



Engineering solutions for your needs

Process Pumps

# Quality you can depend on



**Main Picture:** Subsea hydrostatic test and chemical injection system **Inset:** HPS2000 pump

## Hughes Pumps

With extensive experience in the design and manufacture of high pressure, positive displacement pumps since 1970, Hughes Pumps is justifiably proud of its product range and offers a flexible approach to the changing needs of a worldwide customer base.

Every pump we manufacture is function tested and certificated for performance prior to despatch from our UK works.

Witness testing, material certification & manufacturing record books can be provided on request. Offshore paint finishes (to customer specification), coded welding, fabrication and full NDT examination complete a comprehensive service to meet the demands of the offshore oil and gas industry.

## The Pump Range

Designed to comply generally with the requirements of API Standard 674, our positive displacement, reciprocating power pumps are capable of discharge pressures up to 3000 bar (43,500 psi) and flow rates to 806 lpm (48.3 m<sup>3</sup>/hr / 7302 bpd / 213 usgpm).

They complement the Hughes manufactured Dualway range of API Standard 675, controlled volume positive displacement pumps, to provide ratings from 0.37 to 375 kW (0.5 to 500 hp).

The pumps are ruggedly constructed and produced in nine frame sizes, each including a range of plunger sizes. This allows selection of the ideal pump for the job, with a compact design, high power to weight ratio and a choice of construction and seal material to suit the specific application.

In addition to the more common triplex pump layout, five cylinder versions offer reduced flow variation for applications requiring minimum pulsation (see photo of pressure gauge above right). Close-coupled reduction gearbox drives are available, with a choice of gear ratio to suit most prime mover speeds.



HPS3000 water injection pump

**Main cover picture:** Multiple HPS3000 pumps subsea pipeline pressure testing



Smooth output of HP5000 pump demonstrated by balancing a coin while at full power

## Typical Applications

- Chemical Injection
- Methanol Injection
- Chemical Metering & Dosing
- Crude Oil & Diesel Pumping
- Water Injection
- Hygienic Applications
- Water Hydraulics
- Brackish & Seawater Desalination
- Pressure Testing
- High Pressure Water Jet Descaling & Cutting



Inspection during pump crankshaft manufacture



HP5000 crankshaft and oil pump assemblies

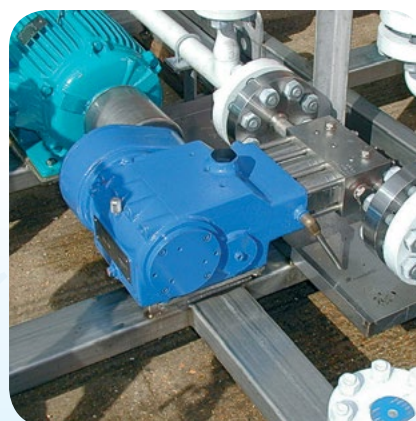


Twin HP5650 glycol pumps, flushing & pressure testing subsea umbilicals

## Construction

The power end of the pump features robust cast iron casings with splash or pressure lubrication and oil cooling, according to the application.

Stainless steel is the standard material used for the fluid end with alternative materials such as Duplex or Aluminium Bronze available for increased corrosion resistance in more specialist applications. The in-line valve arrangement widely used throughout the range prevents the adverse effects of cyclic stress within the head block, while allowing all working components to be easily removed on site for service and maintenance. The latest plunger seal materials are employed with the facility for seal flush or seal lubrication and solid ceramic plungers extend the life of the self adjusting plunger seals.



HP5650 pumping Arctic diesel

## Scope of Supply

We can deliver and commission from a bare shaft pump to a complete skid mounted set, ready for operation in safe or hazardous areas (ATEX compliant where required), using electric motor or diesel engine prime

movers. Pump sets can be supplied in certified offshore crash frames or containers, with or without acoustic dampening.

Ancillary equipment available includes pulsation dampers, relief and loading valves, directional control valves, filtration and condition monitoring, all backed by a comprehensive spares stockholding, service engineers and worldwide network of sales / service agents.



Dualway triple headed metering pump (separate brochure available)

## Process Pumps Overview



Hot condensate pump

Pump Model	Plunger dia mm	Nominal Power Rating		Nominal Flow Rate				Pressure	
		kW	hp	lpm	m <sup>3</sup> /hr	bpd	usgpm	bar	psi
HPS400	14	30	40	16	1	145	4.4	1,000	14,500
	35			103	6.2	936	27.2	160	2,320
HPS650	18	48	65	27	1.6	244	7.2	1,000	14,500
	35			103	602	936	27.2	250	3,625
HPS1000	20	75	100	30	1.8	272	7.8	1,400	20,300
	50			185	11.1	1,676	49	220	3,190
HPS2200	24	160	220	53	3.1	480	14.1	1,400	20,300
	55			279	16.7	2,527	73.9	310	4,495
HPS3000	30	225	300	84	5	761	22.3	1,400	20,300
	75			484	29	4,385	128.2	250	3,625
HPS5000	30	375	500	141	8.5	1,277	37.3	1,400	20,300
	75			806	48.3	7,302	213.7	250	3,625

The chart above shows extreme pressure/flow combinations with smallest & largest plungers fitted. All pumps have a range of plunger sizes.



New Hughes Pumps factory constructed in 2004



HPS5000 Methanol pump

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