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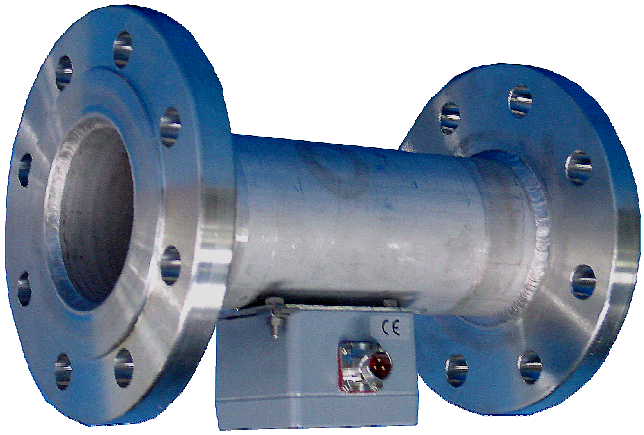
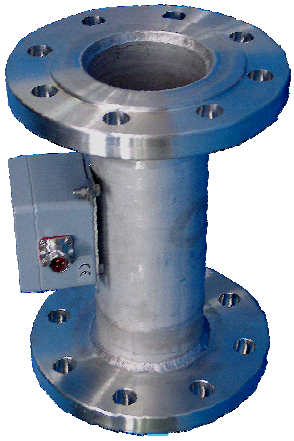




CE

K3 qualification

SOMMAIRE

1. PRINCIPLE

An articulated flap placed perpendicular to the flow, moves in function with the flow. An extemal magnetic contact is activated by the magnet placed on the flap. (The magnet is protected of corrosive medium by an aluminium jacket.)

2. USE

Suitable for liquids (gases on request).
Metal flow controller used to detect weak flows in horizontal or vertical piping systems (direction of the ascending flow). This is a device with very simple and reliable design.

3. TESTS

Tests withstand earthquakes.

4. CHARACTERISTICS

4.1. General

- Maximum operating pressure : NP16 : 1,6 Mpa (16 bar at 20°C) / NP25: 2,5 Mpa (25 bar at 20°C) NP40 : Mpa (40 bar at 20°C)
- Operating température : -30°C à +125°C
- According to the 2014/68/UE directive on pressure equipment, this device is classified in the « pipe, liquid group 2 ». For using with differents characteristics : consult factory.
- Setting on liquid density =1 with ± 10% and repeatability ± 5%.

4.2. Construction

- Stainless Steel Body, flap and diaphragm (304L and 316L)
- The connection is made by fixed flanges.

4.3. Mechanical

	ND	Max. flow (1) (3) m^3/h Liquid SG=1	Switching flow (1) (3) m^3/h Liquid SG=1		Possible range of switching flow on request (2) (3) m^3/h Liquid SG=1	
			HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL
	40 (1"1/2)	20	0.4	0.8	0.2 à 1.7	0.3 à 2
K3	50 (2")*	20	0.4	0.8	0.2 à 1.7	0.3 à 2
K3	65 (2"1/2)	35	0.6	1	0.3 à 2.4	0.35 à 3
K3	80 (3")*	55	0.7	1.4	0.4 à 2.7	0.5 à 4
K3	100 (4")*	85	1	2	0.5 à 3.8	0.6 à 6.5
	125 (5")	132	1.5	3	0.8 à 4.8	1 à 8
K3	150 (6 ")*	190	1.8	3.7	1.2 à 5.5	1.5 à 11.5
	200 (8 ")	340	3.7	7.5	2.7 à 10	2.5 à 21

* recommanded ND

- (1) Standard versions are delivered with a contact adjusted on the indicated values.
- (2) On request, the device can be delivered with a contact adjusted on a value included in these limits.
- (3) The values are communicated for decreasing flows; in the case of increasing flows, to consult the Engineering department.

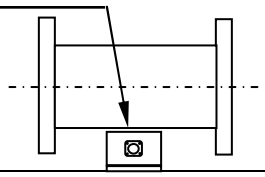
4.4. Electrical

- Bistable changeover reed switch
  Max. power 60VA/60W (resistive load)
  Max. current: 1A
  Max. voltage: 250Vac/Vdc
- Housing :
  IP65 waterproof, equipped with a SOURIAU 8N45 male base (code H5) or SAIB NU25-103 (Code H7) or IP65 waterproof, equipped with a SOURIAU 8N45 male base with a unassembled female 8N45 connection (code H4) or a SAIB NU25-103 male base with a unassembled female NU25-103 connection (code H6).

Choose correctly the type of receptacle on the Box and adapt the correspondent plug according to requirement of the site.
For a possible replacement of the switch, it's imperative to specify the model of receptacle installed on the box.

5. INSTALLATION

- The installation of the flow controller can be performed on a vertical or horizontal pipe.The direction of circulation of the fluid is show by a red arrow attached to the body.
- The direction of circulation of the fluid must be ascending in the case of a vertical assembly.
- In the case of an horizontal assembly, the switch must be place in inferior part.
- Maintenance :
  No particular maintenance is required althought it should be kept in clean condition. Switches can be alternate easily.



6. ORDERING

Example : ED/CCB311 – 50 – C1 – MX/H2.9C – H4 + prospective complementary designation

Houdec Instrument code				
Type				
ED/CCB311	Flow controller			
ND choice				
40	EN1092-1			
50	EN1092-1 certified K3			
65	EN1092-1 certified K3			
80	EN1092-1 certified K3			
100	EN1092-1 certified K3			
125	EN1092-1			
150	EN1092-1 certified K3			
200	EN1092-1			
1"1/2	EN 1759-1			
2"	EN 1759-1 certified K3			
2"1/2	EN 1759-1 certified K3			
3"	EN 1759-1 certified K3	Variants for export		
4"	EN 1759-1 certified K3			
5"	EN 1759-1			
6"	EN 1759-1 certified K3			
8"	EN 1759-1			
Connecting				
C1	Standards length Stainless Steel flange EN1092-1 NP16 board page 4			
C1X	Special Stainless Steel flange EN1092-1 NP16 (example : flat face gasket FF)			
C1X L200	Stainless Steel flange EN1092-1 NP16 Length 200 board page 4			
C2	Standards length Stainless Steel flange EN 1759-1 150lbs board page 4			
C2X	Special Stainless Steel flange EN 1759-1 150lbs (example: flat face gasket FF)			
CX	Special Construction (consult us)			
C4	Standards length Stainless Steel flange EN1092-1 NP25 board page 4			
Measurement element				
M1	Horizontal mounting – decreasing standard cut off flow			
M2	Vertical mounting – decreasing standard cut off flow			
MX/	On request cut off flow MX			
V ou H	V mounting (vertical) or H (horizontal)			
?,?	Cut off flow in m3h (example 2.3)			
C ou D	Cut off flow direction C (increasing) or D (decreasing)			
MX	Special calibration (consult the Technical office)			
Box type				
H4	Aluminium IP65 exit male base + SOURIAU 8N45 female connection type			
H5	Aluminium IP65 exit SOURIAU 8N45 male base type			
H6	Aluminium IP65 exit male base + SAIB NU25-103 female connection type			
H7	Aluminium IP65 exit SAIB NU25-103 male base type			

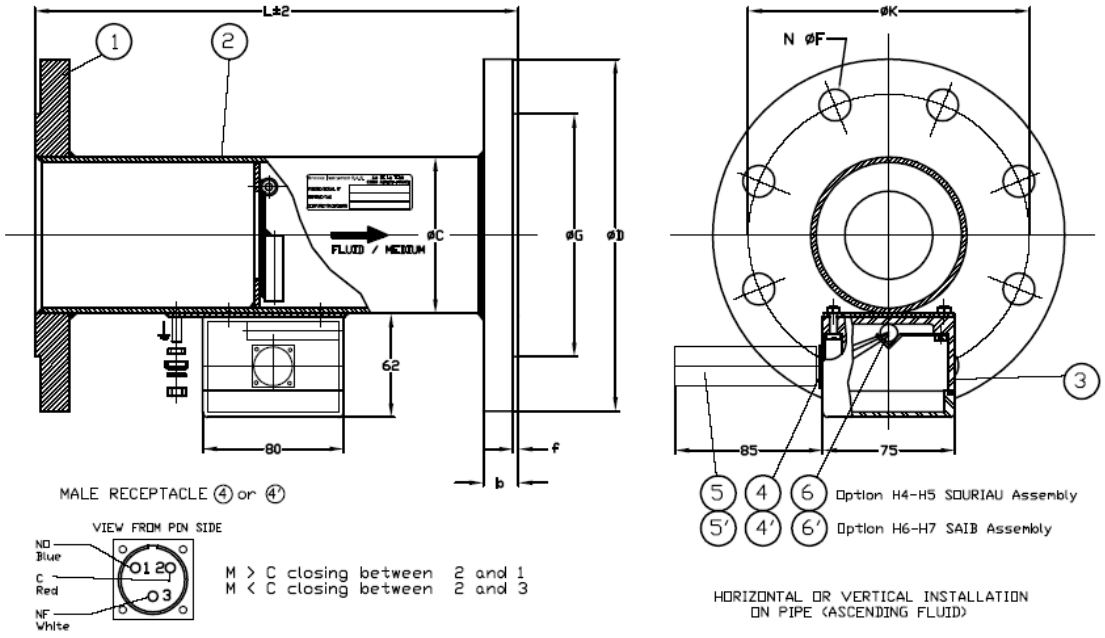
EDCCB311 -50 -C1 -MX/H2.9C -H4

M1 to M2 code, state changement for a decreasing flow (for a state changement by an increasing flow or for out of board values, choose MX code and consult the technical office).

(*) Complementary example of designation to add with ordering:

Water	SG = 1	21 cPo	20°C	2 bar	Normal m^3/h	Switching flow 0,4 m^3/h	Increasing flow	Vertical
Fluid Type	Specific gravity	Viscosity	Operating temperature	Operating pressure	Nominal flowrate	Flow alarm	Alarm direction	Mounting direction

7. DIMENSIONS



Tag Rep	Qty Qté	DESIGNATION	DESCRIPTION	MATERIAL	N°STOCK OU PLAN
6'	1	CONTACT ILS SAIB	REED SWITCH		14842-11
6	1	CONTACT ILS SOURIAU	REED SWITCH		14842-1
5'	1	RACCORD FEMELLE SAIB	FEMALE SAIB CONNETION	316L	963748
5	1	RACCORD FEMELLE SOURIAU	FEMALE SOURIAU CONNETION	316L	963619
4'	1	EMBASE SAIB	SAIB BASE	316L	963747
4	1	EMBASE SOURIAU	SOURIAU BASE	316L	963618
3	1	BOITIER	HOUSING	ALUMINIUM	61796004
2	1	CORPS	BODY	316L	According to DN 60196...
1	2	BRIDE ISO PN16 DN.. 05B	FLANGE NP16 ND.. RF	St. Steel	According to DN 60196...

Code C1 standard flange connection NP16 NF-EN1092.1 (2007) (ex 29203)

ND	ØD	ØK	ØG	N	ØF	f	b mini	ØC	L	L (C1X L200)	H Std
40	150	110	88	4	18	3	21	60.3	250	200	95
50	165	125	102	4	18	3	21	60.3	250	200	95
65 (*)	185	145	122	**4 or 8**(*)	18	3	21	88.9	250	200	105
80	200	160	138	8	18	3	23	88.9	275		110
100	220	180	158	8	18	3	23	114.3	275		125
125	250	210	188	8	18	3	25	141.3	300		135
150	285	240	212	8	22	3	25	159	300		150
200	340	295	268	12	22	3	27	219.1	325		175

(*) flange 4 hole standard with EN 29203 (8 hole on request with NF-EN1092-1).

Code C2 standard flange connection ANSI 150lbs B16.5 (NF-EN 1759.1)

ND	ØD	ØK	ØG	N	ØF	f	b mini	ØC	L	H Std
1"1/2	127	98.4	73.2	4	15.9	1.6	19.1	60.3	250	95
2"	152	120.6	91.9	4	19	1.6	20.6	60.3	250	95
2"1/2	178	139.7	104.6	4	19	1.6	23.8	88.9	250	105
3"	190	152.4	127.0	4	19	1.6	25.4	88.9	275	110
4"	229	190.5	157.2	8	19	1.6	25.4	114.3	275	125
5"	254	215.9	185.7	8	22.2	1.6	25.4	141.3	300	135
6"	279	241.3	215.9	8	22.2	1.6	27	159	300	150
8"	343	298.4	269.7	8	22.2	1.6	30.2	219.1	325	175

Code C4 standard flange connection PN25 NF-EN1092.1 (2007) (ex 29203)

DN	ØD	ØK	ØG	N	ØF	f	b mini	ØC	L	H Std
50	165	125	102	4	18	3	20	60.3	250	95
65	185	145	122	8	18	3	22	88.9	250	105
80	200	160	138	8	18	3	24	88.9	275	110
100	235	190	162	8	22	3	24	114.3	275	125
150	300	250	218	8	26	3	28	159	300	150

- Gaskets which are used must be standard and adapted.

8. SPARE PARTS

- Reed switch (Drawing N° 14842) with male switches SOURIAU. Spare part N°PDR-00082

- Reed switch (Drawing N° 14842-10) with male switches SAIB. Spare part N°PDR-00083.