The Water Hydraulics Co. Ltd.

PUTTING WATER TO WORK

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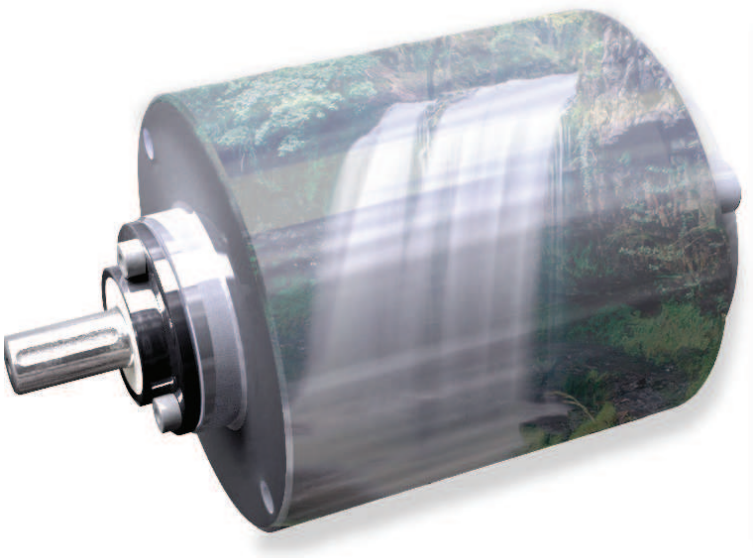
The Water Hydraulics Company in Hull England have supplied water hydraulic components, systems and accessories for more than twelve years and are one of the most experienced companies in the World applying these products to a wide range of industries.

All the Water Hydraulic Company products are designed, finish manufactured, assembled and tested at the Company's premises in Hull. The company has ISO 9001 quality approval and can offer full traceability on many of it's range of Janus products.

HIGH PRESSURE WATER HYDRAULICS SYSTEMS ARE USED IN DIVERSE INDUSTRIES FROM HOT METAL PRODUCTION TO LEISURE FOR THE FOLLOWING REASON

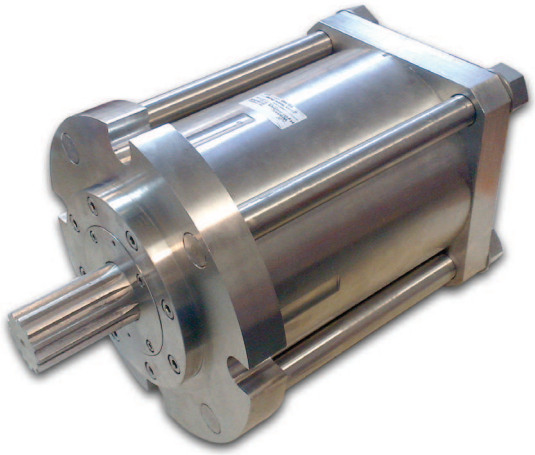
1. The low cost of purchase, storage, disposal and management of water as opposed to specialist hydraulic fluids.
2. To negate the risk of hydraulic fluid fires.
3. To utilise the hydraulic head in such applications as mining and hydro-electric power which may be regarded as free energy or where geographical isolation precludes other power sources.
4. To remove the cost of fluid spillages especially in applications such as the food industry.
5. Water is unaffected by radiation which is important in the nuclear industry where the cost of decontamination is prohibitive.
6. There is no need for return lines on or near large bodies of water which is important in the offshore market.
7. Water has a low viscosity relative to most hydraulic fluids so smaller supply lines may be used which is especially useful for "no dig" technology in where the return line may also be removed.
8. The normal working range (without antifreeze) for water hydraulics is between 2 and 55 deg C but the viscosity for water is fairly constant so that the system performance is to a large extent unaffected by the ambient temperature.
9. Water hydraulic fluid may be drinking water, sea water or specialist technical waters which is especially useful in the semiconductor industry.
10. Modern environmentally aware companies want to be associated with clean technology.



JANUS PRODUCT RANGE

PUMPS

The Janus range of pumps are based on the axial piston principle which is both light and compact relative to their volumetric displacement, which may be altered in our variable displacement models. Up to 9 pistons per pump ensure very small pressure ripples removing the need for accumulators. The need for oil lubrication is eliminated as all moving parts are water lubricated. The pumps are manufactured in 316 or duplex materials making them highly resistant to corrosion and ideal for reverse osmosis applications.



Type		P1	P3	P6	P15	P30	P60	P180
Displacement cc/rev	Max.	1.5	2.1	6	19	33	70.3	225
	Min.	0.8	3.0	3.3	8	20	35	104
Max. RPM	Unboosted	2000	2000	1800	1800	1800	1800	1800
	Boosted*			2000	2000	2000	2000	2000
Max. Input power (kW)		0.55	1.6	3.8	11	19.5	42	114
Max. cont. pressure (bar)		120	160	160	160	160	160	160
Max. water flow (l/min)		2.4	6	12	37.2	66	146	430
Weight (kg)		1.5	1.7	2.2	8	10	19	82
Temperature *C	Max.**	50	50	50	50	50	50	50
	Min.***	2	2	2	2	2	2	2

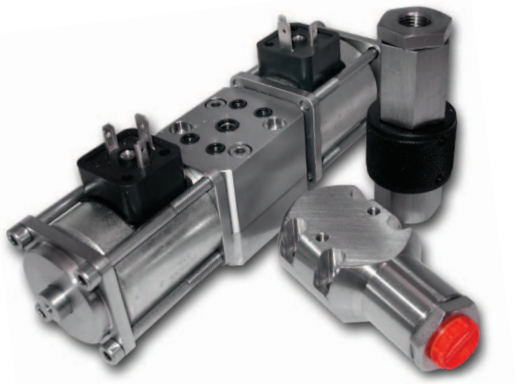
* Pump speeds above 2000rpm are possible under higher boost conditions, consult TWHC ** Higher temperature operation is possible, consult TWHC for details *** Consult TWHC for antifreeze option and lower temperature conditions.

POWER PACKS

The power pack is a compact and flexible power supply unit. It is available in a standard modular form which may easily be customer specified or specially built to meet all kinds of individual requirements, including specialist accessories such as filters, coolers and fittings (following consultation with our design team.)

CONTROL VALVES

A unique patented range of control valves are designed to control the pressure, the flow, and the direction of the water hydraulic media and thus the direction, speed and torque / force from the motors and cylinders. The valves are available with manual, hydraulic pilot as well as electrical activation. The valves are manufactured as in line versions or integrated into custom designed blocks to reduce the number of expensive fittings required and enabling easier maintenance.



- Electronic proportional flow and pressure control valve
- Directional control 4/3, 4/2 & 3/2
- Pressure control - relief, reducing and unload
- Flow control - priority check, and load holding
- Sizes DN3 to DN16
- Pressure range 0.1 to 160 bar

MOTORS

Janus motors are based on the axial piston principle for high speed applications or with our range of gearboxes for low speed high torque systems. The motors are available in both fixed and variable displacement configurations.

Type		M3	M6	M15	M30	M60	M180
Displacement cc/rev	Max.	3.1	6	19	33	70.3	225
	Min.	-	4.6	15	30	63	104
RPM	Min.*	500	500	500	500	500	300
	Max.**	4000	4000	4000	4000	4000	2000
Max. power (kW) cont.		2.7	5.4	17.5	31	67	108
Max. pressure (bar) cont.		160	160	160	160	160	160
Max. input (l/min) cont.		12	24	72	132	292	430
Weight (kg)		1.6	2.2	8	10	19	82
Temperature *C	Max.***	50	50	50	50	50	50
	Min.****	2	2	2	2	2	2

* A standard range of gearboxes are available for slow speed operations ** Motor speeds above 4000rpm are possible under certain conditions, consult TWHC. *** Higher temperature operation is possible, consult TWHC for details. **** Consult TWHC for antifreeze and lower temperatures

CYLINDERS

Janus cylinders are manufactured in an all stainless 316 design. The cylinders come in a standard of “end types” threaded rod , spherical rod end, piston end flange, piston spherical rod end etc... The cylinders are of the tie rod as generally accepted in the industrial market. Janus cylinders may also be customer specified. From ⌀32 to 150mm bores as standard.

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