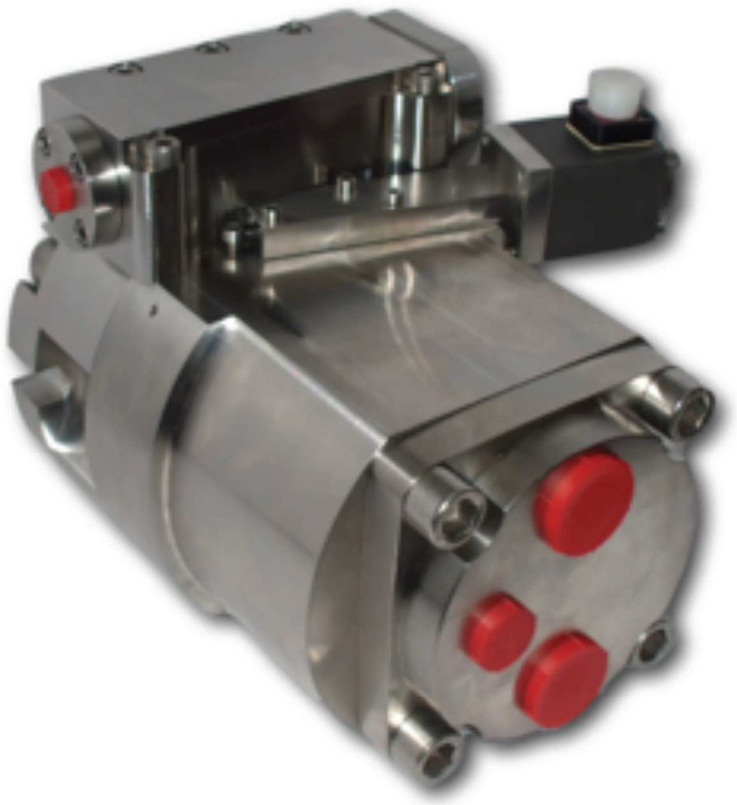
JANUS PUMPS

VARIABLE DISPLACEMENT

The Water Hydraulics Co. Ltd.



bsi ISO 9001 Quality Management Systems CERTIFIED

FM 87247

JANUS PUMPS

The Water Hydraulics Co. Ltd.

VARIABLE DISPLACEMENT

Totally oil free, clean and completely safe for people, processes and products. As a result of employing advanced materials, high velocity and loaded sliding surfaces, the unit can operate effectively with water as their only coolant/lubricant. The potential for cross contamination of the system fluid or the lubricating oil is removed. The result is an exceptionally small light weight product. Each bearing employs a hard/soft interface that minimises vibration and ensures a low noise and high efficiency operation.

Manufactured in 316 stainless steel as standard the product offers excellent resistance to corrosive fluids. The materials utilised internally can be selected to suit the most appropriate combinations for not just tap water but also sea water and various other fluids. Driven direct by a 4 pole synchronous motor; the output flow of the pump can be varied between zero and maximum displacement controlled by electrical, hydraulic or mechanical means.

SPECIFICATION			
Variable Pumps		**P60**	**P180**
Displacement (cc/rev)	Max:	70.0	225.0
	Min:	1.0	1.0
Max. RPM	Boosted: *	1750	1750
Max. Input Power (kW)		32	105
Max. Water Flow (l/min)		122	390
Max. Cont. Pressure (Barg)		160	160
Weight (kg)		40	95
Temperature (°C)	Max: **	50	50
	Min: ***	2	2

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

Motor Pump Assemblies

A standard range of bell housings and couplings are available for connecting the pumps to the B5 electric motor flange. See our Pick-A-Pack datasheet for further information on potential combinations. The pumps are not capable of operating with induced axial or radial loads on the output shaft; always adopt the use of a 3 part gear style coupling where possible. If the drive shaft/spigot location is within 0.05mm concentricity, direct inline drive assemblies are permissible.

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.

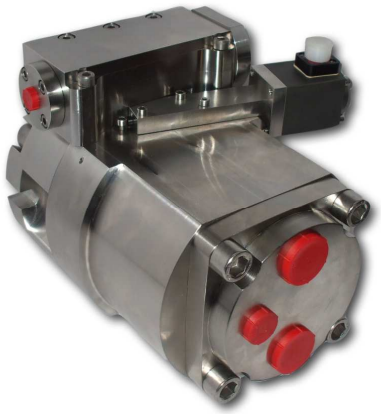
JANUS PUMPS

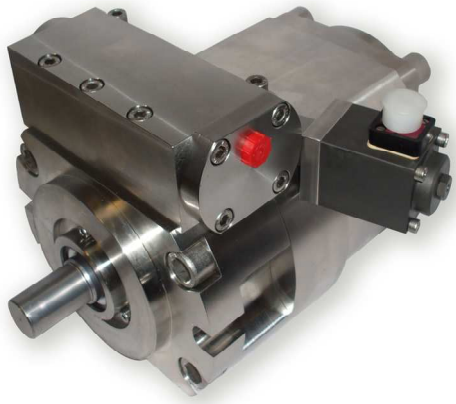
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Fluid

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.





Displacement Control

Electronic:
By a high accuracy, linear stepper motor drive. The actuator positions the servo valve which in turn controls the angle of the swash plate accurately via a mechanical feedback to the control piston. See ST5 actuation data sheet for control techniques including open and closed loop.

Hydraulic:
By constant pressure control, the output of the pump will be matched to the system demand by automatically trimming the displacement as a function of the system pressure. The pump defaults to maximum flow and as the pressure increases to the set level the output is reduced. Setting of the required pressure is achieved by adjustment of a thumb wheel mounted on the control valve body. By load sensing control, the output will be trimmed to offer the flow required by actuator making it a very efficient form of control.

Mechanical / Manual:
By a manual hand wheel.

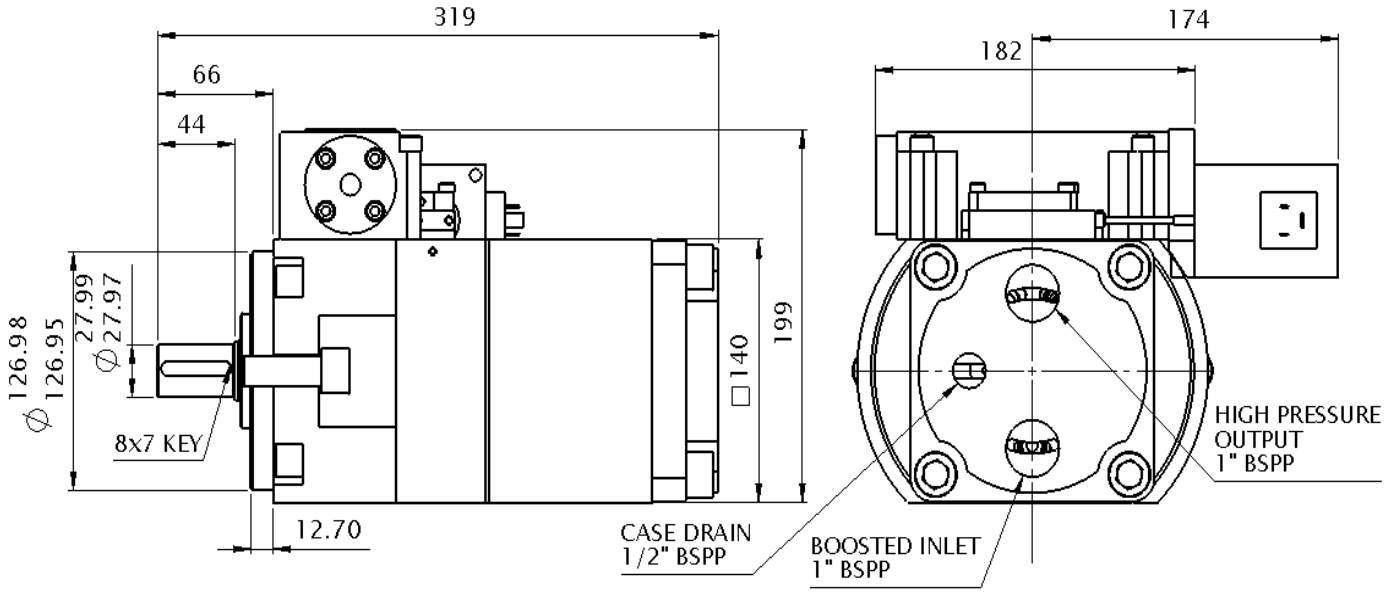
ORDERING CODES		
	Maximum Flow @ 1500 Rpm (l/min)	Maximum Power @ 160 Bar
P60 PV160-70W	110	29 kW
P180 PV160-180W	330	88 kW

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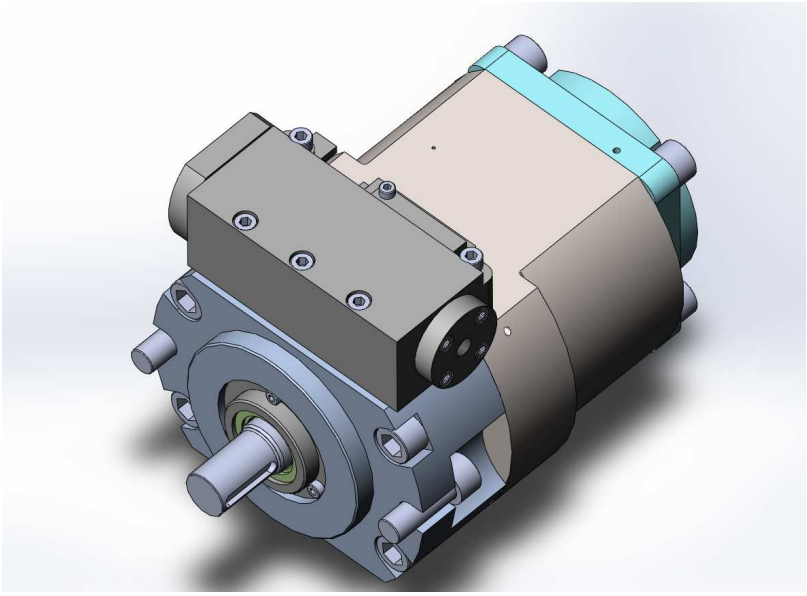
VARIABLE DISPLACEMENT

P60

PV160-70W



Proportional coil actuation version shown

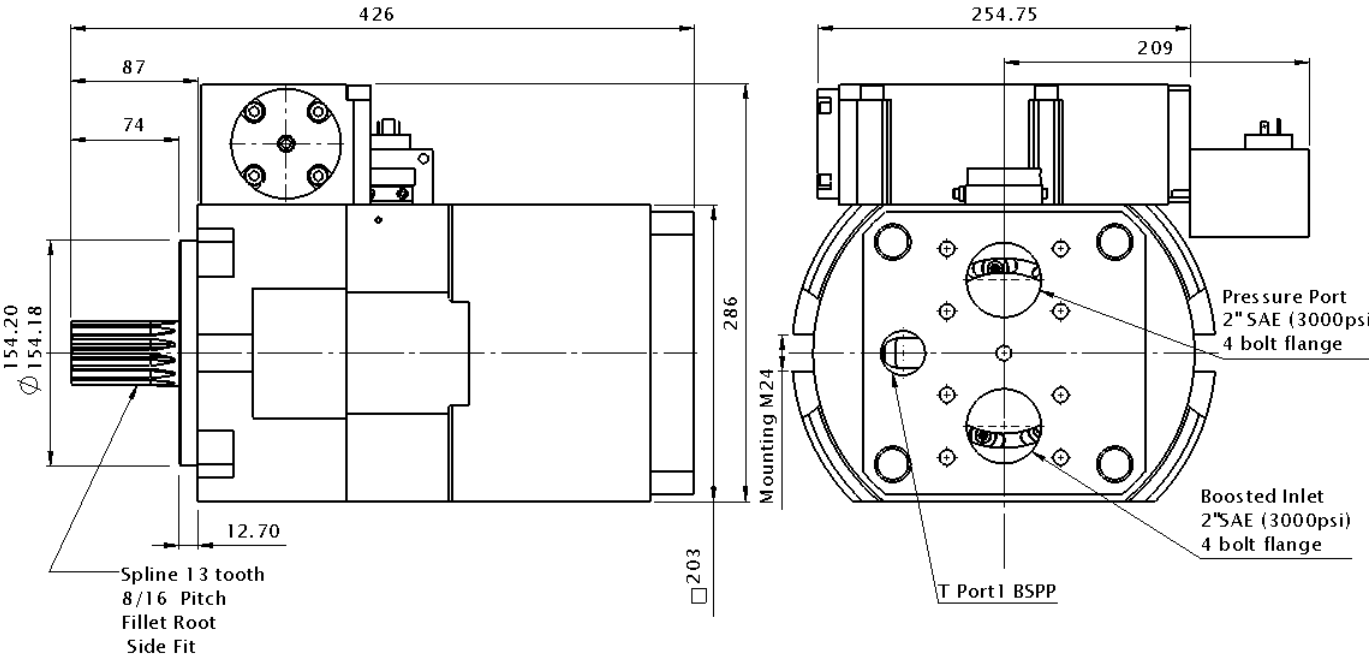


JANUS PUMPS

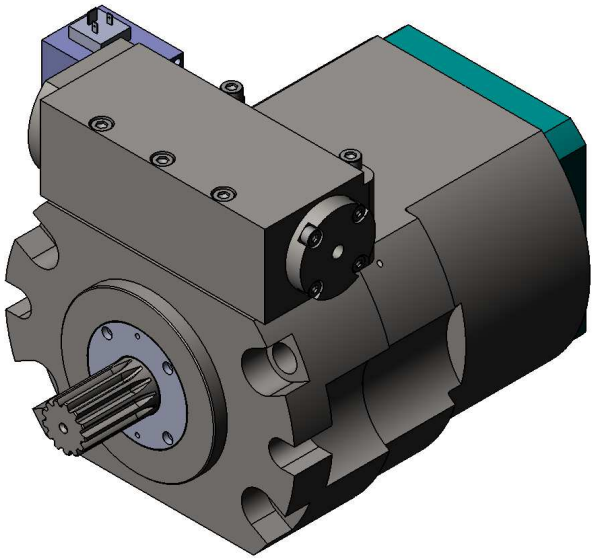
VARIABLE DISPLACEMENT

P180

PV160-225W



Proportional coil actuation version shown



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