

Small Yacht & Pleasure Craft Steering

Reversing Pumpset HPU 50/100

The HPU 50/100 constant flow reversing pumpsets are suitable for light duty applications. The pumpsets are switched on and off by the automatic pilot system and depending on the direction of flow, deliver oil either to the port or starboard side of the cylinder. The flow output of the pumpset is fixed. The HPU 50/100 is easy to install in most cases.



Design Features

- Operates on a 12 or 24 V supply. (At time of order the correct voltage must be specified.)
- Max pressure: 500-to 750 PSI (depending on current draw).
- Built in lockvalve to prevent hydraulic feedback from the rudder or helm.
- All connecting ports to hydraulic lines are 1/2" NPT.
- The pumpset consists of a rugged 2 wire permanent magnet motor with exchangeable brushes directly coupled to the gear pump.

For further details please consult the technical manual MAN 00502

Part number	Description	Displ in ³ /min	Volt DC	Amp no load	Fuse rating	Weight Lbs(Kg)
JA-501002-10	HPU 50 pumpset *	50	12	4	15	7.4 (3.4)
JA-501002-20	HPU 50 pumpset *	50	24	2	10	7.4 (3.4)
JA-501003-10	HPU 100 pumpset *	100	12	6	15	7.4 (3.4)
JA-501003-20	HPU 100 pumpset *	100	24	4	10	7.4 (3.4)

(* see pump set comparison)

Yacht & Light Commercial Steering

Reversing Pumpset HPU 170

The HPU 170 is more durable than traditional autopilot pumpsets, but less expensive than heavy-duty commercial power units. Switched on and off by the automatic pilot system, which controls the direction of flow, the HPU 170 delivers oil to either the port or starboard side of the cylinder causing the rudder to turn and the vessel to steer. Designed for medium duty applications on boats up to 50' the HPU 170, in many cases, will be just the right combination of rugged design and compact size.



Design Features

- Available in 12 or 24 VDC versions (voltage must be specified at time of order).
- Adjustable flow from 0 –170 in³ / min.
- Built-in pressure relief, factory set at 500 psi.
- Built-in lock valve prevents hydraulic feedback from the rudder or helm.
- All connecting ports to hydraulic lines are ¼" NPT for easy installation.
- Rugged, ball bearing equipped motor and pump are connected via a 4-bolt flange arrangement and a heavy-duty aluminum shaft coupling.
- The pumpset consists of a rugged 2 wire permanent magnet motor with replaceable brushes, directly coupled to the piston pump.
- The complete pumpset is fitted with vibration foot mounts for quieter operation.

For further details please consult the technical manual MAN 00503.

Part number	Description	Displ in ³ /min	Volt DC	Amp no load	Fuse rating	Weight Lbs (Kg)
JA-501004-10	HPU 170 pumpset *	0 - 170	12	5	15	7.4 (3.4)
JA-501004-20	HPU 170 pumpset *	0 - 170	24	3	10	7.4 (3.4)

(* see pump set comparison)

Yacht & Commercial Steering **Constant Running Pumpset HPU 180**

The HPU 180 continuous running adjustable flow pump set is suitable for medium duty applications on vessels up to 50'. Upon activation by the helmsman the pumpset's electric motor will run constantly. When it receives a port or starboard command from the autopilot the attached 4-way directional solenoid valve diverts oil to the appropriate actuator ports.



Design Features

- Available in 12 or 24 VDC supply (voltage must be specified at time of order).
- Adjustable flow between 0 –170 in³/min.
- Built-in pressure relief, factory set at 500 psi.
- Built-in lock valve to prevent hydraulic feedback from rudder or helm.
- All connecting ports to hydraulic lines are 1/4" NPT for ease of installation.
- Rugged, ball bearing equipped motor and pump are connected via a 4-bolt flange arrangement and a heavy-duty aluminum shaft coupling.
- The pump set consists of a rugged 2 wire, permanent magnet motor with exchangeable brushes, directly coupled to piston pump.
- Electrical junction box with start relay, thermal breaker and oversized terminal strips for easy electrical connections.
- The pump set is fitted with vibration foot mounts for quieter operation.

For further details please consult the technical manual MAN 00504.

Part number	Description	Displ in ³ /min	VDC	Amp no load	Fuse rating	Lbs (Kg)
JA-501005-11	HPU 180 pumpset	180	12	7	20	10 (4.5)
JA-501005-22	HPU 180 pumpset	180	24	4	15	10 (4.5)

(* see pump set comparison)

Yacht & Commercial Steering **Constant Running Pumpset** **HPU 350/450/700**

The HPU 350/450/700 continuous running, adjustable flow, two-speed pumpset is suitable for heavy-duty applications on vessels up to 125'. From the point when the switched power from the autopilot starts the pumpset the electric motor will run constantly. Upon receiving a port or starboard command from the autopilot the attached 4-way directional solenoid valve diverts oil to the appropriate actuator ports. At time of order the correct voltage must be specified.



Design Features

- Adjustable flow, continuous running pumpset.
- The electric motor is a heavy-duty unit sized for long life and efficient operation. It is available in 12, 24 or 32VDC along with most AC voltages. (note: voltage must be specified at time of order.)
- The motor drives a compact rugged gear pump through a machined adapter and flexible steel coupling.
- The oil from the gear pump flows into a hydraulic manifold. The manifold features: a high pressure filter, pressure relief, two speed solenoid valve, independent low and high speed flow adjustments and a four-way directional valve.
- The unit is supplied complete with an electrical junction box with start relay, thermal breaker, and oversized terminal strip for easy electrical installation.
- All connecting ports to hydraulic lines are ORB ports with NPT adapters.

For further details please consult the technical manual MAN 00501.

Part number	Description	Displacement in3/min	Volt DC	Weight Lbs (Kg)
JA-501006-xy	HPU 350 pumpset	0 - 350	Specify	65 (30)
JA-501007-xy	HPU 450 pumpset	0 - 450	Specify	65 (30)
JA-501008-xy	HPU 700 pumpset	0 - 700	Specify	65 (30)

(* see pump set comparison)

Yacht & Commercial Steering **Reversing Pumpset Driver RPD 300**

The RPD 300 is an H-Bridge Motor drive intended for use with marine autopilots or other small electric motor based control systems. This unit is compatible with 12 VDC and 24 VDC motors rated up to 100 watts (1/8 HP) and is capable of delivering up to 300 watts to handle motor starting currents. Dynamic braking forces the motor to stay stopped when no drive signal is applied. The unit features an overload shut-off, which cuts off drive to the motor if the current rises to an unsafe level such as when the vessel rudder is forced against the stops. The overload protection is reset, by simply removing the drive signal from the input of the unit.



This unit is activated by a switched power or clutch drive output which “turns on” the electronic circuits. The port and starboard inputs from the autopilot must be switched “low” to activate the motor.

Design Features

- Supply voltage: 10 – 30 VDC.
- Supply fuse: AGC 25A (fuse will blow if supply reversed).
- Motor output: 300 watts (25 amps @ 12 VDC or 12.5 amps @ 24 VDC).
- Dynamic braking: both motor outputs switched low when no input applied & enable input is high.
- Port and starboard inputs: active low (switch to ground to activate motor).
- Enable input: active high (switch to 10 - 30 VDC to activate motor drive).
- Temperature range: 0 - 40 deg C.

Part number	Description	Lbs (Kg)
JB-814047	RPD 300 reversing pumpset driver	1.0 (0.5)

Comparison Chart by Manufacturer

Pump Sets

Jastram	Accusteer	ComNav	Octopus	Teleflex	Wagner
HPU 50	HRP-10	15C1	1212 / 1224	AP 1903/6	-
HPU 100	HRP-16	25C1	2012 / 2024	AP 1904/7	-
HPU 170	HRP 75	60C1	-	AP 1905/8	PV100/125/140
HPU 180	HPU 75	CRA-03	CR 03	-	-
HPU 230	HPU 100	-	-	-	Type 2A
HPU 350	HPU 150	-	CRB 06	-	Type 2A
HPU 450	HPU 200	-	CRB 08	-	Type 2A
HPU 700	HPU 300	-	CRB 10	-	Type 2A

(see below performance chart for actual comparison)

Performance Chart

Jastram	Part number	Displ in3/min	Volt	Amp	fuse rating	pump
HPU 50	JA-501002-10	50	12 DC	4	15	a,c
HPU 50	JA-501002-20	50	24 DC	2	10	a,c
HPU 100	JA-501003-10	100	12 DC	6	15	a,c
HPU 100	JA-501003-20	1006	24 DC	4	10	a,c
HPU 170	JA-501004-10	0-170	12 DC	5	15	b,c
HPU 170	JA-501004-20	0-170	24 DC	3	10	b,c
HPU 180	JA-501005-11	0-180	12 DC	7	20	b,d
HPU 180	JA-501005-22	0-180	24 DC	4	15	b,d
HPU 230	JA-501009-xy	0-230	12 - 220	40,20,20,10,5	50,25,25,15,10	b,d,e
HPU 350	JA-501006-xy	100-350	12 - 220	40,20,20,10,5	50,25,25,15,10	b,d,e
HPU 450	JA-501007-xy	100-450	24 - 220	20,20,10,5	25,25,15,10	b,d,e
HPU 700	JA-501008-xy	100-700	110 - 440	25,13	30,20	b,d,e

x = MOTOR voltage

1=12vdc, 2=24vdc, 3=32vdc, 4=110vac, 5=220vac

y = SOLENOID Voltage

1=12vdc, 2=24vdc, 3=32vdc, 4=110vac, 5=220vac

a = constant flow

b = adjustable flow

c = reversing

d = continuous

e = two speed, both adjustable