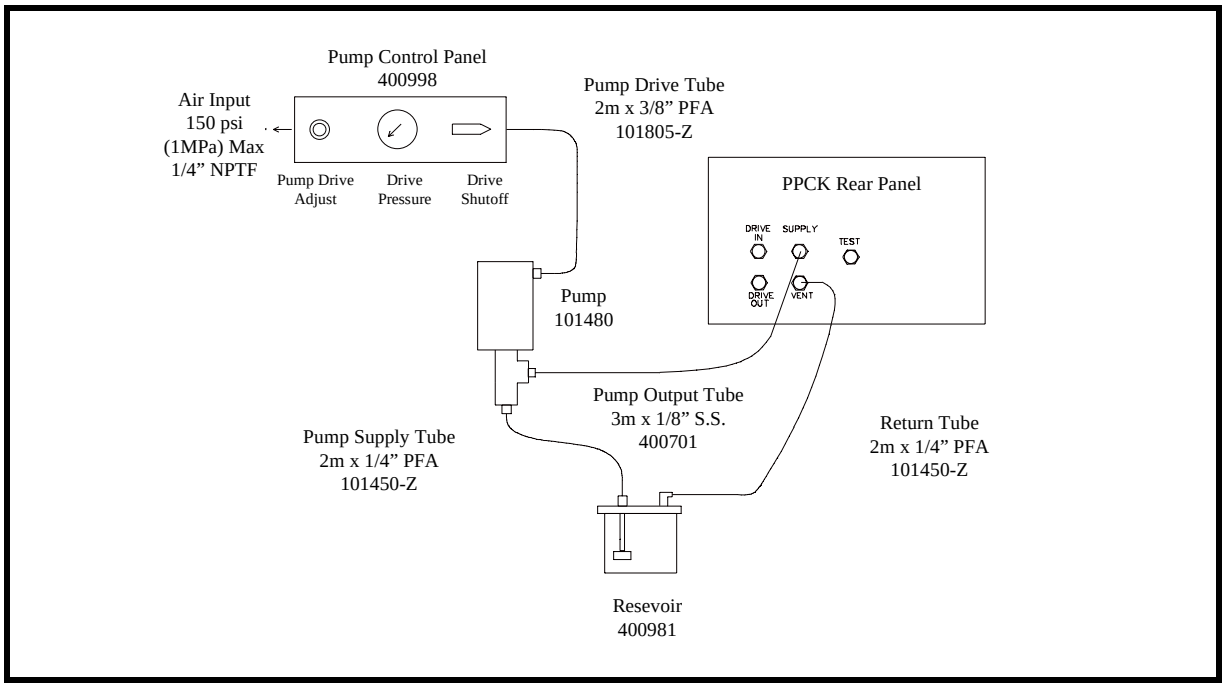
Calibration Solutions for Pressure and Flow™

High Pressure Oil Supply Kit

Instruction Sheet **P/N 401466**

THE HIGH PRESSURE OIL SUPPLY KIT INCLUDES:

- 1 101480 200:1 Hydropneumatic Pump
- 1 400981 Reservoir Assembly
- 1 400998 Pump Control Panel
- 2 m 101805-Z Pump Drive Tube (3/8" PFA with nuts and ferrules)
- 2 m 101450-Z Pump Supply Tube (1/4" PFA with nuts/ and ferrules)
- 2 m 101450-Z Return Tube (1/4" PFA with nuts and ferrules)
- 3 m 400701 Pump Output Tube (1/8" stainless steel with welded tips)



INSTALLATION

❶ Mount Control Panel where it is accessible and visible. Under the front of a bench is a typical location. Consider the connections to be made to the drive air supply and the Pump.

❷ Install the Pump at a convenient location. It will make some air exhaust noise when it cycles. Consider the connections to be made from the Pump output to the target supply port (PPCK, OPCU, WPCU...), to the Pump Control Panel and to the Reservoir. The Pump is equipped with mounting holes to attach it to a surface but it is not mandatory that it be fixed down.

❸ Install the Reservoir. Consider the connections to the Pump supply and the Return.

❹ Install the Pump Drive Tube between the Drive Shutoff Valve (on the Pump Control Panel) and the Pump drive air connection. Snug nuts and tighten 1/4 turn.

❺ Install the Pump Supply Tube between the Pump oil supply and the Reservoir (filtered connection). Snug nuts and tighten 1/4 turn.

❻ Install the Return Tube between the Return Port (PPCK Vent Port, OPCU Outlet Valve...) and the Reservoir return connection. Sung nuts and tighten 1/4 turn.

❼ Install the Pump Output Tube between the Pump output and the target Supply Port (PPCK Supply Port, OPCU Inlet Valve). The 1/8" steel tube is flexible but use caution not to kink or damage it. The full length must be conserved as it serves to dampen the pump action. Slip the gland nut over the tube tip and then thread the collar (left hand thread) all the way onto the tip. Put the tip into the female connection and tighten the gland nut (20ft - lbs, 27Nm). If the female fitting is a medium pressure type, do not thread the collar all the way on the tip. Adjust so that contact between the tube tip and the female fitting will be made when the gland nut is tightened.

❽ Check that the Drive Shutoff Valve on the Pump Control Panel is in the OFF position. Connect a drive air supply to the Pump Drive Adjust Regulator. The regulator port is 1/4" NPT. "Shop" or "plant" air is adequate as drive air (avoid condensing moisture or particulate contamination). The pump output will be approximately 200 times the drive air input. Drive air cannot exceed 150 psi (1 Mpa).

❾ Fill the Reservoir with oil.

OPERATION

❶ With the Drive Shutoff Valve on the Pump Control Panel in the OFF position, use the Pump Drive Adjust Regulator to adjust the drive pressure to the desired value as indicated by the Drive Pressure Gauge. The Pump oil pressure output is 200 times the drive pressure input. Set the regulator slightly higher than the maximum oil pressure desired X 200. For example, for the pump to output about 6 000 psi oil pressure set the drive air between 30 and 35 psi (6 000/200 = 30).

- When the Drive Shutoff Valve is open, drive air is supplied to the pump. The pump will run continuously until it stalls (pump output = drive pressure x 200). This could generate up to 30 000 psi (200 MPa) if the drive air is high enough and the Pump is connected to a closed volume. If the pump output is not connected to a closed volume, the pump will empty the reservoir and continue to cycle indefinitely.

❷ To cause the Pump to operate, set the Drive Shutoff Valve of the Pump Control Panel to ON. The Pump will operate continuously until it stalls (pump output = drive pressure x 200).

❸ To turn the Pump off, set the Drive Shutoff Valve to OFF.

DH Instruments, Inc.
4765 East Beautiful Lane
Phoenix AZ 85044-5318
USA

DHI **Calibration Solutions for Pressure and Flow™**

Tel 602.431.9100
Fax 602.431.9559
dhi@dhinstruments.com
www.dhinstruments.com