JLSO TecTrade GmbH

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Flow - Indicator

Type HDK

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With flow monitor and scale are models of a novel design, operating on the slinding spool-principle; they are also suitable for extremely low flow rates of pure, neutral media such as water, oil or air and temperatures up to 80° degrees, or line pressure 0 -10/16 bars. Temporary depressurisation is not disadvantegeous.

Scope of application: Cooling water-oil circulation and air monitoring, dry running monitor for small pumps and pressure boosting on drinking water pumps, providing an upstream pressure is available. The flow monitor is suitable for all types of tool machines and similar application.

Technical advantages: - switchable flow rate as from 5 -10 l/h, pressure independent, non sealing
- stepless, various switching point setting with threaded screw, pointed pone and pointer scale
- simple and easy installation in pipeline, available in 4 sizes, screwed connction port from R3/8“ up to R2“ Sices I, II, III or IV.

Design and materials: Red bronze body chromed-plated, screw in sockets with nozzle and guire bore, brass sliding spool, size IV plastic PP, controlled shaft rolled bronze, with brass articulated section and seal, cross nut with adjusting screw brass and stainless steel pointer. All medium -touched parts as regards functioning are chrome- or nickel-plated. Switch- housing stainless steel with chrome-plated brass bezal, PVC-Scale, 1 Micro-contact (Changeover) for 2 single-poled circuits 220 Volt 15 Amp

4 Installation-positions: Flow direction (arrow) 1. Horizontal left to right, 2. Horizontal right to left, 3. Vertical rising (vrs), 4. Vertical falling (vf). Please specify in case of order!

Mode of operation: All types with a micro-switch-contact only one contact can be set, i.e. ON at a specific flow rate contact, or the most used connection OFF at a specific reducing flow rate, for ex. Deficiency of water.

Technical Data

Housing size	Screwed connection port	Switching range fluid	Switching range for air	Pressure lost fluid media	Contact breaks with reduktion	Construkt. Lenght with screwed connect. ports	Total weight packing incl.
	R"	l/h l/m	Nm3/h	mWS	by %	mm	kg
I	3/8" - 1/2"	10 -1000 0,16 - 16,0	0,5 - 12,0	0,2 - 1,2	40 - 20	120	1,1
II	1/2" - 3/4"	50 - 2500 0,8 - 40,0	1,0 - 25,0	0,2 - 1,2	35 - 20	130	1,4
III	1" - 1 1/4"	100 - 5000 1,6 - 80	3,0 - 75,0	0,2 - 1,0	30 - 15	155	2,4
IV	1 1/2" - 2"	360 - 18000 6,0 - 300	6,0 - 150	0,2 - 1,0	30 - 15	180	3,6

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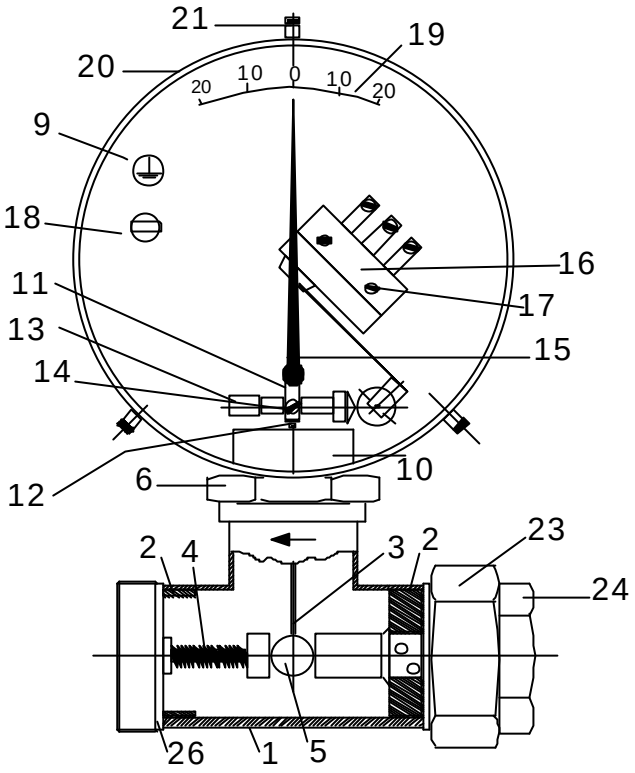

Item	Designation	Materials
1	Housing, T- Shaped	Red bronze nickelpl.
2	Spool bearing screw in parts	Brass chr. Plated
3	Spool with pilot pins	Brass chr. Plated
4	Compression spring	Stainless steel
5	Switch control shaft	Rolled bronze chr.
6	Reducing nipple	Brass nickelpl.
7	H- leathering seal	Buna N
8	Supporting ring with slotted nut	Brass nickelpl.
9	Switch housing 100 mm diam.	stainless Steel
10	Switch retaining nut M 20 x 1,5	Brass nickelpl.
11	Cross nut	Brass nickelpl.
12	Lock nut	Brass nickelpl.
13	Hexagonal- contakt- regulating screw	Brass nickelpl.
14	Cord- screw	Brass nickelpl.
15	Pointer shaft with pointer	Plastic
16	Micro- changeover- switch 220V 15A	
17	securing screws M3	Brass nickelpl.
18	Earthing screw	Brass nickelpl.
19	glass disc with scale	PVC plastic
20	Bezel	Brass chr. Plated
21	Retaining screws with cord M3	Brass nickelpl.
22	Cable gland Pg 11	Brass nickelpl.
23	Union nut, malleable casting	galvanized
24	Insert R 3/8" - R2"	galvanized
25	Rubber seals 2ea	oil- resistent
26	O- ring 2ea	oil- resistent

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Installation and Operating Instructions

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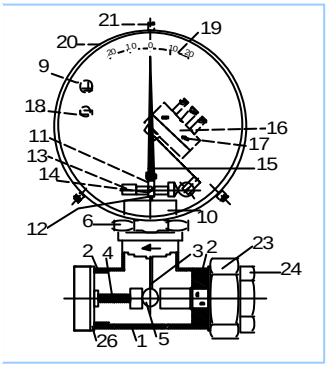

Installation: Installation horizontal wherever possible on the basis of shematic 1, 2 or 3, only pressure line, not suction side since the seal of the control shaft 5) is not vaccum-tight. However, the monitor may be subject to temporary depressurization. It is also possible to install the monitor in a vertikal line with rising or falling flow, please refer to shematics 3 and 4.

The line must be flushed before installaton, particu-lary if not dirt traps are to be fitted.

Shut-off valves upstream of the dirt trap and down-stream of the HDK if the former needs to be cleaned under pressure.

Electric connection: This must be carried out in accordance with VDE regulations or a power supply company pro-tective earthing system must be provided.

Contact setting: If not otherwise specified in the order, the monitors are tested with cold water and the most frequent connection(operating current) is set on which the contact breaks when the flow rate decreases.

Size: I OFF at 20 l/h II OFF at 100 l/h III OFF at 200 l/h IV OFF at 600 l/h

Changing the setting: Remove the brezel (20) and scale disc (19). Beforehand, note down the pointer deflection on the scale in agular degress. Unlock the regulating screw (13) with adjusting screw (14). The distance of the pointed cone with respect to the roller on the microswitch is reduced or increased by rotating in a clockwise or counter-clockwise direction respectively. This changes the switch-on and switch-off point, referred to the flow rate.

Number of turns of the regulating screw (13) from minimum to maximum flow:

Size I 4,5 II 4,5 III 5,0 IV 7,0 turns

1/6 of a turn of the regulating screw changes the liquid flow switching value + or - :

Size I by approx.37 l/h II by approx.92 l/h III by approx.166 l/h IV by approx.430 l/h

Air and Gas necessitate experimental adjustment or precise ordering information for setting on the JLSO.

Precise flow switching values necessitate an upstream measuring instrument or discharge measurement with graduated vessel.

Local conversion of the installation position: from h/l 1) to h/r or vice versa
1. Open the switch housing, 2. Remove the microswitch and screw in the clamping screws at the opposite, 3. Slacken the lock nut (12), unscrew the cross nut (11) with pointer, rotate the regulating screw (13) by unscrewing the pointed cone with a pair of flat-nosed and cutting pliers, 4. Slacken the retaining nut (10), rotate the switch-housing (9) by 180° degrees, tighten the nut (10). 5. Reserve the positions of the screw and dummy screw (18) M3, 6. Refit the cross nut with pointer, align it to the scale zero point. 7. Fit the microswitch and check the function by hand at the spool pilot pins (3).

If you still have questions as regards the arrangement, circuit and wiring: Please inquire with us stating precise operating conditions such as the pump data, installation plan and circuit diagramm.

Please note during operating: If the line pressure remains constant, the flow rate switch point and pointer deflection must remain constant. Blockages may occure as the result of desposits and corrosion on the inside parts which come in to contact with the media. These blockages can be cleared by removing the flow monitor and flushing it through with dilute acid.

Ordering information: 1. Intended application, 2. Medium, 3. Stagnation pressure and operating pressure, 4. Tem-perature, 5. Line diameter R“, 6. Flow rate at switch point ON or OFF in l/h, 7. Installation position in accordance with shematics 1, 2, 3, 4.

Spare parts: In accordance with rating plate, type, order-number, year of delivery.

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