



**KRAL Flow Measurement.**  
Flowmeters OME | OMP | OMG | OMH | OMK.

## ■■■■■■■■ Flow Measurement

# Welcome to KRAL.

KRAL AG is a family owned and operated enterprise. Our customers include globally active corporations.

**KRAL is quality, innovation and quick response – anytime and anywhere around the world.**

KRAL AG, headquartered in Austria, sets innovative trends in special fields of the pump and flowmeter industry. KRAL solutions make our customers more successful in their competitive environment and guarantee maximum customer benefit. We look not only at the flowmeters but also at the complete system and strategic project in close cooperation with our customers. Resulting in unique, in part customer-specific solutions.

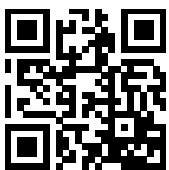
Our customers find KRAL likeable. Friendliness and good cooperation reach the highest values in customer satisfaction surveys. These values are important success factors. They are the result of professional and dedicated work in all fields of the company.

KRAL is a partner of the global players. Such companies require strong and reliable partners. KRAL AG is the foundation of a strong market presence. The family owned enterprise provides the certainty of having a dedicated and cooperative partner for many years in KRAL.

The focus lies on people in our considerations. Success is the result of excellent cooperation between KRAL customers, suppliers and employees.



At Home in the World.  
For our customers on all continents.



Find your personal KRAL contact online:  
[www.kral.at/en/contact](http://www.kral.at/en/contact)

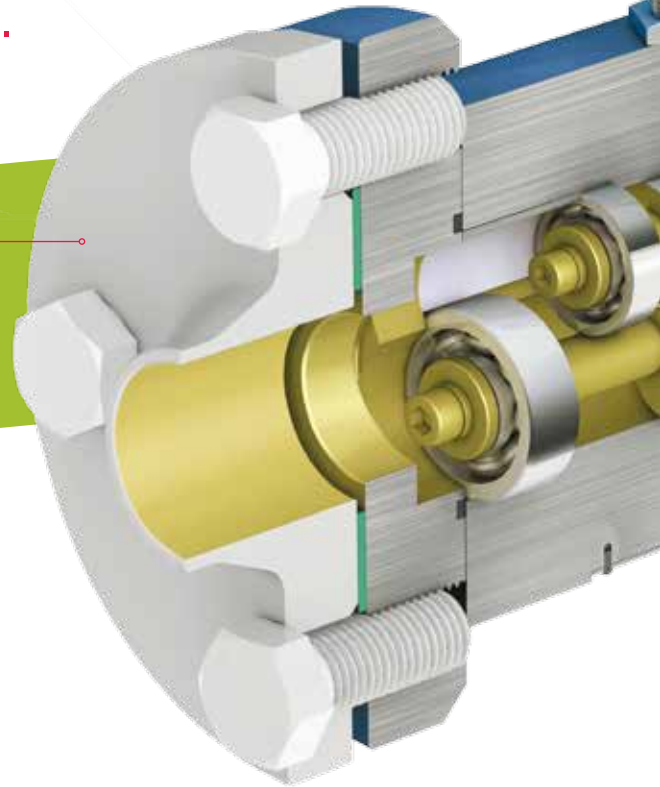
## Flow Measurement

### KRAL Volumeter® – Precision.

How it works.

#### ■ Precise.

KRAL Volumeter are flowmeters of the highest precision for liquids.

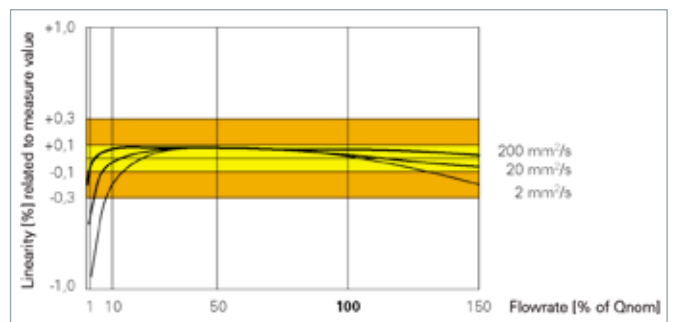


#### KRAL electronics.

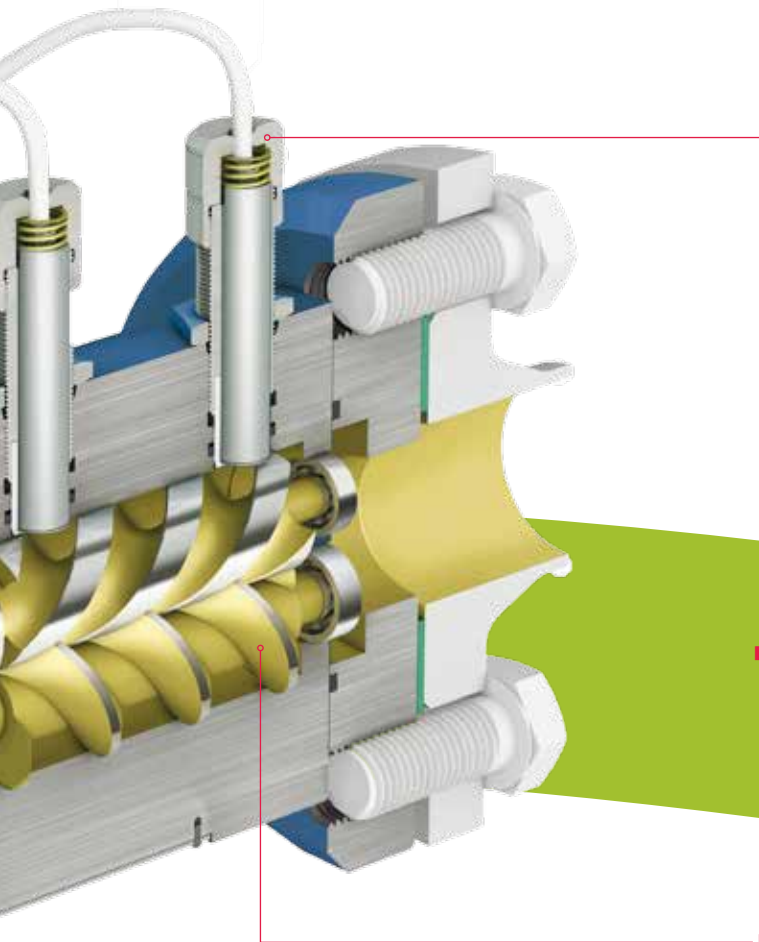


KRAL recommends KRAL electronic units for signal detection, evaluation, measured-value display and measured-value forwarding. KRAL electronic units guarantee that the measuring precision is maintained.

#### Highest precision over a wide measurement range.



KRAL Volumeter are very precise measuring instruments with a large measuring range. The linearity diagram shows the characteristics of the precision instrument. Across a measuring range of approx. 1:100 the maximum measuring error amounts to  $\pm 0.1\%$  of measured value.



■ **Sensor.**

The sensor signal is converted into an industry standard signal so that it can be used by all common electronic components.

■ **Measuring chamber.**

Two screw spindles together with the manufactured housing form a highly precise measuring chamber. With each single full rotation of the screws an amount of liquid flows through the measuring instrument that corresponds exactly to the measuring chamber volume.

**Calibration.**



Each KRAL Volumeter is calibrated on our in-house test bench. Two types of calibrations are available. First there is the KRAL factory calibrations method, which is our standard and the alternative is the calibration which is in compliance to the internationally acknowledged standard ISO/IEC 17025. Calibration of the KRAL Volumeter can be traced to the „national standards“: KRAL customers can find the calibration factor (K-factor) in the calibration certificate. This K-factor specifies the pulses per liter.

**Test stand manufacturers create peak values.**

*Table 2. Primary data of the meters*

	Screw meter
range	300 - 2 300 [l/min]
linearity	± 0.015 %
pulse output	magn. pick up - rectangular pulses
material	carbon steel
nominal bore	4 inch
repeatability from 12 calibration series (1σ-level)	0.001 [p/l] ↔ 0.006 %
nominal k-factor delivered	16.63 [p/l]

The Institute for Calibration and Verification which calibrates the KRAL reference meters, also uses KRAL Volumeter for own measurement tasks. It has determined a linearity of ±0.015% for KRAL Volumeter. This is one magnitude greater than the linearity of ±0.1% specified by KRAL for industrial applications. The impressive values indicate the potential of the KRAL Volumeter when they are used in a test environment, for example in a test bench.

## Flow Measurement



**OMG**



Delivery rate from 6 to 450,000 l/h.



Pressure up to 250 bar.



Temperature from -20 to 200 °C.



Delivery rate from 18 to 31,500 l/h.



Pressure up to 40 bar.



Temperature from -20 to 200 °C.



**OME**



Delivery rate from 6 to 31,500 l/h.



Pressure up to 40 bar.



Temperature from -20 to 125 °C.



**OMH**



Delivery rate from 6 to 180,000 l/h.



Pressure up to 420 bar.



Temperature from -20 to 200 °C.



**OMK**



Delivery rate from 12 to 9,000 l/h.



Pressure up to 40 bar.



Temperature from -20 to 100 °C.

6-7

Our universal flowmeter.

8-9

For fuel consumption measurement.

10-11

Compact, with a 3-in-1 sensor.

12-13

For high pressures.

14-15

Chemically resistant.

## Flow Measurement

### OMG Series.

Our universal flowmeter for versatile applications.



#### Operating conditions and materials.

- Liquids: Chemically neutral, lubricative, clean, non-abrasive.
- Screws: Steel, nitrided.
- Bearing: Steel bearing, hybrid ball bearing.
- Seal: Viton® (other sealing materials on request).
- Signal: PNP or NAMUR.
- Bi-directional: Optional with sensors for flow direction detection.



#### Robust and precise.

Precision and robustness are usually mutually exclusive at flowmeters – OMG provides both! The OMG has a robust housing and is thus protected against external influences such as system vibrations and mechanical stresses, such as often occur in rough industrial environments.

Technical data.		OMG-013	OMG-020	OMG-032	OMG-052	OMG-068	OMG-100	OMG-140
<b>Nominal diameter</b>	DN	15	15/20	25/32	40	50	100	150
<b>Flow rate</b>								
$Q_{max}$	l/h	900	2,700	9,000	31,500	63,000	180,000	450,000
$Q_{rated}$	l/h	<b>600</b>	<b>1,800</b>	<b>6,000</b>	<b>21,000</b>	<b>42,000</b>	<b>120,000</b>	<b>300,000</b>
$Q_{min}$	l/h	6	18	60	210	420	1,200	3,000
<b>Pressure</b>								
$p_{max}$	bar	250	250	250	160	100	40	40
<b>Temperature</b>								
$t_{min}$ to $t_{max}$	°C	-20 to +200	-20 to +200	-20 to +200	-20 to +200	-20 to +200	-20 to +200	-20 to +200
<b>Viscosity</b>								
$v_{min}$ to $v_{max}$	mm <sup>2</sup> /s	1 to 1x10 <sup>6</sup>	1 to 1x10 <sup>6</sup>	1 to 1x10 <sup>6</sup>	1 to 1x10 <sup>6</sup>	1 to 1x10 <sup>6</sup>	1 to 1x10 <sup>6</sup>	1 to 1x10 <sup>6</sup>
<b>Accuracy</b>								
		± 0.1%	± 0.1%	± 0.1%	± 0.1%	± 0.1%	± 0.1%	± 0.1%
		of measured value	of measured value	of measured value	of measured value	of measured value	of measured value	of measured value
<b>K-factor</b>								
	K1 [P/I]	1,216	640	234	71	39.8	16.8	8.85
	K2 [P/I]	2,432	1,280	468	142	79.6	33.6	17.7
	K3 [P/I]	7,296	2,560	1,014	302	167	57.6	22.1
<b>Frequency</b>								
	f1 at $Q_{rated}$ Hz	203	320	390	414	464	560	738
	f2 at $Q_{rated}$ Hz	405	640	780	828	929	1,120	1,475
	f3 at $Q_{rated}$ Hz	1,216	1,280	1,690	1,760	1,949	1,920	1,842



## Typical application examples.



### Marine – fuel consumption measurement.

Liquid: Heavy fuel oil, marine diesel oil, marine gas oil. Flow rate: 6 - 21,000 l/h.  
 Pressure: 40 bar. Temperature – HFO: 70 - 160 °C, MDO/MGO: 10 - 60 °C. Viscosity –  
 HFO: 10 - 1,300 mm<sup>2</sup>/s, MDO/MGO: 1.1 - 50 mm<sup>2</sup>/s. Measuring instrument: OMG 20 - OMG 140.

### Mechanical engineering – determining the position of hydraulic cylinders.

Liquid: Hydraulic oil. Flow rate: 12 - 12,000 l/h.  
 Pressure: Pulsating up to 250 bar. Temperature: 40 - 80 °C.  
 Viscosity: 60 - 3,000 mm<sup>2</sup>/s. Measuring instrument: OMG 20 - OMG 52.

### Chemicals – measurement of plastic components.

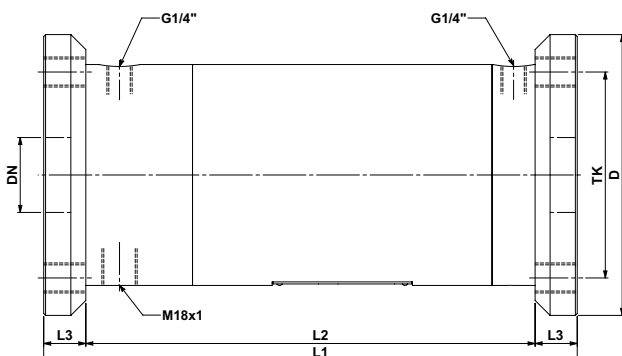
Liquid: Polyol, isocyanate. Flow rate: 2,100 to 3,300 l/h. Pressure: 250 bar. Temperature: 10 - 80 °C.  
 Viscosity: 20 - 2,000 mm<sup>2</sup>/s. Measuring instrument: OMG 20 - OMG 52.

## Dimensions and connection variants.

OMG – DIN.		13	20	32	52	68	100	140
DN		15	15	25	40	50	100	150
Pressure stage	[bar]	250	250	250	160	100	40	40
D	[mm]	130	130	150	170	195	235	300
TK	[mm]	90	90	105	125	145	190	250
L1	[mm]	145	195	275	295	355	460	610
L2	[mm]	94	145	215	240	295	400	537
L3	[mm]	25.5	25.0	30.0	27.5	30.0	30.0	36.5
Weight	[kg]	6.0	8.0	19.0	23.0	37.0	70.0	180.0

OMG – ANSI.		13	20	32	52	68	100	140
DN	[inch]	1/2	3/4	1	1 1/2	2	4	6
Class		1,500	1,500	1,500	900	600	300	300
D	[mm]	120.6	130.2	149.2	177.8	165.1	254.0	317.5
TK	[mm]	82.5	88.9	101.6	123.8	127.0	200.1	269.9
L1	[mm]	155	215	300	320	360	465	673
L2	[mm]	94	145	215	240	295	400	537
L3	[mm]	30.5	35.5	42.5	40.0	32.5	32.5	36.5
Weight	[kg]	6.0	9.0	20.0	27.0	35.0	80.0	210.0

Lower pressure stage available. Dimensions vary.



## Flow Measurement

### OMP Series.

Ideal for fuel consumption measurement of diesel- and heavy fuel oil.



#### Operating conditions and materials.

- Liquids: Chemically neutral, lubricative, clean, non-abrasive.
- Screws: Steel, nitrided.
- Bearing: Hybrid ball bearing.
- Seal: Viton® (other sealing materials on request).
- PNP or NAMUR signal.
- Bi-directional: Optional with sensors for flow direction detection.



#### Clear advantages.

Thanks to the exact measuring chamber, precise measurements across a measuring range of 1:150 are possible. Measurement precision of 0.1% across a wide measuring range. The robust housing protects the precision-manufactured screws. Therefore the OMP unites robustness and precision. The swift measuring screws follow load changes with rapidly varying flow quantities. Smoothing sections are not required either before or after the Volumeter. Pipe bends and tees do not have any influence on the measuring precision. Thanks to the use of high-quality ball bearings the Volumeter operates with low degree of friction and at a low pressure loss. OEM prices available.

Technical data.		OMP -020	OMP -032	OMP -052
<b>Nominal diameter</b>	DN	20	25/32	40
<b>Flow rate</b>				
$Q_{max}$	l/h	2,700	9,000	31,500
<b><math>Q_{rated}</math></b>	<b>l/h</b>	<b>1,800</b>	<b>6,000</b>	<b>21,000</b>
$Q_{min}$	l/h	18	60	210
<b>Pressure</b>				
$p_{max}$	bar	40	40	40
<b>Temperature</b>				
$t_{min}$ to $t_{max}$	°C	-20 to +200	-20 to +200	-20 to +200
<b>Viscosity</b>				
$v_{min}$ to $v_{max}$	mm <sup>2</sup> /s	1 to 1x10 <sup>6</sup>	1 to 1x10 <sup>6</sup>	1 to 1x10 <sup>6</sup>
<b>Accuracy</b>		± 0.1% of measured value	± 0.1% of measured value	± 0.1% of measured value
<b>K-factor</b>	K [P/l]	321.0	78.0	17.73
<b>Frequency</b>	f at $Q_{rated}$ Hz	161	130	104

## Typical application examples.



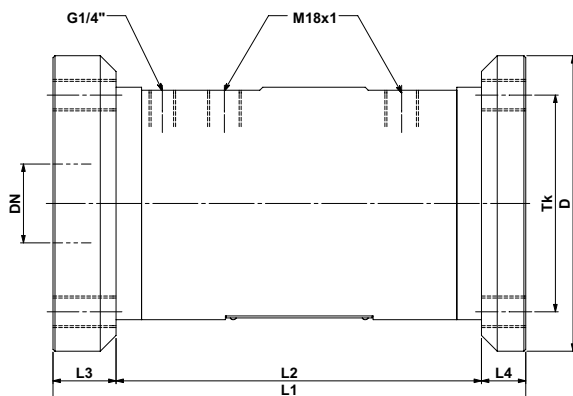
### Marine – fuel consumption measurement.

Liquid: Heavy fuel oil, marine diesel oil, marine gas oil. Flow rate: 18 - 21,000 l/h.  
 Pressure: 40 bar. Temperature – HFO: 70 - 200 °C, MDO/MGO: 10 - 60 °C.  
 Viscosity – HFO: 10 - 1,300 mm<sup>2</sup>/s, MDO/MGO: 1.1 - 50 mm<sup>2</sup>/s.  
 Measuring instrument: OMP 20 - OMP 52.

## Dimensions and connection variants.

OMP – DIN.		20	32	32	52
DN		20	25	32	40
Pressure stage	[bar]	40	40	40	40
D	[mm]	105	115	140	150
TK	[mm]	75	85	100	110
L1	[mm]	125	180	190	240
L2	[mm]	85.0	140.0	140.0	185.5
L3	[mm]	20	20	25	32
L4	[mm]	20.0	20.0	25.0	22.5
Weight	[kg]	5.0	11.2	13.5	19.2

OMP – ANSI.		20	32	52
DN	[inch]	3/4	1	1 1/2
Class		300	300	300
D	[mm]	117.5	123.8	155.6
TK	[mm]	82.5	88.9	114.3
L1	[mm]	134	195	245
L2	[mm]	85.0	140.0	185.5
L3	[mm]	24.5	27.5	32.0
L4	[mm]	24.5	27.5	27.5
Weight	[kg]	6.0	12.5	19.6



## Flow Measurement

### OME Series.

High-precision flowmeter especially for light fuel oil applications.



#### Operating conditions and materials.

- Liquids: Chemically neutral, lubricative, clean, non-abrasive, suitable for light fuel oil applications.
- The 3-in-1 sensor combines flow rate measurement, flow direction recognition and temperature measurement.
- Screws: Steel, nitrided.
- Bearing: Steel bearing.
- Seal: Viton® (other sealing materials on request).
- Push-pull and Pt100 signal.

#### Much more than just a flowmeter.

KRAL Volumeter® series OME compact measure in both flow directions. The sensor equipment recognizes an inversion of the flow direction. The output signal is formed by two pulse signals, placed electrically out of phase by 90° in order to recognize the flow direction as well as a Pt100 signal for temperature measurement.

OME Compact.		OME - 013	OME - 020	OME - 032	OME - 052
<b>Nominal diameter</b>	DN	15	20	25	40
<b>Flow rate</b>					
$Q_{max}$	l/h	900	2,700	9,000	31,500
<b><math>Q_{rated}</math></b>	<b>l/h</b>	<b>600</b>	<b>1,800</b>	<b>6,000</b>	<b>21,000</b>
$Q_{min}$	l/h	6	18	60	210
<b>Pressure</b>					
$p_{max}$	bar	40	40	40	40
<b>Temperature</b>					
$t_{min}$ to $t_{max}$	°C	-20 to +125	-20 to +125	-20 to +125	-20 to +125
<b>Viscosity</b>					
$v_{min}$ to $v_{max}$	mm <sup>2</sup> /s	1 to 1x10 <sup>6</sup>	1 to 1x10 <sup>6</sup>	1 to 1x10 <sup>6</sup>	1 to 1x10 <sup>6</sup>
<b>Accuracy</b>		± 0.1% of measured value	± 0.1% of measured value	± 0.1% of measured value	± 0.1% of measured value
<b>K-factor</b>	K [P/l]	1,214.0	321.0	78.0	17.73
<b>Frequency</b>	f at $Q_{rated}$ Hz	202	161	130	104

## Typical application examples.



### Marine – inland waterways fuel consumption measurement.

Liquid: Diesel oil, marine gas oil. Flow rate: 6 - 21,000 l/h.  
 Pressure: 40 bar. Temperature: 10 - 60 °C. Viscosity: 1.1 - 50 mm<sup>2</sup>/s.  
 Measuring instrument: OME 20 - OME 52.



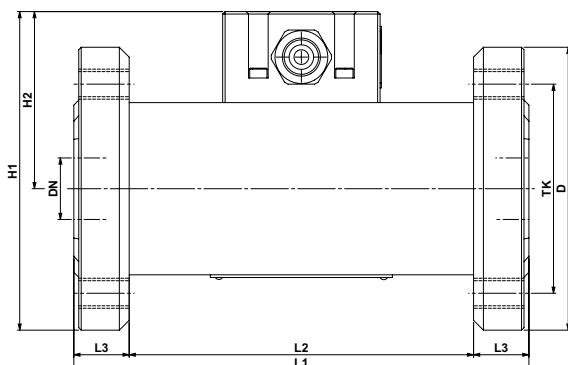
### Power Generation – land based plants fuel consumption measurement.

Liquid: Diesel oil, marine gas oil. Flow rate: 12 - 21,000 l/h.  
 Pressure: 40 bar. Temperature: 10 - 60 °C. Viscosity: 1.1 - 50 mm<sup>2</sup>/s.  
 Measuring instrument: OME 20 - OME 52.

## Dimensions and connection variants.

OME – DIN.		13	20	32	52
DN		15	20	25	40
Pressure stage	[bar]	40	40	40	40
D	[mm]	95	105	115	150
TK	[mm]	65	75	85	110
L1	[mm]	105	135	185	325
L2	[mm]	65	95	140	225
L3	[mm]	20.0	20.0	22.5	50.0
H1	[mm]	107.0	117.0	129.5	167.0
H2	[mm]	59.5	64.5	72.0	92.0
Weight	[kg]	1.2	1.7	3.0	11.8

OME – ANSI.		13	20	32	52
DN	[inch]	1/2	3/4	1	1 1/2
Class		300	300	300	300
D	[mm]	95.2	117.5	123.8	160.0
TK	[mm]	66.7	82.5	88.9	114.3
L1	[mm]	105	145	195	315
L2	[mm]	65	95	140	225
L3	[mm]	20.0	25.0	27.5	45.0
H1	[mm]	107.1	123.2	133.9	172.0
H2	[mm]	59.5	64.5	72.0	92.0
Weight	[kg]	1.2	2.2	3.6	11.9



## Flow Measurement

### OMH Series.

Our flowmeter for high pressures.



#### Operating conditions and materials.

- Liquids: Chemically neutral, lubricative, clean, non-abrasive.
- Screws: Steel, nitrided.
- Bearing: Steel bearing.
- Seal: Viton® (other sealing materials on request).
- Bi-directional: Optional with sensors for flow direction detection.

#### High measuring precision at high pressure and high flow rate.

The KRAL Volumeter® OMH can be used at up to 420 bar and is furthermore a precision measuring instrument.

The OMH has a stiff housing. The geometry remains even at high pressures. Meaning that the precision is not reduced.

Technical data.		OMH - 013	OMH - 020	OMH - 032	OMH - 052	OMH - 068	OMH - 100
<b>Nominal diameter</b>	DN	15	15	25	40	50	100
<b>Flow rate</b>							
$Q_{max}$	l/h	900	2,700	9,000	31,500	63,000	180,000
<b><math>Q_{rated}</math></b>	<b>l/h</b>	<b>600</b>	<b>1,800</b>	<b>6,000</b>	<b>21,000</b>	<b>42,000</b>	<b>120,000</b>
$Q_{min}$	l/h	6	18	60	210	420	1,200
<b>Pressure</b>							
$p_{max}$	bar	420	420	420	420	420	250
<b>Temperature</b>							
$t_{min}$ to $t_{max}$	°C	-20 to +200	-20 to +200	-20 to +200	-20 to +200	-20 to +200	-20 to +200
<b>Viscosity</b>							
$v_{min}$ to $v_{max}$	mm <sup>2</sup> /s	1 to 1x10 <sup>6</sup>	1 to 1x10 <sup>6</sup>	1 to 1x10 <sup>6</sup>	1 to 1x10 <sup>6</sup>	1 to 1x10 <sup>6</sup>	1 to 1x10 <sup>6</sup>
<b>Accuracy</b>		± 0.1% of measured value	± 0.1% of measured value	± 0.1% of measured value	± 0.1% of measured value	± 0.1% of measured value	± 0.1% of measured value
<b>K-factor</b>							
	K2 [P/I]	2,432	1,280	468	142	79,6	33.6
	K3 [P/I]	7,296	2,560	1,014	302	167	57.6
	K4 [P/I]	7,296	2,560	1,014	302	167	87.6
<b>Frequency</b>							
	f2 at $Q_{rated}$ Hz	504	640	780	828	929	1,120
	f3 at $Q_{rated}$ Hz	1,216	1,280	1,690	1,760	1,949	1,920
	f4 at $Q_{rated}$ Hz	1,216	1,280	1,690	1,762	1,948	2,920

## Typical application examples.



### Mechanical engineering – determining the position of hydraulic cylinders.

Liquid: Hydraulic oil. Flow rate: 300 to 20,400 l/h. Pressure: 350 bar.  
 Temperature: 20 - 60 °C. Viscosity: 20 - 140 mm<sup>2</sup>/s.  
 Measuring instrument: OMH 52 within flow direction recognition.



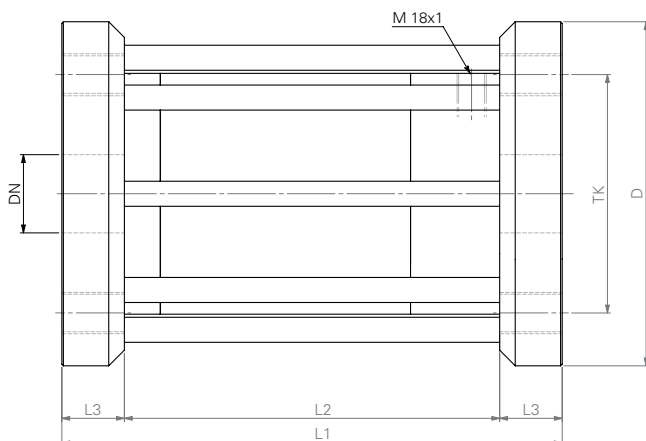
### Oil & gas – consumption measurement at gas turbines.

Liquid: Diesel oil. Flow rate: 1,680 - 106,200 l/h.  
 Pressure: 142 bar. Temperature: -15 - 80 °C. Viscosity: 1.6 - 6 mm<sup>2</sup>/s.  
 Measuring instrument: OMH 100 with sensor in explosion protection.

## Dimensions and connection variants.

OMH – DIN.		13	20	32	52	68	100
DN		15	15	25	40	50	100
Pressure stage	[bar]	400	400	400	400	400	250
D	[mm]	145	145	180	220	235	300
L1	[mm]	150	185	255	320	385	500
L2	[mm]	94	115	175	240	295	400
L3	[mm]	28	35	40	40	45	50
TK	[mm]	100	100	130	165	180	235
Weight	[kg]	9.5	12.0	28.0	54.0	80.0	170.0

OMH – SAE.		13	20	32	52	68	100
DN	[inch]	1/2	3/4	1	1 1/2	2	2
Class		6,000	6,000	6,000	6,000	6,000	6,000
D	[mm]	100	145	180	220	235	300
L1	[mm]	150	185	255	320	385	510
L2	[mm]	94	115	175	240	295	400
L3	[mm]	28	35	40	40	45	55
Weight	[kg]	7	12	28	54	80	185



## Flow Measurement

### OMK Series. Chemically resistant.



#### Operating conditions and materials.

- Liquids: neutral liquids, water, methanol, animal fat, AdBlue.
- Housing: CrNi steel.
- Screws: PTFE with 15% graphite.
- Bearing: Sleeve bearing.
- Seal: Viton® or silicone with chemically resistant coating.

#### Precise flow rate measurement in rough industrial environment.

In particular for the chemical industry and for process engineering the KRAL Volumeter OMK unites the normally mutually exclusive properties of measuring precision and robustness in a single precision measuring instrument. The PTFE spindles have low friction for measurement of non-lubricating liquids and increased chemical resistance for a wide range of compatible liquids.

Technical data.		OMK - 13	OMK - 20	OMK - 32
Nominal diameter	DN	15	20	25
<b>Flow rate</b>				
$Q_{max}$	l/h	900	2,700	9,000
$Q_{rated}$	<b>l/h</b>	<b>600</b>	<b>1,800</b>	<b>6,000</b>
$Q_{min}$	l/h	12	36	120
<b>Pressure</b>				
$p_{max}$	bar	40	40	40
<b>Temperature</b>				
$t_{min}$ to $t_{max}$	°C	-20 to +40 or +20 to +100	-20 to +40 or +20 to +100	-20 to +40 or +20 to +100
<b>Viscosity</b>				
$v_{min}$ to $v_{max}$	mm <sup>2</sup> /s	1 to 1x10 <sup>6</sup>	1 to 1x10 <sup>6</sup>	1 to 1x10 <sup>6</sup>
<b>Accuracy</b>		± 0.5% of measured value	± 0.5% of measured value	± 0.5% of measured value
<hr/>				
<b>K-factor</b>	K [P/l]	1,200	640	230
<hr/>				
<b>Frequency</b>	f at $Q_{rated}$ Hz	200	320	383



## Typical application examples.



### Mechanical engineering – volumetric examinations of barrels .

Liquid: Water. Flow rate: 12 - 6,000 l/h. Pressure: 6 bar.

Temperature: 10 - 30 °C. Viscosity: 1 mm<sup>2</sup>/s. Measuring instrument: OMK 32.



### Oil & gas – additives in fuels.

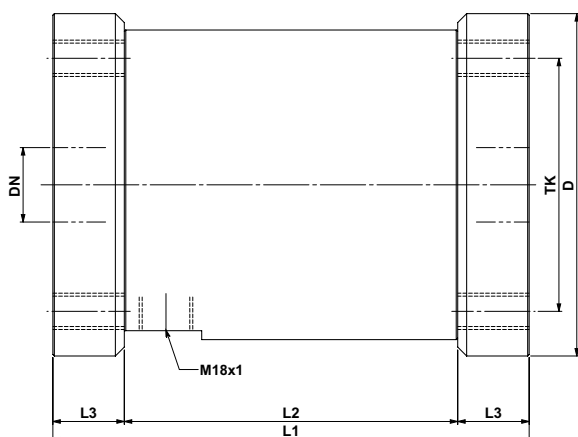
Liquid: Gasoline additive. Flow rate: 30 to 960 l/h. Pressure: 2 - 16 bar.

Temperature: -20 - 40 °C. Viscosity: 1 - 40 mm<sup>2</sup>/s. Measuring instrument: OMK 20.

## Dimensions and connection variants.

OMK – DIN.		13	20	32
DN		15	20	25
Pressure stage	[bar]	40	40	40
D	[mm]	95	105	115
TK	[mm]	65	75	85
L1	[mm]	110	115	160
L2	[mm]	69	75	112
L3	[mm]	20.5	20.0	24.0
Weight	[kg]	3.2	4.0	10.0

OMK – ANSI.		13	20	32
DN	[inch]	1/2	3/4	1
Class		300	300	300
D	[mm]	95.2	117.5	123.8
TK	[mm]	66.7	82.5	88.9
L1	[mm]	110	120	160
L2	[mm]	69	75	112
L3	[mm]	20.5	22.5	24.0
Weight	[kg]	3.2	4.8	10.2



## ■■■■■■■■ We Pump and Measure Liquids

# Quality and Efficiency Down to the Last Detail.

All-round service from a single source.



### **Start-up package.**

Our technicians not only know our products inside out – they are also familiar with the influences of the plant on the measuring system. We adjust the units to the system conditions of the plant and the process during commissioning and servicing. Specialist installation and an optimally utilized measuring system form the basis for perfect operation.



### **Maintenance and repairs.**

Increase your operational reliability. Avoid downtimes and keep the life cycle costs of your KRAL Volumeter® low. Maintenance work and repairs can be carried out in Lustenau or directly on your site.



## Training courses.

KRAL training courses provide you with a sound knowledge of the mounting, commissioning and maintenance of a KRAL Volumeter®.

You obtain expert information from the manufacturer about how to correctly mount and commission your KRAL Volumeter®. You get to know applications and limitations of use. You learn to recognize and eliminate faults through the analysis of real damage profiles.

We carry out professional maintenance with you and show you how to reduce the operating costs of your Volumeter.

Training courses can be carried out in Lustenau or directly on your site.



## Spare parts.

KRAL original parts guarantee the highest quality standards.

