

3-Function High Flow Valve Pack with Pump Unloader

The 07-8000042 3-function valve pack was developed to support medium flow tooling use cases (i.e. HLK-33600 rotary cutter) when driven from the HPU's containing fix displacement pumps. Specific to this use variant, a solenoid-operated poppet valve is integrated to short the pressure and return galleries together when the HPU is idling. This helps to minimise the duration the HPU delivers fluid across the pressure relief valve, in effect unloading the HPU in the idle state.

An additional variant (07-8000041) was created to remove the pump-unloading valve for use cases where the valve pack is powered from an HPU containing a variable displacement pressure compensated pump.

All three solenoids are cavity 10 bi-directional solenoid operated spool valves offering a flow of up to 20lpm @ 207bar per valve. Each work port has a dedicated flow control valve configured for a "meter-in" flow arrangement i.e. throttling flow on its return from the actuator and into the manifold.

The main connection point is via a 16 pin MCIL16M bulkhead and allows for direct integration to all Hydro-Lek subsea pod variants with no extra effort.



Features:

- Three 20 lpm bi-directional solenoid operated flow control valves
- Maximum gallery flow rate of 28 lpm
- Integrated solenoid operated poppet valve to unload pressure gallery for fixed displacement pump HPUs
- Two unloader configurations available: With unloader or cavity blanked
- Integrated "meter-in" flow control valves on each work port

Technical Specifications

General

Type of Valve Pack	3 Function General Purpose Medium Flow Tooling Pack with Pump Unloader
Valve Type	4/3 DCV Solenoid Spool Cartridge
Materials	6082 Aluminium
Seal Materials	Nitrile/NBR/Buna-N, PTFE
Product Finish	Hard Anodised
Pressure Gallery Ports	1/2"-20 UNF (SAE J1926-1)
Return Gallery Ports	9/16"-18 UNF (SAE J1926-1)
Work Ports	7/16"-20 UNF (SAE J1926-1)
Compensation Ports	G1/4" (ISO 1179)
Dimensions	(W) 220mm x (H) 262mm x (D) 92mm (8.7" x 10.3" x 3.6")
Weight in Air	6.1kg (13.4lb)
Weight in Water	4.2kg (9.3lb)
Electrical Connector Type & Pin	Subconn MCBH16M 16 Pin

Hydraulic Requirements

Max. Working Pressure	207bar (3000psi)
Maximum Flow Per Valve	20lpm (5.3gpm) 0.24cc @ 0.4lpm (0.11gpm)
Maximum Flow Through Manifold	28lpm (7.4gpm)
Fluid Type	Mineral: HLP DIN 51524 Synthetic: Panolin Atlantis, HLP-Synth Contact Saab Seaeye Technical to discuss alternate fluid types
Viscosity	16cSt to 220cSt. VG 22-32 Recommended
Fluid Temperature	5-60°C (41-140°F)
Cleanliness Requirements	ISO 4406:17/15/12, NAS 1638:6, AS4059:7A/6B/6C

Electrical Requirements

Supply Voltage	24Vdc
Current Draw	4.1A Maximum (Three solenoid coils and one unloader coil)
Communications	Direct to Coil

Environmental

Operational Depth (msw)	3000msw (9,840ft)
Operating Temp (C)	5-60°C (41-140°F)
Storage Temp (C)	0-70°C (32-158°F)
Humidity (%)	0% to 100% Condensing