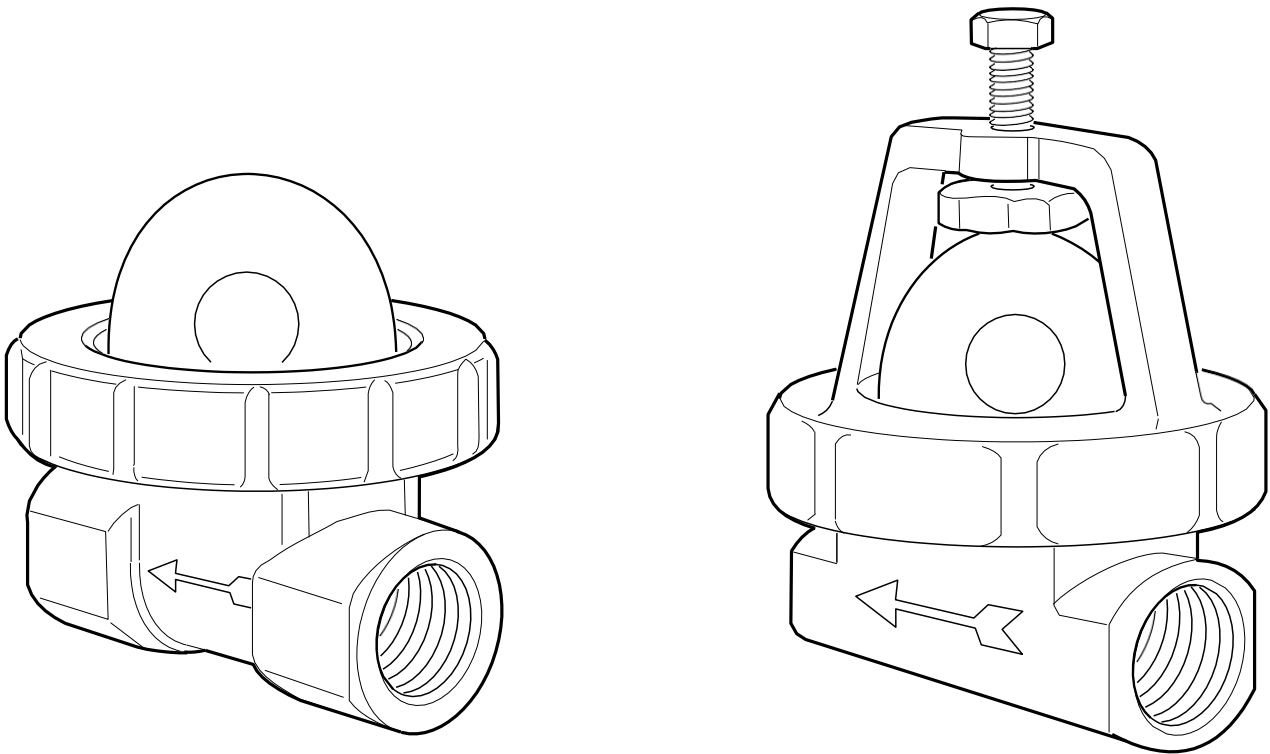


rada
CONTROLS

Ball Type Flow Indicators



PRODUCT MANUAL

IMPORTANT

Installer: This Manual is the property of the customer and must be retained with the product for maintenance and operational purposes.

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If you experience any difficulty with the installation or operation of your new Flow Indicator, then please contact Kohler Mira Limited. Our telephone and fax numbers can be found on the back cover of this guide.

SAFETY : WARNINGS

The function of the Ball Type Flow Indicator is to provide a visual indication of the flow of either a gas or liquid. This requires that:

1. It is installed, commissioned, operated and maintained in accordance with the recommendations given in this Manual.
2. Periodic attention is given, as necessary, to maintain the product in good functional order. Recommended guidelines are given in the **MAINTENANCE** section.
3. Continued use of this product in conditions outside the specification limits given in this Manual can present potential risk to users.

INTRODUCTION

The Rada Ball Type Flow Indicators are specified to meet the highest standards of safety, comfort and economy as demanded by today's users. All Rada products are designed, manufactured and supported in accordance with accredited BS EN ISO 9001:1994 Quality Systems.

This Manual covers all Rada Ball Type Flow Indicators manufactured from August 1996.

DESCRIPTION

A range of 1/2", 3/4" and 1" Ball type flow indicators suitable for use with gas, air, oil, water, petrol or any other liquid which can be used with either the bronze or stainless steel construction of the unit.

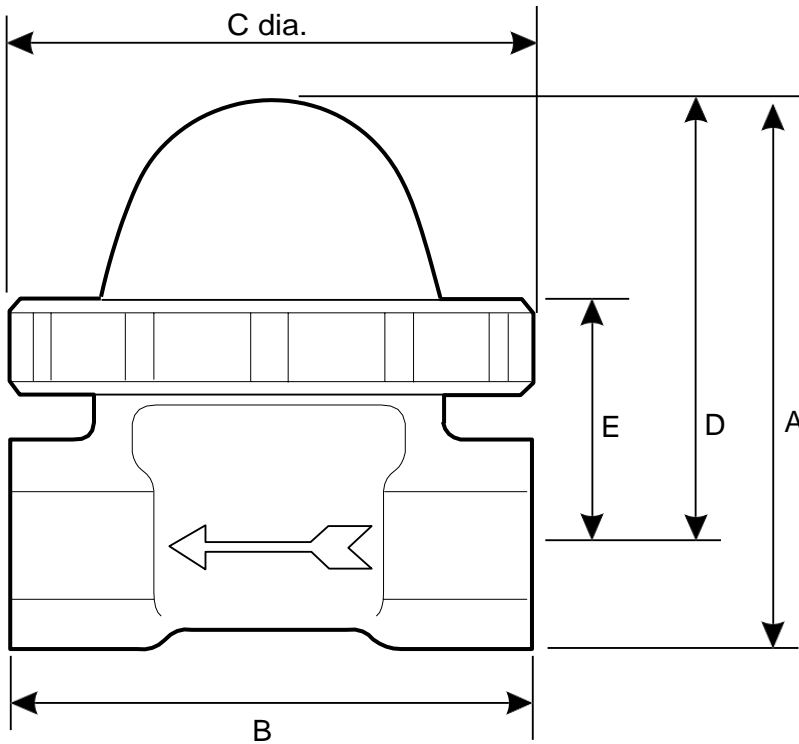
Standard Made in 1/2", 3/4" and 1" sizes, die cast bronze body and shatter-resistant borosilicate dome. Suitable for temperatures up to 82°C and pressures up to 7 bar (100 psi) .

High Temperature Made in 1/2" size only, either die cast bronze or stainless steel body, high temperature joint rings and polyethersulphone ball. Suitable for temperatures up to 120°C.

High Pressure Made in 1/2" size only, aluminium bronze body and high pressure cap assembly. Suitable for pressures up to 21 bar (300 psi) and temperatures up to 120°C.

DIMENSIONS

Dimensions (All dimensions in mm)



	Model		
	1/2"	1/2" HP	3/4" & 1"
A	70	105	93
B	73	73	109
C	70	70	94
D	56	56	73
E	35	35	42

SPECIFICATION

Flow Ranges Starting flow:

Indicator Size	Liquid (l/min)	Gas (m ³ /min)
1/2"	0.44	0.014
3/4"	0.70	0.056
1"	0.77	0.056

Maximum Pressure and Temperature

Model	Pressure	Temperature
Standard (1/2", 3/4" & 1")	7 bar	82°C
High Temperature (1/2")	7 bar	120°C
High Pressure (1/2")	21 bar	120°C

Connections

Female screwed connections normally in BSP fittings but can also be supplied in ANPT (1" Version only).

INSTALLATION

General

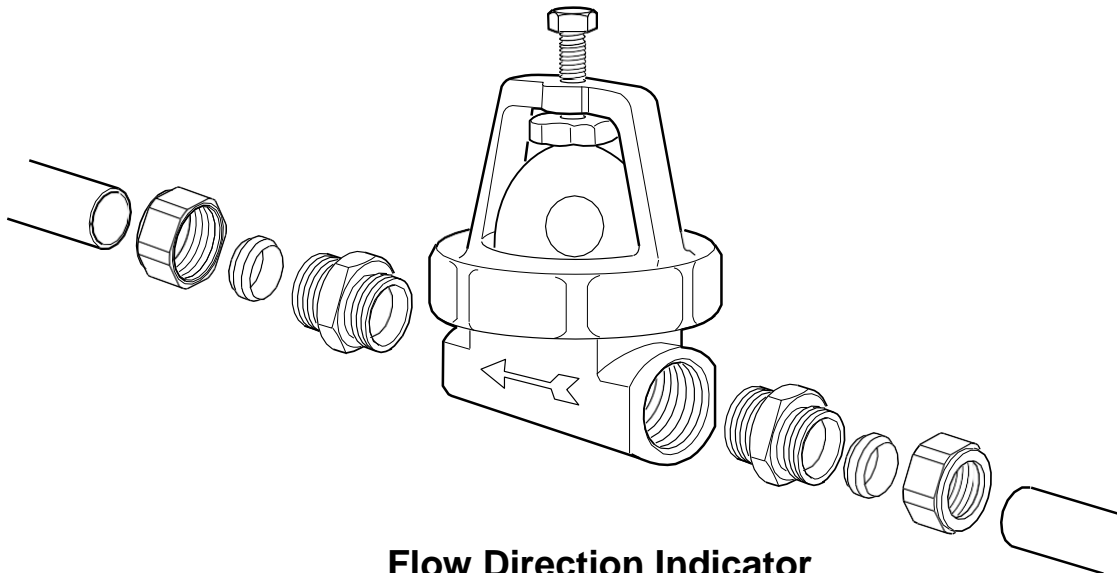
Installation must be carried out in accordance with these instructions, and must be conducted by designated, qualified and competent personnel.

1. Before commencing, ensure that the installation conditions comply with the information given in **SPECIFICATION**.
2. Care must be taken during installation to prevent any risk of injury or damage.
3. Conveniently situated isolating valves must be provided for maintenance.
4. Pipework must be rigidly supported.
5. Inlet and outlet threaded joint connections should be made with PTFE tape or liquid sealant. Do not use oil-based, non-setting jointing compounds.
6. **To eliminate pipe debris it is essential that supply pipes are thoroughly flushed through before connection to the Ball Type Flow Indicator.**

Installation

The Ball Flow Indicator must be installed horizontally with the glass dome uppermost to enable the ball to drop from sight when the flow stops. The flow direction must be as indicated by the arrow on the side of the Indicator.

Note! If installed in the opposite direction to the flow the Indicator will obstruct the flow.



Flow Direction Indicator

MAINTENANCE

Maintenance is limited to general cleanliness only.

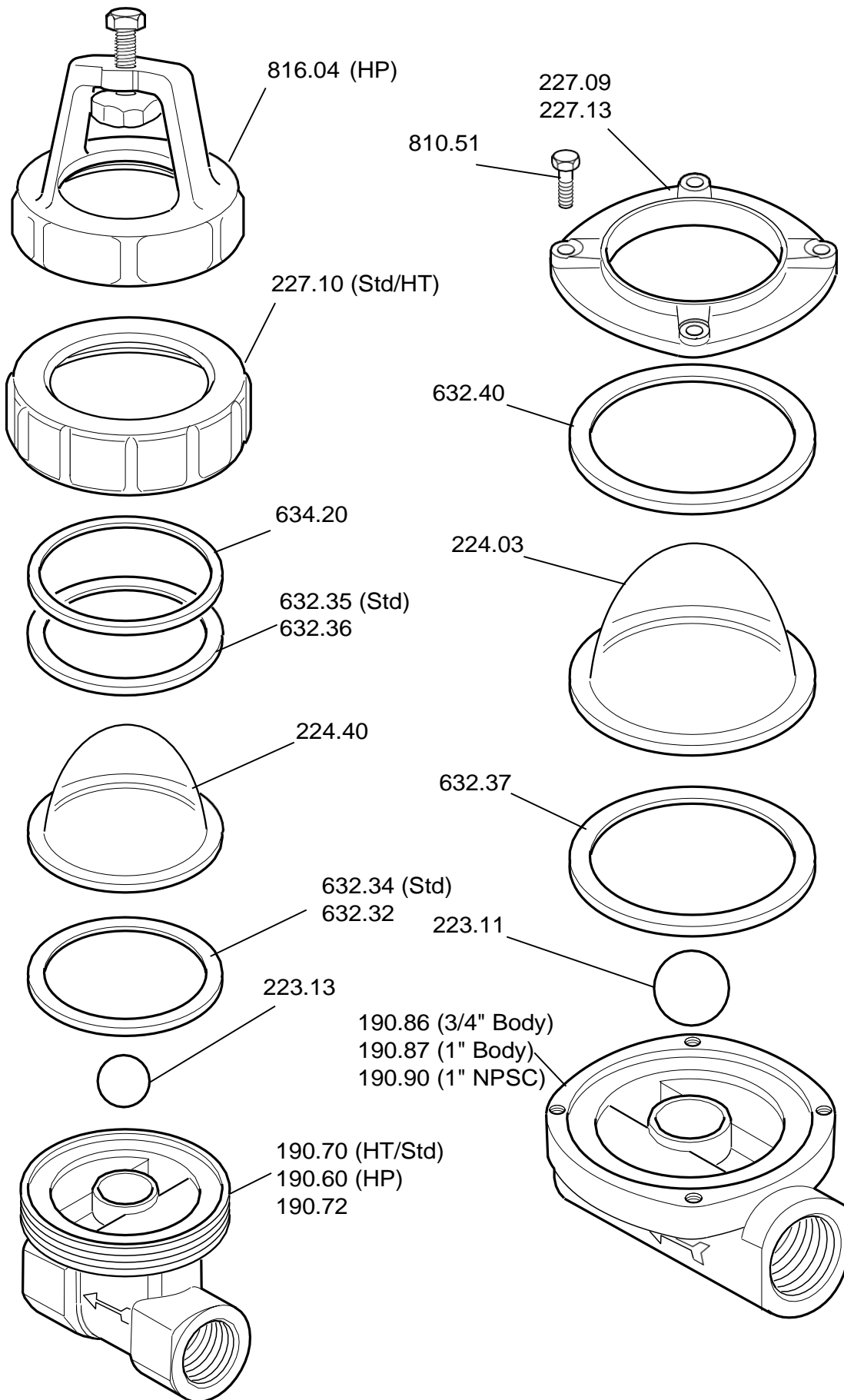
Note! ONLY silicone based lubricants to be used with this product.

SPARE PARTS

Spare Parts List

190.60	Body, (1/2" HP Model)
190.70	Body, (1/2" Model)
190.86	Body, (3/4" Model)
190.87	Body, (1" Model)
190.90	Body, (1" NSPC)
223.11	Indicator Ball, (3/4" & 1" Models)
223.13	Indicator Ball, (All 1/2" Models)
224.03	Sight Glass, (3/4" & 1" Models)
224.40	Sight Glass, (1/2" Models)
227.9	Clamping Ring, (3/4" & 1" Models)
227.10	Clamping Ring, (1/2" Models)
632.32	Lower Sealing Washer, (1/2" HT & HP Models)
632.34	Lower Sealing Washer, (1/2" Models)
632.35	Upper Sealing Washer, (1/2" Models)
632.36	Upper Sealing Washer, (1/2" HT & HP Models)
632.37	Lower Sealing Washer, (3/4" & 1" Models)
632.40	Upper Sealing Washer, (3/4" & 1" Models)
634.20	Gasket, (1/2" Models)
610.51	Screw, (3/4" & 1" Models), 4 off
816.04	Cap Assembly, (1/2" HP only)

Spare Parts Diagram



CUSTOMER CARE

Guarantee

This product is guaranteed against any defect of materials or workmanship for one year from the date of purchase, provided that the product has been installed correctly and used in accordance with the instructions supplied.

Any part found to be defective during the guarantee period will be replaced or repaired - at our option - without charge, provided that the product has been properly used and maintained. Routine cleaning and maintenance should be carried out in accordance with the instructions supplied.

The product should not be modified or repaired except by a person authorised by Rada.

Your statutory rights are in no way affected by this guarantee.

After Sales Service - how we can help you

We have a network of fully trained staff ready to provide assistance, should you experience any difficulty operating your Rada equipment.

Spare Parts

All functional parts of Rada products are kept for up to ten years from the date of final manufacture.

If during that period, our stock of a particular part is exhausted we will, as an alternative, provide an equivalent new product or part at a price equating to the cost of repair to the old, bearing in mind the age of the product.

Customer Care Policy

If within a short time of installation the product does not function correctly, first check with the operation and maintenance advice provided in this Manual to see if the difficulty can be overcome.

Failing this, contact your installer to ensure that the product has been installed and commissioned in full accord with our detailed installation instructions.

If this does not resolve the difficulty, please ring your nearest Rada contact who will give every assistance and, if appropriate, arrange for the local Service Engineer or Agent to call on a mutually agreeable date.

Contact: Åkesson & Blomqvist AB

Tel: 060-61 11 25, Sundsvall

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Rada is a registered trade mark of
Kohler Mira Limited.
The company reserves the right to alter
product specifications without notice.

BS EN ISO 9001 : 1994
Reg. No. FM 14648



The logo features the word 'rada' in a bold, lowercase, italicized sans-serif font. Below the text are three horizontal lines of varying lengths, creating a stylized underline effect.