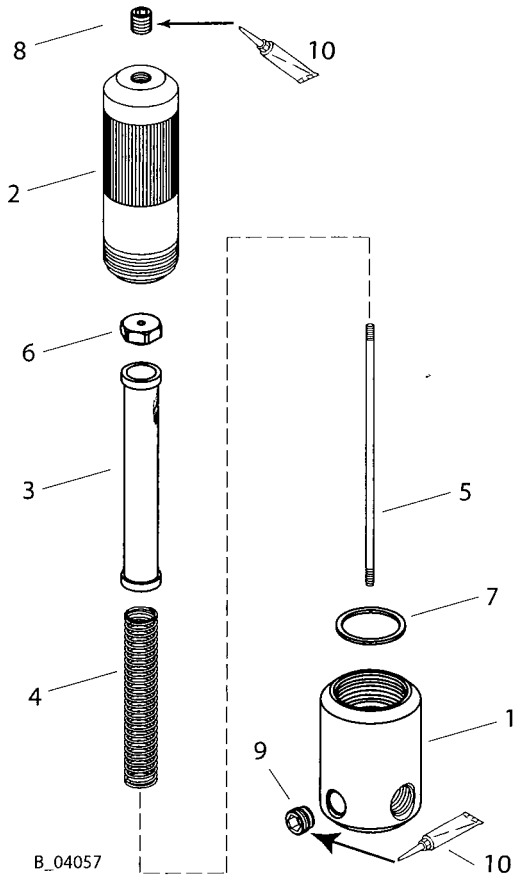


Fine Flow Controller

		T0180.00A	T0180.00AI	
Pos K	**Stk**	**Order No.**	**Order No.**	**Description**
	1	T0180.00A	T0180.00AI	Fine Flow Controller, 14/0.5-8 bar
1	1	A588.03	A588.03	Diaphragm disc - material side
2	1	A590.03	A590.03	Diaphragm disc - air side
3	1	B0172.03	B0172.03	Ball guide
4	1	B0180.01	B0180.03	Housing - material side
5 ◆ ★	1	B391.03	B391.03	Shut-off needle
6	1	B563.01	B563.01	Housing - air side
7 ◆ ★	1	T6007.00A	T6007.00A	Ball seat body, complete
8	1	F991.07	F991.07	Union nut
9	1	F992.07	F992.07	Filter cup
10 ◆ ★ ▲	1	G725.05	G725.05	RVO PTFE Diaphragm
11 ◆ ★ ▲	1	G726.06	G726.06	RVO Diaphragm
12 ◆ ★ ▲	1	G640.05B	G640.05B	Seal
13 ◆ ★	1	H285.03	H285.03	Conical spring
14	1	K311.62	K311.62	Self-locking nut, M6
15	6	K515.62	K515.62	Plain washer
16 ◆ ★ ▲	1	K811.03	K811.03	Ball, 1/4"
17	6	K1055.62	K1055.62	Screw, M5x30
18 ◆ ★ ▲	1	L148.06	L148.06	O-ring
19 ◆ ★ ▲	1	L118.06A	L118.06A	O-ring
20 ◆	1	T500.00A	T500.00A	Filter insert, 100 mesh, white
20 ◆	1	T500.00	T500.00	Filter insert, 60 mesh, black
20 ◆	1	T500.00B	T500.00B	Filter insert, 150 mesh
		T6193.00	T6193.00	FFC-Service set
		T6193.00	T6193.00	FFC-Sealing set

◆ Wearing part
★ included in FFC-Service set
▲ included in FFC-Sealing set

11.9 MATERIAL FILTER



Material filter

Pos	K	Stk	Order No.	Description
		1	T4005.00ALS	Material filter: LP-ZIP-Filter-PN15-G1/4"-CS
1		1	B0259.01	Filter housing
2		1	B0127.01	Filter cap
3	◆	11	T454.00	APS-Filter cartridge 60 mesh
4		11	H282.03	Spring for filter, inox
5		1	H1152.03	Filter tension rod
6		1	B0128.03	Filter nut
7	◆	1	G605.07	Seal
8		1	M623.12	Plug, 1/4"
9		1	M6016.12	Plug, 3/8"
10		1	9992831	Loctite, 542 50 ml; 50 cc

◆ Wearing part

11.10 SERVICE SETS

Service sets for pump

Pump No.	Diaphragm	Valve seat	Valve ball	Service set	O-ring set	Air valve set
U731.00	UHMWPE	Stainless steel	Stainless steel	T9080.00	T9077.00	P4003.00
U760.00	UHMWPE	Stainless steel	Stainless steel	T9080.00	T9077.00	P4003.00
U765.00	UHMWPE	Stainless steel	Stainless steel	T9080.00	T9077.00	P4003.00
U773.00	UHMWPE	Stainless steel	Stainless steel	T9080.00	T9077.00	P4003.00

Service set consists of: see parts list

O-ring set consists of:
- 4 O-rings for the valve units (material check valves)

Air valve set consists of:
- 1 Reversing valve
- 1 Reversing valve seals
- 1 Pressure cover seals

Service sets for Fine Flow Controller

Pump No.	FFC-Service set	FFC-Sealing set
U731.00	T6193.00	--
U760.00	T6193.00	T6193.00
U765.00	T6193.00	T6193.00
U773.00	T6193.00	T6193.00

FFC-Service set consists of: see parts list

FFC-Sealing set consists of: see parts list

⚠ WARNING

Incorrect maintenance/repair!
Risk of injury and damage to the device.

→ Have repairs and part replacements carried out only by specially trained staff or a WAGNER service center.
→ Before all work on the unit and in the event of work interruptions:
- Switch off the energy/compressed air supply.
- Relieve the pressure from the spray gun and unit.
- Secure the spray gun against actuation.
→ Observe the operating and service instructions when carrying out all work.

12 GUARANTEE AND CONFORMITY DECLARATIONS

12.1 IMPORTANT NOTES REGARDING PRODUCT LIABILITY

As a result of an EC regulation effective from January 1, 1990, the manufacturer shall only be liable for his product if all parts originate from him or are approved by him, and if the devices are properly mounted, operated and maintained.
The manufacturer will not be held liable or will only be held partially liable if third-party accessories or spare parts have been used.
With genuine WAGNER accessories and spare parts, you have the guarantee that all safety regulations are complied with.

12.2 GUARANTEE CLAIM

Full warranty is provided for this device:
We will at our discretion repair or replace free of charge all parts which within 36 months in single-shift, 18 months in double-shift or 9 months in triple-shift operation from date of receipt by the purchaser are found to be wholly or substantially unusable due to causes prior to the sale, in particular faulty design, defective materials or poor workmanship.
The type of warranty provided is such that the device or individual components of the device are either replaced or repaired as we see fit. The resulting costs, in particular shipping charges, road tolls, labour and material costs will be borne by us except where these costs are increased due to the subsequent shipment of the unit to a location other than the address of the purchaser.
We do not provide warranty for damage that has been caused or contributed to for the following reasons:
Unsuitable or improper use, faulty installation or commissioning by the purchaser or a third party, normal wear, negligent handling, defective maintenance, unsuitable coating products, substitute materials and the action of chemical, electrochemical or electrical agents, except when the damage is attributable to us.
Abrasive coating products such as red lead, emulsions, glazes, liquid abrasives, zinc dust paints and so forth reduce the service life of valves, packaging, spray guns, nozzles, cylinders, pistons etc. Wear and tear due to such causes are not covered by this guarantee.
Components that have not been manufactured by WAGNER are subject to the original warranty of the manufacturer.
Replacement of a component does not extend the period of warranty of the device.
The unit should be inspected immediately upon receipt. To avoid losing the warranty, we or the supplier company are to be informed in writing about obvious faults within 14 days upon receipt of the device.
We reserve the right to have the warranty compliance met by a contracting company.
The services provided by this warranty are dependent on evidence being provided in the form of an invoice or delivery note. If the examination discovers that no warranty claim exists, the costs of repairs are charged to the purchaser.
It is clearly stipulated that this warranty claim does not represent any constraint on statutory regulations or regulations agreed to contractually in our general terms and conditions.
J. Wagner AG

12.3 CE DECLARATION OF CONFORMITY

Metallic versions (aluminium and stainless steel) and **conductive acetal**

Herewith we declare that the supplied version of the pneumatic double diaphragm pumps with order number

ZIP52 Finishing			ZIP52 PF Eco-Finishing
Aluminium	Stainless steel	(POM) acetal	Aluminium
U760.00	U765.00	U773.00	U731.00

complies with the following guidelines:

2006/42/EC	94/9/EC Atex Directive

Applied standards, in particular:

DIN EN ISO 12100: 2011	DIN EN 809: 2012	DIN EN ISO 4413: 2011
DIN EN ISO 4414: 2011	DIN EN 12621: 2011	DIN EN 1127-1: 2011
DIN EN ISO 13463-1: 2009	DIN EN ISO 13732-1: 2008	DIN EN 14462: 2010

Applied national technical standards and specifications, in particular:

BGR 500 part 2 Chapter 2.29 and Chapter 2.36	TRBS 2153

Identification:

CE Ex II 2G IIB T4 +4°C Tamb +40°C

CE Certificate of Conformity
The CE certificate of conformity is enclosed with this product. If needed, further copies can be ordered through your WAGNER dealer by specifying the product name and serial number.

Order number: 2334618

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