



**Instructions 1011-W00 (En)**

Section	1011
Effective	January 2025
Replaces	June 2023

Original instructions

# ***ECS System (Easy Clean System)***

## ***for G/H FLO 1/2/3/6/8/11/15/25/40/50 pumps***



These MOUVEX Instructions provide assistance for installation but there are not, in any circumstances, intended to replace the specific Instructions of the relevant equipment suppliers. Those Instructions must be read before fitting the equipment.

This manual must be used along with following manuals :

- the pump Instructions manual
- NT 1011-S00 Bellows monitoring system C SL FLO Series pumps

**WARRANTY :**

ECS System for G/H FLO 1/2/3/6/8/11/15/25/40/50 pumps is covered 24 months by warranty within the limits mentioned in our General Sales Conditions. In case of a use other than that mentioned in the Instructions manual, and without preliminary agreement of MOUVEX, warranty will be canceled.



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Your distributor :

# 1. DESCRIPTION

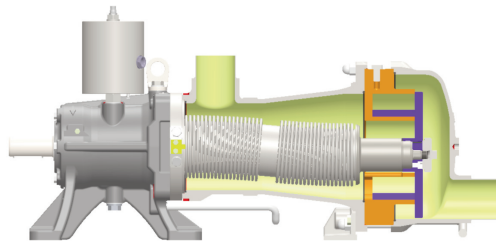
On a G/H FLO 1/2/3/6/8/11/15/25/40/50 pump equipped with ECS, the transmission includes a pressurization capacity destined to be supplied with 4 bar / 58 psi compressed air.

Air supply leads to pump inside opening, allowing full CIP flow rate to cross the pump with a limited pressure drop. As a consequence, external CIP bypass valve and linked piping are no longer necessary.

# 2. OPERATION

## 2.1 Process operation (Product pumping)

During process operation, transmission is not supplied with air. Disc remains against the cylinder, to allow pumping action.

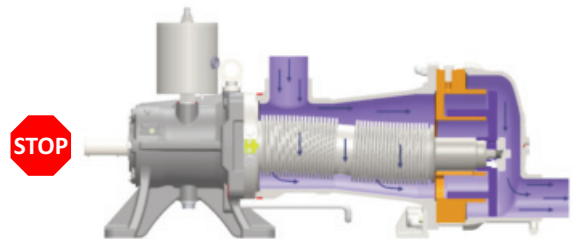


## 2.2 Cleaning in place or water flush

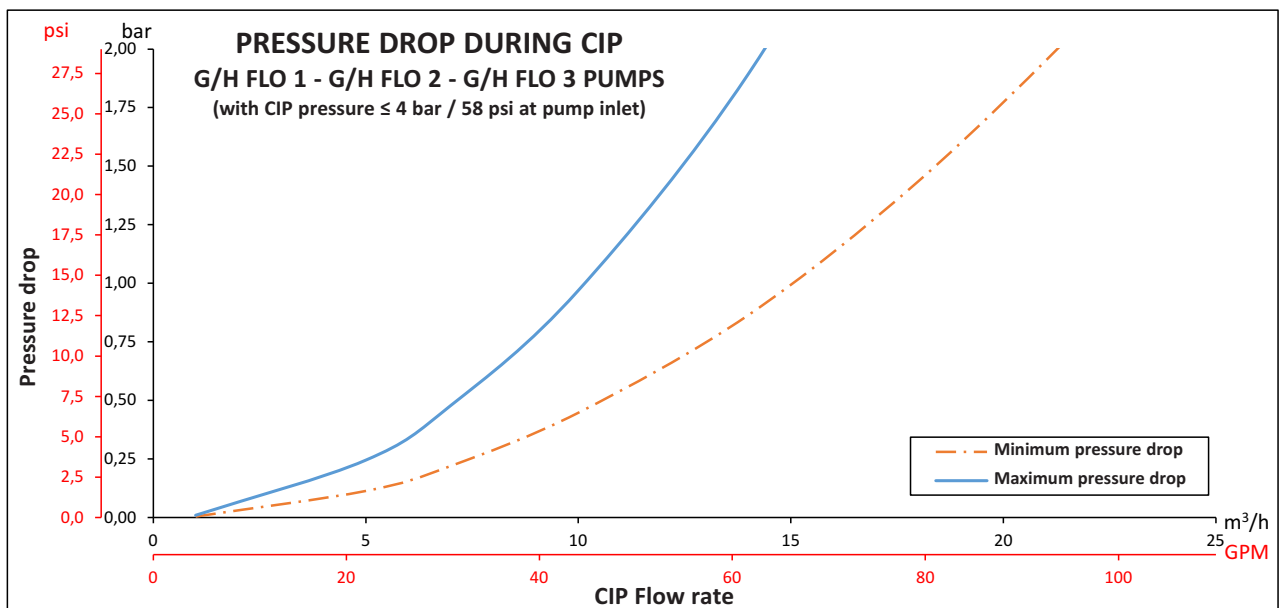
During a CIP or a water flush, the pump is stopped and the transmission is supplied with compressed air. This allows :

- To move disc away from the cylinder, thus letting the full CIP flow rate going through the pump with a limited pressure drop.
- To balance pressures inside and outside the bellows, allowing resistance to pressure and water hammers.

Air 3,8 - 4 bar  
(55 - 58 psi) max.

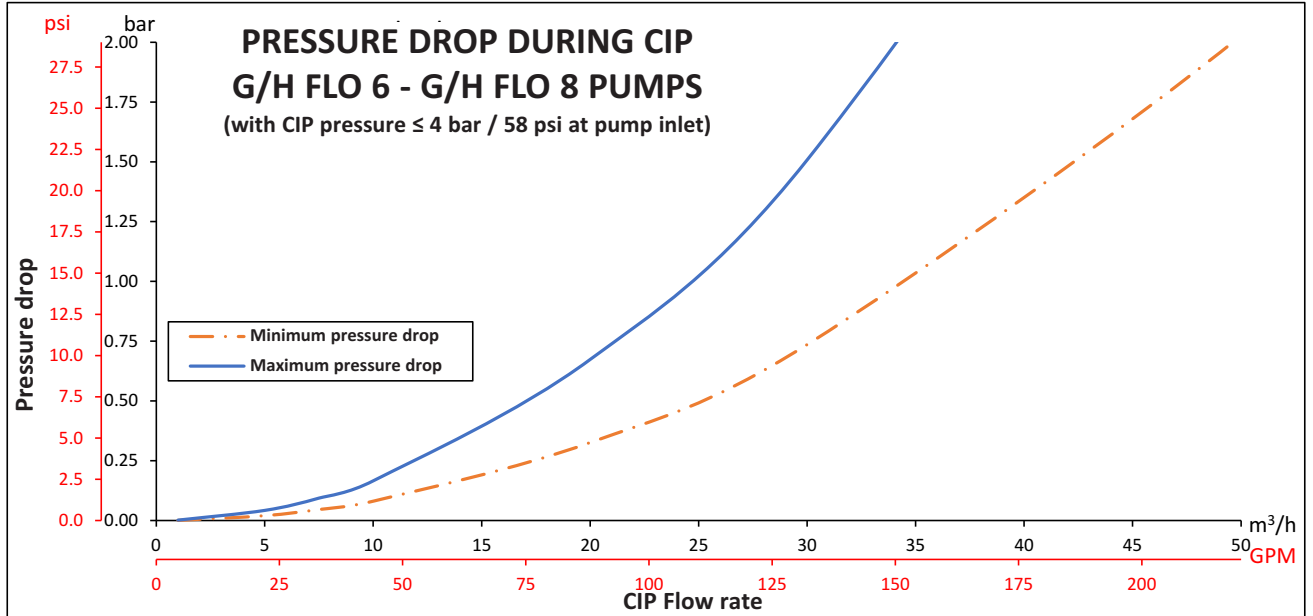


Curve below gives pressure drop inside the opened pump depending on CIP flow rate.

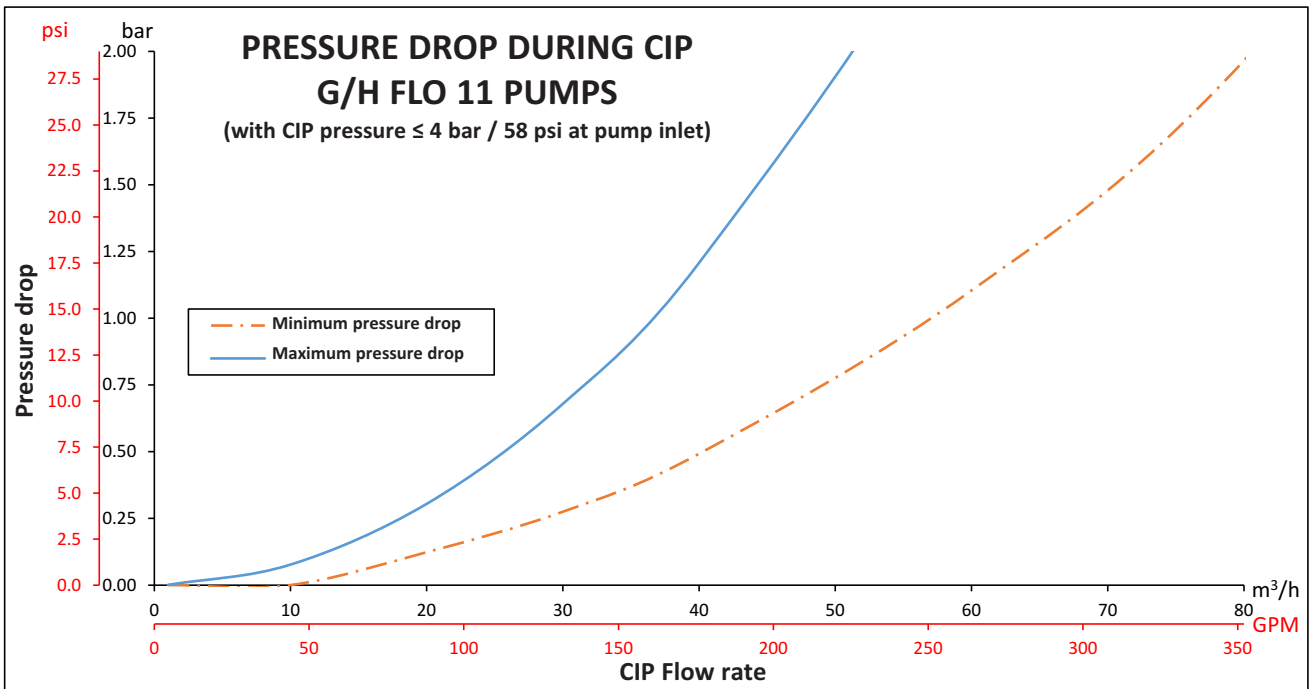


Non-contractual information.

## 2. OPERATION (continued)

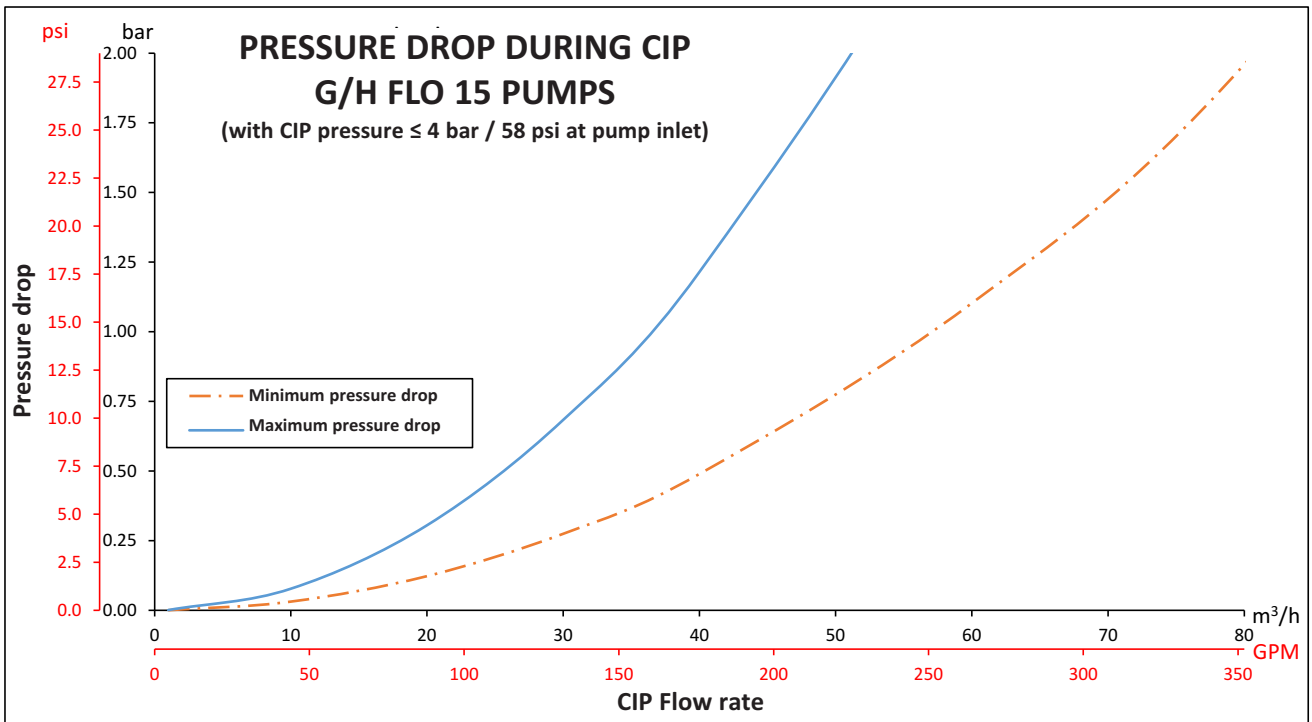


Non-contractual information.

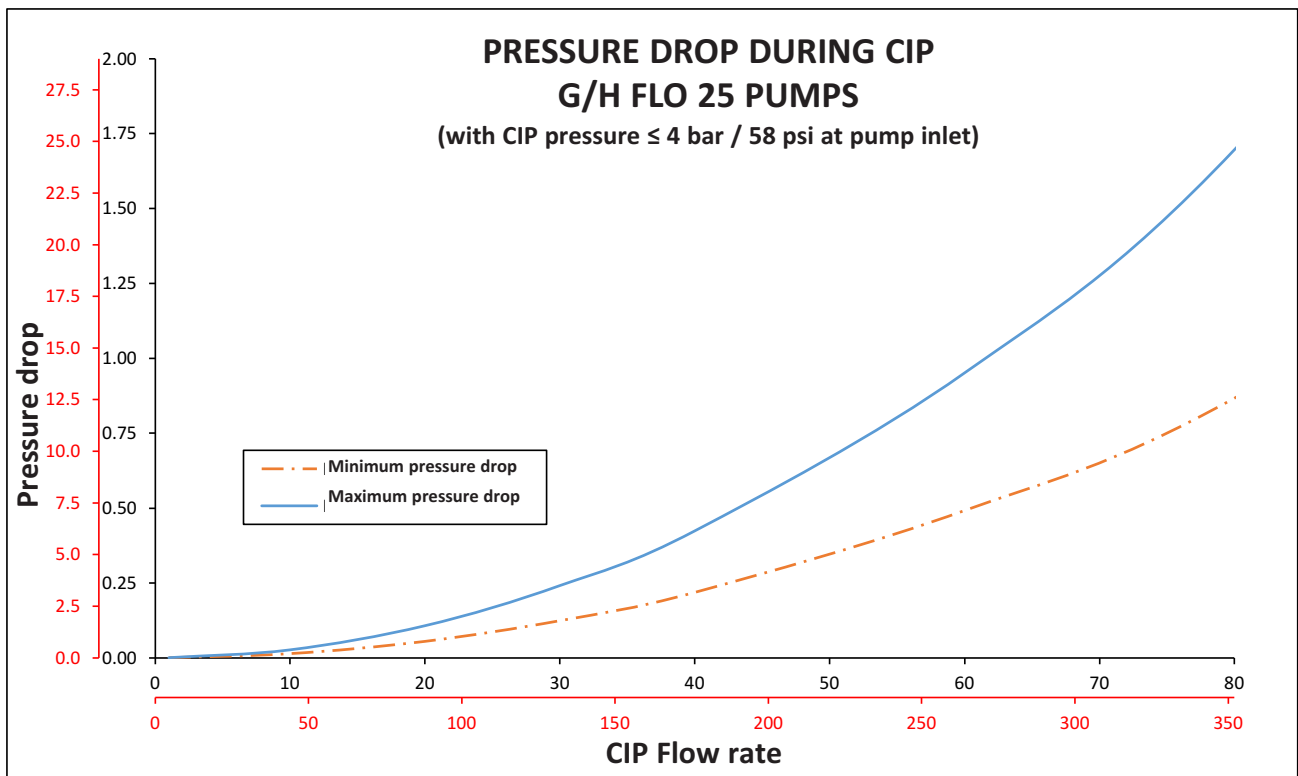


Non-contractual information.

## 2. OPERATION (continued)

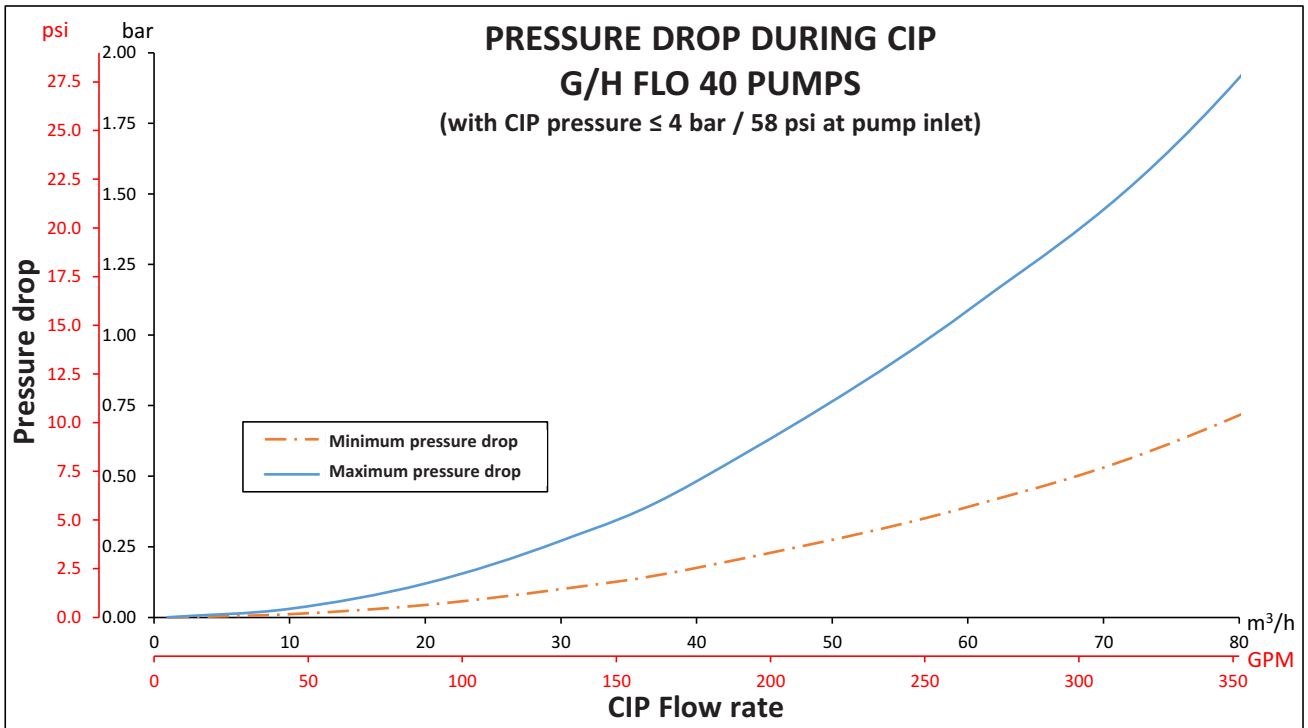


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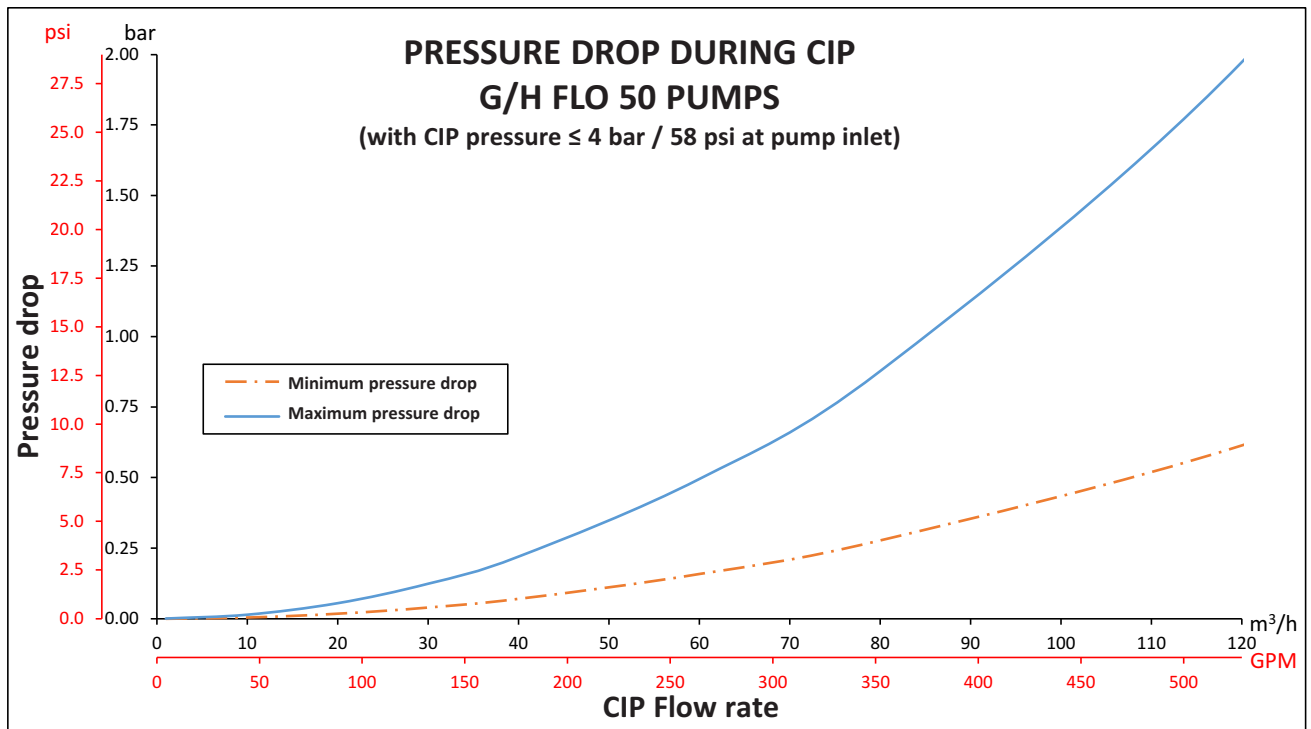


Non-contractual information.

## 2. OPERATION (continued)



Non-contractual information.



Non-contractual information.

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## 3. INSTALLATION

Pumping set must be installed according to recommendations mentioned in pump Instructions.

### 3.1 Air connection

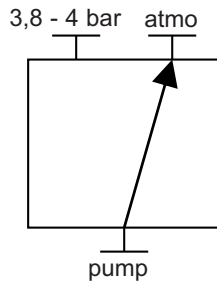
Connect air supply to pressurization capacity and **check that pressure is between 3.8 and 4 bar (55 and 58 psi)**. Use a pressure reducer if necessary. Drive air supply with a 3-ways solenoid valve allowing either to put transmission inside at atmospheric pressure of 3,8 - 4 bar (55 - 58 psi). Solenoid valve can be similar to the ones used on butterfly/ball valves pneumatic actuators.

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## 4. OPERATION

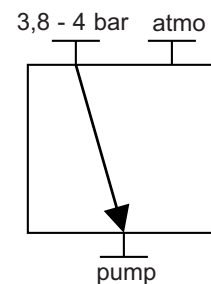
### 4.1 Process operation (product pumping)

Drive solenoid valve to put transmission inside to atmospheric pressure. Pressurizing transmission with ECS while pump is rotating will lead to **total flow rate loss** and can **damage the transmission**.



### 4.2 CIP or water flush

Pump must **absolutely** be **stopped** before pressurizing the transmission. Drive solenoid valve to put transmission inside at 3,8 - 4 bar (55 - 58 psi) pressure.



Cycle for any CIP or water flush will be as follows :

1. Pump stop.
2. Pump inside opening of the pump by driving solenoid valve (Compressed air 4 bar / 58 psi max).
3. CIP or water flush start.
4. CIP or water flush end.
5. Pump inside closing of the pump by driving solenoid valve (connection to atmosphere).
6. Pump ready for a new process phase.

**Maximum pressure at pump inlet during CIP: 6 bar g / 90 psi g.**

#### CAUTION ! INJURIES RISKS !

Transmission must never be pressurized alone (not mounted in a pump). Bellows tightness must never be controlled by introducing compressed air in the oil filling port.

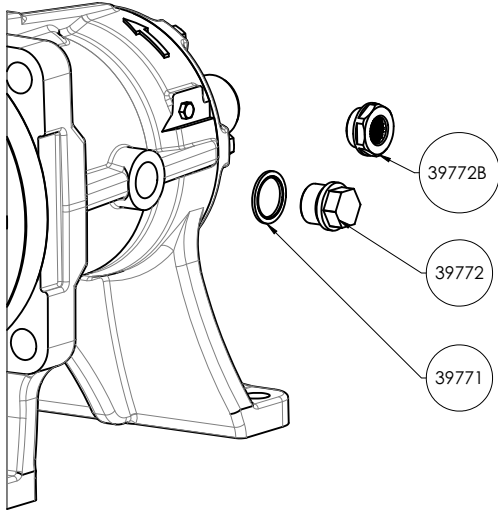
For any operation on pump and transmission, **pump Instructions must be read.**

## 5. MOUNTING OF ECS KIT ON EXISTING TRANSMISSION

Mounting the ECS is possible on a pump without having to remove the transmission.

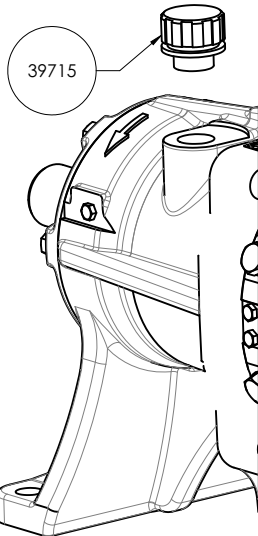
Attach transmission bearing case to the work surface with a clamp or else, to keep transmission horizontal.

Drain transmission oil (see pump Instructions).

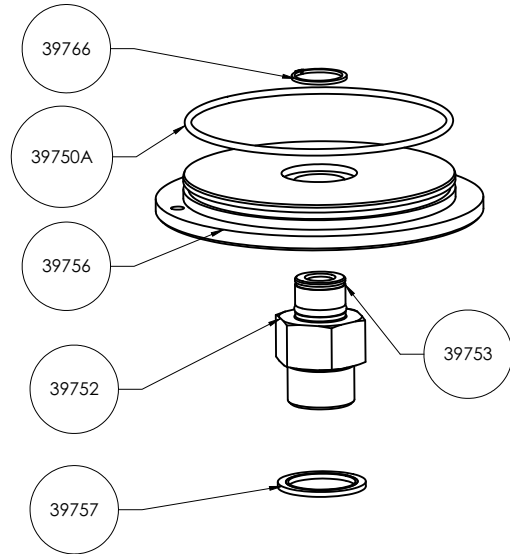


Remove oil level indicator 39772B.

Fit plug 39772 and tighten it with its ring 39771 at the location of the oil level indicator. Assembly torque 40 N.m.

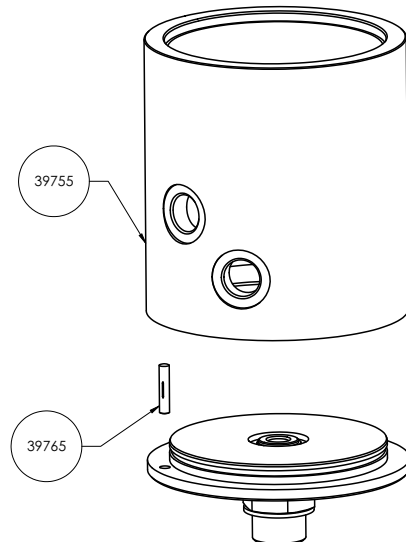


Remove breather 39715.



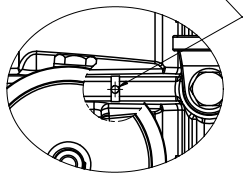
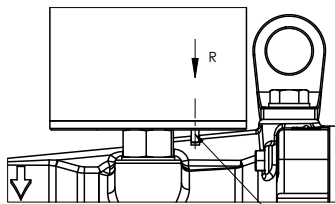
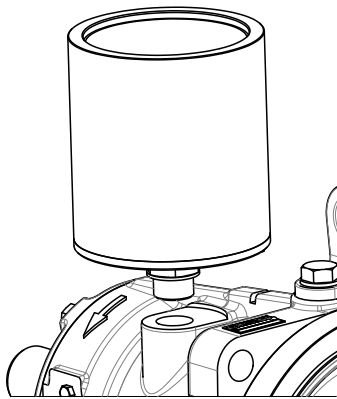
Fit the nipple 39752 and insert the sealing ring 39757. Assembly torque 40 N.m. Lubricate and fit the seal 39753.

Fit the O-ring 39750A on the cover 39756. Position the circlip 39766 in its location.

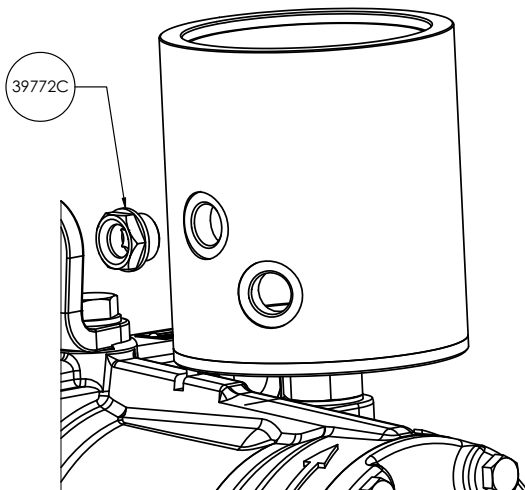


Assemble the reservoir 39755 and the cover 39756 using the pin 39765. Cover and reservoir may need to be fitted with a mallet or press.

## 5. MOUNTING OF ECS KIT ON EXISTING TRANSMISSION (continued)

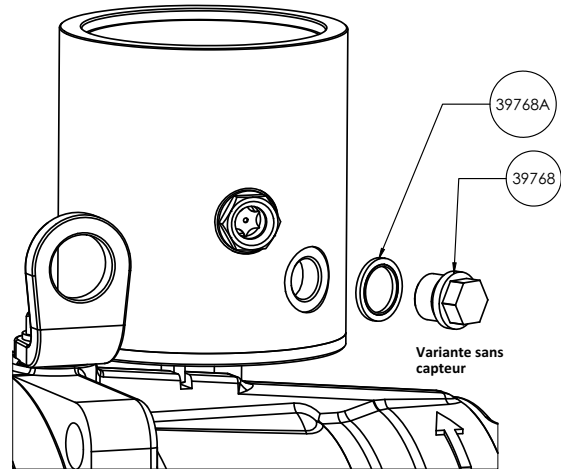


Fit the reservoir by locating the pin 39765 on the groove.



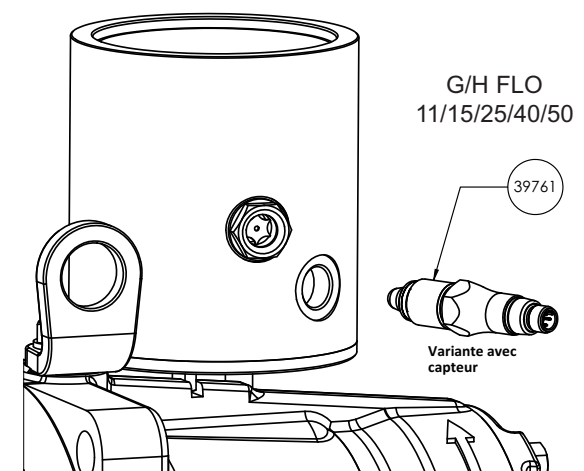
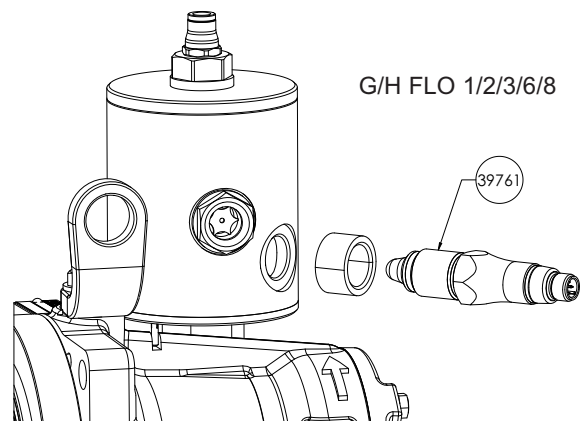
Place and tighten the oil level indicator 39772C on the reservoir assembly. Assembly torque 7 N.m.

### Variant without sensor



Fit bushing 39768A and plug 39768. Assembly torque 15 N.m.

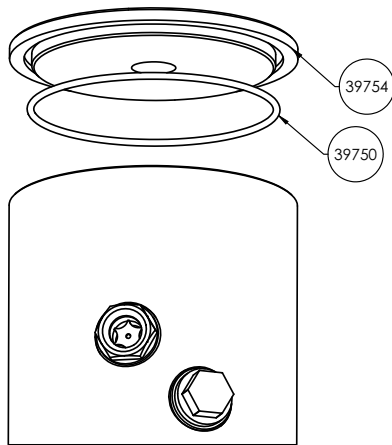
### Variant with sensor



Mount the sensor 39761 by applying PTFE tape on the thread. Assembly torque 20 N.m.

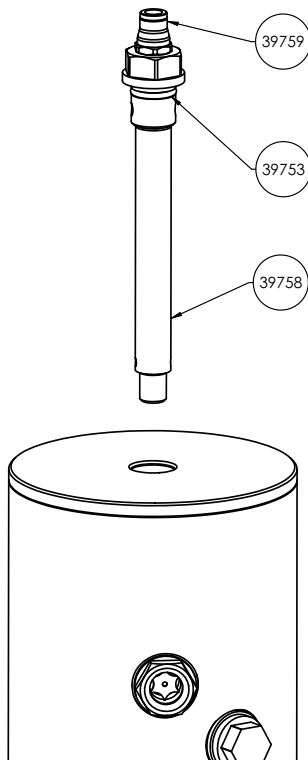


## 5. MOUNTING OF ECS KIT ON EXISTING TRANSMISSION (continued)



Place the O-ring 39750 in the groove of the cover 39754. Mount the assembly on the reservoir 39755.

Fill up transmission with Movex CS05 oil until oil level is in the middle of the indicator. Wait for possible air bubbles coming out and adjust level if necessary.



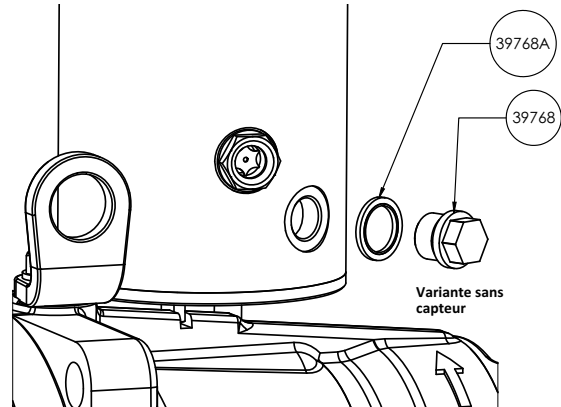
Lubricate and place the O-ring 39753 in the groove of the restrictor 39758.

Place and tighten the restrictor 39758 and its O-ring 39753 in the reservoir assembly. Assembly torque 25 N.m.

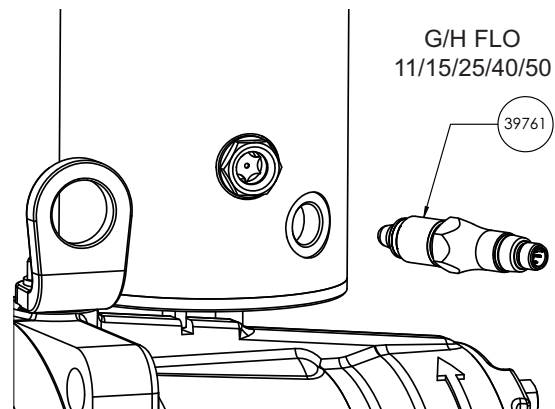
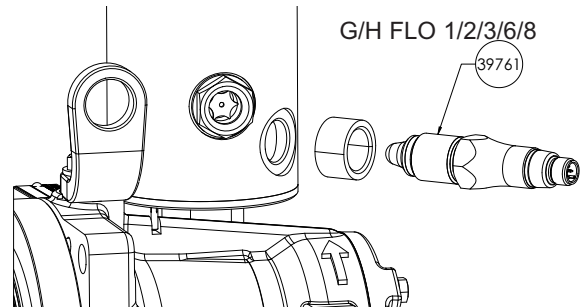
Place and tighten air connection 39759. Assembly torque 12 N.m.

### Modification version without sensor to version with sensor

Drain transmission oil (see pump Instructions).



Remove plug 39768 and bushing 39768A.



Mount the sensor 39761 by applying PTFE tape on the thread. Assembly torque 20 N.m.

Fill up transmission with Movex CS05 oil until oil level is in the middle of the indicator. Wait for possible air bubbles coming out and adjust level if necessary.

## 6. INSTALLING THE OIL LEVEL SENSOR

### 6.1 Electrical connection

- ✓ A voltage supply of 12 V to 30 V DC is provided.
- ▶ Switch off supply voltage.
- ▶ Connect sensor in accordance with the pin assignment.

#### Terminal assignment



Housing dimensions available only for a plug connector in stainless steel

Output type	Equivalent circuit	Function	M12-A 4-pin	Cable outlet
PNP		+ Vs	1	brown
		SW1 (NO)	4	black
		SW1 (NC)	2	white
		GND (0 V)	3	blue
NPN		+ Vs	1	brown
		SW1 (NO)	4	black
		SW1 (NC)	2	white
		GND (0 V)	3	blue

Other information and connections: refer to the manufacturer's instructions :

[www.baumer.com](http://www.baumer.com)

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