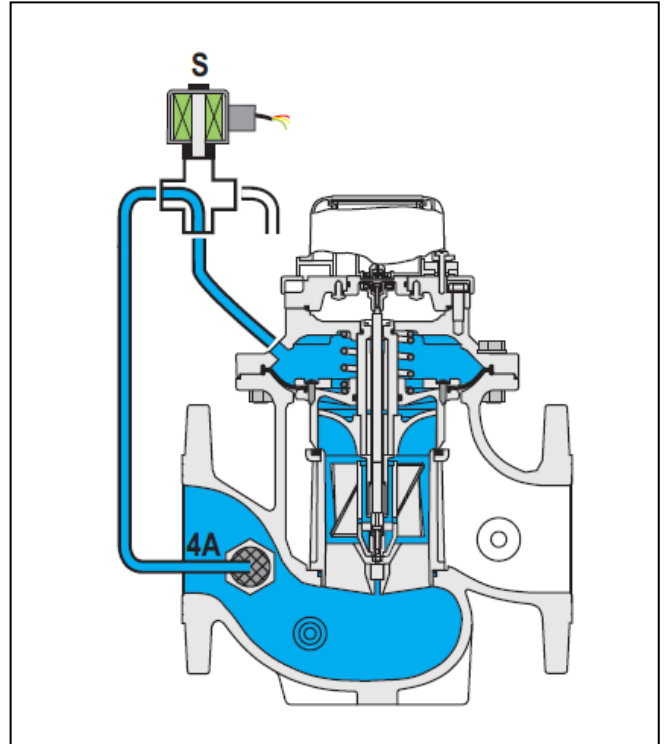


## Hydrometer Magnetic Drive with solenoid control (Sizes 1.5"- 4"; DN40-100)

### Description:

The BERMAD Hydrometer with Solenoid Control integrates a Vertical turbine Woltman-type water meter with a diaphragm actuated hydraulic control valve. The impeller drive is magnetically coupled to a vacuum-sealed meter register in the control head. As the system's Flow Meter and Main Valve, it controls system irrigation together with the irrigation controller. The BERMAD Model IR-910-M0-X opens and Shuts in response to an electric signal.



### Installation:

1. Ensure enough space around the valve assembly for future maintenance and adjustments.
  2. Prior to valve installation, flush the pipeline to insure flow of clean fluid through the valve.
  3. For future maintenance, install Isolation gate valves upstream and downstream from Bermad control valve.
  4. Install the valve in the pipeline with the valve flow direction arrow in the actual flow direction.
  5. For best performance, it is recommended to install the valve horizontally and upright.
  6. After installation carefully inspect/correct any damaged accessories, piping, tubing, or fittings.
  7. Cross-Check solenoid specifications with design requirements and solenoid/coil label.
  8. Ensure approved cable protection. Confirm that the wires data meet solenoid specifications.
- Note:** Energizing the solenoid coil when it is not fixed in its place, is dangerous and might burn the coil.
9. It is highly recommended to install a strainer Bermad model 70F upstream from the pressure reducing hydrometer, to prevent debris from damaging valve operation.

### Commissioning & Calibration:

1. Confirm that the In-line filter arrow [4A] direction is in the valve flow direction.
2. Allow the valve to open by using the solenoid manual override or by: Operating the solenoid.
3. Open fully the upstream isolating valve and slowly open the downstream isolating valve, to fill-up, carefully, the consumers' line downstream from the Valve.
4. Vent air from the valve's control loop by loosening cover tube fitting at the highest point, allowing all air to bleed. Then Retighten the tube fitting.
5. Check valve solenoid control feature by De-Energizing & Energizing the solenoid to close & open the valve.

## Trouble-Shooting:

Symptoms	Cause	Remedy
<b>Valve fails to open</b>	1. Not sufficient inlet pressure. 2. Not sufficient flow. 3. Solenoid functioning	1. Check for sufficient inlet pressure- 2. Create demand/flow. 3. Check solenoid power supply, coil & Manual Override Handle position
<b>Valve fails to close</b>	1. Control circuit is clogged. 2. Debris- 3. Diaphragm- 4. Solenoid functioning	1. Check for any debris trapped in the valve control circuit. 2. Check for any debris trapped in the valve body. 3. Check diaphragm is not leaking- 4. Check solenoid power supply, coil & Manual Override Handle position

## Preventive Maintenance:

1. System operating conditions that effect on the valve should be checked periodically to determent the required preventative maintenance schedule.
2. Maintenance instructions:
  - 2.1. Tools required:
    - 2.1.1. Metric and imperial wrenches
    - 2.1.2. Anti-seize grease
    - 2.1.3. Visual inspection to locate leaks and external damages
  - 2.2. Functional inspection including: closing, opening and regulation.
  - 2.3. Close upstream and downstream isolating valves (and external operating pressure when used)
  - 2.4. Once the valve is fully isolated vent pressure by loosening a plug or a fitting.
  - 2.5. Open the screw nuts and remove the cover unit from the valve body. Disassemble necessary control tubs.
  - 2.6. It is highly recommended to stock a reserve parts assembly for each size. This allows minimum system field work. And system down time.
  - 2.7. Disassemble the cover and examine the inside parts carefully for signs of wear, corrosion, or any other abnormal conditions.
  - 2.8. Replace worn parts and all the Elastomers. Lubricate the bolts and screws threads with Anti seize grease.
  - 2.9. Winterizing /freezing prevention: drain the valve & the valve accessories (pilot, solenoid) on time.

## Spare Parts

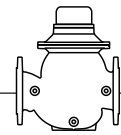
Bermad has a convenient and easy to use ordering guide for valve spare-parts and control system components.

For solenoid valves refer to model and S/N on solenoid tags.

Pub # : IOMIR-910-M0-X-1.5" 4"	By : YG 7/12	Rev: YG 7/12	File name : IOMIR-910-M0-X-1.5"-4"- 7/12	PT1AE08-01
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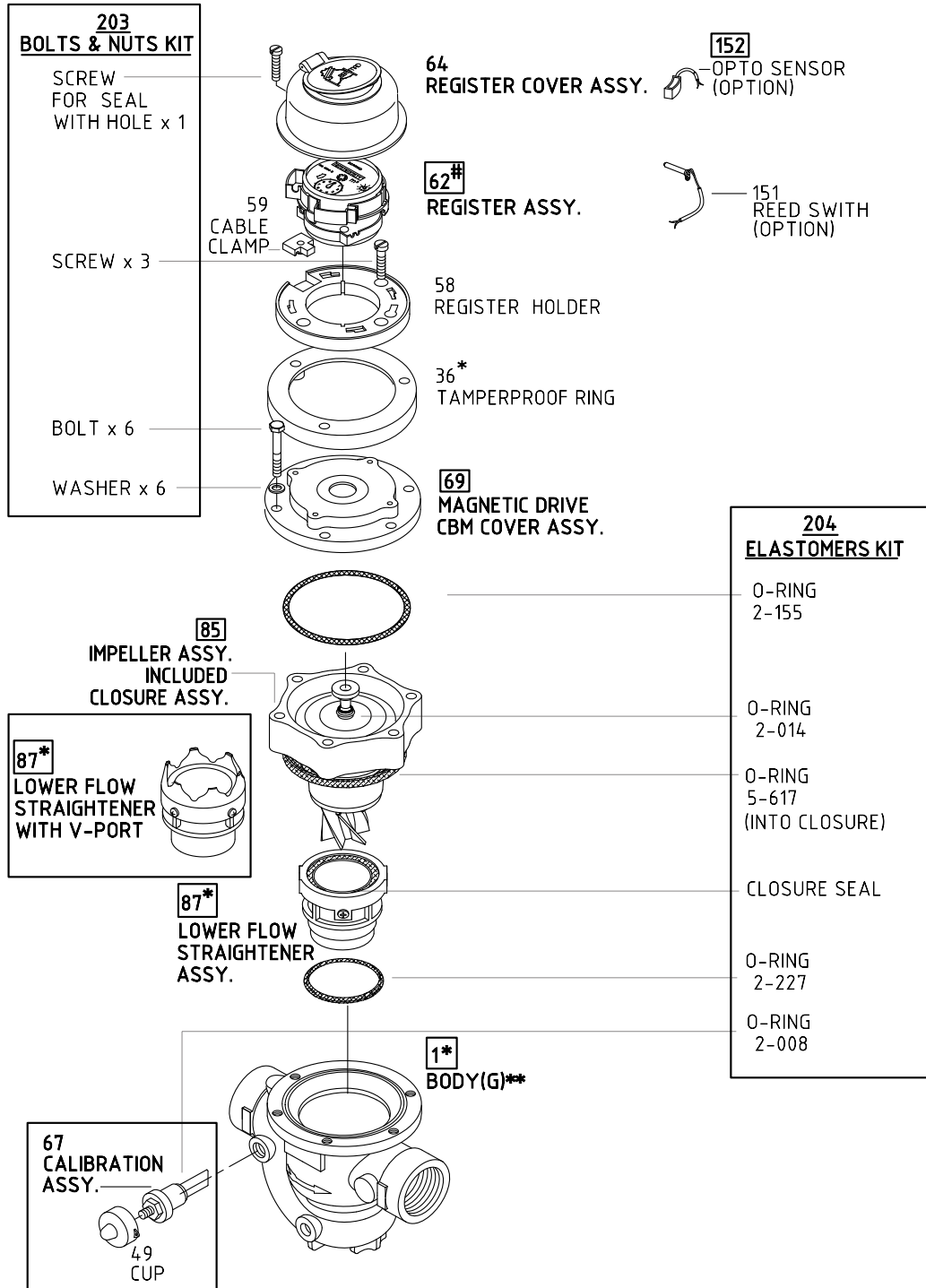
# BERMAD IR Spare Parts



900 Series

## CBM - Magnetic Drive Hydrometers

Sizes: 1½-3"R; DN40-80R

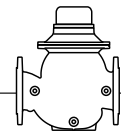


□ - RANGE OF DIFFERENT CONFIGURATIONS ACCORDING SPECIFIC REQUIEREMENTS

# - SPECIFY REGISTER ACCORDING TO INSTRUCTION.

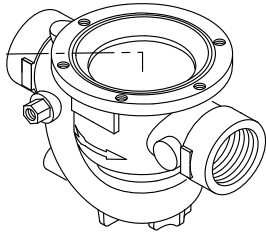
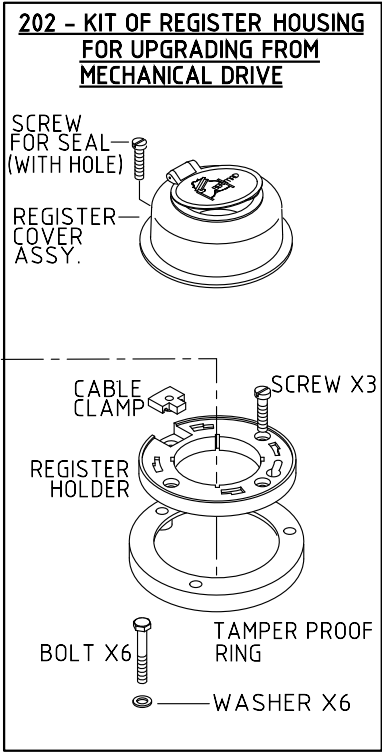
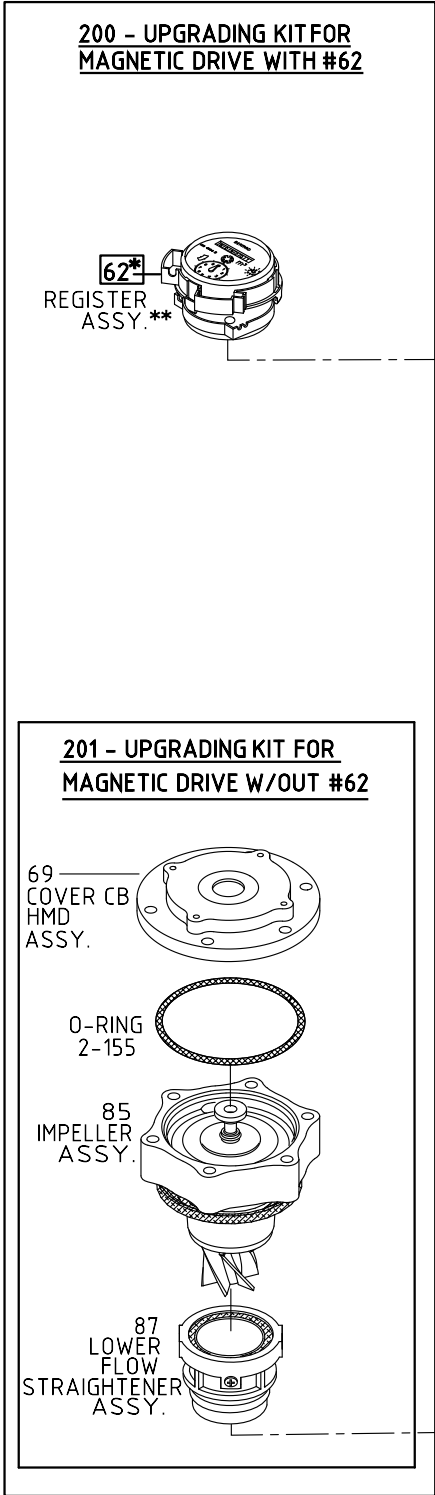
\* - USE SAME PART PAGE 15

\*\* - OTHER VALVE BODIES OPTIONS SEE PAGE 17g.

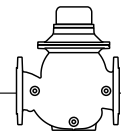


### CBM - Upgrading-Kit For Magnetic Drive Hydrometer

Sizes: 1½-3"R; DN40-80R

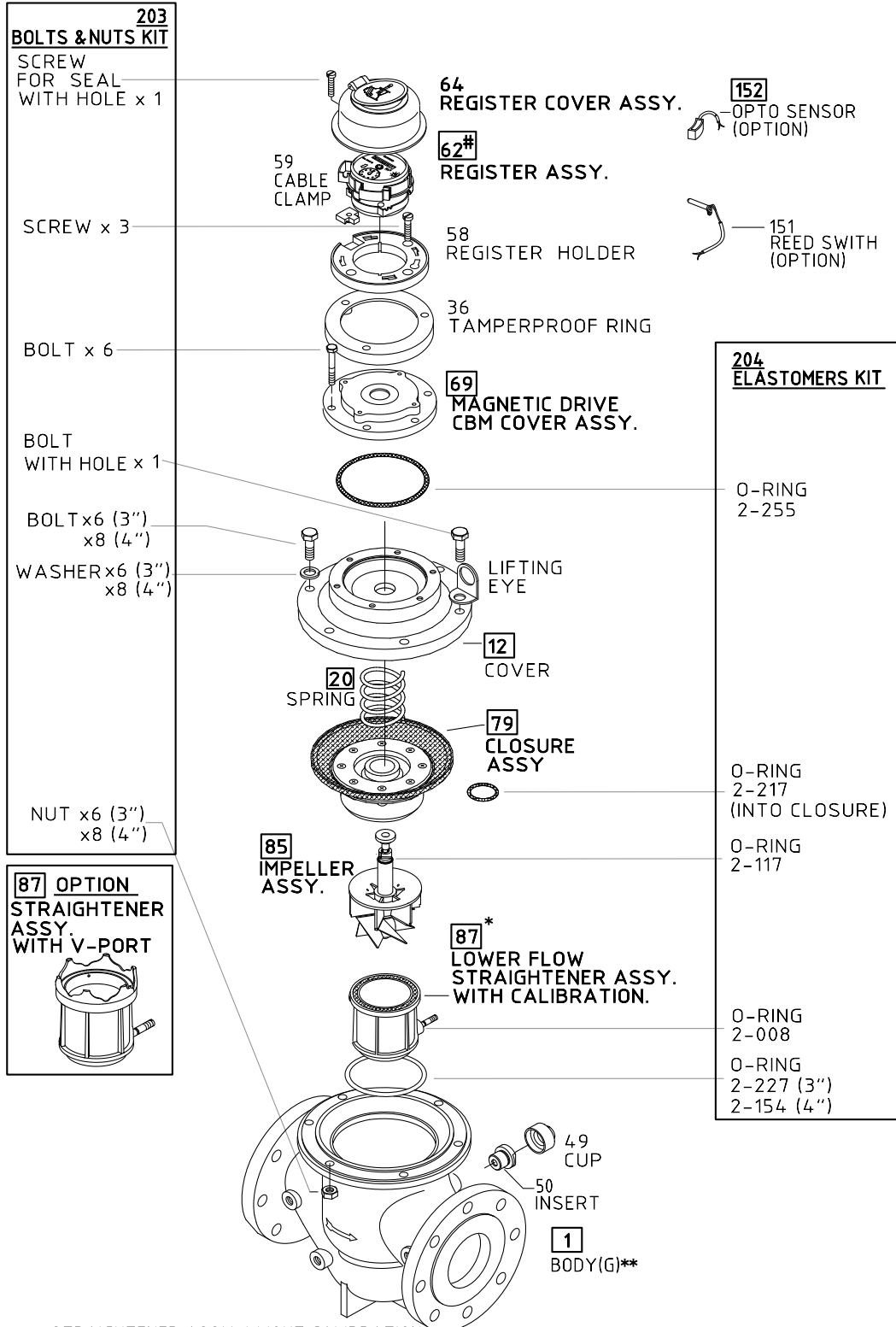


\*SPECIFY REGISTER #62  
 \*\* ACCORDING TO CUSTOMER DEMAND

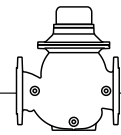


### CBM - Magnetic Drive Hydrometer

Sizes: 3-4"; DN80-100

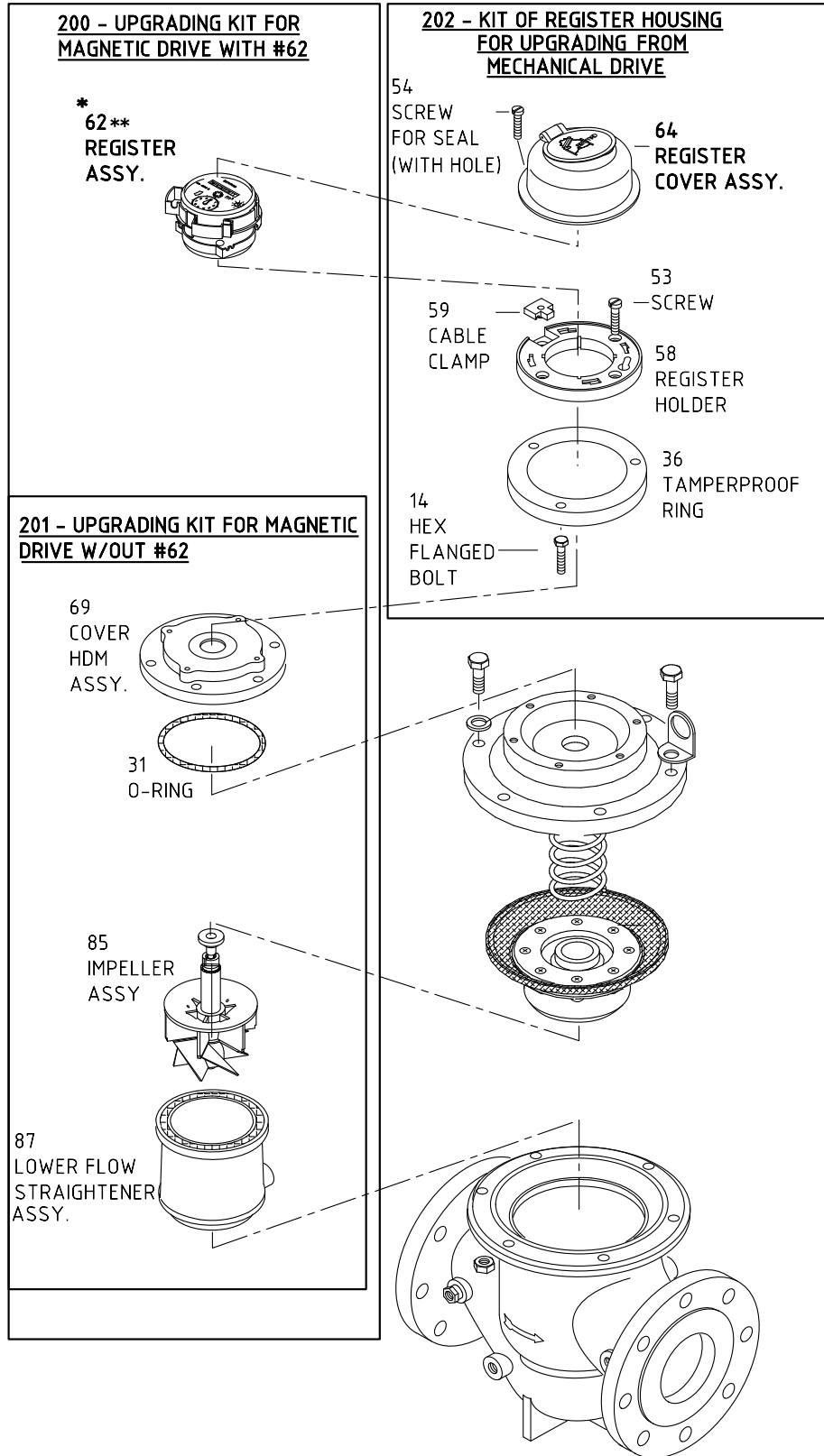


\* - STRAIGHTENER ASSY, W/OUT CALIBRATION  
 □ - RANGE OF DIFERENT CONFIGURATIONS ACORDING SPECIFIC REQUIEREMENTS  
 # - SPECIFY REGISTER ACCORDING TO INSTRUCTIONS  
 \*\* - OTHER VALVE BODIES OPTIONS SEE PAGE 17g.



### CBM - Upgrading Kit Magnetic Drive Hydrometer

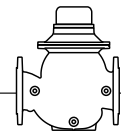
Sizes: 3-4"; DN80-100



\* SPECIFY REGISTER #62  
 \*\* ACCORDING TO CUSTOMER DEMAND



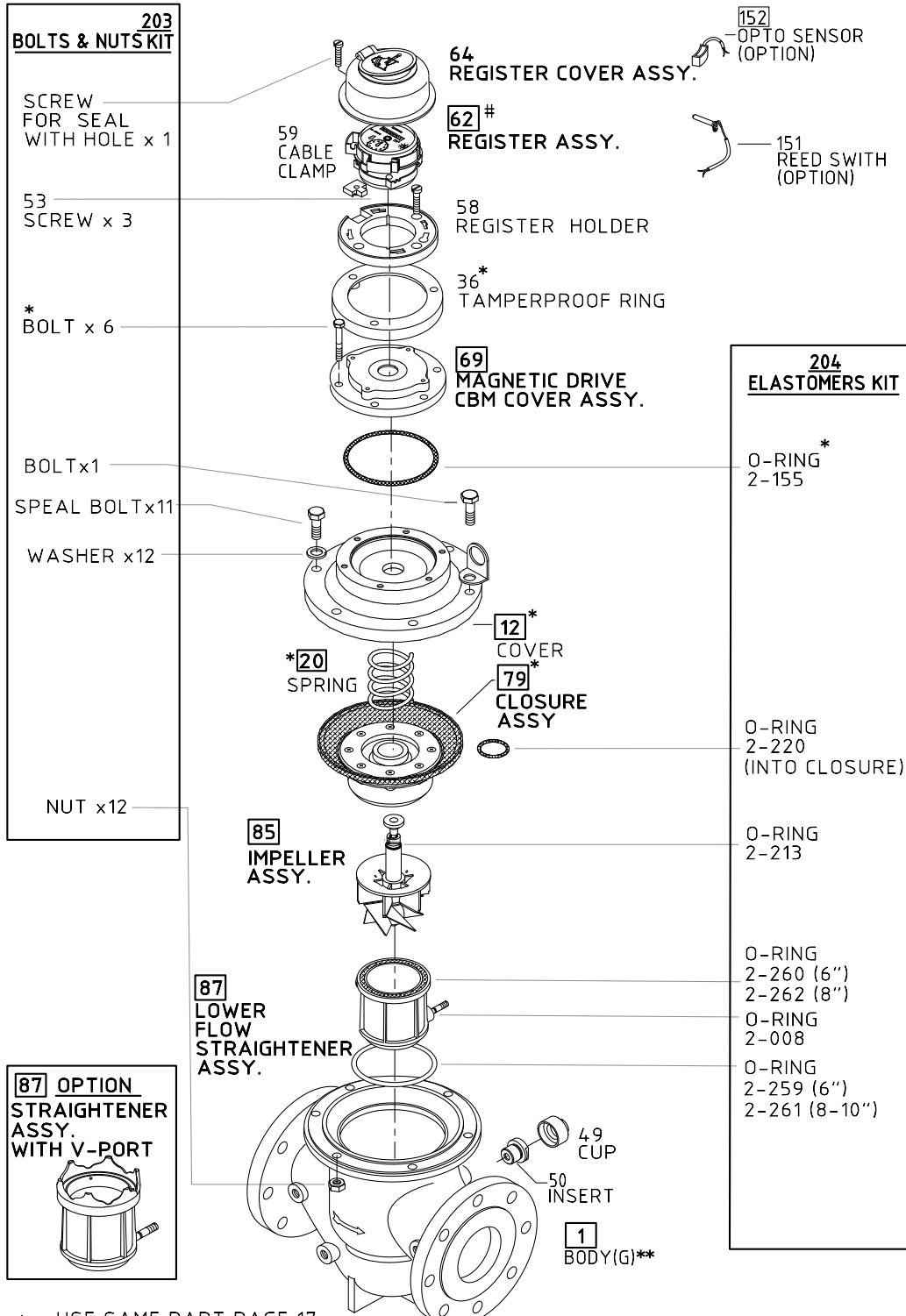
# BERMAD IR Spare Parts



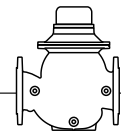
**900 Series**

## CBM - Magnetic Drive Hydrometer

Sizes: 6-10"; DN150-250

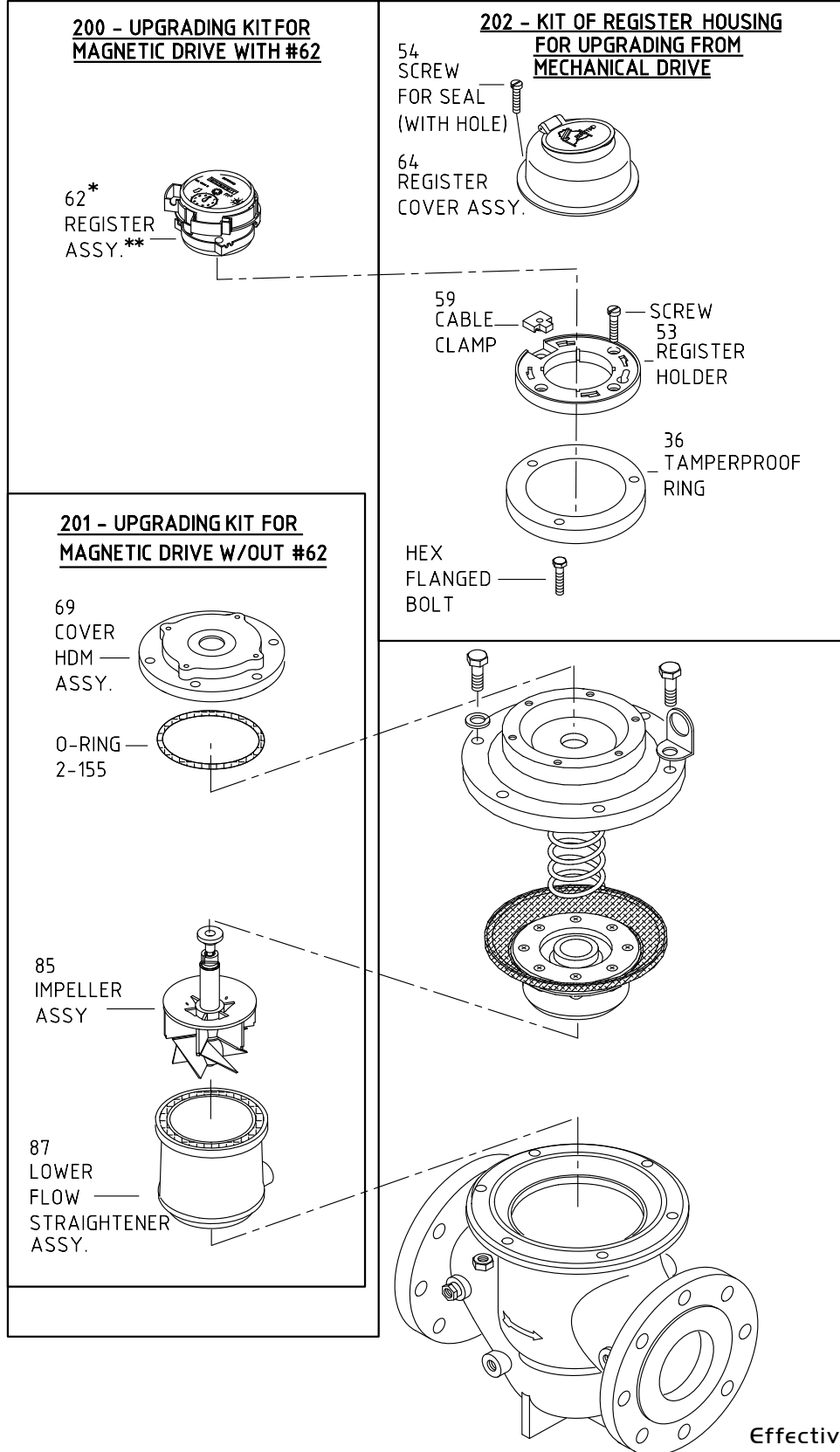


- \* - USE SAME PART PAGE 17
- - RANGE OF DIFERENT CONFIGURATIONS ACORDING SPECIFIC REQUIEREMENTS
- # - SPECIFY REGISTER ACCORDING TO INSTRUCTIONS
- \*\* - OTHER VALVE BODIES OPTIONS SEE PAGE 17g.



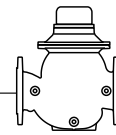
## CBM - Upgrading Magnetic Drive Hydrometer

Sizes: 6-10"; DN150-250



\* SPECIFY REGISTER #62  
 \*\* ACCORDING TO CUSTOMER DEMAND



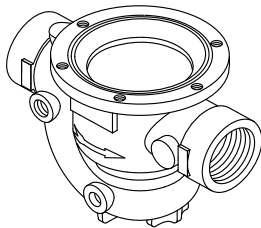


### G, A & H Bodies Patterns Options

Sizes: 1½-10"; DN40-250

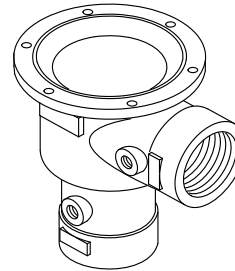
#### GLOBE THREADED BODY

9g-1.5"-3"R"BSP.F  
9n-1.5"-2"NPT



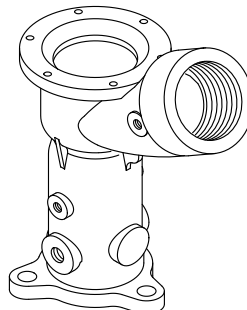
#### ANGLE THREADED BODY

9d-2"BSP.T  
9c: 2" BODY FLANGED/THREADED



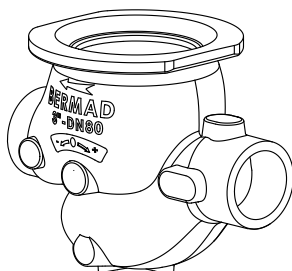
#### THREADED HYDRANT BODY BSP

FOR PADDLE PILOT.  
9h-2.5"BSP.T



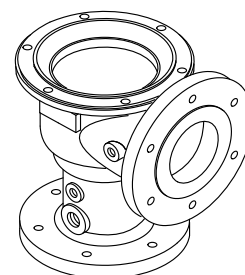
#### GROOVED BODY

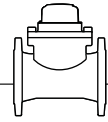
9r-sizes: 3"-6"



#### ANGLE FLANGED BODY

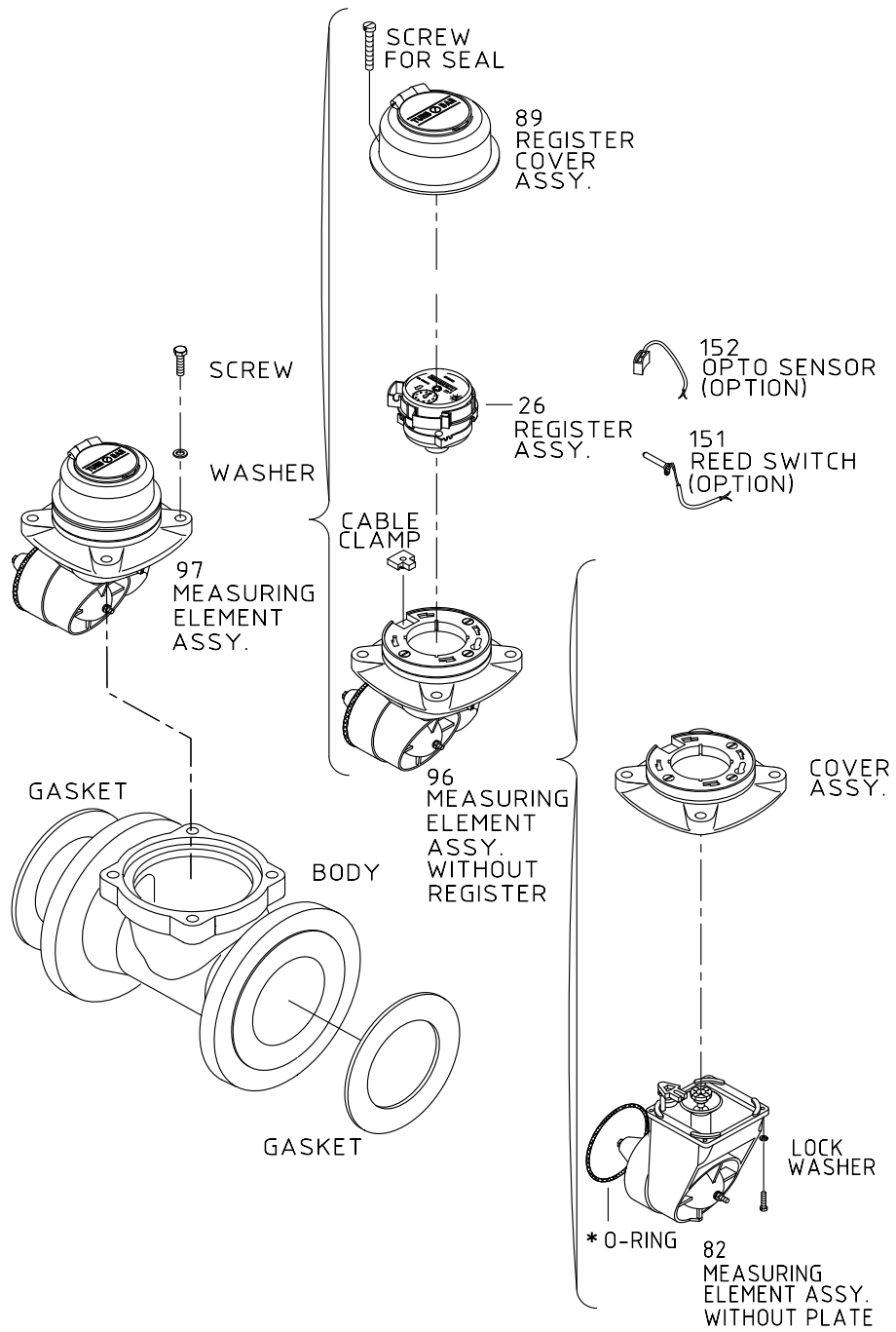
9f-sizes:3"-8"  
9a:4" FLANGED BODY FOR HYDRANT





### Woltman Turbo-Bar Water-Meters

Sizes: 1½-5"; DN40-125



\* FOR DN 40-80 mm (1 1/2 " - 3") ONLY.