



# External Reservoir for PPCH™ 4 liter capacity

P/N 402102

Instruction Sheet

## EXTERNAL RESERVOIR, P/N 402102, INCLUDES:

DESCRIPTION	QTY	PART NO.
Assembly, External Reservoir kit	1	402167
Tubing, PFA, 1/4 in. O.D. x 300 cm	1	101450-Z
Adaptor, 1/8 in. NPTM x 1/4 in. Swage	1	101532
Nut, SS, 1/4 in. Swage	1	100247
Ferrule, SS, front, 1/4 in. Swage	1	100248
Ferrule, SS, rear, 1/4 in. Swage	1	100249

## INTRODUCTION

The External Reservoir kit is designed for use with the PPCH Hydraulic Pressure Controller. The external reservoir is provided for applications requiring more fluid than can be held in the 300 cm<sup>3</sup> internal reservoir. The external reservoir is connected in series with the internal reservoir so that internal reservoir features are still available.

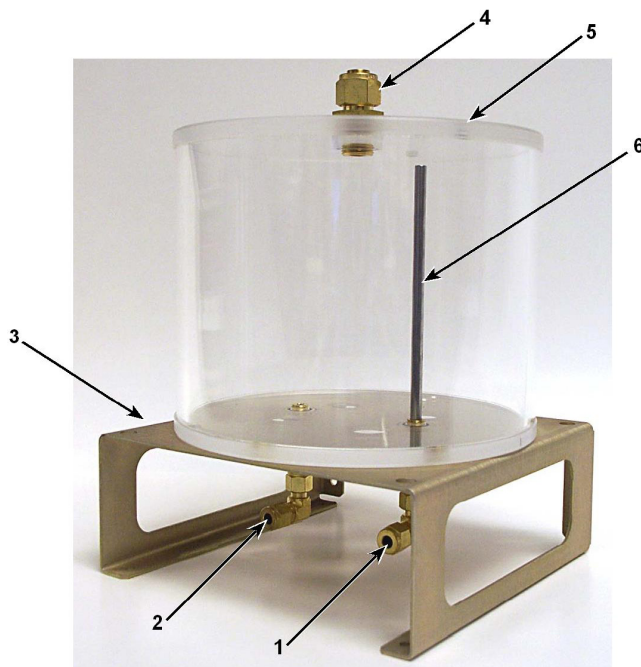


Figure 1. External Reservoir

- |                               |                            |
|-------------------------------|----------------------------|
| 1. Return port, 1/4 in. Swage | 4. Fill cap, 1/2 in. Swage |
| 2. Supply port, 1/4 in. Swage | 5. Vent Plug, 10-32 x 1/8  |
| 3. Mounting bracket           | 6. Return Tube             |



**NOTE:** This instruction sheet is provided as a quick installation guide. For further details, see the PPCH Operation & Maintenance Manual's sections on use of an external reservoir.

## INITIAL CONSIDERATIONS FOR INSTALLATION OF RESERVOIR

- Internal reservoir attachments not used:** When using the internal reservoir, a fill tube bracket, sight tube and funnel are mounted on the rear of the PPCH. These attachments are not used with the external reservoir. If the attachments are already installed, remove them. Be sure to close the **FILL/DRAIN** valve prior to removal.
- Reservoir above the PPCH:** The bottom of the reservoir must be higher than the PPCH instrument to ensure a proper gravity feed of fluid to the internal reservoir and pump. Avoid low points in the tubing between PPCH and the reservoir.
- Secure the reservoir:** Pass throughs (5.4 mm Ø) are provided in the mounting bracket for securing the reservoir.
- Prepare the tubes:** 300 cm of 1/4 in. O.D. PFA tubing is provided for making tube connections between the external reservoir and the PPCH. The fittings on the external reservoir are 1/4 in. Swage. The ferrules need to be swaged to each end of the tubes.
- Adaptor for Reservoir return:** Use the supplied 1/8 in. NPTM x 1/4 in. Swage adaptor for the **EXTERNAL RESERVOIR RETURN** bulkhead on the PPCH.



To prevent accidental draining of the internal reservoir, keep the **FILL/DRAIN** valve in the closed position until the external reservoir is connected.

## INSTALLATION OF RESERVOIR

- ❶ **Close valve:** Close the reservoir **FILL/DRAIN** valve.
- ❷ **Install adaptor:** Install the 1/8 in. NPTM x 1/4 in. Swage adaptor in the PPCH **EXTERNAL RESERVOIR RETURN** bulkhead fitting.
- ❸ **Connect tubes:** Connect a tube from the PPCH **EXTERNAL RESERVOIR RETURN** port, to the return port (1) on the external reservoir.
- ❹ **Connect tubes:** Connect a tube from the PPCH **FILL/DRAIN** port to the supply port (2) on the external reservoir. The stainless steel Swage fittings are used at the PPCH **FILL/DRAIN** port connection.
- ❺ **Fill external reservoir:** Fill the external reservoir through the 1/2 in. Swage brass fitting (4) with the same fluid as is used in the PPCH. Do not fill past the top of the stainless steel return tube.



*The MAX FILL label on the rear of the PPCH does not apply when using an external reservoir.*



*The top of the return tube defines the fluid head applied to the PPCH's Q-RPT when in a VENT condition.*

- ❻ **Enable reservoir return:** Turn the PPCH **RESERVOIR RETURN** valve to the **EXTERNAL** position, and loosen the vent plug on top of the Reservoir – this is a 10-32 x 1/8 threaded plug.



*Be sure the external reservoir is open to atmosphere so proper system venting and zeroing can occur.*

- ❼ **Purge overflow circuit:** Purge air from the internal reservoir and the overflow circuit:
  - Prepare the 1/8 in. NPT plug (that was previously used in the external reservoir return bulkhead) for use in the **OVERFLOW** bulkhead fitting by wrapping the NPT threads with Teflon tape.
  - Slowly turn the **FILL/DRAIN** valve to the **OPEN** position.
  - Plug the **OVERFLOW** bulkhead port when gas-free oil begins to flow out.
- ❽ **Fill the reservoir return tube:** Finish the purge process by running the **[PRIME]** function on the PPCH to cycle fluid from the reservoir supply, through the PPCH, and back out to the External Return tube. First ensure the **TEST** port is plugged.



*When the PPCH is vented, the system connected to the TEST port is also connected to the External Reservoir (which is higher than the TEST port). If there is an open point in the system below the fluid level in the reservoir, fluid will run out of the system at this open point.*