

# OPAT/HPRS - MANUAL

## Field Retrofit and spare part exchange

### 1. Scope

OPAT and HPRS are independent Ex components for usage on Hawe proportional valve program PSL/PSV and Servi proportional valve HSV600. The interface and design of the units opens for field retrofit of standard valves or spare part exchange.

**Warning:**

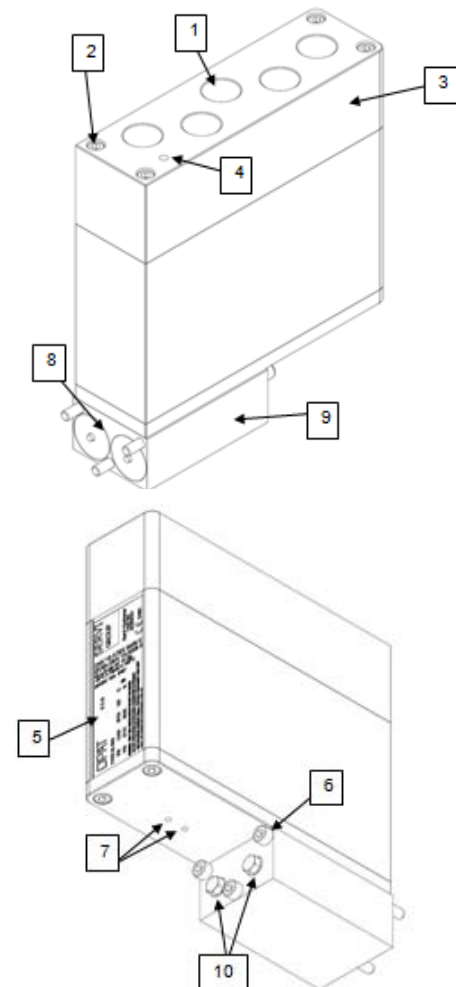
**This document is intended for personnel with relevant training, and it is essential that any person performing retrofit or sparepart exchange has relevant knowledge to Ex regulations and the actual proportional valves utilizing OPAT and HPRS.**

Relevant documents:

- D-7700-3, D-7700-5, D-7700-F, D-7700-7F - Hawe PSL/PSV
- D3010 - Servi HSV 600
- 1388826 - OPAT User manual
- 1503132 - HPRS User manual
- 1660723 - GA dwg OPAT-HPRS SLF5
- 1660724 - GA dwg OPAT-HPRS SLF3

### 2. Spare part exchange procedure for OPAT, keeping existing lid:

- A. Loosen fastening screws [2] for top cover [3]
- B. Loosen actual wires from the terminal (observe the position of the wires)
- C. Gently move and place the LID in a safe position away from the OPAT HOUSING. Verify that the sealing and sealing surface is not damaged or can be damaged.
- D. Loosen the 3 off fastening screws [6] and remove OPAT unit gently from valve body.
- E. Take off the lid of the new OPAT. Verify that the HOUSING sealing surface is not damaged. Handle carefully to keep the surface without scratches.
- F. Make sure the 2 off o-rings for the sealing of OPAT to valve body attachment surface [8] is in correct position.
- G. Position the new OPAT unit and alternate tighten the 3 bolts with 6 Nm. Check also that screws pos 10 are tightened
- H. Connect the wires in correct terminal positions
- I. Observe no foreign object on the HOUSING sealing surface and gently position the LID to the HOUSING. Observe no wires is getting squeezed between HOSUING and LID. Tighten the bolts with 6 Nm



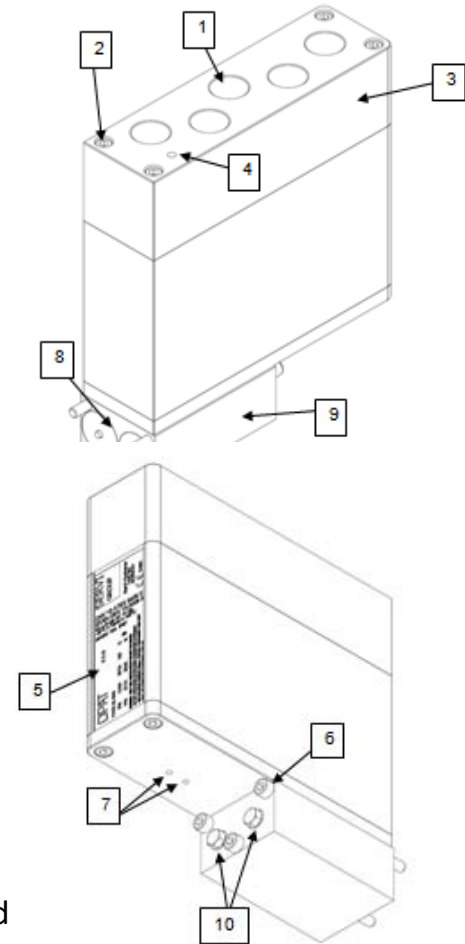
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### 2. Spare part exchange procedure for OPAT, complete:

If the existing LID is to be exchanged all cables must be removed from existing LID to new LID. New Ex cable gland

- A. Loosen fastening screws [2] for top cover [3]
- B. Loosen actual wires from the terminal (observe the position of the wires)
- C. Gently move and place the LID in a safe position away from the OPAT housing. Verify that the sealing and sealing surface is not damaged or can be damaged.
- D. Loosen the 3 off fastening screws [6] and remove OPAT unit gently from valve body.
- E. Take off the lid of the new OPAT. Verify that the housing sealing surface is not damaged. Handle carefully to keep the surface without scratches.
- F. Make sure the 2 off o-rings for the sealing of OPAT to valve body attachment surface [8] is in correct position.
- G. Position the new OPAT unit and alternate tighten the 3 bolts with 6 Nm. Check also that screws pos 10 are tightened
- H. Connect the wires in correct terminal positions
- I. Observe no foreign object on the housing sealing surface and gently position the lid to the housing. Observe no wires is getting squeezed between housing an lid. Tighten the bolts with 6 Nm



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### 2. Retrofit rebuild procedures

#### OPAT and HPRS:

- Twinsolenoid exchange with OPAT unit [41].
- PM1 exchange with PM1-19 [21]
- Spool spring exchange with “H” version [22]
- Spring package screw exchange with sensor pin [33]
- Spring housing exchange with HPRS sensorhousing [31]
- Connection of HPRS wires [32] to OPAT unit via EX gland [42]
- Semiautomatic calibration of sensor (HCSTool)
- Setting of user defined parameters (HCSTool or via Profibus)

#### Pre-conditions and preparations (ref to OPAT user manual, doc 1388826):

- Orientation and space must be advised/controlled by customer
- OPAT to have correct parameter-file for actual valve (size).
- HPRS to be calibrated to the actual size/ type valve (SL3/5/7/HSV600)
- HCStool must be known to actual personnel
- Field valve linearization is not possible
- Only Ex approved glands must be used (see manual)
- Not used Cable entries must be sealed off with Ex approved plug.

