



SRP Series Rotary Paddle Point Level Sensor

PRODUCT INTRODUCTION

PRINCIPLE

The SRP Series is a rotary paddle point level sensor used to detect the presence and absence of materials within bins, hoppers, silos and other vessels containing powder and bulk solids. The SRP uses a robust synchronous motor to drive its shaft at approximately 1 RPM. The chosen paddle is attached to the shaft and rotates freely in the absence of material.

As material comes in contact and impedes the paddle rotation, two limit switches internal to the assembly will be activated as the motor is allowed to rotate slightly on its internal motor mounting plate. This movement is spring-loaded based upon the position of the sensitivity spring located above the data nameplate for easy adjustment if required. Limit switch number 2 will change the state of the output relay contacts (or directly perform output function for microswitch versions). Limit switch number 1 will disconnect power to the motor. A third limit switch is provided for those versions with two microswitch (limit switch 2 and 3) output so that both microswitches used for the unit output are isolated from the motor voltage.

As material falls away from the paddle, the sensitivity spring will rotate the motor on its mounting plate back to the original position, thereby changing the state of the output microswitches or relays. In addition power is applied to the motor and rotation of the paddle resumes as it is now free from the target material.

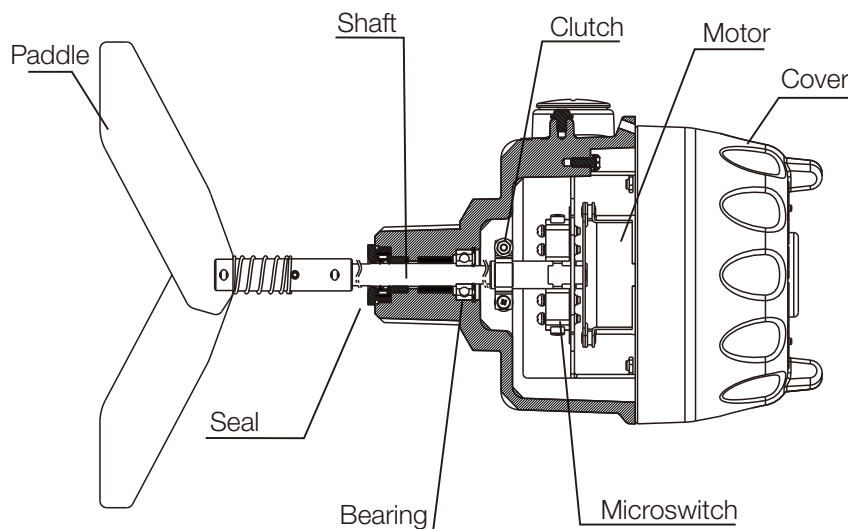
FEATURES

- Universal 20-250VAC/VDC power supply available
- 110VAC or 220VAC dedicated power supply versions available
- Local LED indication (not with dedicated power supply versions)
- Technician friendly cover chain available
- Unique seal for pressure up to 58psi (4bar)
- Easily adjusted sensitivity, no disassembly required
- Automatic motor shutoff extends motor life
- Remote test function (some versions)
- Bin temperature up to 392°F (200°C) available

INDUSTRY USE

- Concrete Production
- Cement
- Asphalt
- Agriculture
- Feed & Grain Processing
- Plastic Processing
- Food
- Pharmaceutical
- Chemical
- Ceramic
- Water/Wastewater
- Steel

INTERNAL DIAGRAM



TYPES & SPECIFICATIONS

Dimensions	Inch (mm)	Inch (mm)
Type	Standard	High Temperature
Order no.	SRP1710	SRP1710
Ambient temp.	-40°F to +176°F (-40°C to +80°C)	
Storage temp.	-40°F to +176°F (-40°C to +80°C)	
Process temp.	-40°F to +176°F (-40°C to +80°C)	-40°F to +392°F (-40°C to +200°C)
Relative humidity	20%~80% RH non-condensed	
Pressure	58psi (4 bar) / 43 psi (3 bar) Explosionproof version	
Housing material	Diecast Aluminum (powder coated)	
Protection	NEMA 4X / IP65	
Connection	1-1/4"NPT	
Conduit entrance	Two 3/4"NPT	
Paddle speed	1/1.2 RPM	
Supply voltage	Universal 20~250VAC/VDC, 50/60Hz; 110VAC, 50/60Hz; 220VAC, 50/60Hz	
Output rating	ONE Relay: 5A @ 250VAC/30VDC (Option: TWO Relays)* ONE NPN/PNP: 400mA @ 60VAC/VDC (Option: TWO NPN/PNP)* ONE Microswitch: 6A @ 250VAC (Option: TWO Microswitches)†	
Power consumption	Max. : 15VA	
Fail safe mode	FSH/FSL Switch*	
Delay time	Adjustable 0~12s ±3s Material Detection Delay*	
Bulk density	> 18.7lbs/ft ³ **	
Remote test	Jumper RT1/RT2 for Test*	
LED Indication	Green = Normal / Red = Alarm*	

*Provided only with Universal 20-250VAC/VDC Power Supply

**Dependent on paddle selection and sensitivity spring position

Dimensions		
	Inch (mm)	Inch (mm)
Type	Adjustable Shaft	Adjustable Shaft & High Temp.
Order no.	SRP1712	SRP1712
Ambient temp.	-40°F to +176°F (-40°C to +80°C)	
Storage temp.	-40°F to +176°F (-40°C to +80°C)	
Process temp.	-40°F to +176°F (-40°C to +80°C)	-40°F to +392°F (-40°C to +200°C)
Relative humidity	20%~80% RH non-condensed	
Pressure	58psi (4 bar) / 43 psi (3 bar) Explosionproof version	
Housing material	Diecast Aluminum (powder coated)	
Protection	NEMA 4X / IP65	
Connection	1-1/4"NPT	
Conduit entrance	Two 3/4"NPT	
Paddle speed	1/1.2 RPM	
Supply voltage	Universal 20 ~250VAC/VDC, 50/60Hz; 110VAC, 50/60Hz; 220VAC, 50/60Hz	
Output rating	ONE Relay: 5A @ 250VAC/30VDC (Option: TWO Relays)* ONE NPN/PNP: 400mA @ 60VAC/VDC (Option: TWO NPN/PNP)* ONE Microswitch: 6A @ 250VAC (Option: TWO Microswitches) †	
Power consumption	Max. : 15VA	
Fail safe mode	FSH/FSL Switch*	
Delay time	Adjustable 0~12s ±3s Material Detection Delay*	
Bulk density	> 18.7lbs/ft ³ **	
Remote test	Jumper RT1/RT2 for Test*	
LED Indication	Green = Normal / Red = Alarm*	

*Provided only with Universal 20-250VAC/VDC Power Supply

**Dependent on paddle selection and sensitivity spring position

Dimensions	Inch (mm)	Inch (mm)
Type	Cable	Cable & High Temp.
Order no.	SRP1713	SRP1713
Ambient temp.	-40°F to +176°F (-40°C to +80°C)	
Storage temp.	-40°F to +176°F (-40°C to +80°C)	
Process temp.	-40°F to +176°F (-40°C to +80°C)	-40°F to +392°F (-40°C to +200°C)
Relative humidity	20%~80% RH non-condensed	
Pressure	58psi (4 bar) / 43 psi (3 bar) Explosionproof version	
Housing material	Diecast Aluminum (powder coated)	
Protection	NEMA 4X / IP65	
Connection	1-1/4"NPT	
Conduit entrance	Two 3/4"NPT	
Paddle speed	1/1.2 RPM	
Supply voltage	Universal 20 ~250VAC/VDC, 50/60Hz; 110VAC, 50/60Hz; 220VAC, 50/60Hz	
Output rating	ONE Relay: 5A @ 250VAC/30VDC (Option: TWO Relays)* ONE NPN/PNP: 400mA @ 60VAC/VDC (Option: TWO NPN/PNP)* ONE Microswitch: 6A @ 250VAC (Option: TWO Microswitches) †	
Power consumption	Max. : 15VA	
Fail safe mode	FSH/FSL Switch*	
Delay time	Adjustable 0~12s ±3s Material Detection Delay*	
Bulk density	> 18.7lbs/ft ³ **	
Remote test	Jumper RT1/RT2 for Test*	
LED Indication	Green = Normal / Red = Alarm*	

*Provided only with Universal 20-250VAC/VDC Power Supply

**Dependent on paddle selection and sensitivity spring position

Dimensions	<div style="text-align: right;">Inch (mm)</div>
Type	Reinforced Shaft
Order no.	SRP1714
Ambient temp.	-40°F to +176°F (-40°C to +80°C)
Storage temp.	-40°F to +176°F (-40°C to +80°C)
Process temp.	-40°F to +176°F (-40°C to +80°C)
Relative humidity	20%~80% RH non-condensed
Pressure	58psi (4 bar) / 43 psi (3 bar) Explosionproof version
Housing material	Diecast Aluminum (powder coated)
Protection	NEMA 4X / IP65
Connection	1-1/4"NPT
Conduit entrance	Two 3/4"NPT
Paddle speed	1/1.2 RPM
Supply voltage	Universal 20 ~250VAC/VDC, 50/60Hz; 110VAC, 50/60Hz; 220VAC, 50/60Hz
Output rating	ONE Relay: 5A @ 250VAC/30VDC (Option: TWO Relays)* ONE NPN/PNP: 400mA @ 60VAC/VDC (Option: TWO NPN/PNP)* ONE Microswitch: 6A @ 250VAC (Option: TWO Microswitches) †
Power consumption	Max. : 15VA
Fail safe mode	FSH/FSL Switch*
Delay time	Adjustable 0~12s ±3s Material Detection Delay*
Bulk density	> 18.7lbs/ft3**
Remote test	Jumper RT1/RT2 for Test*
LED Indication	Green = Normal / Red = Alarm*

*Provided only with Universal 20-250VAC/VDC Power Supply

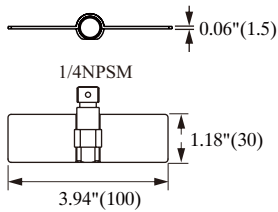
**Dependent on paddle selection and sensitivity spring position

TYPES OF ACCESSORIES

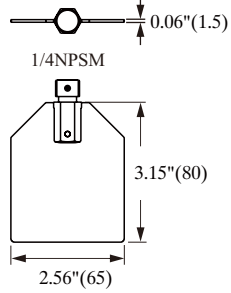
PADDLES - ATTACHED BY 1/4" MALE THREADED CONNECTION

Material of construction: 304SS

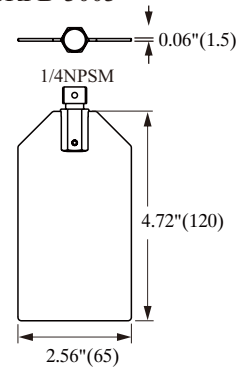
A SRPB-3001



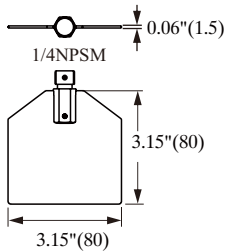
B SRPB-3002



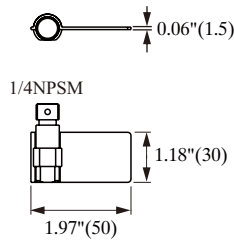
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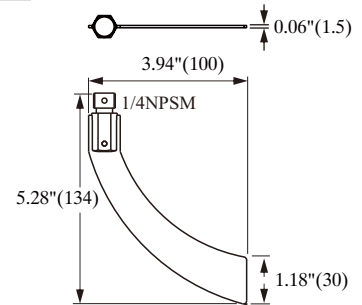
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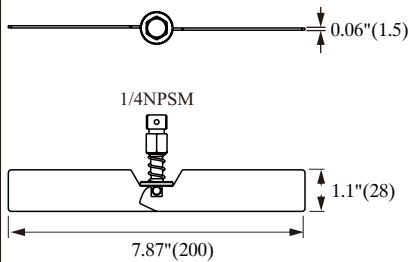
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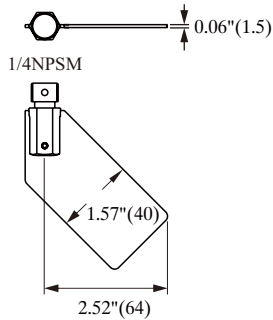
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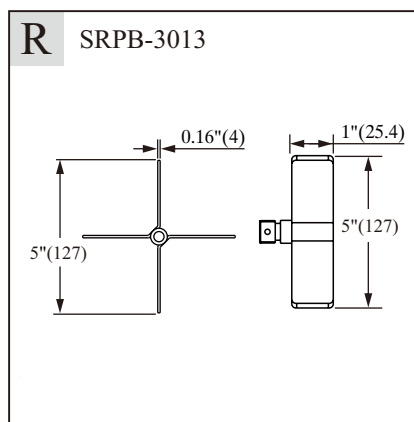
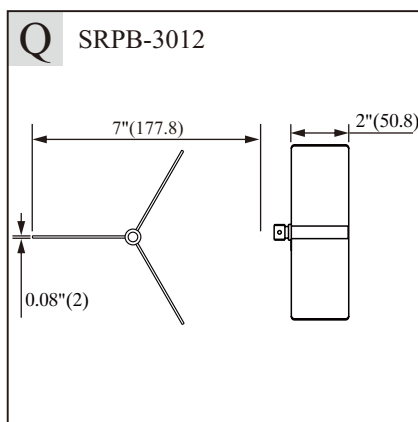
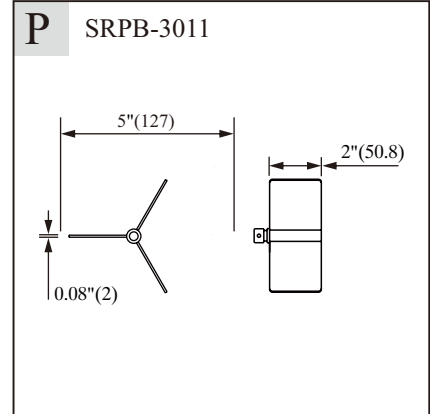
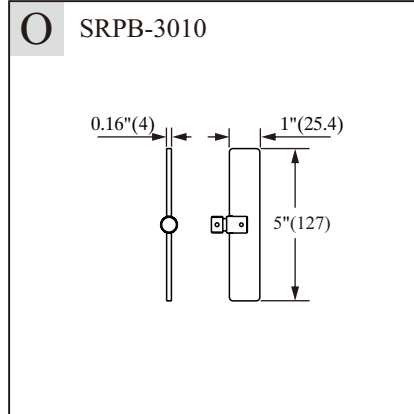
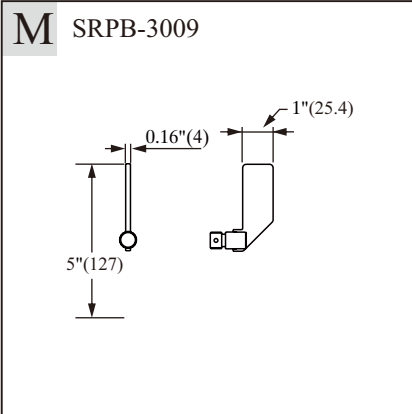


J SRPB-3007



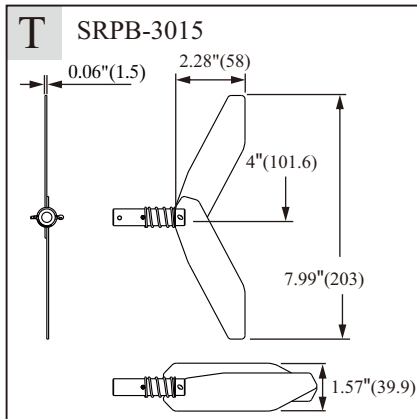
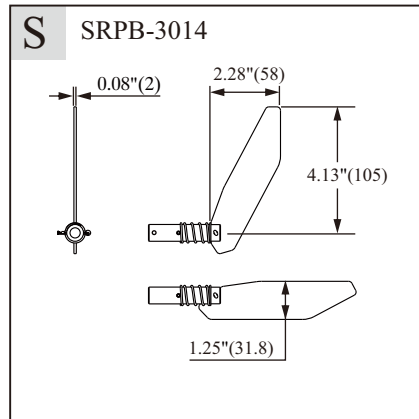
L SRPB-3008





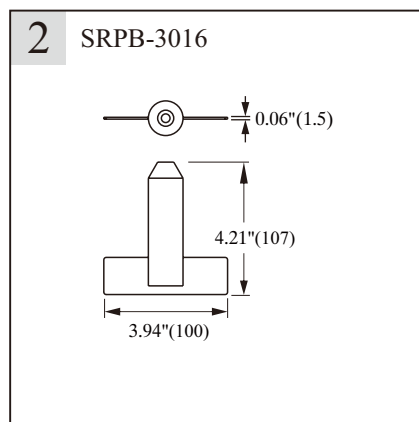
PADDLES - DIRECT CONNECT (ATTACH BY USING PIN ONLY)

Material of construction: 304SS



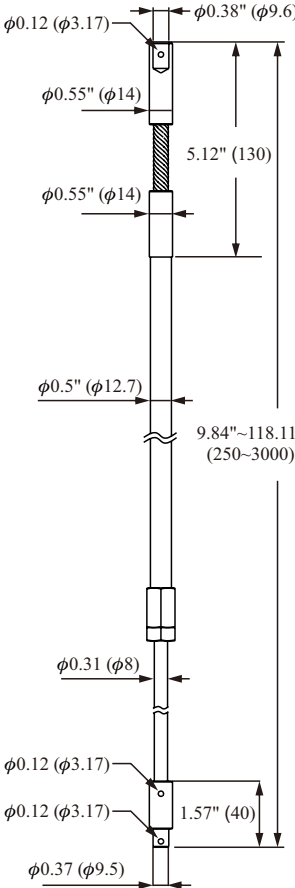
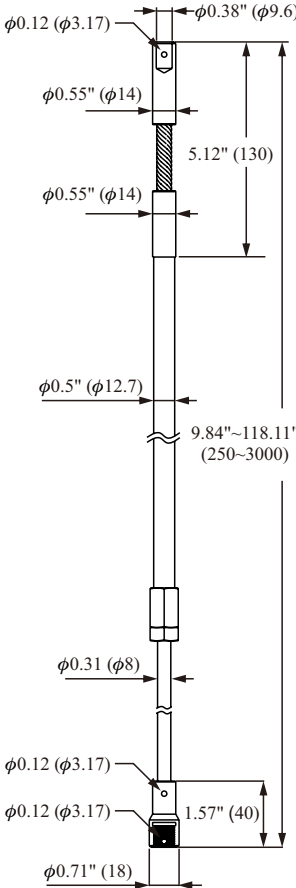
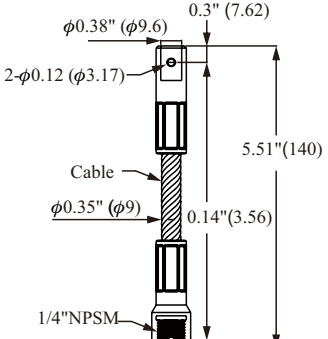
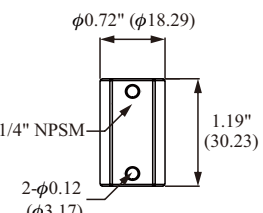
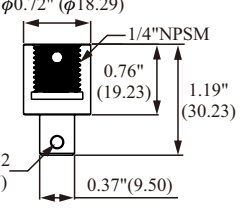
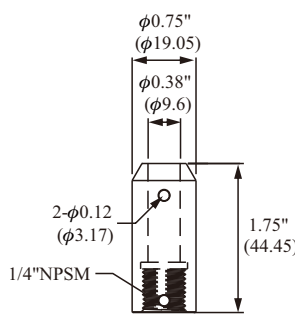
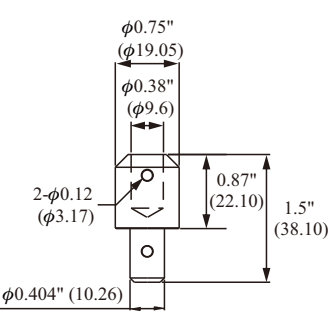
PADDLES - DIRECT CONNECT ATTACHED TO CABLE (FOR ALL CABLE, AND CABLE & HIGH TEMP. SRP TYPES)

Material of construction: 304SS



TYPES OF COUPLING ACCESSORIES

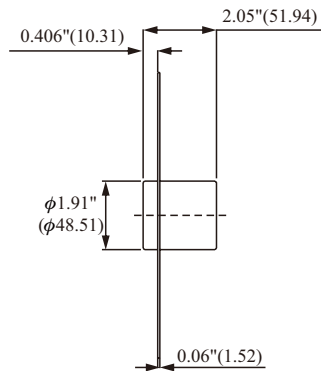
Material of construction: 304SS

<p>Adjustable Shaft Extension w/ Coupling for Direct Connect Paddles</p> <p>SRPB-2201-□□□□</p> 	<p>Adjustable Shaft Extension w/ Coupling for 1/4" Threaded Connection Paddles</p> <p>SRPB-2200-□□□□</p> 	<p>Flexible Coupling</p> <p>SRPB-2900</p> 	
		<p>Threaded Paddle Coupling (used with extension pipe)</p> <p>SRPB-2901</p> 	<p>Direct Connect Paddle Coupling (used with extension pipe)</p> <p>SRPB-2904</p> 
<p>Standard Solid Coupling</p> <p>SRPB-2902</p> 		<p>Optional Solid Coupling</p> <p>SRPB-2903</p> 	

TYPES OF FLANGE ACCESSORIES

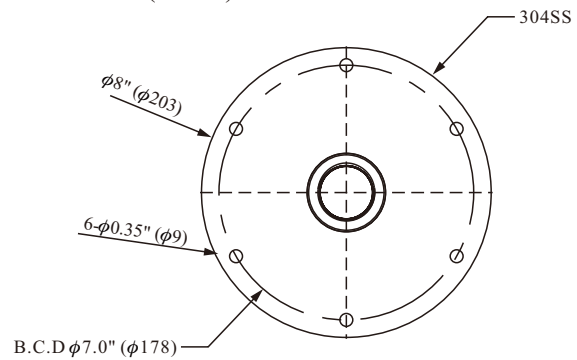
Material of construction: 304SS

Full Coupling Mounting Plate

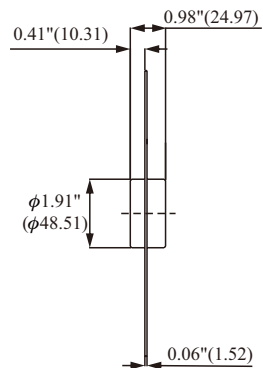


SRPB-2910 (Powder coated steel)

SRPB-2910-4 (304SS)

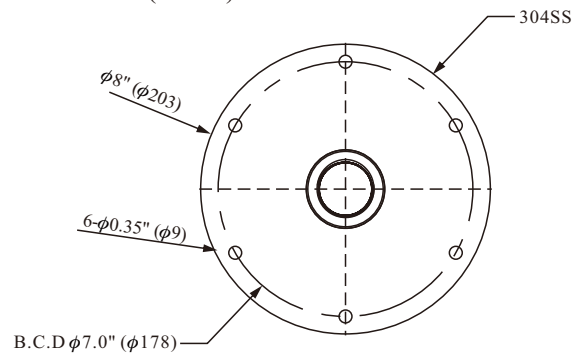


Half Coupling Mounting Plate



SRPB-2911 (Powder coated steel)

SRPB-2911-4 (304SS)

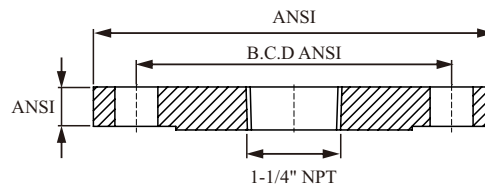


ANSI Flange

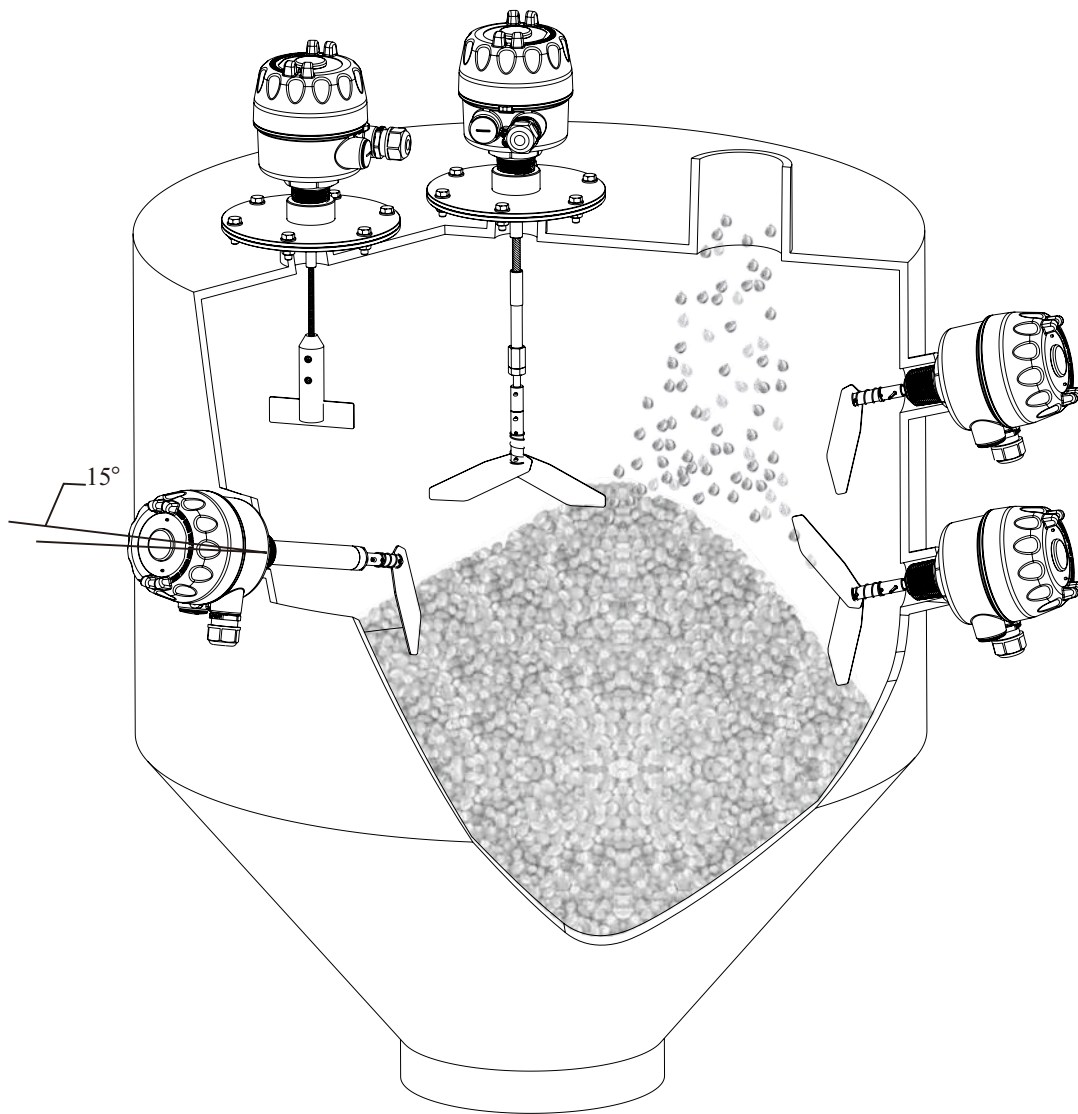
SRPB-4000- ☐ ☐

F:2"
G:2-1/2"
H:3"
J:5"
K:6"

O:150Lbs
P:300Lbs
L:600Lbs



INSTALLATION



NOTES

- For side mount installation do not install where paddle and shaft will be in the direct flow stream of incoming material during filling.
- Conduit opening should always be positioned downward with conduit or cable connection tight and sealed to prevent ingress of moisture through conduit/cable connection.
- Always disconnect power from unit power source before opening enclosure or prior to initial installation.
- Consult factory when internal bin environment may be highly corrosive to aluminum process connection. Stainless steel or other material for the process connection may be available.
- Ensure that the internal bin and ambient temperatures do not exceed the unit specifications.

ORDER INFORMATION

SRP17 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Enclosure Type

0: Without LED Lens 1: With LED Lens

Explosionproof

0: Standard 3: Cable
2: Adjustable Shaft 4: Reinforced Shaft

Model

0: Non-explosionproof version 1: Explosionproof version

Housing

0: Standard 1: Standard w/ Cover Chain

Conduit Entrance

0: 3/4"NPT

Power & Output

A: 110Vac, 50/60Hz; ONE Microswitch, 6A @ 250Vac
B: 220Vac, 50/60Hz; ONE Microswitch, 6A @ 250Vac
C: 20-250Vac/Vdc, 50/60Hz; TWO Relay Output; 5A @ 250Vac / 30Vdc
D: 20-250Vac/Vdc, 50/60Hz; TWO NPN/PNP Output; 400mA @ 60Vac/Vdc
E: 20-250Vac/Vdc, 50/60Hz; ONE Relay Output; 5A @ 250Vac / 30Vdc
F: 20-250Vac/Vdc, 50/60Hz; ONE NPN/PNP Output; 400mA @ 60Vac/Vdc
G: 110Vac, 50/60 Hz; TWO Microswitch, 6A @ 250Vac
H: 220Vac, 50/60Hz; TWO Microswitch, 6A @ 250Vac

Internal Bin Temp.

0: Standard 1: High Temperature

Overall Length

Standard Model – Use X or 0 code	X: Standard	5: Range from 99" to 118"
Adjustable Shaft Model – Use 1 thru 5 code	0: Below 19"	6: Range from 119" to 138"
Cable Model – Use 1 thru 9 code	1: Range from 20" to 39"	7: Range from 139" to 157"
Reinforced Shaft Model – Use 0 thru 3 code	2: Range from 40" to 59"	8: Range from 158" to 177"
	3: Range from 60" to 79"	9: Range from 178" to 197"
	4: Range from 80" to 98"	S: Special

Process Connection

Threaded:
3U: 1-1/4" NPT EU: 1-1/2" NPT

Paddle Connection

0: Direct Connect Shaft
1: Standard Solid Coupling (1/4" female thread)*
2: Optional Solid Coupling (0.404" OD Shaft)*

Paddles

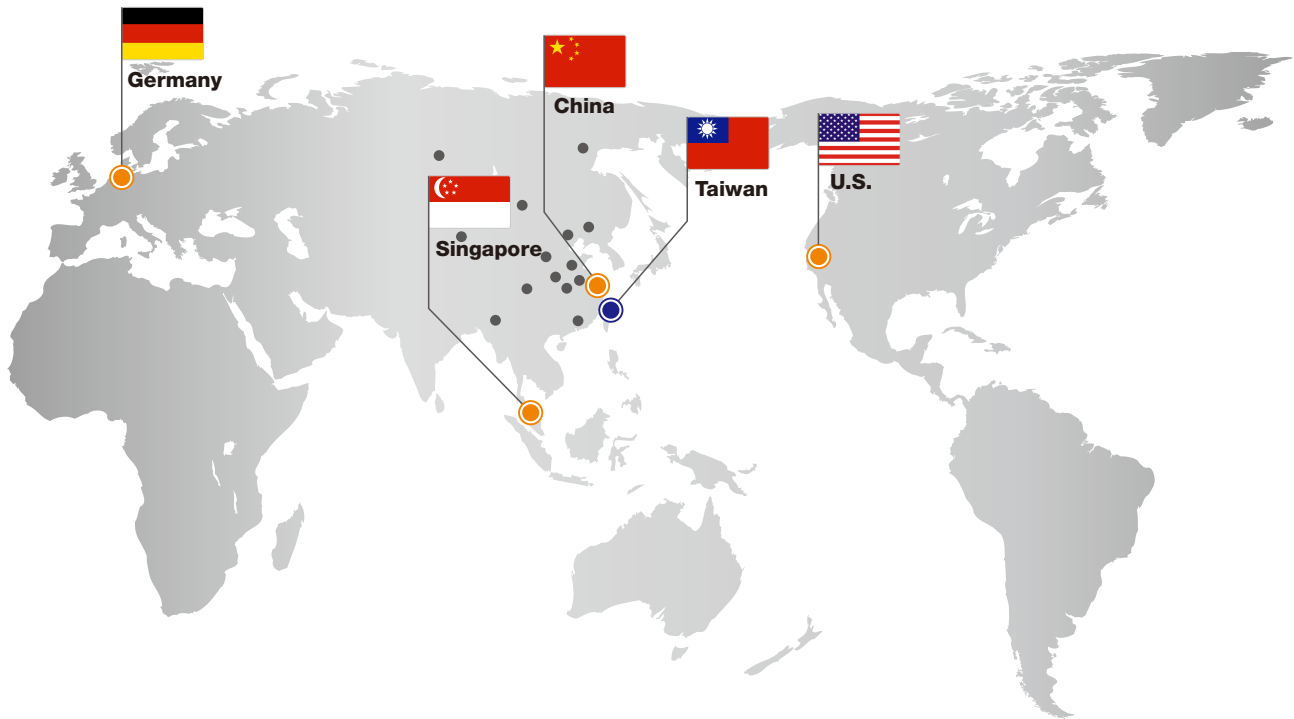
Standard Model Purchase Separately as Accessory
Use code X
Adjustable Shaft Model Select Paddle Desired
Use code A, B, C, D, E, F, J, L, M, N, O, P, Q, R, S and T
Cable Model
Use code 2
Reinforced Shaft Model Purchase Separately as Accessory
Use code X

Remarks

Specify exact length required for Adjustable Shaft, Cable and Reinforced Shaft Models.

* Select Paddle Connection 1 for use with Aplus, BlueLevel, BinMaster and Monitor threaded paddles and accessories.
Select Paddle Connection 2 for use with Bindicator brand paddles and accessories.

Global Network



■ Asia

Taiwan

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