

OPERATING MANUEL

Model : **ELV**
FLOAT VALVE

enSim
sensors

Information in this manual is reviewed and completely reliable. Responsibility is not assumed due to any typing error. Products in this manual are available only for information purpose and they may be changed without notice.



Models :

ELV 00 , ELV 08

ELV 10 , ELV 12 , ELV 15

ELV 16 , ELV 18

ELV 21 , ELV 31 , ELV 41 , ELV 51 , ELV 52

ELV 41f , ELV 51f

ELV 65f , ELV 81f , ELV 101f

Important Notes:

Used Symbols :



: Caution



: Note



: Disposal










-  Please read this manual carefully before installation of the **level switch**. User is responsible for accidents and losses arising from failure to comply with the warnings in this manual.
-  In the event that **level switch** is broken, take measures in order to prevent accidents and losses which can occur in its system.
-  There is not any fuse and circuit breaker on the instrument; they should have been added to the system by the user.
-  This manual should be stored in an easily accessible place for subsequent use.
-  The manufacturer's liability cannot exceed the purchase price of the device according to the law.
-  Do not make any modification on the instrument and do not try to repair it. Reparation should be made by authorized service staff.
-  Do not operate the system before making assembly in compliance with the assembly chart related to the instrument.
-  Products which do not contain label and serial number are considered to be excluded from the warranty scope.
-  The instrument's useful life, determined and announced by the ministry, is 10 years.

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1. General Information :

1.1. Material Acceptance

Check that there is no damage on the packages during the transportation immediately after the material acceptance. If packages are damaged, open the packages immediately and check whether products are affected or not, if there is any damage, send your complaint report to the transporter company and its photocopy to the address of our company.

1.2. Information about Areas of Use

It should be used in allowed using medium and application areas! It is not used in the corrosive mediums, ambient with explosive and flammable material. Conformity with medium to be measured should be also taken into consideration. Responsibility is not assumed in case of inappropriate use, modification and injure, and such cases are not covered by warranty.

Ambient Conditions: Relative Humidity: 5-95 %RH Ambient temperature: 70C (It is not used under -5 C)

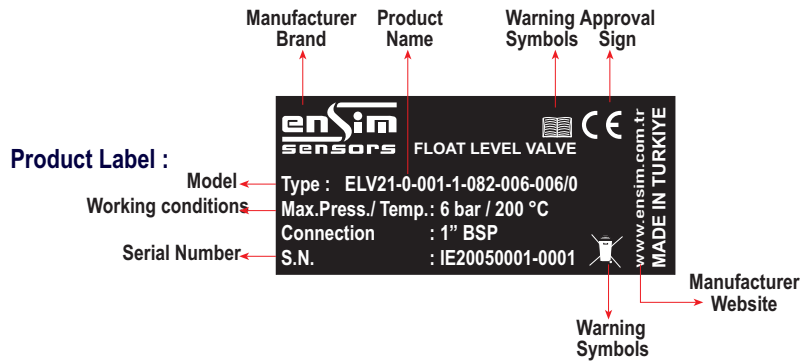
1.3. Operating Principle

It is used checking liquid level in the tanks. Length of float can be adjusted with the arm, which is designed horizontally and vertically with the arm, with closed design. Valve is closed by increasing liquid level by using temperature resistance isolation material or on the contrary, valve is opened and starts to discharge with increase in the liquid level. When level decreases, valve is closed. Special connection and models can be made. Seal material can be selected in compliance with special liquids (oil, petrol, food fluids).

1.4. Specifications and Material Information :

Body material	304 St. St. Opt. 316 St.St.
Piston bracket material	304 St. St. Opt. 316 St.St.
Piston material	304 St. St. Opt. 316 St.St.
Screw+Nut+washer material + cotter material	304 St. St. Opt. 316 St.St.
Seal material	Viton
Max. working pressure	200°C
Max. working temperature	2 bar...10 bar

1.5. Label Information :



1.6. Target Group

This operating manual has been prepared for qualified technical personnel.

1.7. Security Notes



Following notes should be taken into consideration in order to avoid dangers which can occur on the operator and around the ambient:

Installation, operation and maintenance of this instrument should be made only by people who have read the operating manual and who are knowledgeable about work safety!

It should be complied with work safety, accident prevention regulations and national installation standards.

Product should be used only within the scope of stated specifications!

You can assemble the instrument only when pressure is not available!

1.7. Content of Package

Please check whether you have taken delivery of below listed content completely or not and check its conformity with criterions in your order:

*Float Valve

*This operating manual

2. Installation

2.1. General Notes

Installation of the instrument should be made only by authorized personnel.

Do not apply force to the instrument during the installation!

Do not use the level switch with a greater pressure than recommended pressure.

Do not forget that instrument is precise, carry it carefully and prevent to be damaged.

It should be guaranteed that there are not any magnetic particles.

2.2. General Installation Stages

*Remove level switch from the box carefully

*Check whether gasket is appropriate for fluid or not. If is not appropriate, contact with the producer.

*Then, apply below mentioned explanations according to structure of the design.

2.3. Special Notes

*Please ensure that there is no mechanical stress on the shaft following installation. Such case will cause slipping in the characteristic curve.

*Level switch should be placed in completely vertical or horizontal position on the line.

*Allocate valve certainly in the process connection while instrument is used.

*Allocate blowdown valve under bottom flange for blowdown.

*If instrument is mounted outside and if there is any danger of lightning or excessive pressure, take preventive measures by taking necessary measures.

*In the operating conditions, level switch may be hot according to situation of fluid, in this case, do not touch the switch, otherwise your skin is damaged.

2.4. Installation For Mechanical Connections

*Use appropriate O-Ring or gasket for tightness.

*Ensure that its surface is clean and smooth.

*Assemble the instrument manually.

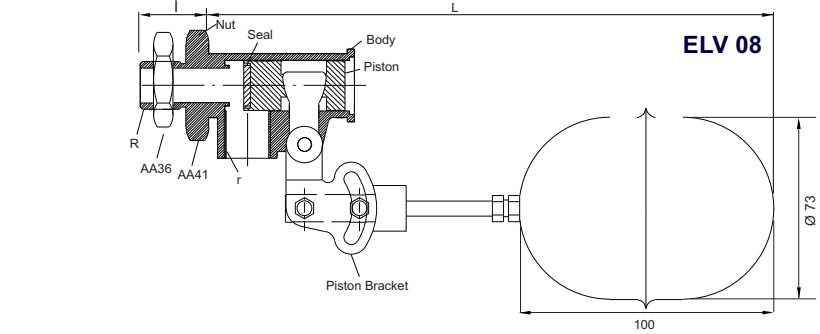
*Connect the contacts as shown in the figure.

(Max.10 Nm for 1/8"BSP and 1/4"BSP, Max.15 Nm for 1/2"BSP, Max.20N Nm for 1"BSP)

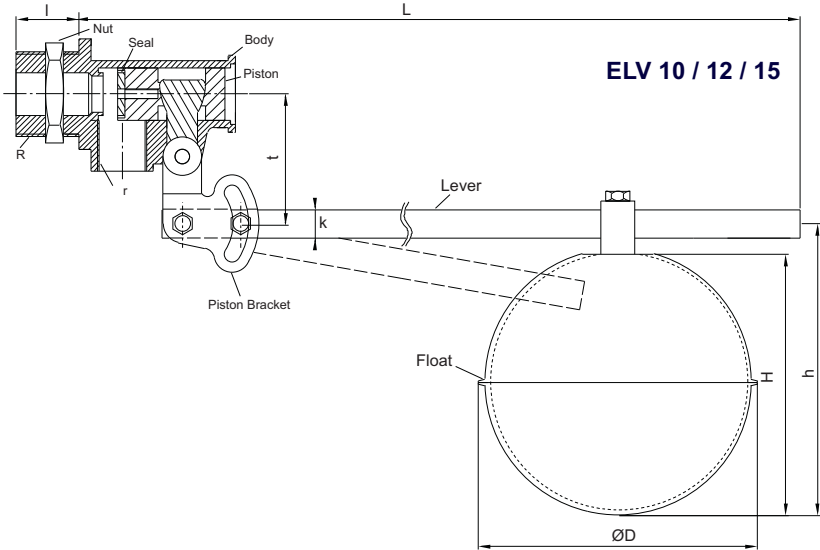
2.5. Mechanical measurements and parts :

Specification:

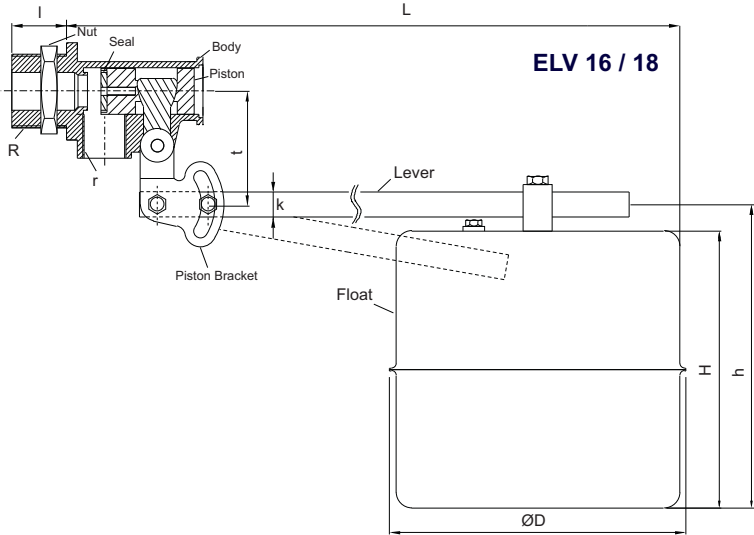
Model	ELV 08
Connection	BSP 1/2" + Nut
Max. flow range	1.8 m³/h
Working pressure	Max. 2 bar
Weight	Max. 0.7 kg



Model	ELV 10/12/15
Connection	3/4" BSP + Nut
Max. flow range	3.5 m³/h
Working pressure	Max. 10 bar
Weight	Max. 1.6 kg



Model	ELV 16/18
Connection	3/4" BSP + Nut
Max. flow range	3.5 m³/h
Working Pressure	Max. 8 bar
Weight	Max. 2.5 kg



Dimensions :

Model	Float ØD	H	L	h	l	k	t	R	r
ELV 10	Spherical Ø 100 , V10	100	610	110	25	20	53.5	3/4" BSP	1/2" BSP
ELV 12	Spherical Ø 125 , V12	125	610	135	25	20	53.5	3/4" BSP	1/2" BSP
ELV 15	Spherical Ø 150 , V15	150	610	160	25	20	53.5	3/4" BSP	1/2" BSP
ELV 16	Cylindrical Ø 180 , V16	150	610	160	25	20	53.5	3/4" BSP	1/2" BSP
ELV 18	Cylindrical Ø 180 , V18	180	610	190	25	20	53.5	3/4" BSP	1/2" BSP

All dimensions are stated as mm.

Specification:

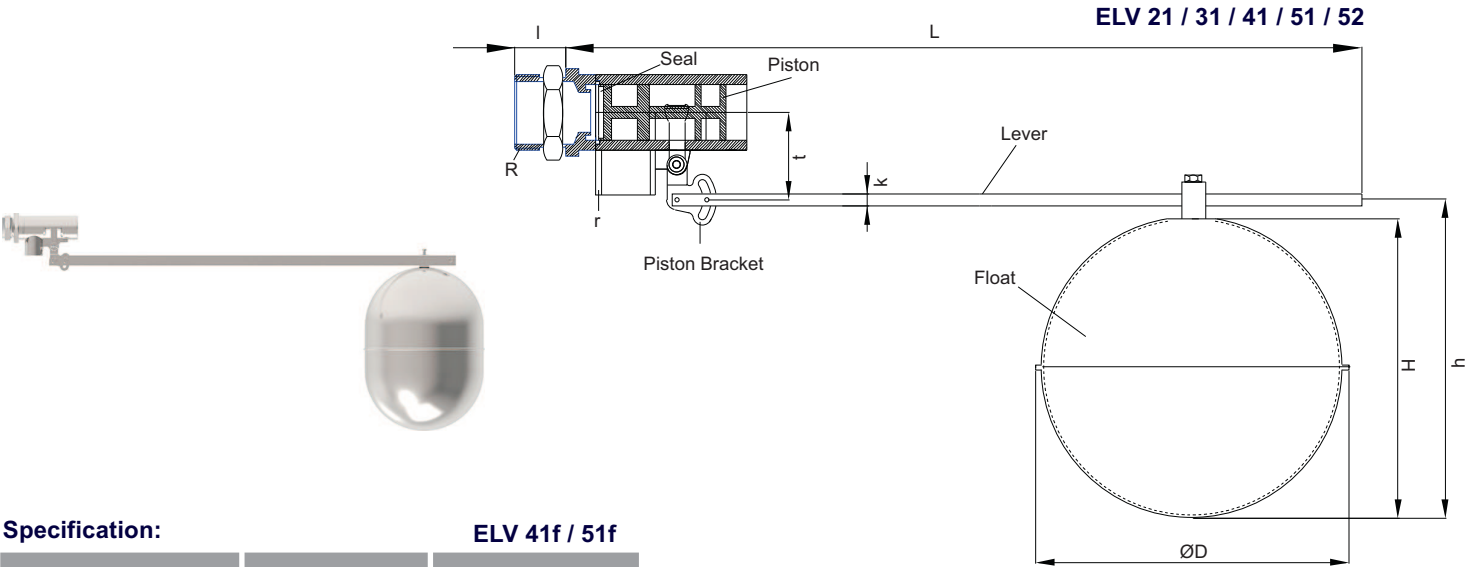
Model	ELV 21	ELV 31	ELV 41	ELV 51
Connection	1" BSP + Nut	1 1/4" BSP+ Nut	1 1/2" BSP + Nut	2" BSP + Nut
Max. flow range	6 m³/h	9 m³/h	12.5 m³/h	16.5 m³/h
Working pressure	Max. 6 bar	Max. 6 bar	Max. 5 bar	Max. 5 bar
Weight	Max. 2,6 kg	Max. 2,8 kg	Max. 3,4 kg	Max. 3,5 kg

Important Note :

If you mounted the level switch so close to the pump , you must extend the arm or increase the number of the balls

Dimensions :

Model	Float ØD	H	L	h	l	k	t	R	r
ELV 21	Cylindrical Ø 180 , V18	180	660	190	25	20	65.5	1" BSP	1" BSP
ELV 31	Spherical Ø 240 , V24	280	660	290	25	20	65.5	1 1/4" BSP	1" BSP
ELV 41	Spherical Ø 240 , V24	280	905	290	25	20	73.5	1 1/2" BSP	1 1/4" BSP
ELV 51	Spherical Ø 240 , V24	280	905	290	25	20	73.5	2" BSP	1 1/4" BSP
ELV 52	Spherical Ø 240 , V24	280	905	290	25	20	73.5	2" BSP	1 1/2" BSP



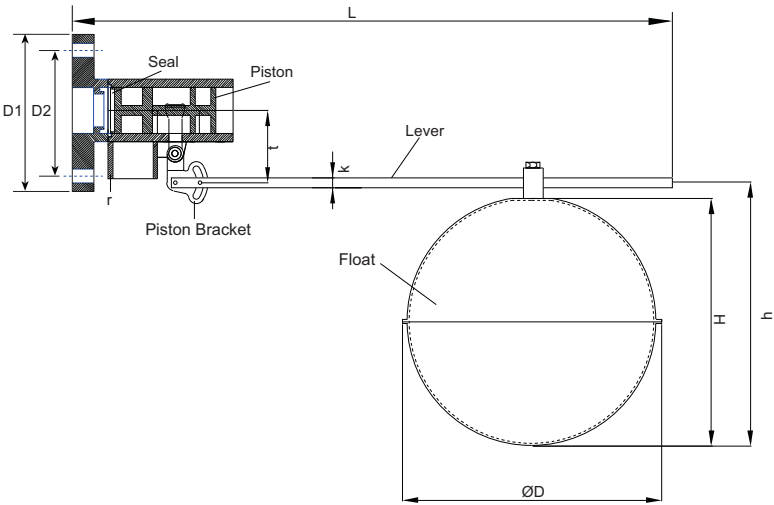
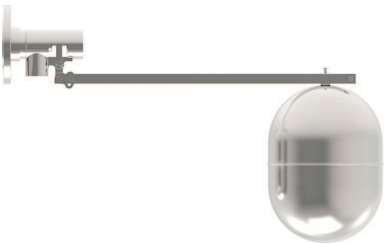
Specification:

ELV 41f / 51f

Model	ELV 41f	ELV 51f
Connection	1 1/2" Flanged	2" Flanged
Max. flow range	12.5 m³/h	16.5 m³/h
Working pressure	Max. 5 bar	Max. 5 bar
Weight	Max. 3,4 kg	Max. 3,5 kg

Important Note :

If you mounted the level switch so close to the pump , you must extend the arm or increase the number of the balls



Dimensions :

Model	Float ØD	H	L	h	t	k	D1	D2	r
ELV 41f	Spherical Ø 240 , V24	280	905	290	73.5	20	150	110	1 1/4" BSP
ELV 51f	Spherical Ø 240 , V24	280	905	290	73.5	20	165	125	1 1/4" BSP

All dimensions are stated as mm.

Specification:

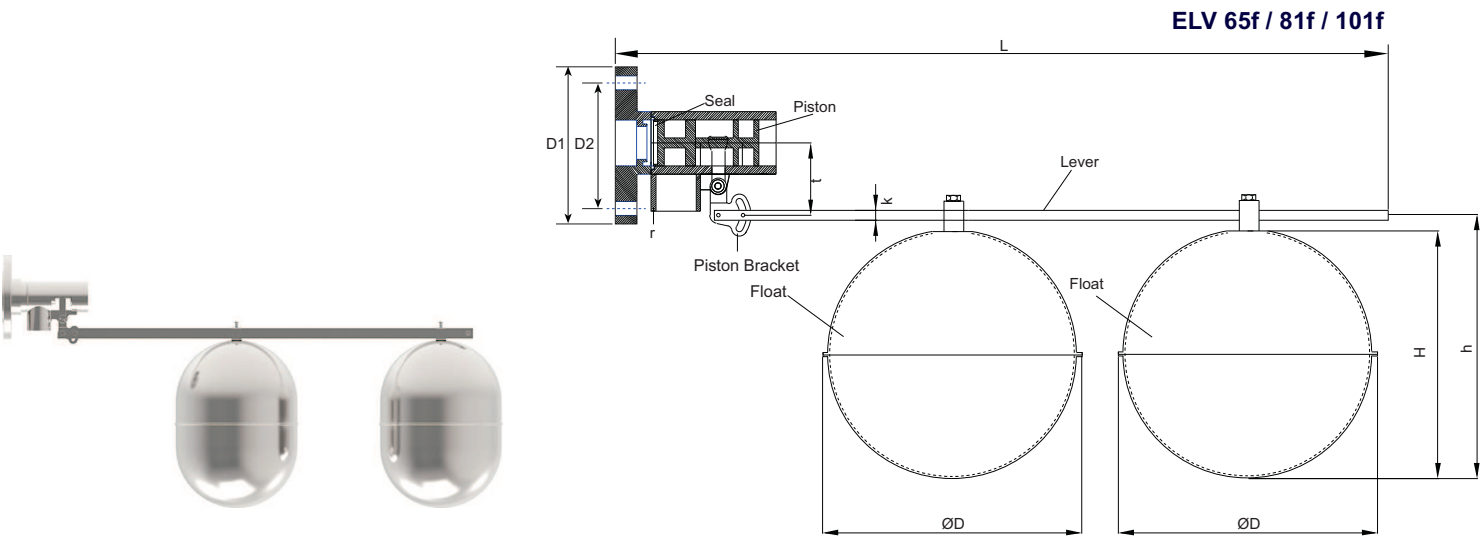
Model	ELV 65f	ELV 81f	ELV 101f
Connection	2 1/2 " Flanged	3" Flanged	4" Flanged
Max. flow range	20 m³/h	35 m³/h	50 m³/h
Working pressure	Max. 3 bar	Max. 3 bar	Max. 3 bar
Weight	Max. 8 kg	Max. 10.5 kg	Max. 12 kg

Important Note :

If you mounted the level switch so close to the pump , you must extend the arm or increase the number of the balls

Dimensions :

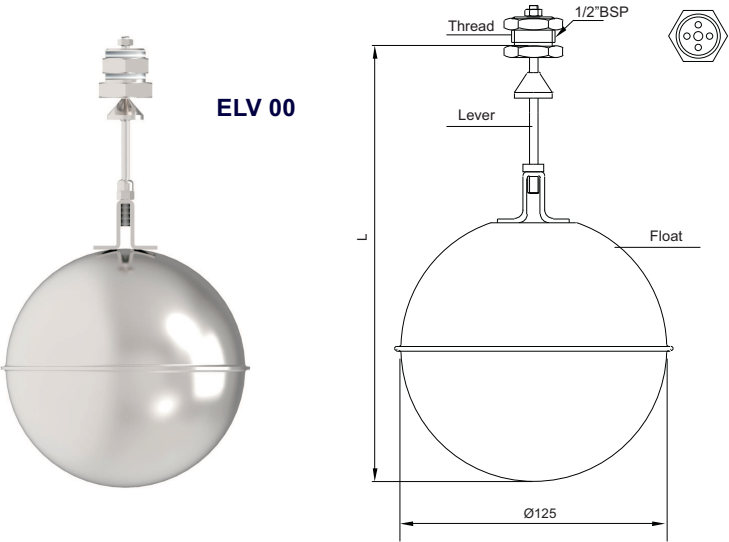
Model	Float ØD	H	L	h	t	k	D1	D2	r
ELV 65f	Spherical Ø 240 , V24 - 2 pcs	280	1250	290	73.5	20	185	145	1 1/2" BSP
ELV 81f	Spherical Ø 240 , V24 - 2 pcs	280	1250	290	73.5	20	200	180	2" BSP
ELV 101f	Spherical Ø 240 , V24 - 2 pcs	280	1250	290	73.5	20	220	180	3" BSP



Working Principle:

ELV00 is used for liquid controlling in tanks. It s designed for vertical mounting and float height adjustable. When the liqui level goes up, transition point closes or vice versa opens. When the liquid level goes down the progression changes location connections and types can be custommade according to cusmoters needs. It s especially usefel to use low control.

Model	ELV 00
Connection	1/2" BSP + Nut
Max. flow range	0.5 m³/h
Working pressure	Max. 10 bar
Weight	Max. 0.7 kg



All dimensions are stated as mm.

Order Form : **Please consider sample models when coding!..**

1 MODEL

ELV 00	ELV 21	ELV 41f
ELV 08	ELV 31	ELV 51f
ELV 10	ELV 41	ELV 65f
ELV 12	ELV 51	ELV 81f
ELV 15		ELV 101f
ELV 16		
ELV 18		

2 CERTIFICATE

None.....0 (EN10204-3-1) Material Certification1

3 BODY and FLOAT MATERIAL

304 St. St.001 316 St. St002
Special.....x

4 NUMBER OF FLOAT

Single Float..... (Std.).....1 Double Float.....2
Special.....x

5 SEAL MATERIAL

Vitton.....082 Special.....x

6 INPUT CONNECTION

1/2" BSP + Nut.....0004 1 1/4" BSP0007
3/4" BSP + Nut.....0005 1 1/2" BSP.....0008
1" BSP + Nut.....0006 2" BSP.....0009
1 1/4" BSP + Nut.....0007 3" BSP.....0011
1 1/2" BSP + Nut.....0008 Special.....x
2" BSP + Nut.....0009

7 OUTPUT CONNECTION

1/2" BSP0004 DN 40 - PN 16 Flanged.....0105
3/4" BSP0005 DN 50 - PN 16 Flanged.....0106
1" BSP0006 DN 65 - PN 16 Flanged.....0107
DN 80 - PN 16 Flanged.....0108
DN 100 - PN 16 Flanged.....0109
Special.....x

8 OPTIONAL

None...../ 0 Special...../ x

Note: Output measurement of sample models can be made standardly.

EXAMPLE

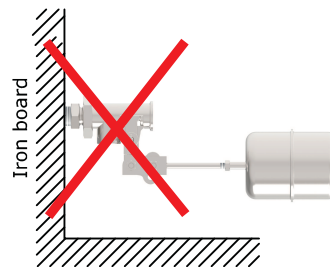
ELV - 18 -0 - 001 - 1 - 82 - 0005 - 0004 / 0 ELV 18 , R 3/4" , Single Float

WARNINGS !!!

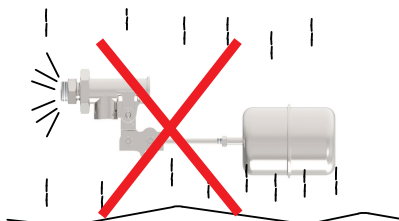
Please pay attention to following matters in order to operate your level switch properly.



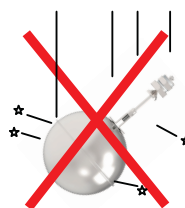
Please do not mount
slant way, otherwise
switch do not work correctly



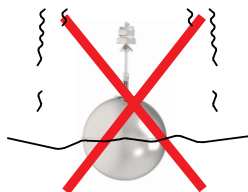
Please keep away from magnetic materials
like iron board ; otherwise the
characteristics might be affected.



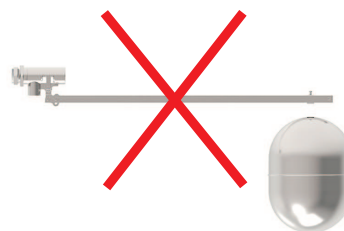
Please do not dip cables
potting into liquids, otherwise
instulation problem may cause.



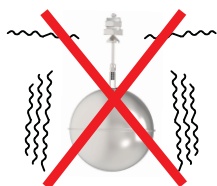
Please do not drop ,
otherwise the characteristics
might be changed.



Please avoid using with liquids which
damage materials of parts ,
otherwise quality can not be
maintained accurately.



Do not remove the float from
connection part. Because its pin
might be damaged.



Vibration might be
caused instability.

3. Failure Delection

Breakdown	Probable cause	Failure detection\correction
Fluid is leaking	There is a hole on the body.	-Check that is worked under appropriate condition and then contact with producer company.
It does not contact or it contacts continuously	-Socket connection is not touched. -Product was exposed to the magnetic field in the ambient. -Connetion angle is not correct. -Contact may have been burned.	-Check for socket connections. -The factor which constitutes the magnetic field should be removed or insulated. -Correct assembly angle. -Inform authorized service.
Body was broken	-Tightening the screws more than adequate during the assembly. -Product falling or taking a blow from outside.	-Inform authorized service.
Unsteady operation in the contact	-Product was exposed to the magnetic field in the ambient. -Product was exposed to vibration. -Product was exposed to high temperature.	-The factor which constitutes the magnetic fieldshould be removed or insulated. -Vibration which will effect the product should be prevented or it should be attached to any place without vibration. -Use in the appropriate opearating temperature.
Thread is scraped	Thread is scraped	-Inform authorized service

If you find an error, try to eliminate it by using this table or send the instrument to our service address for repair.



The instrument should be repaired only by authorized service!

4. Disassembly of Instrument

Instrument should be disassembled while feeding and pressure is not available!

5. Service

The instrument does not require maintenance. If it is desired, residue accumulated inside should be blown according to kind of fluid and instrument can be cleaned with soft cleaning solutions. Measures should be taken during the disassembly.

6. Recalibration

Calibration is not required during long period useful life of a level switch.

7. Repair –'96Manufacturer Address

If irreparable breakdowns occur, the instrument should be sent to us for repair purpose. Before this, the instrument should be cleaned carefully and packaged so as not to be broken. Furthermore, you should also add a detailed explanation which describes the breakdown while instrument is sent. If your instrument contacts with harmful substances, decontamination report should be also sent additionally. In the event that instrument does not have any decontamination report or our service department has doubts about instrument, repair process will not start until an acceptable report is sent.

If the instrument contacts with hazardous substances, necessary measures should be taken for decontamination!
Service -Manufacturer Company Name and Address:



LONCA MAK. SAN. TİC. A.Ş. Ferhatpaşa Mah. Gazipaşa Cad. No: 104A Ataşehir - İSTANBUL - TÜRKİYE
Phone:+90 216 50 50 555 Fax:+90 216 515 45 84 E-Mail: lonca@ensim.com.tr Web: www.ensim.com.tr

8. Disposal

The instrument should be disposed according to 2002/96/EC and 2003/108/EC European Directives (waste electrical and electronic instruments). Waste electrical and electronic equipment should not be mixed with domestic wastes!



If the instrument has contacted with harmful substances, special attention should be paid for its disposal!



9. Terms of Warranty

The instrument has warranty legally for 24 months after delivery date. Warranty demands are not accepted in case of inappropriate operation, damage on the instrument or any modification on the instrument.

10. Terms of Return

In the return of materials, user should send an open list related to damage or problem, malfunction of the material to be returned or its operation in the different modification, with the instrument. If it is required to return the material, used in the dangerous, corrosive or toxic fluid, in this case, used part should be cleaned very carefully. Security of personnel should be ensured. All products to be returned should be sent to our company address, which we have stated.