

MARKHAM (SHEFFIELD) LTD.

INSTRUCTION MANUAL

Water Booster Pump MODEL GBP500



**Lawn Road Industrial Estate, Carlton in Lindrick,
Worksop, Notts, S81 9LB. England. UK.**

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www.markham-sheffield.co.uk

WARNING

DO NOT ATTEMPT TO OPERATE THIS EQUIPMENT WITHOUT A THOROUGH UNDERSTANDING OF THE OPERATIONAL, MAINTENANCE AND SAFETY CONSIDERATIONS CONTAINED IN THIS TECHNICAL MANUAL.

TO PREVENT DAMAGE TO EQUIPMENT AND/OR INJURY TO YOURSELF OR OTHER PERSONNEL, THESE INSTRUCTIONS MUST BE FOLLOWED CAREFULLY. A COPY OF THIS MANUAL SHALL ACCOMPANY THE UNIT AT ALL TIMES.

FOR PARTS AND SERVICE PLEASE CALL

TEL: +44 (0) 1909 730861

**For best assistance, please have the
equipment Model and Serial Numbers
available at time of inquiry.**

**The Serial Number is stamped
on the equipment.**

**Record the following information
on this equipment below:**

Model No. _____

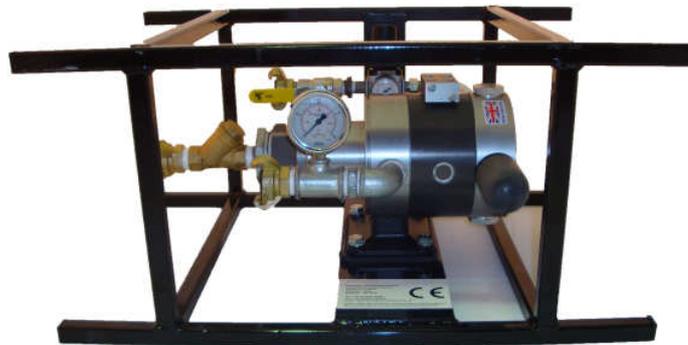
Serial No. _____

Date Purchased _____

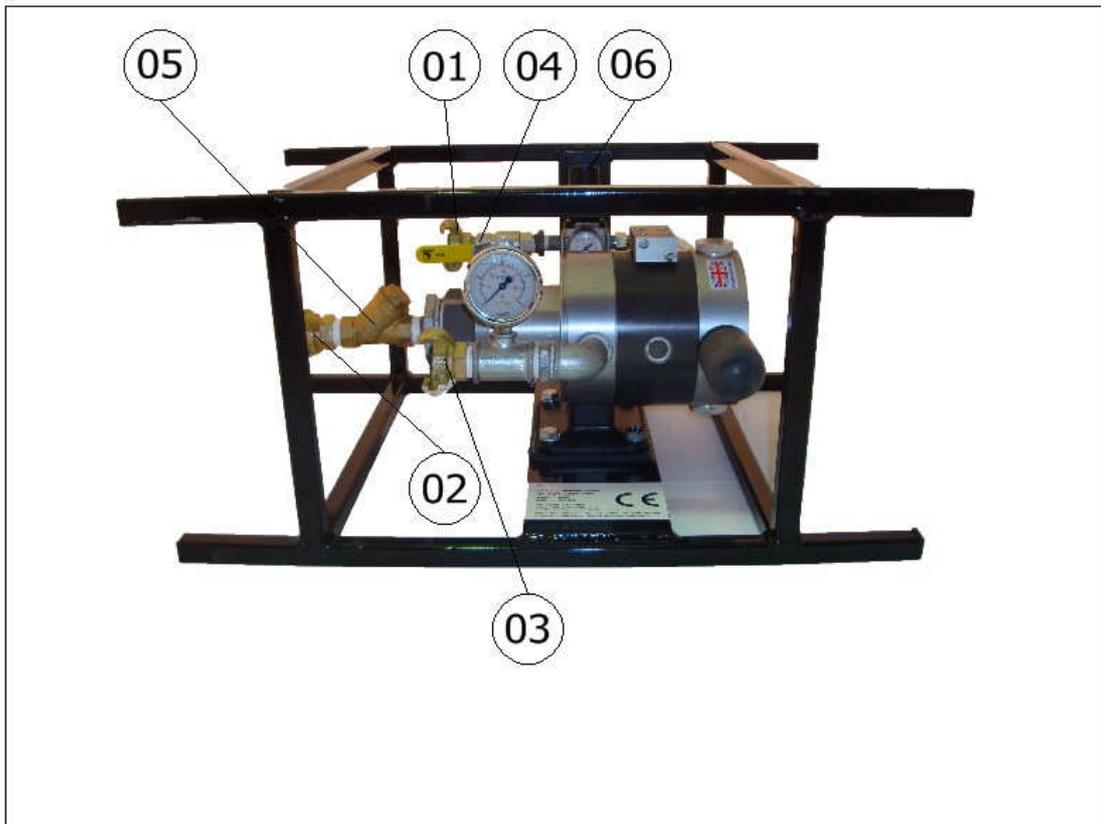
WATER BOOSTER PUMP

The *GBP500* air powered water booster pump can deliver a maximum of 40 Litres / Minute. The minimum air pressure required is 20PSI and the maximum air consumption is 80CFM. The water pressure can be varied from 0-500PSI depending on the air pressure regulator setting. The pump works on a reciprocating differential area piston principle. This means the larger air piston is connected to a smaller area water piston and has an intensifying effect of the applied air — water pressure. The pump has a 5:1 ratio, which means incoming air pressure of 40PSI will equal 200PSI of water pressure out. When the pump discharge pressure equals or exceeds the air supply pressure, the pump will simply stall, no bypass or pressure relief valve is needed.

CAUTION: The pump discharge hose must have a suitable rating for the working pressure. The pump discharge rate can be controlled by limiting the volume and/or pressure of the air supply to the pump. A combination air regulator and filter is provided to regulate and condition the incoming air. A pressure gauge is provided on the regulator to display the regulated pressure. The pump does not require lubrication in the air stream; the pump is pre-lubricated with special grease. Air stream lubrication is not recommended because it will erode the grease from the pump.



Principle of Operation



Water Pump Identification

- 1. Claw Type Air Connection Coupling**
- 2. Claw Type Water In Connection Coupling**
- 3. Claw Type Water Out Connection Coupling**
- 4. Air On / Off Ball Valve**
- 5. Water Filter**
- 6. Air Filter / Regulator.**

OPERATING INSTRUCTIONS

1. **USE ONLY CLEAN WATER**, preferably on a flooded feed system.
2. Ensure that all hoses are clean and contain no foreign materials before connecting up the pump.
3. Use compressed air supply not exceeding 125 psi (8.5 bar).
4. The water inlet to the pump has a strainer gauze which should be cleaned before use.
5. Start and Stop the pump unit using the main air valve.
6. **ADJUST THE OUTLET PRESSURE** by rotating the **BLACK KNOB** on the filter regulator unit.

WARNING: This pump unit can create 500psi plus (34 bar). It works on a 5:1 ratio. If you set the air regulator to read 100psi air pressure then the output pressure will be 500psi. Ensure that the hoses used on the output side are of suitable working pressure.

7. Ensure that your air supply does not contaminate the pump unit with oil. The unit is pre lubricated with special grease. Oil in the air line will cause the grease to wash out.
8. Check and clean the Air Filter regulator unit regularly.

NOTE: When operating the **WATERPUMP GBP500** in conditions when water is likely to freeze, at the end of each shift uncouple the supply and delivery hoses and allow to drain. Empty all the water still in the **WATERPUMP GBP500** otherwise serious damage could occur to the pump cylinder.

When storing the GBP500 we recommend pumping a small amount of oil through the pump instead of water to minimise the risk of acid corrosion.

In case of any further queries or operating problems please contact us, we are here to help.

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