

Installation notes for Screw Adaptors (Fig 1, 2, 6) TR3-02, TR3-03, TR3-04 & TR3-12 after the depressurisation of the compressor and the electrical isolation, ready for the TR3 installation.

TR3 is not ready to be installed as the removal of the adaptor (7) is required.

- Remove bolts (1) and spring washer (2).
- Remove adaptor (7) and sight glass (3).
- Make sure that O-rings (4,6) stick to sight glass and adaptor, O-rings are greased and should not fall out.
- Screw adaptor onto compressor sight glass thread (using mounting torques specified by compressor manufacturer).

- TR3-02 Apply Teflon sealant to adaptor thread
- TR3-03 Mount O-ring (8) to the adaptor (7)
- TR3-04 Locate O-ring (8) inside compressor sight glass thread-do not reuse old o-ring
- TR3-12 Locate Teflon gasket (16) into the sight glass connection on the compressor (1-3/4" –12UNF). Apply the Rotalock adaptor (17) and flare nut (20) to the compressors thread. Torque with 90Nm (wrench size 50mm) then apply the Teflon sealant to the 3/4"NPT adaptor (18) and screw with the adaptor flange into the Rotalock adaptor (torque 25Nm). See Fig 6 for installation sequence of parts.

Note: Rotalock adaptors must be checked for tightness after 1-2 days of operation. Insert 3 bolts (1) with spring washer (2) through sight glass and base unit (14) Fig 2.

- Mount base unit to adaptor. Locate groove stamped in adaptor ring in line with main body marking (see Fig 2).
- Bolt complete assembly (1,2,3,4,14) to adaptor (&) with 7Nm torque. The unit must be installed horizontally for proper functioning (see Fig 1)
- Install oil supply line to 7/16-20UNF thread (19). The oil connector has a filter screen and the o-ring can be removed for cleaning purpose or replacement (see Fig 5).
- Connect Pxx (9) horizontally as per Fig 4 to coil and Nxx (10) cable assemblies to TR3. Mount coil (12). Recommended torque for the plug screws is 0.15Nm (hand-tight).

Note: In case of limited space coil and plugs Nxx and Pxx should be mounted prior to installation.

Leakage Test:

After completion of installation, a pressure test must be carried out according to EN378 for systems, which must comply with European pressure equipment directive 97/23/EC. To maximum working pressure of system for other applications.

Warning: Failure to do so could result in loss of refrigerant and personal injury. A pressure test must be conducted by skilled persons with respect, regarding the dangers relating to high pressures.

Electrical Wiring (plugs do not require additional gaskets)

- Connect Nxx (10) cable to relay connection according Fig 1
 A= blue (open in Alarm) B=black (common) C=brown (closed in Alarm)
 Note: Do not switch compressor directly. Use compressors power relay instead.
- Connect Pxx (9) wires to power supply according Fig 1.

To provide correct oil level at any time we recommend to keep the TR3 always powered on. (also during stand-by and shutdown mode of the compressor).

Operation (Figure 3).

The sight glass is divided into three main zones. When the level reaches the yellow zone (2) the TR3 starts filling after a time delay of 10 seconds. When the level drops to the red zone (3) the control will switch the alarm relay contacts on after a time delay of 20 seconds.

The current oil status is indicated with the 3 LED's according to the following table:

LED	Status / Function
● Green	Oil Level in zone 1 (70 – 50%)
● Yellow	Oil Level in zone 2 (50 – 30%) & injection
● Red	Oil Level in zone 3 (30 – 0%) alarm & injection

After connecting the TR3 to the power supply the LED's will immediately show the zone position of the float and if the float is in the fill or alarm position the time delay will start.

Technical Data:

Max working pressure	31 bar	Time delay filling (Yellow)	10 sec
Leakage test pressure	35 bar	Time delay alarm (Red)	20 sec
Solenoid MOPD	21 bar	Medium temperature	-20→80°C
Supply voltage	VAC, 50/60 Hz (+10/-15%)	Medium Compatibility (<i>not released for flammable refrigerants or ammonia</i>)	HFC HCFC
Solenoid Coil	VAC, 50/60 Hz	Storage and transport temp	-20→50°C
Current	0.7 A	Ambient temp (Housing)	-20→50°C
Alarm switch	SPDT	Protection class (DIN43650)	IP65
Alarm contact rating	3A/240 VAC	Oil supply fitting	7/16" –20 UNF (male)

Weight 800→950g depending on adaptor fitted.

- Marking with CE acc. EMC and Low Voltage Directive.

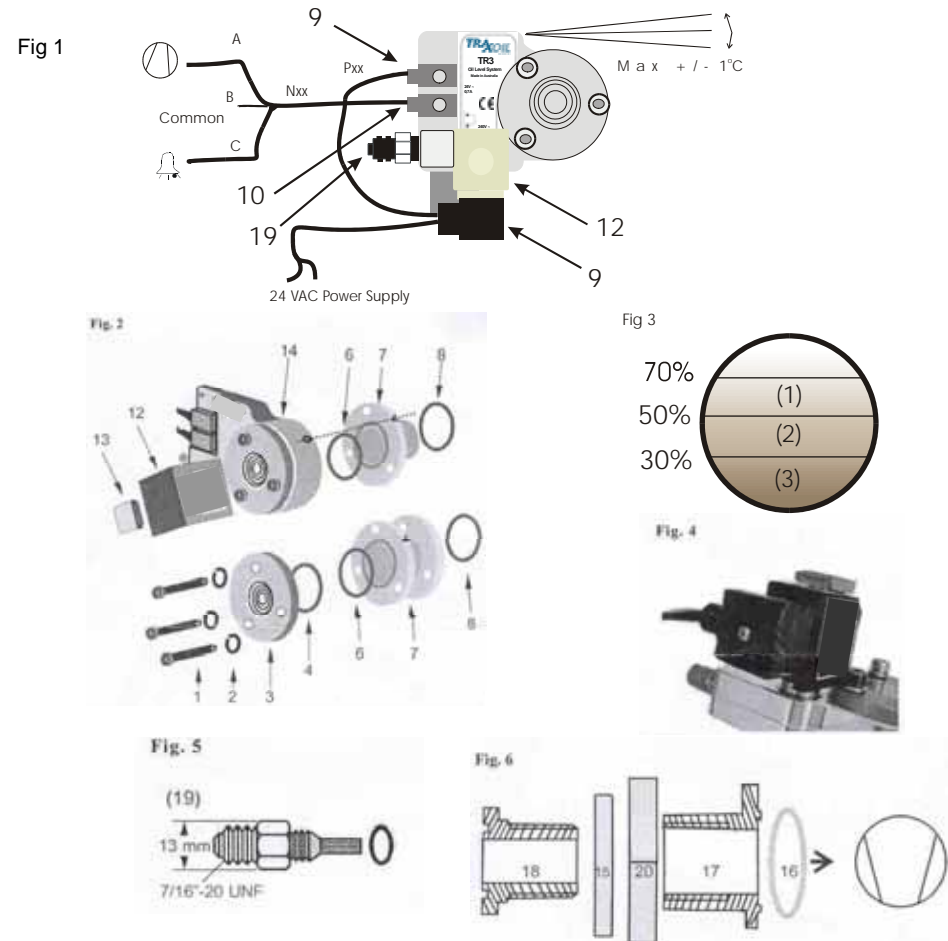


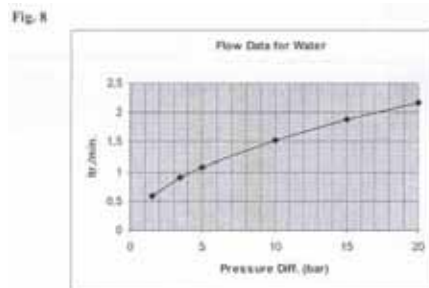
Fig 7

TR3-01	Oil Level System with flange adaptor 3-4 hole
	Bock HA, HG (except HG/HA -34/22 see TR3-03 series)
	Copeland D2, D3, D4, D6, D9, 4CC, 6CC
	Dorin All KP, K sizes (except those under TR-203)
	Frascoold Series A, B, D, F, S, V, Z
TR3-03	Oil Level System with screw adaptor 11/8"-18 UNEF
	Bitzer 2KC, 2JC, 2HC, 2GC, 2FC, 2EC, 2DC, 2CC, 4FC, 4EC, 4DC, 4CC
	Bock HG22/34, HA22/34
	Dorin All H, K100CC/CS, K150CC/CS, K180CC/CS, K200CC, K230CS, K235CC, K240SB, K40CC, K50CS, K75CC/CS
	L'Unite Hermetique TAH, TAG
TR3-02	Oil Level system with screw adaptor 3/4" 14 NPTF
	Bitzer ZL, ZM Copeland ZB, ZF, ZS
TR3-04	Oil Level system with screw adaptor 1-1/8" 12 UNF Copeland DK, DL
TR3-07	Oil Level system with flange adaptor 3-hole Copeland D8D, D8S (except D8SJ and D8SK), Terry VS
TR3-12	Oil Level system with Rotalock adaptor 1-3/4" 12 UNF Copeland ZR90 to ZR19M, ZR250 to ZR380, ZRT180K to 380K

Part numbering:

- TR3 TraxOil 3,
- '-' may be replaced with numeral for differing regions,
- 01 Last two digits refers to the adaptor number.

TraxOil offers to the best of its knowledge the correct information but cannot be held responsible for discrepancies and variations between compressors and/or compressor manufacturers. Installers should check suitability with the respective compressor manufacturer for compatibility.



TraxOil TR3 is an electronic oil level management system. It uses a hall sensor to measure the oil level. The integrated solenoid valve is used to feed oil directly into the compressor sump when the compressor is showing low oil levels. If the correct oil level cannot be reached and the oil level reaches the red zone area, the TR3 then outputs an alarm signal. The alarm contacts can then be used to shutdown the compressor.

Safety Instructions:

- Read the installation instructions thoroughly as failure to comply can result in the TR3 failure, system damage or personal injury.
- These instructions are intended for use by persons having the appropriate knowledge and skill.
- Before opening any system make sure the pressure in the system is brought to and remains at atmospheric pressure.
- The supply voltage and current of electric devices are to match the ratings on the TR3 nameplate.
- Remember to disconnect the supply voltage from the system before the TR3 installation or service.
- Do not exceed test pressure and keep temperatures within nominal limits.
- Notes: Float contains lead and has to be recycled after it's useful life.

The TR3 cannot be combined with older TO adaptors.

System Components for figures 1 and 2

- | | |
|------------------------------|------------------------------------|
| 1. Sight Glass Screws | 8. Compressor O-ring |
| 2. Washers | 9. Coil Connector Pxx |
| 3. Sight Glass | 10. Relay Connector Nxx with screw |
| 4. Sight Glass O-ring | 12. Solenoid Coil |
| 6. Adapter O-ring | 14. Base Unit |
| 7. Adapter (flange or screw) | |

System Components for figures 5 and 6

- | | |
|------------------------|---|
| 15. Adapter Flange | 18. 3/4" NPT Adapter |
| 16. Gasket CCD Adapter | 19. 7/16" UNF Connector with cap/o-ring |
| 17. Rotalock Adapter | 20. 50mm Flare Nut for Rotalock |

Installation notes for Flange Adaptors (Fig 1, 2) TR3-01 & TR3-07 after the de-pressurisation of the compressor and the electrical isolation, ready for the TR3 installation.

TR3 is ready to install, please do not disassemble.

- Remove sight glass from compressor.
- Mount O-ring (8) to adaptor (7) acc Fig 2.
- Mount TR3 to compressors original sight glass connection with adapter in place.
- Use original sight glass screws –threads differ depending on compressor model.
- The TR3 unit must be installed horizontally for proper functioning (see Fig 1), also checking the level of the compressor.
- For mounting torque: see compressor manufacturers installation instructions.
- Install oil supply line to 7/16-20UNF thread (19). The oil connector has a filter screen and the o-ring can be removed for cleaning purposes or replacement (see Fig 5).

Note: In case of limited space, coil and plugs should be mounted prior to installation to the compressor. Mount coil (12). Then connect Pxx (9) and Nxx (10) cable assemblies to TR3 and coil. Recommended torque for the plug screws is 0.15Nm (hand-tight).