

WAGS

Air Powered Grout Pump / Mixing System

Use: The WAGS air powered grout pump and mixer has been developed specifically for pumping cement-based grouts. It's practical and light weight design makes it invaluable in underground and open pit situations.

Features:

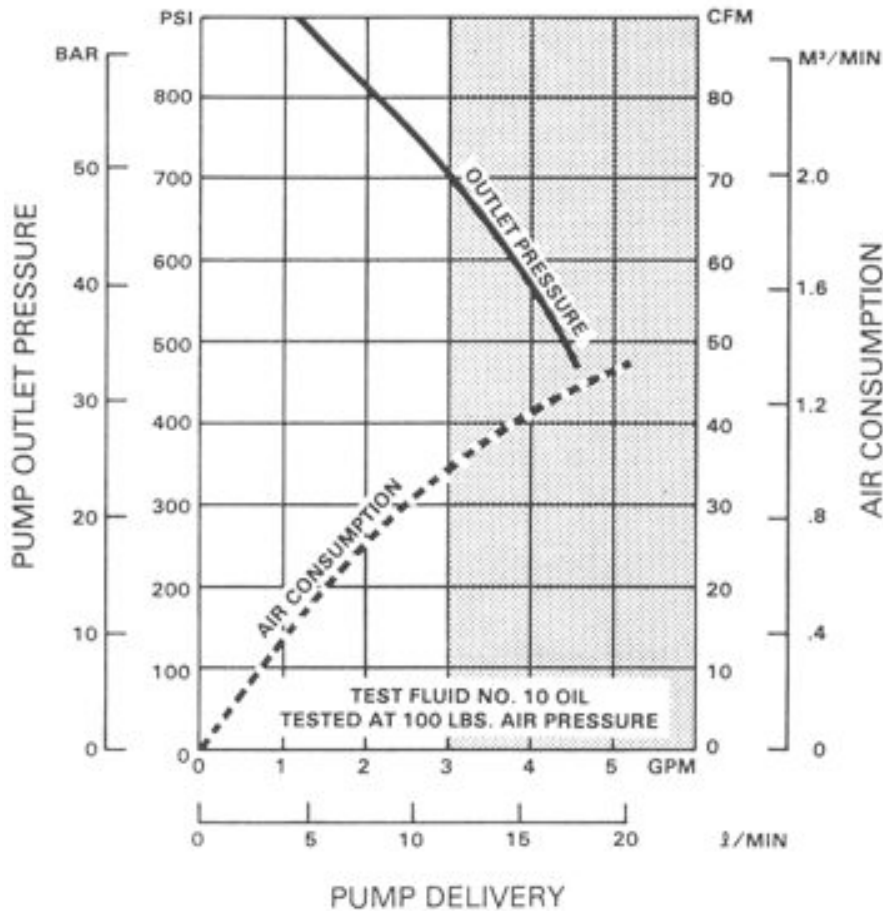
- ✓ Pump can be powered by normal mine compressed air. An in-line air filter and oiler should be fitted to protect the air motor
- ✓ Pump is easily maintained
- ✓ The pump / mixer can cope with conventional grout mixes of 0.4 water/cement ratio, and the much thicker mix of 0.3 water/cement ratio required to give a "toothpaste consistency".
- ✓ The pump / mixer rugged construction makes it suitable for the harshest mining conditions.
- ✓ The divorced construction does not allow grout to enter the air motor during operation.
- ✓ Spare parts are readily available from WAGS



PUMP SPECIFICATIONS:

Fluid pressure ratio.....	30:1
Air consumption 3 bar	400l/min
5 bar	800l/min
7 bar	850 l/min (30 cfm)
Air pressure	0-110psi
Motor diameter	108mm
Piston stroke	102mm
Maximum recommended cycle p/min.....	60
Weight	25 kg

SYSTEM PERFORMANCE



Pumps may be operated continuously to shaded area.

TRANSPORT AND UNPACKING

- . The packed parts should be handled as indicated in the symbols and markings on the outside of the packing.
- . Before installing the equipment, ensure that the area to be used is large enough for such purposes, is properly lit and has a clean, smooth floor surface.
- . The user is responsible for the operations of unloading and handling and should use the maximum care so as not to damage the individual parts or injure anyone. To perform the unloading operation, use only qualified and trained personnel (*truck and crane operators, etc.*) and also suitable hoisting equipment for the weight of the installation or its parts. Follow carefully all the safety rules. The personnel must be equipped with the necessary safety clothing.
- . The manufacturer will not be responsible for the unloading operations and transport to the workplace of the machine.
- . Check the packing is undamaged on receipt of the equipment. Unpack the machine and verify if there has been any damage due to transportation. In case of damage, call WAGS immediately. All the notices about possible damage or anomalies must arrive timely within 8 days at least from the date of receipt of the plant through Registered letter to the Shipping agent and to **WAGS**
- . The disposal of packaging materials is a customer's competence and must be performed in accordance with the regulations in force in the country where the plant is installed and used. It is nevertheless sound practice to recycle packaging materials in an environment-friendly manner as much as possible.

Read carefully and entirely the following instructions before using the product.

The unauthorised tampering/replacement of one or more parts composing the machine, the use of accessories, tools, expendable materials other than those recommended by the Manufacturer can be DANGEROUS.



EQUIPMENT MISUSE HAZARD

Misuse can cause the equipment to rupture or malfunction and result in serious injury.

This equipment is for professional use only.

Read all instruction manuals, tags, and labels before operating the equipment.

Use the equipment only for its intended purpose. If you are uncertain about usage, call WAGS.

Do not alter or modify this equipment. Use only genuine WAGS parts and accessories.

Check equipment daily. Repair or replace worn or damaged parts immediately.

Do not exceed the maximum working pressure of the lowest rated system component.

Use fluids and solvents which are compatible with the equipment wetted parts.

Do not use hoses to pull equipment.

Route hoses away from traffic areas, sharp edges, moving parts, and hot surfaces.

Prepare the Operator

All persons who operate the equipment must be trained in the safe, efficient operation of all system components as well as the proper handling of all fluids. All operators must thoroughly read all instruction manuals, tags, and labels before operating the equipment.

Prepare the Site

Ensure that you have an adequate compressed air supply. Refer to the performance chart on page 2 to find the air consumption of your pump. Keep the site clear of any obstacles or debris that could interfere with the operator's movement.

System Requirements



Install the following components

Air line lubricator (1)

Provides automatic air motor lubrication.

Air regulator/filter (2-3)

Controls pump speed and outlet pressure by adjusting the air pressure to the pump. Locate the regulator close to the pump.

Never leave water or water-base fluid in the pump overnight. If you are pumping water-base fluid, flush with water first, then with a rust inhibitor such as mineral spirits. Relieve the pressure, but leave the rust inhibitor in the pump to protect the parts from corrosion.

CAUTION

Never allow the pump to run dry of the fluid being pumped. A dry pump will quickly accelerate to a high speed, possibly damaging itself. If your pump accelerates quickly, or is running too fast, stop it immediately and check the fluid supply. If the supply container is empty and air has been pumped into the lines, refill the container and prime the pump and the lines with fluid, or flush and leave it filled with a compatible solvent. Be sure to eliminate all air from the fluid system. For overnight shutdown, relieve the pressure, and always stop the pump at the bottom of the stroke to prevent the fluid from drying on the exposed displacement rod and damaging the throat packings.

Always flush the pump before the fluid dries on the displacement rod

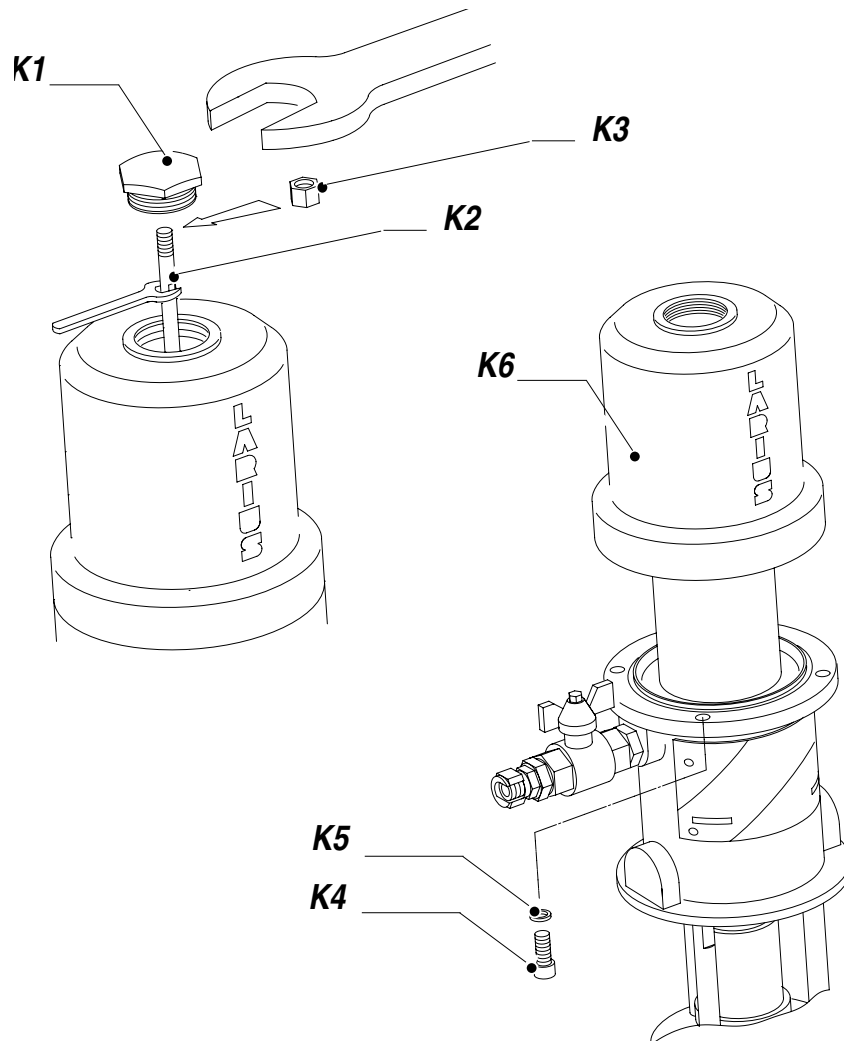
OPERATING

- . 1) Connect air supply to pump (make sure air supply is free from dirt or other foreign matter). (110psi max)
- . 2) Connect delivery hose
- . 3) Place the leg of the pump in water, (water level must be above the top of the foot valve (PART 42) Turn on air-supply to pump (Do not exceed 110PSI) pump should work smoothly.
- . 4) Operate the pump until water flows out of delivery hose.
- . 5) Stop pump; close off delivery hose (turn hose back on itself).
- . 6) Restart pump; pump should stall without leaking out of upper seals (PART 52 & PART 53). Whilst the Pump has stalled there should be little or no movement of (PART 50) MOVEMENT INDICATES A LEAK IN THE INTERNAL SEALS
- . 7) Stop pump; take pump out of water.
- . 8) Mix grout / cement etc. making sure all lumps are mixed, especially from corners and sides of the mixing container.
- . 9) Put pump in grout mixture and open air supply until pump operates smoothly Note: (a) If pump is not to work for more than 5 minutes, remove pump from grout and flush with water.



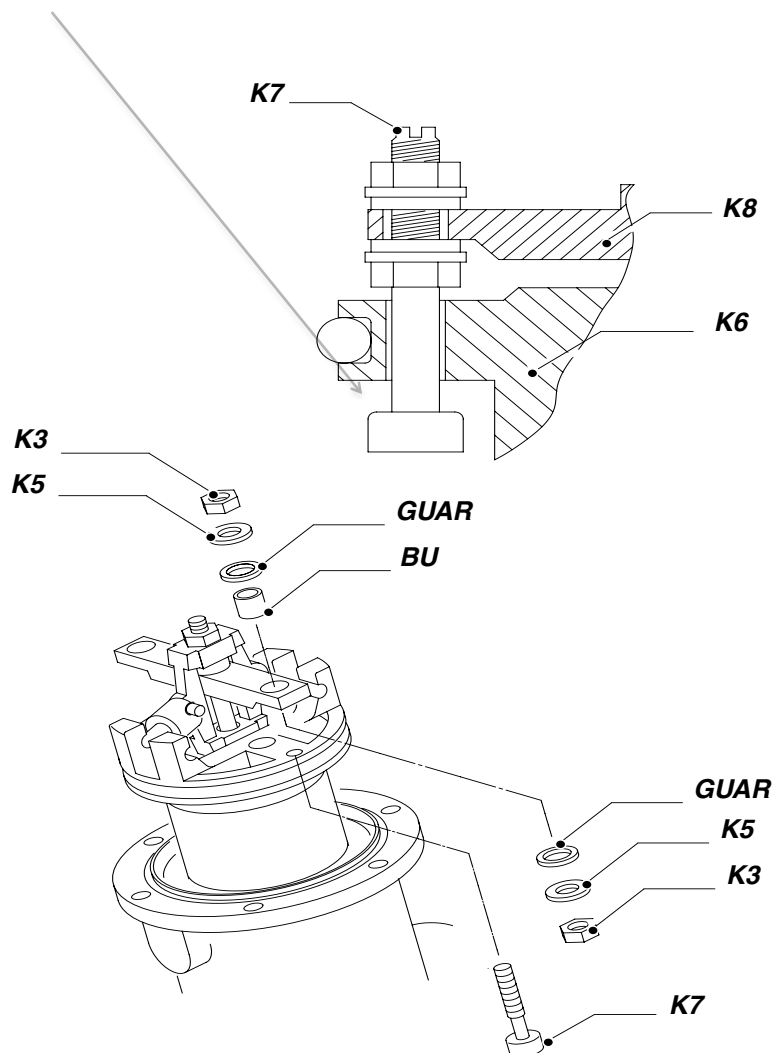
B. AIR MOTOR (DISASSEMBLE AND REPAIR using kits ONE AND TWO)

- 1) Remove the leg section (part 38) and unscrew the Piston body (part 47)
- 2) Push piston (part 19 (47) to top of stroke.
- 3) Unscrew cap nut (part 1), out of base section (part 26)
- 4) Grip guide rod (15) with multi-grip (pliers), screw nut of the trip rod.
- 5) Remove the eight allen key screws holding the base section (part 26) to the cylinder (part 3)
- 6) Carefully pull the cylinder (part 3) straight up off the piston (part 19). Do not tilt it as the piston could damage cylinder wall.



- . 7) Pull the piston (part 19) complete with the short rod (part 15) out of the base. Check surfaces of piston , Piston rod (part 22) and cylinder wall (part 3) for marks and/or scratches. Replace parts if necessary.
- . 8) Hold piston in suitable vice. Push down on the rocker (part 8) to snap the fork (part 6) down. Remove the nuts K3 (part 9), screw out the screw valve complete K7 (part 20)
- . 9) check the screw valve seals (20) compress them firmly to check for cracks and any signs of wear. Replace if necessary

2-3mm clearance



- . 10) Carefully remove (parts 4,5,6,7)
- . 11) Check shuttle bar (part 13) for straightness and check the springclips (part 18) ensuring that the shuttle bar slides into them easily. Replace if necessary.
- 12 Check valves BU (part 16) for cracks. Replace if necessary. Check piston (19) for cracking or pitting around exhaust and inlet ports.

Repair or replace as necessary. Unscrew divorce nut (part 52) from the divorce section (part 55) replace seal (part 35) and seal (part 15)

Note: When refitting divorce nut (part 52). Replace (part 54) and do not over tighten. Reassemble parts (reverse order above).

Note: Valve mechanism must be adjusted so there is 2-3mm clearance between the screw valve (part 20) and the underside of the piston (as shown above)

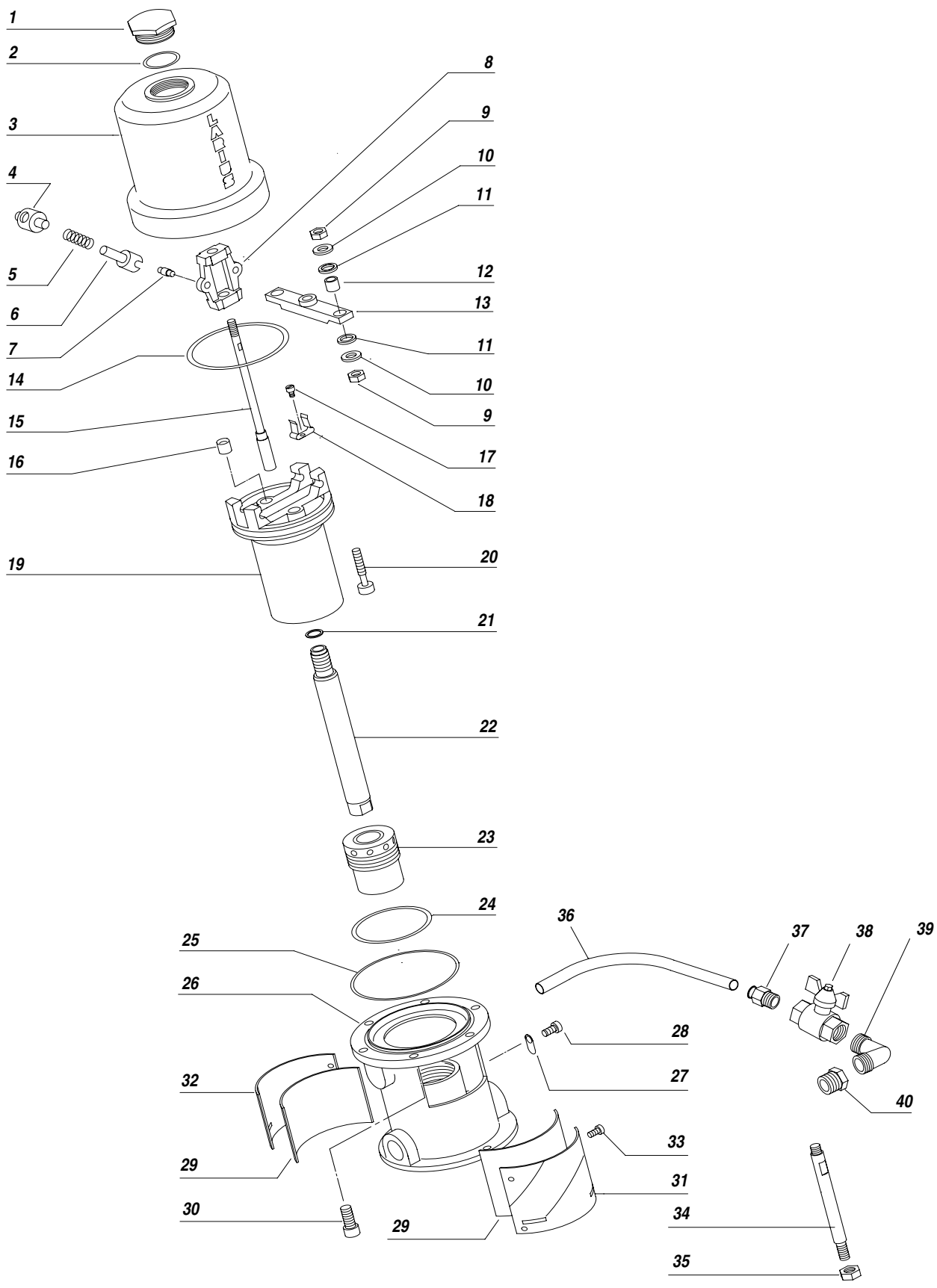
Replace the two o' rings (parts 24, 25) contained within the Lower body assembly. Unscrew the bottom section of the Piston body (part 47) and check the leg seal (part 49) replace if necessary. Remove the valve (part 42) from the leg (part 38) by screwing counter-clockwise. Check the foot valve (part 42 for wear)

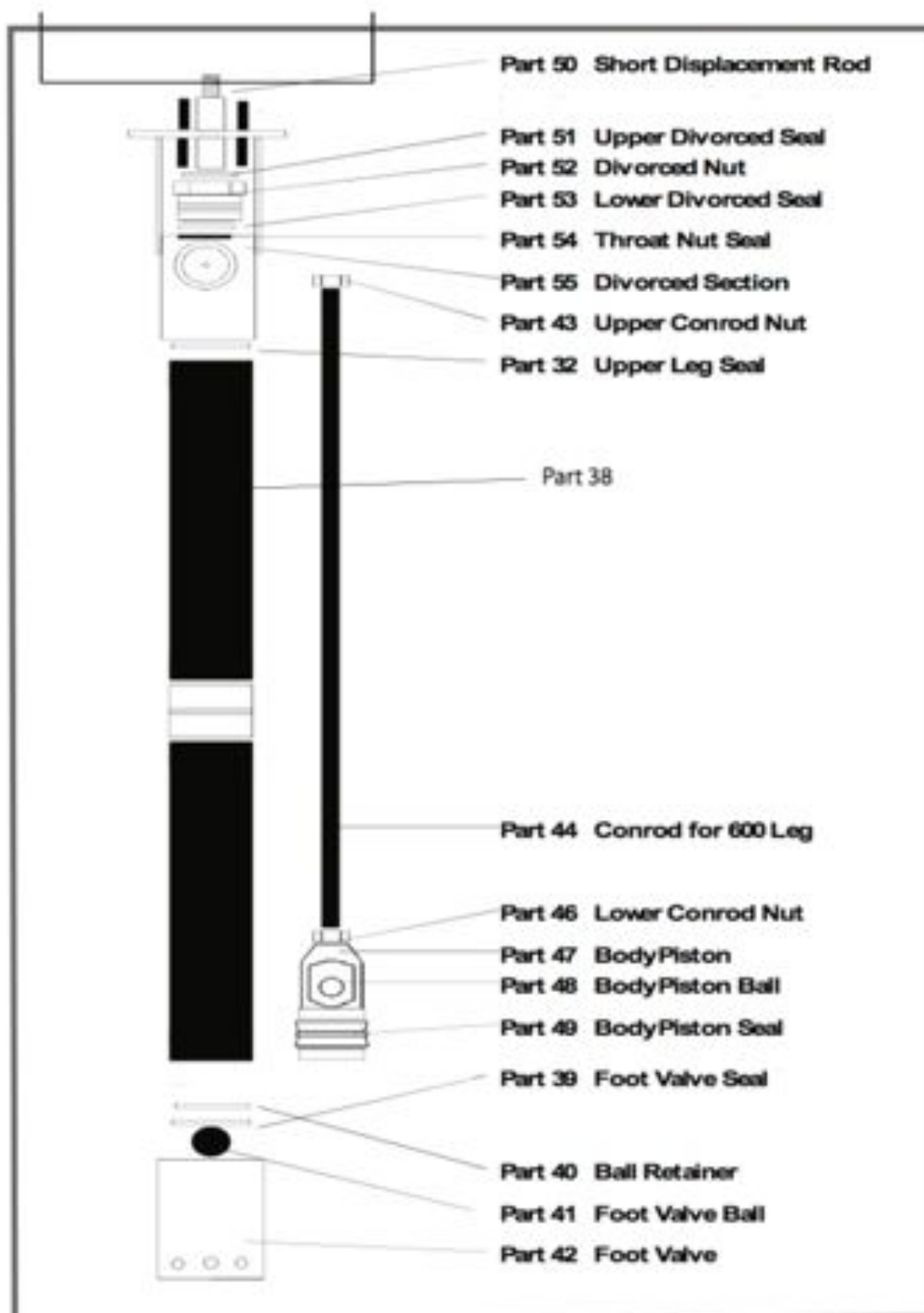
The wags B150bal pump should cycle up and down smoothly without jerking and the delivery rate should be even. If not check the foot valve.



TROUBLE SHOOTING

Problem	Possible cause	Solution
<ul style="list-style-type: none"> The pump does not start 	<ul style="list-style-type: none"> Feed air not sufficient; Outlet product line clogged; Clogged product intake line; Pneumatic motor blocked in the cycle reversal position; Parts failure of the pneumatic motor; 	<ul style="list-style-type: none"> Check on the air supply line. Increase the diameter of the feed hose; Open the recirculation tap to check whether the pump starts up. Unscrew the high pressure filter and clean/replace the filter sieve. Clean/replace the spray gun's filter. Clean the suction filter; Reduce feed air pressure; Manually reset the pneumatic motor; Disassemble the motor and verify;
<ul style="list-style-type: none"> Accelerate working and no pressure of the pump 	<ul style="list-style-type: none"> There is no product; The pump sucks air; Gaskets of the pumping rod worn; Suction valve worn or partially clogged; Suction filter clogged; Suction filter too fine; 	<ul style="list-style-type: none"> Add the product; Check the flexible suction tube; Replace the lower gaskets; Disassemble the suction valve. Clean and/or replace, if possible, the parts worn; Clean/replace the suction filter's two disks; Remove the fine disk, leaving only the larger one inside;
<ul style="list-style-type: none"> The pump functions, but doesn't stop when the chamber is full (the pump continues slowly, increasing and/or decreasing) 	<ul style="list-style-type: none"> Pumping rod seals worn; Suction valve worn or partially clogged; Delivery valve worn or partially obstructed; Upper gaskets worn. 	<ul style="list-style-type: none"> Replace the lower seals Disassemble the suction valve. Clean and/or replace, if possible, the parts worn; Remove the delivery valve and clean/replace any worn parts; Tighten the packing nut.
<ul style="list-style-type: none"> The pressure of the material is significantly reduced when the trigger is pressed 	<ul style="list-style-type: none"> The spray gun's nozzle is too large or worn The spray gun's filter and the material output filter's sieve are too fine 	<ul style="list-style-type: none"> Replace it with a smaller one Replace them with filters of a larger mesh size







AIT MOTOR KIT
 KIT K282A

BEARING KIT
 WAGPBBK

REDUCTION KIT
 WAGPBRK

DRIVE SOCKET
 WAGPBDS

MOUNT PIN
 WAGPBMP

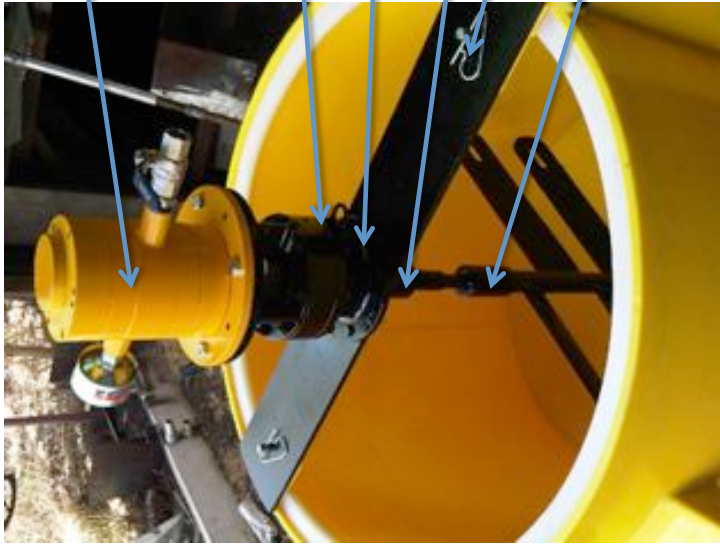
DRIVE SPIGGOT
 WAGPBDSP

BEATERS (400MM)
 WAGPBB

CENTER SHAFT
 WAGBPCS

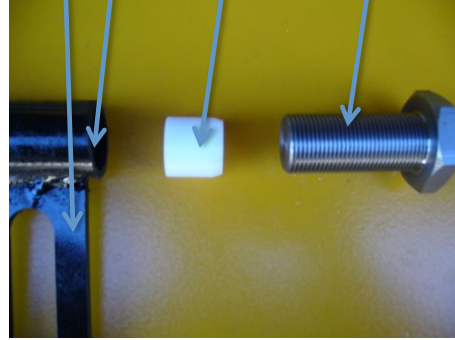
WEAR BEARING
 WAGPBWB

MAIN SPIGGOT
 (INC NUT)
 WAGPBMS



TOP GRATE
 WAGPBTG

CENTER STRAP
 WAGPBCST



AIR MOTOR
(WAGS8AM)

(KIT K282A)

GEAR BOX
(WAGSHTGB)

(REDUCTION KIT
WAGSBRK)
(BEARING KIT
WAGSBBK)

LIFTING POINT
(WAGSBLP)



PLEASE NOTE ALL THE INTERNAL PADDLE COMPONENTS ARE THE SAME AS THE WAGS POLY BOWL ON THE PREVIOUS PAGE . USE THESE NUMBERS WHEN ORDERING PARTS FOR YOUR STEEL WAGS MIXING SYSTEM

SPECIFICATIONS

180 LTR CAPACITY
200 RPM AIR MOTOR
350NM DIRECT DRIVE CYCLO GEARBOX
42 L/S @ 100 PSI CONSUMPTION