

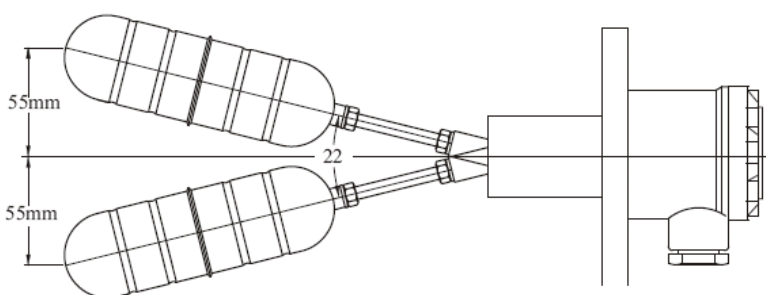
Principle

Simple theory as liquid buoyancy is utilized for the main principle of this "FF" series. A change of liquid level correspondingly travels the float to extreme levels up and down. The reed switch is thus "NC" and "NO" exchanged as well as the permanent magnet on pivot will have mutual repulsion to the other one inside on the housing for like poles, which the Microswitch is button-pushed by magnet to states "NO" and "NC" exchanging likewise.

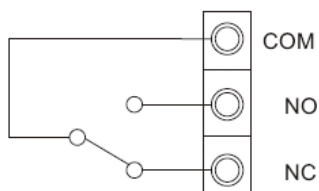
Features

The side mounted float level sensor (FF series) are manufactured specifically for horizontal mounting in a tank or vessel. They work well as high or low level control.

1. Both MicroSwitch type and Reed Switch are available. The MicroSwitch type is usable even at ambient temp. of 100 C max.
2. Mounting flanges are custom-specifiable. (JIS, DIN, ANSI).
3. A rich variety of floats can be suited different specific gravity (S.G.) of liquid.(Custom-made)
4. Liquid-wetted party material can be selected for SUS304 or SUS316 as well as enclosure explosion proof model.



Wiring



REED SWITCH --- 1A, 30W 220Vac/200Vdc (FF20, 45, 55, 8)
MICRO SWITCH --- 5A/250Vac

JIN ZON ENTERPRISE CO., LTD.

P.O.Box 34-16, Taipei, Taiwan, R.O.C.

TEL.886-2-27111093 FAX.886-2-27310902

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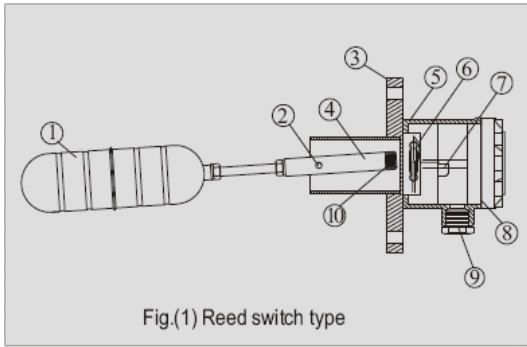


Fig.(1) Reed switch type

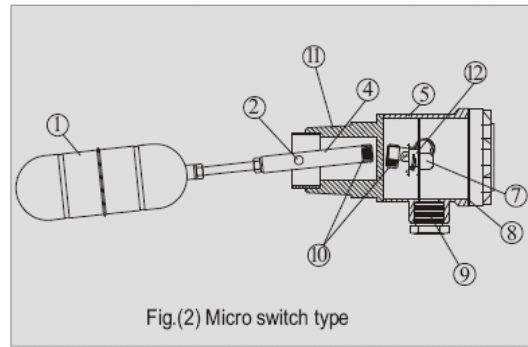


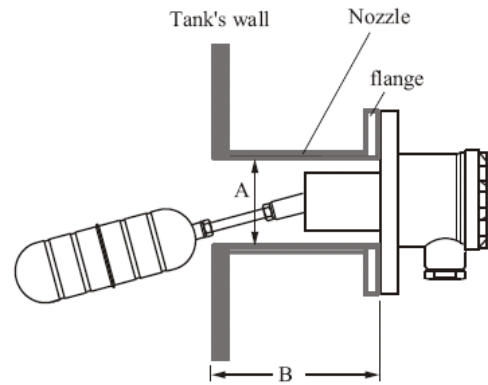
Fig.(2) Micro switch type

- | | | | |
|-----------|----------------|-------------|-----------------|
| 1. Float | 4. Pivot | 7. Terminal | 10. Magnet |
| 2. Shaft | 5. Housing | 8. O-ring | 11. Screw |
| 3. Flange | 6. Reed Switch | 9. Conduit | 12. Microswitch |

► The diameter and length of the connecting pipe (of a tank) are in a direct ratio.

UNIT: mm

Pipe dia. (A)	45-50	50-55	55-60	60-65	65-70
Length (B) (Max.)	130	140	150	160	170



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SPECIFICATION

MODEL \ SPEC.	Operating Temp.	Electrical Contact	Contact Capacity	Contact Element	Housing Spec.	Applicable S.G.
FF10BHM	-10 C~100 C	SPDT(1C)	5A/250Vac	Microswitch	Aluminum Alloy IP65	0.25
FF10CEM	-10 C~100 C	SPDT(1C)	5A/250Vac	Microswitch	Aluminum Alloy IP65	0.65
FF10CEM....SA	-10 C~100 C	SPDT(1C)	5A/250Vac	Microswitch	Aluminum Alloy IP65	0.65
FF10CEQ	-10 C~100 C	SPDT(1C)	5A/250Vac	Microswitch	Aluminum Alloy IP65	0.65
FF10CEQ....SA	-10 C~100 C	SPDT(1C)	5A/250Vac	Microswitch	Aluminum Alloy IP65	0.65
FF10CLO	-10 C~100 C	SPDT(1C)	5A/250Vac	Microswitch	Aluminum Alloy IP65	0.65
FF10CLO....SA	-10 C~100 C	SPDT(1C)	5A/250Vac	Microswitch	Aluminum Alloy IP65	0.65
FF10DFM	-10 C~100 C	SPDT(1C)	5A/250Vac	Microswitch	Aluminum Alloy IP65	0.55
FF10DFM....SA	-10 C~100 C	SPDT(1C)	5A/250Vac	Microswitch	Aluminum Alloy IP65	0.55
FF10DFQ	-10 C~100 C	SPDT(1C)	5A/250Vac	Microswitch	Aluminum Alloy IP65	0.55
FF10DFQ....SA	-10 C~100 C	SPDT(1C)	5A/250Vac	Microswitch	Aluminum Alloy IP65	0.55
FF20BHM	-25 C~200 C	SPDT(1C)	1A, 30W 220Vac/200Vdc	Reed Switch	Aluminum Alloy IP65	0.25
FF20CEM	-25 C~200 C	SPDT(1C)	1A, 30W 220Vac/200Vdc	Reed Switch	Aluminum Alloy IP65	0.65
FF20CEQ	-25 C~200 C	SPDT(1C)	1A, 30W 220Vac/200Vdc	Reed Switch	Aluminum Alloy IP65	0.65
FF20DFM	-25 C~200 C	SPDT(1C)	1A, 30W 220Vac/200Vdc	Reed Switch	Aluminum Alloy IP65	0.55
FF20DFQ	-25 C~200 C	SPDT(1C)	1A, 30W 220Vac/200Vdc	Reed Switch	Aluminum Alloy IP65	0.55
FF20DLO	-25 C~200 C	SPDT(1C)	1A, 30W 220Vac/200Vdc	Reed Switch	Aluminum Alloy IP65	0.55
FF62DFM	-10 C~350 C	SPDT(1C)	5A/250Vac	Microswitch	Aluminum Alloy IP65	0.55

※ Model no. with "....SA"certified by Germany GL, USAABS marine grade, the prices are subject to be different.
Please notify when placing an order if necessary.

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SPECIFICATION

MODEL \ SPEC.	Operating Temp.	Electrical Contact	Contact Capacity	Contact Element	Housing Spec.	Applicable S.G.
FF40DFM	-10 C~100 C	SPDT(1C)	5A/250Vac	Microswitch	Aluminum Alloy IP65	0.55
FF45DFM	-25 C~200 C	SPDT(1C)	1A, 30W 220Vac/200Vdc	Reed switch	Aluminum Alloy IP65	0.55
FF50DFM	-10 C~100 C	SPDT(1C)	5A/250Vac	Microswitch	Aluminum Alloy IP65	0.55
FF50DFM....SA	-10 C~100 C	SPDT(1C)	5A/250Vac	Microswitch	Aluminum Alloy IP65	0.55
FF55DFM	-25 C~200 C	SPDT(1C)	1A, 30W 220Vac/200Vdc	Reed switch	Aluminum Alloy IP65	0.55
FF70/71BHM	-10 C~100 C	SPDT(1C)	3A/250Vac	Microswitch	SUS316 Ex d IIB T3~T6	0.25
FF70/71CFM	-10 C~100 C	SPDT(1C)	3A/250Vac	Microswitch	SUS316 Ex d IIB T3~T6	0.65
FF70/71DFM	-10 C~100 C	SPDT(1C)	3A/250Vac	Microswitch	SUS316 Ex d IIB T3~T6	0.55
FF73GLO	-10 C~100 C	SPDT (1C)	3A/250Vac	Microswitch	SUS316 Ex d IIB T3~T6	0.7
FF75DFM	-10 C~100 C	SPDT (1C)	3A/250Vac	Microswitch	SUS316 Ex d IIB T3~T6	0.55
FF80EFM	0 C~60 C	SPDT(1C)	1A, 30W 220Vac/200Vdc	Reed switch	PC IP65	0.60
FF81EFM	0 C~60 C	SPDT(1C)	1A, 30W 220Vac/200Vdc	Reed switch	—	0.60
FF90GLO	-10 C~100 C	SPDT(1C)	5A/250Vac	Microswitch	Aluminum Alloy IP65	0.7

※ Model no. with "...SA" certified by Germany GL, USA ABS marine grade, the prices are subject to be different. Please notify when placing an order if necessary.

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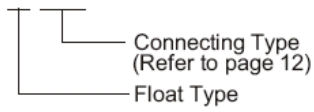
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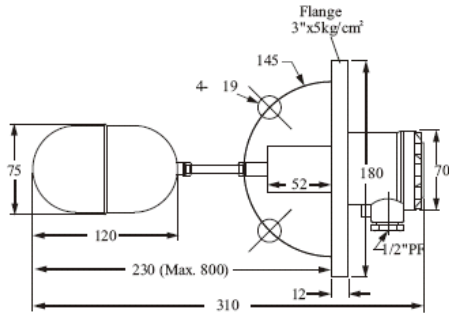
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STANDARD

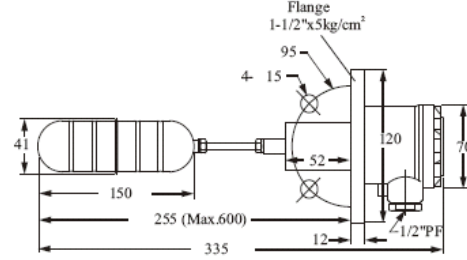
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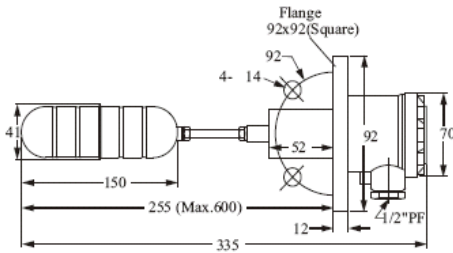
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Model No. LF10BHM



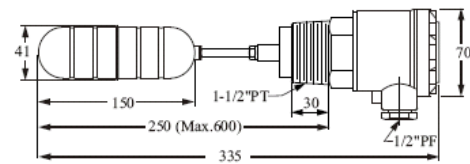
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Model No. LF10CEM



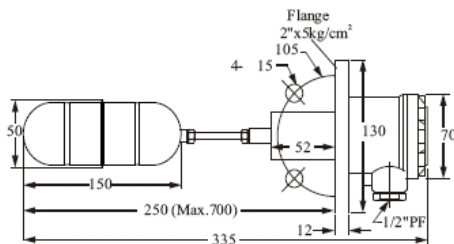
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Model No. LF10CLO



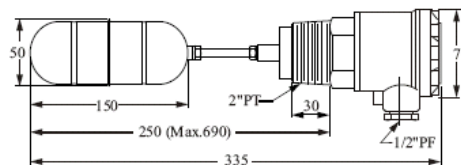
► Order No. FF10CEQ
Model No. LF10CEQ



► Order No. FF10DFM
Model No. LF10DFM



► Order No. FF10DFQ
Model No. LF10DFQ



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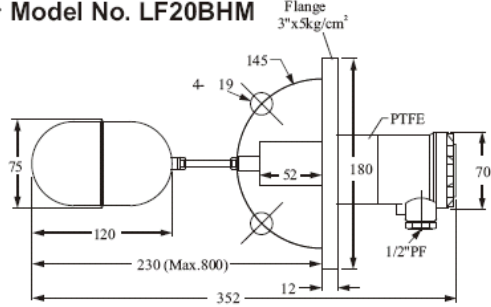
HIGH TEMP.

Order No. FF20

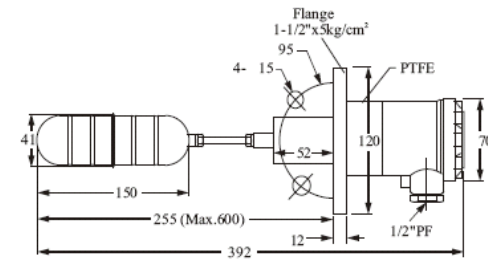
Connecting Type
(Refer to page 12)
Float Type



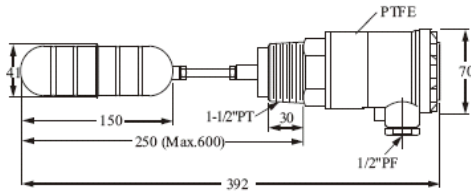
Order No. FF20BHM
Model No. LF20BHM



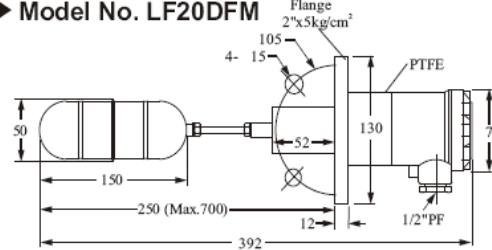
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Model No. LF20CEM



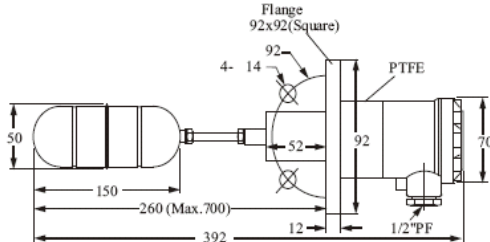
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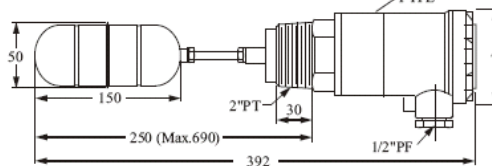
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Model No. LF20DFM



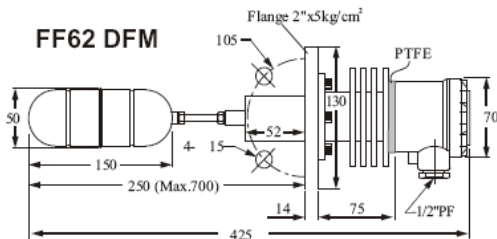
Order No. FF20DLO
Model No. LF120DLO



Order No. FF20DFQ
Model No. LF20DFQ



Order No. FF62DFM
Model No. LF62DFM



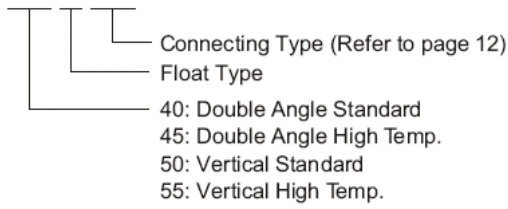
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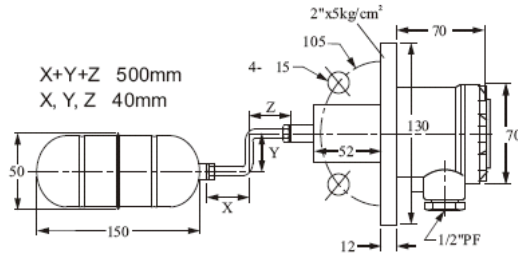
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E-mail: jinzon@ms2.hinet.net <http://www.jinzon.com.tw>

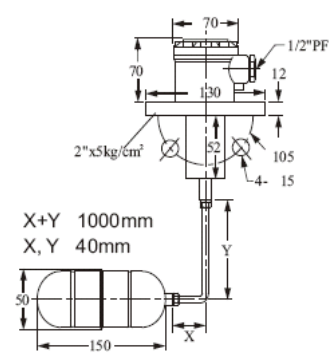
Order No. F F



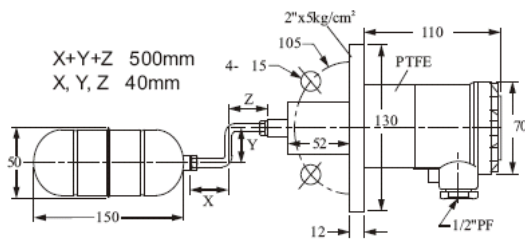
**Order No. FF40DFM
Model No. LF40DFM**



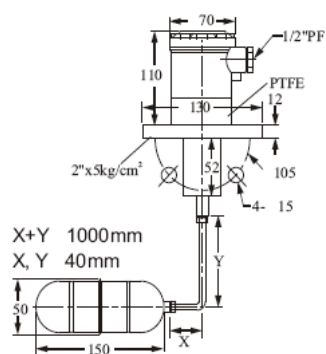
**Order No. FF50DFM
Model No. LF50DFM**



**Order No. FF45DFM
Model No. LF45DFM**



**Order No. FF55DFM
Model No. LF55DFM**



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ANTI-ACID / ALKALINE

Principle

When the solid polypropylene float is flooded by a liquid, its weight is reduced by the buoyancy of the liquid and the float moves upward. Thus, a permanent magnet that built in the float actuates the reed switch in the sensor body to work the "NO" and "NC" exchanges.

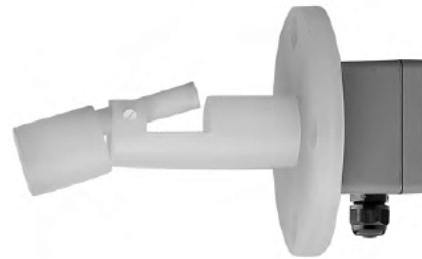
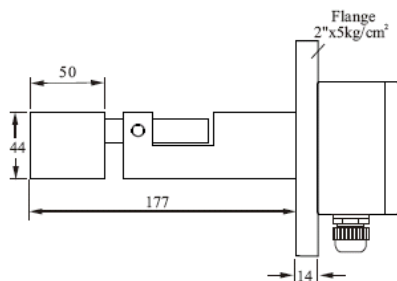
FF80EFM --- PC Housing

FF81E --- Without Housing

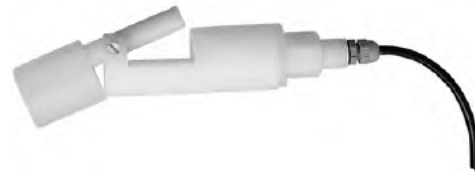
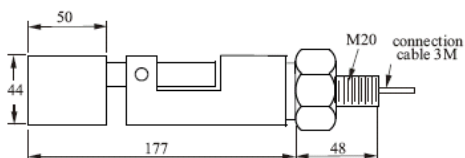
Wetted parts : P.P.

Cable spec. : PVC 3x0.75 mm²

Order No. FF80EFM
▶ Model No. LF80EFM



Order No. FF81E
▶ Model No. LF81E



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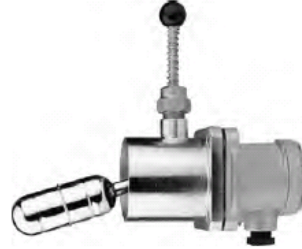
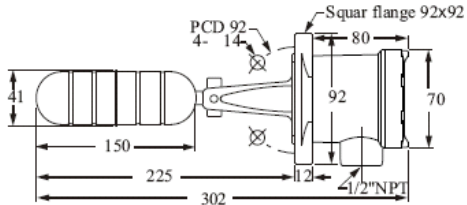
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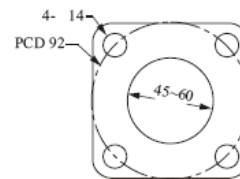
SQUARE FLANGE & TEST ACCESSORY

► Order No. FF90GLO
Model No. LF90GLO

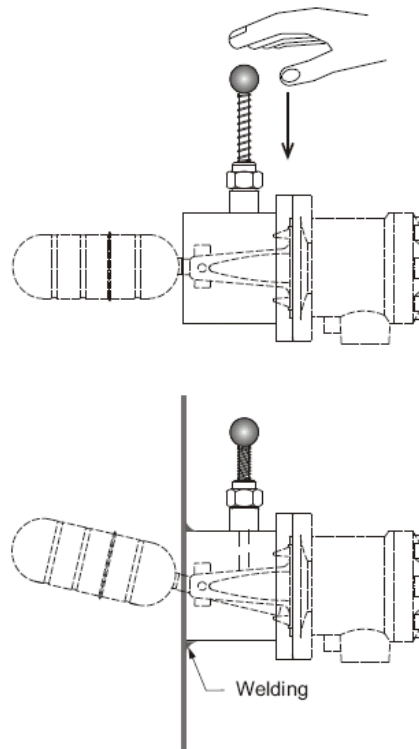
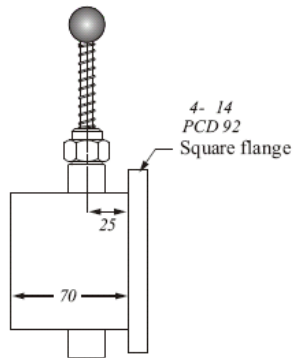


1. Housing material: Aluminum (IP65)
2. Suitable S.G.: >0.7
3. Operation temp.: -10~100 C
4. Contact form: SPDT(1C)
5. Contact rating: 5A/250Vac
6. Operation pressure: 15kg/cm²
7. Wetted parts: SUS304
8. Weight: approx. 1.2 kg

Drill Hole



Test Accessory (Optional)
Order No. FFB-0300
Material: Ss41



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MARINE ASSOCIATION APPROVALS

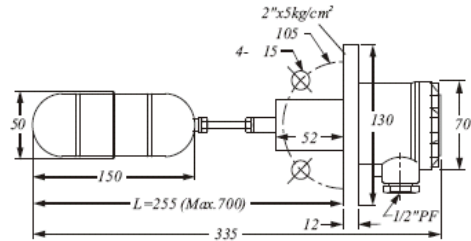


Germanischer Lloyd
(Germany)

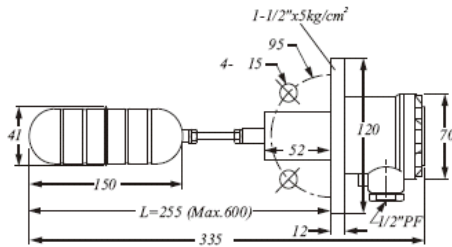


American Bureau of
Shipping (USA)

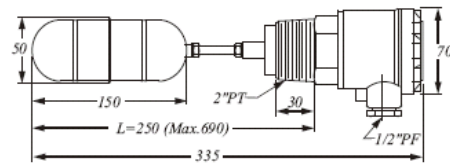
Order No. FF10DFM...SA
▶ Model No. LF10DFM...SA



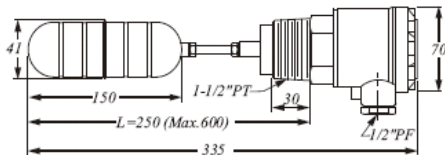
Order No. FF10CEM...SA
▶ Model No. LF10CEM...SA



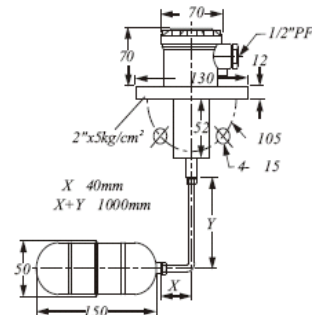
Order No. FF10DFQ...SA
▶ Model No. LF10DFQ...SA



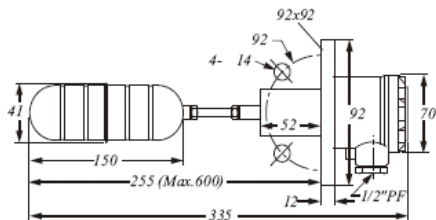
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▶ Model No. LF10CEQ...SA



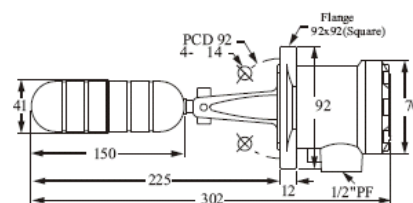
Order No. FF50DFM...SA
▶ Model No. LF50DFM...SA



Order No. FF10CLO...SA
▶ Model No. LF10CLO...SA



Order No. FF90GLO...SA
▶ Model No. LF90GLO...SA



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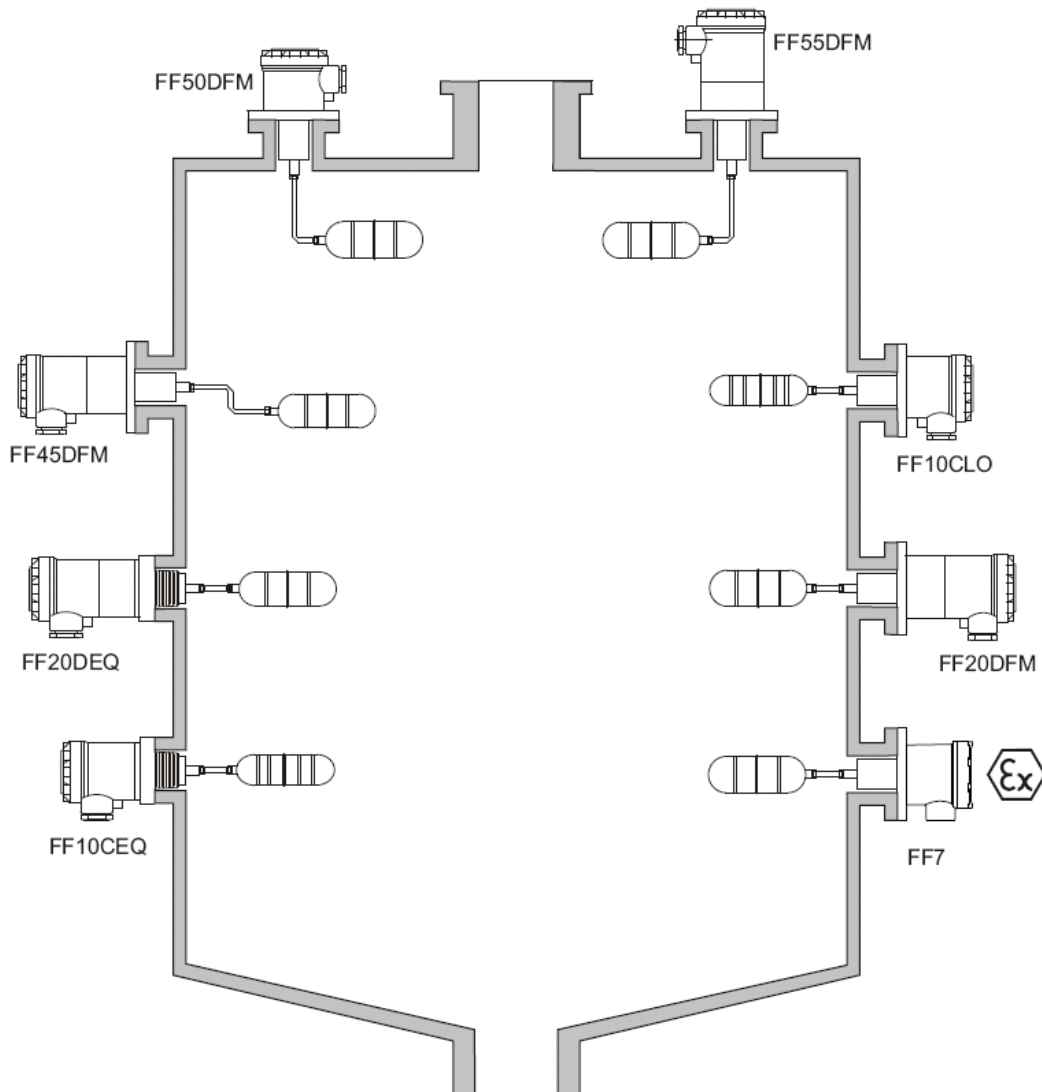
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E-mail: jinzon@ms2.hinet.net <http://www.jinzon.com.tw>

IMPORTANCE FOR INSTALLATION

1. SUS304/SUS316 materials is not available for corrosive application.
2. The cable duct(s) must face downward to prevent moisture sipping in.
3. The float and extension rod must be inserted into a bin completely.
4. Be sure the liquid object's S.G. before installation.
5. The mounting hole must be larger than the external diameter of float.
6. Don't mount the devices near the bin's inlet or outlet.

Typical Positioning



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HOW TO MAKE YOUR ORDER

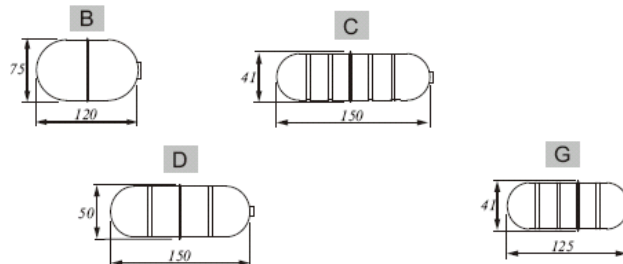
Order No. FF 1 0 C E M 0 2 7 0
Model No. LF 1 0 C E M 0 2 7 0

ORDER NO.

10: STANDARD
 20: HIGH TEMP.
 40: DOUBLE ANGLE STANDARD
 45: DOUBLE ANGLE HIGH TEMP.
 50: VERTICAL STANDARD
 55: VERTICAL HIGH TEMP.
 62: HIGH TEMP RADIATOR
 80: ANTI-ACID/ALKALINE
 81: ANTI-ACID/ALKALINE
 90: SQUARE FLANGE

FLOAT TYPE

B: 75x120 (OPERATION PRESSURE 10kg/cm² S.G. 0.25)
 C: 41x150 (OPERATION PRESSURE 15kg/cm² S.G. 0.65)
 D: 50x150 (OPERATION PRESSURE 30kg/cm² S.G. 0.55)
 G: 41x125 (OPERATION PRESSURE 15kg/cm² S.G. 0.7)



CONNECTING TYPE

E: 1-1/2" (40A)	M: 5 kg/cm ²	W: PN10 (10Bar)
F: 2" (50A)	N: 10kg/cm ²	X: PN16 (16Bar)
G: 2-1/2" (65A)	O: 150 Lbs	Y: PN25 (25Bar)
H: 3" (80A)	P: 300 Lbs	Z: PN40 (40Bar)
I: 4" (100A)	Q: PT	
J: 5" (125A)	T: BSP	
K: 6" (150A)	U: NPT	
L: 92x92	S: Others	

※ Flanges are in thickness of factory standard 12mm.

LENGTH(L) (UNIT: mm)

EX: FF 10C EM 0270

- ※ Tolerance of the total product length is 5mm
- ※ Characteristics, specifications and dimensions are subject to change without notice.
- ※ Please contact your nearest distributor office for further information.

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P.O.Box 34-16, Taipei, Taiwan, R.O.C.

TEL.886-2-27111093 FAX.886-2-27310902

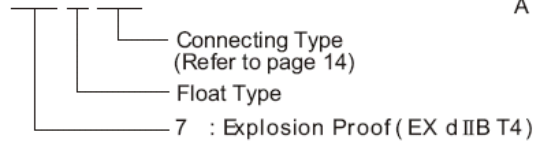
E-mail: jinzon@ms2.hinet.net <http://www.jinzon.com.tw>

ENCLOSURE EXPLOSION PROOF

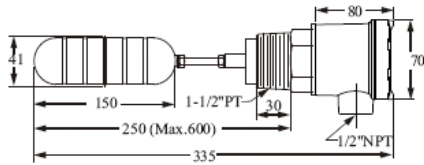
NEPSI  GYJ03349 EX d IIB T3~T6

ATEX  Pending

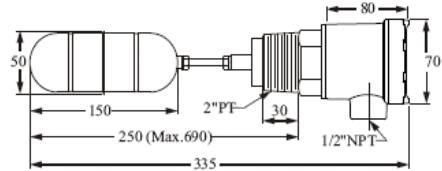
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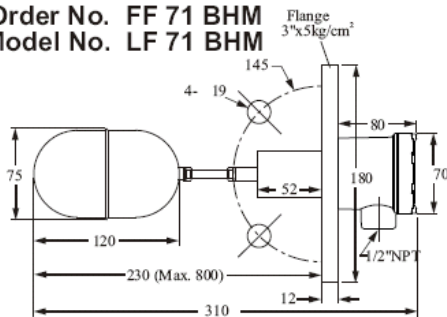
▶ Order No. FF 70 CEQ
Model No. LF 70 CEQ



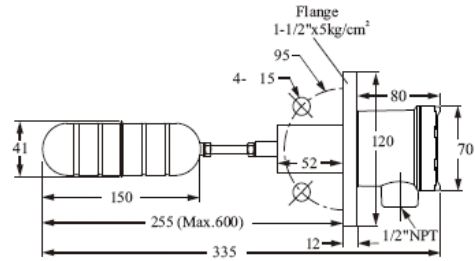
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Model No. LF 70 DFQ



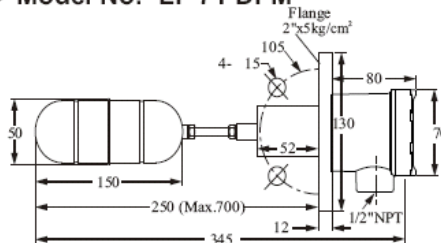
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Model No. LF 71 BHM



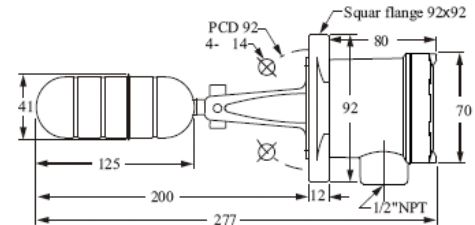
▶ Order No. FF 71 CEM
Model No. LF 71 CEM



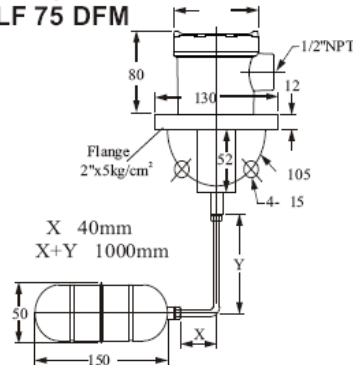
▶ Order No. FF 71 DFM
Model No. LF 71 DFM



▶ Order No. FF 73 CLO
Model No. LF 73 CLO



▶ Order No. FF 75 DFM
Model No. LF 75 DFM




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HOW TO MAKE YOUR ORDER

NEPSI  GYJ03349 EX d IIB T3~T6

ATEX  Pending

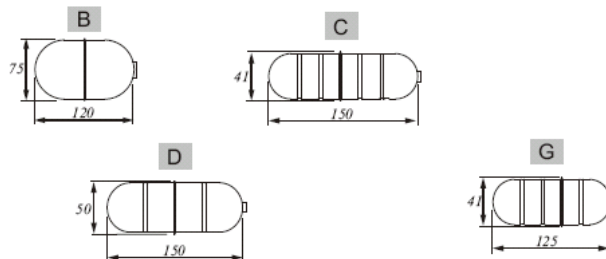
Order No. FF 7 0 C E M 0 2 7 0
Model No. LF 7 0 C E M 0 2 7 0

ORDER NO. _____

70: LF70 ENCLOSURE EXPLOSION PROOF (Ex d IIB T3~T6)
 71: LF71 ENCLOSURE EXPLOSION PROOF (Ex d IIB T3~T6)
 73: LF73 ENCLOSURE EXPLOSION PROOF (Ex d IIB T3~T6)
 75: LF75 ENCLOSURE EXPLOSION PROOF (Ex d IIB T3~T6)

FLOAT TYPE _____

B: 75x120 (OPERATION PRESSURE 10kg/cm² S.G. 0.25)
 C: 41x150 (OPERATION PRESSURE 15kg/cm² S.G. 0.65)
 D: 50x150 (OPERATION PRESSURE 30kg/cm² S.G. 0.55)
 G: 41x125 (OPERATION PRESSURE 15kg/cm² S.G. 0.7)



CONNECTING TYPE _____

E: 1-1/2" (40A)	M: 5 kg/cm ²	W: PN10 (10Bar)
F: 2" (50A)	N: 10kg/cm ²	X: PN16 (16Bar)
G: 2-1/2" (65A)	O: 150 Lbs	Y: PN25 (25Bar)
H: 3" (80A)	P: 300 Lbs	Z: PN40 (40Bar)
I: 4" (100A)	Q: PT	
J: 5" (125A)	T: BSP	
K: 6" (150A)	U: NPT	
L: 92x92	S: Others	

※ Flanges are in thickness of factory standard 12mm.

LENGTH(L) (UNIT: mm) _____

- ※ Characteristics, specifications and dimensions are subject to change without notice.
- ※ Tolerance of the total product length is 5mm
- ※ Please contact your nearest distributor office for further information.

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