



Level Switch for Liquids

The series LC-40 level switch for liquids uses a float to activate a micro-switch. The magnetic coupling drives the switch so there is no direct link, requiring a seal, between the process and the instrumentation. This provides a robust measurement that is well suited to severe or corrosive processes.

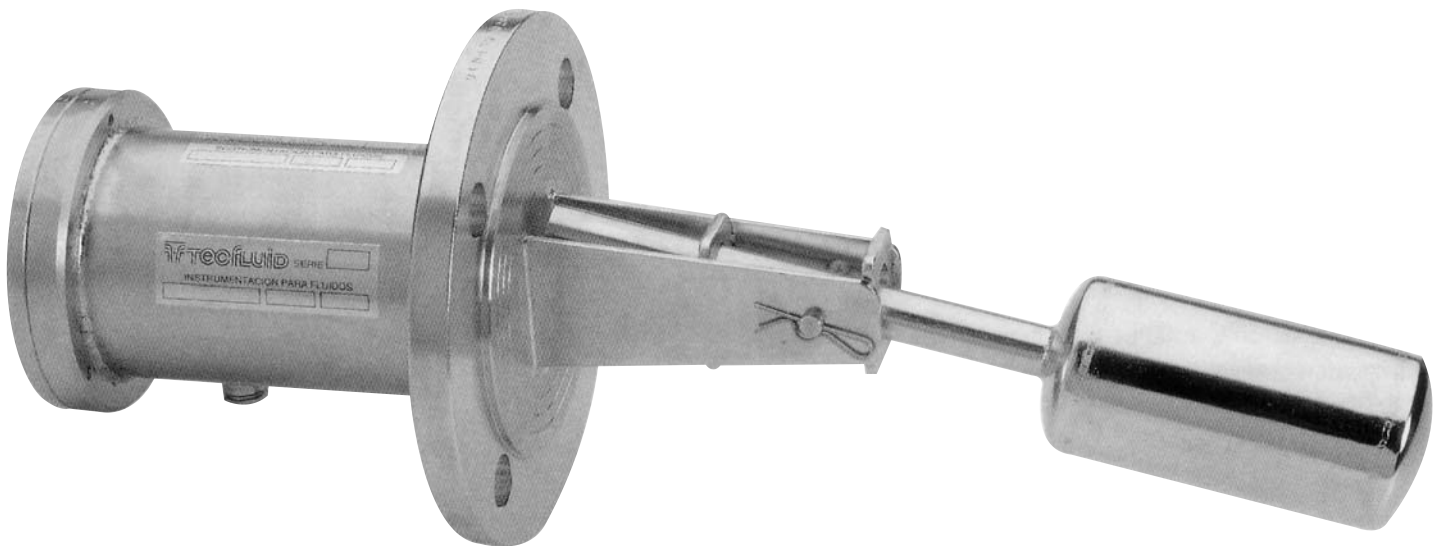
The installation in the tank can be vertical or horizontal depending on the type of float system used.

The level dead band is variable. That is, the level differential between the high and low switching points.

A robust construction and versatile configuration options make the LC-40 easily adaptable to the many different installation requirements of most industrial processes.

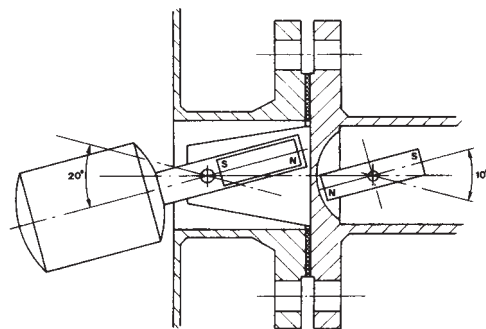
Suitable for:

- Dosing tanks.
- Hot water storage tanks.
- Control of condensation/steam separation.
- Lubricating & hydraulic oil tanks/sumps.
- Pump control.
- Hi/Lo Level alarms.
- Up to 300°C.
- Up to 400 Bar.



Measurement Principle

By the repulsion of two magnetic fields to activate a micro switch that is external to the process.



Operation

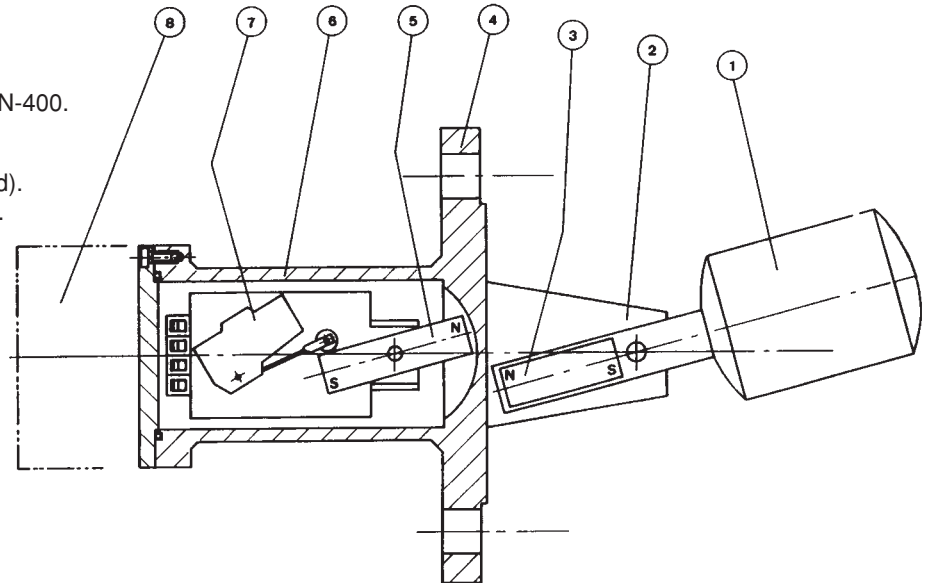
A float on an articulated arm follows the liquid level. A permanent magnet, in the opposite end of the arm, creates a magnetic coupling to activate a micro-switch located in a sealed enclosure. This design eliminates any direct connection between the process and the instrumentation.

The length of the arm and its angle determine the control range. That is, the level differential between the high and low switching points.

The micro-switch can be electric or pneumatic depending on the application requirements and industrial classification.

Technical Data

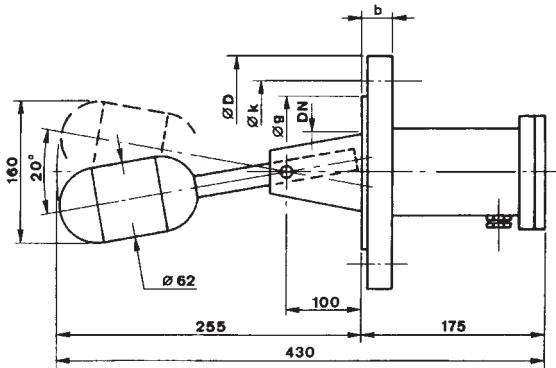
- Assembly: Vertical or horizontal (refer to diagrams)
- Connections: Flange DN-65, PN-16
On request ASA or square 92 x 92.
- Density: 0.45 Kg/l to 3 Kg/l.
- Viscosity: 3,000 m.Pa.s. (maximum).
- Precision: ± 3 mm.
- Dead Band: 52mm to 1100mm, refer page 4.
- Materials: AISI-316 (std), PTFE or PVC.
- Enclosure Aluminium/Polyamide
11(Std), or AISI-316 & Ex Proof.
- Pressure: PN-16 (Std), PN-100, PN-400.
- Temperature:
Liquid: -30°C +150°C (Standard).
-50°C +300°C (Special).
Ambient: -30°C +80°C.
- Contact: Micro-Switch
(3 A, 220 V).



Materials

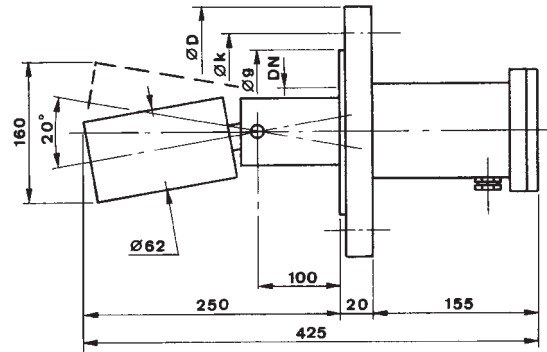
N°.	Item	LC-/SS	LC-/PVC	LC-/PTFE
1	Float	AISI-316	PVC	PTFE
2	Splitpin	AISI-316	PVC	PTFE
3	Float Magnet	Supernialco	Supernialco	Supernialco
4	Flange	AISI-316	PVC	PTFE
5	Switch Magnet	Supernialco	Supernialco	Supernialco
6	Enclosure	Al/SS-316	PVC/SS-316	PTFE/SS-316
7	Micro-switch	refer page 5	refer page 5	refer page 5
8	ADF Enclosure	Aluminium	Aluminium	Aluminium

Horizontal Installation LC40/SS



Level differential, H~52 mm.

LC40-03/PVC, LC40-05/PTFE, LC40-09/PP, LC40-00/PVDF



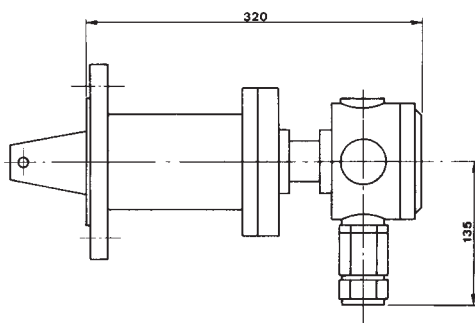
Level differential, H~50 mm.

Dimensions

PN	DN	AISI-316					PVC, PTFE, PPH, PVDF					
		D	g	K	l x n°	b	DN	D	g	k	l x n°	b
10							65	185	122	145	18x4	18
16		185	122	145	18x4	18						
25		185	122	145	18x4	22						
40		185	122	145	18x4	22						
64	65	205	122	160	22x8	26						
100		220	122	170	26x8	30						
160		220	122	170	26x8	34						
250		230	122	180	26x8	42						

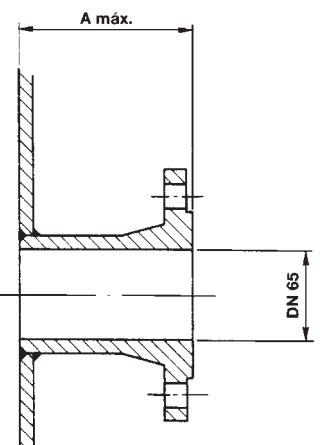
On request, ASA/A, BS, JIS flanges are available
The flanges in coated steel, PVC, PTFE, PPH and PVDF are according to DIN 8063 PN-10.

ADF Enclosure (ExII d3n G5)



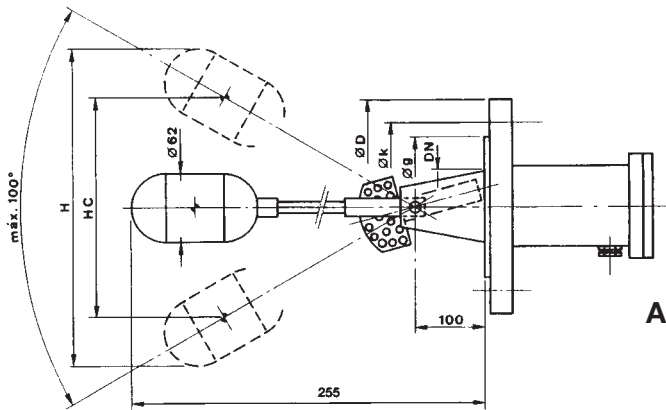
Flange Installation

Series	A (mm)
LC 40-01	120
LC 40-03	
LC 40-05	
LC 40-09	
LC 40-00	100
LC 40-A21	
LC 40-41	180
LC 40-A21+CAL 210	

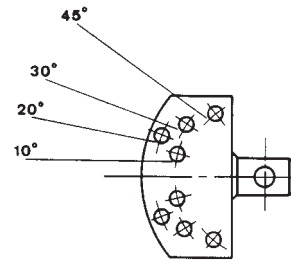


Accessories for Horizontal Installations

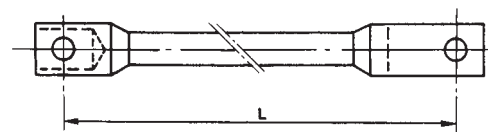
LC40-A21/SS



Accessory CA21.



Accessory CAL210.

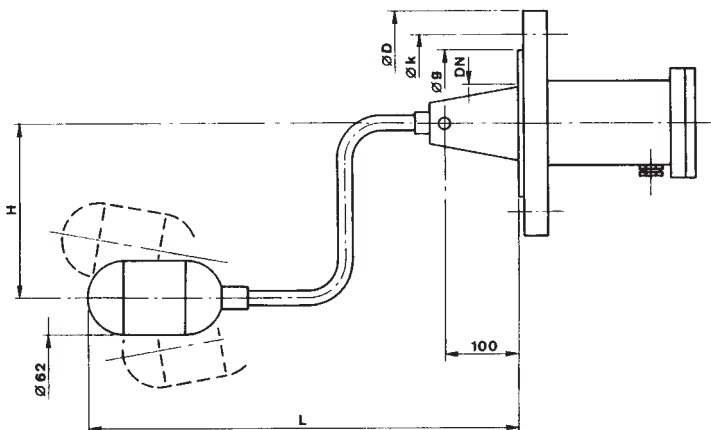


Level Differential with CA21 and CAL210

Angular Variation with CA21(*)	Level Differential H (mm ± 10%)	Level Differential H (mm ± 10%) with CA21+CAL210 with length L							
		L= 200	300	400	500	600	800	1000	
20°(10+10)	52	102	136	171	205	240	307	376	
30°(10+20)	75	150	200	250	300	350	400	450	
40°(10+30)	96	192	257	321	385	449	578	707	
50°(20+30)	114	229	306	383	459	536	689	842	
55°(10+45)	122	245	327	409	491	573	737	901	
60°(30+30)	130	259	346	433	519	606	780	952	
75°(30+45)	144	290	386	482	579	676	869	1062	
90°(45+45)	150	300	400	500	600	700	900	1100	

*The standard angular variation without the CA21 is 20° with a level differential of 52mm.

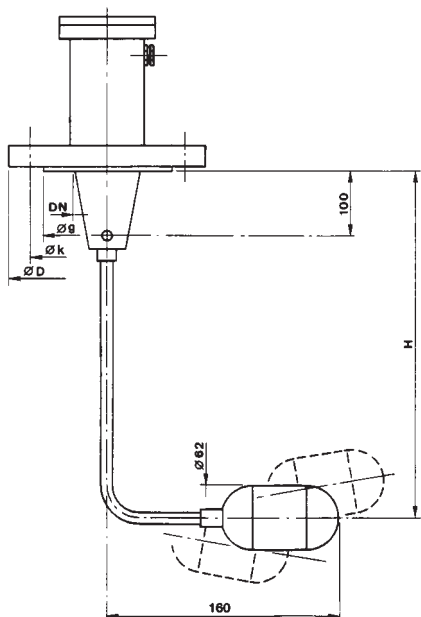
LC40-BA/SS



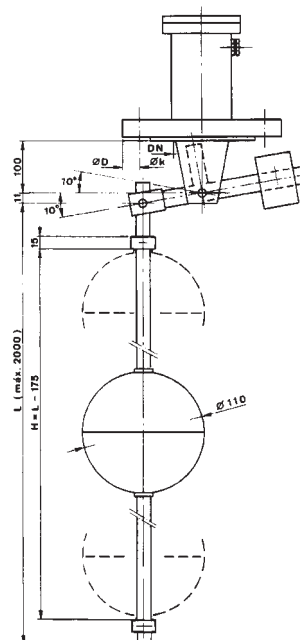
Standard Dimensions LC 40-41/SS

H mm	150	200	300	400
L mm	250	350	450	600

Vertical Installation LC40-V/SS



LC40-VR/SS



H average distance for actuation.

H maximum-minimum level differential.

Alarm Contacts

	System	Capacity	Protection	Temperature Limit	Ambient Limit
AMM	Micro-switch 20x10 ⁶ operations C/NO/NC	3A.220VAC 0.5A.24VDC	IP-65	-20 +200°C -180 +400°C	-20 +70°C
AMD	Inductive Sensor	3mA.8VDC +WE77/Ex 4A 250V/250VA	IP-65	-20 +200°C	-20 +70°C
AMR	Reed and Relay	1A. maximum 220V maximum 30W/60VA	IP-65	-20 +200°C	-20 +70°C
AMP	Pneumatic On/Off, three way	0-10 bar	IP-65	0 +150°C	0 +50°C
AMTP	Pneumatic Transmitter	0.2-1 bar 3-15 psi	IP-65	0 +150°C	0 -50°C
ADF	Micro-switch/ Inductive/Reed	Refer: AMM, AMD & AMR	IP-65 Exd3n G5	Refer to same model above	

