Whisperpak® Hydraulic Power Supplies

Acoustically treated, best in class submerged hydraulic power supplies

The Bia West WhisperPak series pumps are **acoustically treated laboratory quality hydraulic power supplies** designed to meet the exacting requirements of servo-hydraulic control systems. These power supplies utilize quality components and micro-clean filtration to provide **trouble-free long life with minimum maintenance**. A complete system of interlocks and controls allow failsafe unattended continuous operation. Low noise level and leak-free components allow placement directly in the laboratory next to the test equipment. These pumps are ideal when hydraulic power is needed close to the test machine and the cost of installing a large, centralized pumproom based HPS is impractical or too expensive.

The industry-leading low noise level of these pumps is achieved using inherently quiet components and insulated cabinetry, and **submerged pump/motor units** inside the stainless-steel hydraulic oil tank. The pumping assembly is mounted with isolators in a **completely sealed, acoustically treated enclosure** to eliminate airborne noise and prevent heat discharge into the surrounding environment. Output is connected through low velocity flexible hoses to a piping interface manifold. All high-pressure connections utilize o-ring fittings or welded joints to eliminate external oil leaks. Units range in size from 7.5 gpm to 180 gpm (30 lpm to 700 lpm) . Standard units are wired for 380/460 VAC, 3 phase, 50/60 Hz. Other voltages and frequencies are available.

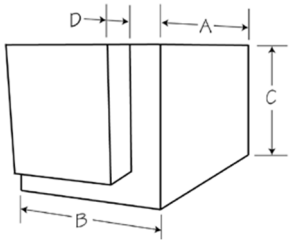
Others have found that using a submerged-pump configuration can lead to overheating oil when the system flow demands are low. To solve this problem, we have developed a **unique and very reliable solution**. By installing a **through-drive on the pump**, we can run a **second small pump in series**, which is dedicated to **circulating oil through a cooling and filtering circuit**. This ensures that the oil maintains a **stable temperature** regardless of demand and **is kept cleaner** by filtering through a kidney-loop. This is a more efficient than the bypassing approach taken by our competitors.

Features

- Easy maintenance and accessibility. Access doors on the side and top provide access to filtration, cooling, and pressure controls. The reservoir has a full-size removable top with unrestricted access for maintenance.
- Reduced vibration. The pump-motor assembly is shock mounted inside the reservoir and is soft connected by hoses to prevent mechanical excitation of the surrounding structure.
- Ease of installation. Smaller sizes are portable with swivel casters standard. Larger units are skid mounted with forklift access for ease of handling. All oil and water connections are located together on one end of the unit, specified at order.
- High-capacity water cooling. A water flow modulating valve monitors reservoir temperature and minimizes flow. The heat exchanger is over-sized to reduce water consumption while dissipating full system heat load.
- High-capacity filtration system. Designed to achieve ISO 14/11 cleanliness level consistent with the protection of critical servo components. A one micron filter polishes the kidney loop flow and a full-flow filter with a three micron replaceable element is provided on the pump discharge.
- Controls. Controls and motor starter are mounted in a NEMA 12 oil-tight enclosure located on the end of the unit. They include control power, emergency stop, main pump stop/start, low/high pressure switches, run-time hour meter, and indicator lights for low oil level, filter dirty, and oil over temperature.

Options

- Special operating conditions. Systems with operation to 5,000 psi (345 bar) available.
- Special Fluids. Pumps for special fluids are available on request
- Increased flow options. Larger units can be plumbed in parallel to provide increased total flow capabilities. Total flow capacities are in increments of 60 gpm.
- Run On Demand (ROD) PLC control system. Using a flow meter to monitor demand, the next pump is brought online or switched from idle to run mode when needed. Control algorithms allow proper timing for adding and reducing pump capacity avoiding instability or low frequency oscillations in the system. The system monitors pump hours and brings units on-line in a rationalized sequence to distribute the wear.



Model	A	B	C	D	Weight
107	40 inch (1016 mm)	28 inch (711 mm)	36.8 inch (933 mm)	10.5 inch (266 mm)	1200 lbs (545 kg)
112	40 inch (1016 mm)	28 inch (711 mm)	36.8 inch (933 mm)	10.5 inch (266 mm)	1200 lbs (545 kg)
120	48 inch (1219 mm)	34 inch (864 mm)	44.1 inch (1119 mm)	12.5 inch (317 mm)	3400 lbs (1545 kg)
130	48 inch (1219 mm)	34 inch (864 mm)	44.1 inch (1119 mm)	12.5 inch (317 mm)	3400 lbs (1545 kg)
160	58 inch (1473 mm)	42 inch (1067 mm)	66 inch (1676 mm)	14.5 inch (368 mm)	5000 lbs (2270 kg)
1120	70 inch (1778 mm)	58 inch (1473 mm)	60 inch (1524 mm)	14.5 inch (368 mm)	6500 lbs (2950 kg)
1180	92 inch (2337 mm)	58 inch (1473 mm)	60 inch (1524 mm)	14.5 inch (368 mm)	9700 lbs (4400 kg)

60 Hz Specifications

Model	Flow (gpm)	Pressure (psi)	Sound Level (dBA)	Pressure	Return	Drain	Cooling Water	Water Flow (gpm)	Max Water Temp. (F)
107	7.5	3,000	58	SAE Male -8	SAE Male -8	SAE Male -6	NPT 1/2 inch	3.5	80
112	12	3,000	60	SAE Male -8	SAE Male -8	SAE Male -8	NPT 1/2 inch	6	80
120	20	3,000	63	SAE Male -16	SAE -16	SAE Male -8	NPT 3/4 inch	10	80
130	30	3,000	63	SAE Male -16	SAE -16	SAE Male -8	NPT 3/4 inch	15	80
160	60	3,000	68	SAE Flange 1 1/4 inch	SAE Flange 1 1/4 inch	SAE Male -12	NPT 1 inch	30	80
1120	120	3,000	70	SAE Flange 1 1/2 inch	SAE Flange 2 1/2 inch	SAE Male -12	ANSI 150 lb 2 inch	60	80
1180	180	3,000	72	SAE Flange 2 inch	SAE Flange 2 1/2 inch	SAE Male -12	ANSI 150 lb 2 inch	90	80

50 Hz Specifications

Model	Flow (lpm)	Pressure (bar)	Sound Level (dBA)	Pressure	Return	Drain	Cooling Water	Water Flow (lpm)	Max Water Temp. (C)
107	23	210	58	SAE Male -8	SAE Male -8	SAE Male -6	NPT 1/2 inch	13	27
112	38	210	60	SAE Male -8	SAE Male -8	SAE Male -8	NPT 1/2 inch	19	27
120	63	210	63	SAE Male -16	SAE -16	SAE Male -8	NPT 3/4 inch	30	27
130	95	210	63	SAE Male -16	SAE -16	SAE Male -8	NPT 3/4 inch	50	27
160	190	210	68	SAE Flange 1 1/4 inch	SAE Flange 1 1/4 inch	SAE Male -12	NPT 1 inch	95	27
1120	380	210	70	SAE Flange 1 1/2 inch	SAE Flange 2 1/2 inch	SAE Male -12	ANSI 150 lb 2 inch	190	27
1180	570	210	72	SAE Flange 2 inch	SAE Flange 2 1/2 inch	SAE Male -12	ANSI 150 lb 2 inch	280	27