

Type ANV / ANH

Magnetic Level Switches



Features and Benefits

- Horizontal or vertical tank mounting allows for flexible mounting options
- Certified material, NACE, radiography options to meet Customer specifications
- Certified explosion-proof or intrinsically safe

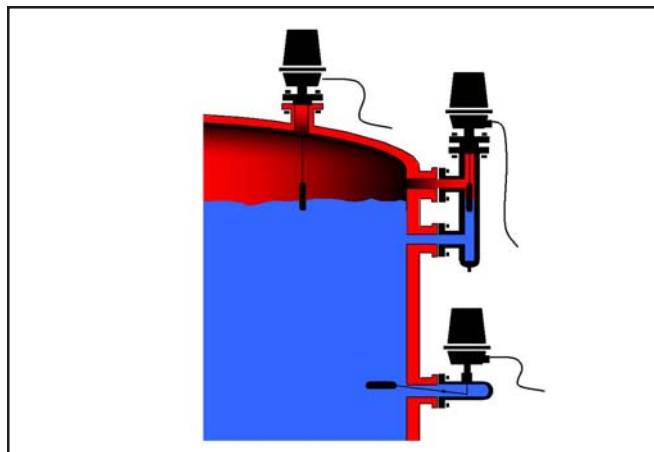
Description

The vertical (Series ANV) or horizontal (Series ANH) level switches are designed to detect level variations in tanks containing liquids. The alarm switches activate electric or pneumatic circuits to switch relays, pumps, electric valves or control luminous signal or alarms. They can be used for normal, corrosive or hazardous liquids.

A stainless steel float follows the level of the liquid and transmits its movement to a rod equipped with an emitter. The rod and emitter assembly moves into a scaled, non-magnetic guide-tube and magnetically activates the switch which is protected by a water-proof case-housing.

The ANV models must be mounted vertically, either directly on the top of the tank (series ANV-T) or on the side of the tank through an independent chamber fitted with two side connections (series ANV-C)

The ANH models must be mounted horizontally, directly on the side of the tank or through an independent chamber (type ANH-C).



Principle of Operation

Magnetic Level Switches

Extension
High temperature extension

Normalized Flanges
according to process condition,
Bolts and gaskets according to process condition

Body
According to process condition
standard carbon steel (AC) and 316L
stainless steel (SS)

Name plate
Includes stainless steel manufacturer name
plate including all main technical data and
specifications according to applicable rules
and standards.

Case Housing
According to process condition STD, EX, R

Alarm Contacts
According to CP piston emitter or MA
magnet emitter. Standard version or
ATEX flame-proof version (EExd.)

Process Connections
Many options for process tank
connections.

Float
Follows the variations of liquid inside
the chamber.
Types and pressure rating on request.

Drain
For draining according to customer process
or application

ORDERING Information - Coding
Example:
ANV CM EX – CP -AC – 20 – CC6 – PO – MO – H – S – Z – D

Design type	Construction type	Housing type	Emitter	Material type	Rating Flange	Connection type	Drain type	Float type	Care Housing Type	Switch type	Option types	Documents
see Page 3	see Page 3	see Page 3	see Page 4	see Page 8	see Page 8	see Page 5	see Page 5	see Page 6	see Page 2	see Page 4	see Page 8	

CONSTRUCTION CODING = CODAP 2005 div1 or div2 – Instructions for pressure instruments 97/23/CE – module H or H1 / Electric equipments: STD, ATEX //ISO 9001/2000 Certification

ANV / ANH Magnetic Level Switch Components and Codes

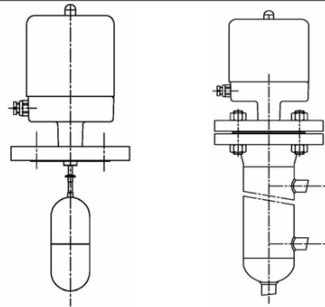
Types of Construction

Top Mounting Version Series ANV...T...

Designed for direct mounting on the container through an adapted flange.

Flange materials:
 Carbon steel BF48N/A105
 Stainless steel 316L or 304L
 Other materials on request

Detailed characteristics see table on pages 4 and 5



Machined Welded Chamber Series ANV...CM...

Chamber model with machined welded elements. It allows realisation according to customer requirement.

Materials:
 Carbon steel version
 Stainless steel version
 316L (304L in option)
 Other materials on request

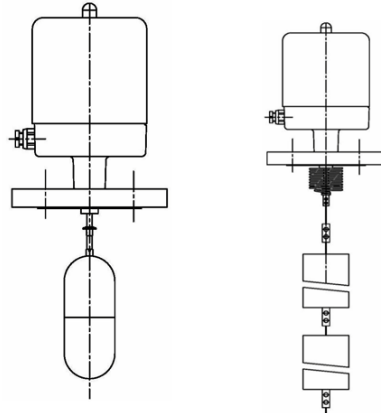
Types of Measurement

Float Version see code M

Used as standard for normal applications
 Min. specific gravity: 0.65
 Max. operating pressure: 100 bars
 Max. operating temperature: 350°C
 Material: stainless steel Z2CND17-12(316L)
 Other material on request

NOTE: The adjustment of switching levels must only be made by changing the float position on the rod or on the cable.
DO NOT CHANGE THE POSITION OF THE MECHANISM IN THE CASE HOUSING

Detailed characteristics see table on page 6



Mass Version

Mainly used for industrial processes with a high pressure/temperature couple and/or low specific gravity.

Used when the buoyancy force is not sufficient to move the float/emitter assembly.

The float is replaced by a mass attached to a spring. When the level gets higher, the buoyancy force on the mass reduces the force on the spring which contracts.

The assembly mass/emitter gets higher and switches on the contact in the case-housing. When the level goes down, the buoyancy force on the mass decreases, the spring spreads itself, the assembly mass/emitter goes down again and the switch returns to its initial position.

It is possible to use two independent masses to control two distinct switches or to create an important re-engaging differential.

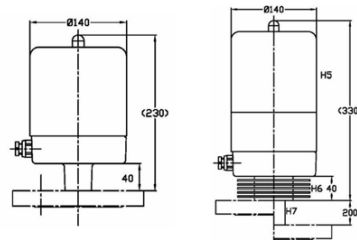
Min. specific gravity: 0.45
 Max. operating pressure: 400 bars
 Max. operating temperature: 350°C
 Material: stainless steel Z2CND17-12(316L), other material on request.
 Double level models/double float on request

Types of Case Housing

Standard case-housing – IP54

Waterproof case housing IP54, enabling the adjustment of the alarm switches.
 Electrical cable entry with cable gland, connectors, connections according to the needs (360° orientation)

Material :
 Base: alloy epoxy polyester painted
 Cover : anodised aluminium
 Option : protection rating IP65



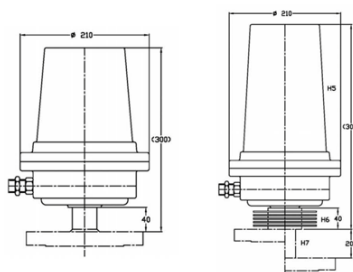
Code Designation

- H0 Standard IP54 with 1 cable gland PG11 for diam. 8 to 10 cable
- H1 Standard IP54 with 2 cable glands PG11 for diam. 8 to 10 cable
- H2 Standard IP54 with 1 brass gland PG16 for diam. 10 to 15 cable
- H3 Standard IP54 with 1 cable gland M20 X 1.5 BV2 for diam. 8.5 to 14.5 cable
- H4 Standard IP54 with 1 tap M20 X 1.5
- H5 Lengthened housing (height dimension 230 becomes 330)
- H6 Heat dissipater (according to the switch type)
- H7 High temperature extension
- H8 3 pins SOURIAU male plug (Stainless steel)
- H9 7 pins SOURIAU male plug (Stainless steel)
- H10 Waterproof IP65
- H11 3 pins SOURIAU female (Stainless steel)
- HX Special

Explosive proof case-housing EEx dIIC6 – IP66

Code = Ex
 Waterproof case housing enable to put alarm switches in electrical cable entry with cable gland, connectors, connections according to the needs and the type of contact.

Material :
 Base: alloy epoxy polyester painted
 Cover : alloy epoxy polyester painted







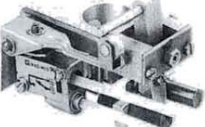
Code Designation

- H0 Standard IP66 with 1 tapped entry 3/4" NPT
- H1 Standard IP66 with 2 tapped entries 3/4" NPT
- H2 Aluminium cable gland for diam. 5 to 12 cable
- H3 Bronze cable gland for diam. 9 to 15 cable
- H4 Brass nickel plated steel reduction 3/4" NPT- M20 X 1.5
- H5 Lengthened housing (height quotation 300 becomes 400)
- H6 Heat dissipater (according to the switch type)
- H7 High temperature extension
- H8 Brass nickel plated cable gland armoured cable diam. 6.5 to 12, diam.10.5 to 16
- H9 Brass nickel plated adaptor 3/4NPT / M20 X 1.5
- H10 Brass nickel plated adaptor 3/4NPT / 1/2NPT
- HX Special





Magnetic Level Switches

Types of Switches

- Switches actuated by stainless steel magnetic piston (CP)

	REED SWITCH			CE	<table border="1"> <thead> <tr> <th>U~ / U=</th> <th>24</th> <th>48</th> <th>110</th> <th>230</th> </tr> </thead> <tbody> <tr> <td>I. Rés. (A)</td> <td>1</td> <td>1</td> <td>0.55</td> <td>0.25</td> </tr> <tr> <td>I. Ind. (A)</td> <td>1</td> <td>1</td> <td>0.75</td> <td>0.35</td> </tr> </tbody> </table>	U~ / U=	24	48	110	230	I. Rés. (A)	1	1	0.55	0.25	I. Ind. (A)	1	1	0.75	0.35				
	U~ / U=	24	48			110	230																	
I. Rés. (A)	1	1	0.55	0.25																				
I. Ind. (A)	1	1	0.75	0.35																				
Model :	CODE	Characteristics																						
Simple	S0	Changeover switch Screwed electric connection S=2.5mm ² *Operating temperature : -40°C à +100°C																						
Double	S1																							
	IS REED SWITCH																							
	Model :	CODE	Characteristics																					
Simple	S15	Change over switch Certificate : ATEX N° LCIE05ATEX6034X Marking:  IECEx LCI 08.0048X II 1 G ExiallCT6/T5/T4 Electric Parameters: Ui≤30V; Ii≤50mA; Pi≤400mW Ci=0nF ; Li=0mH Screwed electric connection S=2.5mm ² *Operating temperature : T6: Ta=50°C max./ T5:Ta=65°C max./ T4: Ta=80°C max																						
Double	S16																							
	MICROSWITCH			CE																				
	Model :	CODE	Characteristics																					
Simple	S2	Changeover switch Screwed electric connection S=2.5mm ² *Operating temperature : -25°C to +85°C	<table border="1"> <thead> <tr> <th>U~ / U=</th> <th>24</th> <th>48</th> <th>110</th> <th>230</th> </tr> </thead> <tbody> <tr> <td>I. Rés. (A)</td> <td>4</td> <td>4</td> <td>5</td> <td>3</td> </tr> <tr> <td>I. Ind. (A)</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td></td> <td>2</td> <td>2</td> <td>0.5</td> <td>0.2</td> </tr> </tbody> </table>		U~ / U=	24	48	110	230	I. Rés. (A)	4	4	5	3	I. Ind. (A)	2	2	2	2		2	2	0.5	0.2
U~ / U=	24	48	110	230																				
I. Rés. (A)	4	4	5	3																				
I. Ind. (A)	2	2	2	2																				
	2	2	0.5	0.2																				
Double	S3																							
	PNEUMATIC SWITCH																							
	Model :	CODE	Characteristics																					
Simple	S6	Series changeover Supply circuit : filtered air 1 to 6bar Connection in / out : 1/4"NPT-F *Operating temperature : -15°C to +60°C																						

- Switches actuated by magnet (MA)

	CONTACTS TYPE MICROSWITCH HERMETICALLY SEALED			CE																				
	Model :	CODE	Characteristics																					
Simple	S7	Changeover switch Screwed electric connection S=2.5mm ² *Operating temperature : -30°C à +65°C Options : **Operating temperature : -55°C à +155°C	<table border="1"> <thead> <tr> <th>U~ / U=</th> <th>24</th> <th>48</th> <th>110</th> <th>230</th> </tr> </thead> <tbody> <tr> <td>I. Rés. (A)</td> <td>7</td> <td>5</td> <td>3</td> <td>2.5</td> </tr> <tr> <td>I. Ind. (A)</td> <td>4</td> <td>3</td> <td>1</td> <td>1.5</td> </tr> <tr> <td></td> <td>2.5</td> <td>1.8</td> <td>0.5</td> <td></td> </tr> </tbody> </table>		U~ / U=	24	48	110	230	I. Rés. (A)	7	5	3	2.5	I. Ind. (A)	4	3	1	1.5		2.5	1.8	0.5	
U~ / U=	24	48	110	230																				
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	2.5	1.8	0.5																					
Double	S8																							
	REED SWITCH			CE																				
	Model :	CODE	Characteristics																					
Simple	S9	Changeover switch Screwed electric connection S=2.5mm ² *Operating temperature : -40°C à +100°C	<table border="1"> <thead> <tr> <th>U~ / U=</th> <th>24</th> <th>48</th> <th>110</th> <th>230</th> </tr> </thead> <tbody> <tr> <td>I. Rés. (A)</td> <td>1</td> <td>1</td> <td>0.55</td> <td>0.25</td> </tr> <tr> <td>I. Ind. (A)</td> <td>1</td> <td>1</td> <td>0.75</td> <td>0.35</td> </tr> </tbody> </table>		U~ / U=	24	48	110	230	I. Rés. (A)	1	1	0.55	0.25	I. Ind. (A)	1	1	0.75	0.35					
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	IS REED SWITCH																							
	Modèle :	CODE	Characteristics																					
Simple	S17	Change over switch Certificate : ATEX N° LCIE05ATEX6034X Marking:  IECEx LCI 08.0048X II 1 G ExiallCT6/T5/T4 Electric Parameters: Ui≤30V; Ii≤50mA; Pi≤400mW Ci=0nF ; Li=0mH Screwed electric connection S=2.5mm ² *Operating temperature : T6: Ta=50°C max./ T5:Ta=65°C max./ T4: Ta=80°C max																						
Double	S18																							

*Allowable temperature at the switch level

For an allowable temperature inside (with ambient T°<40°C) it is possible to increase the maximum temperature by 80°C with standard design, by 130°C with H6 option, by 230°C with H6+H7 option.

For the explosion proof version, liquid and ambient T° must be in accordance with explosion proof certificate.

MA*= Used with switches actuated by magnet (see page 3)

CP*= Used with switches actuated by magnetic stainless steel piston (see page 3)

Interface level measures on request.

Characteristics and Choice of Connection According to the Type of Construction

ANV-T TOP MOUNTING

Carbone steel version
version 316L

CODE	PN...*	DN...
CO	...*	80 (3")
C1	...*	100 (4")
C2	...*	150 (6")

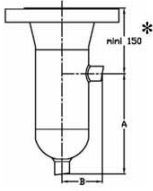
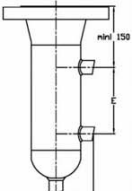
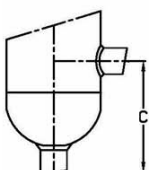
Stainless steel version 304 L

CODE	PN...*	DN...
C3	...*	80 (3")
C4	...*	100 (4")
C5	...*	150 (6")

Stainless steel

CODE	PN...*	DN...
C6	...*	80 (3")
C7	...*	100 (4")
C8	...*	150 (6")

ANV – CM with Mechanically Machined Welded Chamber DN 80 (3") (Side-bottom = CF, Side-side = CC, Drain = P)

CODE	TYPE OF CONNECTION	CONNECTION DRAWINGS	NOTES																																
CF0	Socket Weld 1"	 <p>A and B as standard construction and on request</p>	<ul style="list-style-type: none"> - Body and Head DN80 PN ... standard 20, 50, 100 - Connections : please precise: <ul style="list-style-type: none"> • The dimension of connections ABCE • The dimension PN...DN... - Mini 150* : depending on PN/DN flange, float type, switching level will be defined by Technical Dept - Chamber material: Carbon steel. Fittings A105 or equivalent, flange BF48N, tube P265GH (standard or other on request) 																																
CF1	Tapped 1/2" or 3/4" NPT-F																																		
CF2	Tapped 1/2" or 3/4" BSPP-F																																		
CF2	Threaded tube 1" (L<=150mm)																																		
CF4	Flange ISO PN...DN15																																		
CF5	Flange ISO PN...DN20																																		
CF6	Flange ISO PN...DN25																																		
CF7	Flange ISO PN...DN40																																		
CF8	Flange ISO PN...DN50																																		
CF9	RTJ gasket facing																																		
CFX	Special on request																																		
CC0	Socket Weld 1"	 <p>E and B as standard construction and on request</p>	<ul style="list-style-type: none"> - Chamber material: Stainless steel 316L. Flanges, fittings, tube, cap, 316L (standardised components, other on request), 304L in option - Standard head Gasket: Klingersil C4430 or according to service conditions. - Studs and Nuts: as standard carbon steel (B7-2H), stainless steel in option - Various options see page 8 																																
CC1	Tapped 1/2" or 3/4" NPT-F																																		
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CC9	RTJ gasket facing																																		
CCX	Special on request																																		
P0	Socket Weld 1"	 <p>C and B as standard construction and on request</p>	<table border="1"> <tbody> <tr> <td>PN</td> <td>EN1092</td> <td>16</td> <td>20</td> <td>40</td> <td>50</td> <td>100</td> <td></td> </tr> <tr> <td>NP</td> <td>ANSI B16-5</td> <td></td> <td>150#</td> <td></td> <td>300#</td> <td>600#</td> <td></td> </tr> <tr> <td>DN</td> <td>EN1092</td> <td>15</td> <td>20</td> <td>25</td> <td>40</td> <td>50</td> <td>80 100</td> </tr> <tr> <td>ND</td> <td>ANSI B16-5</td> <td>1/2"</td> <td>3/4"</td> <td>1"</td> <td>1 1/2"</td> <td>2"</td> <td>3" 4"</td> </tr> </tbody> </table>	PN	EN1092	16	20	40	50	100		NP	ANSI B16-5		150#		300#	600#		DN	EN1092	15	20	25	40	50	80 100	ND	ANSI B16-5	1/2"	3/4"	1"	1 1/2"	2"	3" 4"
PN	EN1092			16	20	40	50	100																											
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P1	Tapped 1/2" or 3/4" NPT-F																																		
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P9	RTJ gasket facing																																		
PX	Special on request																																		

Characteristics of Chamber Construction:

- Standard construction : connection welded by fillet welds, on request, full penetration weld (code Z2 see page 8)
- Pressure/temperature limit of chambers according to the normalised rating of the flanges.
- Design conditions for construction = Service (or design) value of customer.
- Hydrostatic test (at 20°C) = service (or design) pressure X 1.5 or X 1.2 following the max. pressure for float (see page 6)
- Calculation and verification of the resistance according to CODAP (on request see D3 page 8)

NOTE:

- The maximum operating pressures are limited either by the float or the flange and chamber rating.
Make sure that the tank dimensions are compatible with the necessary measuring elements (see floats page 6)
- Precise the PN (standard 16, 20, 40, 50, 100)
- On request : other PN or DN
On request : other materials

Pressure/temperature LIMITS (NFE 29005) for:

PN/T°	CARBON STEEL FLANGES								STAINLESS STEEL 316 L FLANGES								
	20	50	100	150	200	250	300	350	PN/T°	20	50	100	150	200	250	300	350
16	16	16	16	15.7	15.2	14.4	12.8	11.2	16	13.5	12.9	11.8	10.8	9.7	9	8.4	8
20	19.6	19.2	17.7	15.8	14	12.1	10.2	8.4	20	15.9	15.3	13.2	12	11	10.2	9.7	8.4
40	40	40	40	39.2	38	36	32	28	40	33.8	32.4	29.5	27	24.4	22.6	21	20.1
50	51.1	50.1	46.4	45.2	43.8	41.7	38.7	37	50	41.4	40	34.5	31.2	28.7	26.7	25.2	24
100	102.1	100.2	92.8	90.5	87.6	83.4	77.5	73.9	100	82.7	79.9	69	62.5	57.4	53.4	50.5	48.1

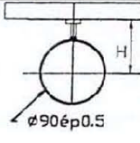
Magnetic Level Switches

Choice of the Float or Mass

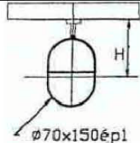
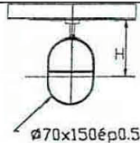
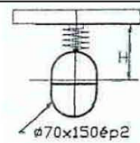
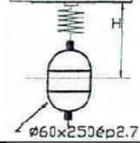
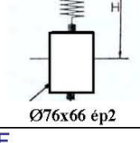
Note: the characteristics mentioned hereafter are valid only if the chamber receiving the float or the mass, has harmonized characteristics.

Min specific gravity	Max operat. Pressure (bar)	TYPE OF FLOAT OR MASS	CODE	CHARACTERISTICS											
				Mini specific gravity according to level	Standard operating pressure (bar) according to max. operating temperature C°								Test pressure 20°C		

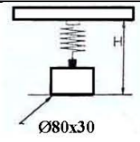
TOP MOUNTING > 4"

0.70 to 0.85	27 to 33 bar		M3 Stainless steel material 316L	H	MA	CP	Temp.°C >>	20	50	100	150	200	250	300	350	Test pres=Op.pres X1.5 (<=40 bar) Test pres=Op.pres X1.5 (<=40 bar)
				<250	0.75	0.7	Standard	27	26	23	21	19	17.5	16	15	
				<500	0.8	1.75	Maximum	33	31.5	28	25	23	21	19.5	18	
				<1000	0.9	0.85										

WELDED CHAMBER 3"OR TOP MOUNTING

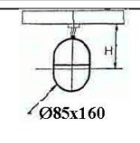
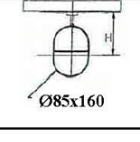
0.85 to 1	40 to 50 bar		M0 Stainless steel material 316L	H	MA	CP	Temp.°C >>	20	50	100	150	200	250	300	350	Test pres=Op.pres X1.5 (<=60 bar) Test pres=Op.pres X1.2 (<=60 bar)
				<250	0.9	0.85	Standard	40	38	34	31	28	26	24	22	
				<500	0.95	0.9	Maximum	50	47.5	42	38.5	35	32.5	30	28	
				<1000	1.05	1										
0.65 to 0.8	12 to 15 bar		M1 Stainless steel material 316L	H	MA	CP	Temp.°C >>	20	50	100	150	200	250	300	350	Test pres=Op.pres X1.5 (<=18 bar) Test pres=Op.pres X1.2 (<=18 bar)
				<250	0.7	0.75	Standard	12	11.5	10	9	8.5	7.5	7	6	
				<500	0.75	0.7	Maximum	15	14	12	11.5	10.5	9.5	9	8	
				<1000	0.85	0.8										
>0.6	155 to 188 bar		M5 Stainless steel material 316L	H	MA	CP	Temp.°C >>	20	50	100	150	200	250	300	350	Test pres=Op.pres X1.5 (<=230 bar) Test pres=Op.pres X1.2 (<=230 bar)
				<1000	0.6	0.6	Standard	155	140	130	125	115	110	100	90	
							Maximum	188	170	158	142	140	134	122	110	
>0.45	150 to 190 bar		M6 Stainless steel material 316L	H	MA	CP	Temp.°C >>	20	50	100	150	200	250	300	350	Test pres=Op.pres X1.5 (<=230 bar) Test pres=Op.pres X1.2 (<=230 bar)
				<3000	0.45	0.45	Standard	150	143	126	116	105	97	88	83	
							Maximum	190	180	160	147	133	123	112	104	
0.9 to **	16 to 20 bar		M11 Stainless steel material 316L	H	MA	CP	Temp.°C >>	20	50	100	150	200	250	300	350	Test pres=Op.pres X1.5 (<=25 bar) Test pres=Op.pres X1.2 (<=25 bar)
				<12000		0.9	Standard	16	14.5	13.5	13	12	11	11	11	
							Maximum	20	17.5	16.5	16	14.5	13.5	13.5	13.5	

FLOATING ROOF

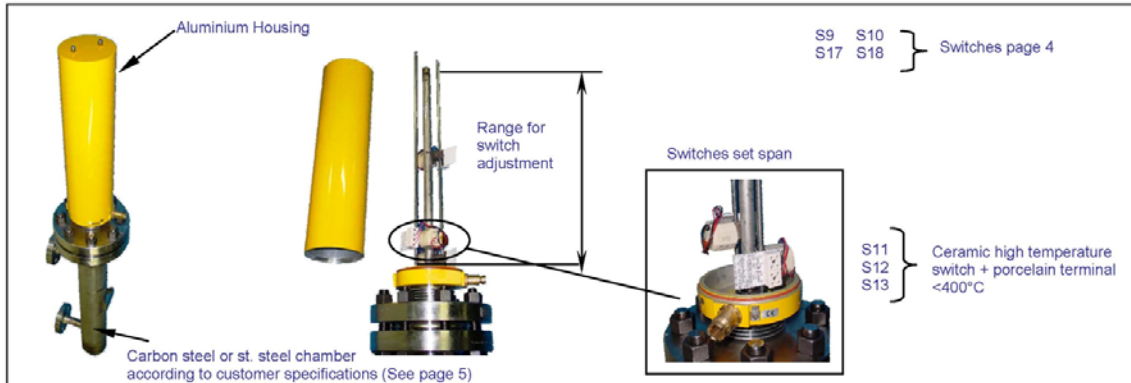
0 to 400 bar		M10 Stainless steel material 316L	H	MA	CP	Temp.°C >>	20	50	100	150	200	250	300	350	T pres=Op.pres X1.5 =T.pres of chamber T pres=Op.pres X1.5 =T.pres of chamber	
			<6000	--	--	Standard				Non limited till 400bar						
						Maximum				Non limited till 400bar						

FLOAT FOR 4" chamber or TOP

Min specific gravity	Max operat. Pressure (bar)	TYPE OF FLOAT OR MASS According to flange or chamber	CODE	CHARACTERISTICS											
				Mini specific gravity according to level	Standard operating pressure (bar) according to max. operating temperature C°								Test pressure 20°C		

>0.75	102		M8 Stainless steel material 316	H	MA	CP	Temp.°C >>	20	50	100	150	200	250	300	350	Test pres= 127 bar	
				<250	0.75		Standard	102	88	79	73	69	66	63	61		
				<500	0.78												
				<1000	0.82												
>0.66	50		M9 Stainless steel material 316	H	MA	CP	Temp.°C >>	20	50	100	150	200	250	300	350	Test pres= 63 bar	
				<250	0.66		Standard	51	44	39	37	34.5	33	31.5	30		
				<500	0.7												
				<1000	0.8												

ANV...R...Type



ANV-TR...-MA Top Mounting - MA Switches actuated by magnet
 See ANV-T Top Mounting page

ANV-CMR... - MA
 See ANV-CM with mechanically welded chamber DN 80 (3")
 Use with float M0, M1, M5, M6 only (see page 6)

ANV-CMR4"... - MA

DN 100 (4") mechanically machined welded chamber
 DN 100 (4")
 Use with float M3, M8, M9.
 Type of connection = see ANV-CM DN80 (3") page 5

ANV-... -R100-

Range for switch adjustment.
 Std 60, 100, 200, 300, 400, 500, 600, 800, 1000, 1200,
 1400, 1600.
 ANV-CMR...MA...M

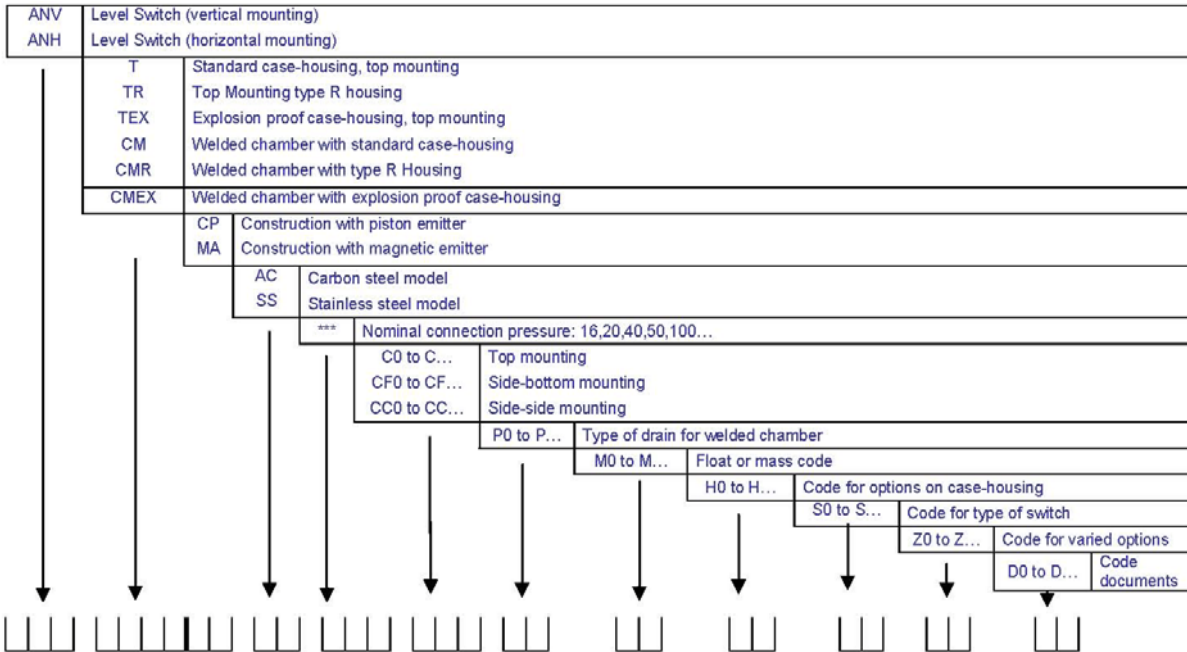
Switches table (see here attached)		U ₋ / U ₋	
	S11	Characteristics	440 / 250
		Change over switch Screwed electric connection S= 2.5mm ² * Operating temperature: 0 to +400°C	5 / 5/50W
			0.5
	S12	Characteristics	250 / 250
		Change over switch Screwed electric connection S= 2.5mm ² Operating temperature: 0 to +400°C	0.25 / 6 VA / 5/50W
			0.1
	S13	Characteristics	440 / 250
		Change over switch Screwed electric connection S= 2.5mm ² Operating temperature: -100 to +250°C	10 / 2000VA / 5/50W
			0.5

Construction Variations on Request

Standard st. steel housing or lengthened (according the switches numbers)	
	<ul style="list-style-type: none"> -St. steel housing for using with ANV switches -Chambers and floats connection and mounting type ANV. -Specific chamber on request. -K3 Earthquake models see specific notice.
ANH-C Type (housing and switches identical to ANV model)	
Standard housing 	Explosion proof housing
Chamber and float as customer specifications.	
ANH 410 Type	
Aluminium Standard housing St. Steel float P<30bar 20°C SG>0.5 Other on request 	Aluminium Explosion proof housing St steel float P<30bar 20°C SG>0.5 Other on request
Std flange connection or specific -1 or 2 reed switches SPDT -1 or 2 reed switch SPDT EExialICT6	-1 reed switch SPST
Std flange Or specific	

Magnetic Level Switches

Model Code for ANV / ANH Magnetic Level Switches



Varied Options

Z0	Stainless steel bolts and nuts (304 or 316)
Z1	Spiral head gasket
Z2	Full penetration weld
Z3	Welding with penetrating tube
Z4	Heat treatment (for carbon steel welded chamber)
Z5	Sand blasting SA 2.5 (for carbon steel chamber)
Z6	Epoxy paint steel chamber (cleaning + primary epoxy + epoxy finish)
Z7	Silicone paint T = 400°C (600°C for peak) (cleaning + 1 layer of silicon aluminium)

Documentation Options

D0	Material certificates 3.1.B. (must be asked when the order is placed)
D1	Nace standard certificate (curve and annealing diagram for carbon steel)
D2	Welding book (welding procedures and welders qualification)
D3	Calculation note according to CODAP (machine-welded chamber)
D4A	File according to French Pressure Vessel regulation
D5	Technical passport (according to definition)
D6	Dye penetrant test for welds
D7	10% dye penetrant test for welds by Third Party
D7A	20% dye penetrant test for welds by Third Party
D8	10 % radiography for butt welds
D8A	20% radiography for butt welds
D9	100 % radiography for butt welds
D10	Thickness test with cartography
D11	Documentation on CD ROM
D12	G/A drawing
D13	Certificate of conformity and hydraulic test (not applicable if D4A)

ESSENTIAL INFORMATIONS REQUIRED FOR PLACING AN ORDER

- Nature of the liquid - Specific gravity of the liquid (if interface: precise specific gravity of both liquids)
- Maximum operating temperature and pressure (and design if exists) - Switching level and direction (up or down)
- Dimensions and shapes of connecting systems on tank - Type of classification desired for case-housing
(Protection class IP..., protection class in dangerous areas, EEx dIICT..., use on IS circuit...) - Characteristics of switched circuit
(Voltage, current, power, resistive or inductive circuit, pressure and flow for pneumatic circuits...) - Options and necessary documents

Due to Brooks Instrument's commitment to continuous improvement of our products, all specifications are subject to change without notice.

TRADEMARKS

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