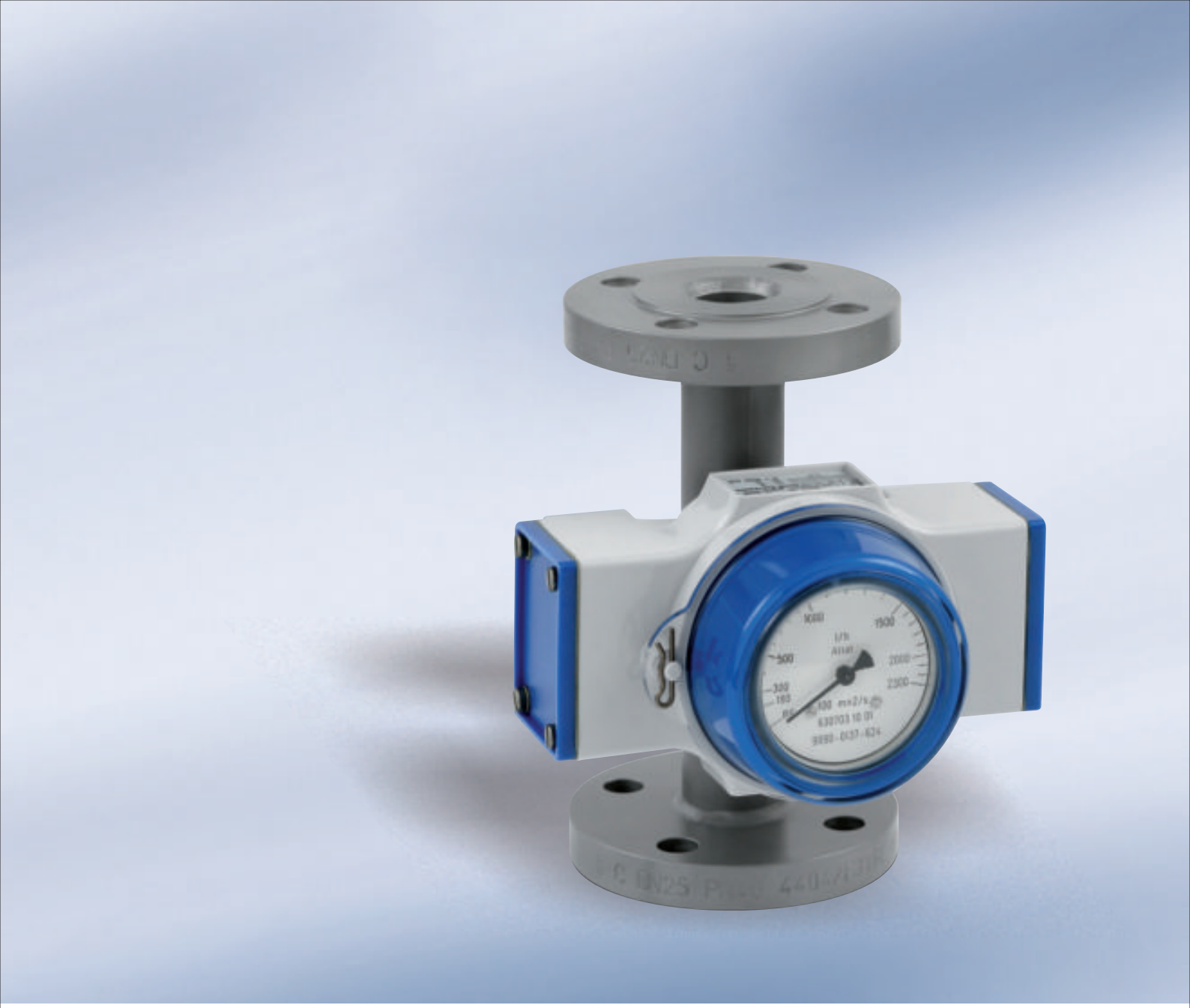


Flow Switches

Technical Data
DW 181
DW 182

Flowswitches DW181 DW182

Flow switches are used for visual and/or electrical checking of liquid flow. The units are of rugged, glandless construction, and are available in several versions to suit a wide variety of industrial flow monitoring applications.

Versions

DW 181 (standard) - Threaded connections

- For horizontal or vertical pipelines
- *with screw connection 3/4" BSP to 2" BSP
- Indicator A
- 1 or 2 electrical limit switches
- Measuring system C
- Flow ranges, see table

DW 182 (standard) - Flanged End connections

- For horizontal or vertical pipelines
- with flanged connections DN 15 to DN 50 or ½ "t02"
- Indicator A
- 1 or 2 electrical limit switches
- Measuring system C
- Flow ranges, see table

Primary Form of Measurement

Flow control protection for critical applications:

- Primary form of measurement, control and protection
- Complete solution for monitoring all lubricating and cooling needs of cement I power I steel plants
- Rugged design, ability to withstand harsh site conditions
- Complete isolation between flow measuring section and switching section due to magnetic coupling
- Diverse applications from water to high viscosity lubrication oils
- Detects changes in flow, unlike traditional pressure switches which detect loss of pressure
- Local indication in engineering units provided by Krohne Flow Switches
- Krohne Flow Switches calibrated and compensated for viscosity

Indicators

Indicator A : DW 182 flow switches are available as a special version with indicator A. The dial is marked in flow units (e.g. l/h, m3/h) to provide more accurate flow readings. The switching points are factory marked on the dial. With this indicator it is possible to adjust the switching points at non-flowing conditions.

Measuring System

Measuring system C has a hinged measuring disc moving freely in the axis of the conical tube. At flowing conditions, the system adjusts so that the force acting on the disc is in equilibrium with the spring force. Each flow rate thus corresponds to a particular position of the measuring disc. A built-in magnet transmits the disc position to the indicator and simultaneously actuates the limit switches.

Limit switches

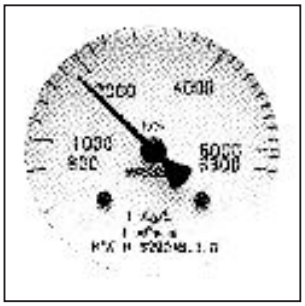
Standard equipment for indicators A includes one l,imit switch (reed contact), contact rating 8 VA (type K1). A second limitswitch (type K2) can be installed if required. The limit switches for indicators A are not interchangeable. These can be used in conjunction with WE77EX1IWE77EX2 transistor relays. They consist of a power pack, switching amplifier and relay o/p.

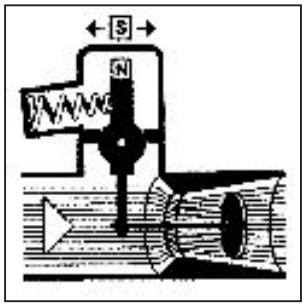
Features

- SS tubular body construction with screwed BSP or flange connections (Available in sizes of DN 15, DN 25 DN 40 & DN 50)
- Visual means of checking flow on the indicators
- With built-in (one or two) limit switches with adjustable set point
- Can be used in hazardous areas operated with intrinsically safe control circuits
- IP 55 protection provided
- Complete isolation of process fluid from indicator

Applications

Cooling circuits, lubrication circuits in steel industries and process industries as varied as fertiliser, chemical, paper etc.





Flowswitches DW181 DW182

Full-scale range (100% values)
Flow rate (m^3/h) 0.16 to 30

Connection **

Flanges to DIN 2501 , PN 40 to ANSI 150 / 300# DN 15 to 50

Screwed (BSP) 3/4" to 2"

**** Higher size flanges offered on request**

Measuring system
Measuring disc with conical tube C

Indicator
In flow units A

Material of construction
Tube SS316
Flanges SS316
Indicator Housing Polycarbonate

Operating pressure (bar) 16

Product temperature (ºC) 80

Viscosity (mPa.s)
Standard ≤ 30
Special version > 30***
(exact operating density & viscosity required)

Repeatability (switching point) ± 3%

Measuring accuracy (Indicator A) ± 15%

Protection category IP 55

Limit switches

Type and number

K1 1 N/C or 1 N/O contact (bistable)

K2 1 N/C and 1 N/O contact (bistable)

Optional 2NO + 2NC for each set point

Contact rating

K1, K2 max. 8 VA (max. 220 V AC, max. 0.5A)

Transistor Relays

WE77EX11 WE77EX2

Power supply : 110 V AC/ 220 V AC/ 24 V DC

Power consumption : 3.5 VA

Amb. temperature : -25 TO +60º C

Protection : IP 20

Contact rating : 4 A/ 230 V/ 500V A/ cos =0. 7

Mounting : Back of panel (DIN Rail)

Responsibility as to suitability and intended use of our instruments rests solely with the purchaser

Flow Ranges ***

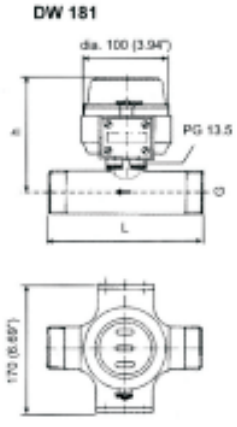
Meter size DN (mm)	Indicators A Flow range** (l/h)	Code	Pressure loss ΔP max (m bar) for q min	q max
15	20 ...160	C011	16	80
	50 ... 400	C012	67	176
	150 ...1000	C013	140	440
	300 ... 2500	C014	150	490
25	200 ... 1600	C021	18	80
	300 ... 2500	C022	26	180
	500 ... 4000	C023	85	400
40	500 ... 4000	C041	14	68
	800 ... 6300	C042	32	110
	1200 ...10000	C043	60	160
50	1200 ...10000	C051	30	80
	2000 ...16000	C052	65	260
	2500 ... 20000	C053	72	350
	7500 ... 30000	C054	47	360

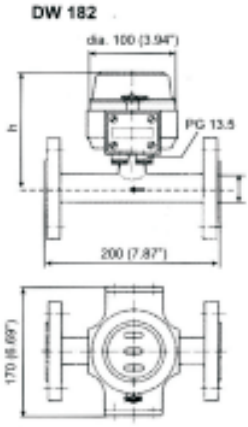
*** For high viscosity applications, please refer to factory for possible flow range.

** For water application

Dimensions and weights

Type	Connection	Dimensions h mm	Dimensions l mm	Weight kg.
DW 181	BSP 3/4"	115	190	1..
	BSP 1"	120	190	1.8
	BSP 1 ½"	130	190	2.2
	BSP 2"	135	190	2.6
DW182	DN 15(½")	115	-	3.0
	DN 25(1")	120	-	4.0
	DN 40(11/2")	130	-	5.5
	DN 50(2")	135	-	7.2





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