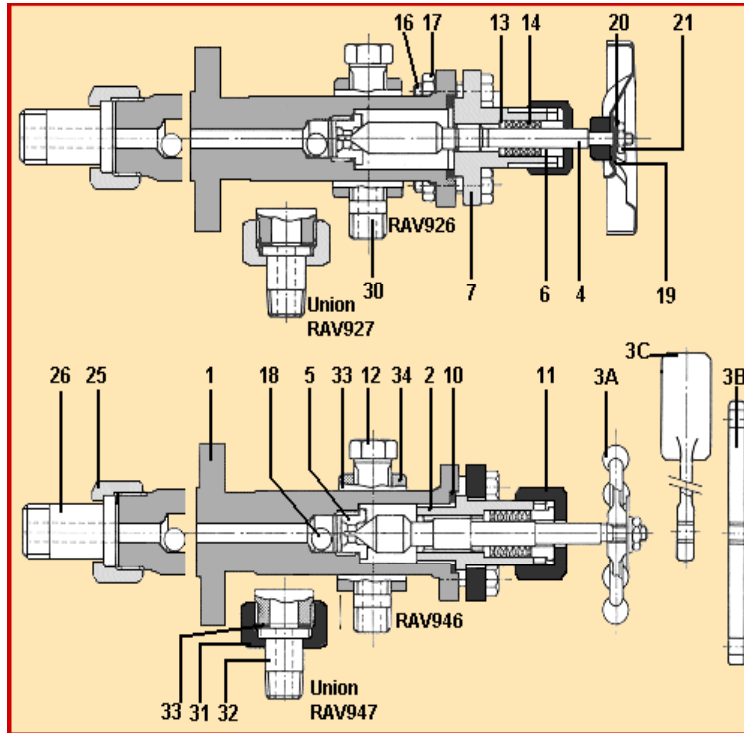




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INSTALLATION AND SERVICE GUIDE
KLINGER Level gauge valves
RAV 946, RAV 947 (Inside screwed)



1 COMMISSIONING

During the commissioning period the spindle gland and sea ring joints could settle and it is essential therefore to follow up all clamping nuts to maintain the leaktight seal.

2 MAINTENANCE INSTRUCTIONS

2.1 Any leaks which appear during service should immediately be stopped by following up at the appropriate point, i.e. bonnet nuts, union nuts and spindle gland.

Item	Part list	Item	Part list
1	Valve body	16	Bolt
2	Bonnet	17	Nut
3A	Handwheel (plain closing)	18	Ball-check
3B	Double-ended lever (90° operation)	19	Plate name
3C	Weighted lever (168° operation)	20	Washer
4	Spindle	21	Nut
5	Valve seat	25	Union ring
6	Gland	26	Union tailpipe
7	Bonnet flange	30	Nipple
10	Bonnet joint ring	31	Union nut
11	Gland nut	32	Union tailpipe
12	Taper plug	33	Joint ring
13	Bottom ring	34	Cap nut
14	Gland packing		

Further information

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2.2 The spindle on a RAV valve has a splined end. With double ended (3B) or Weighted levers (3C), the lever can be removed and repositioned to allow for wear.

2.3 Removing gauge

926 / 946 - As this valve is connected to the gauge with a nipple it is necessary to remove the valves and gauge from the vessel:

- With valves in the open position drain vessel to a level below that of bottom connection. (See also 4.2)
- Relieve vessel and gauge of internal pressure.
- Unscrew valves from gauge (standard R.H. thread).
- When re-assembling unit, follow gauge commissioning procedure to bring the gauge and valves back into service.

927 / 947 - This type of valve has a union nipple connection to gauge and therefore the gauge can be detached without removing valves from vessel:

- Close top and bottom gauge valves, ensuring leak-tight seal.
- Relieve gauge of internal pressure by means of drain cock or plug.
- Release union nuts (part 31) and slide gauge from between valves.
- Re-assemble using new joint ring (part 33) following gauge commissioning procedure to bring the gauge and valves back into service.

2.4 Repacking spindle gland

- With valves in the open position drain vessel to a level below that of bottom connection (see also 4.2).
- Relieve vessel and gauge of internal pressure.
- Close valve fully.
- Remove handle (part 3).
- Remove gland nut (part 11) and gland (part 6).
- Remove all the old packing, ensuring retention of bottom ring (part 13).
- Insert new gland packing and re-assemble.
- Follow gauge commissioning procedure to bring the gauge and valves back into service.

2.5 Dismantling and Assembling valve

- With valves in the open position drain vessel to a level below that of the bottom connection (see also 4.2).
- Relieve vessel and gauge of internal pressure.
- Unscrew bonnet clamp nuts (part 17) and remove the bonnet clamp plate.
- Remove top assembly. This allows easy access to valve seat and spindle for examination and replacement if necessary.
- To re-assemble, clean joint faces and renew joint ring (part 10).
- Check that the spindle is in the fully open position, to avoid damage to spindle or seat.
- Replace top assembly and tighten bonnet clamp nuts to 20 lbs. ft (2.8 daN.m) for stainless steel valves and 30 lbs.ft. (4.1 daN.m) for carbon steel valves.
- Follow gauge commissioning procedure to bring the gauge and valves back into service.

3 REFURBISHING

No refurbishing should be necessary other than the repacking of spindle gland.

4 IMPORTANT INSTRUCTIONS

4.1 Use only original KLINGER replacement parts,

4.2 If primary isolation valves are fitted it is not necessary to drain the vessel or relieve it of internal pressure. With RAV valves in the open position close isolating valves and relieve gauge and cocks of internal pressure. Then continue as for standard procedure.

5 SPARES

When ordering spares, please quote:

- valve material.
- type number of valve
- part number
- part description

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