



## All-Metal Flow Switches for liquids



measuring  
•  
monitoring  
•  
analysing

DSS



- Measuring range:  
0.05 - 1.0 ... 10 - 110 l/min water
- Accuracy:  $\pm 5\%$  of full scale
- $p_{\max}$ : 350 bar;  $t_{\max}$ : 100 °C
- Connection: G 1/4 ... G 1 1/4 female  
1/4 ... 1 1/4" NPT female
- Material: brass or stainless steel

S2



KOBOLD companies worldwide:

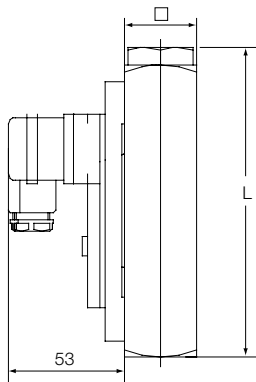
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**Description**

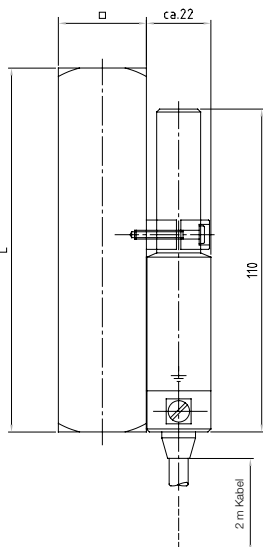
The flow switches model DSS operate on the suspended float principle, however not with a tapering measuring tube, but with a cylindrical float and a slotted conical nozzle. This technology allows a very much more compact construction and offers considerable price advantages.

**Dimensions [mm]**



Model	Square [mm]	Thread G	L [mm]	Weight [kg]
DSS-..01H	30 x 30	¼ (½)	132 (136)	0.9
DSS-..03H	30 x 30	¼ (½)	132 (136)	0.9
DSS-..05H	30 x 30	¼ (½)	132 (136)	0.9
DSS-..07H	30 x 30	¼ (½)	132 (136)	0.9
DSS-..09H	30 x 30	¼ (½)	132 (136)	0.9
DSS-..11H	30 x 30	¼ (½)	132 (136)	0.9
DSS-..13H	30 x 30	¼ (½)	132 (136)	0.9
DSS-..15H	40 x 40	¾ (1)	156 (150)	1.7
DSS-..17H	40 x 40	¾ (1)	156 (150)	1.7
DSS-..19H	50 x 50	1 ¼	165	2.9

**DSS-..F0..**



**Technical Details**

Housing: DSS-11...: brass, Ms 58  
DSS-12...: stainless steel, 1.4301

Connections: DSS-11...: brass, Ms 58  
DSS-12...: stainless steel, 1.4301

Float: DSS-11...: brass, Ms 58  
DSS-1101: PP  
DSS-12...: stainless steel, 1.4301  
DSS-1201: PVDF

Nozzle: DSS-11...: brass, Ms 58  
DSS-12...: stainless steel, 1.3955

Seals: DSS-11...: NBR  
DSS-12...: FPM

Max. temperature: 100 °C  
DSS-1101... / DSS-1201...: 70 °C

Max. pressure: DSS-1101... / DSS-1201...: 16 bar  
DSS-11...: 250 bar  
DSS-12...: 350 bar

Installation position: vertical, upward flow

Accuracy: ±5 % of full scale

Repeatability: ≤ 1 %

Contact: bistable reed contact

Electr. connection: 2 m cable (DSS-...F0...)  
for all other models:  
connector DIN EN 175301-803

Electrical switching values: N/O contact  
max. 250V<sub>AC/DC</sub>/1.5 A/100W/100 VA  
changeover contact  
max. 250V<sub>AC/DC</sub>/1 A/30W/60 VA  
N/O contact and  
changeover contact (cCSAus)  
max. 230V<sub>DC</sub>/0.26A/60W,  
60V<sub>DC</sub>/1 A/60W,  
max. 240V<sub>AC</sub>/0.42 A/100W,  
100V<sub>AC</sub>/1 A/100W

Protection: IP65

**Application in hazardous areas**

Mechanics: The apparatus can be used as follows in explosive atmospheres in accordance with the applicable erection regulations on machines, devices and plants, such as e.g. EN 1127-1, EN 60079-14 etc.:

- a) In Zone 1 (gas hazard, category 2G) in the explosion groups IIA, IIB and IIC
- b) In Zone 2 (gas hazard, category 3G) in the explosion groups IIA, IIB and IIC
- c) In Zone 21 (dust hazard, category 2D) in the explosion groups IIIA and IIIB
- d) In Zone 22 (dust hazard, category 3D) in the explosion groups IIIA and IIIB



**Technical Details** (continued)

**Electrical contacts**

ATEX contact ...F0: II 2 G Ex mb IIC T6 Gb  
 II 2 D Ex mb IIC T80°C Db  
 max. 250 V<sub>AC</sub>/1,5 A/100 VA  
 IECEx BVS 07.0007X

ATEX N/O contact type 41R57 ...G0 and GG:  
 II 3 G Ex ic IIC T4 Gc  
 II 3 D Ex ic IIC T125°C Dc  
 -20°C ≤ Ta ≤ 80°C  
 max. 250 V<sub>AC/DC</sub>/1,5 A/100 W/100 VA

ATEX changeover contact type 41R57U ...H0 and HH:  
 II 3 G Ex ic IIC T4 Gc  
 II 3 D Ex ic IIC T125°C Dc  
 -20°C ≤ Ta ≤ 80°C  
 max. 250 V<sub>AC/DC</sub>/1 A/30 W/60 VA

Hysteresis: approx. 3.5 mm float movement  
 Protection: IP 65 electr. contacts

**Order Details** (Example: DSS-1101H R0 R08)

Measuring range water [l/min]	Pressure loss Δ P [bar]	Float according to device version		Brass	Stainless steel	Contact <sup>1)</sup>	Connection	
		Brass	St. steel				Standard	Special
0.05...1	0.02	PP	PVDF	DSS-1101H...	DSS-1201H...	..R0.. = 1 N/O contact ..U0.. = 1 changeover contact		
0.15...1.7	0.04	brass, nickel-pl.	st. steel	DSS-1103H...	DSS-1203H...	..F0.. = 1 Ex N/O contact ..C0.. = 1 N/O contact (cCSAus)		
1...4.5	0.04	st. steel	st. steel	DSS-1105H...	DSS-1205H...	..D0.. = 1 changeover contact (cCSAus)		
1...7	0.11	brass, nickel-pl.	st. steel	DSS-1107H...	DSS-1207H...	..G0.. = 1 ATEX N/O contact (model 41R57)	..R08 = G ¼ ..R15 = G ½	..N08 = ¼" NPT ..N15 = ½" NPT
1...9	0.12	st. steel	st. steel	DSS-1109H...	DSS-1209H...	..H0.. = 1 ATEX changeover contact (model 41R57U)		
2...14	0.18	st. steel	st. steel	DSS-1111H...	DSS-1211H...	..RR.. = 2 N/O contact ..UU.. = 2 changeover contact		
2.5...20 <sup>2)</sup>	0.06	brass, nickel-pl.	st. steel	DSS-1113H...	DSS-1213H...	..CC.. = 2 N/O contact (cCSAus) ..DD.. = 2 changeover contact (cCSAus)		
3...45	0.22	brass, nickel-pl.	st. steel	DSS-1115H...	DSS-1215H...	..GG.. = 2 ATEX N/O contact (model 41R57)	..R20 = G ¾ ..R25 = G 1	..N20 = ¾" NPT
3.5...50	0.4	brass, nickel-pl.	st. steel	DSS-1117H...	DSS-1217H...	..HH.. = 2 ATEX changeover contact (model 41R57U)		
10...110 <sup>3)</sup>	0.3	st. steel	st. steel	DSS-1119H...	DSS-1219H...		..R32 = G 1¼	..N32 = 1¼" NPT

<sup>1)</sup> This instrument is also available with 2 contacts. Please specify in writing.

<sup>2)</sup> DSS-...13H...R08: Measuring range 2.5... 18 l/min water

<sup>3)</sup> Not possible with »F0«