



Bulletin HY30-8227-INST/UK

Installation Information Bypass Valves BPV for F1 and T1 pumps

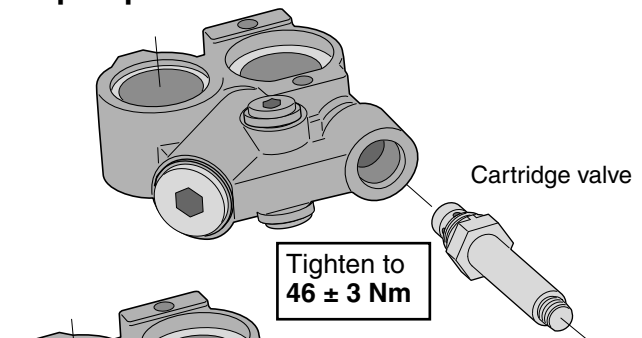
Effective: August 25, 2011

Supersedes: January 18, 2011

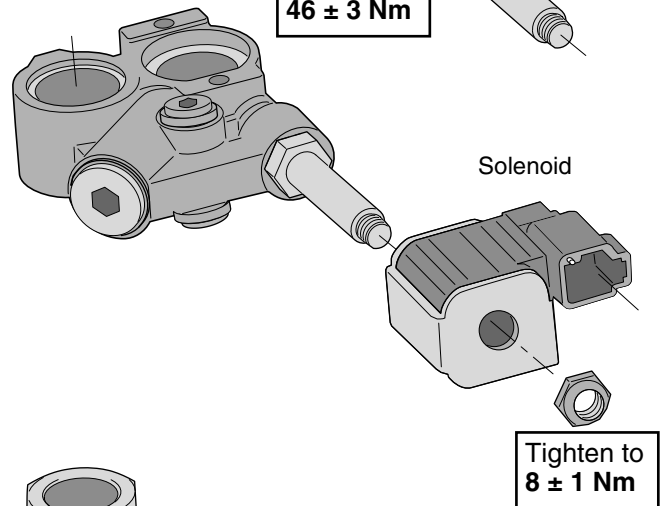


Install the BPV-F1/T1 bypass valve block on the pump

1. Assemble the cartridge valve in the F1/T1 bypass valve block (BPV) and tighten to $46 \pm 3 \text{ Nm}$

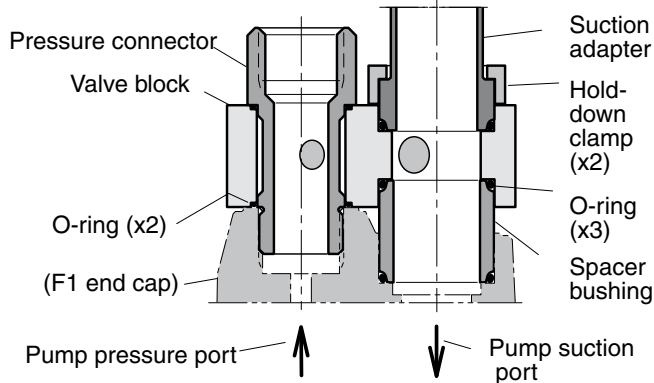
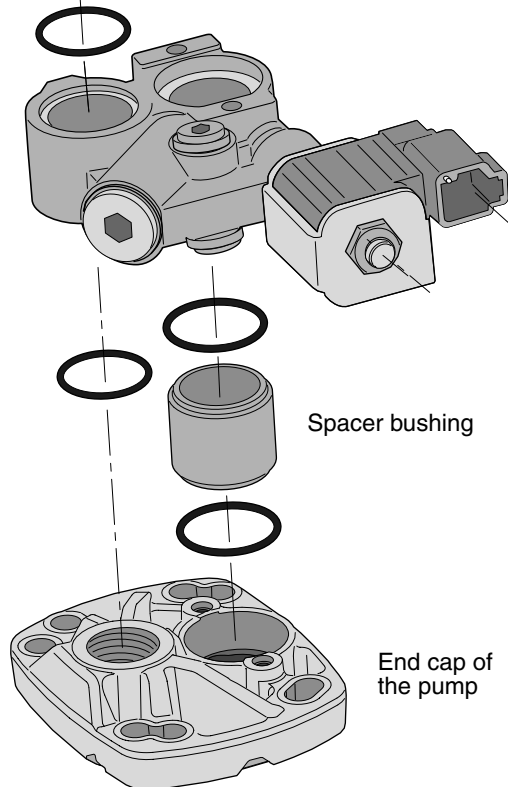
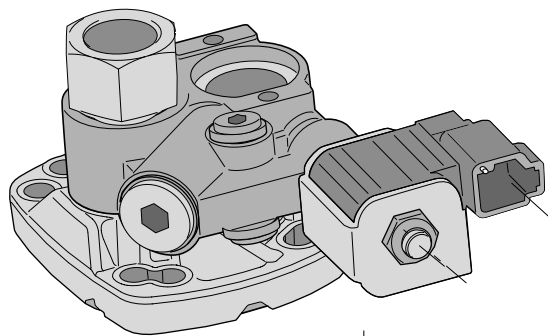
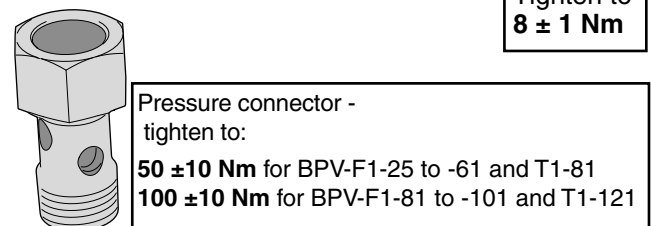


2. Assemble the solenoid to the cartridge valve and tighten the nut to $8 \pm 1 \text{ Nm}$



3. Assemble first the spacer bushing with two O-rings in the suction port on the top of the pump. Then assemble the complete valve block with the pressure connector and O-rings in the pressure port on the end cap on top of the pump as shown in the figure to the right and the two figures below. The Pressure connector - shall be tighten to: $50 \pm 10 \text{ Nm}$ for **BPV-F1-25 to -61 and T1-81**, $100 \pm 10 \text{ Nm}$ for **BPV-F1-81 to -101 and T1-121**

Note: As the BPV is symmetrical, it can be 'turned 180°' to prevent interference with chassis components; it can be utilised for either left hand or right hand pumps.

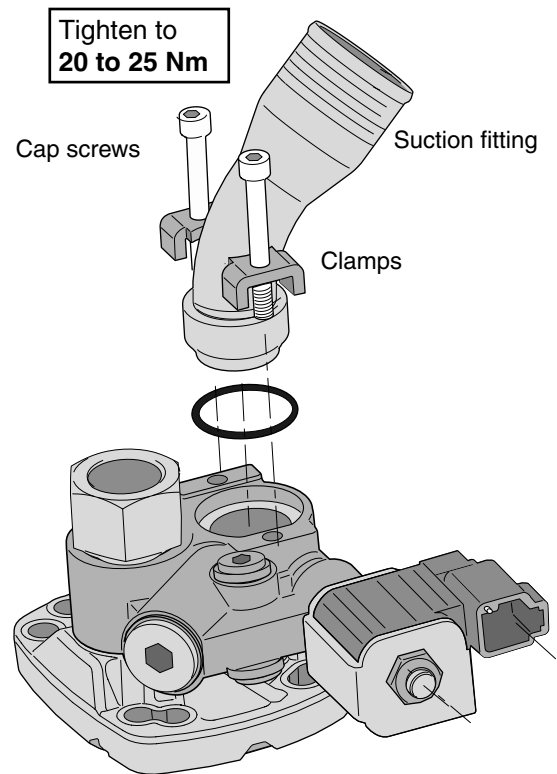


- 4.** Assemble the suction fitting to the valve block as shown in the figure to the right
A 'suction fitting' consists of a straight, 45°, 90° or 135° suction fitting, clamps, cap screws and O-ring.

IMPORTANT!

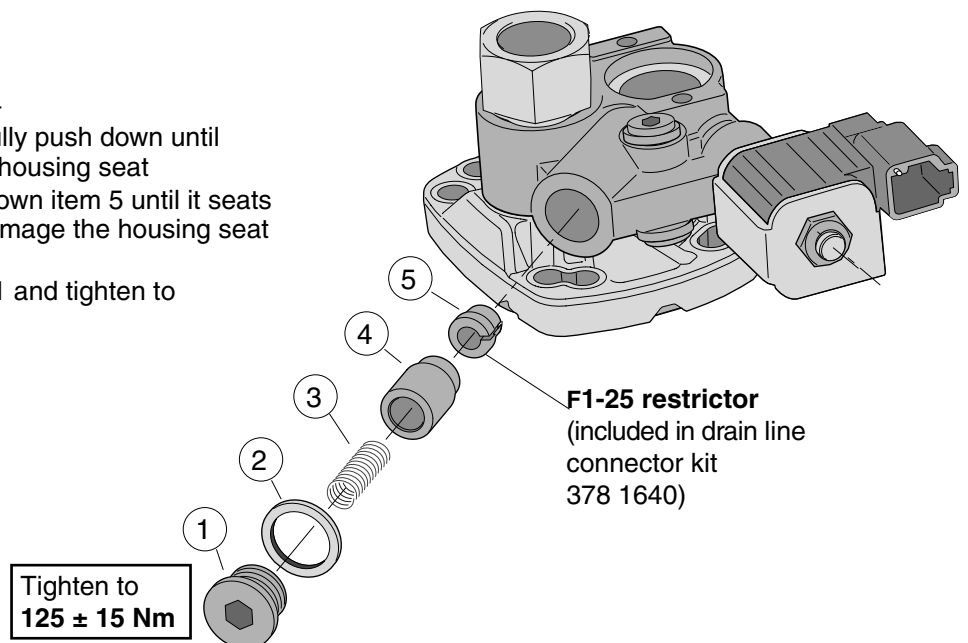
Always tighten the pressure connector (see page 2) **before** tightening the cap screws (to **20–25 Nm**).

NOTE: A suction fitting kit is not included with the pump; it must be ordered separately

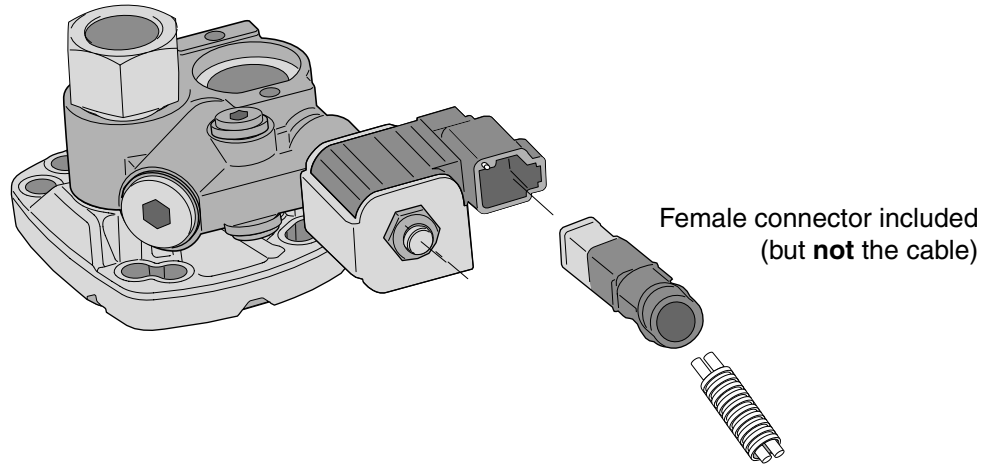


- 5.** Installation of flow restrictor (valid only for pump **F1-25**):

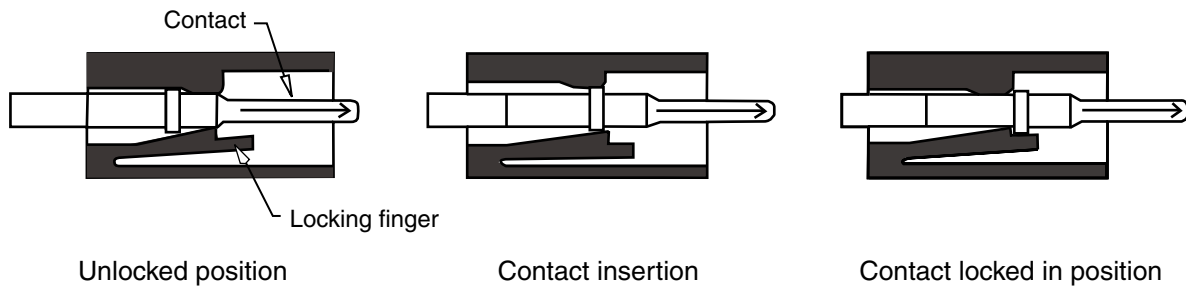
- Remove items 1, 2, 3 and 4
 - Install items 5 and 4; carefully push down until item 4 bottoms against the housing seat
 - Remove item 4 and push down item 5 until it seats
- NOTE:** Make sure not to damage the housing seat for item 4
- Reinstall items 4, 3, 2 and 1 and tighten to **125 ± 15 Nm**.



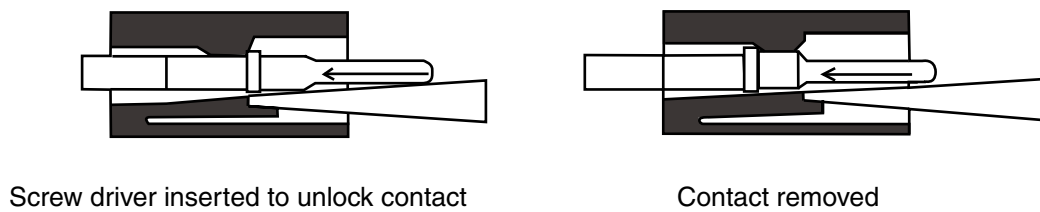
6. Assemble the cable to the cable contact



Contact Insertion System (DTM/DT/DTP)

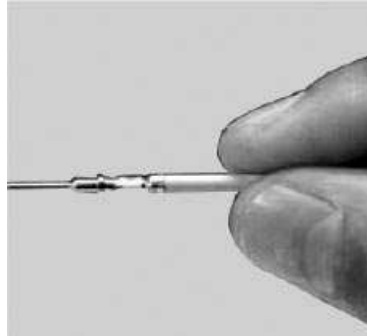


Contact Removal Procedure (DTM/DT/DTP)



Assembly Contact Insertion (DTM, DT, DTP) Contact Removal

1. Grab the crimped contact approximately 25 mm behind the contact barrel.



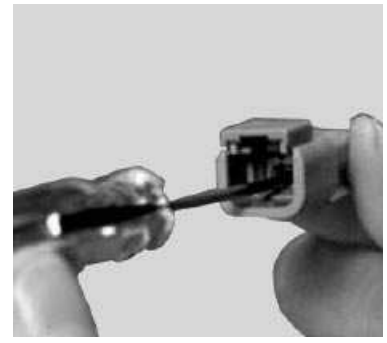
1. Remove orange wedge using needle-nose tongs to pull wedge straight out.



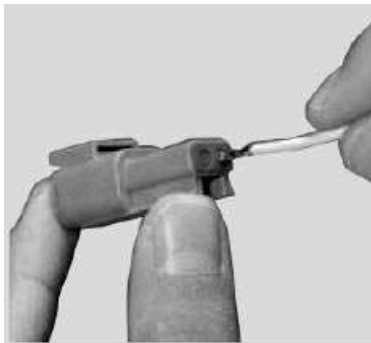
2. Hold connector with rear socket facing you.



2. To remove the contacts, gently pull wire backwards, while at the same time releasing the locking finger by moving it away from the contact with a screwdriver (also see page 4).



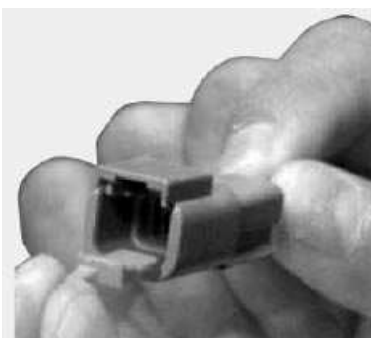
3. Push contact straight into connector socket until a click is felt. A slight tug will confirm that it is properly locked in place (also see page 4).



3. Hold the rear seal in place, as removing the contact will displace the seal.

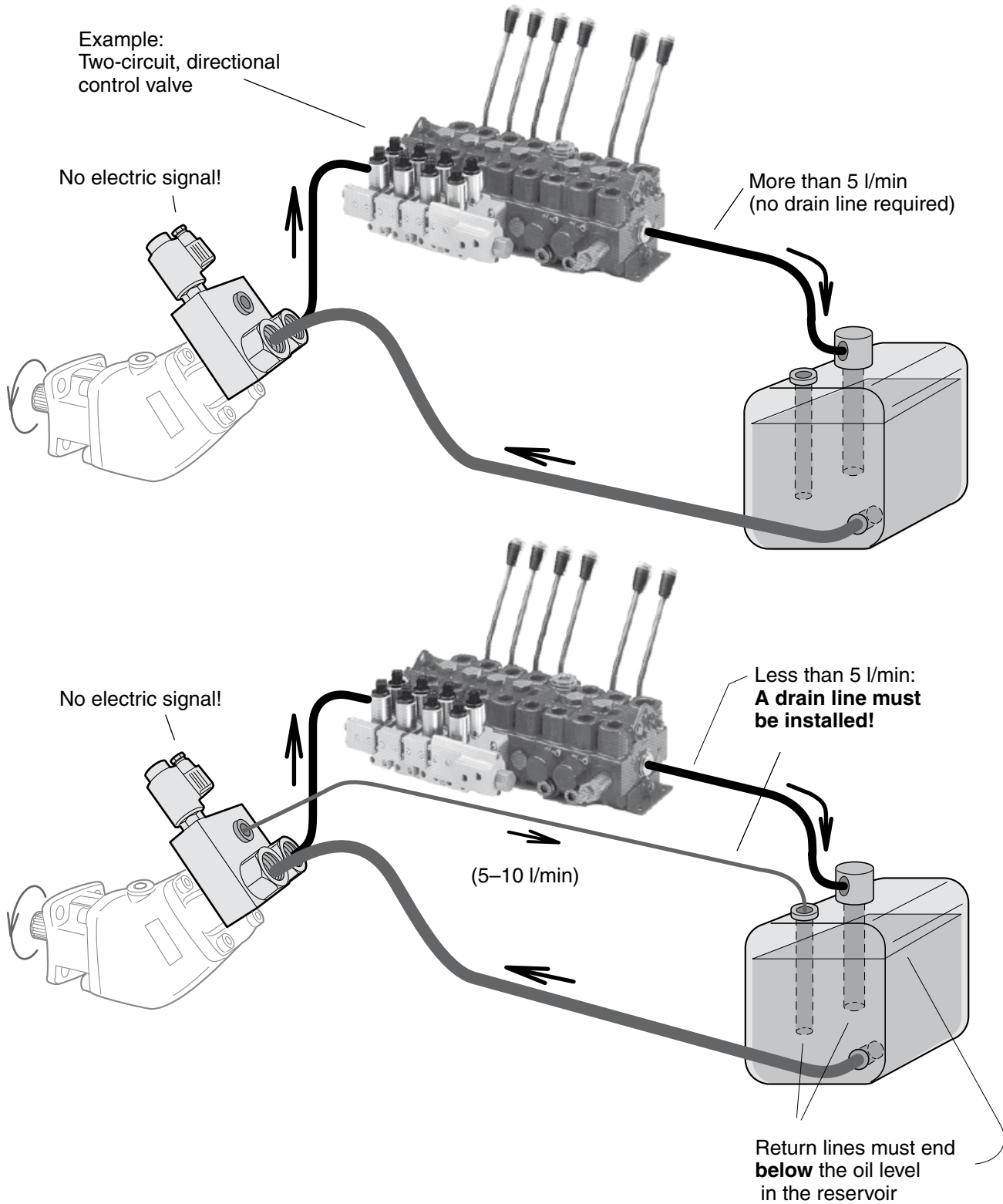


4. Once all contacts are in place, insert orange wedge: receptacles - with half holes aligning with contacts. Plugs - with contacts aligning behind full holes. The orange wedge will snap into place.



NOTE: The receptacle is shown - use the same procedure for plug.

7. Check the return line flow when the pump is in the bypass mode during engine idling.



BPV-F1 and -T1 bypass valves:

24 VDC solenoid is **standard**
 on F1-25/-41/-51/-61, F1-81/-101 and T1-81/-121
 12 VDC solenoid is optional
 on F1-25/-41/-51/-61, F1-81/-101 and T1-81/-121

IMPORTANT!

Always tighten the pressure connector (see below) **before** tightening the cap screws (to 20–25 Nm).

Pressure connector - tighten to:

- BPV-F1-25 to -61 and T1-81:
50 ± 10 Nm
- BPV-F1-81 to -101 and T1-121:
100 ± 10 Nm

'Suction fitting' (kit; not included)

IMPORTANT!

A drain line (not included) **must be installed when required;** refer to information on page 6.

Drain line connector kit:
 - F1-25: P/N 378 1640 (not included)
 - F1-41/ -51/-61/-81/-101, T1-81/-121:
 P/N 378 3039
 (included for -81, -101 and -121)

Plug (remove before installing the drain line connector)

O-ring (included in 'suction fitting')

O-rings

Tighten to 46 ± 3 Nm

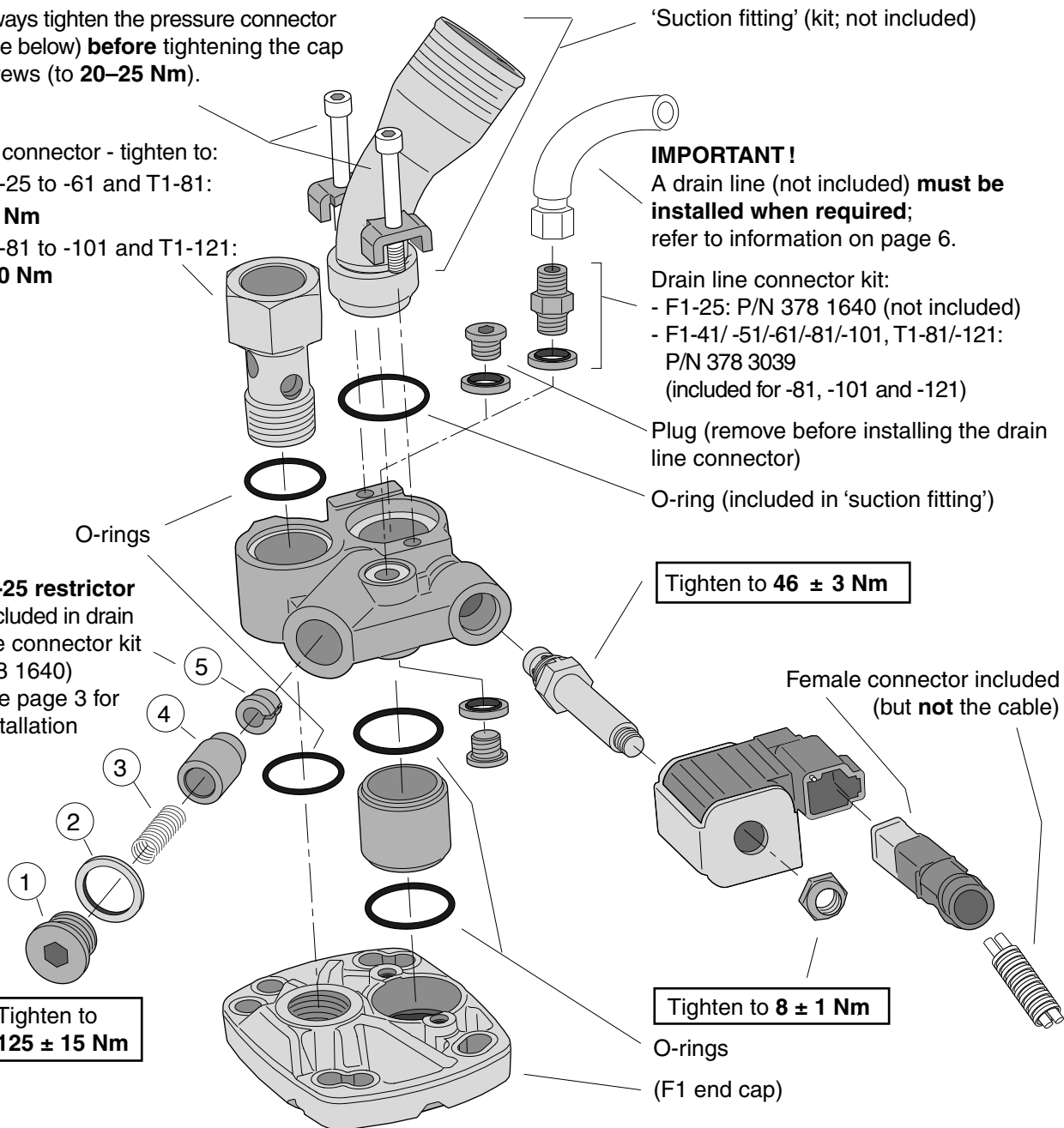
F1-25 restrictor
 (included in drain line connector kit 378 1640)
 See page 3 for installation

Female connector included (but **not** the cable)

Tighten to 125 ± 15 Nm

Tighten to 8 ± 1 Nm

O-rings
 (F1 end cap)



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- SS EN 982+A1:2008,

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Dr. Hans Haas

General Manager Pump and Motor Division Europe
Chemnitz, Chomutov, Trollhättan, Kingswinford



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