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## Rotary Paddle Level Switch



# PRODUCT INTRODUCTION

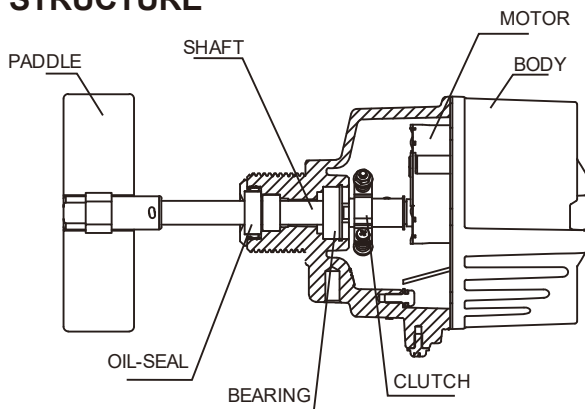
## WORKING PRINCIPLE

The purpose of the rotary paddle level switch is to detect the presence of solid/powdery material in most kinds of tanks, bins and containers. The 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 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).

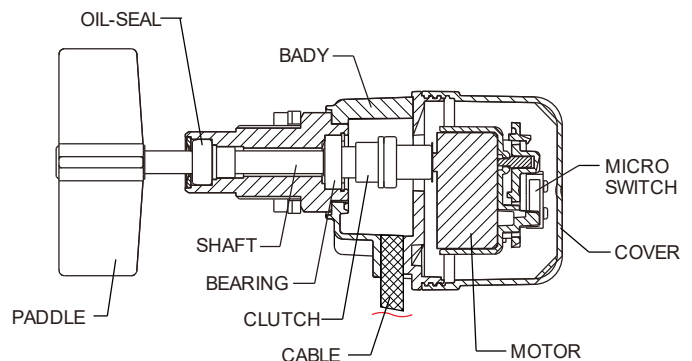
## APPLICATIONS

- Plastics and synthetics
- Chemicals and fertilizer
- Pharmaceuticals
- Food and beverage,
- Agriculture and fodder mills/depots
- Cement as well as ceramics
- Power plants
- Various incinerators

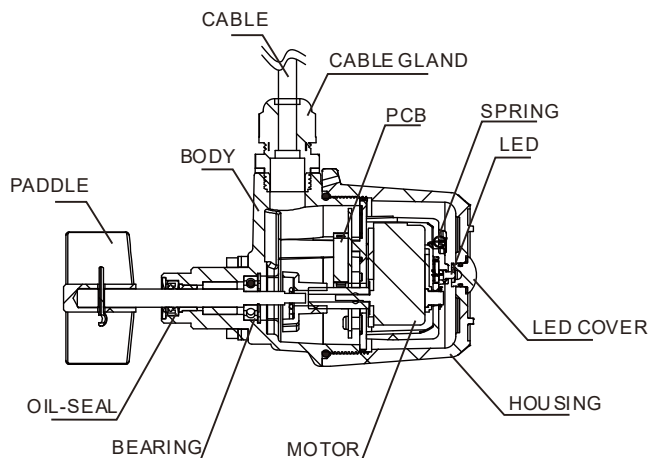
## STRUCTURE



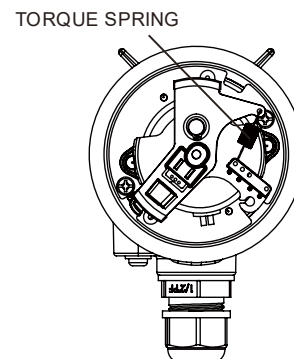
**STANDARD TYPE SEX5**



**MINI TYPE SEX4**



**MINI TYPE SEX3**



## FEATURES

- Rugged sealing ring prevents dust from infiltrating the housing body along the shaft.
- Adjustable torque.
- If the rotary paddle encounters overloading, the motor will automatically shut down the motor to prevent damage to the inner mechanisms and extend motor life.
- Very suitable for small tanks and low density materials
- Adjustable and extendible shaft models available
- A wide variety of paddles are available

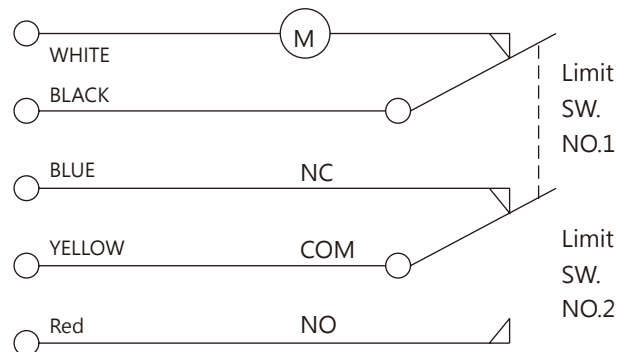
## BENEFITS

- Airtight sealed device.
- Outdoor and strenuous environment application
- Stable and reliable performance.
- Lightweight and easy to install
- Practically designed to allow maintenance, checks and replacement
- Not necessary to remove the complete set from the tank.

# WORKING PRINCIPLE & TORQUE ADJUSTING

## CONTROL SWITCH WORKING PRINCIPLE

1. A synchronous turning motor indicates the tank or container's material isn't obstructing the paddles, C & L [COM & NC] are connected.
2. When the material is obstructing the paddles, C&L [COM & NC] are disconnected, C&H [COM & NO] are connected and the motor's current is cut off.
3. When the material drops away from the paddles and the motor starts again C & L [COM & NC] connect and the cycle has begun once again.

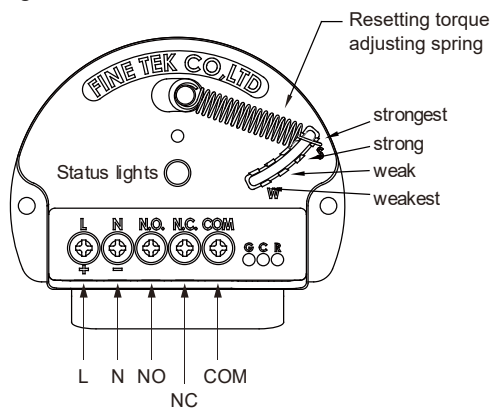


※Do not tamper with the spring as it may cause the Rotary Paddle to malfunction.

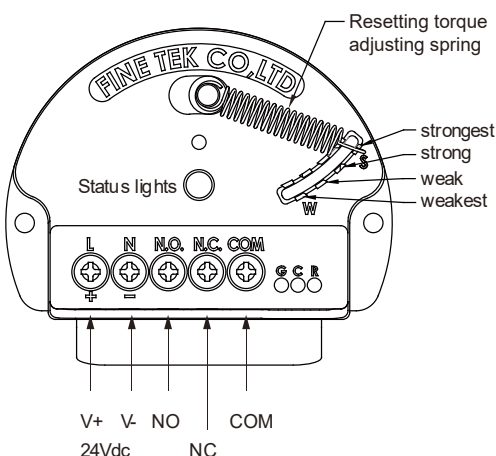
## TORQUE ADJUSTING MECHANISM AND WIRING

The torque spring is applied to adjust the shaft output torque. Default settings are "weak" and can be adjusted to the customer's target based on the tank contents and S.G. (special gravity) of the material.

Higher S.G. materials require stronger torque settings. Start with high settings and slowly release the torque force until the appropriate setting is found.

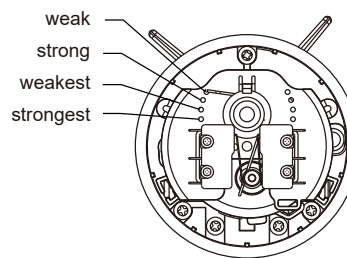


Available: SEX5 AC TYPE

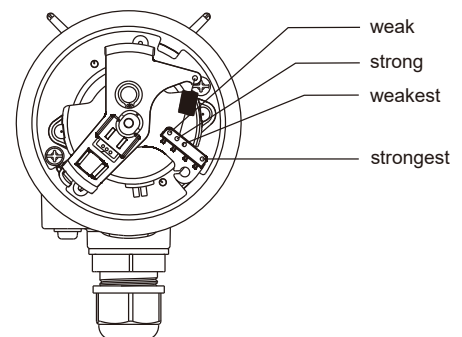


Available: SEX5 DC TYPE

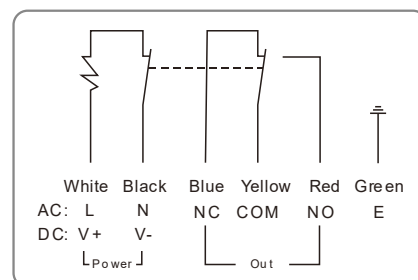
## SPRING ADJUSTING HOLE



SEX4



SEX2



Available: SEX2/SEX4

# GENERAL TYPE - SEX5

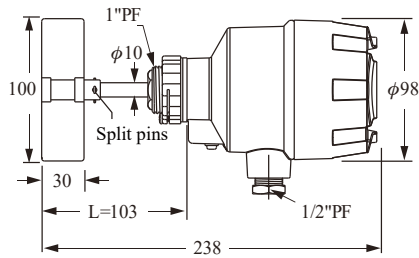
Power source : (A)110Vac,(B)220Vac,(C)240Vac,  
(D)24Vac,50/60Hz,(E)24Vdc  
Power consumptio : 3W  
Contact capacity : SPDT 5A/250Vac  
Rotary speed : 1 R.P.M.  
Insulation test voltage : 2500V

Connection : 1"PF screw or JIS 2-1/2"x5kg/cm<sup>2</sup>  
Protection/ material : IP65/ADC-12  
Conduit : 1/2"PF  
Material density : 0.5g/cm<sup>3</sup> (30Lb/ft<sup>3</sup>)

## SE110

### SCREW TYPE

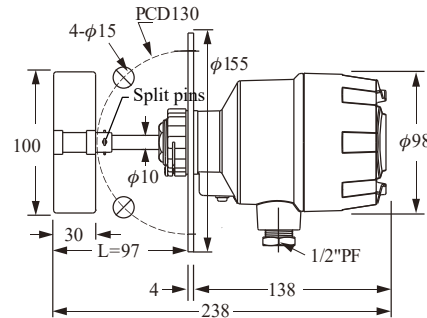
Horizontal mounting  
Operation Temp.: -20°C ~ 70°C  
Weight: 1.2 kg



## SE111

### FLANGE TYPE

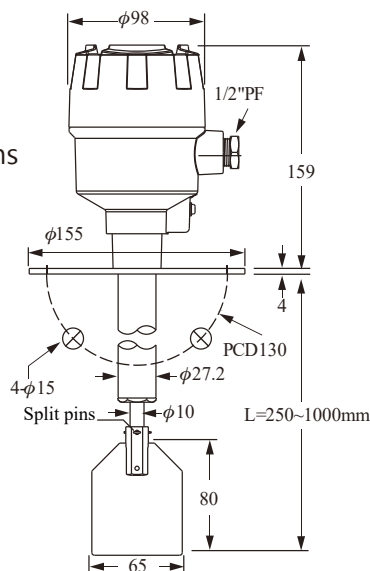
Horizontal mounting  
Operation Temp.: -20°C ~ 70°C  
Weight: 1.7 kg



## SE120

### SHAFT PROTECTIVE TUBE TYPE

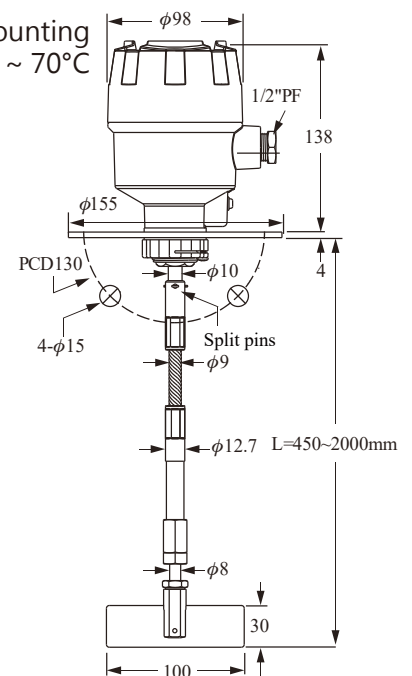
Horizontal / Vertical mounting  
Operation Temp.: -20°C ~ 70°C  
Weight: 1.2 kg  
Standard Length:  
L--250mm (2.2 kg)  
L--500mm (2.5 kg)  
L--750mm (2.8 kg)  
(Customized lengths  
available)

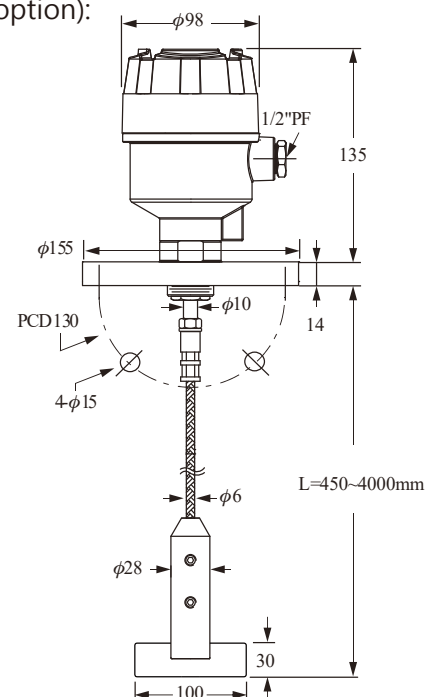
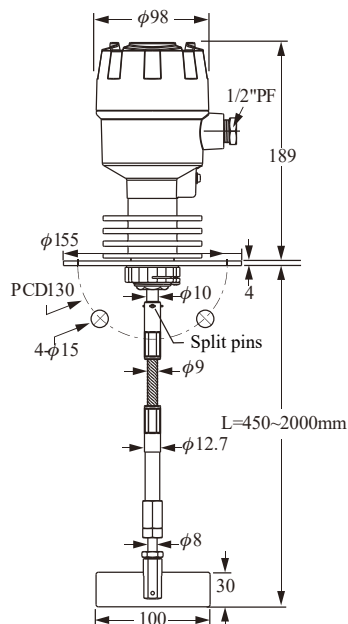
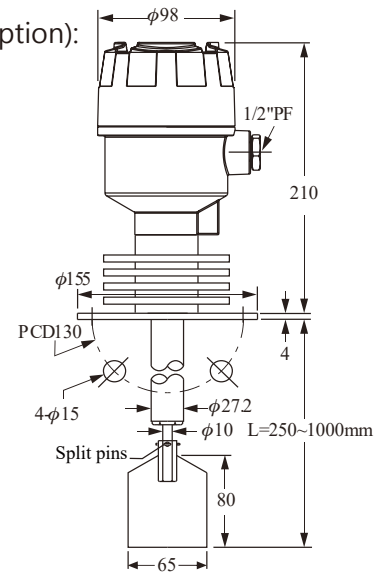
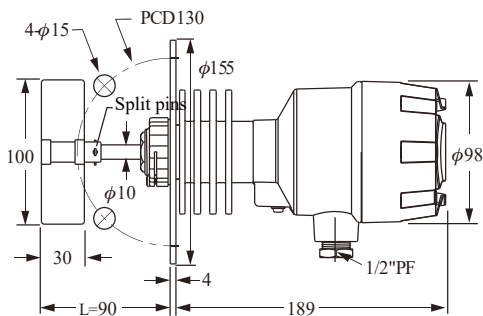


## SE130

### SHAFT LENGTH ADJUSTABLE TYPE

Horizontal / Vertical mounting  
Operation Temp.: -20°C ~ 70°C  
Weight: 1.2 kg  
Standard Length:  
L--630mm (2.5 kg)  
L--1000mm (2.8 kg)  
L--1200mm (3.0 kg)  
(Customized lengths  
available)

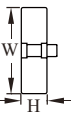
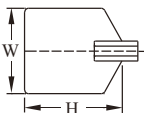
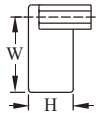
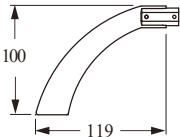
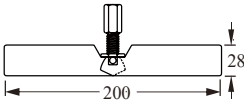
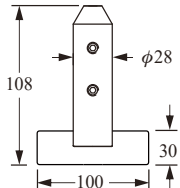
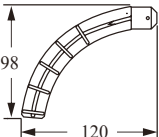
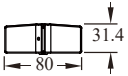




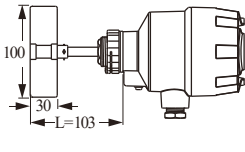
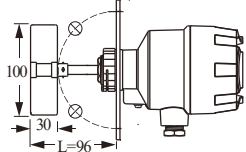
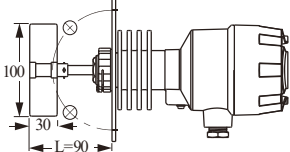
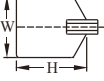
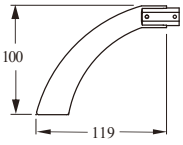
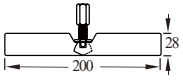
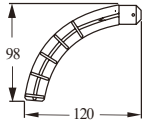
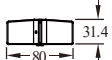
## MODEL NUMBER / ORDER CODE COMPARISON TABLE

| Model Number | Order Code  |
|--------------|-------------|
| SE110        | SEX50000-AA |
| SE111        |             |
| SE120        | SEX50000-AB |
| SE130        | SEX50000-AC |
| SE140        | SEX50200-AA |
| SE141        | SEX50200-AB |
| SE146        | SEX50200-AC |
| SE160        | SEX50000-AD |

## NEW / OLD PADDLE MODEL COMPARISON TABLE

| New | Figure                      |                                                                                     | Dimension(WxH) | Old |
|-----|-----------------------------|-------------------------------------------------------------------------------------|----------------|-----|
| B   | Rectangular shaped type     |    | 100x30         | A   |
| C   | Shovel shaped type          |    | 65x80          | B   |
| D   |                             |                                                                                     | 65x120         | C   |
| E   |                             |                                                                                     | 80x80          | D   |
| F   | Rectangular type, one sided |    | 50x30          | E   |
| G   | Scimitar shaped type        |   | 100x119        | F   |
| H   | Folding type                |  | 200x28         | J   |
| K   | Weights type                |  | 100x108        | X   |
| N   | Scimitar shaped type (PC)   |  | 98x120         |     |
| P   | Cross bladed type (PC)      |  | 80x32          |     |

# **PROBE LENGTH LIST FOR GENERAL TYPE (WITH DIFFERENT PADDLES)**

| <div>Product model</div> <div>Paddle model</div>                                                                          |         | <div>SE110</div>  | <div>SE111</div>  | <div>SE140</div>  |
|---------------------------------------------------------------------------------------------------------------------------|---------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| <div>Rectangular shaped type</div>       | 100x30  | L=103                                                                                              | L=96                                                                                                | L=90                                                                                                 |
| <div>Shovel shaped type</div>            | 65x80   | L=153                                                                                              | L=146                                                                                               | L=142                                                                                                |
|                                                                                                                           | 65x120  | L=193                                                                                              | L=186                                                                                               | L=182                                                                                                |
|                                                                                                                           | 80x80   | L=153                                                                                              | L=146                                                                                               | L=142                                                                                                |
| <div>Rectangular type, one sided</div>  | 50x30   | L=104                                                                                              | L=97                                                                                                | L=94                                                                                                 |
| <div>Scimitar shaped type</div>        | 100x119 | L=192                                                                                              | L=184                                                                                               | L=182                                                                                                |
| <div>Folding type</div>                | 200x28  | L=126                                                                                              | L=119                                                                                               | L=114                                                                                                |
| <div>Scimitar shaped type(PC)</div>    | 98x120  | L=175                                                                                              | L=168                                                                                               | Not suitable for high temp.( $>120^{\circ}\text{C}$ )<br>Stainless steel paddle suggested            |
| <div>Cross bladed type(PC)</div>       | 80x32   | L=81                                                                                               | L=74                                                                                                |                                                                                                      |

# ORDER INFORMATION

## General Type

SEX5 <sup>05</sup> <sup>06</sup> 0 0 - A <sup>10</sup> <sup>11</sup> <sup>12</sup> <sup>13</sup> <sup>14</sup> <sup>15</sup> <sup>16</sup> <sup>17</sup> <sup>18</sup> <sup>19</sup> <sup>20</sup> <sup>21</sup> <sup>22</sup>

### <sup>05</sup> <sup>06</sup> Model

00: Standard  
02: Hi-temperature

### <sup>10</sup> Construction

A: General type  
B: Shaft protective tube type  
C: Shaft length adjustable type  
D: Cable wire type

### <sup>11</sup> Power supply

A: AC110V  
B: AC220V  
C: AC240V  
D: AC24V  
E: DC24V

## Connection

<sup>12</sup> <sup>13</sup>

Flange item  
AK: JIS-FF  
AN: ANSI-RF  
AS: DIN-FF  
BC: Standard thin flange  
(Suitable for 2-1/2" dimension)

<sup>14</sup> <sup>15</sup>

A8: 1"  
B1: 1-1/2"  
B2: 2"  
B4: 2-1/2"

<sup>16</sup> <sup>17</sup>

01: PT male  
03: PF male  
07: NPT male  
39: 5 kg/cm<sup>2</sup>x4T(Thin flange)  
40: 5 kg/cm<sup>2</sup>  
42: 10 kg/cm<sup>2</sup>  
48: 150 Lbs  
49: 300 Lbs  
57: PN10  
58: PN16

### <sup>18</sup> Paddle model

A: None  
B: 100x30(WxH)  
C: 65x80(WxH)  
F: 50x30(WxH)  
G: Scimitar type 100x131(WxH)  
H: Folding type 200x28(WxH)  
K: Cable wire type only 100x108(WxH)  
N: Scimitar shaped type(PC) 98x120(WxH)  
P: Cross bladed type(PC) 80x32(WxH)

※N type and P type not suitable for high temperature(>120°C)

### <sup>19</sup> <sup>20</sup> <sup>21</sup> <sup>22</sup> Length

| Code      | Length range |
|-----------|--------------|
| 0001~4000 | 0001~4000mm  |

※The General power socket is not shared with the warning type and explosion proof type.

# WARNING LIGHT TYPE - SEX5

Power source : (A)110Vac,(B)220Vac,(C)240Vac,  
(D)24Vac,50/60Hz,(E)24Vdc

Power consumptio : 3W

Contact capacity : SPDT 5A/250Vac

Rotary speed : 1 R.P.M.

Insulation test voltage : 2500V

Connection : 1"PF screw or JIS 2-1/2"x5kg/cm<sup>2</sup>

Upper cover protection / material : IP67 / Pc cover

Twrminal box protection / material : IP67 / ADC-12

Conduit : 1/2"PF

Material density : 0.5g/cm<sup>3</sup> (30Lb/ft<sup>3</sup>)

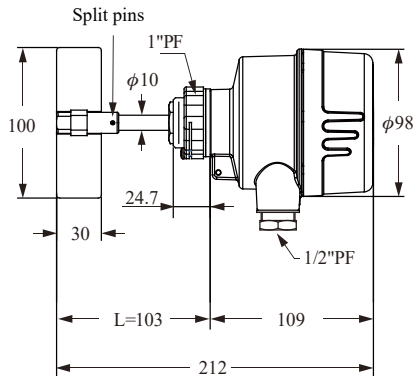
## SE110

### SCREW TYPE

Horizontal mounting

Operation Temp.: -20°C ~ 85°C

Weight: 1.2 kg



## SE130

### SHAFT LENGTH ADJUSTABLE TYPE

Vertical mounting

Operation Temp.: -20°C ~ 85°C

Weight: 1.2 kg

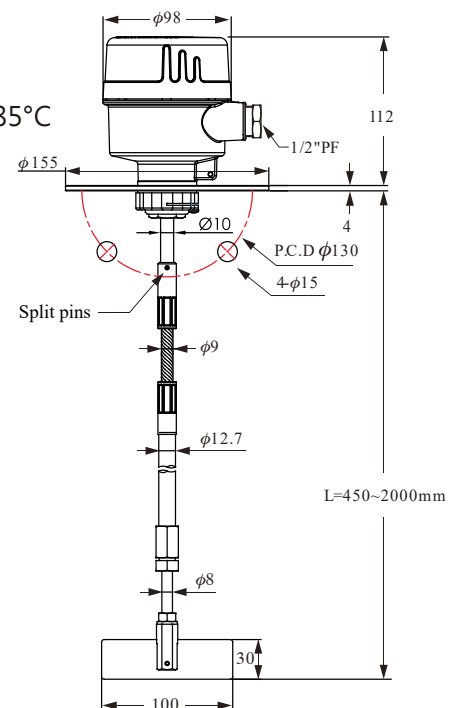
Standard Length:

L--630mm(2.5 kg)

L--1000mm(2.8 kg)

L--1200mm(3.0 kg)

(Customized lengths available)



## SE120

### SHAFT PROTECTIVE TUBE TYPE

Horizontal / Vertical mounting

Operation Temp.: -20°C ~ 85°C

Weight: 1.2 kg

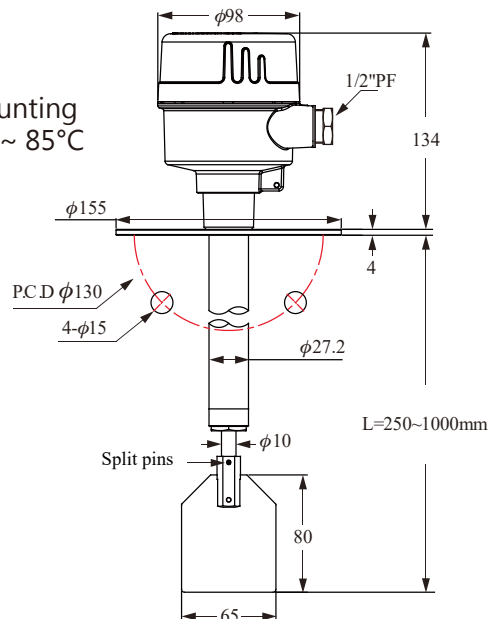
Standard Length:

L--250mm (2.2 kg)

L--500mm (2.5 kg)

L--750mm (2.8 kg)

(Customized lengths available)



## WARNING LIGHT TYPE - SEX5

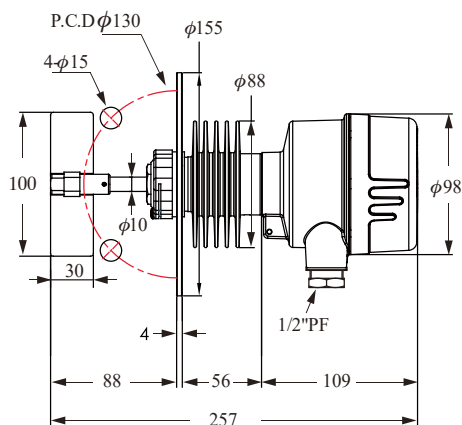
## SE140

### SCREW TYPE

## Horizontal mounting

Operation Temp.: Max.200°C

Weight: 2.1 kg



## SE146

## HI-TEMP SHAFT LENGTH ADJUSTABLE TYPE

## Vertical mounting

Operation Temp.: Max.200°C

Weight: 1.2 kg

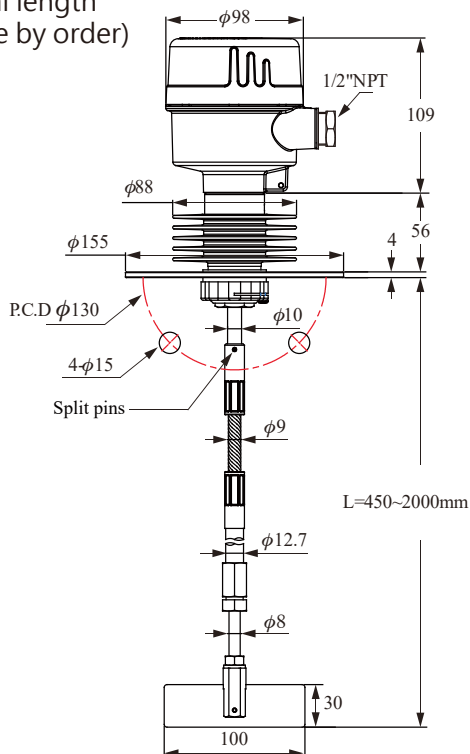
Standard Length:

L-- 450~630mm (3 kg)

L-- 650~1000mm (3.3 kg)

L-- 750~1200mm (3.5 kg)

(Special length  
is made by order)



## SE141

HI-TEMP TYPE  
PROTECTIVE TUBE TYPE

Horizontal / Vertical mounting

Operation Temp.: Max.200°C

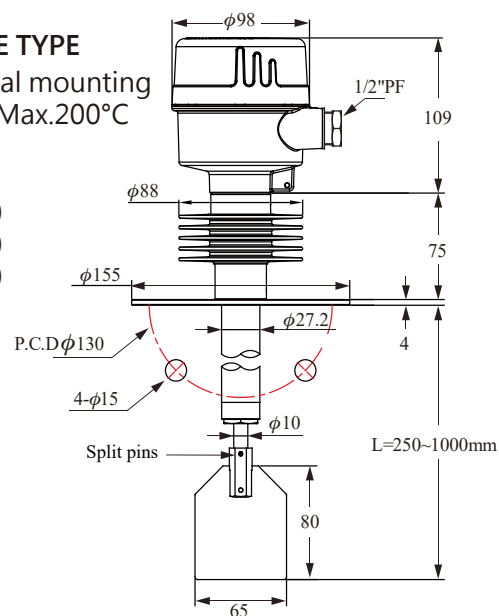
Weight: 1.2 kg

Standard Length:

L--250mm (2.6 kg)

L--500mm (2.9 kg)

L--750mm (3.2 kg)  
(Special length  
is made by order)



## SE160

### CABLE WIRE TYPE

## Vertical mounting

Operation Temp.: -20°C ~ 85°C

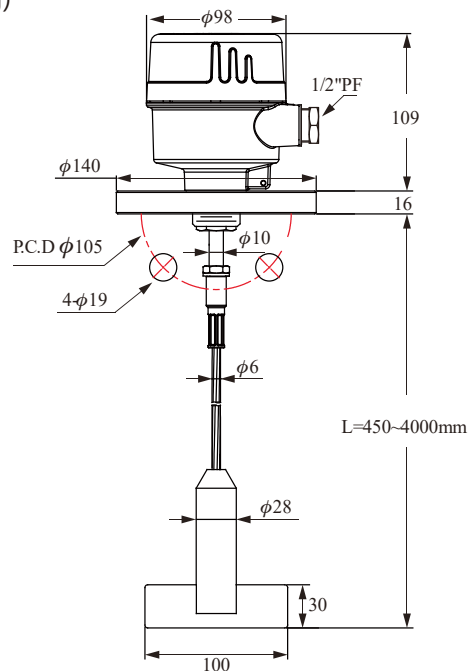
Weight: 1.2 kg

Standard Length:

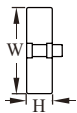
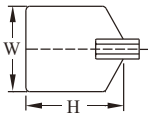
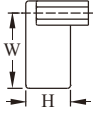
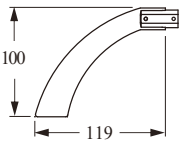
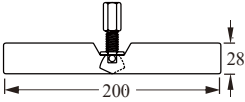
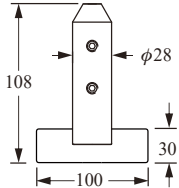
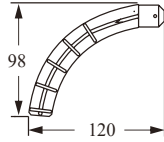
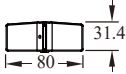
L-- 450mm (2.5 kg)

L-- 650mm (2.8 kg)

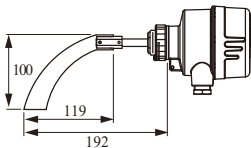
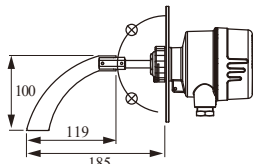
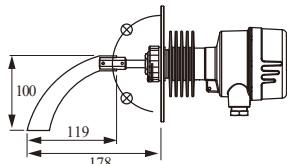
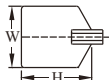
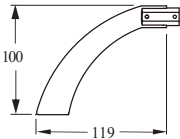
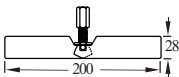
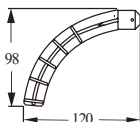
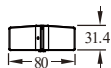
L-- 750mm (3 kg)  
(Special length  
is made by order)



## NEW / OLD PADDLE MODEL COMPARISON TABLE

| New | Figure                      |                                                                                     | Dimension(WxH) | Old |
|-----|-----------------------------|-------------------------------------------------------------------------------------|----------------|-----|
| B   | Rectangular shaped type     |    | 100x30         | A   |
| C   | Shovel shaped type          |    | 65x80          | B   |
| D   |                             |                                                                                     | 65x120         | C   |
| E   |                             |                                                                                     | 80x80          | D   |
| F   | Rectangular type, one sided |    | 50x30          | E   |
| G   | Scimitar shaped type        |   | 100x119        | F   |
| H   | Folding type                |  | 200x28         | J   |
| K   | Weights type                |  | 100x108        | X   |
| N   | Scimitar shaped type (PC)   |  | 98x120         |     |
| P   | Cross bladed type (PC)      |  | 80x32          |     |

# **PROBE LENGTH LIST FOR WARNING LIGHT TYPE (WITH DIFFERENT PADDLES)**

| Product model                                                                                                     |         | SE110                                                                             | SE111                                                                              | SE140                                                                               |
|-------------------------------------------------------------------------------------------------------------------|---------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Paddle model                                                                                                      |         |  |  |  |
| Rectangular shaped type<br>      | 100x30  | L=103                                                                             | L=96                                                                               | L=88                                                                                |
| Shovel shaped type<br>           | 65x80   | L=153                                                                             | L=146                                                                              | L=138                                                                               |
|                                                                                                                   | 65x120  | L=193                                                                             | L=186                                                                              | L=178                                                                               |
|                                                                                                                   | 80x80   | L=153                                                                             | L=146                                                                              | L=138                                                                               |
| Rectangular type, one sided<br> | 50x30   | L=104                                                                             | L=97                                                                               | L=89                                                                                |
| Scimitar shaped type<br>       | 100x119 | L=192                                                                             | L=185                                                                              | L=178                                                                               |
| Folding type<br>               | 200x28  | L=126                                                                             | L=119                                                                              | L=112                                                                               |
| Scimitar shaped type(PC)<br>   | 98x120  | L=175                                                                             | L=168                                                                              | Not suitable for high temp.(>120°C)<br>Stainless steel paddle suggested             |
| Cross bladed type(PC)<br>      | 80x32   | L=81                                                                              | L=74                                                                               |                                                                                     |

**SEX5**

| Code      | Length range |
|-----------|--------------|
| 0001~4000 | 0001~4000mm  |

13

# EXPLOSION PROOF TYPE - SEX5

ATEX II 1D/2D Ex ta/tb IIIC T85°C or T100°C or T150°C or T200°C  
 IECEx Ex ta/tb IIIC T85°C or T100°C or T150°C or T200°C Da/Db  
 CSA Ex ta/tb IIIC T85°C ...T200°C Da/Db  
 Zone 20 / Zone 21 AEx ta/tb IIIC T85°C ...T200°C Da/Db  
 Class II, Division 1, Groups E, F, G, T200°C

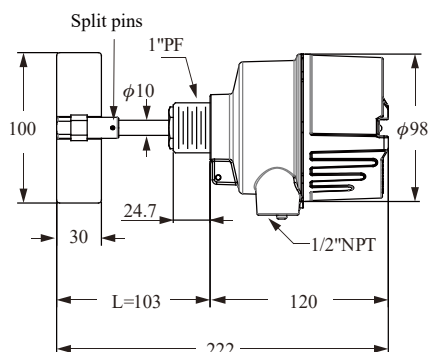
Power source : (A)110Vac,(B)220Vac,(C)240Vac,  
 (D)24Vac,50/60Hz,(E)24Vdc  
 Power consumptio : 3W  
 Contact capacity : SPDT 5A/250Vac  
 Rotary speed : 1 R.P.M.  
 Insulation test voltage : 2500V

Connection : 1"PF screw (minimum)  
 Protection/ material : IP67 / ADC-12  
 Conduit : 1/2"NPT/ADC-12  
 Material density : 0.5g/cm<sup>3</sup> (30Lb/ft<sup>3</sup>)

## SE110

### SCREW TYPE

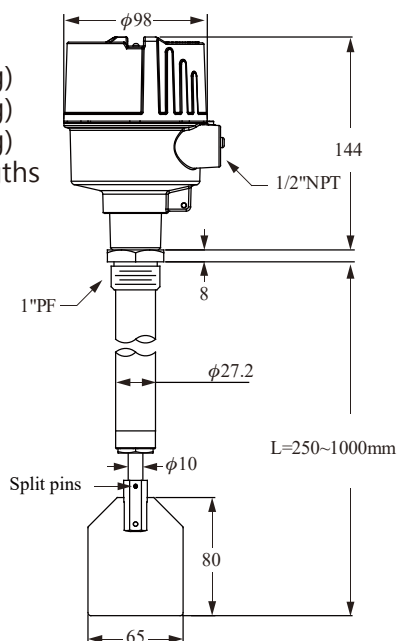
Horizontal mounting  
 Operation Temp.: -20°C ~ 85°C  
 Weight: 1.2 kg



## SE120

### SHAFT PROTECTIVE TUBE TYPE

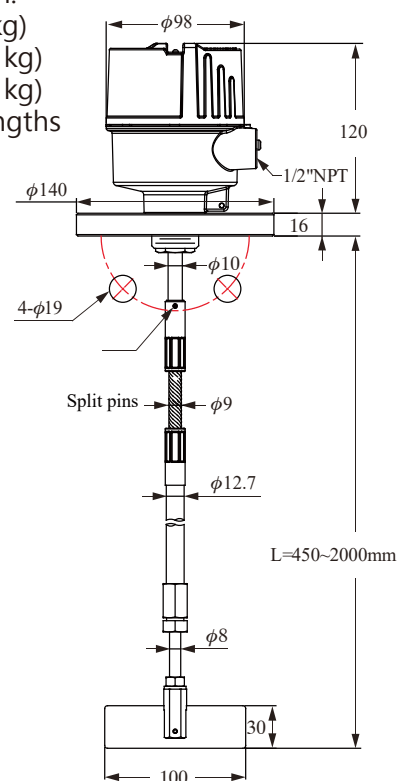
Horizontal / Vertical mounting  
 Operation Temp.: -20°C ~85°C  
 Weight: 1.2 kg  
 Standard Length:  
 L--250mm (2.2 kg)  
 L--500mm (2.5 kg)  
 L--750mm (2.8 kg)  
 (Customized lengths  
 available)



## SE130

### SHAFT LENGTH ADJUSTABLE TYPE

Horizontal / Vertical mounting  
 Operation Temp.: -20°C ~ 85°C  
 Weight: 1.2 kg  
 Standard Length:  
 L--630mm(2.5 kg)  
 L--1000mm(2.8 kg)  
 L--1200mm(3.0 kg)  
 (Customized lengths  
 available)



# EXPLOSION PROOF TYPE - SEX5

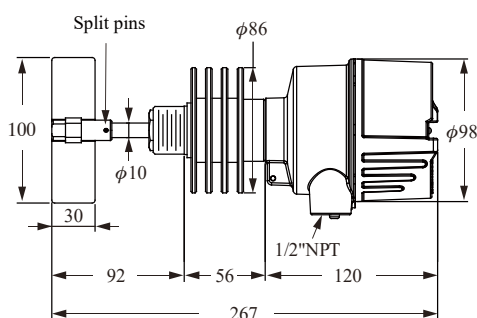
## SE140

### HI-TEMP TYPE

Horizontal mounting

Operation Temp.: Max.200°C

Weight: 2.1 kg



## SE146

### HI-TEMP SHAFT

#### LENGTH ADJUSTABLE TYPE

Vertical mounting

Operation Temp.: Max.200°C

Standard Length:

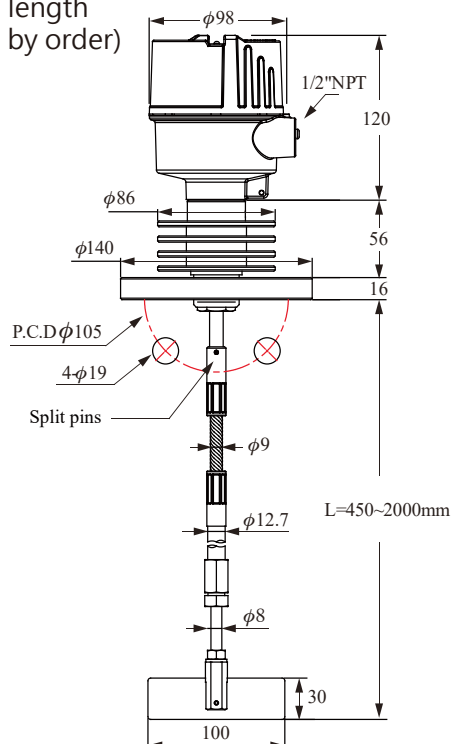
(Option)

L-- 450~630mm (3 kg)

L-- 650~1000mm (3.3 kg)

L-- 750~1200mm (3.5 kg)

(Special length is made by order)



## SE141

### HI-TEMP TYPE

#### PROTECTIVE TUBE TYPE

Horizontal / Vertical mounting

Operation Temp. : Max.200°C

Standard Length:

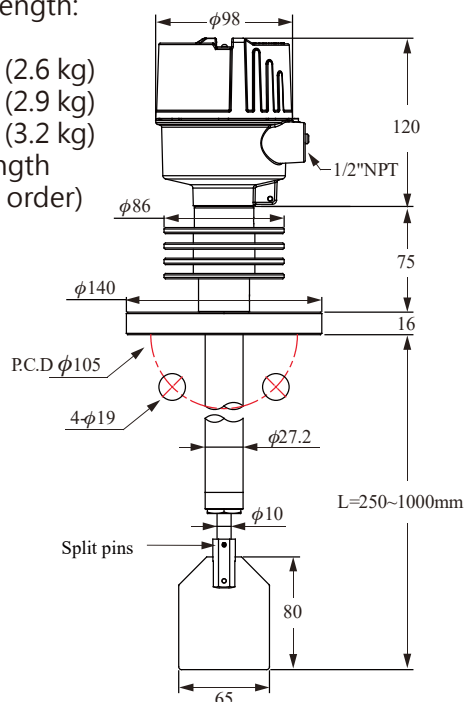
(Option)

L--250mm (2.6 kg)

L--500mm (2.9 kg)

L--750mm (3.2 kg)

(Special length is made by order)



## SE160

### CABLE WIRE TYPE

Vertical mounting

Operation Temp.: -20°C ~ 85°C

Standard Length:

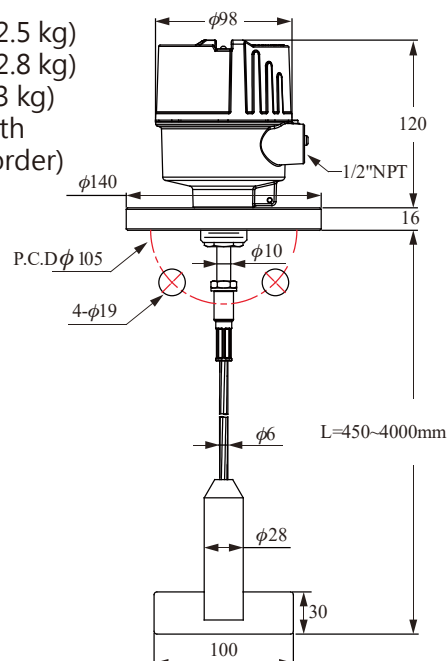
(Option)

L-- 450mm (2.5 kg)

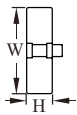
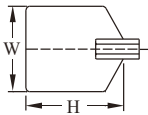
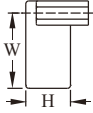
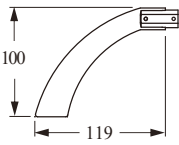
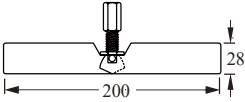
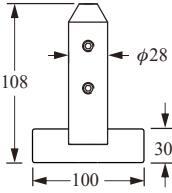
L-- 650mm (2.8 kg)

L-- 750mm (3 kg)

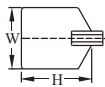
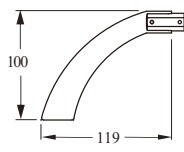
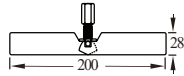
(Special length is made by order)



## NEW / OLD PADDLE MODEL COMPARISON TABLE

| New | Figure                      |                                                                                     | Dimension(WxH) | Old |
|-----|-----------------------------|-------------------------------------------------------------------------------------|----------------|-----|
| B   | Rectangular shaped type     |    | 100x30         | A   |
| C   | Shovel shaped type          |    | 65x80          | B   |
| D   |                             |                                                                                     | 65x120         | C   |
| E   |                             |                                                                                     | 80x80          | D   |
| F   | Rectangular type, one sided |    | 50x30          | E   |
| G   | Scimitar shaped type        |   | 100x119        | F   |
| H   | Folding type                |  | 200x28         | J   |
| K   | Weights type                |  | 100x108        | X   |

# PROBE LENGTH LIST FOR WARNING LIGHT TYPE (WITH DIFFERENT PADDLES)

| Product model<br>Paddle model                                                                                     |         | SE110 | SE140 |
|-------------------------------------------------------------------------------------------------------------------|---------|-------|-------|
| Rectangular shaped type<br>      | 100x30  | L=103 | L=92  |
| Shovel shaped type<br>           | 65x80   | L=153 | L=142 |
|                                                                                                                   | 65x120  | L=193 | L=182 |
|                                                                                                                   | 80x80   | L=153 | L=142 |
| Rectangular type, one sided<br> | 50x30   | L=104 | L=93  |
| Scimitar shaped type<br>       | 100x119 | L=192 | L=181 |
| Folding type<br>               | 200x28  | L=126 | L=115 |

# ORDER INFORMATION

|                                           |  | 05 | 06 | 07 | 08 | SEX5 |  | - | A | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
|-------------------------------------------|--|----|----|----|----|------|--|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|
| ⑤⑥ Model                                  |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 00: Standard                              |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 02: Hi-temperature                        |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ⑦⑧ Certification                          |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 1D: ATEX-Dust                             |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 2D: IECEx-Dust                            |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 6D: CSA-Dust                              |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ⑩ Construction                            |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| A: General type                           |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| B: Shaft protective tube type             |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| C: Shaft length adjustable type           |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| D: Cable wire type                        |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ⑪ Power supply                            |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| A: AC110V                                 |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| B: AC220V                                 |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| C: AC240V                                 |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| D: AC24V                                  |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| E: DC24V                                  |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Connection                                |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ⑫⑬                                        |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Flange item                               |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| AK: JIS-FF                                |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| AS: DIN-FF                                |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| AJ: JIS-RF                                |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| AM: JIS-WNRF                              |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| AL: JIS:SLIP                              |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| AN: ANSI-RF                               |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| AO: ANSI-FF                               |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| AP: ANSI-WNRF                             |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| AQ: ANSI-SLIP                             |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| AR: DIN-RF                                |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| AT: DIN-WNRF                              |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| AU: DIN-SLIP Thread item                  |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| AV: GB-RF                                 |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| AW: GB-FF                                 |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| BC: Standard thin flange                  |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| (Suitable for 2-1/2"dimension)            |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ⑭⑮                                        |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Thread item                               |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| AA: JIS                                   |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| AB: ISO                                   |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| AC: ANSI/AST                              |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| A7: 3/4"                                  |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| A8: 1"                                    |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| A9: 1-1/4"                                |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| B1: 1-1/2"                                |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| B2: 2"                                    |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| B3: 2-1/4"                                |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| B4: 2-1/2"                                |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| B5: 3"                                    |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| B6: 3-1/2"                                |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| B7: 4"                                    |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| B8: 5"                                    |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| B9: 6"                                    |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| C1: 8"                                    |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| C2: 10"                                   |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| J9: M27                                   |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| K3: M30                                   |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| K5: M32                                   |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| K6: M33                                   |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| L9: M45                                   |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| SS: Special specification                 |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ⑯⑰                                        |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 01: PT male                               |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 03: PF male                               |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 05: BSP male                              |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 07: NPT male                              |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 09: NPTR male                             |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 11: NRTF male                             |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 15: UNF male                              |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 23: UNC male                              |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 39: 5 kg/cm <sup>2</sup> x4T(Thin flange) |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 78: M*pitch1.0                            |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 80: M*pitch1.25                           |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 82: M*pitch1.5                            |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 84: M*pitch2                              |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 86: M*pitch2.5                            |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 88: M*pitch3                              |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 91: BSPT male                             |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| SS: Special specification                 |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ⑱ Paddle model                            |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| A: None                                   |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| B: 100x30(WxH)                            |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| C: 65x80(WxH)                             |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| D: 65x120(WxH)                            |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| E: 80x80(WxH)                             |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| F: 50x30(WxH)                             |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| G: Scimitar type 100x131(WxH)             |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| H: Folding type 200x28(WxH)               |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| K: Cable wire type only100x108(WxH)       |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| S: Special blade                          |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |
| ⑲⑳㉑㉒ Length                               |  |    |    |    |    |      |  |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |

| Code      | Length range |
|-----------|--------------|
| 0001~4000 | 0001~4000mm  |

# EXPLOSION PROOF TYPE



工電TS Ex d IIB T4 Gb X  
NEPSI Ex d IIC T3~T6 Gb  
Ex tD A20/A21 IP65 T80°C / T95°C / T130°C / T190°C  
ATEX II 2G Ex d IIB T3 or T4 or T5 or T6 Gb  
II 2D Ex tb IIIC T200°C or T135°C or T100°C or T85°C Db  
IECEX Ex db IIB T3 or T4 or T5 or T6 Gb  
Ex tb IIIC T200°C or T135°C or T100°C or T85°C Db

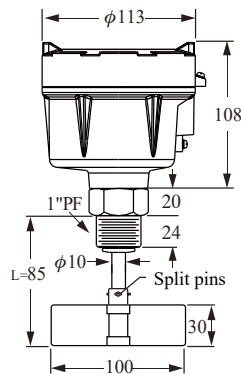
Power source : (A)110Vac,(B)220Vac,(C)240Vac,  
(D)24Vac,50/60Hz  
Power consumptio : 3W  
Contact capacity : SPDT 3A/250Vac  
Rotary speed : 1 R.P.M.  
Insulation test voltage : AC 1500Vx1minute

Connection : 1"PF screw or flange 1"~6"  
2-1/2"x5kg/cm<sup>2</sup> (std.)  
Housing material : AL Alloy, ADC-12  
Conduit : 1/2" (std.) or 3/4"NPT  
Material density : 0.5g/cm<sup>3</sup>

## SE170

### EXPLOSION PROOF CONNECTION TYPE

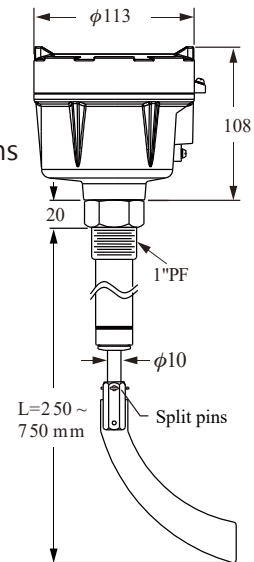
Horizontal mounting  
Operation Temp.: 20°C ~ 70°C



## SE172

### EXPLOSION PROOF CONNECTION TYPE

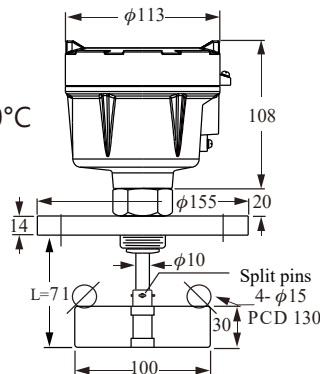
Horizontal mounting  
Operation Temp.: 20°C ~ 70°C  
Standard Length:  
(Option)  
L-- 250 mm  
L-- 500 mm  
L-- 750 mm  
(Customized lengths available)



## SE171

### EXPLOSION PROOF FLANGE TYPE

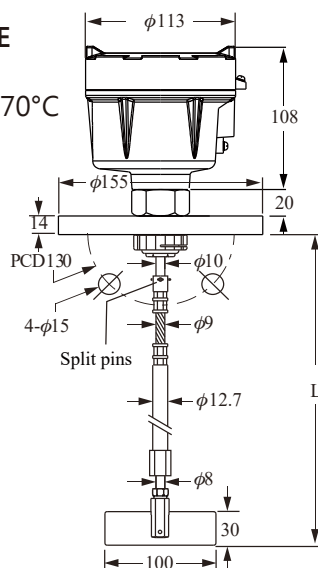
Horizontal mounting  
Operation Temp.: 20°C ~ 70°C



## SE173

### EXPLOSION PROOF ADJUSTABLE SHAFT TYPE

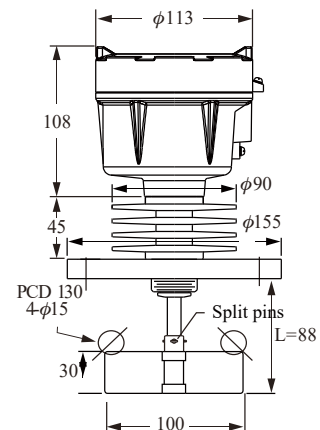
Vertical mounting  
Operation Temp.: -20°C ~ 70°C  
Standard Length:  
(Option)  
L-- 450~630mm  
L-- 650~1000mm  
L-- 750~1200mm  
(Special length is made by order)



## SE174

### EXPLOSION PROOF FLANGE TYPE

Horizontal mounting  
Operation Temp.: Max.190°C



# EXPLOSION PROOF TYPE

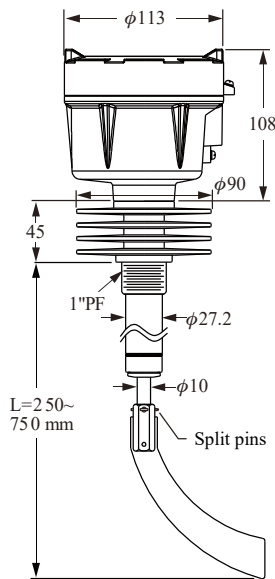


工電TS Ex d IIB T4 Gb X  
NEPSI Ex d IIC T3~T6 Gb  
Ex tD A20/A21 IP65 T80°C / T95°C / T130°C / T190°C  
ATEX II 2G Ex d IIB T3 or T4 or T5 or T6 Gb  
II 2D Ex tb IIIC T200°C or T135°C or T100°C or T85°C Db  
IECEx Ex db IIB T3 or T4 or T5 or T6 Gb  
Ex tb IIIC T200°C or T135°C or T100°C or T85°C Db

## SE175

### EXPLOSION PROOF HI-TEMP SHAFT PROTECTIVE TUBE TYPE

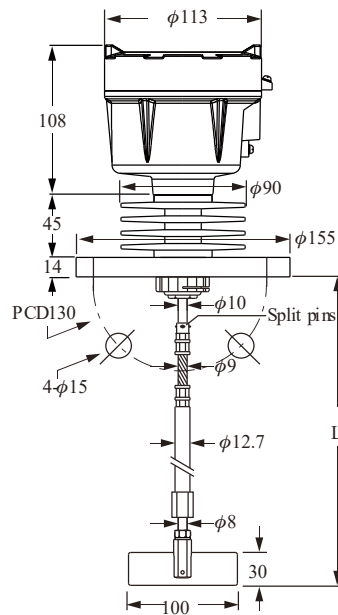
Horizontal mounting  
Operation Temp.: Max.190°C  
Special length is made by order



## SE176

### EXPLOSION PROOF HI-TEMP ADJUSTABLE SHAFT TYPE

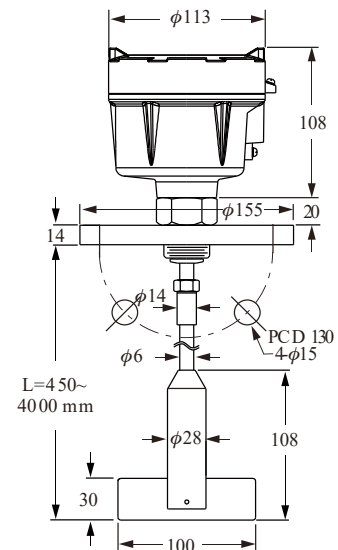
Vertical mounting  
Operation Temp.: Max.190°C  
Special length is made by order



## SE177

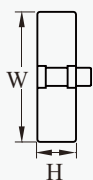
### EXPLOSION PROOF CABLE WIRE TYPE

Vertical mounting  
Operation Temp.: -20°C ~ 70°C  
Special length is made by order



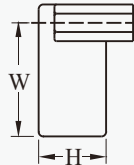
## PADDLE INTRODUCTION

A



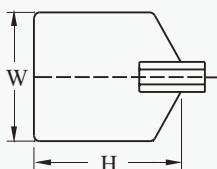
(A) 100x30(WxH), Min.  
fixed hole diameter  
size  $\phi 90$ mm.

E



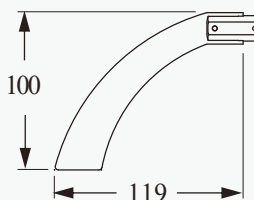
(E) 50x30 (WxH), Suitable for  
high S.G. raw materials.  
Use a small size paddle to  
decrease the impact of  
material falling directly on  
paddle.

B,C,D



(B) 65x80 (WxH), Directly  
mounted into 2-1/2"  
fixed hole.  
(C) 65x120 (WxH), Directly  
mounted into 2-1/2"  
fixed hole.  
(D) 80x80 (WxH)

F



(F) Scimitar model paddle,  
Screw tightly on the 1"  
diameter fixed hole, It is  
easier to mount and  
dismount.

## MODEL NUMBER / ORDER CODE COMPARISON TABLE

| Model Number | Order Code  |
|--------------|-------------|
| SE170        | SEX300□□-AA |
| SE171        |             |
| SE172        | SEX300□□-AB |
| SE173        | SEX300□□-AC |
| SE174        | SEX302□□-AA |
| SE175        | SEX302□□-AB |
| SE176        | SEX302□□-AC |
| SE177        | SEX300□□-AD |

### ACCESSORIES

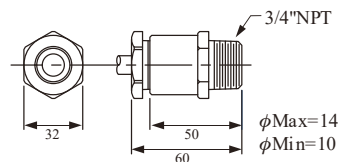
Cable Conduit - Ex d IIC

Material: Washer ---NBR

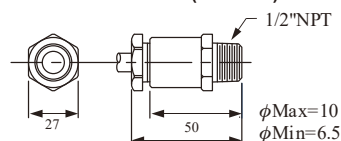
Body--- Copper alloy(3/4"NPT)

Nickel plated(1/2"NPT)

HP415-A23100MH01(29-1104)



HP415-A23000MG01(29-1108)



### NEW / OLD PADDLE MODEL COMPARISON TABLE

| New | Figure                      |  | Dimension(WxH) | Old |
|-----|-----------------------------|--|----------------|-----|
| B   | Rectangular shaped type     |  | 100x30         | A   |
| C   | Shovel shaped type          |  | 65x80          | B   |
| D   |                             |  | 65x120         | C   |
| E   |                             |  | 80x80          | D   |
| F   | Rectangular type, one sided |  | 50x30          | E   |
| G   | Scimitar shaped type        |  | 100x119        | F   |
| H   | Folding type                |  | 200x28         | J   |
| K   | Weights type                |  | 100x108        | X   |

# ORDER INFORMATION

|                                       | 05                       | 06                       | 07                       | 08                       |    | 10                       | 11                       | 12                       | 13                       | 14                       | 15                       | 16                       | 17                       | 18                       | 19                       | 20                       | 21                       | 22                       |  |  |  |
|---------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--|--|--|
| <b>SEX3</b>                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | -A | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |  |  |
| <b>05 06 Model</b>                    |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| 00: Standard                          |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| 02: Hi-temperature                    |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| <b>07 08 Certification</b>            |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| 1C: ATEX-Exd                          |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| 2C: IECEx-Exd                         |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| 5C: TS-Exd                            |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| 7C: NEPSI-Exd                         |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| <b>10 Construction</b>                |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| A: General type                       |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| B: Shaft protective tube type         |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| C: Shaft length adjustable type       |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| D: Cable wire type                    |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| <b>11 Power supply</b>                |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| A: AC110V                             |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| B: AC220V                             |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| C: AC240V                             |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| D: AC24V                              |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| <b>Connection</b>                     |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| <b>12 13</b>                          |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| Flange item                           |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| AK: JIS-FF                            |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| AN: ANSI-RF                           |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| AS: DIN-FF                            |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| <b>14 15</b>                          |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| A8: 1"                                |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| B1: 1-1/2"                            |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| B2: 2"                                |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| B4: 2-1/2"                            |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| <b>16 17</b>                          |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| 01: PT male                           |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| 03: PF male                           |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| 07: NPT male                          |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| 40: 5 kg/cm <sup>2</sup>              |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| 42: 10 kg/cm <sup>2</sup>             |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| 48: 150 Lbs                           |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| 49: 300 Lbs                           |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| 57: PN10                              |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| 58: PN16                              |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| <b>18 Paddle model</b>                |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| A: None                               |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| B: 100x30(WxH)                        |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| C: 65x80(WxH)                         |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| F: 50x30(WxH)                         |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| G: Scimitar type                      |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| K: 100x108(WxH)(Cable wire type only) |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |
| <b>19 20 21 22 Length</b>             |                          |                          |                          |                          |    |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |  |  |  |

| Code      | Length range |
|-----------|--------------|
| 0001~4000 | 0001~4000mm  |

## MINI TYPE(ALUMINUM ALLOY COVER)

Housing cover code:  
0: Aluminum cover  
1: Aluminum cover with LED lamp

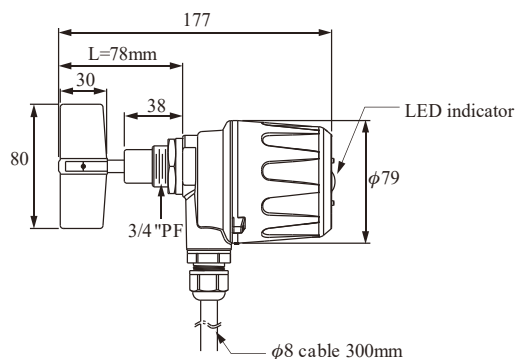
Power source : (A)110Vac,(B)220Vac,(C)240Vac,  
(D)24Vac,50/60Hz,(E)24Vdc  
Power consumptio : 1.5W  
Contact capacity : 5A/250Vac, 5A/30Vdc  
Rotary speed : 1 R.P.M.  
IP rating : IP65

Housing material : Aluminum alloy  
Ambient temperature : -40°C ~ 85°C  
Cable length : 300mm (available for custom length)  
Display status : Green(Working), Red(Stopped)  
Material density : 0.3g/cm<sup>3</sup>

### SE38□0

#### STANDARD TYPE

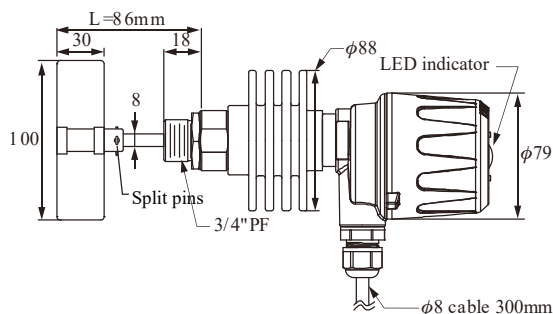
Operation Temp.: -40°C ~ 85°C  
Paddle material: PC



### SE38□4

#### HIGH TEMPERATURE TYPE

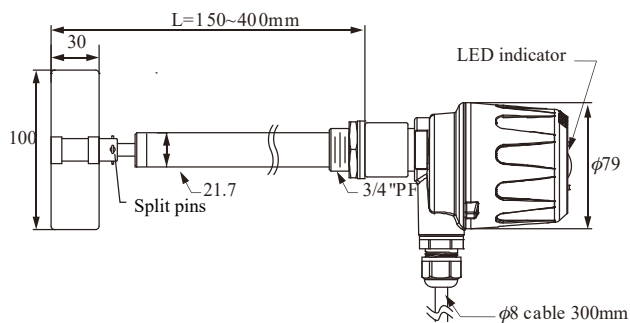
Operation Temp.: -40°C ~ 200°C  
Paddle material: SUS304



### SE38□2

#### SHAFT PROTECTIVE TUBE TYPE

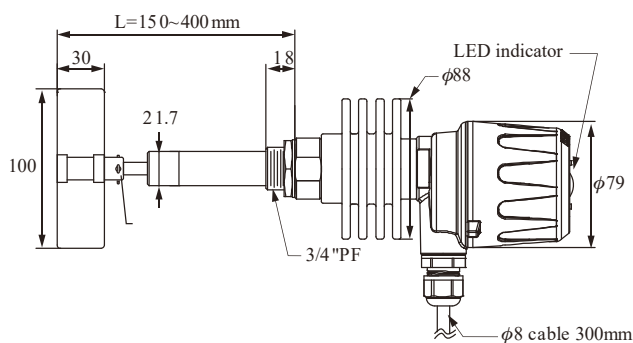
Operation Temp.: -40°C ~ 85°C  
Paddle material: SUS304



### SE38□5

#### HIGH TEMPERATURE SHAFT PROTECTIVE TUBE TYPE

Operation Temp.: -40°C ~ 200°C  
Paddle material: SUS304



# MINI TYPE(EXPLOSION PROOF)



Ex tD A20/21 IP65 T80°C~T195°C

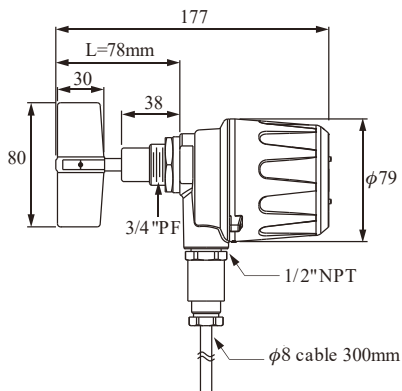
Power source : (A)110Vac,(B)220Vac,(C)240Vac,  
(D)24Vac,50/60Hz,(E)24Vdc  
Power consumptio : 1.5W  
Contact capacity : 5A/250Vac, 5A/30Vdc  
Rotary speed : 1 R.P.M.  
IP rating : IP65

Housing material : Aluminum alloy  
Ambient temperature : -40°C ~ 85°C  
Cable length : 300mm (available for custom length)  
Material density : 0.3g/cm<sup>3</sup>

## SE3700

### STANDARD TYPE

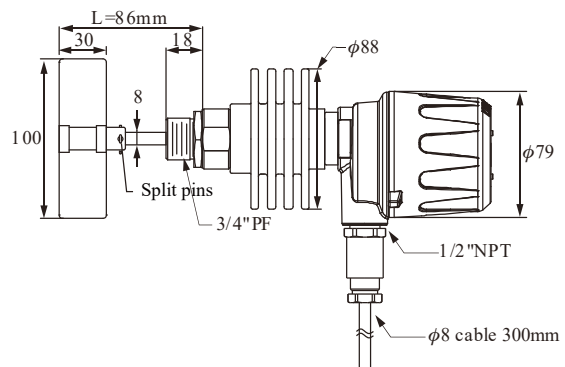
Operation Temp.: -40°C ~ 80°C  
Paddle material: PC



## SE3704

### HIGH TEMPERATURE TYPE

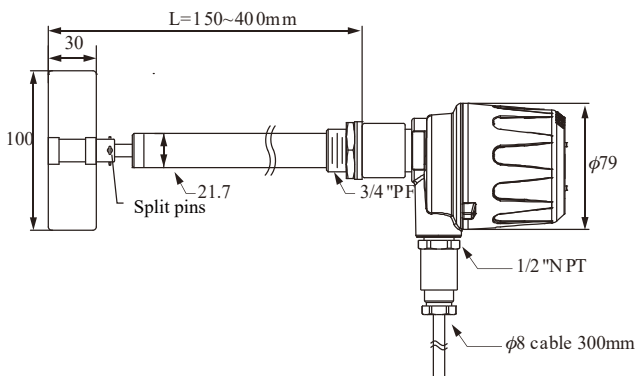
Operation Temp.: -40°C ~ 195°C  
Paddle material: SUS304



## SE3702

### SHAFT PROTECTIVE TUBE TYPE

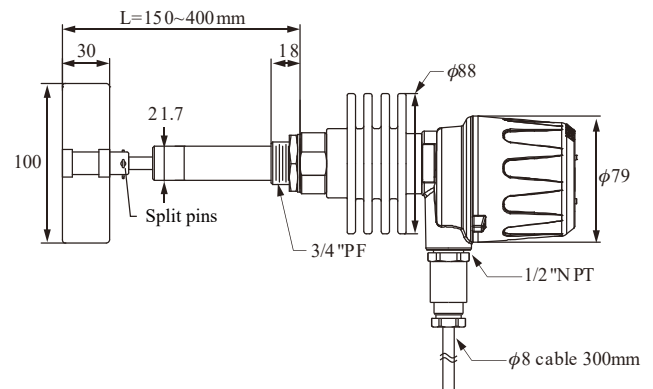
Operation Temp.: -40°C ~ 80°C  
Paddle material: SUS304



## SE3705

### HIGH TEMPERATURE SHAFT PROTECTIVE TUBE TYPE

Operation Temp.: -40°C ~ 195°C  
Paddle material: SUS304



## MINI TYPE(PLASTIC COVER)

Power source : (A)110Vac,(B)220Vac,(C)240Vac,  
(D)24Vac,50/60Hz,(E)24Vdc

Power consumptio : 1.5W

Contact capacity : 5A/250Vac, 5A/30Vdc

Rotary speed : 1 R.P.M.

IP rating : IP65

Housing material : Plastic cover

Ambient temperature : -40°C ~ 85°C

Cable length : 300mm (available for custom length)

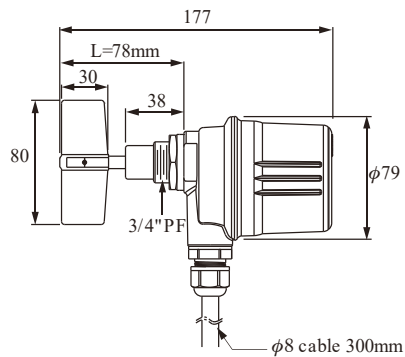
Material density : 0.3g/cm<sup>3</sup>

### SE3820

#### STANDARD TYPE

Operation Temp.: -40°C ~ 85°C

Paddle material: PC

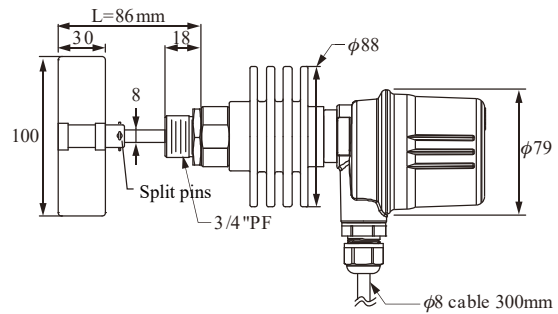


### SE3824

#### HIGH TEMPERATURE TYPE

Operation Temp.: -40°C ~ 200°C

Paddle material: SUS304

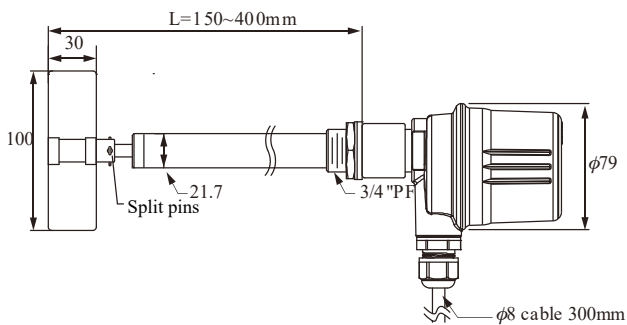


### SE3822

#### SHAFT PROTECTIVE TUBE TYPE

Operation Temp.: -40°C ~ 85°C

Paddle material: SUS304

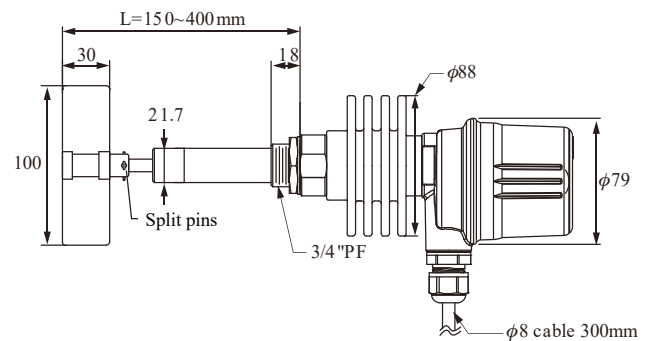


### SE3825

#### HIGH TEMPERATURE SHAFT PROTECTIVE TUBE TYPE

Operation Temp.: -40°C ~ 200°C

Paddle material: SUS304

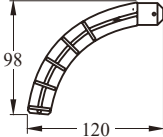
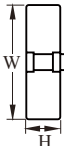
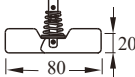


## MODEL NUMBER / ORDER CODE COMPARISON TABLE

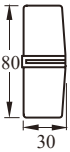
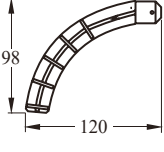
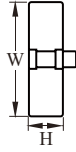
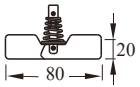
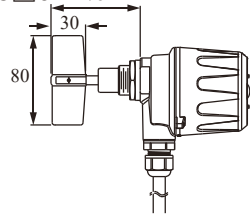
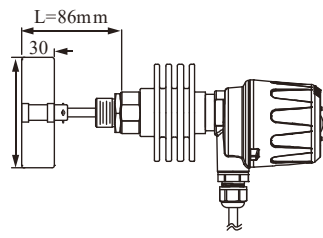
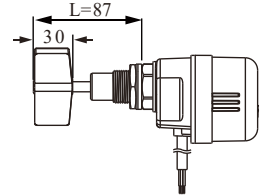
| Model Number | Order Code  |
|--------------|-------------|
| SE3700       | SEX2007D-AA |
| SE3702       | SEX2007D-AB |
| SE3704       | SEX2027D-AA |
| SE3705       | SEX2027D-AB |
| SE3800       | SEX20000-AA |
| SE3810       | SEX20000-BA |
| SE3820       | SEX20000-CA |
| SE3802       | SEX20000-AB |

| Model Number | Order Code  |
|--------------|-------------|
| SE3812       | SEX20000-BB |
| SE3822       | SEX20000-CB |
| SE3804       | SEX20200-AA |
| SE3814       | SEX20200-BA |
| SE3824       | SEX20200-CA |
| SE3805       | SEX20200-AB |
| SE3815       | SEX20200-BB |
| SE3825       | SEX20200-CB |

## NEW / OLD PADDLE MODEL COMPARISON TABLE

| New | Figure                     |                                                                                     | Dimension(WxH) | Old |
|-----|----------------------------|-------------------------------------------------------------------------------------|----------------|-----|
| G   | Cross<br>bladed type       |   | 80x30          | G   |
| H   | Scimitar<br>shaped type    |  | 98x120         | H   |
| I   | Rectangular<br>shaped type |  | 100x30         | I   |
| K   | Hinged type                |  | 80x20          | K   |

# PROBE LENGTH LIST FOR MINI TYPE (WITH DIFFERENT PADDLES)

| Paddle model                                                                                        |  |  |  |  |
|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Appearance diagram                                                                                  | Cross bladed type<br>80x30 (PC)                                                   | Scimitar shaped type<br>98x120 (PC)                                               | Rectangular shaped type<br>100x30 (SUS)                                             | Hinged type<br>80x20 (SUS)                                                          |
| <b>SE38□0</b><br>  | L=78                                                                              | L=174                                                                             | L=104                                                                               | L=100                                                                               |
| <b>SE38□4</b><br> | Not suitable for high temperature (> 120°C)<br>Stainless steel paddle suggested   |                                                                                   | L=86                                                                                | L=82                                                                                |
| <b>SE2□0</b><br> | L=87                                                                              | L=183                                                                             | L=113                                                                               | L=109                                                                               |

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# ORDER INFORMATION

SEX2

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-

⑱ Paddle model \_\_\_\_\_

- A: None
- G: PC; Cross type
- H: PC; Scimitar type 120x98(WxH)
- I: SUS; 100x30(WxH)
- K: SUS; Folding type 80x20(WxH)

⑲ ⑳ ㉑ ㉒ Length \_\_\_\_\_

| Code     | Length range |
|----------|--------------|
| 0001~400 | 0001~400mm   |

㉓ ㉔ ㉕ ㉖ Cable wire length \_\_\_\_\_

| Code      | Length range |
|-----------|--------------|
| 0300~5000 | 0300~5000mm  |

## MINI TYPE(ECONOMY)

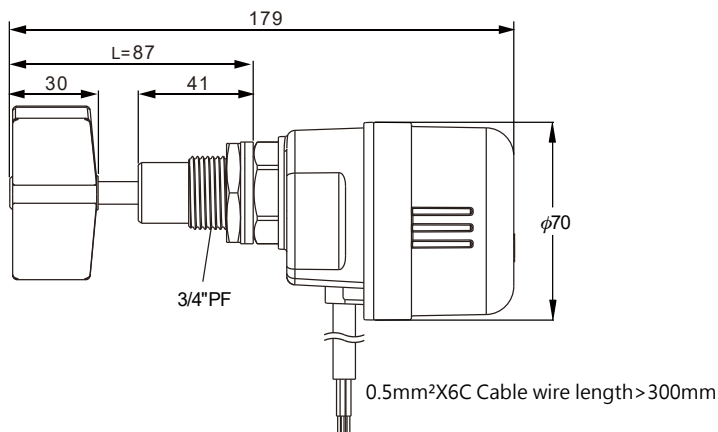
Power source : (A)110Vac,(B)220Vac,  
(D)24Vac,50/60Hz,(E)24Vdc  
Power consumptio : 1.5W  
Contact capacity : 3A/250Vac, 3A/30Vdc  
Rotary speed : 1 R.P.M.  
IP rating : IP65

Housing material : Plastic cover  
Ambient temperature : -20°C ~ 85°C  
Cable length : >300mm (available for custom length)  
Material density : 0.3g/cm<sup>3</sup>

### SE290

#### STANDARD TYPE

Operation Temp.: -40°C ~ 80°C  
Paddle material: PC



## MODEL NUMBER / ORDER CODE COMPARISON TABLE

| Model Number | Order Code   |
|--------------|--------------|
| SE290A       | SEX40000-CAA |
| SE290B       | SEX40000-CAB |
| SE290D       | SEX40000-CAD |
| SE290E       | SEX40000-CAE |

# ORDER INFORMATION

SEX4 0 0 0 0 - C A ⑪⑫⑬⑭⑮⑯⑰⑱⑲⑳㉑㉒

⑪ Power supply

- A: AC110V
- B: AC220V
- D: AC24V
- E: DC24V

Connection

⑫ ⑬

- Flange item
- AK: JIS-FF
- AN: ANSI-RF
- AS: DIN-FF

⑭ ⑮

- A8: 1"
- B1: 1-1/2"
- B2: 2"
- B4: 2-1/2"

⑯ ⑰

- 01: PT male
- 03: PF male
- 07: NPT male
- 40: 5 kg/cm<sup>2</sup>
- 42: 10 kg/cm<sup>2</sup>
- 48: 150 Lbs
- 49: 300 Lbs
- 57: PN10
- 58: PN16

⑱ Paddle model

- A: None
- G: PC; Cross type
- H: PC; Scimitar type 120x98(WxH)
- I: SUS; 100x30(WxH)
- K: SUS; Folding type 80x20(WxH)

⑲ ⑳ ㉑ ㉒ Cable wire length

| Code      | Length range |
|-----------|--------------|
| 0300~5000 | 0300~5000mm  |

## MOUNTING EXAMPLES

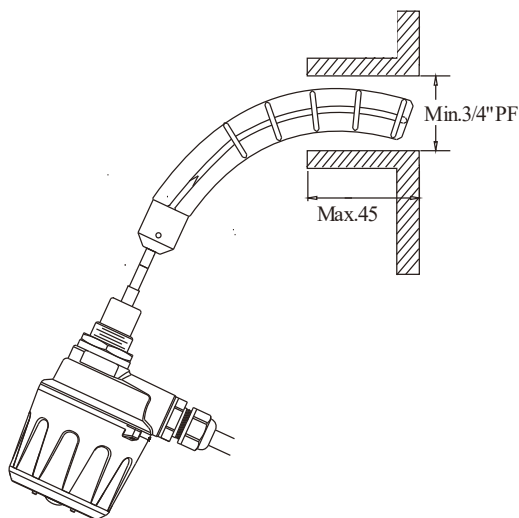
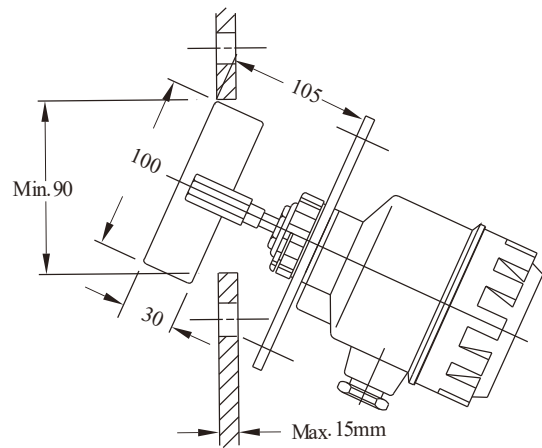
Regular models such as the SE11 should be installed directly on the tank side.

Mount at a 35° angle the blade through the tank opening or hole sliding the blade in first.

※ The SE170 series minimum hole size should be 95mm in diameter.

The scimitar model is directly installed on the tank wall method as shown below.

(Assuming an arc-shaped tank with a 3/4" connection) and then screwing it tight.



## INJECTION MOLDING MACHINES

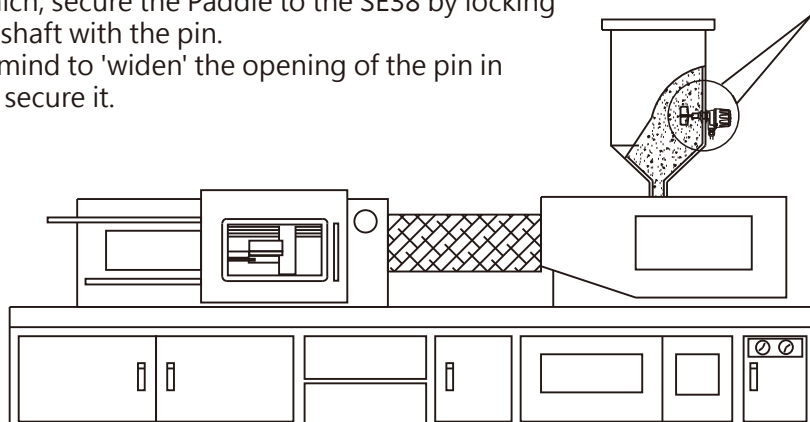
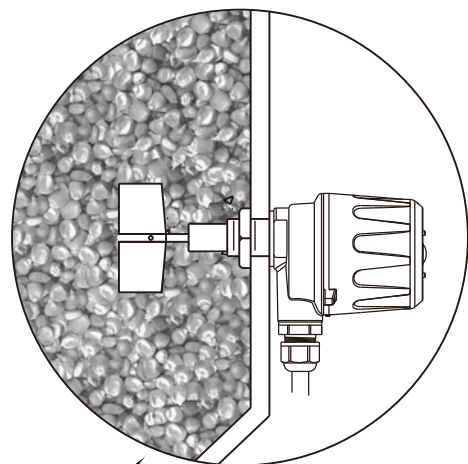
Injection Molding Machine usually require the SE38. Install the Rotary Paddle through a 20mm diameter hole on the tank/silo.

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

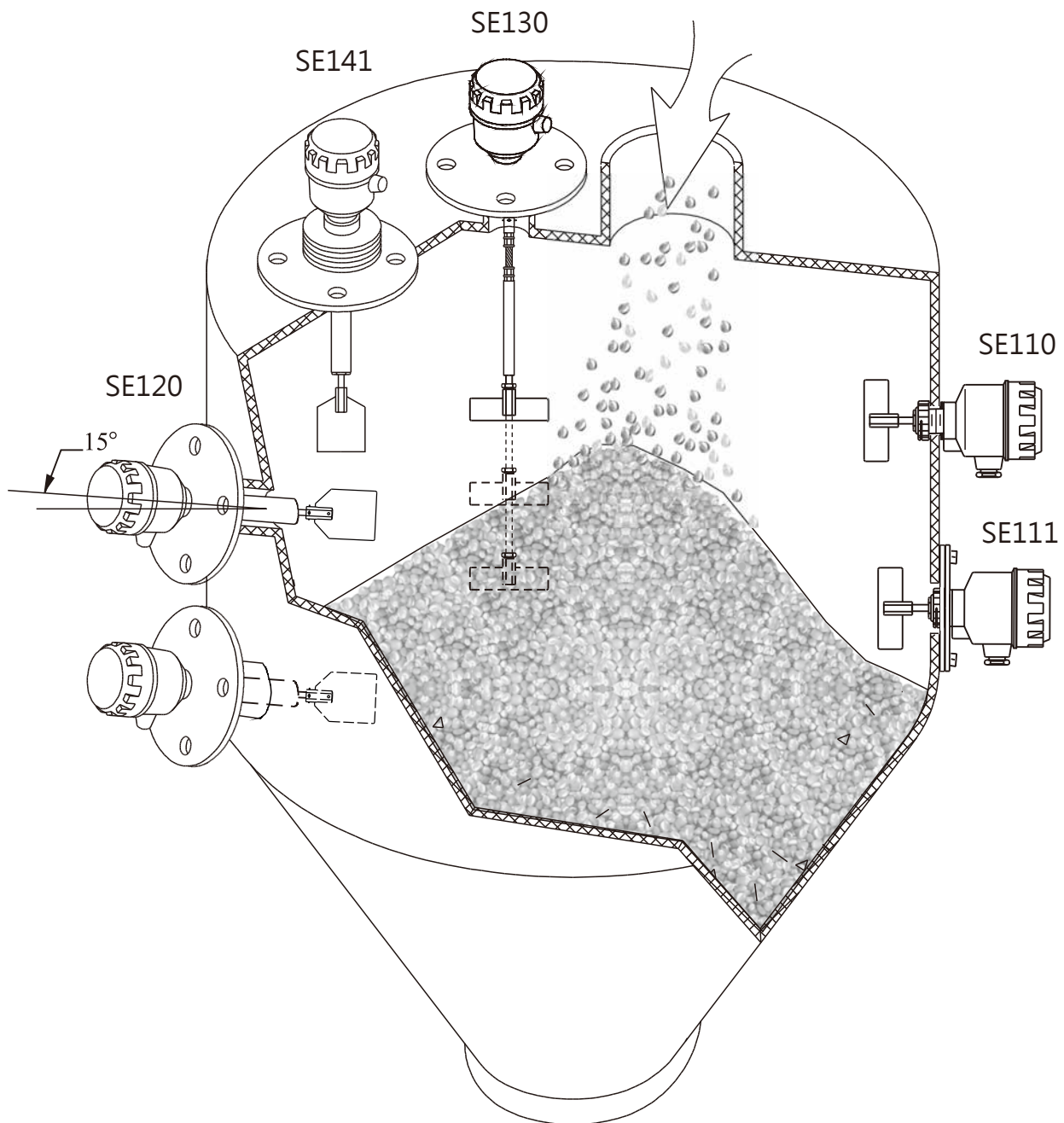
Insert the SE38 through the mounting hole and tighten it.

After which, secure the Paddle to the SE38 by locking it to the shaft with the pin.

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



## EXAMPLES



### INSTALLATION NOTICESEXAMPLES

1. Side mount the sensor at a downward angle of  $15^{\circ}$  ~  $20^{\circ}$  to decrease the material inflow impact.
2. For high temperature application (more than  $70^{\circ}\text{C}$ ), please use the SE149 Series.
3. For SE110~SE140 using a 1" inlet, please apply the scimitar model and screw directly.
4. For SE130, SE146 series have flexible and extendible shafts.
5. Please ensure the lead wire enters the housing from the bottom and the nuts are fastened to secure the device.

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