



World Series

WS - Single Pressure Pump - OPERATING INSTRUCTIONS -



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1.1 Amendment Record

Model: World Series Single Pressure Pump				
Mod	Date	Page/ s	Amendment	New Issue No.
1	April 2010	10	Addition of performance curve WS4010 ref.DS570	Issue 3,

1.2 Conventions

Rotation - When viewed from drive flange end of pump, and refers to the direction of rotation of the drive flange.

Handedness - When viewed from the suction end of pump.

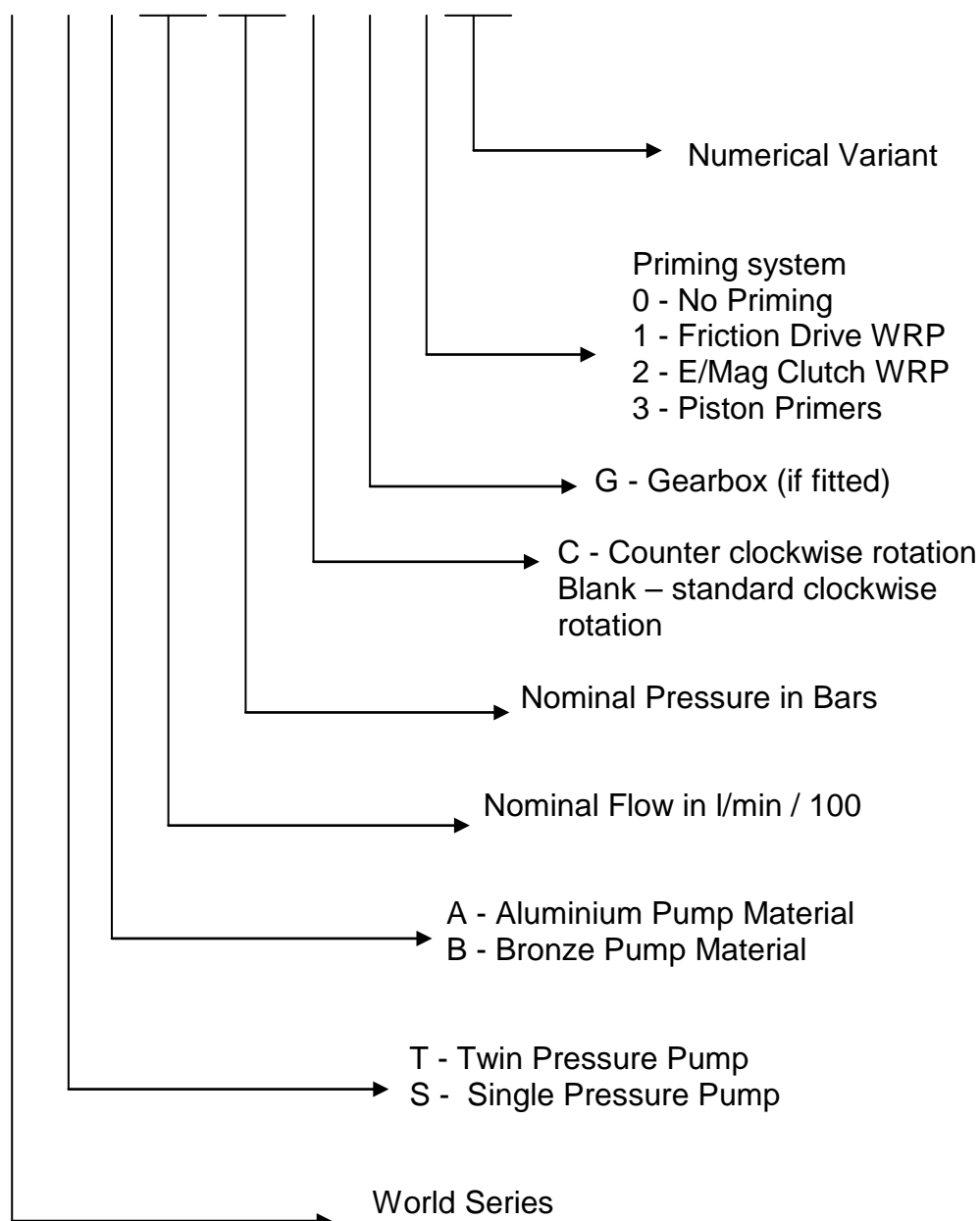
Front - Suction end of pump.

Rear - Drive flange end of pump.

N.B. When a Godiva close-coupled gearbox is fitted the pump rotates in the opposite direction to the drive flange.

1.3 Pump Specification Number System

WSA3010CG/1xx



In addition to the above there will be additional designation letters to signify reverse rotation or gearbox option etc.

1.4 Safety

Training

It is essential that Godiva pumps are operated ONLY by trained personnel.

Maintenance

It is the responsibility of the user to ensure that the equipment is maintained in a safe operational condition, as per regulation 5 in the Provision and Use of Work Equipment Regulations 1998.

Pump

- All rotating components must be adequately guarded against accidental contact.
- Under no circumstances must any item or hand be inserted into the suction tube whilst the unit is running.
- Discharge hoses must not be disconnected whilst they are pressurised.
- No component must be unfastened whilst the unit is running.
- When installing or removing the pump from the chassis, suitable lifting equipment must be used.

Noise

When the unit is running, noise will be generated and suitable ear protection should be worn.

Gauges (if fitted)

Do not clean the glass surfaces of the gauges with abrasive or solvent cleaners. These will cloud the glass surface. Use a mild detergent and water.

1.5 Speed and Output Limits

The pump speed should be limited so that the maximum low pressure attainable is limited to 20 bar.

The Priming speed should be limited to 2500 RPM pump speed. However, if piston primers are fitted the pump can be primed at idle speed – however, this will take longer.

IMPORTANT

When piston primers are fitted the minimum idle speed of the pump should be at least 1200RPM. This speed will allow the pump, when primed with valves closed, to generate sufficient pressure to disengage the primers. Idle speeds lower than this will cause the primers to work continuously resulting in excessive load and wear on the piston primer components. Failures due to insufficient idle speed may not be covered by warranty.

2. 0 Detailed Features

2.1 Filter

The filter provides filtered water to the primer lift-off feed. This should be occasionally removed and flushed.

2.2 Primers

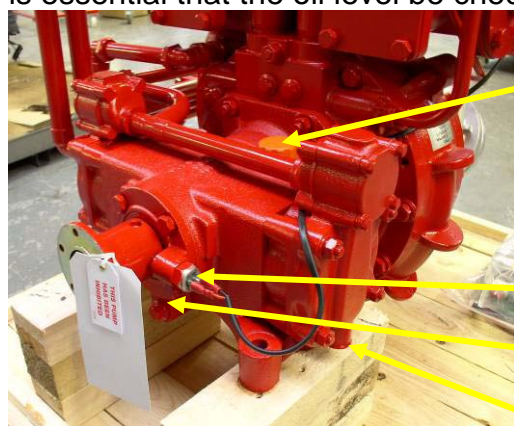
The piston primers require no regular maintenance. However, if the primer discharge does not continually fall (e.g. discharging into the vehicle tank) a means must be provided to drain the discharge hoses to prevent freezing.

It should be remembered that each time a water ring primer operates a small amount of pump water is carried over into the header tank and will gradually dilute the anti-freeze concentration.

Therefore anti-freeze concentration should be regularly checked and topped up when necessary.

2.3 Oil Level

The oil level is checked by means of a combined oil level dip stick and filler. It is essential that the oil level be checked before the unit is run.



Bearing housing oil level dipstick and filling aperture.

The oil level should be checked with the dipstick screwed down in its fixed position

Tachometer (optional)

Oil drain plug

Piston primer discharge

The oil bath provided for the pump drive shaft bearings has a capacity of 0.75 litres (1.3 pints) and should be topped up when necessary with 10w/40-15w/40 multigrade engine oil. It is recommended that the oil bath is drained and refilled with fresh oil about every twelve months.

2.4 Draining the Pump

- a) Open the volute drain valve until all flow stops.
- b) Open the primer drain system, if fitted, until all flow stops.

In order to completely drain the piston priming system the pump should

be idled for a few seconds after use with no water in the volute and the drain valve open. This 'dry prime' will then evacuate all residual water from the priming system.

It is not recommended that the pump be retained full of water since this could result in freezing in cold climates.

Remember to close all drains before trying to re-prime the pump.

3. Pump Operation Principle

The Godiva WS single stage pump will deliver high volumes at low pressure.

The suction connection must always be connected to a water source, whilst the pump is operating.

When the pump is first started, if there is no pressure developed, the priming device will automatically operate to prime the pump. When the prime is established, the primer will disengage automatically.

The pressure developed by the centrifugal impeller will be related to the speed of the pump shaft, and the quantity of water being discharged. Varying pump speed and delivery valve setting will control the pressure and flowrate.

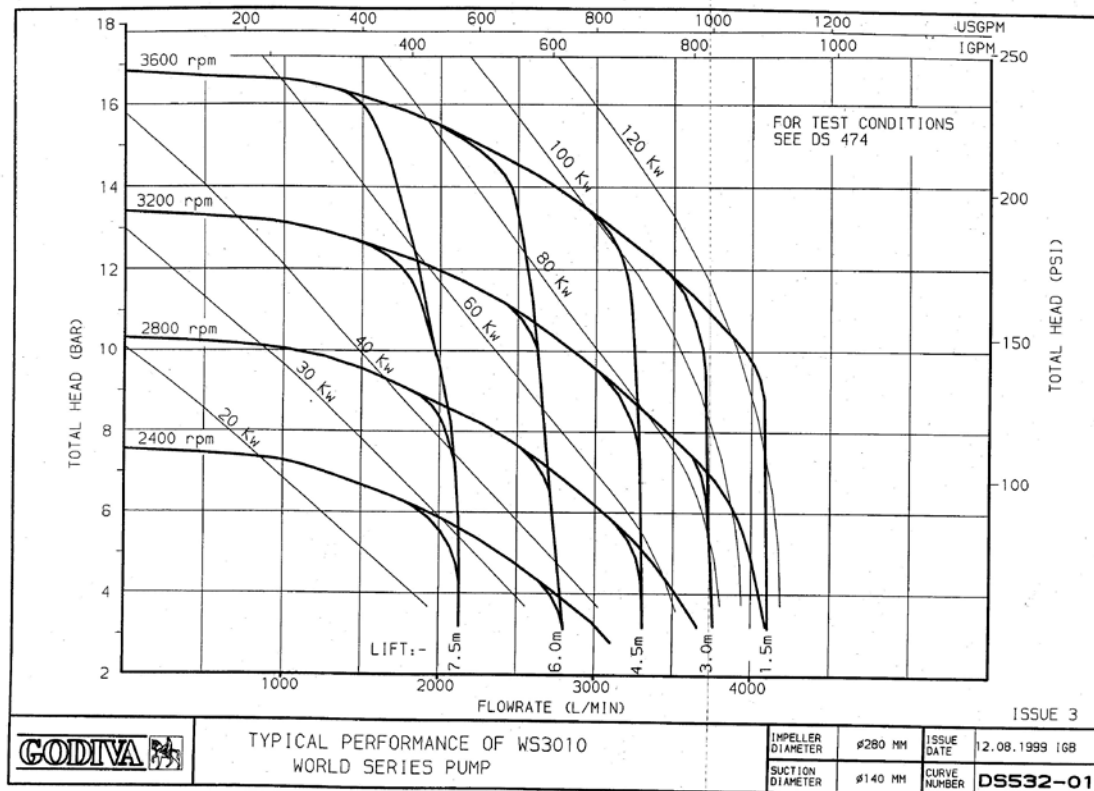
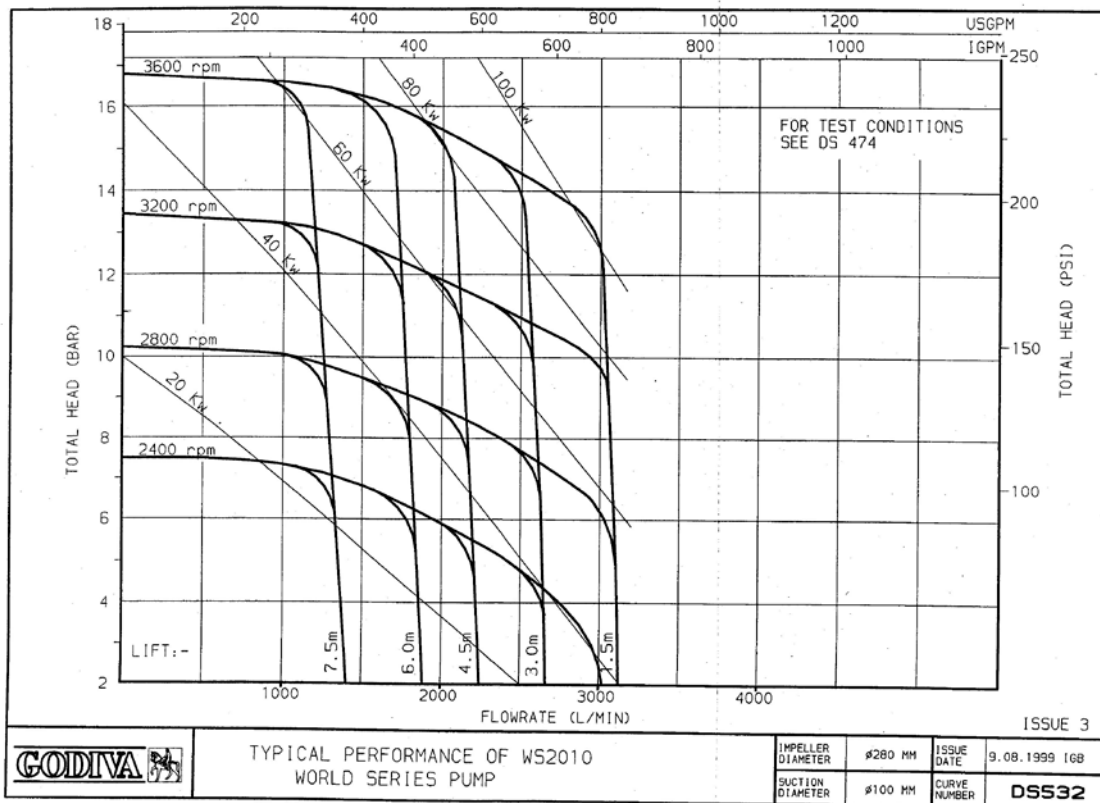
Overheat Protection

If the pump is left running at high speed, with reduced or no discharge, overheating may occur. As the pump temperature increases to 45-50°C the optional thermal relief valve opens to divert pump water to one of three locations:

- a) To ground, which is the easiest and lowest cost option.
- b) Into the vehicle tank (but not if a foam system is fitted)
- c) Into a holding tank for draining later.

This allows fresh water circulation to cool the pump.

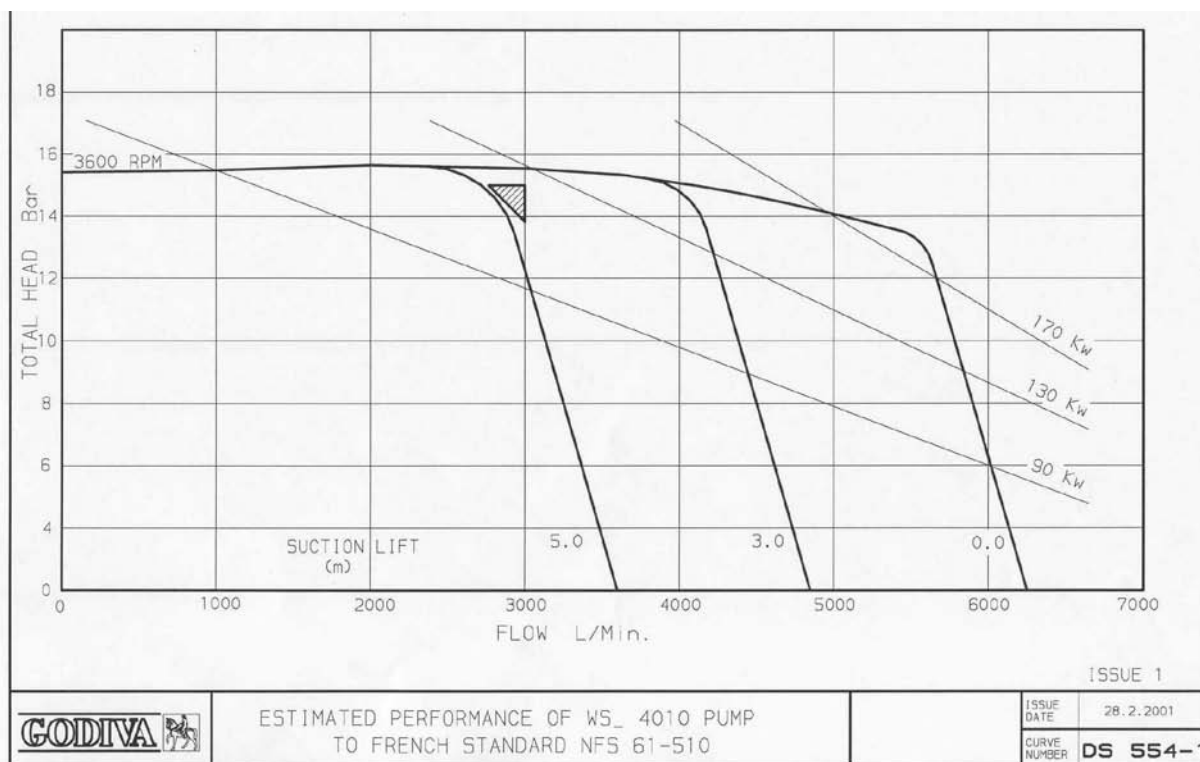
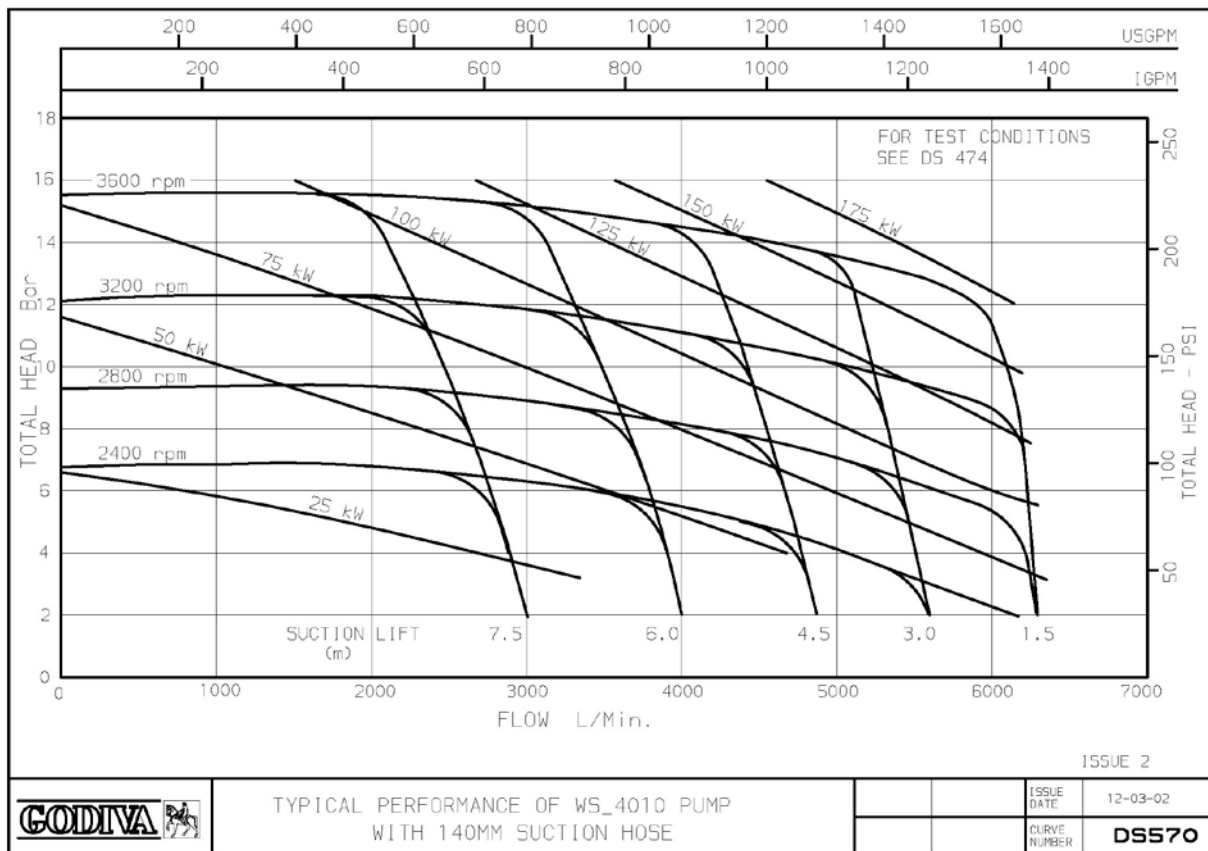
4. Performance Curves



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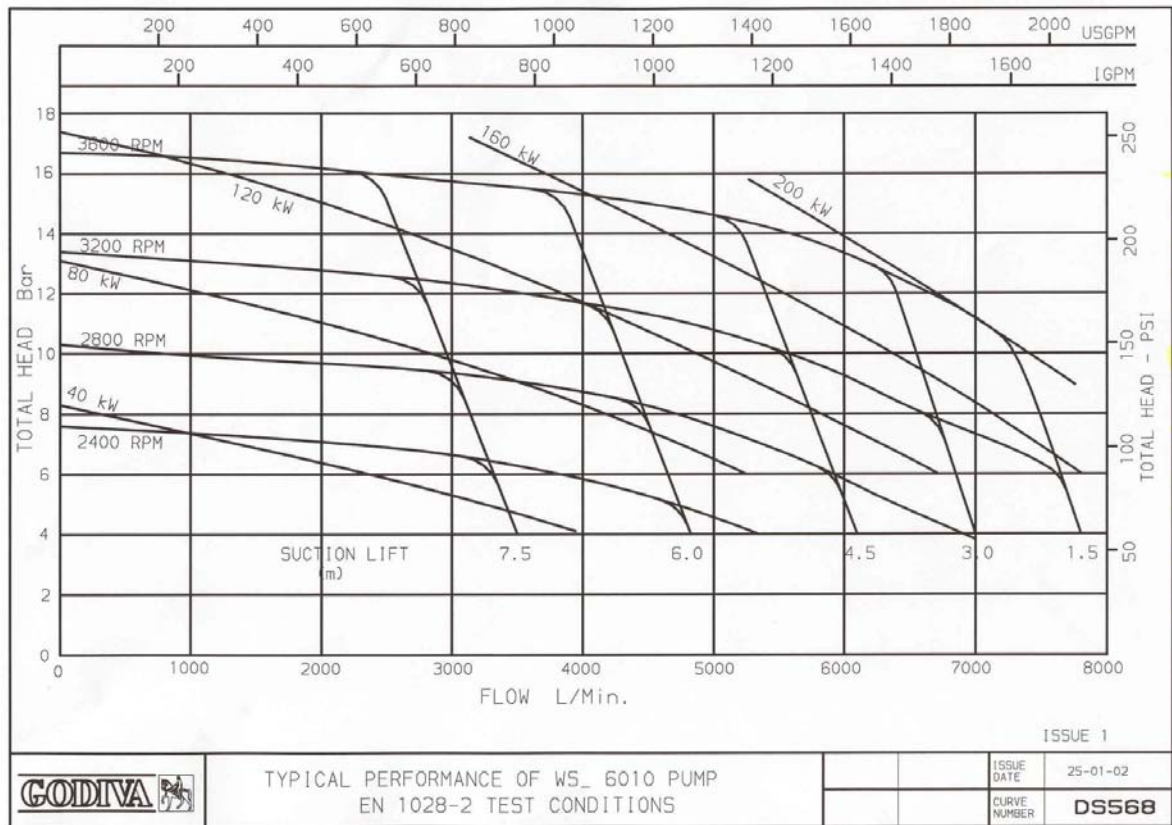
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