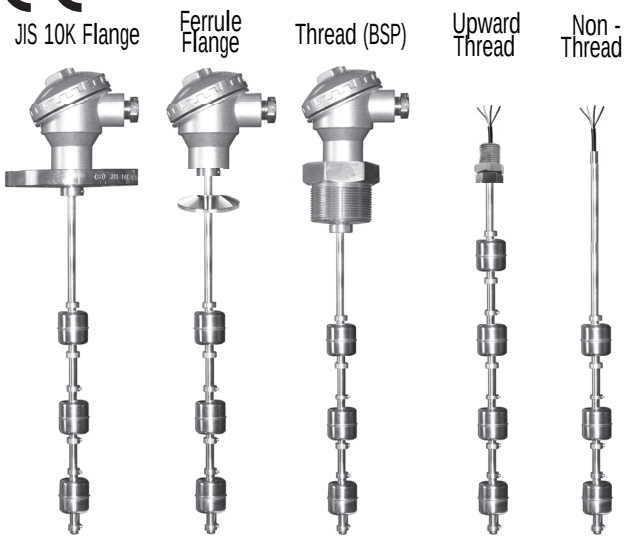
LP-04-SERIES

LEVEL SWITCH

PRIMUS

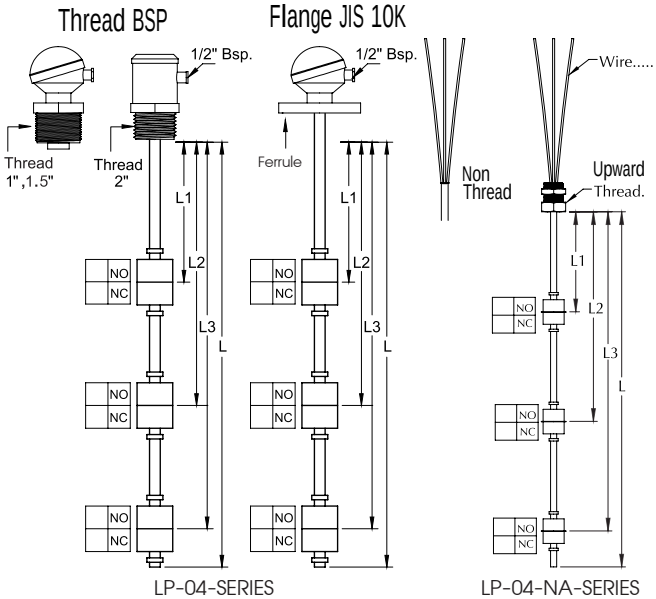


LP-04-SERIES LP-04-NA-SERIES

Specification

Installation	Flange JIS 10k	3/4", 1", 2", 3"
	Flange ferrule	1.5", 2", 2.5"
	Thread BSP	1"BSP, 1.5"BSP, 2"BSP, 3"BSP
	Thread NPT	1/8"NPT, 1/4"NPT, 3/8"NPT, 1/2"NPT, 3/4"NPT, 1"NPT
Output		Contact NO+NC, Contact NO, Contact NC
Voltage Current	Contact NO+NC	Float D0*Max 30VAC/VDC 0.2A Float D1, D2, D3* Max 400VAC/VDC 1.0A
	Contact NO	Float D0 *Max 400VAC/VDC 2.0A Float D1, D2, D3* Max 250VAC/VDC 3.0A
	Contact NC	
Operation Temperature		Max 120 °C
Material		SUS304, SUS316

Dimension & Size



LP-04-SERIES LP-04-NA-SERIES

Description

- Float Switch: A level switch used to control 1–5 liquid levels within a tank.
- Customizable Mounting Options:

  LP-04 Series.
  - JIS 10K Flange: 3/4", 1", 2", 3"
  - Ferrule Flange: 1.5", 2", 2.5"
  - Thread (BSP): 1" BSP, 1.5" BSP, 2" BSP, 3" BSP

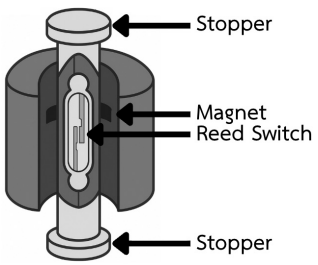
  LP-04NA Series.
  - Upward Thread (NPT): 1/8" NPT, 1/4" NPT, 3/8" NPT, 1/2" NPT, 3/4" NPT, 1" NPT.
  - Non-threaded.

- Quantity of Floats: Selectable from 1 to 5 floats.
- Float Dimensions:
  - Cylindrical: D0 28x28x10mm, D1 44x51x51 mm.
  - Spherical: D2 52x51x15mm, D3 74x74x19 mm.
- Operating Status: Selectable contact states: NO+NC, NO/NC.
- Maximum Operating Temperature: Up to 120°C.
- Tube Length: Customizable up to a maximum of 6,000mm.
- Cable Length: Customizable (applicable to LP-04-NA only).
- Produce from selected material: Available in SUS304, SUS316.

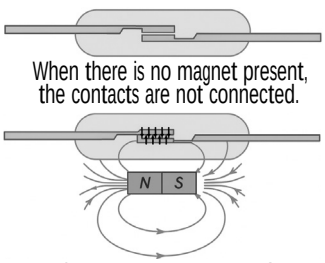
Operation

A Float Switch is a float-type switch used to control the liquid level inside a tank. It operates by changing the contact status from NO to NC or from NC to NO when the float moves up or down according to the liquid level.

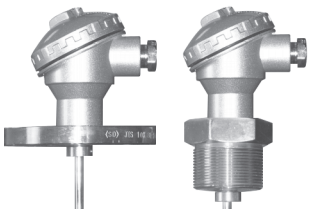
The operating principle of a magnetic float switch is based on the movement of a float containing a built-in magnet. When the float rises or falls according to the liquid level in the tank, the magnet inside the float moves closer to or aligns with the reed switch installed in the tube, causing the contact to change state immediately.



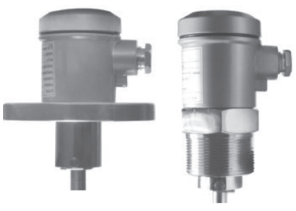
Components of a Level Switch



Head Type

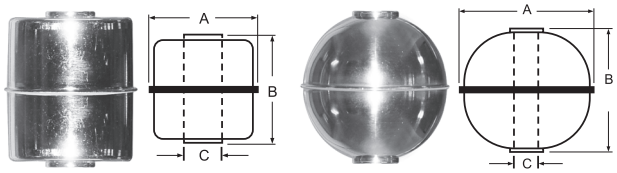


Big Head

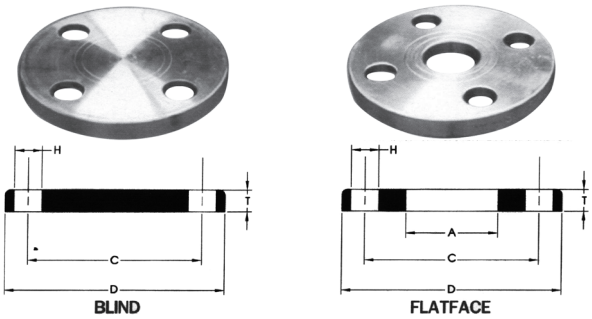


PM Head

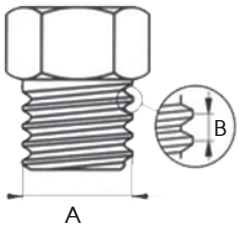
Float switch selection table

Model	D0	D1	D2	D3	Float Switch
Size AxBxC (mm.)	28x28x10	42x50x15	52x50x15	74x74x19	
Shape	Cylindrical float		Spherical float		
Maximum temperature of usage	120 °C				
Pressure	12 kg/cm²		30 kg/cm²		

• JIS 10K Flange Dimension

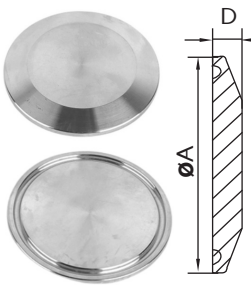


• Thread (BSP) Dimension



Code	Thread Size	A Thread Width (mm.)	B Thread Pitch (G)
1B	1″	32.5-33.2	11G
1.5B	1.5″	44.8-47.8	11G
2B	2″	59.3-59.6	11G
3B	3″	84.9-87.8	11G

Code	Nominal Pipe Size		Inside Dia.	Outside Dia	Balt Circle	Thickness	Drilling		Weight (Kg)	
	Inch	mm	A	D	C	T	H	N	Flat Face	Blind
A	3/4	20	28.0	100.0	75	14	15	4	0.74	0.80
1A	1	25	34.5	125.0	90	14	19	4	1.20	1.40
2A	2	50	61.5	155.0	120	16	19	4	1.90	2.30
3A	3	80	90.5	185	150	18	19	8	2.65	3.60



Code	Ferrule	A Ferrule Width (mm.)	B Ferrule Thickness (mm.)
1.5	1.5″	50.5	6.3
2	2″	64.0	6.3
2.5	2.5″	77.5	6.3

Ordering Code

LP-04- [Installation] - [Float switch size] - [Float switch number] - [Tube length (L) (mm.)] - [Material]

Flange Installation	
NA	Non-head Installation
A	3/4" JIS 10K (Head)
1A	1" JIS 10K (PM Head)
2A	2" JIS 10K (PM Head)
3A	3" JIS 10K (Big Head)
Thread Installation	
1B	1" BSP (Big Head)
1.5B	1.5" BSP (Big Head)
2B	2" BSP (PM Head)
3B	3" BSP (Head)
Ferrule Flange Installation	
1.5	1.5" Ferrule (Big Head)
2	2" Ferrule (Big Head)
2.5	2.5" Ferrule (Big Head)

Float switch size (mm.)	
D0	Cylindrical float 28x28x10
D1	Cylindrical float 44x51x15
D2	Spherical float 52x51x15
D3	Spherical float 74x74x19

Float switch number	
1	1 Float
2	2 Floats
3	3 Floats
4	4 Floats
5	5 Floats(Max)

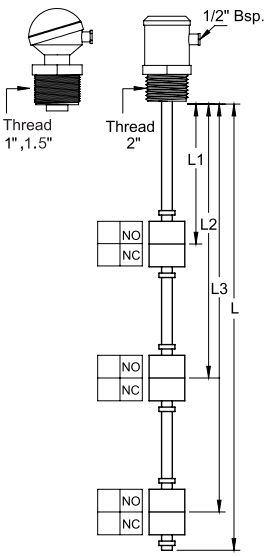
Matetial	
NONE	SUS 304
A	SUS 316

Tube Length (L) (mm.)

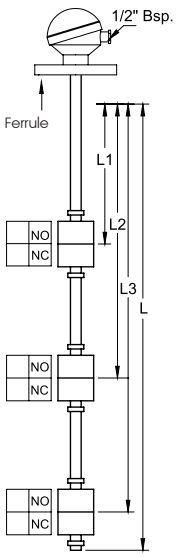
Can specific
Tube length
as request
***Maximum 6000 mm.

Limit / Recommendation

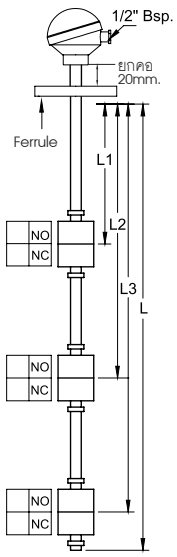
Thread BSP



JIS 10K Flange



Ferrule Flange



Thread and float switch selection limiting

Installation	Float switch size			
	D0	D1	D2	D3
Flange 3/4" JIS 10K	✓	✗	✗	✗
Flange 1" JIS 10K	✓	✗	✗	✗
Flange 2" JIS 10K	✓	✓	✓	✗
Flange 3" JIS 10K	✓	✓	✓	✓
Ferrule Flange 1.5"	✓	✗	✗	✗
Ferrule Flange 2"	✓	✓	✗	✗
Ferrule Flange 2.5"	✓	✓	✓	✗
Thread 1" BSP	✓	✗	✗	✗
Thread 1.5 BSP	✓	✓	✗	✗
Thread 2" BSP	✓	✓	✓	✗
Thread 3" BSP	✓	✓	✓	✓

Contact status and float switch selection limiting

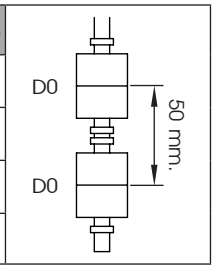
Max. float switch	Circuit common	Contact
4 switches	Shared Common	1 COM, 4 NO, 4 NC
3 switches	Isolated common	3 COM, 3 NO, 3 NC
5 switches	Shared Common	1 COM, 4 NO/NC
4 switches	Isolated common	4 COM, 4 NO/NC

Rated voltage and current for float switch types

Contact NO+NC	Float switch D0 *Max 30VAC/VDC 0.2A Float switch D1, D2, D3 *Max 400VAC/VDC 1.0A
Contact NO	Float switch D0 *Max 400VAC/VDC 2.0A
Contact NC	Float switch D1, D2, D3 *Max 250VAC/VDC 3.0A

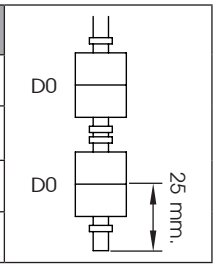
The distance between float switches

Float switch size	Lowest distance
D0	50 mm.
D1	80 mm.
D2	80 mm.
D3	100 mm.

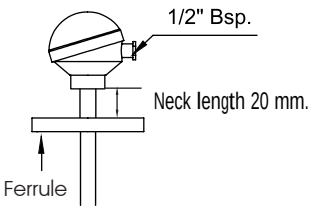


The length the lowest Float Operating Point

Float switch size	Lowest distance
D0	25 mm.
D1	40 mm.
D2	40 mm.
D3	50 mm.

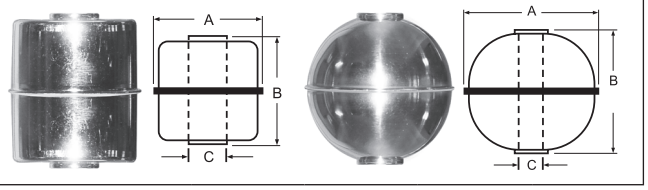


In case, user selected ferrule flange.
It needs to have neck length at least 20 mm. or more.

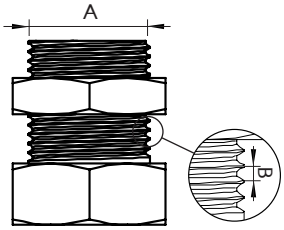


Float switch selection table

Model	D0	D1	D2	D3
Size AxBxC (mm.)	28x28x10	42x50x15	52x50x15	74x74x19
Shape	Cylindrical float		Spherical float	
Max. usage Temp.	120 °C			
Pressure	12 kg/cm^2		30 kg/cm^2	



• Upward Thread Size



Code	Thread Size	A Thread Width (mm.)	B Thread Pitch (G)
S1	1/8"	9.5	28G
S2	1/4"	12.7	19G
S3	3/8"	16	19G
S4	1/2"	21	14G
S6	3/4"	26	14G
S8	1"	32	11G

Ordering Code

LP-04-NA- [Installation] - [Float switch size] - [Float switch number] - [Tube length (L) (mm.)] - [Material] - [Cable length]

Installation	
NONE	Non-Thread
S1	1/8" NPT(Upward Thread)
S2	1/4" NPT(Upward Thread)
S3	3/8" NPT(Upward Thread)
S4	1/2" NPT(Upward Thread)
S6	3/4" NPT(Upward Thread)
S8	1" NPT(Upward Thread)

Float switch size (mm.)	
D0	ทรงกระบอก 28x28x10
D1	ทรงกระบอก 44x51x15
D2	ทรงกลม 52x51x15
D3	ทรงกลม 74x74x19

Float switch number	
1	1 Switch
2	2 Switches
3	3 Switches
4	4 Switches
5	5 Switches (Max.)

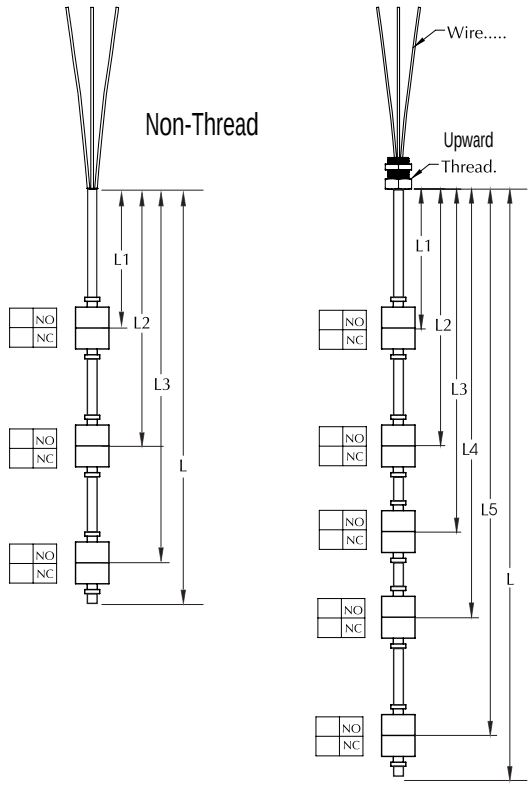
Material	
NONE	SUS 304
A	SUS 316

Tube length(L) (mm.)
Can specific Tube length as request ***Maximum 6000 mm.

Cable length	
NONE	Cable 1 meter
2M	Cable 2 meters
3M	Cable 3 meters
4M	Cable 4 meters
5M	Cable 5 meters
6M	Cable 6 meters

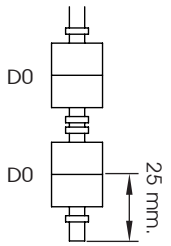
***Can specific

Limit / Recommendation



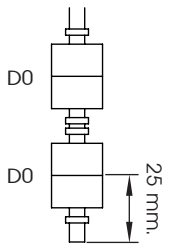
Distance between float switch

Float switch size	Lowest distance
D0	25 mm.
D1	40 mm.
D2	40 mm.
D3	50 mm.



The length the lowest Float Operating Point

Float switch size	Lowest distance
D0	25 mm.
D1	40 mm.
D2	40 mm.
D3	50 mm.



Contact status and float switch selection limiting

Max. float switch	Circuit common	Contact
4 switches	Shared Common	1 COM, 4 NO, 4 NC
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Rated voltage and current for float switch types

Contact NO+NC	Float switch D0 *Max 30VAC/VDC 0.2A Float switch D1, D2, D3 *Max 400VAC/VDC 1.0A
Contact NO	Float switch D0 *Max 400VAC/VDC 2.0A
Contact NC	Float switch D1, D2, D3 *Max 250VAC/VDC 3.0A