

HPCM-1-EX HYDRAULIC POWER CONTROL MODULE For HMB-4 Hydraulic Monitor

NDD310

- Marine Environment Compatible
- Explosion Proof Class 1 Group D
- Local Hydraulic Power Supply
- Wall of Tower Mounting Options Included
- Mounted in Close Proximity to Monitor
- Short Hydraulic Lines to Monitor Saves Time, Maintenance, and Horsepower Required



Description

The National Foam HPCM-1-EX Hydraulic Power Control Module is part of the HMB-4 Remote Controlled Monitor System. The HPCM-1-EX unit is the basic monitor power supply which controls the monitor elevation, rotation, and nozzle pattern. The unit converts the electric control signal from the Remote Electric Control (REC) to a hydraulic signal which actuates the monitor. The HPCM-1-EX is explosion proof and weather resistant for use in severe environments.

Features

- Completely self-contained hydraulic power and control unit
- Compact design for mounting in close proximity to monitor eliminates long hydraulic lines
- HPCM operating components encapsulated in weather-protective enclosure to minimize any corrosion and weather damage
- Standard Hydraulic Power Control Module (HPCM-1-EX) meets explosion-proof ratings of Class 1, Group D. Package is also designed for harsh environments

Applications

Part of HMB-4 Remote Control Monitor System, which in addition to the HPCM-1-EX hydraulic power control module consists of the following: the model HMB-4 remote control monitor (Data Sheet NDD300), the model REC remote

electric control station (NDD320), and if desired, the model MCM multiple control module (NDD330).

Specifications

The HPCM-1-EX unit is the basic monitor power supply which controls the monitor elevation, rotation, and nozzle pattern. The HPCM-1-EX shall have a hydraulic pump unit consisting of a positive displacement, rotary gear type pump rated at 1 gpm @ 1000 psi (3.79 lpm @ 68.9 bar) hydraulic pressure, direct coupled to a 1 hp, 1750 rpm, 3/60/230/460/600 explosion-proof (Class 1, Group D) motor. Pump and motor shall be mounted on a 3 gal. cast aluminum reservoir. Reservoir shall have a manifold block with discharge and return ports, insert type check valves in both discharge and return ports to maintain hydraulic oil in system, and a cartridge type hydraulic filter for the return line. All tube and fittings within the reservoir shall be type 316 stainless steel. The pump suction shall be complete with a suction strainer. The unit shall have a starter and solenoid assembly mounted in a cast aluminum, explosion-proof enclosure rated, NEMA 7 (Class I, Group D), NEMA 9 (Class II, Groups E & G); NEMA 3 (rain-tight) and NEMA 4 (watertight). The assembly shall consist of a magnetic, across the line motor starter, NEMA Size 00, with a 120V coil and class 20 overload heaters. A 500 VA, 1 phase, 230V, 460V or 600V to 120V step down transformer shall provide 120VAC for control circuit. Three wet armature, dual solenoid,

3 position, spring center, directional valves shall be provided to control the rotation, elevation, and nozzle functions of the monitor. Valves shall be mounted on a 3 station manifold block and the mounting face shall conform to the ISO 4401, size 3 standard. Manifold shall include a system relief valve and a restricting orifice for the monitor control circuit. All components shall be mounted in enclosure and all electrical components factory wired to a terminal block for field connection of control device(s). All hydraulic tubing within the enclosure shall be type 316 stainless steel. Six 3/8" AN flare tube connections shall be provided on the outside of the enclosure for connection of hydraulic monitor functions. A 300 watt anti-condensation heater shall be included. The pump assembly and the starter and solenoid assembly shall be mounted on a stainless steel back panel. The pump assembly pressure and return shall be connected to the starter and solenoid assembly via two 3/8" Teflon hydraulic hoses with stainless steel outer braid. The entire HPCM-1-EX shall be covered by a fiberglass enclosure to protect the unit from weather.

The unit shall be factory assembled and tested requiring only field connection of the power and control wiring. It shall be complete with mounting brackets and U-bolts for mounting on a 4" or 6" riser. Six 3/8" X 8' long, Teflon hydraulic hoses with stainless steel outer braid shall be included for connection of the HPCM-1-EX to the HMB-4 monitor.

HPCM-1-EX

HYDRAULIC POWER CONTROL MODULE

NDD310

Technical Data

Pump:

Positive displacement, rotary gear, 1 gpm @ 1000 psi hydraulic pressure (3.79 lpm @ 68.9 bar)

Directional Valves:

3 solenoids (monitor elevation, rotation, and nozzle pattern)

Electrical Data Motor:

1 hp, 1750 rpm, 3/60/230-460-600, 3/50/380-415 explosion-proof (Class 1, Group D). Approx. full load amp rating at 230V-3.6 amps, at 460V-1.8 amps, 600V-1.2 amps, 380V-2.3 amps, 415V-2.3 amps

Starter.....Magnetic, across the line
NEMA, Size 00, 120V coil

Solenoid valves (3) 1/60/120 VAC (1/50/110V dual rated)
Inrush Amps..... 2.4 per solenoid
Anti-condensation 120VAC, 300 watt w/thermostat
Control Transformer Step down, 230V 460V or 600V; 280V-415V to 120V, 1 phase, 500 VA

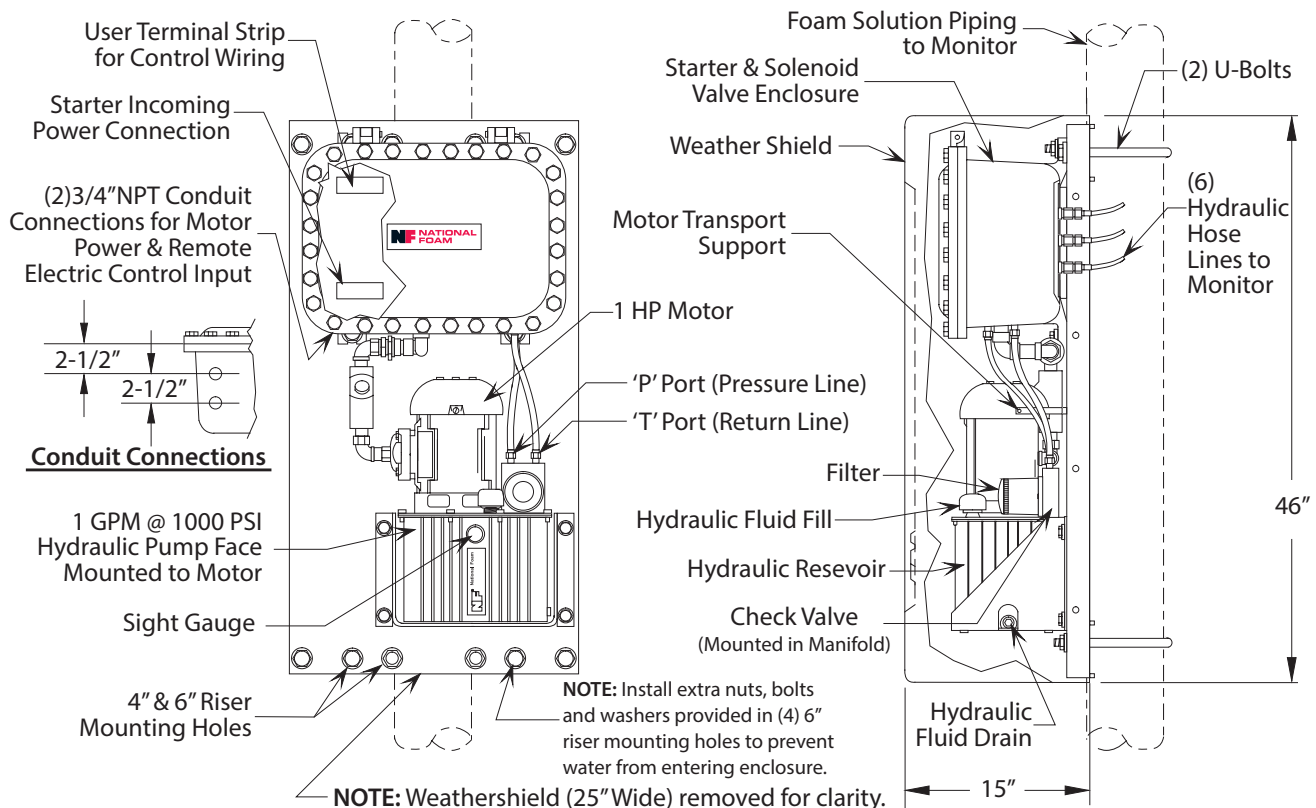
Enclosure Ratings:

Explosion-proof, NEMA 7 (Class I, Group D) and NEMA 9 (Class II, Groups E & G); NEMA 3 Rain-tight; NEMA 4 Watertight

Materials of Construction:

Reservoir Cast aluminum (hard-coat anodized)
Solenoid Enclosure Cast aluminum
Conduit Galvanized Steel

Conduit Fittings Aluminum, NEMA 7 (Class I, Group D)
Hydraulic Tubing Type 316 Stainless Steel, ASTM A276
Hydraulic Fittings..... Type 316 Stainless Steel, ASTM A276
Hardware..... Stainless Steel, ASTM A276 or Galvanized
Mounting Bracket..... Stainless Steel (300 Series)
Hydraulic Hoses 3/8" Teflon tube with Stainless Steel braid
Cover..... Fiberglass
Weight: 275 lbs. (124 kg)



HPCM-1-EX HYDRAULIC POWER CONTROL MODULE

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ORDERING INFORMATION

Part Number	Description	Weight
1237-4100-1	HPCM-1-EX Hydraulic Power Control Module, 3/60/230VAC	275 LB - 124 kg
1237-4100-2	HPCM-1-EX Hydraulic Power Control Module, 3/60/460VAC	275 LB - 124 kg
1237-4100-3	HPCM-1-EX Hydraulic Power Control Module, 3/50/380VAC	275 LB - 124 kg
1237-4100-4	HPCM-1-EX Hydraulic Power Control Module, 3/50/415VAC	275 LB - 124 kg
1237-4101-5	HPCM-1-EX Hydraulic Power Control Module, 3/60/600VAC	275 LB - 124 kg

ASSOCIATED PRODUCTS

NDD300	HMB-4 Hydraulic Monitor
NDD320	REC Remote Electronic Control
NDD330	MCM Multiple Control Module

HPCM-1-EX

HYDRAULIC POWER CONTROL MODULE

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