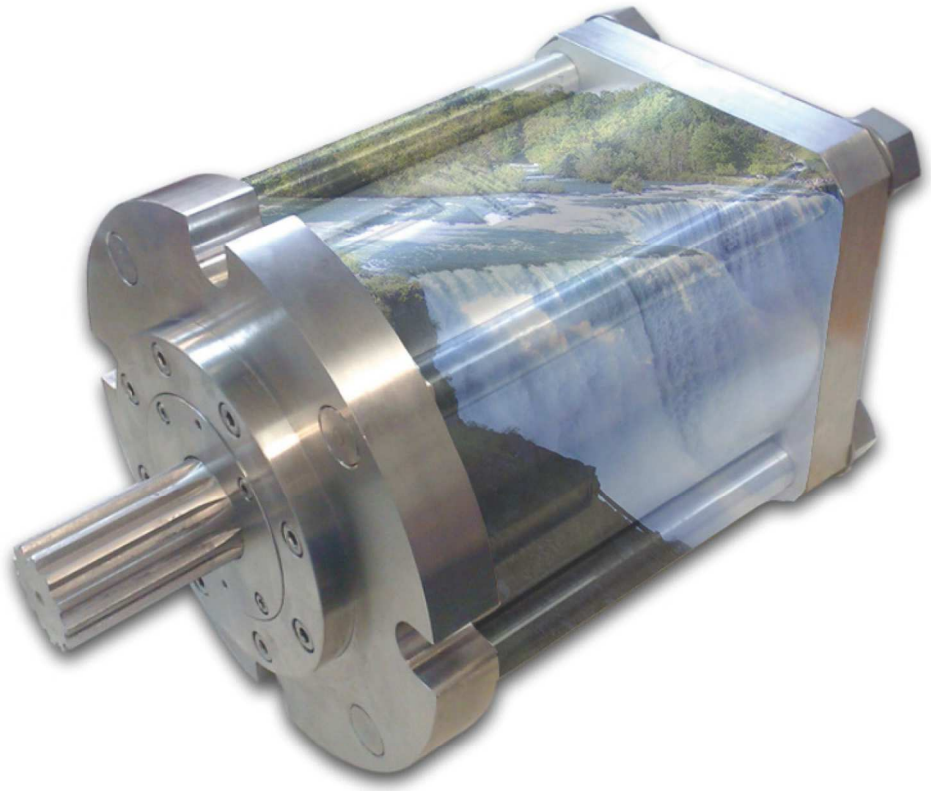
JANUS PUMPS

POWER UNIT SELECTION

The Water Hydraulics Co. Ltd.



ISO 9001 Quality Management

FM 87247

V02.17

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Design
The Janus axial piston pumps are totally oil free, clean and completely safe to use in all locations including Atex environments. Advanced material technology ensures high velocity and heavily loaded surfaces can operate effectively with water as their only coolant/lubricant. The elimination of lubricating oil within the mechanics of the pumps removes the requirement for piston sealing which in turn reduces the need of servicing seals in the high cyclic loaded components.

The 9 piston design combined with direct 4 pole motor operation produces a very smooth output flow and removes the requirement for output accumulation or pulsation damping. Pressure ripple-free performance against a fixed orifice make the product ideal for fire fighting applications. System component fatigue is rare due to the smooth low noise performance of the advanced technology. Light weight and compact design reduces powerpack size and the all 316L stainless steel construction ensures exceptional corrosion resistance and unsurpassed life expectancy even in harsh environments

Noise Level
81dBa on 100l pump @ 130 bar.

Motor Pump Assembly's
The units are available as a motor/ pump assembly or as a complete power pack including electrical control system. See bellow for further information on potential combinations including pump, motor, bellhousing and coupling as a complete assembly.

A full range of safety relief and valves are also available, please ask for data sheet for further information.

Temperature
The units will generate full performance from 2°C to 50°C. For temperatures below freezing, an environmentally friendly antifreeze is available; ask for the Monopropylene Glycol datasheet. Operation above 50°C is possible however, the volumetric efficiency of the unit will be affected. Consult TWHC and specify the maximum operating temperature.

Filters
All incoming water to the pumps must be pre-filtered to a nominal rating of 10µm (25µm absolute) with a filter element rating of β10 = 75 or better. Return line filtration is advisable on closed loop systems. High pressure filtration may also be considered but as these are manufactured in stainless steel, we consider this an expensive option.

Fluid
Drinking water quality conforming to the EEC-directive 98/83/EC should be used as standard. Consult TWHC if you are unsure of the water quality. The standard product will operate happily on technical water i.e. distilled, RO water or demineralised. Changes may need to be made to the seal material or construction depending on the operating environment. The pumps also operate on non-flammable fluids such as Glycol 95/5 mixtures; internal clearances must be adjusted when functioning on such fluids. It is imperative the exact operating fluid is specified on all enquiries and orders. The standard construction will operate on sea water however, due to the increased corrosion potential of the fluid, a more noble material construction may be required for long term operation.

ATEX
This unit is used globally in FM approved systems and is ATEX approved to comply with regulations of Directive 94/9/EC (ATEX) for equipment or protection systems
intended for use in potentially explosive atmospheres.

Product group, category, zones:
II 2GD ck T6 T85°C +1°C≤TA≤+40°C

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POWER UNIT SELECTION

PUMP MOTOR SELECTION

PUMP	(CC/REV)	PRESSURE - BARG								
		10	20	40	60	80	100	120	140	160
P1	**0.8** (1.2 l/min @ 1500 rpm) **PC100-0.8W**	1.1 l/min 0.12 KW **P1-008-M01**	1.0 l/min 0.12 KW	0.9 l/min 0.12 KW	0.8 l/min 0.18 KW **P1-008-M02**	0.7 l/min 0.18 KW	0.6 l/min 0.25 KW **P1-008-M03**			
	1.2 (1.8 l/min @ 1500 rpm) **PC100-1.2W**	1.7 l/min 0.12 KW **P1-012-M01**	1.6 l/min 0.12 KW	1.5 l/min 0.18 KW **P1-012-M02**	1.4 l/min 0.25 KW **P1-012-M03**	1.2 l/min 0.37 KW **P1-012-M04**	1.1 l/min 0.37 KW			
P3	**3.0** (4.95 l/min @ 1500 rpm) **PC160-3.0W**	4.5 l/min 0.25 KW **P3-030-M03**	4.4 l/min 0.25 KW	4.2 l/min 0.37 KW **P3-030-M04**	4.1 l/min 0.55 KW **P3-030-M05**	4.0 l/min 0.75 KW **P3-030-M06**	3.9 l/min 1.1 KW **P3-030-M07**	3.8 l/min 1.1 KW	3.7 l/min 1.5 KW **P3-030-M08**	3.5 l/min 1.5 KW
P6	**4.6** 6.9 l/min @ 1500 rpm) **PC160-4.6W**	6.7 l/min 0.37 KW **P6-046-M04**	6.6 l/min 0.37 KW	6.4 l/min 0.55 KW **P6-046-M05**	6.1 l/min 1.1 KW **P6-046-M07**	5.9 l/min 1.1 KW	5.7 l/min 1.5 KW **P6-046-M08**	5.5 l/min 2.2 KW **P6-046-M09**	5.2 l/min 2.2 KW	5.0 l/min 2.2 KW
	6.0 (9.0 l/min @ 1500 rpm) **PC160-6.0W**	8.8 l/min 0.37 KW **P6-060-M04**	8.6 l/min 0.55 KW **P6-060-M05**	8.2 l/min 1.1 KW **P6-060-M07**	7.9 l/min 1.1 KW	7.5 l/min 1.5 KW **P6-060-M08**	7.2 l/min 2.2 KW **P6-060-M09**	6.8 l/min 2.2 KW	6.5 l/min 3.0 KW **P6-060-M10**	6.1 l/min 3.0 KW
P15	**12.0** (18.75 l/min @ 1500 rpm) **PC160-12W**	18.4 l/min 0.55 KW 80 Frame **P15-012-M05**	18.2 l/min 0.75 KW 80 Frame **P15-012-M06**	17.6 l/min 1.5 KW 90L Frame **P15-012-M08**	17.1 l/min 2.2 KW 100L Frame **P15-012-M09**	16.5 l/min 3.0 KW 100L Frame **P15-012-M10**	16.0 l/min 4.0 KW 112M Frame **P15-012-M11**	15.5 l/min 5.5 KW 132S Frame **P15-012-M12**	14.9 l/min 5.5 KW 132S Frame	14.4 l/min 7.5 KW 132M Frame **P15-012-M13**
	15.0 (22.5 l/min @ 1500 rpm) **PC160-15W**	22.1 l/min 0.55 KW 80 Frame **P15-015-M05**	21.8 l/min 1.55 KW 90L Frame **P15-015-M08**	21.1 l/min 2.2 KW 100L Frame **P15-015-M09**	20.5 l/min 3.0 KW 100L Frame **P15-015-M10**	19.8 l/min 4.0 KW 112M Frame **P15-015-M11**	19.2 l/min 5.5 KW 132S Frame **P15-015-M12**	18.5 l/min 5.5 KW 132S Frame	17.8 l/min 7.5 KW 132M Frame **P15-015-M13**	17.2 l/min 7.5 KW 132M Frame
	19.0 (22.5 l/min @ 1500 rpm) **PC160-19W**	28.0 l/min 0.55 KW 80 Frame **P15-019-M05**	27.6 l/min 1.5 KW 90L Frame **P15-019-M08**	26.8 l/min 2.2 KW 100L Frame **P15-019-M09**	26.0 l/min 4.0 KW 112M Frame **P15-019-M11**	25.1 l/min 5.5 KW 132S Frame **P15-019-M12**	24.3 l/min 5.5 KW 132S Frame	23.5 l/min 7.5 KW 132M Frame **P15-019-M13**	22.7 l/min 7.5 KW 132M Frame	21.8 l/min 11.0 KW 160M Frame **P15-019-M14**

Select a combination to satisfy, pressure and flow requirement. Electric motors specifying 'M', E.g. P6-060-M09 denotes 3 Phase, 400V. To specify single phase, 240V up to 2.2 KW only use 'E' E.g. P6-060-E09. Note: All electric motors conform to IE3 requirements.

PUMP MOTOR SELECTION

PUMP	(CC/REV)	PRESSURE - BARG								
		10	20	40	60	80	100	120	140	160
P30	**23.0** (34.5l/min @ 1500 rpm) **PC160-23W**	34 l/min 1.5 KW 90L Frame **P30-023-M08**	33.7 l/min 2.2 KW 100L Frame **P30-023-M09**	33 l/min 4.0 KW 112M Frame **P30-023-M11**	32.3 l/min 5.5 KW 132S Frame **P30-023-M12**	31.6 l/min 5.5 KW 132S Frame **P30-023-M12**	30.9 l/min 7.5 KW 132M Frame **P30-023-M13**	30.2 l/min 11 KW 160M Frame	29.5 l/min 11 KW 160M Frame **P30-023-M14**	28.8 l/min 11 KW 160M Frame
	30.0 (45 l/min @ 1500 rpm) **PC160-30W**	44.5 l/min 1.5 KW 90L Frame **P30-030-M08**	44.2 l/min 2.2 KW 100L Frame **P30-030-M09**	43.5 l/min 4.0 KW 112M Frame **P30-030-M11**	42.8 l/min 5.5 KW 132S Frame **P30-030-M12**	42.1 l/min 7.5 KW 132M Frame **P30-030-M13**	41.4 l/min 11 KW 160M Frame **P30-030-M14**	40.7 l/min 11 KW 160M Frame	40 l/min 15 KW 160L Frame **P30-030-M15**	39.3 l/min 15 KW 160L Frame
	35.0 (52.5 l/min @ 1500 rpm) **PC160-35W**	52 l/min 1.5 KW 90L Frame **P30-035-M08**	51.7 l/min 4.0 KW 112M Frame **P30-035-M11**	51 l/min 5.5 KW 132S Frame **P30-035-M12**	50.3 l/min 7.5 KW 132M Frame **P30-035-M13**	49.6 l/min 11 KW 160M Frame **P30-035-M14**	48.9 l/min 11 KW 160M Frame	48.2 l/min 15 KW 160L Frame **P30-035-M15**	47.5 l/min 15 KW 160L Frame	46.8 l/min 18.5 KW 180M **P30-035-M16**
P60	**51.0** (76.5 l/min @ 1500 rpm) **PC160-51W**	76 l/min 2.2 KW 100L Frame **P60-051-M09**	75.5 l/min 4.0 KW 112M Frame **P60-051-M11**	75 l/min 7.5 KW 132M Frame **P60-051-M13**	74.5 l/min 11 KW 160M Frame **P60-051-M14**	73.5 l/min 15 KW 160L Frame **P60-051-M15**	72.5 l/min 15 KW 160L Frame	71.5 l/min 18.5 KW 180M Frame **P60-051-M16**	70.5 l/min 22 KW 180L Frame **P60-051-M17**	69.5 l/min 30 KW 200L Frame **P60-051-M18**
	63.0 (94.5 l/min @ 1500 rpm) **PC160-63W**	94 l/min 4.0 KW 112M Frame **P60-063-M11**	93.5 l/min 5.5 KW 132S Frame **P60-063-M12**	93 l/min 11 KW 160M Frame **P60-063-M14**	92.5 l/min 15 KW 160L Frame **P60-063-M15**	91.5 l/min 15 KW 160L Frame **P60-063-M15**	90.5 l/min 18.5 KW 180M Frame **P60-063-M16**	89.5 l/min 22 KW 180L Frame **P60-063-M17**	88.5 l/min 30 KW 200L Frame **P60-063-M18**	87.5 l/min 30 KW 200L Frame **P60-063-M18**
	70.0 (105 l/min @ 1500 rpm) **PC160-70W**	104.5 l/min 4.0 KW 112M Frame **P60-060-M11**	104 l/min 5.5 KW 132S Frame **P60-070-M12**	103.5 l/min 11 KW 160M Frame **P60-070-M14**	103 l/min 15 KW 160L Frame **P60-070-M15**	102 l/min 18.5 KW 180M Frame **P60-070-M16**	101 l/min 22 KW 180L Frame **P60-070-M17**	100 l/min 30 KW 200L Frame **P60-070-M18**	99 l/min 30 KW 200L Frame	98 l/min 37 KW 225S Frame **P60-060-M19**

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PUMP MOTOR SELECTION									
PUMP	**(CC/REV)**	**PRESSURE - BARG**							
		10	**20**	**40**	**60**	**80**	**100**	**120**	**140**	**160**
P180	**135** (202.5 l/min @ 1500 rpm) **PC160-135W**	201 l/min 7.5 KW 132M Frame **P180-135-M13**	200.5 l/min 11 KW 160M Frame **P180-135-M14**	199.5 l/min 18.5 KW 180M Frame **P180-135-M16**	198.5 l/min 30 KW 200L Frame **P180-135-M18**	196.5 l/min 30 KW 200L Frame	194.5 l/min 45 KW 225M Frame **P180-135-M20**	192.5 l/min 55 KW 250M Frame **P180-135-M21**	189.5 l/min 55 KW 250M Frame	186.5 l/min 75 KW 280S Frame **P180-135-M22**
	180 (270 l/min @ 1500 rpm) **PC160-180W**	269 l/min 7.5 KW 132M Frame **P180-180-M13**	268 l/min 15 KW 160L Frame **P180-180-M15**	267 l/min 30 KW 200L Frame **P180-180-M18**	266 l/min 37 KW 225S Frame **P180-180-M19**	264 l/min 45 KW 225M Frame **P180-180-M20**	262 l/min 55 KW 250M Frame **P180-180-M21**	260 l/min 75 KW 280S Frame **P180-180-M22**	257 l/min 75 KW 280S Frame	254 l/min 90 KW 280M Frame **P180-180-M23**
	225 (337.5 l/min @ 1500 rpm) **PC160-225W**	336.5 l/min 11 KW 160M Frame **P180-225-M14**	336 l/min 18.5 KW 180M Frame **P180-225-M16**	335.5 l/min 30 KW 200L Frame **P180-225-M18**	333.5 l/min 45 KW 225M Frame **P180-225-M20**	331.5 l/min 55 KW 250M Frame **P180-225-M21**	329.5 l/min 75 KW 280S Frame **P180-225-M22**	327.5 l/min 75 KW 280S Frame	324.5 l/min 90 KW 280M Frame **P180-225-M23**	321.5 l/min 110 KW 315M Frame **P180-225-M24**

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The Water Hydraulics Co. Ltd.
Alexandra House, English Street, Hull, East Yorkshire, HU3 2DJ, United Kingdom.
Tel: +44 (0)1482 595000, E-Mail: sales@waterhydraulics.co.uk.
England Website: www.waterhydraulics.co.uk