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By-Pass Level Transmitter

FineTek

Innovation · Quality · Sharing

INTRODUCTION

INTRODUCTION

The By-Pass Level Indicator is installed outside of a vessel or tank. The liquid level in the tank can easily be observed from the change of the flag color.

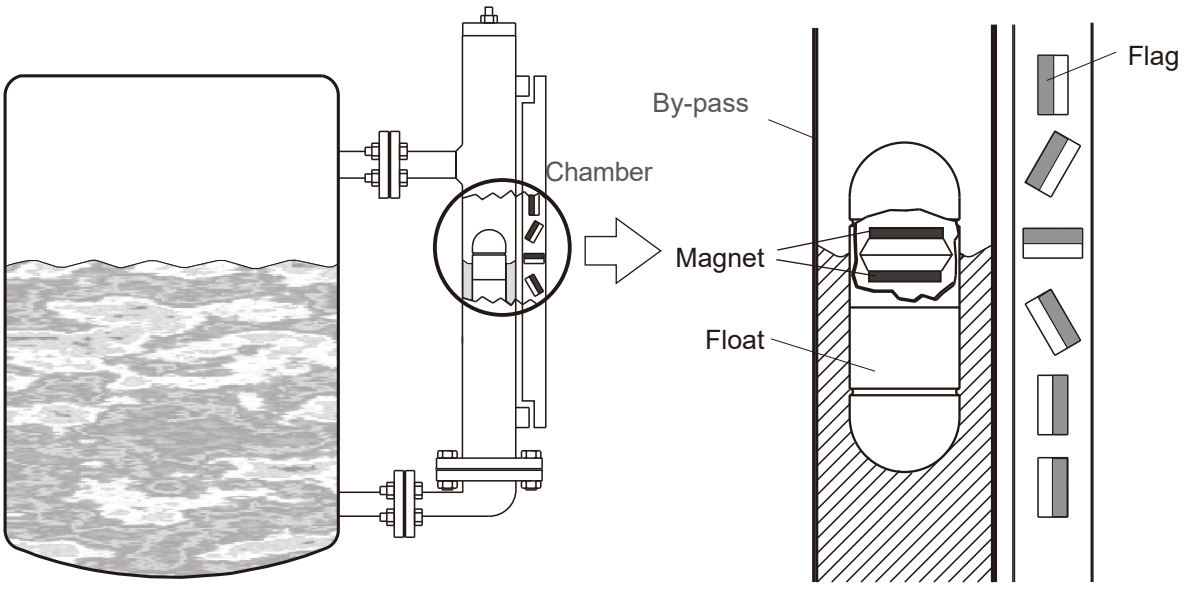
Optional devices of magnetic switch and level transducer can be added for electrical signal output and level transmitting.

PRINCIPLE

Fine-Tek's By-Pass indicator utilizes hydrostatic principle to show the liquid level in the tank. A float with a magnet inside rises and drops according to the liquid level change. Magnetic flags will flip as float passes through to indicate liquid level based on magnetic attraction method.

APPLICATIONS AND FEATURES

- Applicable in environment with high temp., high pressure, strong acid, strong alkaline and hazardous locations. The structure is simple but durable and reliable. It is also available with various options for upgrade.
- A level transducer or magnetic switch can be installed and adjusted during operation.
- It is not operated by electricity thus it will not be affected by power failure.
- Add different color of hag per 10cm that can he recognized easily.
- Multiple applications for textile dyeing, sewage water processing, power generating, boiler and petrochemical industries.



PRODUCT WITH PATENT RECOMMENDATION

1.) Magnetic Switch (Fig.1)

* The plastic miniature magnetic switch is anti-corrosive and with IP67 rating. It is the smallest magnetic switch in the current market.
* The magnetic switch is easy to set up and has real time adjustment.

2.) Innovative Design For Bottom End flange and the Connecting flange (Fig.2)

* The lower center duct is at the bottom end of the chamber. When the liquid drains in the tank , there will be no residue in the chamber unit.
* This is suitable for production that requires frequent liquid change and mixture is not allowed during the process.

3.) Removable Duct and Connecting flange (Fig.3)

* The flanges setting is close to the two ends of the chamber, therefore the "C-C" distance is maximized.
* It is strengthened in the structure by a large phase weld.
* During the installation, adjust the flanges to the fitting mounting holes.

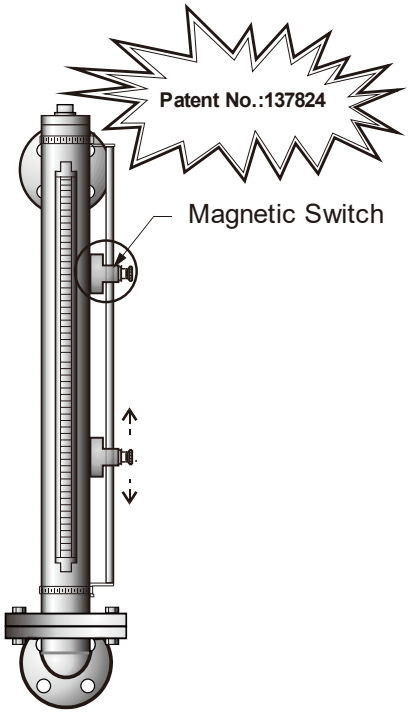


Fig.1

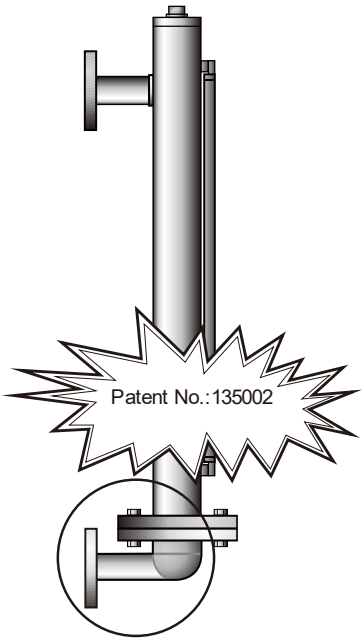


Fig.2

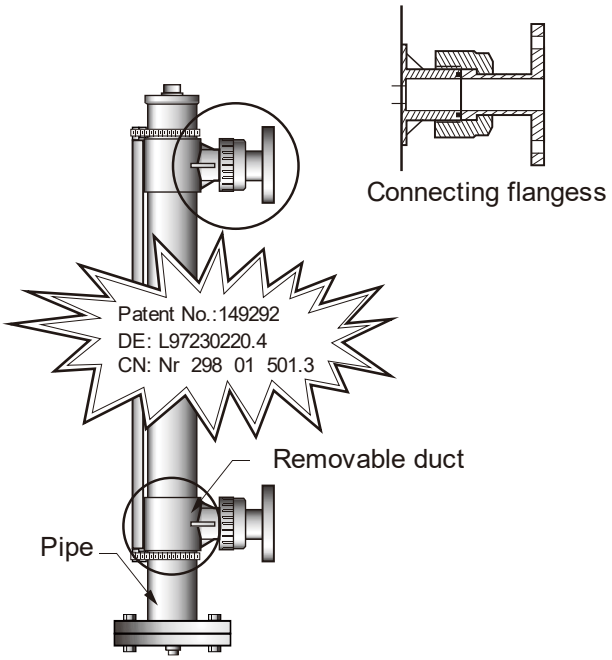
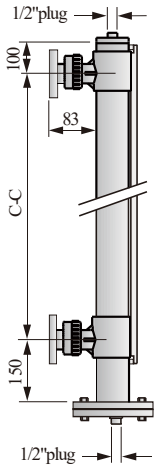
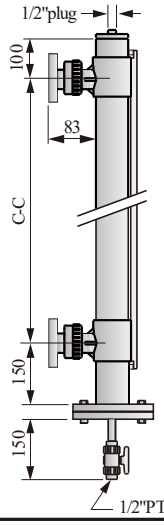
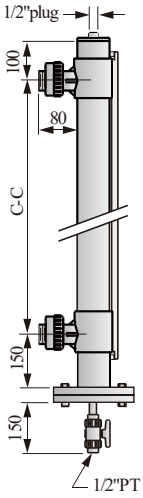
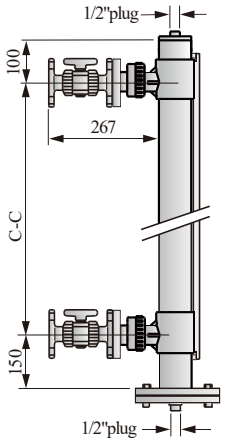
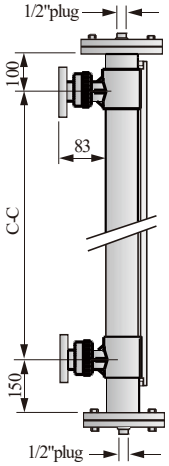


Fig.3

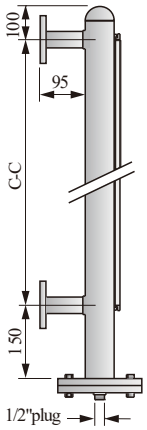
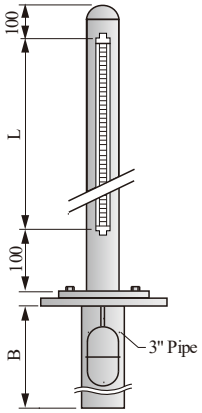
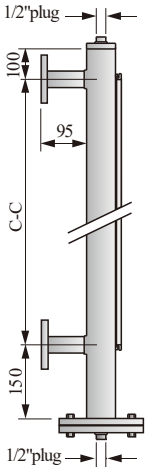
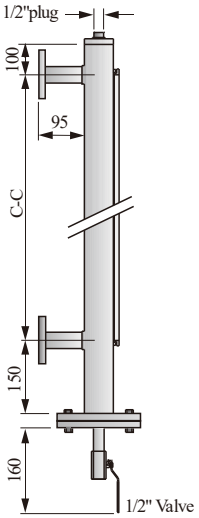
SPECIFICATIONS

Plastic Standard Type				
EF□□□B1H	**EF□□□B1K**	**EF□□□B2K**	**EF□□□B7H**	**EF□□□C1H**
				

SPECIFICATIONS:

Model No. / Description	EF□□□B1H	EF□□□B1K	EF□□□B2K	EF□□□B7H	EF□□□C1H
Top end	Flat top with 1/2" plug				Dual flanges with 1/2" plug
Bottom end	Dual flanges with 1/2" plug	Dual flanges with 1/2" drain valve		Dual flanges with 1/2" plug	
Connecting	3/4" x10kg/cm^2 (flanges)		3/4" or 1"PT (Screw)	3/4" x10kg/cm^2 (Ball Valve)	3/4" x10kg/cm^2 (flanges)
C-C Distance	Min. 150mm; Max. 3800mm				
Operation pressure	5kg/cm^2				
Operation temp.	PP: 80°C, PVDF: 120°C				
Chamber	PP: ϕ60.5 x 3.8t, PVDF: ϕ63 x 3.2t				
Float type	EFB-2500 (PVDF) / 2510 (PP) (Refer float specifications)				
Material	PP / PVDF				
Flag indicator	EFB-0750 (140°C) (Refer flag display data)				
Ruler	Option (Refer ruler data)				

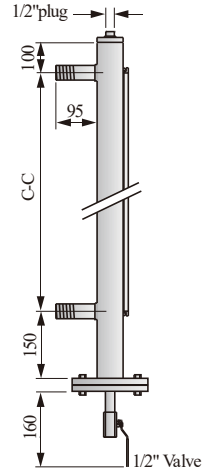
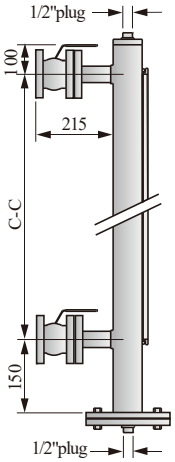
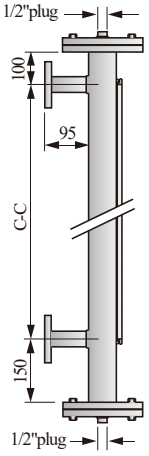
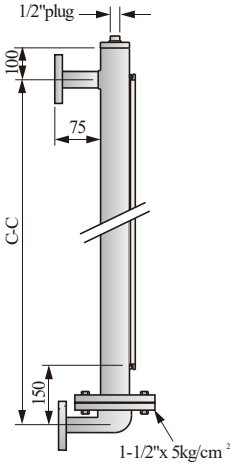
Metal Standard Type

EF□□□A1H	EF□□□A5M	EF□□□B1H	EF□□□B1K
			

SPECIFICATIONS

Model No. / Description	EF□□□A1H	EF□□□A5M	EF□□□B1H	EF□□□B1K
Top end	Cap		Flat top with 1/2" plug	
Bottom end	Dual flanges with 1/2" plug	Dual flanges with 3" shield pipe	Dual flanges with 1/2" plug	Dual flanges with 1/2" drain valve
Bottom flanges	1-1/2" x 5kg/cm^2	3-1/2" x 5kg/cm^2	1-1/2" x 5kg/cm^2	
Connecting	3/4" x10kg/cm^2 (flange)	3" (Hole)	3/4" x10kg/cm^2 (flange)	
C-C Distance Flag isplay length(L)	Min. 150mm; Max. 5,800mm	Min. 150mm; Max. 2,000mm	Min. 150mm; Max. 5.800mm	
Operation pressure	25kg/cm^2 (Max. 50kg/cm^2)	10kg/cm^2	25kg/cm^2 (Max. 50kg/cm^2)	20kg/cm^2
Operation temp.	SUS304: 140°C, 200°C, 350°C SUS316: 140°C, 200°C, 350°C			SUS304: 140°C,200°C,350°C SUS316: 140°C,200°C,350°C
Chamber	ϕ60.5 x 2.8t			
Float type	EFB-2580 (Refer float specifications)	Code: MC Float	EFB-2580 (Refer float specifications)	
Material	SUS304 / SUS316			
Flag indicator	EFB-0700 (200°C), EFB-0740 (350°C), EFB-0750 (140°′) (Refer flag display data)			
Ruler	Option (Refer ruler data)			

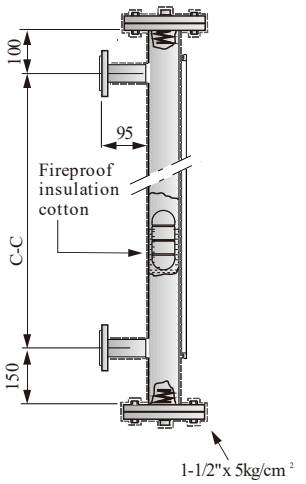
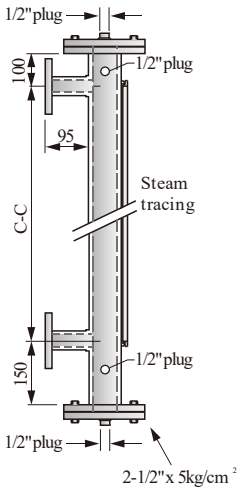
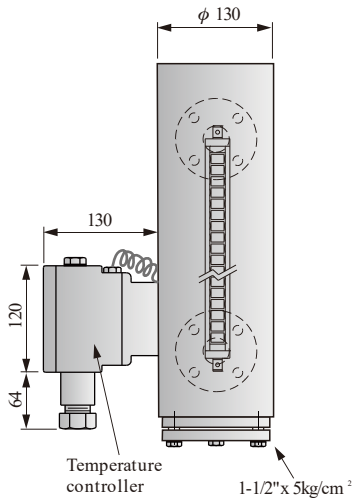
Metal Standard Type

EF□□□B2K	EF□□□B7H	EF□□□C1H	EF□□□B1L
			

* The pipe is so long that support rack is needed to prevent pipe from bending.

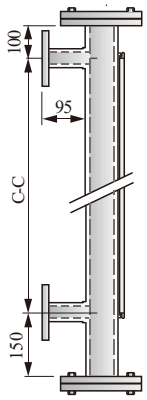
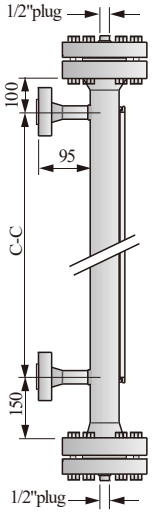
SPECIFICATIONS

Model No. / Description	EF□□□B2K	EF□□□B7H	EF□□□C1H	EF□□□B1L
Top end	Flat top with 1/2" plug		Dual flanges with 1/2" plug	Flat top with 1/2" plug
Bottom end	Dual flanges with 1/2" drain valve	Dual flanges with 1/2" plug		Dual flanges+angle pipe
Bottom flanges	1-1/2" x 5kg/cm²			———
Connecting	3/4"PT or 1"PT (Screw)	3/4" x10kg/cm² (Ball Valve)	3/4" x10kg/cm² (flange)	
C-C Distance	Min. 150mm; Max. 5,800mm			
Operation pressure	20kg/cm²	10kg/cm²	25kg/cm² (Max. 50kg/cm²)	
Operation temp.	SUS304:140°C, 200°C, 350°C SUS316:140°C, 200°C, 350°C		SUS304:140°C, 200°C,350°C SUS316:140°C, 200°C,350°C	
Chamber	ϕ 60.5 x 2.8t			
Float type	EFB-2580 (Refer float specifications)			
Material	SUS304 / SUS316			
Flag indicator	EFB-0700 (200°C), EFB-0740 (350°C), EFB-0750 (140°′) (Refer flag display data)			
Ruler	Option (Refer ruler data)			

Blanket Type	Jacket Type	Heating Type
EF□□□C1H	**EF□□□C8H**	**EF□□□B1H**
		

SPECIFICATIONS

Model No. / Description	EF□□□C1H	EF□A/B□C1H	EF□□□B1H
Top end	Dual flanges with 1/2" plug		Dual flanges with 1/2" plug
Bottom end	Dual flanges with 1/2" plug		Dual flanges with 1/2" plug
Connecting	3/4" x10kg/cm² (flange)	1-1/4" x 10kg/cm²	3/4" x10kg/cm² (flange)
C-C Distance	Min. 150mm; Max. 5800mm		
Operation pressure	25kg/cm² (Max. 50kg/cm²)		20kg/cm²
Operation temp.	SUS304: 140°C, 200°C, 350°C SUS316: 140°C, 200°C, 350°C		SUS304: 100°C SUS316: 100°C
Chamber	ϕ60.5 x 2.8t	Jacket ϕ76 x 3.0t 1/2"PT plug	ϕ65 x 3.5t ϕ130 Heating type
Float type	EFB-2580 (Refer float specifications)		
Material	SUS304 / SUS316		
Flag indicator	EFB-0700 (200°C), EFB-0740 (350°C), EFB-0750 (140°C) (Refer flag display data)		
Ruler	Option (Refer ruler data)		

Antiseptic Type	High Pressure Type
EF□□□C1H	**EF□□□C1H**
	

SPECIFICATIONS

Model No. / Description	EF□A/B□C1H	EF□□□C1H
Top end	Dual flanges	Dual flanges with 1/2" plug
Bottom end	Dual flanges	Dual flanges with 1/2" plug
Connecting	3/4" x10kg/cm^2 (flange)	600Lb or 300Lb
C-C Distance	Min. 150mm; Max. 3800mm	
Operation pressure	25kg/cm^2 (Max. 50kg/cm^2)	100kg/cm^2(300℃ down)600Lb 60kg/cm^2(300℃ up)300Lb
Operation temp.	PP: 80°C PTFE:120℃	SUS304: 140℃ SUS316: 140℃
Chamber	ϕ65 x 2t Coating PP or PTFE	ϕ76.3 x 5.5t
Float type	EFB-2580 (Refer float specifications) +Coating	EFB-2654 (Refer float specifications)
Material	SUS304 / SUS316	
Flag indicator	EFB-0700 (200°C), EFB-0740 (350°C), EFB-0750 (140°C) (Refer flag display data)	
Ruler	Option (Refer ruler data)	

MODEL NUMBER / ORDER CODE COMPARISON TABLE

Plastic Standard Type

Model Number	Order Code
EF□□□B1H	EFX1□□□□-B1C
EF□□□B1K	EFX1□□□□-B1G
EF□□□B2K	EFX1□□□□-B2G
EF□□□B7H	EFX1□□□□-B7C
EF□□□C1H	EFX1□□□□-C1C

Metal Standard Type

Model Number	Order Code
EF□□□A1H	EFX1□□□□-A1C
EF□□□A1L	EFX1□□□□-A1N
EF□□□A5M	EFX1□□□□-A5R
EF□□□B1H	EFX1□□□□-B1C
EF□□□B1K	EFX1□□□□-B1G
EF□□□B2K	EFX1□□□□-B2G
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EF□□□B1H	EFX1□□□□-B1C
EF□□□B1L	EFX1□□□□-B1N

Blanket Type

Model Number	Order Code
EF□□□C1H	EFX1A2□□-C1C

Jacket Type

Model Number	Order Code
EF□□□C8H	EFX1A3□□- C1C

Heating Type

Model Number	Order Code
EF□□□B1H	EFX1A4□□- B1C

Antiseptic Type

Model Number	Order Code
EF□□□C1H	EFX1A1□□- C1C

High Pressure Type

Model Number	Order Code
EF□□□C1H	EFX1□□□□-C1C

Plastic Float

Model Number	Order Code
EFB-2500	FLTBM1F-1245116801
EFB-2510	FLTBM1F-1184915001
EFB-1500-F	FLTBM1F-1245116807
EFB-1510-P	FLTBM1F-1184915004

Metal Float

Model Number	Order Code
EFB-2540	FLTBM1F-1MB5020001
EFB-2560	FLTBM1F-1MB5017503
EFB-2580	FLTBM1F-1MB5015002
EFB-2600	FLTBM1F-1MB5029503
EFB-2592	FLTBM1F-1MB5023001
EFB-2540-9	FLTBM1F-1MC5020001
EFB-2560-9	FLTBM1F-1MC5017501
EFB-2580-9	FLTBM1F-1MC5015001
EFB-2600-9	FLTBM1F-1MC5029501
EFB-1540	FLTBM1F-1MB5020006
EFB-1560	FLTBM1F-1MB5017507
EFB-1580	FLTBM1F-1MB5015016
EFB-1581	FLTBM1F-2MB5009602
EFB-1592	FLTBM1F-1MB5023004
EFB-1600	FLTBM1F-1MB5029504

Titanium Alloy Float

Model Number	Order Code
EFB-2630	FLTBM1F-1MF4821002
EFB-2654	FLTBM1F-1MF6139401
EFB-1630-T	FLTBM1F-1MF4821001

Level Transducer

Model Number	Order Code
EG371BQ00-00AB	EGX1001B-A1AAA5012CMA0000ABAA
EG371BQ00-00A0	EGX1001B-A1AAA5012CMA0000A0AA
EG371BQ00-00B0	EGX1001B-A1AAA5012CMA0000B0AA
TAB-2210-2	TAX□A1X-0006
EGB-0500	EFXBMIP-MAF0000002

Magnetic Switch

Model Number	Order Code
EFB-1220	EFXBM1P-MHS11
EFB-1230	EFXBM1P-MHS12
EFB-1250	EFXBM1P-MHS21
EFB-1260	EFXBM1P-MHS22
EFB-1300	EFXBM1P-MHS3100001
EFB-1300	EFXBM1P-MHS3100004
EFB-1310	EFXBM1P-MHS3200001
EFB-1310	EFXBM1P-MHS3200002
EFB-1400	EFXBM1P-18S44□□□01
EFB-1410	EFXBM1P-18S45
EFB-1420	EFXBM1P-18S41
EFB-1430	EFXBM1P-18S42
EFB-1440	EFXBM1P-18S44□□□05
EFB-1450	EFXBM1P-18S44□□□07
EFB-1800	EFXBM1P-MHS53

Flag Display

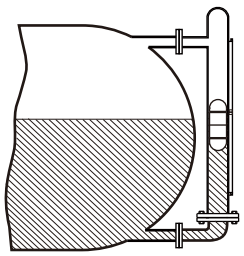
Model Number	Order Code
EFB-0700	EFXBM1D-MA22
EFB-0740	EFXBM1D-MA62
EFB-0750	EFXBM1D-MA72
EFB-0770	EFXBM1D-MA63

Ruler

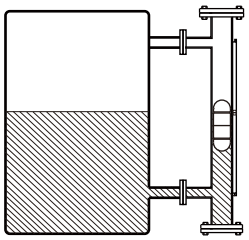
Model Number	Order Code
EFA-2111	EFX□M1P-MAR
EFA-2120	
EFA-2130	EFX□M1P-15R
EFA-2140	

INSTALLATION

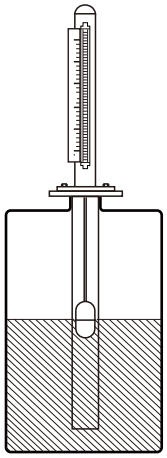
INSTALLATION EXAMPLE



EF□□□A1L
(EFX□□□□-A1N)
(ANGLE PIPE)



EF□□□C1H
(EFX1□□□□-C1C)
(SIDE FLANGE)

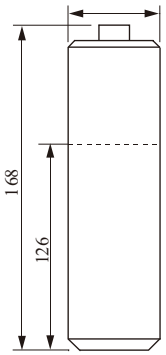


EF□□□A5M
(EFX1□□□□-A5R)
(TOP MOUNTING)

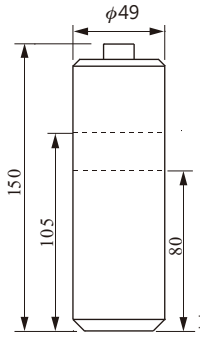
Plastic Float

Code	Order Code	Operation Temp.	Max. Pressure	Dimension	S.G.	Water Immersion Line	Material	Weight
F1	FLT□ M1F-1245116801	120°C	5kg/cm^2	OD51*168	0.75	126mm	PVDF	256
F2	FLT□ M1F-1245116807	100°C	5kg/cm^2	OD51*168	0.83	126mm	PVDF	256
P1	FLT□ M1F-1184915001	80°C	5kg/cm^2	OD49*150	0.7	80mm	PP	188
P2	FLT□ M1F-1184915004	80°C	5kg/cm^2	OD49*150	0.63	105mm	PP	188

*Specified S.G. is available made to order.



Code : F1、F2



Code : P1、P2

FLOAT SPECIFICATIONS

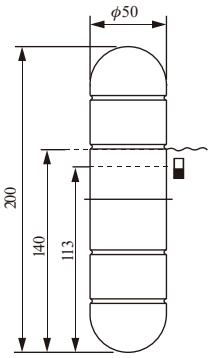
METAL FLOAT

Code	Order Code	Operation Temp.(°C)	Max.Pressure (kg/cm^2)	Dimension (mm)	S.G.	Water Immersion Line	Material	Weight(g)
M1	FLT□M1F-1MB5020001	350	30	OD50*200	0.7	140	SUS316	234
M2	FLT□M1F-1MB5017503	350	30	OD50*175	0.75	131		220
M3	FLT□M1F-1MB5015002	350	40	OD50*150	0.87	130		207
M4	FLT□M1F-1MB5029503	350	40	OD50*295	0.68	204		330
M6	FLT□M1F-1MB5023001	200	60	OD50*230	0.72	166		284
		201~350	45					
L1	FLT□M1F-1MC5020001	350	30	OD50*200	0.7	140	SUS316L	234
L2	FLT□M1F-1MC5017501	350	30	OD50*175	0.75	131		220
L3	FLT□M1F-1MC5015001	350	40	OD50*150	0.87	130		207
L4	FLT□M1F-1MC5029501	350	40	OD50*295	0.68	204		330
L6	FLT□M1F-1MC5023001	200	60	OD50*230	0.72	166		284
		201~350	45					
T2	FLT□M1F-1MF4821002	350	20	OD48*210	0.6	107	Titanium alloy	183
U1	FLT□ M1F-1MF6139401	300	110	OD61.3*394	0.8	315		830
		301~350	90					
M9	FLT□M1F-1MB5020006	100	30	OD50*200	0.7	134	SUS316	224
M8	FLT□M1F-1MB5017507	100	30	OD50*175	0.75	120		220
M7	FLT□M1F-1MB5015016	100	40	OD50*150	0.85	130		207
MC	FLTBM1F-2MB5009602	100	10	OD50*96	1. 1 (Top mounting)	106		169
MA	FLT□M1F-1MB5023004	100	60	OD50*230	0.72	166		280
MB	FLT□M1F-1MB5029504	100	40	OD50*295	0.65	192		326
T4	FLT□M1F-1MF4821001	100	20	OD48*210	0. 58	107	Titanium alloy	189

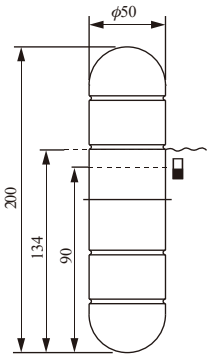
* Length of float: FLT□M1F-1□□50295 is extendable at unit of 50 mm
  (S.G drops 0.05 when length increases 50 mm).
* Float can be coated with PTFE.
* Measuring range may very from float size changed for the top mounting type of by pass level indic ator.
* The resolution of FG is 12.7mm, is restricted to use float temperature 100°C

FLOAT SPECIFICATIONS

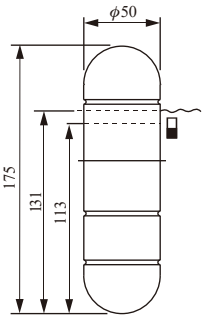
Water Immersion location.
The Magnet location.



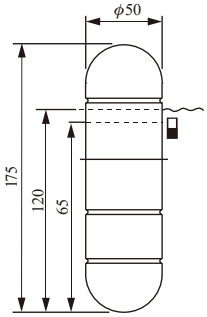
Code: M1/L1



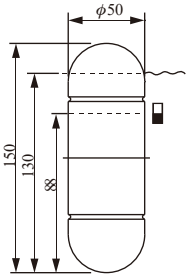
Code: M9



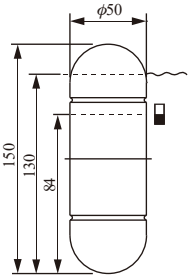
Code: M2/L2



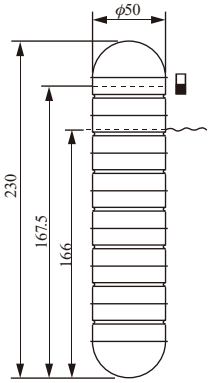
Code: M8



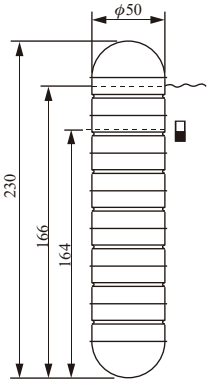
Code: M3/L3



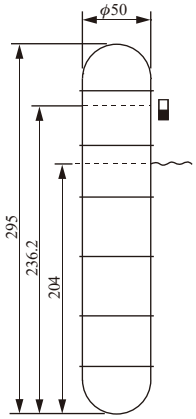
Code: M7



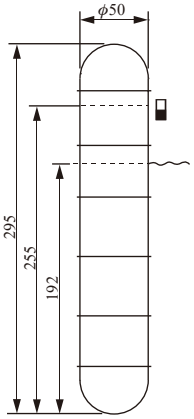
Code: M6/L6



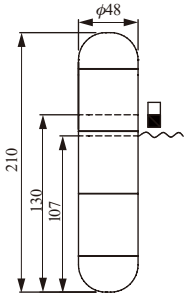
Code: MA



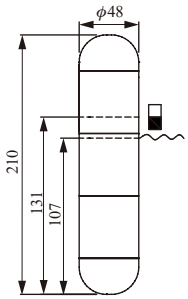
Code: M4/L4



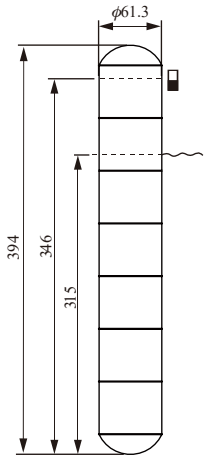
Code: MB



Code: T2



Code: 4



Code: U1

FLAG DISPLAY

Model No. EFB-0750

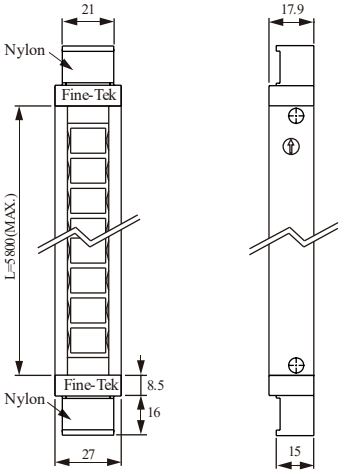
1. Housing material: SUS 304
2. Flag Material: Engineering plastic
3. Flag Color : Red / White; Green / White
4. Cover Material : Engineering plastics
5. Operation Temp. : -20~140°C
6. Standard Unit : 50mm

Model No. EFB-0700

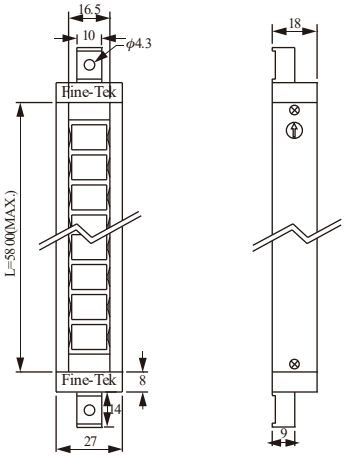
1. Housing material: SUS 304
2. Flag Material: Engineering plastic
3. Flag Color : Red / White; Green / White
4. Cover Material : Engineering plastics
5. Operation Temp. : -20~200°C
6. Standard Unit: 50mm

Model No. EFB-0740

1. Housing material: SUS 304
2. Flag Material: Ceramic
3. Flag Color: Red / White; Green / White
4. Cover Material: Glass
5. Operation Temp. : -20~350°C
6. Standard Unit : 50mm



EFB-0750

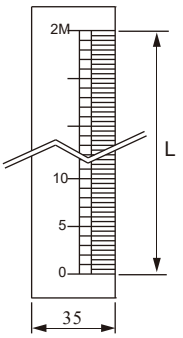


EFB-0700
EFB-0740

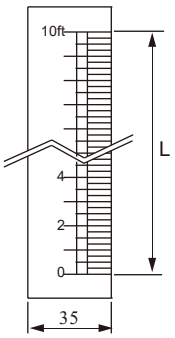
RULER

Model No. EFA-2111 (unit: cm L Type)
Model No. EFA-2120 (unit: inch)

1. Dimension: 35(W)x1.5(T)xL
2. Material : SUS 304
3. Color: Black word
4. Operation Temp. : -20~350°C
5. Length: 5.8M (228")



EFA-2111

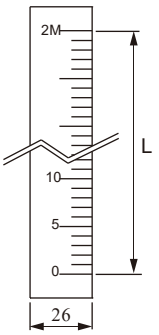


EFA-2120

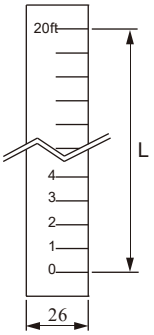
Model No. EFA-2130-cm (unit: cm)
Model No. EFA-2140-in (unit: inch)

1. Dimension: 26(W)x3(T)xL
2. Material: Plastic
3. Color: Red word
4. Operation Temp. : -20~80°C
5. Length: 5.8M (228")

* Custom-made scale is available.



EFA-2130-cm

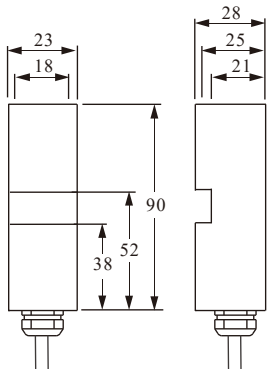


EFA-2140-in

MAGNETIC SWITCH

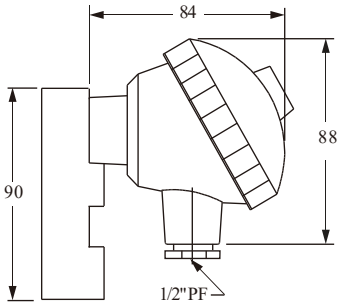
[ECONOMY TYPE]
Model No. EFB-1220/1230

1. Contact Element : Reed Switch
2. Switch Form : EFB-1220, SPDT Hold type
   EFB-1230, SPDT Normal type
3. Contact Capacity : 1A /30W / 200Vdc /240Vac
4. Housing Material : Aluminum
5. Operation Temp. : -20~200°C
6. Protection : IP67
7. Cable Length : 1M (Silicon Cable)
8. Color code of wires : Black- COM; brown-NC; blue-NO
   Yellow /green-GND



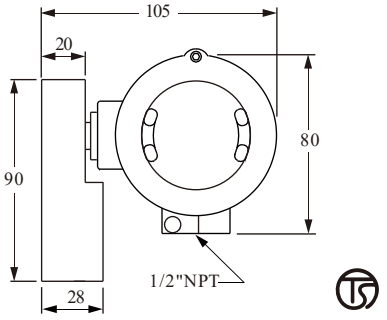
[STANDARD TYPE]
Model No. EFB-1250/1260

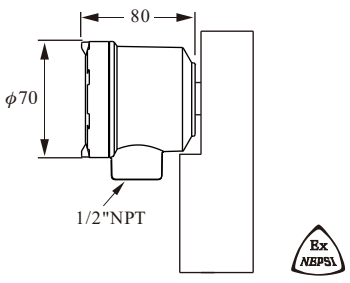
1. Contact Element : Reed switch
2. Switch Form : EFB-1250, SPDT Hold type
   EFB-1260, SPDT Normal type
3. Contact Capacity : 1A /30W / 200Vdc /240Vac
4. Housing Material : Aluminum
5. Operation Temp. : -20~150°C(max. 250°C)
6. Protection : IP65



[ENCLOSURE EXPLOSION-PROOF TYPE]
Model No. EFB-1300/1310

1. Contact Element : Reed switch
2. Switch Form : EFB-1300, SPDT Hold type
   EFB-1310, SPDT Normal type
3. Contact Rating : 1A /30W / 200Vdc /240Vac
4. Housing Material : Aluminum(TS);SUS316(Nepsi)
5. Operation Temp. : -20~85°C (max. 250°C)
6. Protection : IP65
7. Certification : Ex d IIC T3~T6 Gb
8. Explosion-proof cable conduit is optional.



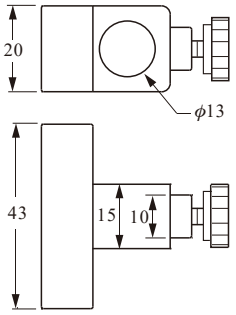


MAGNETIC SWITCH

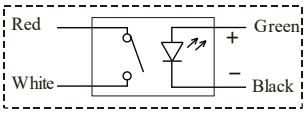
[ADJUSTABLE TYPE]

Model No. EFB-14□□

1. Contact Element : Reed Switch
2. Switch Form : EFB-1400, SPST NO Hold type
   EFB-1410, SPST NO Normal type
   EFB-1420, SPDT Hold type
   EFB-1430, SPDT Normal type
   EFB-1440, SPST NO Hold type (side lead wire)
   EFB-1450, SPST NO Hold type (LED display)
3. Contact Rating : 1A /30W / 200Vdc /240Vac
4. LED Power : 24Vdc K20%(for EFB-1450)
5. Housing Material : PP
6. Operation Temp. : 20~140°C
7. Protection : IP67
8. Cable Length : 2M (PVC Cable)
9. Contact wiring :
   Red: COM, While : NO (EFB-1400/ 1410/ 1440 / 1450)
   Black: COM, Red : NC, White: NO (EFB-1420 / 1430)



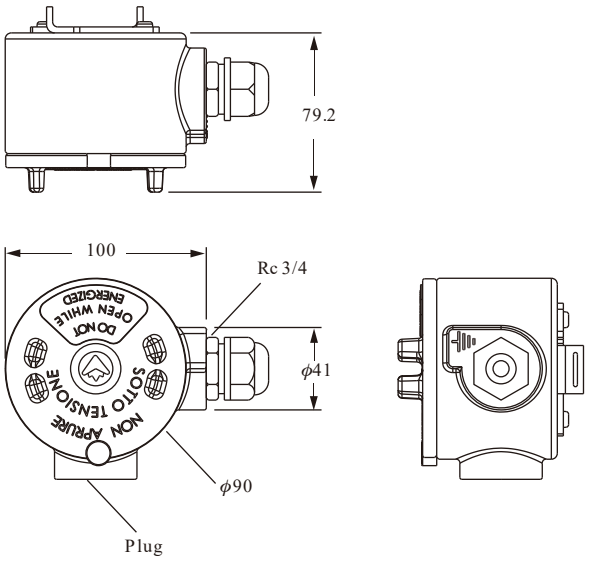
EFB-1450 Wiring



[HIGH CONTACT RATING TYPE]

Model No. EFB-1800

1. Contact Element : Micro switch
2. Switch Form : DPDT Hold type
3. Contact Rating : 5A 250VAC ; 5A 30VDC
4. Housing Material : Aluminum
5. Process temp. : -20~350°C
6. Protection : IP67
7. Conduit : Rc 3/4
8. Explosion-proof cable conduit (optional).

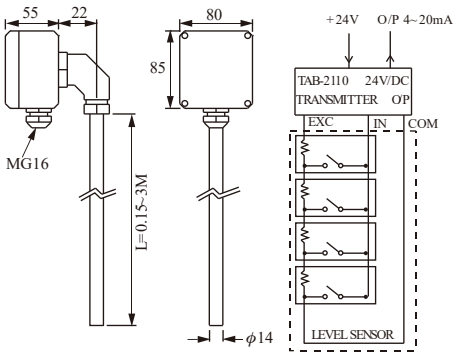


LEVEL TRANSDUCER

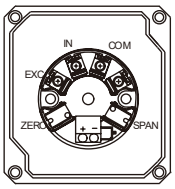
TYPE: FGX100□□-A6G000000□□□□□0000□00□□□□

1. Housing material : PC(IP65) 85(W)x80(H)x55(D)
2. Tube : ϕ14mm /ϕ17.2 (length over 3M)
   SUS 304 or SUS 316
3. Resolution : 6.35mm、12.7mm
4. Output : 4~20mA two-wire
5. Power : 12~36Vdc
6. Measuring Range : 0.15~3M / 3~5.8M (ϕ17.2)
7. Ambient Temp. : -10~80°C

※ The resolution of FG is 12.7mm, is restricted to use float temperature 100°C



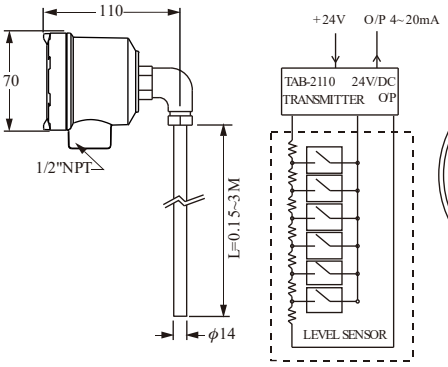
Terminal Arrangement

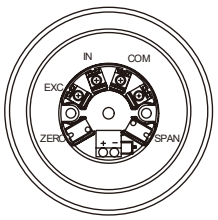


TYPE: FGX100□□-A6N000000□□□□□0000□00□□□□

1. Housing material : SUS316
   Ex d IIB T3 or T4 or T5 or T6 Gb
2. Tube : ϕ14mm /ϕ17.2 (length over 3M)
   SUS 304 or SUS 316
3. Resolution : 6.35mm、12.7mm
4. Output : 4~20mA two-wire
5. Power : 12~24Vdc
6. Measuring Range : 0.15~3M / 3~5.8M (ϕ17.2)
7. Ambient Temp. : -10~80°C
8. Explosion-proof cable conduit is optional.

※ The resolution of FG is 12.7mm, is restricted to use float temperature 100°C





MODEL NUMBER / ORDER CODE COMPARISON TABLE

Model Number	Order Code
FG7□NSS4S3□□□□	FGX100□□-A6N000000CMA2B0000B00□□□□
	FGX100□□-A6N000000CMB2B0000B00□□□□
FG7□NSS7S3□□□□	FGX100□□-A6N000000CMA2D0000B00□□□□
	FGX100□□-A6N000000CMB2D0000B00□□□□
FG7□NSS4S3□□□□	FGX100□□-A6N000000EMA2B0000B00□□□□
	FGX100□□-A6N000000EMB2B0000B00□□□□
FG7□NSS7S3□□□□	FGX100□□-A6N000000EMA2D0000B00□□□□
	FGX100□□-A6N000000EBB2D0000B00□□□□

ORDER INFORMATION

FGX100 ⑦⑧ - A6 ⑪ 0 0 0 0 0 0 ⑱ ⑲ ⑳ ㉑ ㉒ 0 0 0 0 B 0 0 ㉚ ㉛ ㉜ ㉝

⑦⑧ Certification

00: PC (IP65)
1C: ATEX-Ex d
5C: TS-Ex d
B0: DNV.GL
C0: ABS
E0: BV
F0: LR
G0: CR

⑪ Terminal Housing

G: PC (IP65)
N: SUS304 or 316

⑱ Resolution

C: 6.35mm
E: 12. 7mm

⑲⑳ Probe material

MA: SUS 304
MB: SUS 316

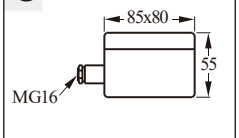
㉑㉒ Probe diameter

2B: ϕ14.0mm
2D: ϕ17.2mm(More than 3 meters long)

㉚㉛㉜㉝ Length(C-C)

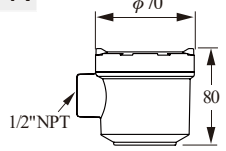
Code	Probe Length
0150~5800	150mm~5800mm

G



Material: PC
Protection: IP65

N

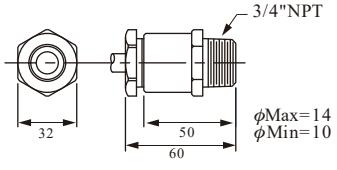


Material: SUS304 or 316
Protection: IP65

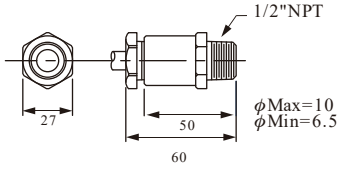
ACCESSORIES

Cable Conduit — Ex d IIC
Material: Washer — NBR
Body— Copper alloy(3/4"NPT)
Nickel plated(1/2"NPT)

HP415-A23100MH01(29-1104)



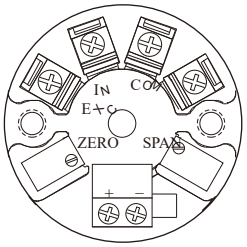
HP415-A23000MG01(29-1108)



TRANSDUCER & TRANSDUCER WIRING DIAGRAMS

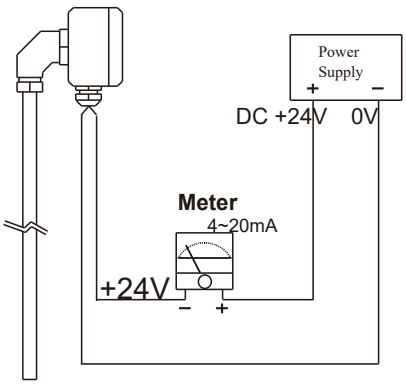
Model No.: TAB-2110 Transducer

1. Power Supplyr : 12~36Vdc
2. Output Current : Loop power 4~20mA
3. Load Resistance : RL(Max)=50(Vs-8)
4. Operation Temperature : -40~80 °C
5. Ambient Humidity : 0~80 RH
6. Accuracy : ±0.1%(25°C)
7. Temperature Effect : 0.01%F.S./°C
8. Adjustment Range : Span Ajustment 20% FS
   Zero Ajustment 5% FS

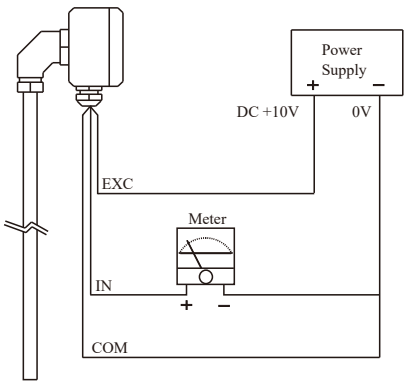


TRANSDUCER WIRING DIAGRAMS

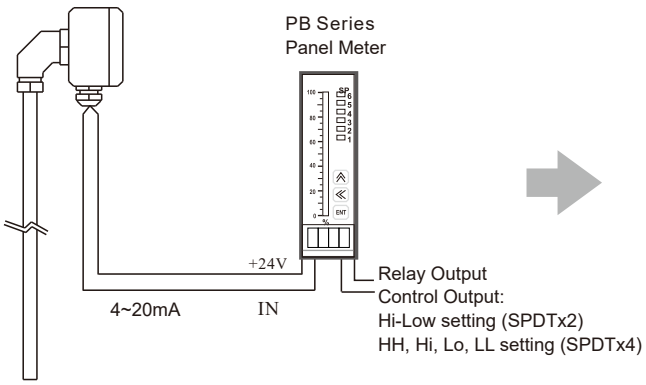
▶ 2-wire level transducer (resistance output) connected with analog meter for level monitoring.

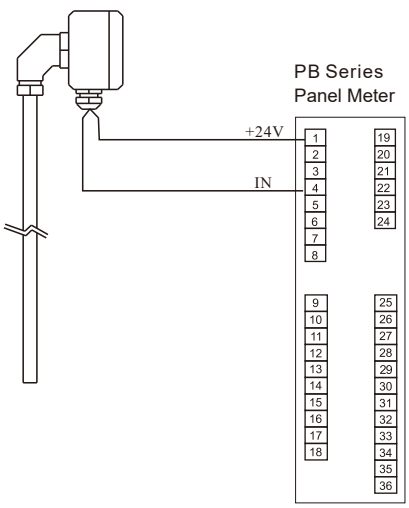


▶ 3-wire level transducer (4~20mA output) connected with 4~20mA analog meter for level monitoring.



▶ 2-wire level transducer (4~20mA output) connected with digital meter (PB-Series) for level control.



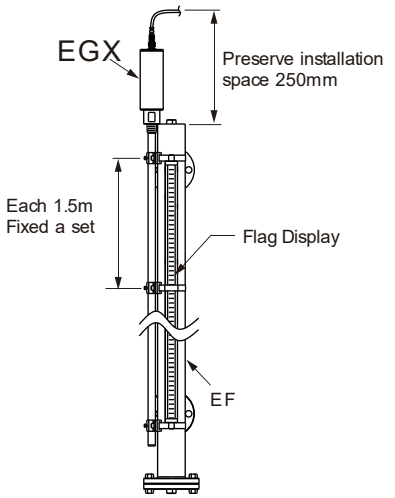


MAGNETOSTRICTIVE LEVEL TRANSMITTER / MODEL NUMBER / ORDER CODE COMPARISON TABLE

TYPE: EFX+EGX

1. Material : SUA304
2. Non-Linearity : ±0.05% F.S or ±1.0mm(whichever is greater)
3. Repeatability : ±0.01% F.S or ±0.5mm(whichever is greater)
4. Operation Temp. : -30°C~200°C
5. Output : 4~20mA
6. Communication : RS-485
7. Loop power : +24Vdc±10%
8. Protection : IP67

※ Double flanges type cannot be installed.



Model Number	Order Code
EG371 Ex-proof Standard Model	EGX1001B-A1
EG37A Ex-proof High Temp. Model	EGX1021B-A1
EG36 Display Model	EGX3001B-A1
EG36 Display High Temperature Model	EGX3021B-A1
EG60	EGX6□□□□-□□

※If the model number wasn't showed on above list, kindly refer to the catalogue of EG Magnetostrictive Level Transmitter.

ORDER INFORMATION (EG36、EG37)

④④ Version

1: 132mm (EG37)
3: Display type (EG36)

⑤⑤⑥⑥ Model

00: Standard
02: Hi-temperature

⑦⑦⑧⑧ Certification

00: None
1B: ATEX-Ex ia
7B: NEPSI-Ex ia

⑰⑰⑱⑱ Probe diameter

2A: ϕ12.7mm
2C: ϕ16.0mm

⑲⑲⑳⑳ Probe material

MA: SUS 304
MB: SUS 316

㉕㉕ Analog output

0: None
A: 4~20mA
B: 20~4mA

㉖㉖ Digital output

0: None
B: RS-485
E: HART

※ When RS-485 is applied, loop power only as power supply function, coding 25 has to be “0”.

㉗㉗ Housing

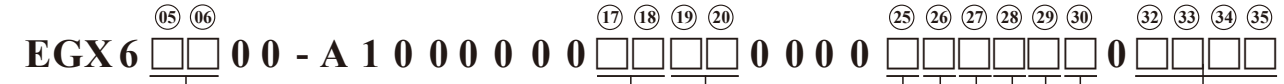
A: Top conduit
B: Side conduit

㉚㉚㉛㉛㉜㉜㉝㉝ Length

Code	Probe Length
0150~1500	150mm~1500mm

※ EFX By-pass level transmitter, Dual-flanges, Blanket and Jacket type are not available for EG Magnetostrictive Level Transmitter.
※ EG transmitter fastener code number: EGB-0500(EFXBMIP-MAF0000002)
※ The EG36、37 being paired with EFX product where its measurement length and order code is limited under 1500mm.

ORDER INFORMATION (EG60)



⑤⑥ Model

00: Standard
02: Hi-temperature

⑰⑱ Probe diameter

2A: ϕ12.7mm
2D: ϕ17.2mm

⑲⑳ Probe material

MA: SUS 304
MB: SUS 316

㉕ Input

A: 2 wire
B: 4 wire

㉖ Analog output

0: None
A: 4~20mA
B: 20~4mA

㉗ Digital output

0: None
B: RS-485
E: HART

㉘ Housing

A: Top conduit
B: Side conduit

㉙ Response time

A: 16Hz
C: 250Hz

㉚ Linearity

3: 0.02% F.S
7: 0.05% F.S
8: 0.1% F.S

V : 0.1mm
W: 0.2mm
X : 0.5mm
Y : 1mm

※ Only "7", "Y" can be selected for 2 wire type.
※ All can be selected except "Y" for 4 wire type.
※ Refer specification descriptions for more details of options.

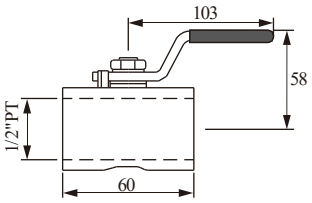
㉜㉝㉞㉟ Length

Code	Probe Length
0150~1500	150mm~1500mm

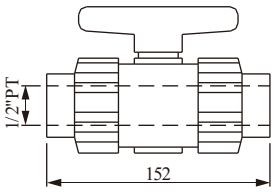
※ EFX By-pass level transmitter, Dual-flanges, Blanket and Jacket type are not available for EG Magnetostrictive Level Transmitter.
※ EG transmitter fastener code number: EGB-0500(EFXBMIP-MAF0000002)
※ The EG60 being paired with EFX product where its measurement length and order code is limited under 1500mm.

BALL VALVE

Metal Thread Type

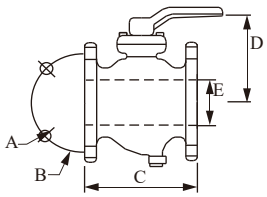


Plastic Thread Type



1	Body Material	SUS316	PP	PVDF
2	Working Temp.	150°C	80°C	120°C
3	Connection	1/2"PT	1/2"PT	
4	Working Pres.	20kg/cm^2	5kg/cm^2	

Metal Flange Type

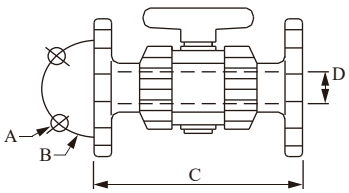


Dimensions

SIZE / CODE	3/4"	1"
A, B	ACCORDING TO JIS 10K	
C	120	130
D	90	90
E	21.8	25

1	Body Material	SUS304
2	Working Temp.	150°C
3	Connection	3/4" JIS 10K 1" JIS 10K
4	Working Pres.	10kg/cm^2

Plastic Flange Type



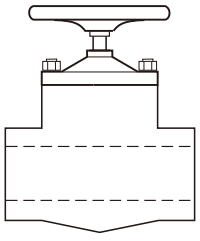
Dimensions

SIZE / CODE	3/4"	1"
A, B	ACCORDING TO JIS 10K	
C	172	187
D	18	23

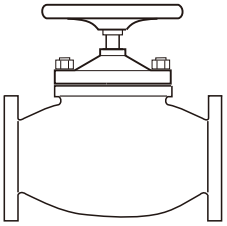
1	Body Material	PP	PVDF
2	Working Temp.	80°C	120°C
3	Connection	3/4" JIS 10K 1" JIS 10K	
4	Working Pres.	5kg/cm^2	

Bellows Sealed Valve

Thread Type

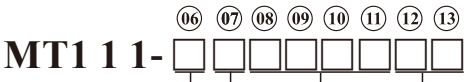


Flanges Type



	Project	Thread	Flang
1	Body Material	SUS316	SUS316
2	Working Temp.	350°C	350°C
3	Connection	3/4"PT 1"PT	DN15 PN16 DN20 PN16
4	Working Pres.	25kg/cm^2	25kg/cm^2

ORDER INFORMATION



⑥ Model

B: Ball Valve
4: Bellows Sealed Valve

⑦ Connection type

1: Thread Type
4: flanges Type

Connection

⑧⑨	⑩⑪	
	flanges	Thread
A5: 1/2"	40: 5kg/cm^2	01: PT male
A7: 3/4"	42: 10kg/cm^2	02: PT female
A8: 1"	48: 150Lbs	03: PF male
A9: 1-1/4"	49: 300Lbs	04: PF female
B1: 1-1/2"	57: PN 10	05: BSP male
D6: DN15	58: PN 16	06: BSP female
D7: DN20		07: NPT male
D8: DN25		08: NPT female
D9: DN32		
E1: DN40		

⑫⑬ Connection material

18: PP
24: PVDF
MA: SUS304
MB: SUS316
MC: SUS316L
ME: Carbon steel

OPTIONS

As shown below the optional accessories can be installed on to a By-Pass Level Indicator to monitor and control the level of the liquid.

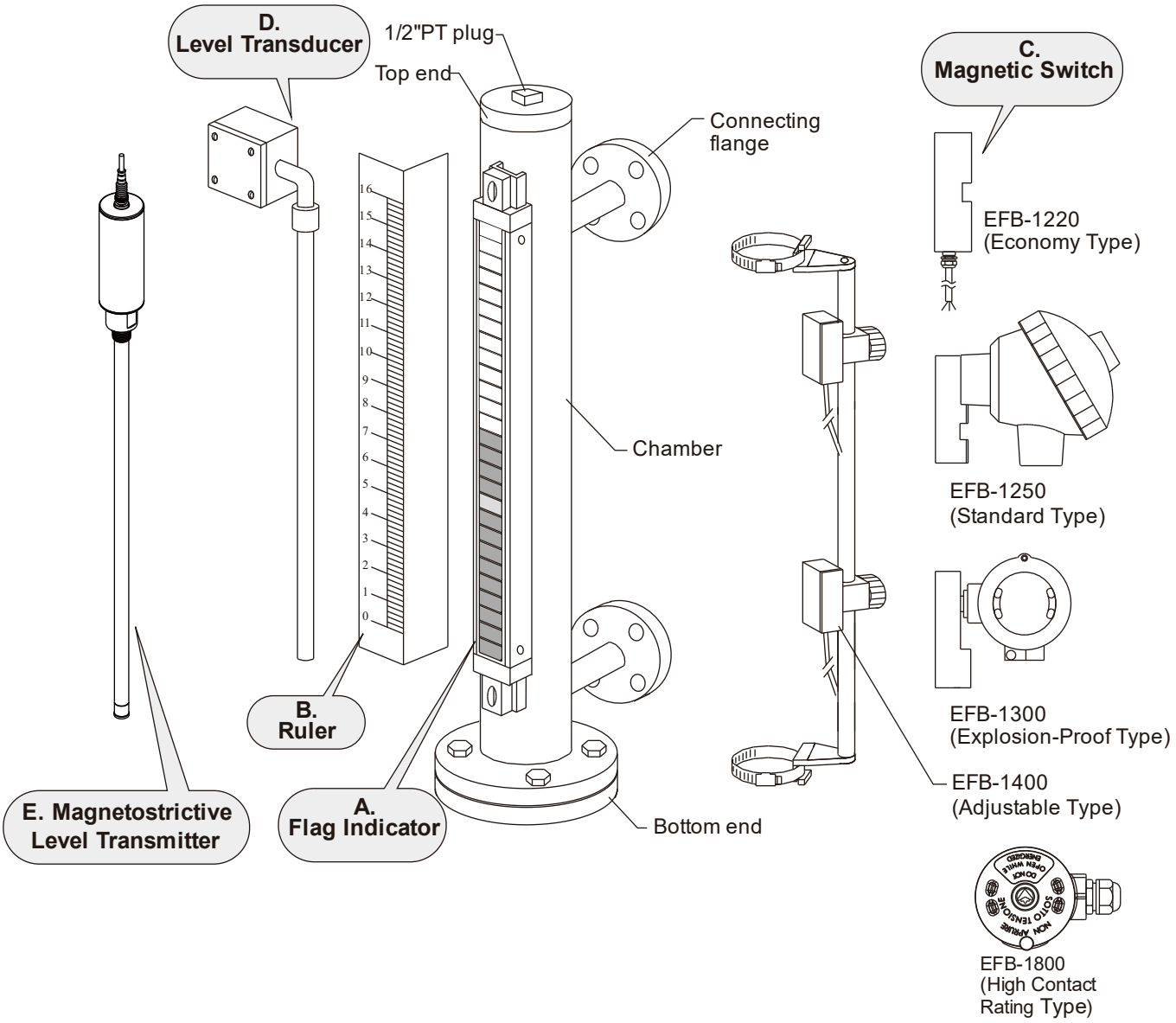
A. Flag Indicator
1) Economy Type : EFB-0750 series
2) Standard Type : EFB-0700 series
3) High Temp. Type : EFB-0740/0770 series

B. Ruler
1) Stainless ruler (metric) : EFA-2110/2111(L Type)
2) Stainless ruler (imperial) : EFA-2120
3) Plastic ruler (metric) : EFA-2130
4) Plastic ruler (imperial) : EFA-2140

C. Magnetic Switch (see page 15)
1) Economy Type : EFB-1220 series
2) Standard Type : EFB-1250 series
3) Explosion-proof Type : EFB-1300 series
4) Adjustable Type : EFB-1400 series

D. Level Transducer
1) 3-wire standard
2) 2-wire standard
3) 3-wire explosion proof
4) 2-wire explosion proof
5) 2-wire reversible

E. Magnetostrictive Level Sensor
1) 2-Wire



TYPICAL ASSEMBLY

1. (Fig.1) By-pass Level indicator with the standard magnetic switches (Aluminum Alloy) and liquid level transmitter. With the housing protection IP65, it is suitable for outdoor or moist environment.
2. (Fig.2) By-pass Level Indicator with explosion-proof magnetic switches. With its housing protection Ex d IIC T3~T6 Gb, it is applicable for hazardous environments .
3. (Fig.3) By-pass Level Indicator with adjustable magnetic switches and SUS304 ruler. It can be assembled with upward /downward movable multiple magnetic switches on a riding rod.
4. (Fig.4) By-pass Level Indicator with high contact rating (5A 250Vac, 5A 30Vdc) magnetic switch.

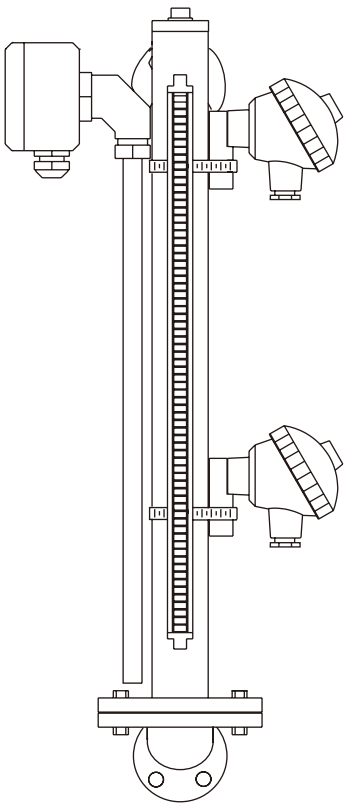


Fig. 1

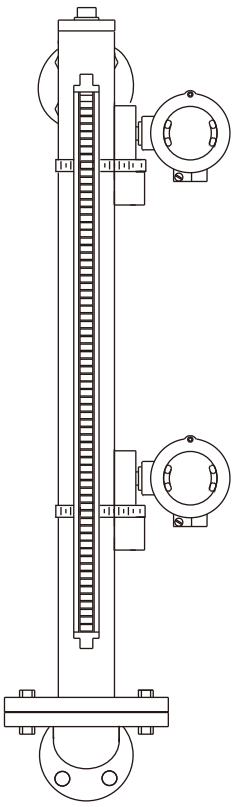


Fig. 2

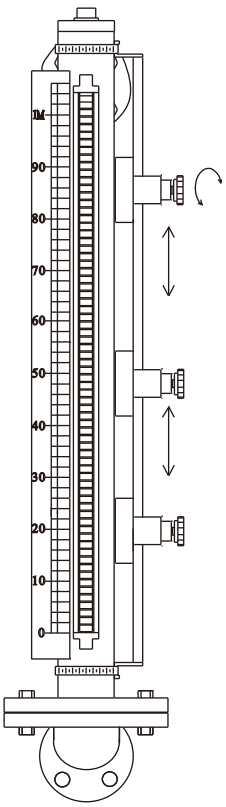


Fig. 3

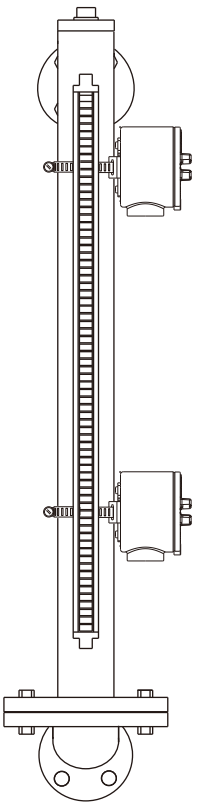


Fig. 4

CAUTIONS FOR INSTALLATION

1. The adjustable magnetic switch (EFB-14□□ series) is placed on a riding rod, then fasten the riding rod to the chamber with two hose clamps. (see page 24 - Fig.3)
2. The magnetic switch (EFB-1299 ,EFB-1399 & EFB-1800) is to be fastened on the chamber with a hose clamp. (see F ig.5 and page 24 - Fig.1, Fig.2, Fig.3, Fig.4) Positioning orientation of magnetic switches.
3. Because the magnetic switch is a sensitive component, thus any extreme shock to the switch will cause malfunction.
4. Make sure there is no external magnetic field or source within 10 centimeters of the switch to avoid magnetic interference.
5. Make sure the wire of the magnetic switch is pointing downward.
6. Do not contact any high temperature material with unit's cables while wiring.
7. When using magnetic switch to control inductive or capacitive load, a RC protective circuit should be used to ensure long life of the switch contact.
8. The magnetic switch must be located near the flag display and the surface of it is as close to the outer chamber wall as possible.(Fig. 6)
9. Before actuating, be sure all wirings are done correctly.
10. See Fig.5 for the installation direction of mounting holes
11. C-C length (plastic type >1.5m; metal type >3.5m), fix support is recommended. The distance between fix support/ flanges shall be within 1 m (plastic type); 2.5 m (metal type). It depands on the application to have different fix support, FineTek provide customized service as fig. 8 showed.
12. Dust-proof plug on the flanges should be removed before installation, as Fig. 8 showed.

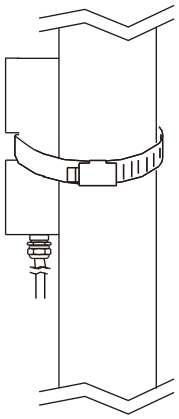


Fig. 5

Position Orientation Of Magnetic Switches

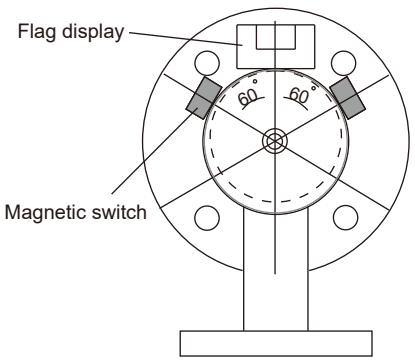


Fig. 6

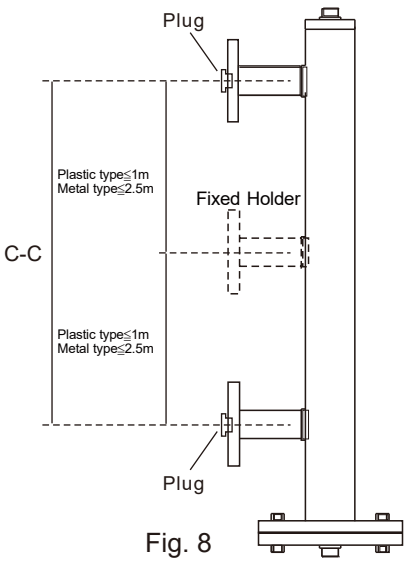


Fig. 8

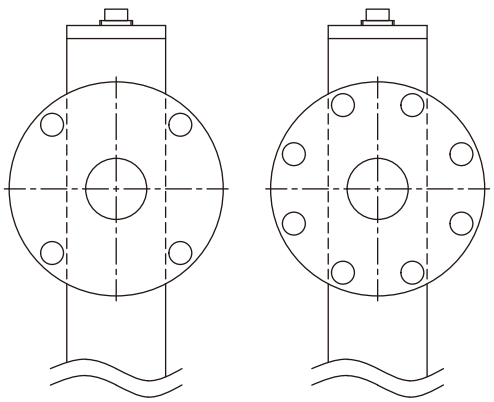
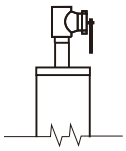
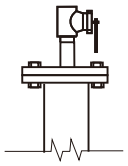
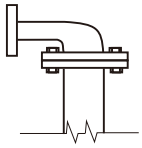


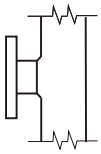
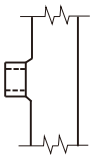
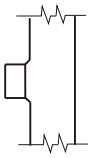
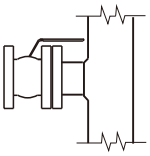
Fig. 7

ORDER INFORMATION

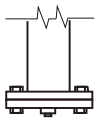
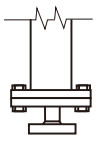
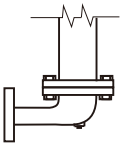
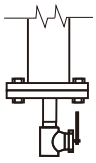
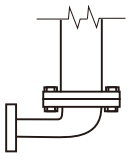
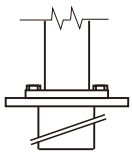
Top End Type

A Cap	B Flat top +Plug	C Dual flanges +Plug	D Flat top +Top mounting flange
			
E Dual flanges +Top mounting flange	F Flat top +Control valve	G Dual flanges +Control valve	N Dual flanges +Angle pipe
			

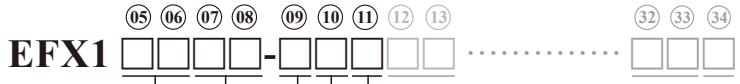
Connection

1 flange	2 Screw (bolt type)	3 Screw (nut type)	4 Slip pipe	5 N/A	7 Control valve
					

Bottom End Type

C Dual flanges+Plug	E Dual flanges +Bottom mounting flange	M Dual flanges +Angle pipe+Plug	G Dual flanges +Control valve
			
N Dual flanges +Angle pipe	R Dual flanges +Still Well pipe		
			

ORDER INFORMATION



⑤⑥ Model

00: Standard type (<140°C)
01: Plastic standard type
02: High temperature type (200°C)
05: High pressure type (31~60kg/cm²)
06: High pressure type-1 (61~100kg/cm²)
08: High temperature type-1 (350°C)
A1: Antiseptic type
A2: Blanket type
A3: Jacket type
A4: Heating type
25: High temperature & Pressure(350°C, 31~60kg/cm²)

(Next page)

⑦⑧ Certificate

00: None
B0: DNV.GL
C0: ABS
E0: BV
F0: LR
G0: CR

⑨ Top end model

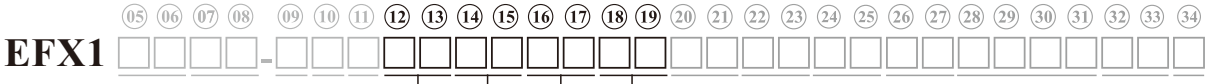
A: Cap
B: Flat top+plug
C: Dual flanges+plug
D: Flat top+Top mounting flange
E: Dual flanges+Top mounting flange
F: Flat top+Control valve
G: Dual flanges+Control valve
N: Dual flanges+Angle pipe

⑩ Connection(C-C)

1: Flange
2: Screw (bolt type)
3: Screw (nut type)
4: Slip pipe
5: N/A
6: Flange flexible
7: Control valve

⑪ Bottom end model

C: Dual flanges+Plug
E: Dual flanges+Bottom mounting flange
G: Dual flanges+Control valve
M: Dual flanges+Angle pipe+Plug
N: Dual flanges+Angle pipe
R: Dual flanges+Still well pipe



⑫⑬ Connection standard(C-C)

00: None flanges	Thread
AK: JIS-FF	AA: JIS
AN: ANSI-RF	AB: ISO
AS: DIN-FF	AC: ANSI
AL: JIS-WNRF	
AP: ANSI-WNRF	
AT: DIN-WNRF	

(Next page)

⑭⑮ Connection size (C-C)

00: None	D6: DN15
A5: 1/2"	D7: DN20
A7: 3/4"	D8: DN25
A8: 1"	D9: DN32
A9: 1-1/4"	E1: DN40
B1: 1-1/2"	

⑯⑰ Connection type(C-C)

00: None flanges	Thread
40: 5kg/cm^2	01: PT Male
42: 10kg/cm2	02: PT Female
48: 150Lbs	03: PF Male
49: 300Lbs	04: PF Female
51: 600Lbs	05: BSP Male
57: PN 10	06: BSP Female
58: PN 16	07: NPT Male
59: PN 25	08: NPT Female
60: PN 40	
61: PN 64	

⑱⑲ Connection size(Top)

00: None	D6: DN15
A5: 1/2"	D7: DN20
A7: 3/4"	D8: DN25
A8: 1"	D9: DN32
A9: 1-1/4"	E1: DN40
B1: 1-1/2"	

⑳㉑ Connection type(Top)

00: None flanges
40: 5kg/cm²
42: 10kg/cm²
48: 150Lbs
49: 300Lbs
57: PN 10
58: PN 16

Thread
01: PT Male
02: PT Female
03: PF Male
04: PF Female
05: BSP Male
06: BSP Female
07: NPT Male
08: NPT Female

(Next page)

㉒㉓ Connection size(bottom)

00: None
A5: 1/2"
A7: 3/4"
A8: 1"
A9: 1-1/4"
B1: 1-1/2"
D6: DN15
D7: DN20
D8: DN25
D9: DN32
E1: DN40

㉔㉕ Connection type(bottom)

00: None flanges
40: 5kg/cm²
42: 10kg/cm²
48: 150Lbs
49: 300Lbs
57: PN 10
58: PN 16

Thread
01: PT Male
02: PT Female
03: PF Male
04: PF Female
05: BSP Male
06: BSP Female
07: NPT Male
08: NPT Female

㉖㉗ Wetted part material

MA: SUS304
MB: SUS316
MC: SUS316L
18: PP
24: PVDF

EFX1 □□□□-□□□□□□□□□□□□□□□□□□□□□□□□□□□□

㉘㉙㉚㉛ Length(C-C)

Code	Length
0150~3800	150mm~3800mm (Antiseptic)
0150~2000	150mm~2000mm (Tank top)
0150~5800	150mm~5800mm (Metal type)
0150~3800	150mm~3800mm (High pressure)

㉜㉝ Float type

Plastic Float

Code	size(mm)、pressure、Specific gravity	Material
F1	OD51*168、5kg/cm², S.G. 0.75	PVDF
F2	OD51*168、5kg/cm², S.G. 0.83	PVDF
P1	OD49*150、5kg/cm², S.G. 0.7	PP
P2	OD49*150、5kg/cm², S.G. 0.63	PP

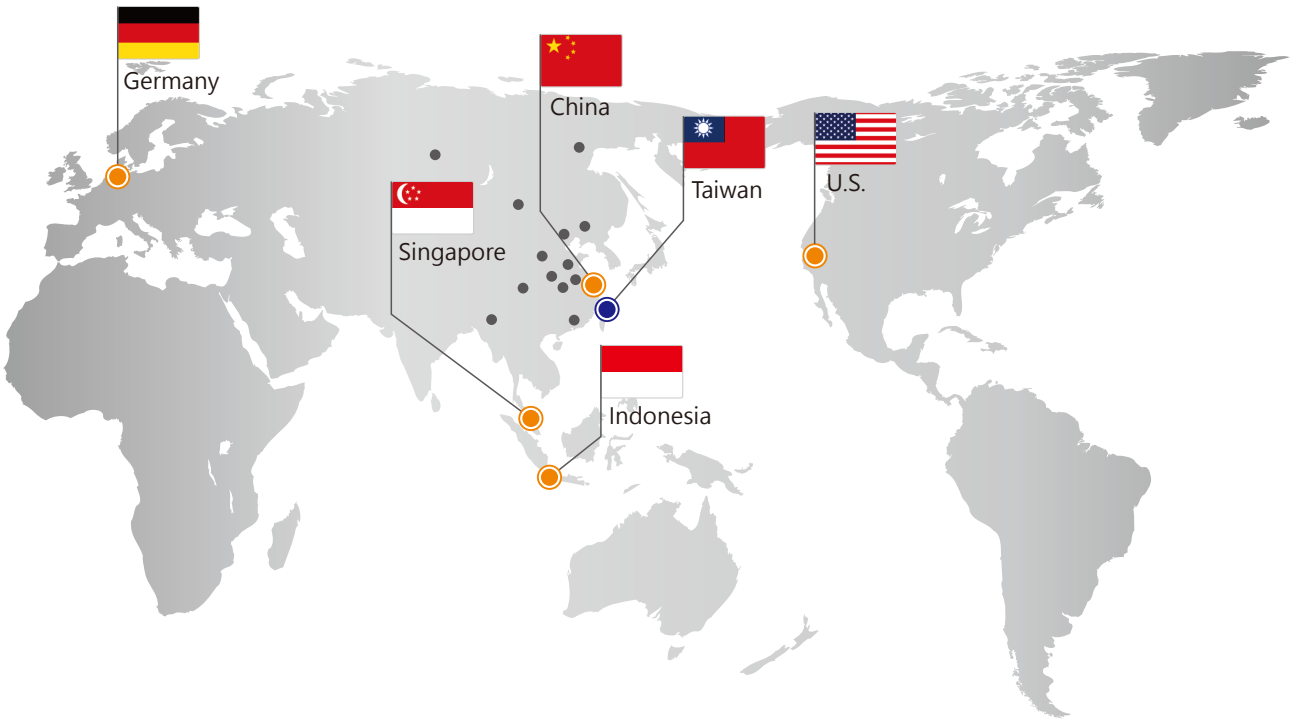
Metal Float

Code	Size(mm)、pressure、Specific gravity	Material
M1	OD50*200, 30kg/cm², S.G. 0.7	SUS316
M2	OD50*175, 30kg/cm², S.G. 0.75	
M3	OD50*150, 40kg/cm², S.G. 0.87	
M4	OD50*295, 40kg/cm², S.G. 0.68	
M5	OD50*96, 10kg/cm², (Top mounting)	
M6	OD50*230, 60kg/cm², S.G. 0.72	
M7	OD50*150, 40kg/cm², S.G. 0.85	
M8	OD50*175, 30kg/cm², S.G. 0.75	
M9	OD50*200, 30kg/cm², S.G. 0.67	
MA	OD50*230, 60kg/cm², S.G. 0.72	
MB	OD50*295, 40kg/cm², S.G. 0.65	
MC	OD50*96, 10kg/cm², (Top mounting)	
L1	OD50*200, 30kg/cm², S.G. 0.7	SUS316L
L2	OD50*175, 30kg/cm², S.G. 0.75	
L3	OD50*150, 40kg/cm², S.G. 0.87	
L4	OD50*295, 40kg/cm², S.G. 0.68	
L5	OD50*96, 10kg/cm²、S.G.1.1(Top mounting)	
L6	OD50*230, 60kg/cm², S.G. 0.72	
T2	OD48*210, 20kg/cm², S.G. 0.6	Titanium alloy
T4	OD48*210, 20kg/cm², S.G. 0.58	
U1	OD61.3*394, 110kg/cm², S.G. 0.8	

㉞ Flag Display

A: Flag (Small)(140°C)
B: Flag (Small)(200°C)
C: Flag (Small)(350°C)
0: None

Global Network



Head Quarter

Taiwan
FineTek Co., Ltd. - Taipei Head Quarter
No.16, Tzuchiang St., Tucheng Industrial Park
New Taipei City 236, Taiwan
TEL: 886-2-2269-6789
FAX: 886-2-2268-6682
EMAIL: info@fine-tek.com

North America

California, U.S.
Aplus Finetek Sensor Inc. - US Office
355 S. Lemon Ave, Suite D
Walnut, CA 91789
TEL: 1 909 598 2488
FAX: 1 909 598 3188
EMAIL: info@aplusfine.com

Europe

Germany
FineTek GmbH - Germany Office
Bei den Kämpen 26
21220 Seevetal-Ramelsloh, Germany
TEL: +49-(0)4185-8083-12
FAX: +49-(0)4185-8083-80
EMAIL: info@fine-tek.de

Mütec Instruments GmbH - Germany Office
Bei den Kämpen 26
21220 Seevetal-Ramelsloh, Germany
TEL: +49-(0)4185-8083-0
FAX: +49-(0)4185-8083-80
EMAIL: muetec@muetec.de

Asia

China
Fine automation Co., Ltd. - Shanghai Factory
No.451 DuHui Rd, MinHang District, Shanghai,
China 201109
TEL: 86-21-6490-7260
EMAIL: info.sh@fine-tek.com

Singapore
FineTek Pte Ltd. - Singapore Office
37 Kaki Bukit Place, Level 4 Singapore 416215
TEL: 65-6452-6340
EMAIL: info.sg@fine-tek.com

Indonesia
PT. FineTek Automation Indonesia - Indonesia Office
PERGUDANGAN TUNAS BITUNG
JL. Raya Serang KM. 13,8, Blok C3 No. 12&15,
Bitung Cikupa, Tangerang 15710
TEL: 62 (021)-2958-1688
EMAIL: info.id@fine-tek.com

FineTek

Distributor:

08-EFXCP-112525