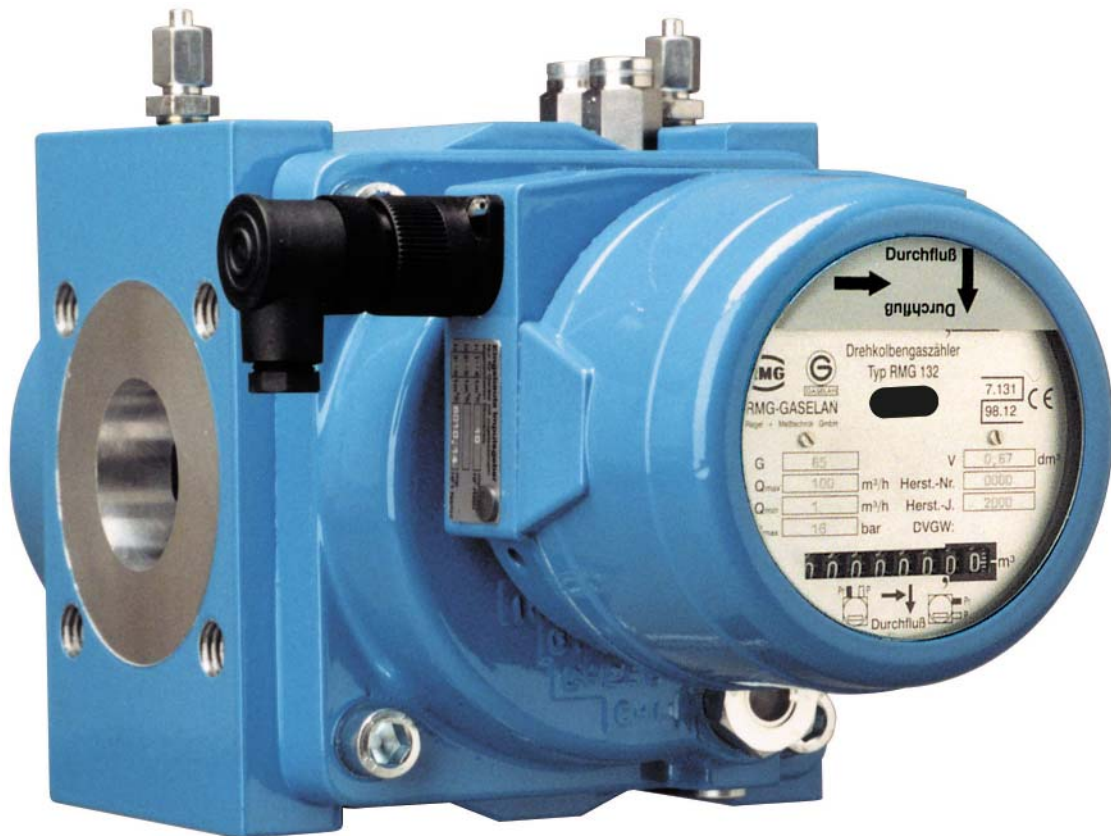


# Rotary Displacement Meter RMG 132-A



**Technical Product Information**

**132.00**

Issue 11/2001

Reliable and accurate regulation,

measuring and system engineering



# Rotary Displacement Meter

## RMG 132-A

### Application

- The RMG 132-A rotary displacement meter is designed for gas volume measurement in gas installations
- It can be used for all non-corrosive gases (e.g. natural gas; propane, butane gas, nitrogen, air etc.)
- It can also be used for intermittent gas sampling

### Function

The rotary displacement meter consists of the measuring unit and the counter unit. The gas flowing in the measuring unit causes special rotors to turn. These let through an exactly specified volume of gas. These rotations are transferred to the non-pressurized counter unit via a magnet coupler, where

they are totalized and indicated on the index as a volumetric value. The counter unit is rotatable and can be adapted to the corresponding flow directions of the gas meter. The rotations of the rotors can also be further processed as electrical signals.

### Testing / Calibration

The rotary displacement meters comply with the requirements of the DVGW, PTB, EEC and other international and national regulations in different countries. The rotary displacement meter can be universally adapted to the flow direction without requiring the involvement of calibration authorities. Each rotary displacement meter is tested in its

operational state and certified in an authorized test center for gas measuring devices. The rotary displacement meters can also be tested and approved as a standard measure. The quality results of the leakage and tightness tests are documented in accordance with the international standards.

# Rotary Displacement Meter RMG 132-A

## General features

### General

- Nominal pressure PN 16 ; ANSI 150# Class
- Flow direction Universal
- Approvals PTB, EEC, ofgem, other international
- Design to DVGW VP 900
- Degree of protection IP 65
- Operating temperature -40°C to +60°C, -40 F to 140 F
- Piston material Aluminum alloy
- Housing material Aluminum alloy
- Installation No minimum runs of inlet or outlet line required

### Measuring unit

- Measuring range Turndown: 1:50 (standard) to 1:160 (optional)
- Measuring accuracy < 2% at  $Q_{min}$  to  $Q_t$  ( $Q_t=0.1 \times Q_{max}$  at 1:50)  
< 1% at  $Q_t$  to  $Q_{max}$  (factory set 0.5%)
- Reproducibility <  $\pm 0.1\%$
- Pressure loss max. 2.5mbar, 1" wc at  $Q_{max}$   
(standard natural gas density)
- Overload For short periods up to 1.25  $Q_{max}$  and  
pressure reduction speed of 0.5 bar/s, 7 PSI/sec
- Measuring connections Pressure and temperature measuring connection  
at the inlet and outlet of the meter housing
- Impulse transmitters 1x LF (Reed) standard, options for other LF and HF
- Oil level indication On front (standard), at both ends optional

### Counter unit (mechanical)

- Display 8-digit direct read index reading ft<sup>3</sup>  
Visual startup indication
- Installation Universally adaptable to flow direction in the field  
See "Flow Change" section of this manual



# Rotary Displacement Meter RMG 132-A

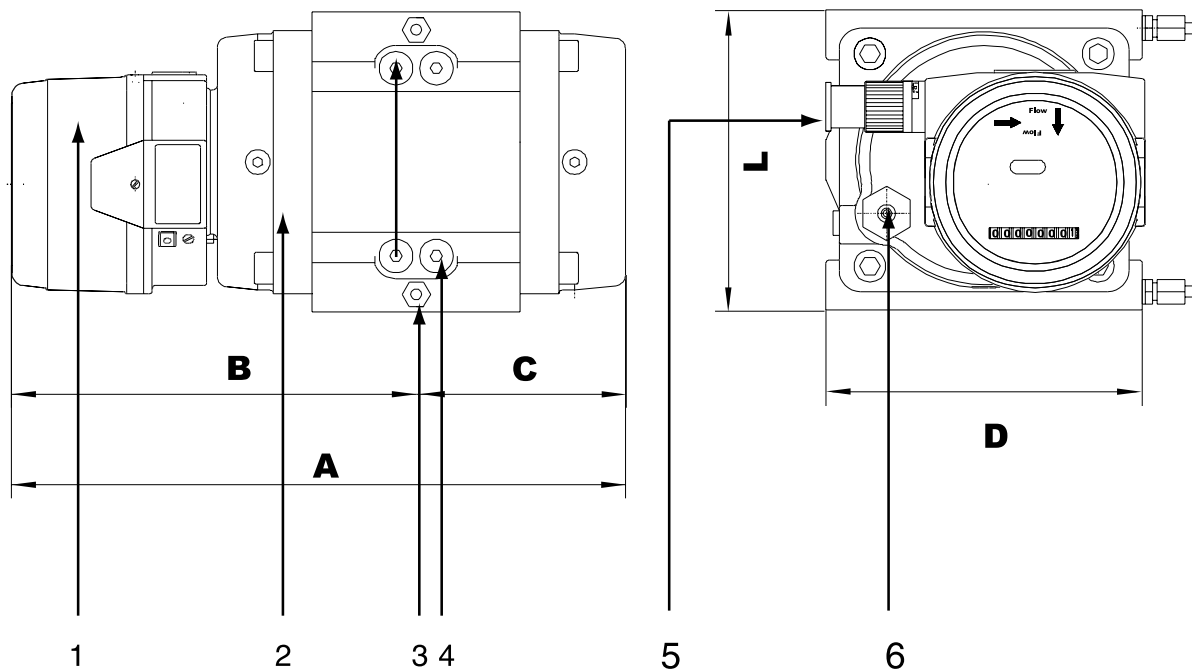
## Design features

### Connection types

Versions	PN 16 (flange to DIN 2501)	ANSI 150 (flange to ANSI B16.5RF)
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### Connection types

Size G	DN (inch)	A	B	Inches			Weight Lb	Flange with Threaded holes	
				C	D	L		DIN 2501	ANSI B16.5
132-2.3	50 (2")	13.75	9	4.75	7	6.75	29	4x M16	4x 5/8
132-3.5	50 (2")	13.75	9	4.75	7	6.75	29	4x M16	4x 5/8
132-5.6	80 (3")	16.5	10.5	6.125	7	6.75	36	8x M16	4x 5/8
132-8.8	80 (3")	20.75	12.625	8.125	8.25	9.5	51	8x M16	4x 5/8



- 1 Counter unit      3 Pressure measuring connection      5 Impulse transmitter connection  
 2 Measuring unit      4 Temperature measuring connection      6 Oil level indicator

# Rotary Displacement Meter RMG 132-A

## Measuring features

Measuring ranges (calibration with air at atm. pressure)

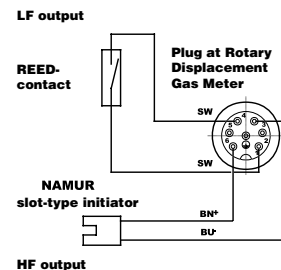
Size	DN (inch)	Q <sub>max</sub> ft <sup>3</sup> /h	Measuring ranges down to						LF Impulse Imp./ft <sup>3</sup>	HF Impulse Imp./ft <sup>3</sup> approx
			1:20	1:50	1:65	1:80	1:100	1:160		
			Q <sub>min</sub> ft <sup>3</sup> /h							
132-2.3	50 (2")	2300	110	45	35	28	-	-	10	6000
132-3.5	50 (2")	3500	175	70	55	45	35	-	10	6000
132-5.6	80 (3")	5600	280	105	90	70	55	45	1	3750
132-8.8	80 (3")	8800	460	175	140	105	85	55	1	2400

Note: Standard - Measuring range 1:50

## Impulse transmitters

**LF** - Reed contact; polarity-free  
 - Voltage U=5-24V DC  
 - Current max. I=10mA

**HF** - NAMUR ; Observe polarity  
 - Voltage U=8 V DC  
 - Current active area free > 3mA; active area covered < 1 mA



Versions	2x LF	1x LF; 1x HF	2xLF; 1x HF	1x LF; 2x HF
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Note: Standard - 1x LF Pin 1;4

## Thermowells for temperature measurement

Design according to connection type

**PN 16** – Thermowells (2 possible at each inlet and outlet)

PN 16 versions	1x inlet	1x outlet	1x inlet and outlet	2x inlet
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Note: Standard without thermowells Connections closed with M14 x 1.5 sealing screws

**ANSI 150** – Thermowells (1 possible at each inlet and outlet)

ANSI 150 versions	1x inlet	1x outlet	1x inlet and outlet
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Note: Standard without thermowells, connections closed with 3/4 NPT sealing screws

## Pressure measuring connections

Design according to connection type

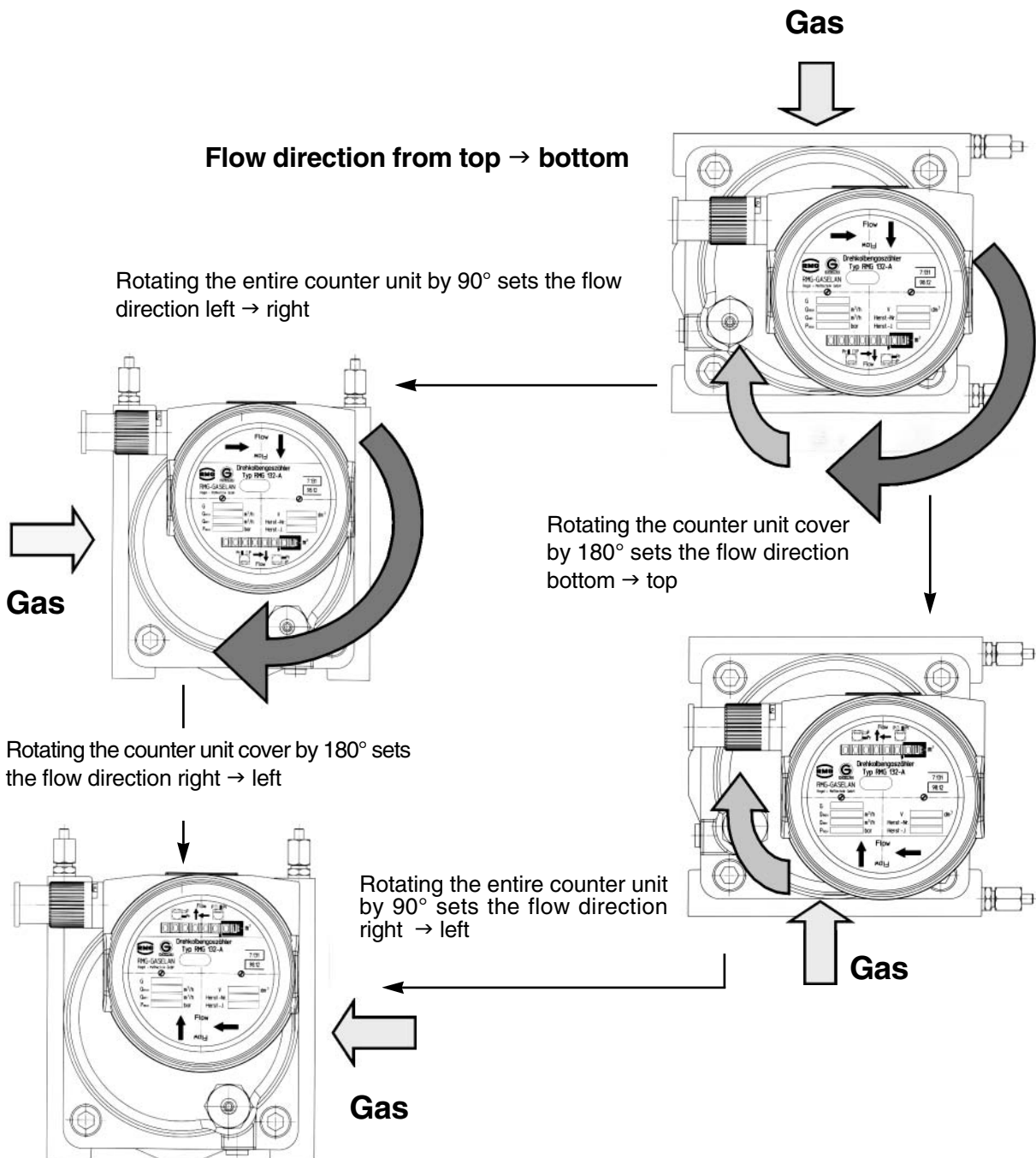
**PN 16** - Coupling (M10x1) with locking cone for Ø 6mm pipe at inlet and outlet

**ANSI 150** - 1/4 NPT sealing plug at inlet and outlet



# Rotary Displacement Meter RMG 132-A

## Flow change



# Rotary Displacement Meter RMG 132-A

## Accessories

- Startup filter  
Design according to connection type (DN 50, DN 80, DN 100)  
gas tight grooved dirt filter seal with mounting strap, mesh width 0.4 mm
- Corrector
- Three-way test valve
- Fastening bracket for corrector
- Thermowell

Note: Thermowell, three-way test valve and fastening bracket as preparation for mounting a corrector on the rotary displacement meter.

## Installation and maintenance

Fit the de-energized meter with the appropriate standard seals and bolts in the pipelines. Ensure that the oil level window is at the bottom for both horizontal and vertical gas flow. Use a sieve or filter upstream of the meter when used with dirty pipelines or gases.

Fill the oil in the gear cover and check the oil level. Now open the gas supply slowly upstream of the meter. Check the tightness of the connection, e.g. leakage detection spray. After the check also open slowly the downstream valve.

Maintenance only requires the approx. yearly inspection of the oil level.

## Ordering data

### Composition of order designation

RMG 132-A - Size-DN-Pressure rating/Flange connection-Measuring range-Impulse transmitter-Thermowell

**Example:** RMG 132-A - G 65 - DN 50 - PN 16 - 1:80 - 1x LF - 2x (input)

- Size	G 65
- Diameter nominal	DN 50
- Pressure rating/ Flange connection	PN 16
- Measuring range	1:80
- Impulse transmitter	1x LF
- Thermowell	2x input



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