

## PR+ REVERSING DC HYDRAULIC POWER UNIT

Backed with over 30 years of continuous development the new PR+ range of reversing pumps presents the ultimate in quiet and smooth operation. Unlike noisy piston pump designs the precision gear form delivers smooth flow in all conditions and with minimal noise. Now with IP67 motors that have a 4000 hour brush life these latest generation of Hydraulic Projects power units are the best available.



### Description

A DC motor driven precision gear pump available with a range of flows from 0.6 to 2.5 L/min. Each pump is fitted with zero-leakage pilot check valves for positive locking of attached cylinders. The two service ports and reservoir port are mounted on the front of the pump. The threads are G1/4 (BSP) parallel. There is an optional second reservoir port on the top face accessed via a removable plug. Relief valves to limit the maximum pressure generated are available as an option.

The motors are maintenance free with internal brushes giving typically a 4000+ hour life. The front and rear bearings are sealed ball races for smooth and quiet operation. They have an Ingress Protection rating of IP67.

The pumps are sealed on the driven gear journal allowing the motors to be removed without air entering the hydraulic circuit. This feature also facilitates the fitting of users own motors with a suitable adaptor.

### Application

Designed specifically for the marine autopilot market they are used by the worlds leading autopilot manufacturers. They can be used with balanced or unbalanced cylinders.

A selection guide for matching the drives to hydraulic steering cylinders is available on our website.

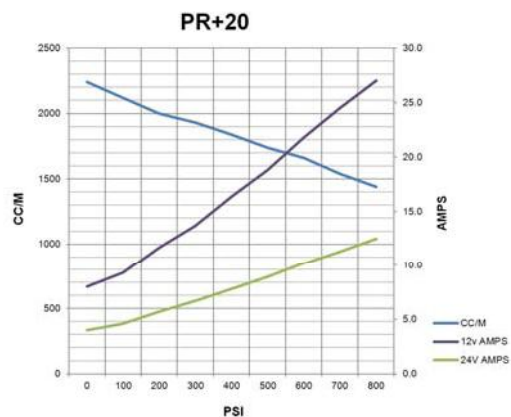
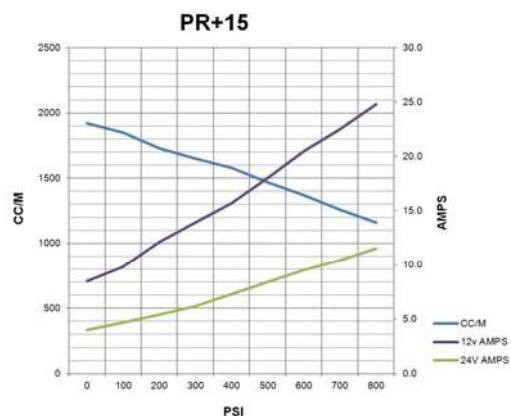
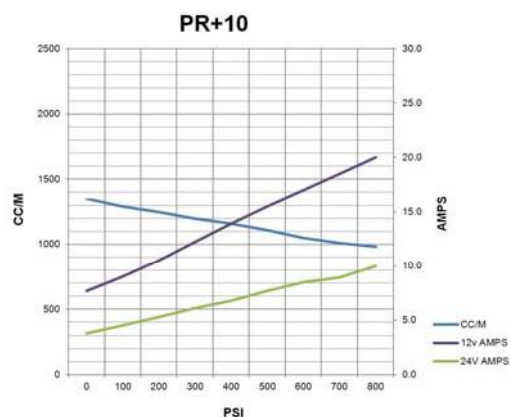
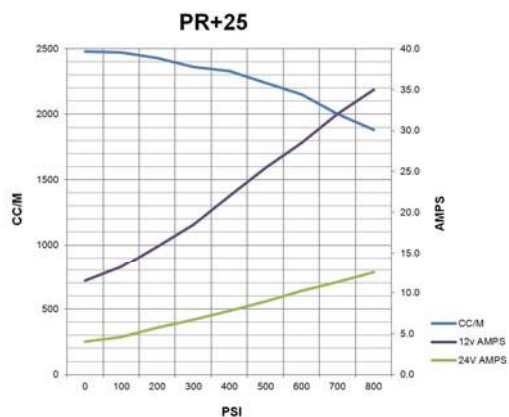
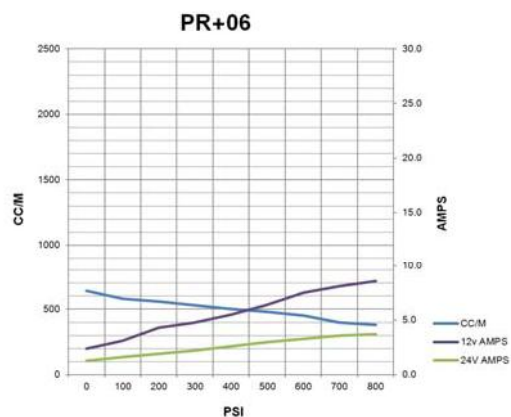
Due to their low noise and excellent performance they have found uses in many other and varied applications from window openers to sports car suspension lifters.

### Features

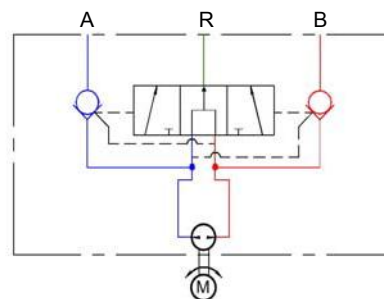
- Quiet and smooth operation
- Low power consumption.
- Zero back drive check valves.
- 5 output options
- 12 and 24v D.C options.
- Relief Valve option.
- Port options.
- Compact size.
- Easy installation.
- G1/4 (BSP) ports (with NPTF adapter kits available).
- Service kits available.
- Cylinders and hose kits supplied to suit.

## Performance Graphs

Typical characteristics  
Q8 Auto 15 oil @ 25°C



## Circuit Diagram



## Technical data

Voltage	12 / 24 VDC			
Current	Typical amp-hour		Typical current	
	5 bar at 25% duty		Intermittent 55 bar max	
	12v	24v	12v	24v
PR+06	0.9	-	9.0	-
PR+10	2.2	1.0	19.0	9.0
PR+15	2.4	1.2	24.0	11.0
PR+20	2.5	1.3	25.0	12.0
PR+25	2.7	1.4	34.0	15.5

Ingress Protection	IP67
EMC Protection	BS EN 60945:2002 (DC)
Ignition protection	BS EN 28846:1993

Ambient operating Temperature	-15 to +55 deg C
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Max Pressure	55 bar (intermittent operation)
Reservoir line	2 bar Max

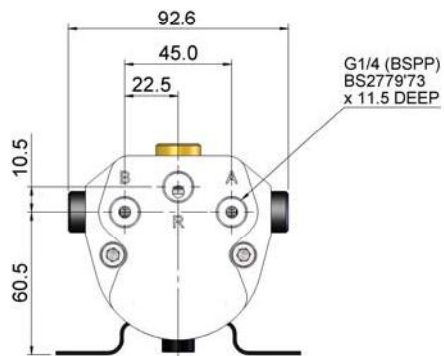
Ports	G1/4 (BSPP) Parallel
	A = ram port
	B = ram port
	R = reservoir port

Rotation	Red lead to - positive Pressure to A port
	Black lead to positive - Pressure to B port

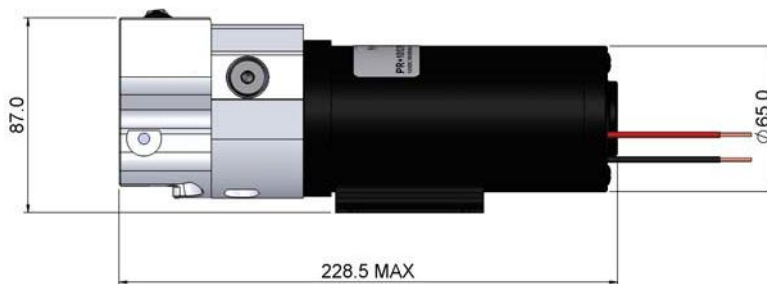
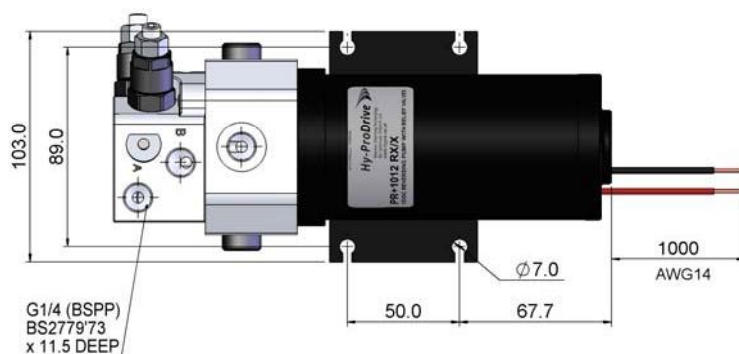
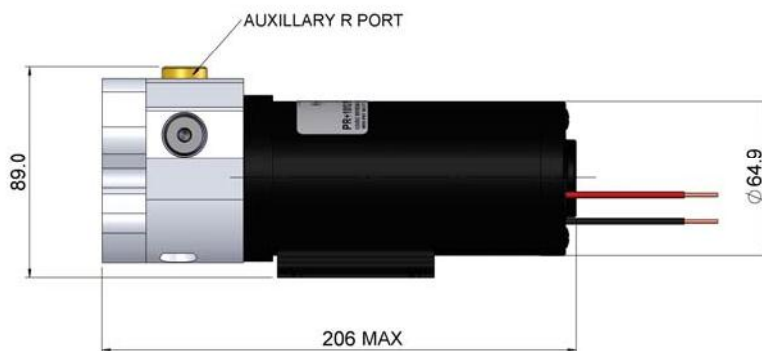
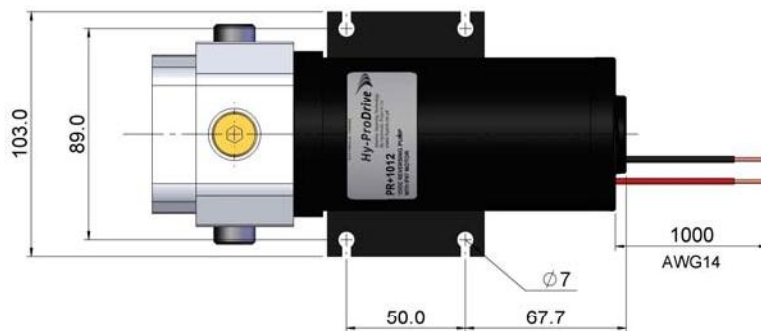
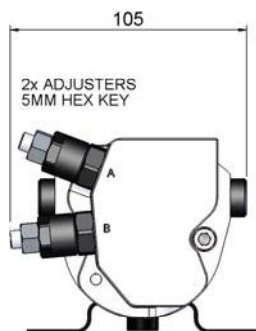
Hoses	Suitable for working pressure 55 bar.
	Minimum burst pressure 100 bar.

Fluid	ISO VG10 to VG40 Hydraulic mineral fluid meeting ISO 6743-4 HV
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## Installation Dimensions



RELIEF VALVE OPTION  
INDEPENDANT ADJUSTMENT  
ON EACH PORT  
RANGE 15-60 BAR



## Order Codes

REVERSING PUMP	<input type="checkbox"/> P R+	<input type="checkbox"/> 10	<input type="checkbox"/> 24	<input type="checkbox"/>
OUTPUT CC/M				RELIEF VALVES
600	<input type="checkbox"/> 06			<input type="checkbox"/> NO RELIEF VALVE
1000	<input type="checkbox"/> 10			<input type="checkbox"/> RX/X
1500	<input type="checkbox"/> 15			RELIEF-VALVE SETTING 15-60 BAR
2000	<input type="checkbox"/> 20			A PORT / B PORT
2500	<input type="checkbox"/> 25			STATE REQ'D SETTING
			MOTOR VOLTAGE	
			<input type="checkbox"/> 12 12VDC	
			<input type="checkbox"/> 24 24VDC	