Installation Instructions
for
Line Mounted ROMET Meters

RM600 – RM56000   RM16 – RM1600   G10 – G1000

➢ This bulletin covers the general installation of all ROMET rotary meters.

➢ A Romet meter is a precise gas volume measuring instrument (cash register), manufactured to very tight tolerances. **Rough** handling of the meter must be avoided to prevent damage.

➢ To prevent external/internal damage, dirt or oil contamination of the meter, always **transport** the meter in a protective container with the meter capped at both opening ends, including the instrument drive assembly (if applicable), and **WITHOUT** oil.

➢ Always add oil **after** the meter has been correctly installed at the meter site.

➢ Installation of a Romet rotary meter is a relatively simple procedure if the meter set is properly constructed. The piping and flange position of the meter set should be such that there is adequate **area spacing** between the meter and any pipe, wall or any other possible obstruction. This spacing will allow for ease of maintenance or the addition or removal of devices; such as, a meter module, batteries or any other auxiliary instruments.

➢ Furthermore, all full faced pipe flanges installed (raised flanges are **not** recommended) must be **level** and spaced so that the meter together with the top and bottom gaskets can be positioned between the flanges easily and with the least amount of air gap (maximum 1/16" (1.6 mm) per linear foot (30.5 cm) of flange) before tightening. If the meter is not level, it is possible to improperly fill the oil reservoirs or over-stress the meter after tightening the flange bolts. This condition may cause the meter to read incorrectly or result in complete meter failure.

Care must also be taken to ensure that the piping and flanges are **aligned** correctly in relation to the meter (maximum 1/16" (1.6mm) in all directions). **DO NOT** use the meter to correct misaligned piping or flanges. Excessive misalignment or distance between piping or flanges may over-stress the meter body when the flange bolts are tightened. Severe over-stress may cause the meter to read incorrectly or result in complete meter failure.

The use of a "spool piece" is recommended to help level and align piping and/or flanges in relation to the meter before meter installation. These spools are available from Romet.

➢ To **protect** the meter (and any other critical devices) from internal damage, the gas passing through a meter set must be clean (i.e. free of rust, scale, grease, pipe paste, wadding, weld beads, etc.).

The use of a filter (e.g. Romet Screen "T" filter, typically 80 mesh/178 micron size) or strainer installed upstream of the meter set is strongly recommended to insure adequate internal meter protection.

➢ Before installing a Romet meter, a quick check should be performed.
First, **remove** the meter from the protective container and check the overall condition for any possible damage or any other problems. Remove the capping from each end of the meter openings. Lightly blow some air into the inlet of the meter. This should cause the impellers to rotate freely and eventually come to a gradual stop.
Should the impellers stop suddenly or not rotate after blowing into the meter, it will be necessary to **carefully** remove any obstruction before installation. If this is not possible, the meter should be returned to the service shop for further examination.

➢ Ensure that the meter is mounted in the correct gas **flow arrow direction and position.** Meters are normally installed using the following hardware items listed in Table 1. The use of incorrect hardware may result in meter error or failure. All bolts should be tighten in a X pattern, in stages, up to a typical torque value of 20 ft lbs (27 Nm). Some Romet meters are supplied with nippled connections at the inlet and outlet. These meters are built and tested with the connecting nipples in place. Care must be taken to avoid further tightening or loosening of these nipples to prevent meter damage. Install auxiliary instrumentation as required.

➢ After the meter has been properly installed, **approved meter oil** must be added to all appropriate oil reservoirs to prevent possible meter errors or damage. Depending on the meter type and mounting position (vertical or horizontal), the required oil volumes will be different. **DO NOT** over or under fill oil reservoirs. For the thrust cover end and the magnetic housing (not found on all meter types), oil must be added so that the oil reaches the **centre point** of the correct oil level gauge (OLG) in use. For the module cover, the oil must reach the appropriate **RED** oil level line (note **-** centre point of the OLG for standard counter modules).
DO NOT fill electronic sections with oil.

Note: After meter start up, some oil levels may drop a little and/or form a thin bubble or meniscus layer due to oil splash happening within the oil reservoir.

- Refer to "Oil Loss Bulletin", Rev. OL-0111.

Approved meter oil is available from Romet in one quart (litre) plastic bottles. Other approved oil: Shell Morlina 10 (previously known as Shell Tellus 10). Use only one type of oil **(never mix** different oils together). The **addition** of oil additives will change oil properties which may cause the meter to read incorrectly or result in complete meter failure.

➢ Ensure all oil plugs (and any other connections) are properly tightened and secured before pressurizing the meter set.

➢ When the meter installation has been completed, the meter set should be pressurized **SLOWLY** (maximum 5 psig or 35 kPa per second) up to the allowable operating pressure specified to avoid internal over-speed or slamming of the meter. Should the installation be subject to sudden "INSTANT ON-OFF" loads, a properly sized restricting orifice or venturi flow nozzle should be installed downstream of the meter to protect the meter from damage.

➢ Check for any gas leaks or other possible problems.

➢ After start up, the readout counter or drive should be running smoothly and in the correct direction when the required gas flow condition has been reached.

➢ **Note:** For further information, refer to Romet "Installation & Maintenance" RM or G series booklets. Since **this publication** is a general guide, always refer to your company's standard practices for other details. This Bulletin is based on actual field problems encountered and gas industry standards.

Warning: Tampering or modifying design of product may cause a potentially hazardous situation.
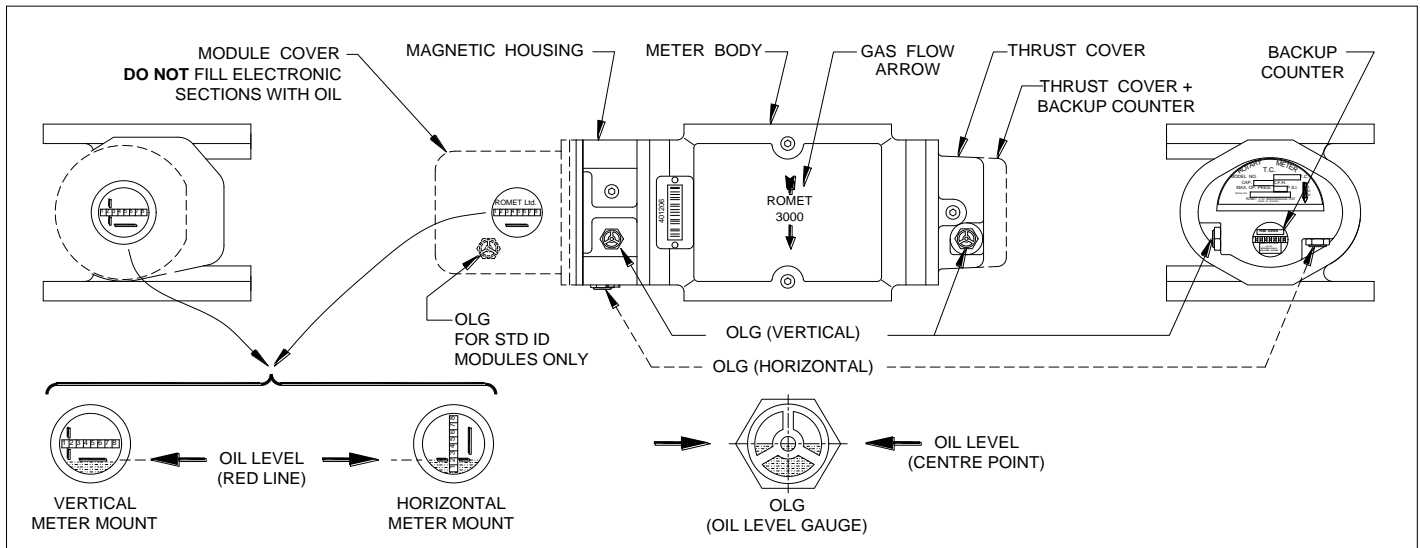

TABLE 1 HARDWARE SPECIFICATION TABLE

METER MODEL	FLANGE/GASKETS (FULL FACE)	BOLTS (STEEL, ZINC PLATED)
RM600-RM1500 RM16-RM40	ANSI class 125/150 2"	⅝" – 11 x 1.5" long Hex Head SAE Grade 5
RM2000-RM3000 RM55-RM85	ANSI class 125/150 2"	⅝" – 11 x 1.75" long Hex Head SAE Grade 5
RM5000-RM7000 RM140-RM200	ANSI class125/150 3"	⅝" – 11 x 2" long Hex Head SAE Grade 5
RM11000-RM23000 RM300-RM650	ANSI class 125/150 4"	⅝" – 11 x 2" long Hex Head SAE Grade 5
RM25000-RM56000 RM700-RM1600	ANSI class 125/150 6"	¾ " – 10 x 2.5" long Hex Head SAE Grade 5
G10 – G25	PN16 40mm	M16 x 35mm long Hex Head DIN 931 Grade 8.8
G40	PN16 40/50 mm	M16 x 45mm long Hex Head DIN 931 Grade 8.8
G65	PN16 50mm	M16 x 45mm long Hex Head DIN 931 Grade 8.8
G100	PN16 80mm	M16 x 50mm long Hex Head DIN 931 Grade 8.8
G160	PN16 80/100 mm	M16 x 50mm long Hex Head DIN 931 Grade 8.8
G250 - G400	PN16 100 mm	M16 x 50mm long Hex Head DIN 931 Grade 8.8
G400/150-G1000	PN16 150 mm	M20 x 60mm long Hex Head DIN 931 Grade 8.8

❖ All bolts should be installed with approved anti-seize grease and standard steel zinc plated flat washers.

MECHANICAL METER MOUNTING POSITIONS

STANDARD FLOW

REVERSED FLOW

INCORRECT MOUNTING