

Direct-acting Pressure Reducer RMG 213 (D 36 Hb) RMG 213.20



OPERATING AND MAINTENANCE INSTRUCTIONS/
SPARE PARTS

Version 11/2011

**Serving the Gas Industry
Worldwide**

RMG
by Honeywell

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1. General information

All persons involved with the assembly, operation and/or maintenance of the pressure reducer RMG 213 must read and understand all of the following documents:

- **Technical product information 213.00** – this RMG document contains the technical data and dimensions of the equipment as well as instructions concerning construction and mode of operation.
- **General operating manual for gas pressure regulators and safety devices** – this RMG document contains information on assembly and operation as well as general information on troubleshooting.
- **Operating and maintenance instructions, spare parts 213.20** – this RMG document contains more detailed information on assembly and operation of the pressure reducer RMG 213.

There are **national laws and regulations** for all sorts of jobs on gas pressure governors, from planning to maintenance. Be sure to comply. (In Germany, for instance, DVGW work sheets G 600, G 459/II, G 491 and G 495.)

Inspection and maintenance intervals depend mostly on operating conditions and the nature and properties of the gas. There are no general rules or recommendations for intervals. For Germany, we recommend to consider maintenance intervals as stated in DVGW work sheet G 495 in a first instance. However, in the mid-term, intervals must be adapted to the requirements of each specific equipment.

During maintenance, components must be cleaned and then checked thoroughly. This is necessary even if there have not been any unusual observations during operation and/or functional testing. Checks must focus, in particular, on diaphragms and seals and all movable parts and their respective bearings. Any and all defective parts must be replaced with new ones. The same applies to O rings removed during disassembly.



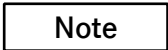
Do not use any spare/wear parts and/or oils & lubricants not specifically recommended in the RMG operating and maintenance instructions for spare parts. In the event spare/wear parts and/or lubricants & oils other than those specifically recommended are used, RMG shall not be held liable for any defects and/or consecutive damages attributable to such use of illegal parts, lubricants, oils etc.

Item numbers mentioned in the specific operating and maintenance instructions correspond with the numbers in the spare parts lists and drawings.

Some parts in the lists and drawings are marked with a letter **"W"**. We recommend to always have a reserve of those parts in stock for maintenance purposes. Those spare parts are put together in another separate list at the end of the spare parts list.

1.1 Safety information

In this manual, safety information is highlighted by means of the following signal words and eye catchers:

| Eye catcher | Used for: |
|---|---|
|  | Danger to life and limb |
|  | Danger of damage to property and/or the environment |
|  | Important additional information |

2. Specific operating instructions

- **Control deviations**

Admissible control deviations/offsets are design-related and may be due to the

- effect of the inlet pressure (see table in 213.00 or RMG booklet)
- spring's dependence on the flow rate (see table 213.00 or RMG booklet)
- flow resistance inside outlet channels - which increases with higher volumes.

- **Bubble-tight shut-off**

The devices are equipped with shut-offs with plastic seals. That means they close at zero flow.

3. Specific maintenance instructions

- **Piston (15)**

The shut-off piston (157) can be removed by removing the upper shut-off screw (11).

- **Internal parts**

- Internal parts are accessible by removing the cap (6) on the bottom side of the device.
- Internal parts must not be damaged and must move easily. The measuring diaphragm must not be damaged/bulged due to the effect of the gas.

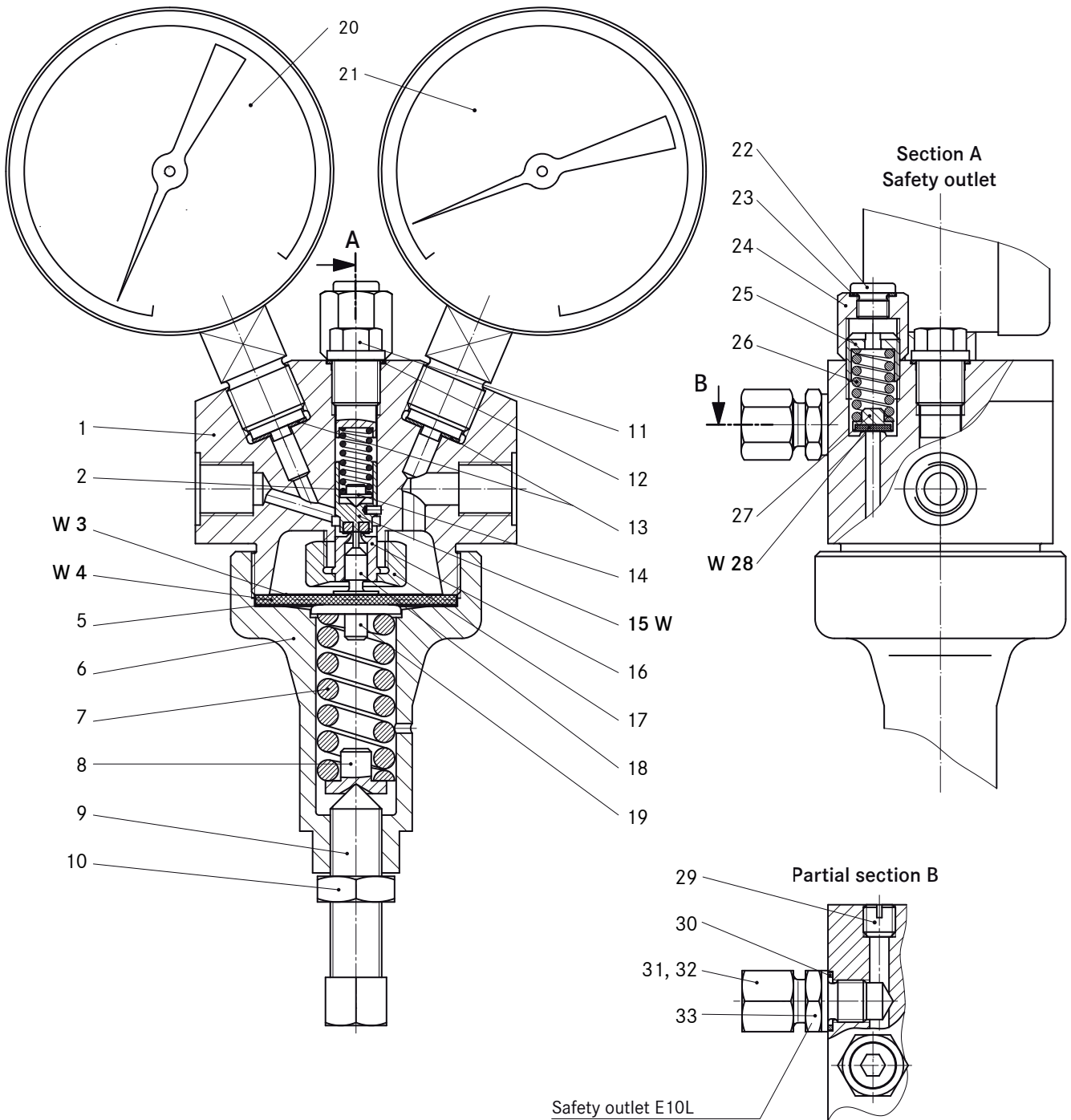
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|-------------|
| Note |
|-------------|

When you re-install the cap, be sure not to tighten too much. The diaphragm must not be squeezed more than about a millimetre. That's perfectly sufficient to prevent leaks.

3.1 Lubricants

| Components | Lubricants | RMG part no. |
|---|----------------|--------------|
| All fastening screws and screwed pipe connections | Assembly paste | 27091 |

4.1 Spare parts drawing



W Parts should be held in stock for maintenance purposes.

4.2 Spare parts list RMG 213

| Item no. | Denomination | Number | W | Materials | Part no. | | |
|----------|--|--------|---|------------|------------------|------------------|------------------|
| | | | | | Measuring unit M | Measuring unit H | Measuring unit S |
| 1 | Casing | 1 | | | 10016570 | 10016570 | 10016570 |
| 2 | Pressure spring | 1 | | NFSt | 10016863 | 10016863 | 10016863 |
| 3 | Sheet steel diaphragm | 1 | W | FSt | | | 2807 |
| 4 | Diaphragm (3 mm thick) | 1 | W | KG | 10016583 | 10016583 | 10016583 |
| 5 | Fibreglass ring | 1 | | Fibreglass | 3085 | 3085 | 3085 |
| 6 | Cap | 1 | | Ms | 10016526 | 10016548 | 10016555 |
| 7 | Control spring, optional: | | | | | | |
| 7 | Control spring F1 Ø 3.8 W _{ds} 0.2 to 4 bar | 1 | | FSt | 10016535 | | |
| 7 | Control spring F2 Ø 4.75 W _{ds} 1.0 to 10 bar | 1 | | FSt | 10016536 | | |
| 7 | Control spring F3 Ø 5.5 W _{ds} 1.0 to 20 bar | 1 | | FSt | | 10015117 | |
| 7 | Control spring F4 Ø 6.0 W _{ds} 2.0 to 30 bar | 1 | | FSt | | 10016554 | |
| 7 | Control spring F5 Ø 6.5 W _{ds} 3.0 to 70 bar | 1 | | FSt | | | 10016545 |
| 8 | Spring-loaded valve cone | 1 | | St | 10016531 | 10016550 | 10016550 |
| 9 | Adjusting screw | 1 | | NSt | 10016580 | 10016580 | 10016580 |
| 10 | Hex nut | 1 | | St | 13100 | 13100 | 13100 |
| 11 | Shut-off screw | 1 | | NSt | 10016844 | 10016844 | 10016844 |
| 12 | Sealing ring | 1 | | LM | 18819 | 18819 | 18819 |
| 13 | Sealing ring, at option: | | | | | | |
| 13 | Sealing ring, 0.5 mm thick | 2 | | LM | 18788 | 18788 | 18788 |
| 13 | Sealing ring, 1.0 mm thick | 2 | | LM | 18323 | 18323 | 18323 |
| 14 | Compensation piece | 1 | | Ms | 10016865 | 10016865 | 10016865 |
| 15 | Piston, complete | 1 | W | NSt/K | 10016926 | 10016926 | 10016926 |
| 16 | Nozzle | 1 | | Ms | 10016868 | 10016868 | 10016868 |
| 17 | Nozzle nut | 1 | | NSt | 10016848 | 10016848 | 10016848 |
| 18 | Guiding piece | 1 | | NSt | 10018066 | 10018066 | 10018066 |
| 19 | Diaphragm disc | 1 | | LM | 10016527 | | |
| 19 | Diaphragm disc | 1 | | Ms | | 10016549 | |
| 19 | Diaphragm disc | 1 | | St | | | 10016556 |
| 20 | Pressure gauge, 0 to 400 bar | 1 | | Ms | 26772 | 26772 | 26772 |
| 21 | Pressure gauge, at option: | | | | | | |
| 21 | Pressure gauge, 0 to 6 bar | 1 | | Ms | 26474 | | |
| 21 | Pressure gauge, 0 to 16 bar | 1 | | Ms | 26476 | | |
| 21 | Pressure gauge, 0 to 25 bar | 1 | | Ms | | 26477 | |
| 21 | Pressure gauge, 0 to 60 bar | 1 | | Ms | | 26478 | |
| 21 | Pressure gauge, 0 to 100 bar | 1 | | Ms | | | 26479 |

W Parts should be held in stock for maintenance purposes

German abbreviations stand for the following materials:

| | | |
|---------------------------------|---------------------------------------|-------------------------------------|
| St ... Steel | LM ... Light metal/alloy | GMs ... Cast brass |
| NSt ... Stainless steel | Ms ... Brass | GZn ... Cast zinc |
| FSt ... Spring steel | GS ... Cast steel | AlBz ... Aluminium bronze |
| NFSt ... Stainless spring steel | GGG ... Spheroidal graphite cast iron | K ... Synthetic materials |
| Bz ... Bronze | GBz ... Cast bronze | KG ... Gummyous synthetic materials |
| Cu ... Copper | GLM ... Cast light metal | SSt ... Foamed materials |

| Item no. | Denomination | Number | W | Materials | Part no. | | |
|----------|--|--------|---|-----------|------------------|------------------|------------------|
| | | | | | Measuring unit M | Measuring unit H | Measuring unit S |
| 22 | Locking screw | 1 | | St | 10547 | 10547 | 10547 |
| 23 | Sealing ring | 1 | | Cu | 18586 | 18586 | 18586 |
| 24 | Cap nut | 1 | | NSt | 10009248 | 10009248 | 10009248 |
| 25 | Setting screw | 1 | | Ms | 10016828 | 10016828 | 10016828 |
| 26 | Control spring, optional: | | | | | | |
| 26 | Control spring Ø 1.5 W _{ds} up to 4 bar | 1 | | FSt | 10014334 | | |
| 26 | Control spring Ø 2.0 W _{ds} up to 10 bar | 1 | | FSt | 10014335 | | |
| 26 | Control spring Ø 2.25 W _{ds} up to 30 bar | 1 | | FSt | | 10014336 | |
| 26 | Control spring Ø 2.8 W _{ds} up to 70 bar | 1 | | FSt | | | 10014337 |
| 27 | Valve cone | 1 | | Ms | 10016831 | 10016831 | 10016831 |
| 28 | Sealing washer | 1 | W | KG | 10014082 | 10014083 | 10014083 |
| 29 | Threaded pin | 1 | | Ms | 12471 | 12471 | 12471 |
| 30 | Sealing ring | 1 | | LM | 18819 | 18819 | 18819 |
| 31 | Union nut | 1 | | St | 30803 | 30803 | 30803 |
| 32 | Cutting ring | 1 | | St | 30903 | 30903 | 30903 |
| 33 | Connection pipe | 1 | | St | 30110 | 30110 | 30110 |

4.3 Parts for maintenance purposes

| Item no. | Denomination | Number | Part no. | | |
|----------|------------------------|--------|------------------|------------------|------------------|
| | | | Measuring unit M | Measuring unit H | Measuring unit S |
| 3 | Sheet steel diaphragm | 1 | | | 2807 |
| 4 | Diaphragm (3 mm thick) | 1 | 10016583 | 10016583 | 10016583 |
| 15 | Piston, complete | 1 | 10016926 | 10016926 | 10016926 |
| 28 | Sealing washer | 1 | 10014082 | 10014083 | 10014083 |

For More Information

To learn more about RMG's advanced gas solutions, contact your RMG account manager or visit www.rmg.com

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