HPS 5000
High Pressure Quintuplex Pump

The most powerful pump in the Hughes range, the HPS5000 has a specification producing a heavy duty capability for dealing with the more difficult problems in industry and shares critical components with the smaller HPS3000 pump. The 5 cylinder build has an inherently smooth flow characteristic – flow variation is reduced to less than a third when compared to the more common triplex arrangement.

The close coupled, gear driven power end has pressure lubrication, filtration and oil cooling. An SAE 1 adaptor housing is available enabling the pump to be flange mounted to a diesel engine flywheel housing or electric motor ensuring extremely compact, perfectly aligned installations and enclosing all moving parts.

For maximum hydraulic efficiency, the in-line valve arrangement is designed to minimise the unswept volume and prevents the adverse effects of cyclic stress within the head block, while allowing all working components to be easily removed on site for service.

This improved design is capable of high pressure to high volume with outstanding seal, plunger and valve life.

**Features**

- 5 cylinders for smooth output
- 431 stainless steel pump head
- Solid ceramic plungers & self adjusting seals
- Interchangeable plunger kits
- Hardened, alloy steel crankshaft with heavy duty steel backed white metal main bearings, supported between each connecting rod
- SG iron crankcase with pressure lubrication, filtration and oil cooling
- Forged connecting rods with low friction, shell type big end bearings and lead bronze lined small end bushes
- Gear driven, eliminating the need for belt drive
- Safety relief valve
- Pressure gauge

**Build Options**

- 316 stainless/Duplex steel pump head for seawater applications
- Choice of gear ratio to suit diesel engine or electric motor drive
- SAE 1 adaptor housing for flange mounting the pump to a diesel engine flywheel housing or electric motor
- Unloader valves
- Pressure adjusting valves (manual or actuated)
- Selector / Diverter valves (manual or actuated)
- Bare shaft pump only or complete unit build
- ATEX compliant

**Maximum Flowrate**

<table>
<thead>
<tr>
<th>Flowrate</th>
<th>806 lpm at 250 bar (177.4 gpm / 213.7 usgpm at 3,625 psi)</th>
</tr>
</thead>
</table>

**Maximum Pressure**

<table>
<thead>
<tr>
<th>Pressure</th>
<th>1400 bar at 141 lpm (20,300 psi at 31.0 gpm / 37.4 usgpm)</th>
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**Maximum Power**

<table>
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<tr>
<th>Power</th>
<th>375 kW (500hp)</th>
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See overleaf for performance options.

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**General Dimensions - typical pump build**

- Approx weight - 1200 kg (with gearbox)

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### High Pressure Quintuplex Pump

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In line with the Company's policy of research and development, alterations in design, dimensions and appearance are incorporated from time to time in order to ensure that important developments are included at the earliest opportunity. The Company, therefore, reserves the right to alter design, dimensions etc without notice.

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### Additional Notes:
1. Flowrates indicated are swept volume & will reduce by approximately 5% at full pressure
2. Other gear ratios are available for specific applications, consult Hughes Pumps Ltd
3. Pump stroke 100mm

<table>
<thead>
<tr>
<th>Plunger Diameter mm</th>
<th>Gear ratio</th>
<th>Plunger Diameter (mm)</th>
<th>Input Speed (rpm)</th>
<th>Pump Speed (rpm)</th>
<th>Power Required kW</th>
<th>Nominal Flowrate lpm igpm usgpm</th>
<th>Max Pressure bar psi</th>
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<tr>
<td>5.13</td>
<td>1500</td>
<td>313</td>
<td>30</td>
<td>292</td>
<td>269</td>
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