SKM

Designs and applications

The piston-type flow meter SKM is used to measure water, oils or other liquids independently from the alignment of the device. The SKM can be installed into pipelines either horizontally or vertically. The device is equipped with a spring loaded piston inside a cylindrical tube made of borosilicate glass.

Together with the spring, the piston with an orifice bore forms the measuring system. When the liquid flows through the SKM, the piston will change its position. The position is proportional to the volume flow rate. A scale at the upper edge of the piston directly indicates the flow rate. The meter is available in the sizes G ¼ to G 2.

- **female thread connection**
- **compact design**
- **horizontal or vertical installation**
- **measuring range 1:3**
- **for water, oils and liquids**
- **accuracy 10 % FS**
- **perspex protective cover**
- **optionally with limit value switch**

A. Kirchner & Tochter GmbH Dieselstraße 17 · D-47228 Duisburg
Fon: +49 2065 9609-0 · Fax: +49 2065 9609-22 Internet: www.kt-flow.de · e-mail: info@kt-flow.de

Version 2.5

Type series

SKM	local Display
SKM-RK1 *	with limit value switch (NO)

* Limit value switch only available for device sizes G1/4“ - G1“.

Dimensions

SKM / SKM-RK1			
G	A	SW	D
¼	156	40	48,3
½	156	40	48,3
¾	156	40	48,3
1	156	40	48,3
1 ¼	200	80	89
1 ½	200	80	89
2	200	80	89

Technical Data

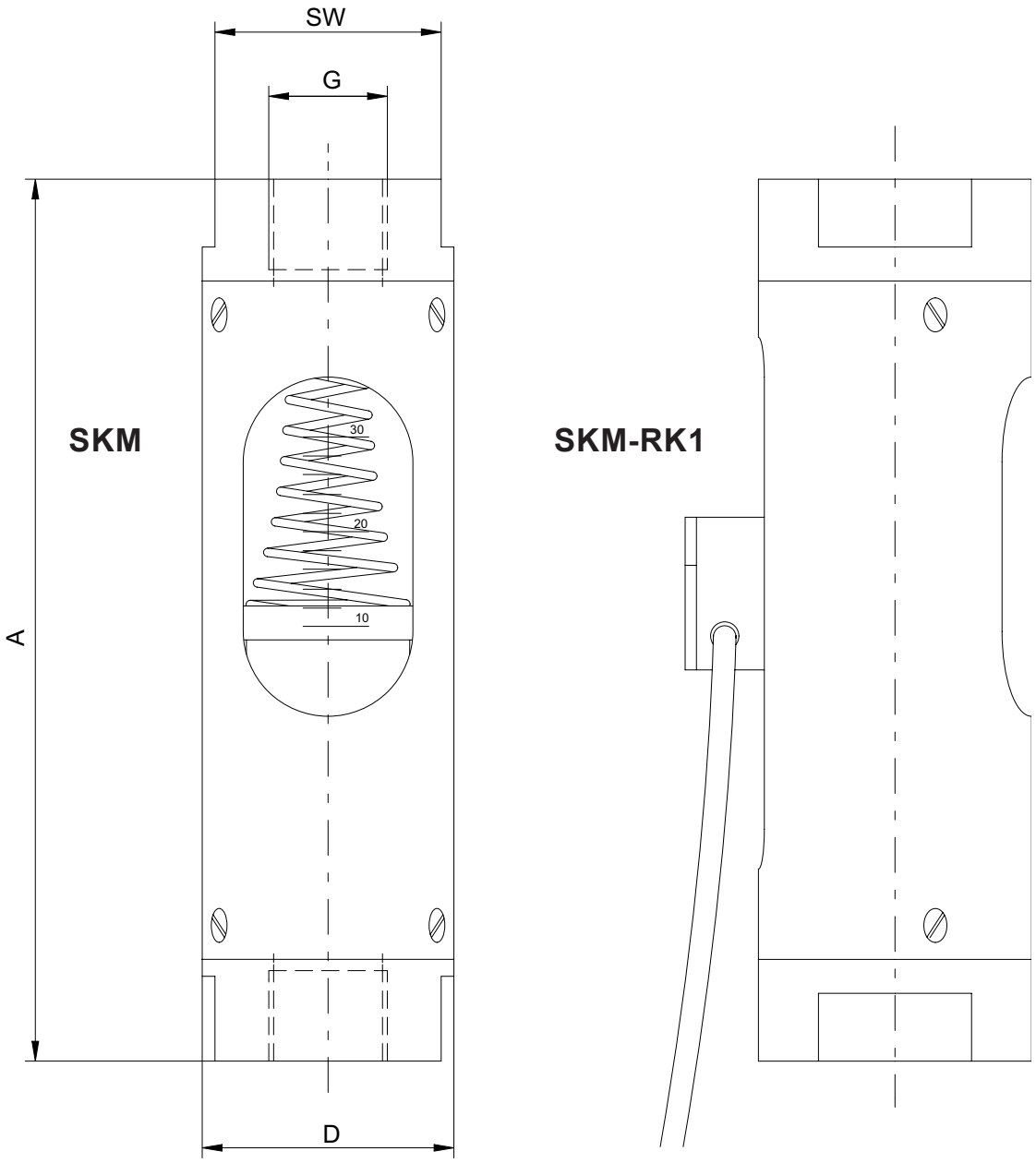
Scale	l/min
Measuring range	1:3
Measuring accuracy	10 % Full scale
Reproducibility	5 % Full scale
Medium temperature[1)]	-20[2)]/0 ... +100 °C,
Ambient temperature	-20[2)]/0 ... +50 °C
Maximum static operational pressure	10 bar

[1)] The process liquid must not freeze.
[2)] applicable from -20 °C with FKM seals

Materials

Connections	1.4571 or brass nickel plated
Piston	1.4571
Sleeve	1.4301
Glass	borosilicate glass
Splatter protection	perspex
Seals	standard: NBR optionally: FKM, EPDM
Connection	female thread acc. to DIN EN ISO 228

A. Kirchner & Tochter GmbH Dieselstraße 17 · D-47228 Duisburg
Fon: +49 2065 9609-0 · Fax: +49 2065 9609-22 Internet: www.kt-flow.de · e-mail: info@kt-flow.de
Version 2.5



Measuring range

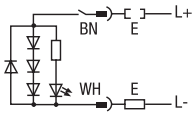
measuring range H_2O				Connection G	max. pressure loss [mbar]	Connection G	max. pressure loss [mbar]
1,5	-	4,5	l/min	¼ or ½	630	¾ or 1	630
2,5	-	8	l/min	¼ or ½	695	¾ or 1	695
5	-	15	l/min	¼ or ½	800	¾ or 1	725
10	-	30	l/min	¼ or ½	1075	¾ or 1	650
15	-	45	l/min	-	-	¾ or 1	730
20	-	60	l/min	-	-	¾ or 1	750
30	-	90	l/min	-	-	¾ , 1, 1 ¼, 1 ½, 2	910
90	-	280	l/min	-	-	1 ¼, 1 ½, 2	-

Intermediate measuring ranges on request

Limit value switch RK

In order to realize a local display with a monitoring function the flowmeter can be equipped with limit value switches. The limit value switch consists of a moulded reed switch and the connection cable. A magnet integrated in the piston switches this reed switch. The limit value switch is guided in a guide slot on the back of the protective tube and can be adjusted throughout the entire measuring range. In case of inductive or capacitive load applications, e.g. caused by contactors or solenoid valves, uncontrolled current and voltage peaks may occur. In dependence on their geometry such peaks also occur in lines if they exceed a certain length. It is therefore recommended to use an additionally available arc suppression relay “MSR”. This increases the switching capacity and avoids the appearance of inductive and capacitive peaks. It thereby ensures a long lifetime of the limit value switch.

Technical data of the limit value switch

RK	Design with one limit value switch
Voltage switched	50 V AC/75 V DC
Switching current	max. 0,2 A
Switching capacity	max. 10 W/VA
Dielectric strenght	230 V AC/DC
Switching performance	bistable
Indication of switching condition	LED yellow
Type	Reed switch
Temperature range	-25 ... +75 °C
Degree of protection	IP 67 (IEC 529)
Switching function	NO (normally open)
Connection	

RK limit value switch only available for device sizes G1/4“ - G1“.

Low Voltage Directive

Above 50 V AC/75 V DC, electrical components are subjected to the EU Low Voltage Directive (LVD). The user is required to verify their use accordingly.

Proper use

The user is responsible for assessing the suitability of the flow meters for his case of application, for use as prescribed and for material compatibility regarding the liquid product used in his process.
The manufacturer shall not be liable for any damage arising from incorrect or improper use of the devices.
Pressure surges can cause glass breakage and should therefore generally be avoided.
The limit values given in the data sheet should be observed.
In all other respects we advise following the installation recommendations specified in Code VDI/VDE 3513, Sheet 3.

The equipment from **Kirchner und Tochter** has been tested in compliance with applicable CE-regulations of the European Community. The respective declaration of conformity is available on request. Subject to change without notice. The current valid version of our documents can be found at www.kt-flow.de.

The **Kirchner und Tochter** QM-System is certified in accordance with DIN EN ISO 9001:2015. The quality is systematically adapted to the continuously increasing demands.

A. Kirchner & Tochter GmbH Dieselstraße 17 · D-47228 Duisburg
Fon: +49 2065 9609-0 · Fax: +49 2065 9609-22 Internet: www.kt-flow.de · e-mail: info@kt-flow.de
Version 2.5