

PRINCIPLE

The SE series operating principle is simple. A unit is usually located through a bin wall at the top, middle or low level of a bin. During normal operation (no material present) a synchronous motor rotates the paddle at 1 RPM. When this paddle rotation is impeded by material, surrounding the paddle, motor will stall and cause the Micro-switch to change state. (indicating an alarm or control)

APPLICATIONS

Suitable for powdery producing & processing industries such as plastic, chemical, medical, forage, cement and fertilizer powders.

FEATURES

Airtight sealing device, outdoor application is available.

Unique sealing ring design, it can perform good dust protection to avoid the dust permeate into housing body along with the shaft.

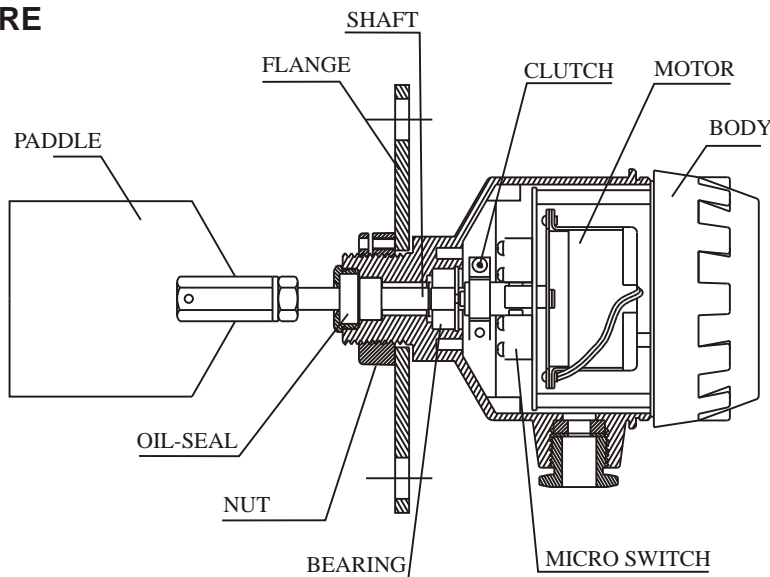
The torque force is adjustable.

The performance of torsion is stable and reliable. If the rotary paddle bears an extra overload, the motor will be appeared slide to prevent the inside mechanism damaged.

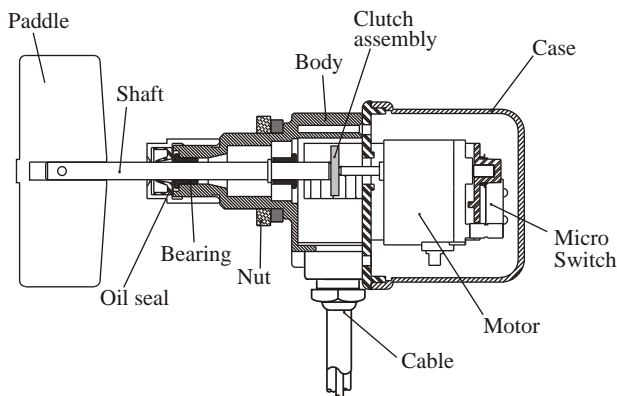
It is rationally designed, the inside mechanisms are easily tore down for checking, maintenance and replacement. It doesn't necessary to remove the complete set from the tank.

Very suitable for small tank and material of low density

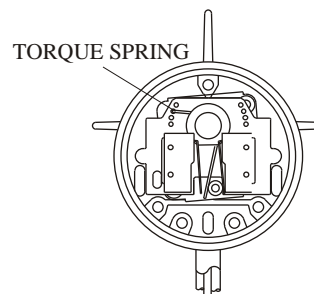
STRUCTURE



STANDARD TYPE



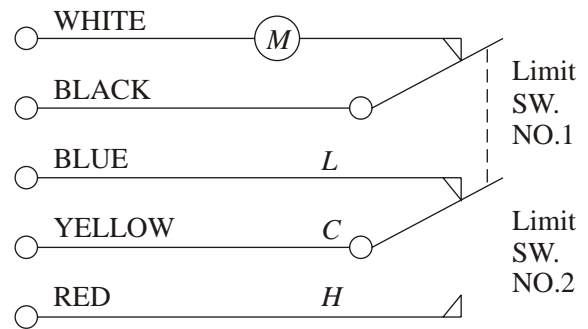
MINI TYPE



WORKING PRINCIPLE & TORQUE ADJUSTING

CONTROL SWITCH DEVICES WORKING PRINCIPLE

1. When the synchronous motor is turning. It means that material isn't touching the paddles, the (C.L) stands for "terminal point connected".
2. When material is touching the paddles, (C.L) stands for "cut-off", (C.H) stands for "connected" the synchronous motor's current is to be cut off.
3. When the material drops away from the paddles, the synchronous motor runs again and the terminal point is connected, (C.L) show that the cycle has begun again.

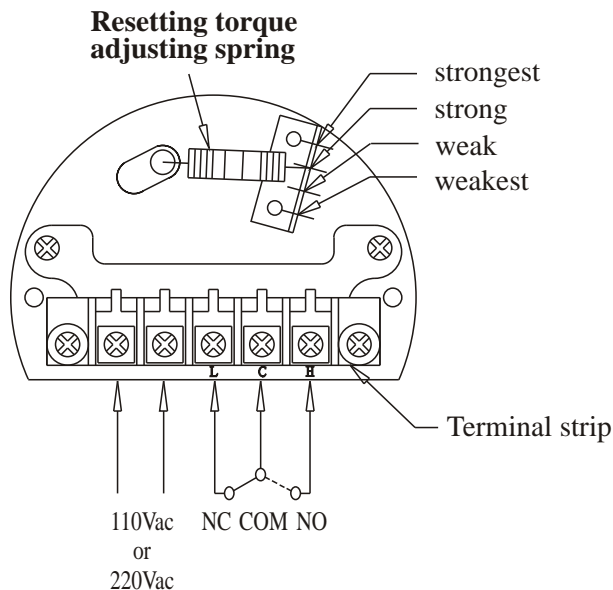


TORQUE ADJUSTING MECHANISM

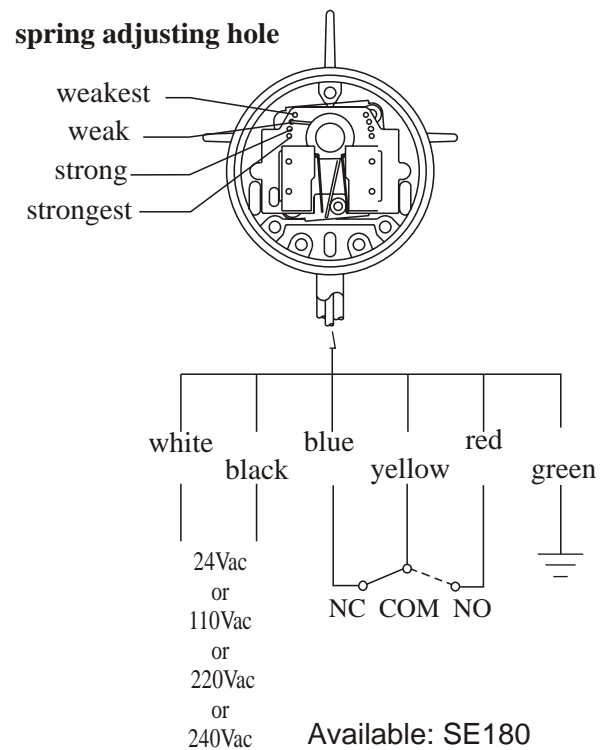
The torque spring is applied to adjust the shaft output torque force, which is set at "weak" position at factory side, it is adjustable as per customer side target measuring material S.G. (special gravity), if the measured material with higher S.G., please try to release it to more

stronger spring force position step until you found the proper orientation. The paddle sensitivity will be interacted by more weaker, otherwise, the low S.G. material will release torque spring to the weakest position, which will cause the paddle performance to be more sensitive.

Do not tamper with the spring as it may cause the Rotary Paddle to be malfunction.



Available: SE110, 120, 130, 140, 160, 170



Available: SE180

STANDARD SPECIFICATION

Power source : A-110Vac, B-220Vac, C-240Vac, 50/60Hz

Power consumption : 3W

Contact capacity : SPDT, 5A/250Vac

Rotary speed : 1 R.P.M.

Insulation test voltage : AC 1500V 1minute

Torque : 0.5 ~1.0 kg-cm

Connect : 1"PF screw or JIS 2-1/2" 5kg/cm² flange

Protection/ material : IP65 / ADC-12

Conduit : 1/2"PF

Specific gravity : 0.5g/cm³ (30Lb/ft³)

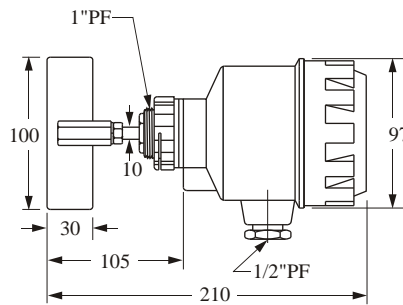
Order No. SE110A/B/C

Model No. RP10A/B/C

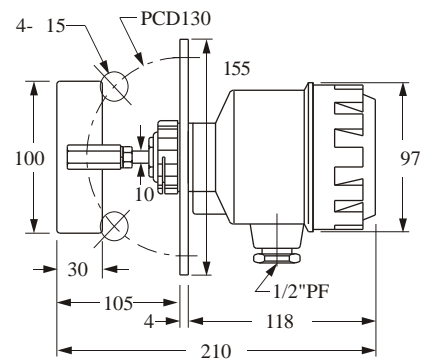
SCREW TYPE

- Horizontal mounting
- Temp. (-10 C ~ 70 C)
- Weight: 1.2 kg

SE110A/B/C



SE111A/B/C



Order No. SE111A/B/C

Model No. RP11A/B/C

FLANGE TYPE

- Horizontal mounting
- Temp. (-10 C ~ 70 C)
- Weight: 1.7 kg

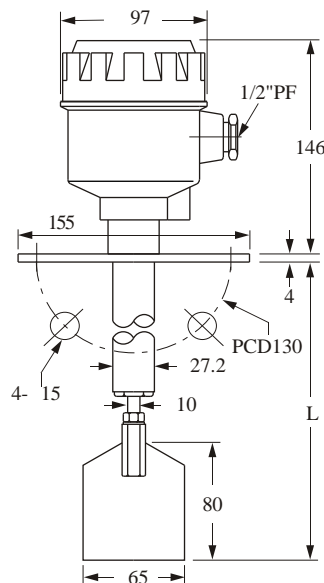
Order No. SE120A/B/C

Model No. RP20A/B/C

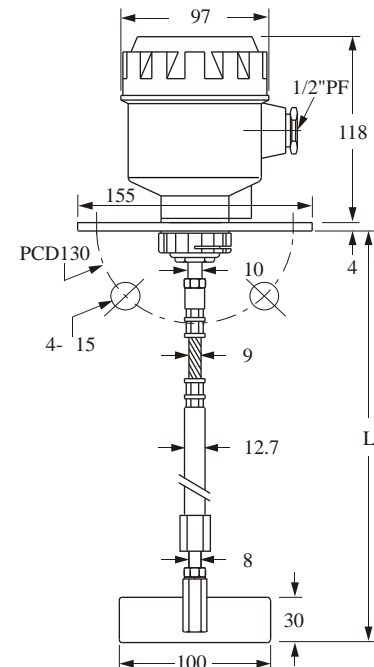
SHAFT PROTECTIVE TUBE TYPE

- Horizontal /Vertical mounting
- Temp. (-10 C ~ 70 C)
- Weight: 1.2 kg
- The whole section from flange to paddle are made of SUS 304
- Standard Length (option):
L--250mm (2.2 kg)
L--500mm (2.5 kg)
L--750mm (2.8 kg)
- Special length is made by order

SE120A/B/C



SE130A/B/C



Order No. SE130A/B/C

Model No. RP30A/B/C

SHAFT LENGTH ADJUSTABLE TYPE

- Vertical mounting
- Temp. (-10 C ~ 70 C)
- Standard Length (option):
L-- 460 ~650mm (2.5 kg)
L-- 660 ~1000mm (2.8 kg)
L-- 760 ~1200mm (3.0 kg)
- Special length is made by order

STANDARD SPECIFICATION

Power source : A-110Vac, B-220VacC, C-240Vac, 50/60Hz

Power consumption : 3W

Contact capacity : SPDT, 5A/250Vac

Rotary speed : 1 R.P.M.

Insulation test voltage : AC 1500V 1minute

Torque : 0.5 ~1.0 kg-cm

Connect : 1"PF screw or JIS 2-1/2" 5kg/cm² flange

Protection/ material : IP65 / ADC-12

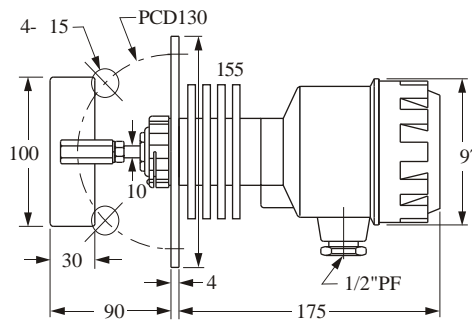
Conduit : 1/2"PF

Specific gravity : 0.5g/cm³ (30Lb/ft³)

Order No. SE140A/B/C
Model No. RP40A/B/C
 HI-TEMP TYPE

- Horizontal mounting
- Temp. (-10 C ~ 200 C)
- Weight: 2.1 kg

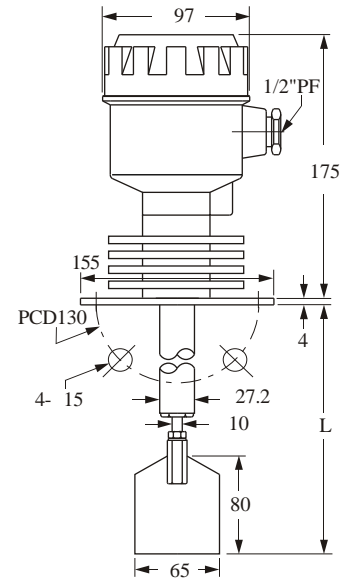
SE140A/B/C



Order No. SE141A/B/C
Model No. RP41A/B/C
 HI-TEMP SHAFT
 PROTECTIVE
 TUBE TYPE

- Horizontal /Vertical mounting
- Temp. (-10 C ~ 200 C)
- The whole section from flange to paddle are made of SUS 304
- Standard Length (option):
 L--250mm (2.6 kg)
 L--500mm (2.9 kg)
 L--750mm (3.2 kg)
- Special length is made by order

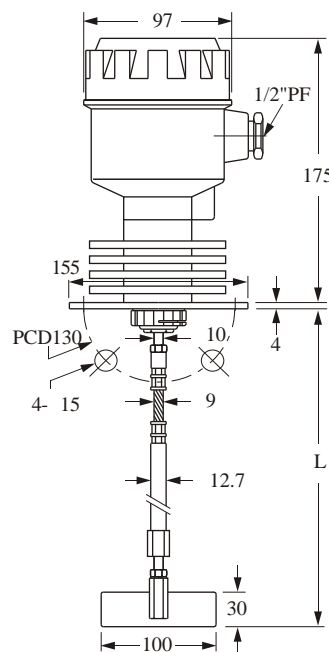
SE141A/B/C



Order No. SE146A/B/C
Model No. RP46A/B/C
 HI-TEMP SHAFT
 LENGTH ADJUSTABLE
 TYPE

- Vertical mounting
- Temp. (-10 C ~ 200 C)
- Standard Length (option):
 L-- 460 ~650mm (3 kg)
 L-- 660 ~1000mm (3.3 kg)
 L-- 760 ~1200mm (3.5 kg)
- Special length is made by order

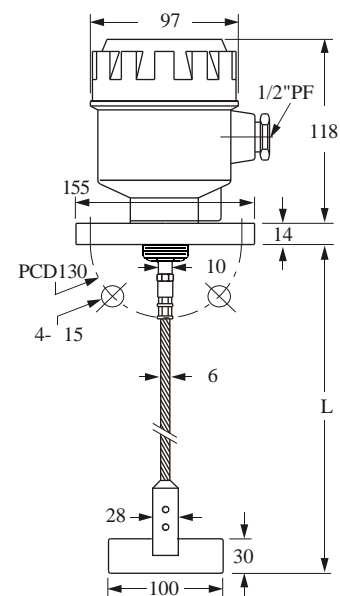
SE146A/B/C



Order No. SE160A/B/C
Model No. RP60A/B/C
 CABLE WIRE TYPE

- Vertical mounting
- Temp. (-10 C ~ 70 C)
- Standard Length (option):
 L-- 450mm (2.5 kg)
 L-- 650mm (2.8 kg)
 L-- 750mm (3 kg)
- Special length is made by order

SE160A/B/C



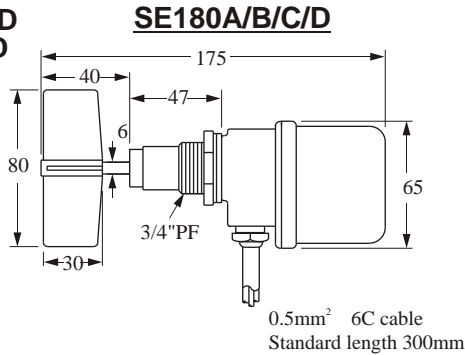
STANDARD SPECIFICATION

Power source : A-110Vac, B-220Vac, C-240Vac, D-24Vac 50/60Hz
Power consumption : 1.5W
Contact capacity : 3A/250Vac
Rotary speed : 1 R.P.M.
Protection/ material : IP65 / PC

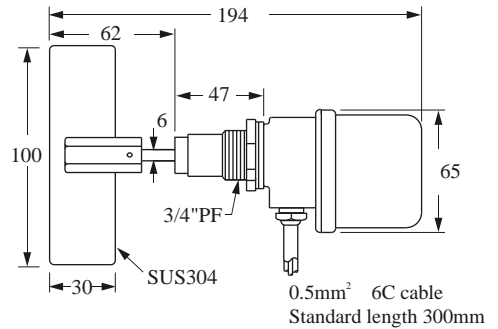
Temp. : -10 C ~ 70 C
Cable length : 30cm (available for custom length)
Torque : 30 ~100 kg-cm
Specific gravity : 0.3g/cm³ (20Lb/ft³)

Order No. SE180A/B/C/D
Model No. RP80A/B/C/D
CROSS-LIKE 4
BLADE PADDLE

- Horizontal mounting
- Weight : 0.42 kg



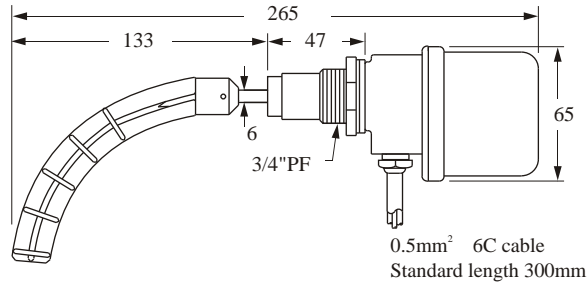
SE180 CRI



Order No. SE180 CRI
Model No. RP80 CRI
RECTANGLE 100
SUS304 PADDLE

- Horizontal mounting
- Weight : 0.48 kg

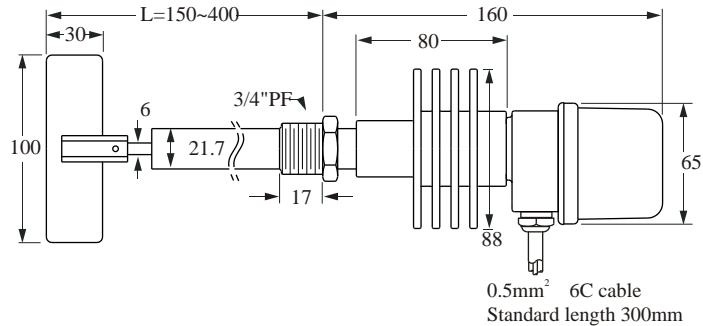
SE180 CRH



Order No. SE180 CRH
Model No. RP80 CRH
SCIMITAR TYPE
PADDLE

- Horizontal mounting
- Weight : 0.42 kg

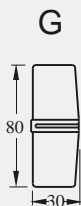
SE184 CRI



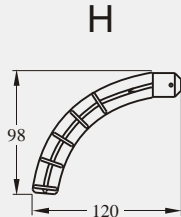
Order No. SE184 CRI
Model No. RP84 CRI
HI-TEMP TYPE
SUS304 PADDLE

- Horizontal / Vertical mounting
- Temp. Max: 200 C

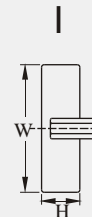
Paddle Introduction (Mini)



(G) Cross type paddle
 material: PC



(H) Scimitar type paddle, directly
 screwed through 3/4" diameter
 fixed hole. Material: PC



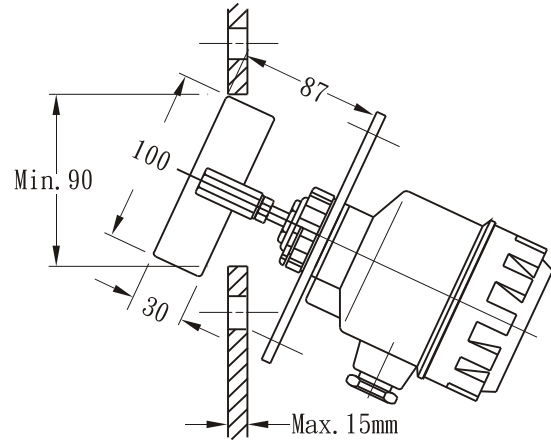
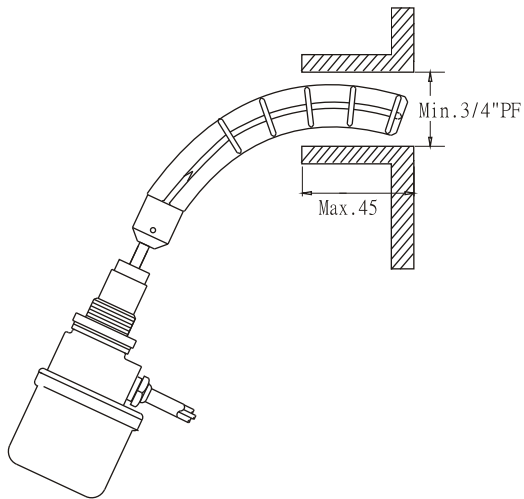
(I) 100x30 (WxH)
 Material: SUS304

EXAMPLES OF MOUNTING

EXAMPLES OF MOUNTING TO TANK

Where the SE110A type paddle cannot be attached to the main shaft from inside the storage tank. The paddle can be set on the main shaft when the distance from the flange face to the tip of paddle is more than 90mm, the relative dimensions being as illustrated right.

The scimitar paddle penetrate through 3/4"PF inlet directly like illustrated drawing, then screw tightly.



INSTALLATION EXAMPLE FOR INJECTION MOLDING MACHINE

Steps to Install the Injection Molding Machine

Injection Molding Machine usually use SE180

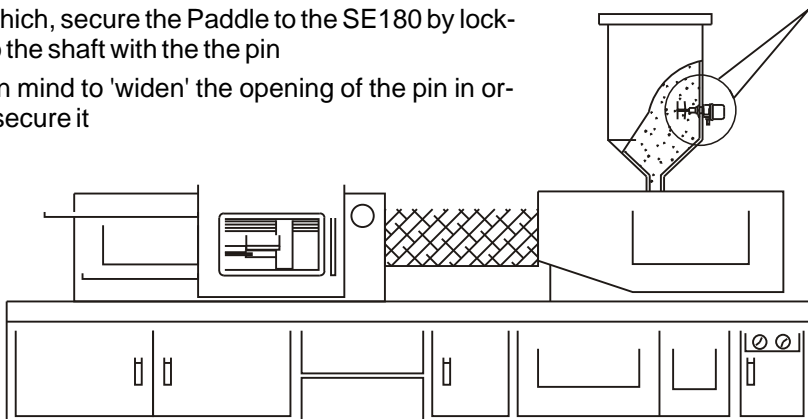
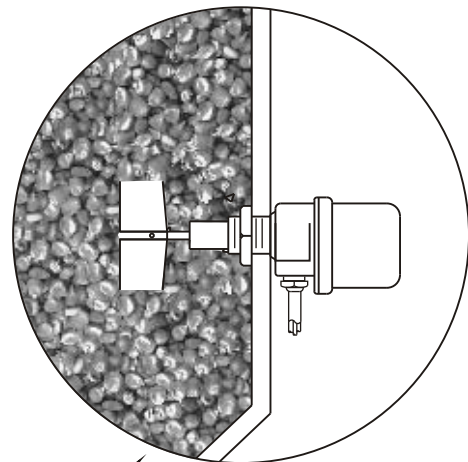
Install the Rotary Paddle through a Dia. 20mm Hole on the Silo

Remove the paddle from the device by taking out the fastening pin

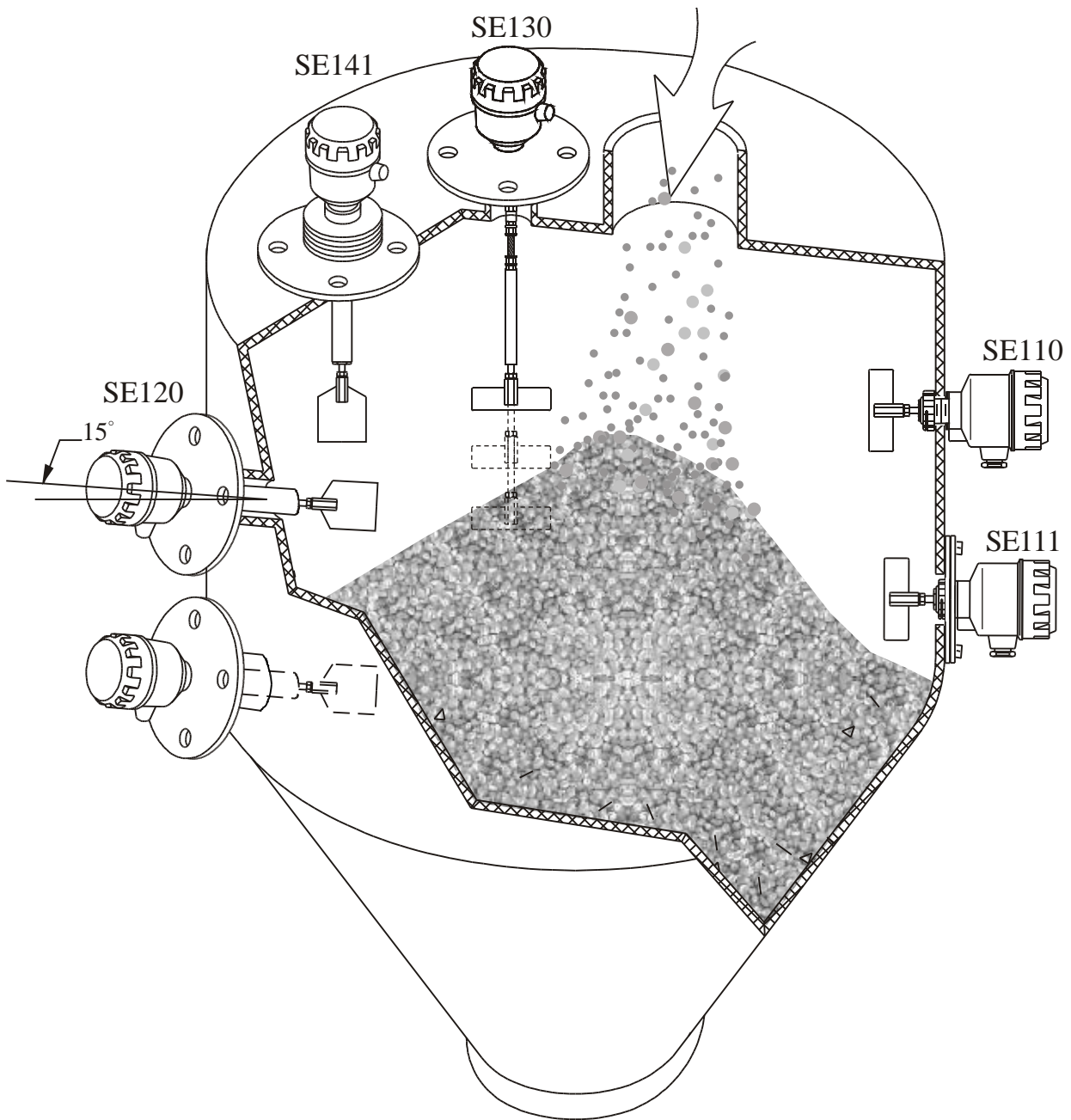
Insert the SE180 through the mounting hole and tighten it

After which, secure the Paddle to the SE180 by locking it to the shaft with the the pin

Keep in mind to 'widen' the opening of the pin in order to secure it



EXAMPLE



INSTALLATION NOTICES

1. Please side mount the sensor by inclined 15 ~20 to decrease the material inflowing impact.
2. For High Temperature application whereby the temperature inside the tank is more than 70 C Please use SE14 Series.
3. SE110~SE140 on 1" connection pipe inlet, please apply scimitar type to screw directly.
4. SE130, SE146 family items are with flexible and extensible shaft.
5. Please ensure that the Cable Gland point downwards and the nut must be fastened to secure the device.

ORDER INFORMATION

Order No. SE1
 Model No. RP

ORDER NO. _____

- 1 : Standard type
- 20 : Shaft protective tube type
- 30 : Shaft length adjustable type
- 4 : Hi-temp type
- 60 : Cable wire type
- 8 : Mini type

VOLTAGE _____

A: 110Vac B: 220Vac C: 240Vac D: 24Vac 50/60HZ

MOUNTING _____

Size for flange or screw	
C: 3/4"	I: 4"
D: 1"	J: 5"
E: 1-1/2"	K: 6"
F: 2"	S: Others
G: 2-1/2"	3: 1-1/4"
H: 3"	

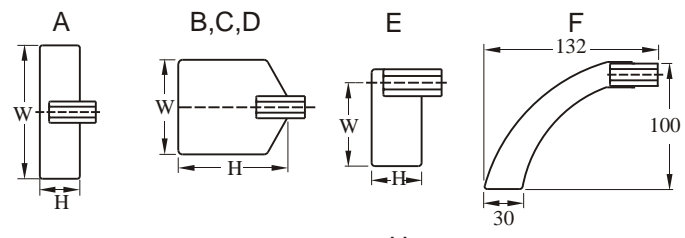
Pressure range or other
M: 5kg/cm ²
N: 10kg/cm ²
O: 150 Lbs
P: 300 Lbs
Q: PT
R: PF
T: BSP
U: NPT
S: Others

* SE110~SE160 series:
The size of connecting screw is 1".

PADDLE SHAPES _____

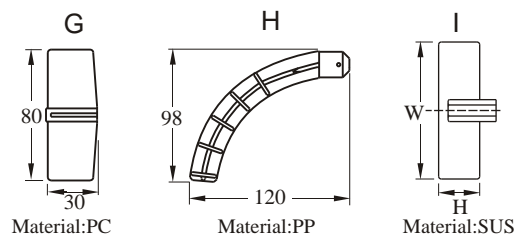
SE110~SE160

- A: 100x30 (WxH)
- B: 65x80 (WxH)
- C: 65x120 (WxH)
- D: 80x80 (WxH)
- E: 50x30 (WxH)
- F: Scimitar



SE180 (Mini paddle type)

- G: Cross type paddle
- H: Scimitar type paddle
- I: 100x30 (WxH)



LENGTH (mm) _____

SE110~160 L: The distance from flange to paddle.
 SE180 L: Length of cable.
 The total length of item will be allowed a tolerance to 6mm.

*** Order Notice**

1. Please make sure the Voltage 24Vac, 110Vac, 220Vac or 240Vac, 50/60 Hz.
2. Please make sure the side or top mounting.
3. Please make sure the material specific gravity (S.G.) value.
4. Please make sure whether any bridge block or vibrating motor installed onto the tank wall.
Please try to apply our item SA140 capacitance level sensor.
5. Please make sure the rotary paddle size is available to enter into the flange inlet.

ENCLOSURE EXPLOSION PROOF

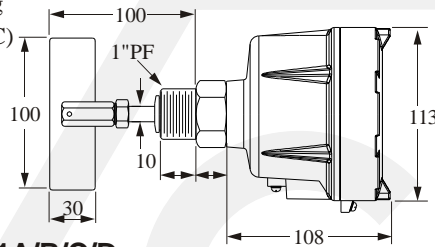
NEPSI PROOF No. GYJ03347 Ex d IIB T3~T6
 PTB PROOF No. 05 ATEX 1029 Ex II 2G EEx d IIB T3~T6
 Ex II 2D IP65 T3~T6

Power source : A-110Vac, B-220Vac, C-240Vac, 50/60Hz
Power consumption : 3W
Contact capacity : SPDT, 3A/250Vac
Rotary speed : 1 R.P.M.
Insulation test voltage : AC 1500V 1minute
Torque : 0.5 ~1.0 kg-cm

Connect : 1"PF screw or flange 1"~6"
 2-1/2" 5kg/cm² (std.)
Enclosure material : AL Alloy, ADC-12
Enclosure Protection : Ex d IIB T4~T6
Conduit : 1/2" (std.) or 3/4"NPT
Specific gravity : 0.5g/cm³ (30Lb/ft³)

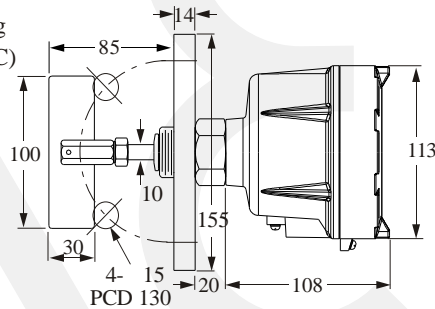
Order No. SE170A/B/C/D
Model No. RP70A/B/C/D
 EXPLOSION PROOF
 SCREW TYPE

- Horizontal mounting
- Temp. (-10 C ~ 70 C)



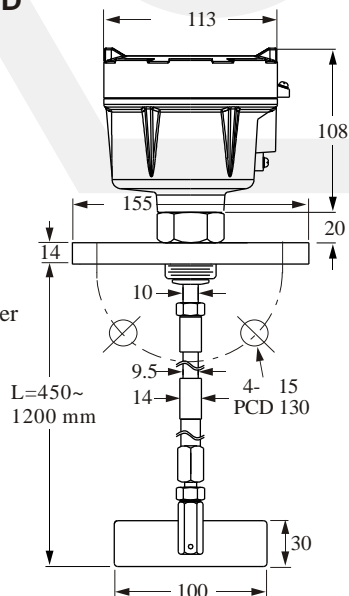
Order No. SE171A/B/C/D
Model No. RP71A/B/C/D
 EXPLOSION PROOF
 FLANGE TYPE

- Horizontal mounting
- Temp. (-10 C ~ 70 C)



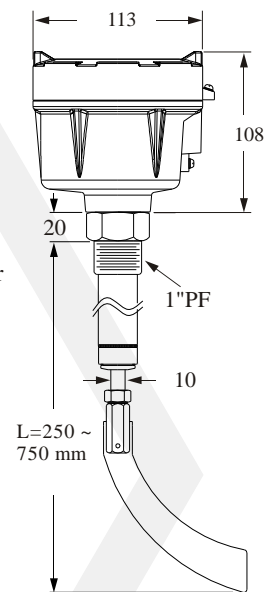
Order No. SE173A/B/C/D
Model No. RP73A/B/C/D
 EXPLOSION PROOF
 SHAFT LENGTH
 ADJUSTABLE TYPE

- Vertical mounting
- Temp. (-10 C ~ 70 C)
- Standard Length (option):
 L-- 450 ~650mm
 L-- 660 ~1000mm
 L-- 760 ~1200mm
- Special length is made by order



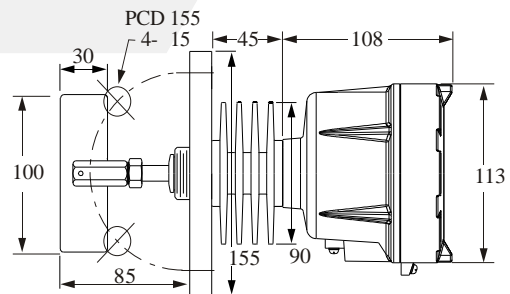
Order No. SE172A/B/C/D
Model No. RP72A/B/C/D
 EXPLOSION PROOF
 SHAFT PROTECTIVE
 TUBE TYPE

- Horizontal /Vertical mounting
- Temp. (-10 C ~ 70 C)
- Standard Length (option):
 L-- 250mm
 L-- 500mm
 L-- 750mm
- Special length is made by order



Order No. SE174A/B/C/D
Model No. RP74A/B/C/D
 EXPLOSION PROOF
 HI-TEMP TYPE

- Horizontal mounting
- Temp. (-10 C ~ 200 C)



ENCLOSURE EXPLOSION PROOF

NEPSI PROOF No. GYJ03347 Ex d IIB T3~T6
 PTB PROOF No. 05 ATEX 1029 Ex II 2G EEx d IIB T3~T6
 Ex II 2D IP65 T3~T6

Order No. SE175A/B/C/D
Model No. RP75A/B/C/D
 EXPLOSION PROOF
 HI-TEMP SHAFT
 PROTECTIVE TUBE TYPE

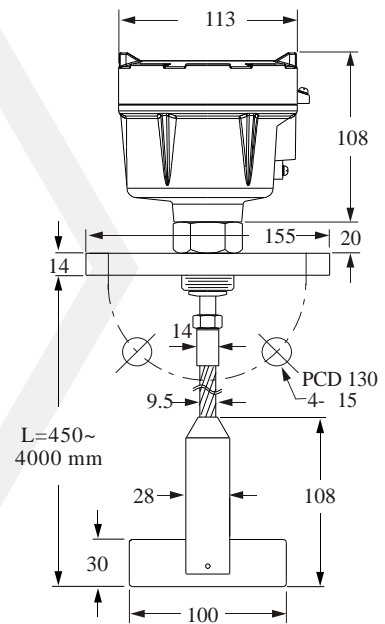
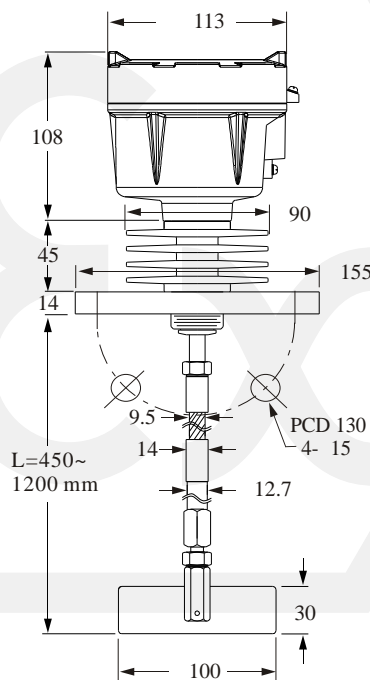
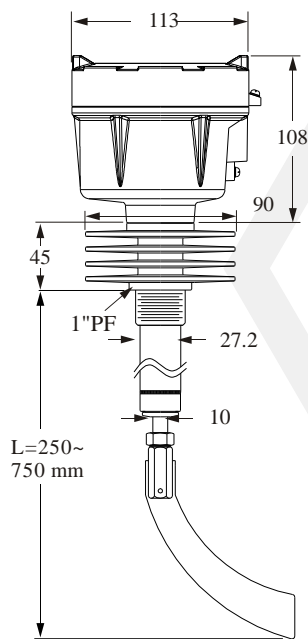
- Horizontal /Vertical mounting
- Temp. (-10 C ~ 200 C)
- Special length is made by order

Order No. SE176A/B/C/D
Model No. RP76A/B/C/D
 EXPLOSION PROOF
 HI-TEMP SHAFT LENGTH
 ADJUSTABLE TYPE

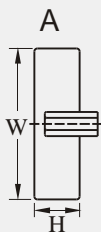
- Vertical mounting
- Temp. (-10 C ~ 200 C)
- Special length is made by order

Order No. SE177A/B/C/D
Model No. RP77A/B/C/D
 EXPLOSION PROOF
 CABLE WIRE TYPE

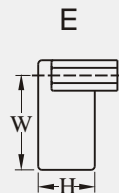
- Vertical mounting
- Temp. (-10 C ~ 200 C)
- Special length is made by order



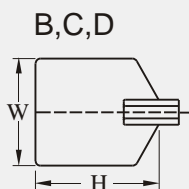
Paddle Introduction (Big)



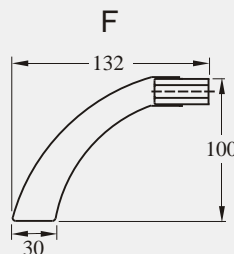
(A) 100x30 (WxH), Min. fixed hole diameter size 90mm.



(E) 50x30 (WxH), Suitable for high S.G. raw material, application by small size paddle to decrease the material flowing impact directly.



(B) 65x80 (WxH), Directly mounted into 2" fixed hole.
 (C) 65x120 (WxH), Directly mounted into 2" fixed hole.
 (D) 80x80 (WxH)



(F) Scimitar type paddle, Directly screwed through 1" diameter fixed hole, It is more easy to be mounted dispense with labor of tank cut-out.

ORDER INFORMATION

Order No. SE1
 Model No. RP

ORDER NO. _____

- | | |
|--|--|
| 70 : RP70 Screw type | 74 : RP74 Hi-temp type |
| 71 : RP71 Flange type | 75 : RP75 Hi-temp shaft protective tube type |
| 72 : RP72 Shaft protective tube type | 76 : RP76 Hi-temp shaft length adjustable type |
| 73 : RP73 Shaft length adjustable type | 77 : RP77 Cable wire type |

VOLTAGE _____

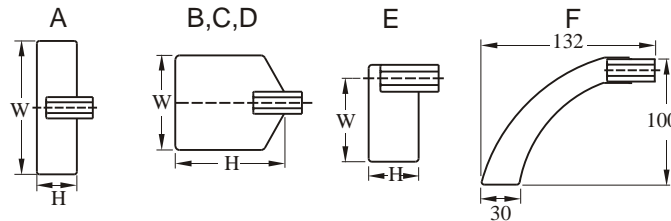
A : 110Vac B : 220Vac C : 240Vac D : 24Vac 50/60HZ

MOUNTING _____

Size for flange or screw		Pressure range or other
C: 3/4"	I: 4"	M: 5kg/cm ²
D: 1"	J: 5"	N: 10kg/cm ²
E: 1-1/2"	K: 6"	O: 150 Lbs
F: 2"	S: Others	P: 300 Lbs
G: 2-1/2"	3: 1-1/4"	Q: PT
H: 3"		R: PF
		T: BSP
		U: NPT
		S: Others

PADDLE SHAPES _____

- A: 100x30 (WxH)
- B: 65x80 (WxH)
- C: 65x120 (WxH)
- D: 80x80 (WxH)
- E: 50x30 (WxH)
- F: Scimitar



LENGTH (mm) _____

The total length of item will be allowed a tolerance to 6mm.

*** Order Notice**

1. Please make sure the Voltage 24Vac, 110Vac, 220Vac or 240Vac, 50/60 Hz.
2. Please make sure the side or top mounting.
3. Please make sure the material specific gravity (S.G.) value.
4. Please make sure whether any bridge block or vibrating motor installed onto the tank wall.
Please try to apply our item SA140 capacity sensor.
5. Please make sure the rotary paddle size is available to enter into the flange inlet.