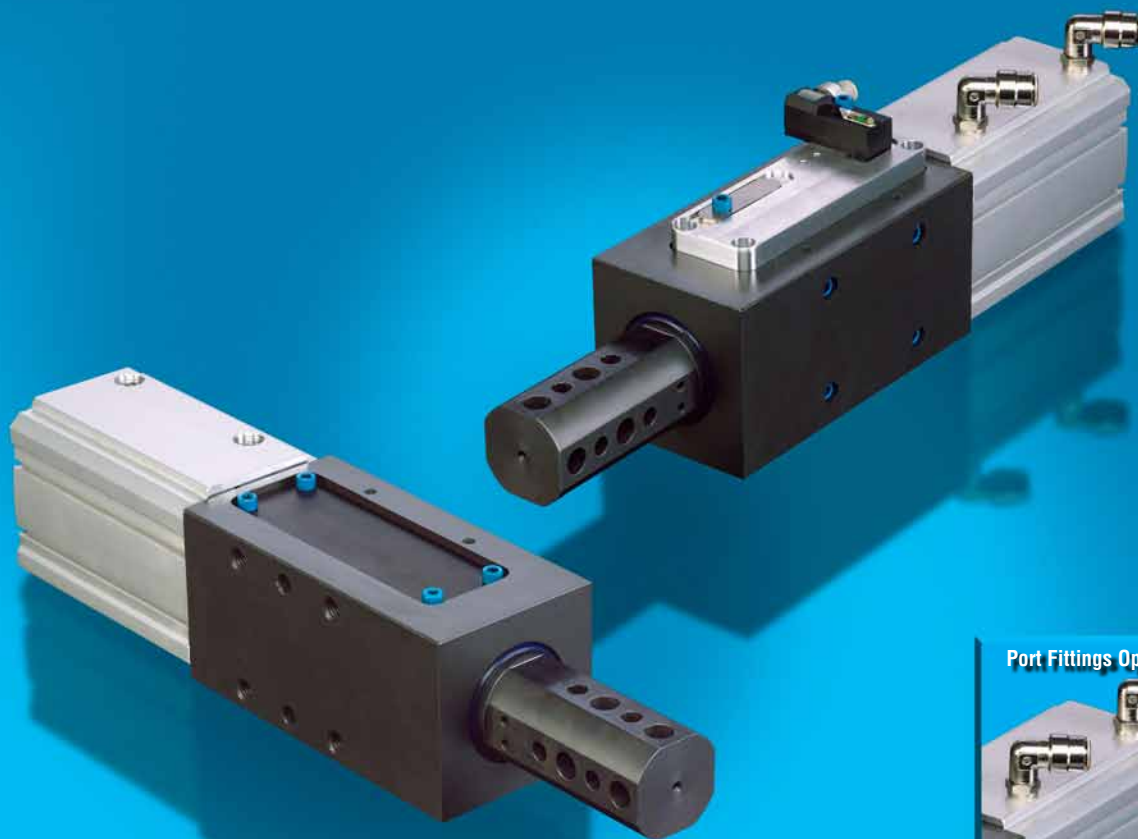


# PSP

## SERIES PSP SHOT PIN

*Superior part locating and positioning.  
Provides the best repeatability in its class.*



Port Fittings Option



Switch Options



Weld Cover Option



**ISO 9001  
REGISTERED**  
Quality Management  
System Certified

Patent Pending

PSP01A



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# ORDERING DATA: SERIES PSP SHOT PINS

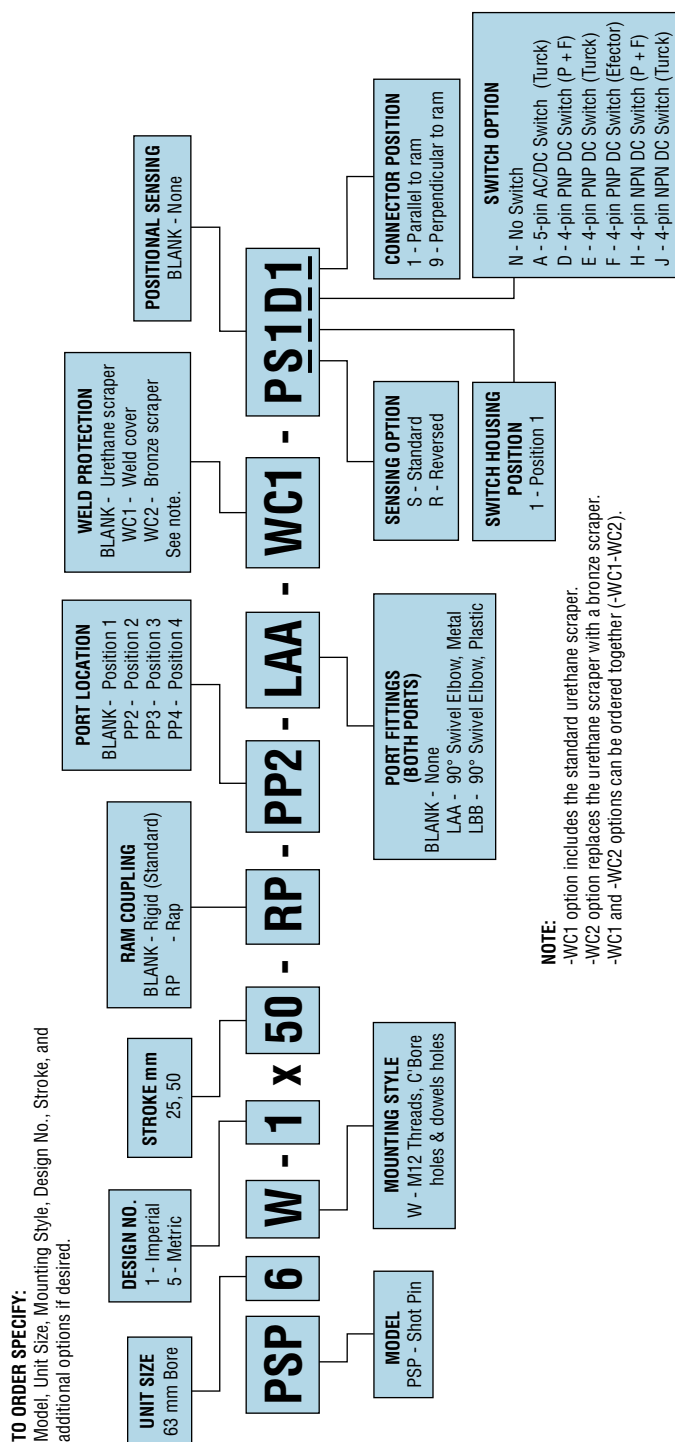
**INDEX:**  
**Ordering Data**  
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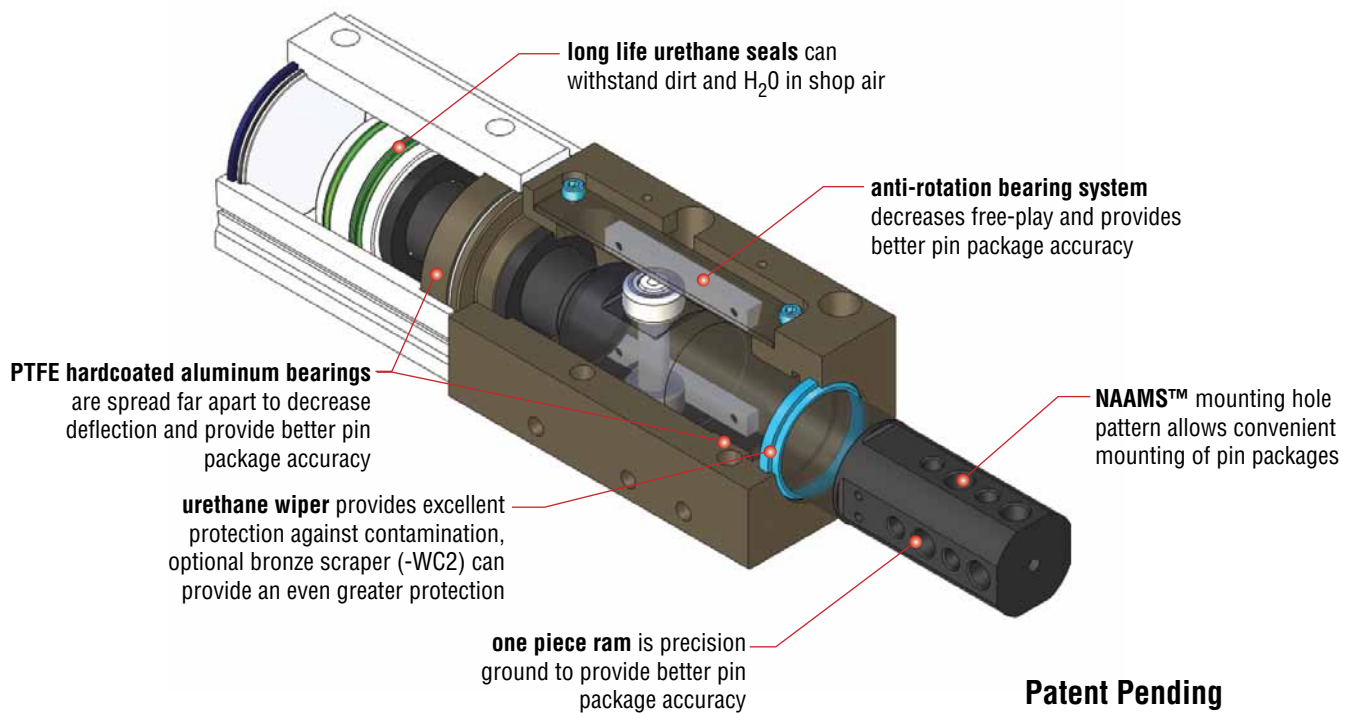
**Benefits**  
 Page 3

**Dimensions &  
 Engineering Data**  
 Page 4

**Options & Kits**  
 Pages 5 to 7

**Exploded View &  
 Parts List**  
 Page 8





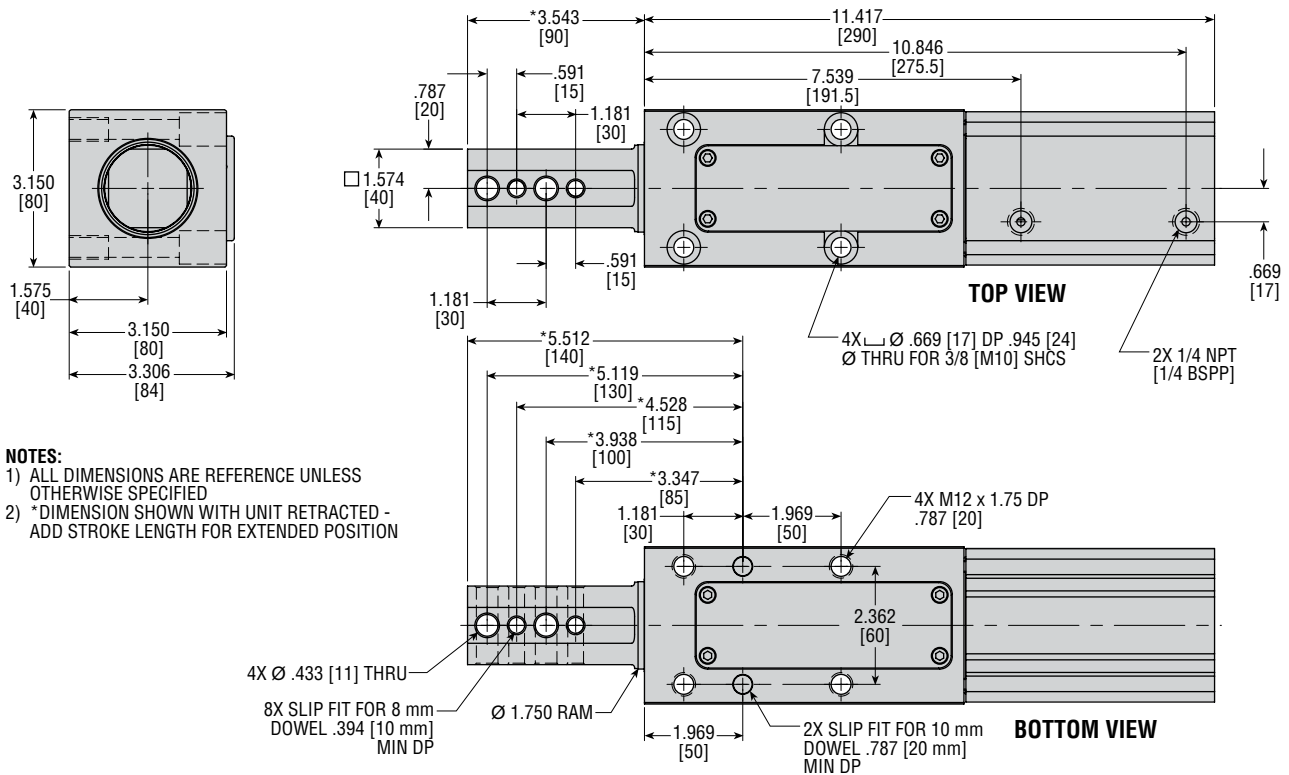
## Major Benefits

- Smaller, more compact design
- After millions of cycles, adjustable bearing system can be used to make worn-in units "like-new" providing better accuracy over a much longer period of time
- Internal porting and shock absorption eliminates the need to adjust air cushions or flow controls and still provide quick cycle rates
- Self-locking internal threads throughout eliminate need for thread locking adhesives or additional locking components

## Industry Uses

- Assembly and Welding

# DIMENSIONS: SERIES PSP SHOT PINS



## ENGINEERING DATA: SERIES PSP SHOT PINS

| SPECIFICATIONS        | SERIES PSP                       |
|-----------------------|----------------------------------|
| SEALS                 | Polyurethane                     |
| WORKING PRESSURE      | 40 psi min. - 100 psi max.       |
| OPERATING TEMPERATURE | -20° to +180° F [-28° to +82° C] |
| LUBRICATION           | Factory lubricated for life      |

### SPECIFICATIONS

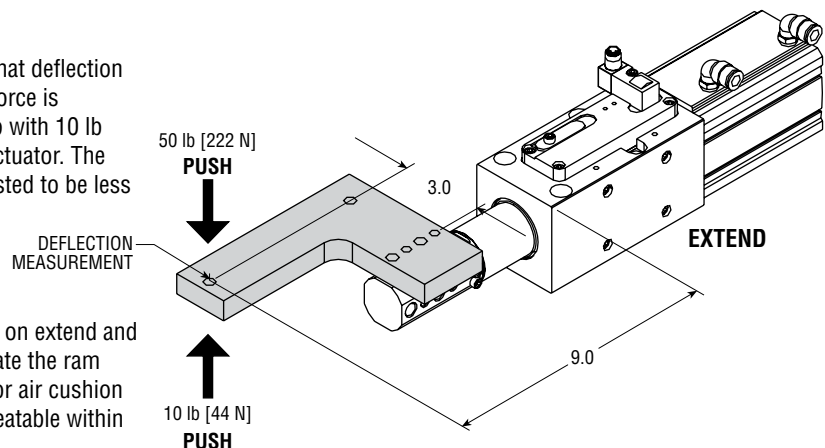
| MODEL<br>SIZE | STROKE<br>mm | BORE<br>mm | UNIT<br>WEIGHT |     | THEORETICAL CYLINDER<br>FORCE 87 psi [6 bar] |    |         |    | EXTEND AND<br>RETRACT TIME<br>sec | DISPLACEMENT |     |         |     | MIN. VALVE<br>RATING<br>Cv |
|---------------|--------------|------------|----------------|-----|----------------------------------------------|----|---------|----|-----------------------------------|--------------|-----|---------|-----|----------------------------|
|               |              |            |                |     | EXTEND                                       |    | RETRACT |    |                                   | EXTEND       |     | RETRACT |     |                            |
|               |              |            | lb             | kg  | lb                                           | N  | lb      | N  |                                   | in³          | cm³ | in³     | cm³ |                            |
| PSP6          | 25           | 63         | 14             | 6.4 | 387                                          | 44 | 287     | 32 | 0.15                              | 9.6          | 157 | 5.9     | 97  | 0.5                        |
| PSP6          | 50           | 63         | 14             | 6.4 | 387                                          | 44 | 287     | 32 | 0.20                              | 11.4         | 187 | 7.7     | 126 | 1.0                        |

### DEFLECTION

The Series PSP shot pin cylinder is adjusted so that deflection is less than .008" [.20 mm] at the load point. A 50 lb force is pushed down on the ram as shown and then pulled up with 10 lb to determine the total deflection and free play of the actuator. The change in deflection after 3 million cycles has been tested to be less than .003" [.08mm] at the load point.

### REPEATABILITY

The Series PSP shot pin cylinder has shock pads on extend and retract of the actuator. These shock pads help decelerate the ram and eliminate the need for external flow controls and/or air cushion adjustments. Testing has shown that the stroke is repeatable within .005" [.13mm] after 3 million cycles.



# OPTIONS & KITS: SERIES PSP SHOT PINS



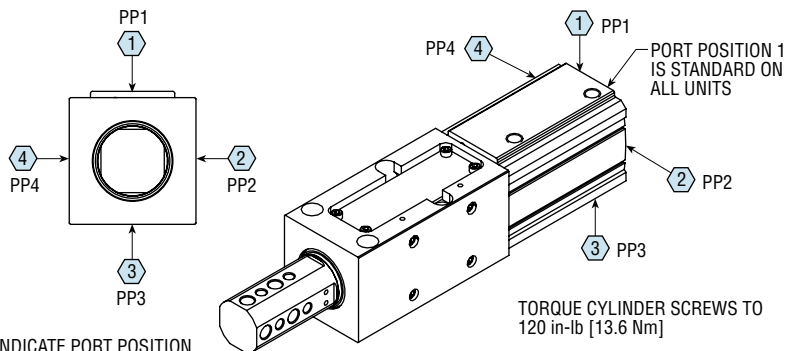
## RAP COUPLING

Allows the piston to move before moving the ram. The impact helps free tooling from a bound condition. This option does not reduce the stroke of the unit.



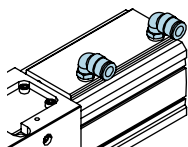
## PORT LOCATION

This option specifies alternate port location for the cylinder providing flexibility and customer convenience. The port position can be changed by removing the cylinder bolts and rotating the cylinder body.



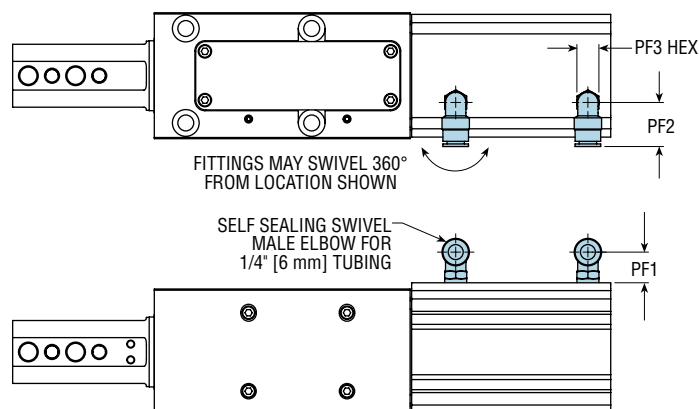
## PORT FITTINGS

LAA (metal) or LBB (plastic) accessory provides 90° swivel fittings for ease of air line hook up.



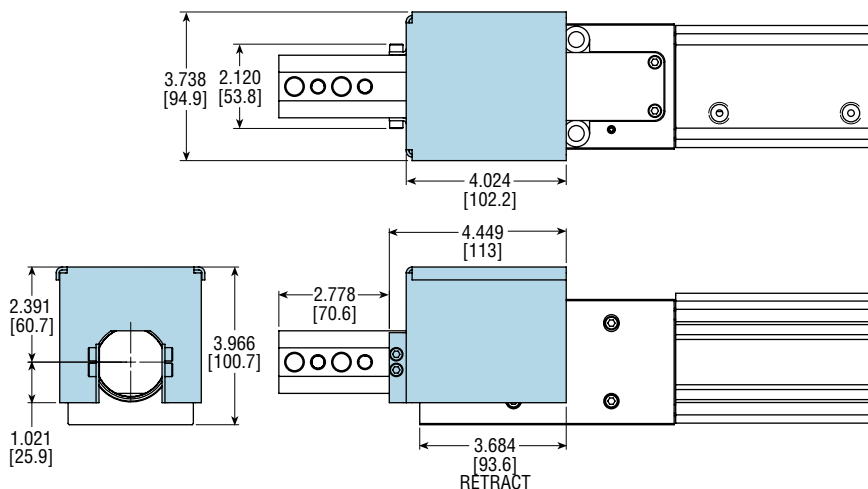
| OPTION CODE | PART NUMBER |           |
|-------------|-------------|-----------|
|             | IMPERIAL    | METRIC    |
| LAA         | 62178-010   | 62195-010 |
| LBB         | 71120-002   | 71121-002 |

| LETTER DIM | MODEL NUMBER |          |
|------------|--------------|----------|
|            | in           | mm       |
| PORT       | 1/4 NPT      | 1/4 BSPP |
| PF1 (MIN)  | .767         | 20.5     |
| PF2        | 1.102        | 28.0     |
| PF3        | .551         | 14.0     |



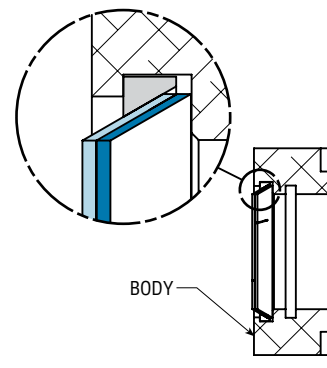
## WELD COVER

–WC1 provides an additional weld cover that surrounds the ram and helps prevent weld slag from damaging the wiper and bushing area.



## BRONZE SCRAPER

–WC2 provides a metallic bronze scraper to help remove excess contamination better than the standard urethane wiper. This option can be used when there is not enough room for a weld cover.



All dimensions are reference only unless specifically tolerated.

# SWITCH OPTION: SERIES PSP SHOT PINS

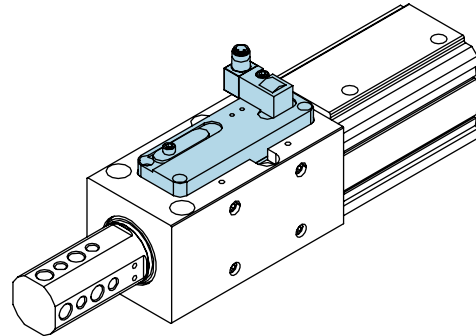
**PSxxx**

**STANDARD POSITION SENSING**

**PRxxx**

**REVERSED POSITION SENSING**

This option provides extend and retract sensing by affixing an aluminum housing to the top of the ram body. The retract switch is fixed needing no adjustment. The extend switch is adjustable at the end of stroke to sense either the leading or trailing edge of the target and has about 3/8" of adjustment. Loosening the M5 screw and sliding it up or down adjusts the extend switch position. PS positions the S01/S1 switch to sense the extend position and S02/S2 switch to sense the retract position. PR positions the S01/S1 switch to sense the retract position and S02/S2 to sense the extend position.



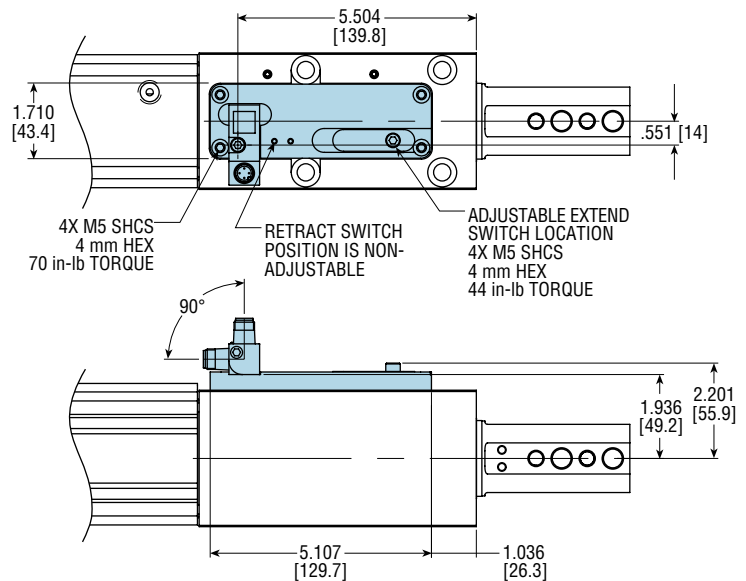
**PS1D9**

**SENSING OPTION**  
S - Standard  
R - Reversed

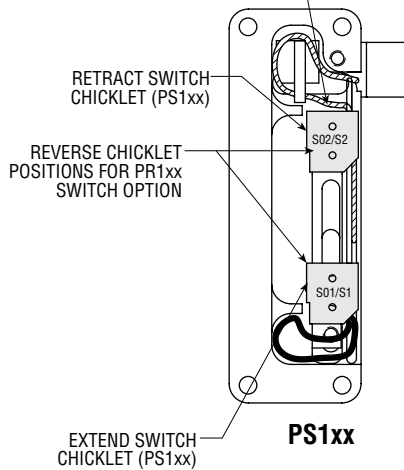
**SWITCH HOUSING POSITION**  
1 - Position 1

**CONNECTOR POSITION**  
1 - Parallel to output shaft  
9 - Perpendicular to output shaft  
(Position 9 not available with switch option A)

**SWITCH OPTION**  
N - No Switch  
A - 5-pin AC/DC Switch (Turck)  
D - 4-pin PNP DC Switch (P + F)  
E - 4-pin PNP DC Switch (Turck)  
F - 4-pin PNP DC Switch (Efector)  
H - 4-pin NPN DC Switch (P + F)  
J - 4-pin NPN DC Switch (Turck)



LOOP CABLE UNDER SWITCH OR WRAP SEVERAL TIMES AROUND SWITCH CLAMP



**RETRACT**

S02/S2

S01/S1

**EXTEND**

**PS1xx**

**RETRACT**

S01/S1

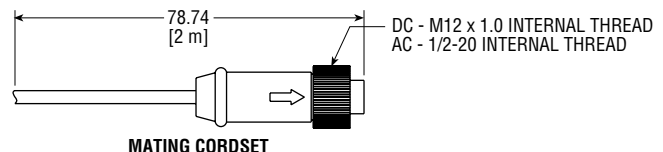
S02/S2

**EXTEND**

**PR1xx**

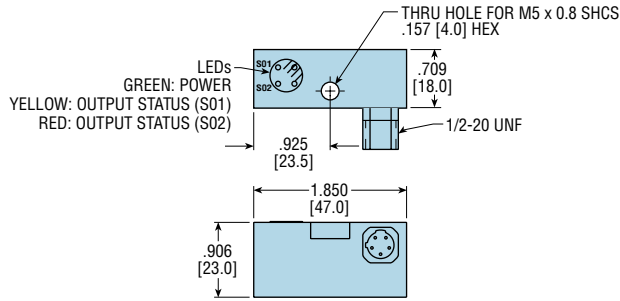
## MATCHING CORDSETS 2 METERS LONG

| SWITCH OPTION | PHD PART NUMBER | CORDSET PART NUMBER |
|---------------|-----------------|---------------------|
| A             | 73317-00-02     | KB 5T-2             |
| D             | 65440-001-02    | V1-G-YE2M-PVC       |
| E             | 78039-00-02     | RK 4.4T-2           |
| F             | 65440-001-02    | V1-G-YE2M-PVC       |
| H             | 65440-001-02    | V1-G-YE2M-PVC       |
| J             | 78039-00-02     | RK 4.4T-2           |



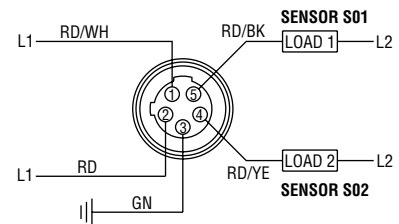
# SWITCH OPTION: SERIES PSP SHOT PINS

**SWITCH OPTION A**    **71483-002-PSP**    **Turck Part #: Ni 2-Q6.5-ADZ32-0.16-FSB 5.4X4/S304**

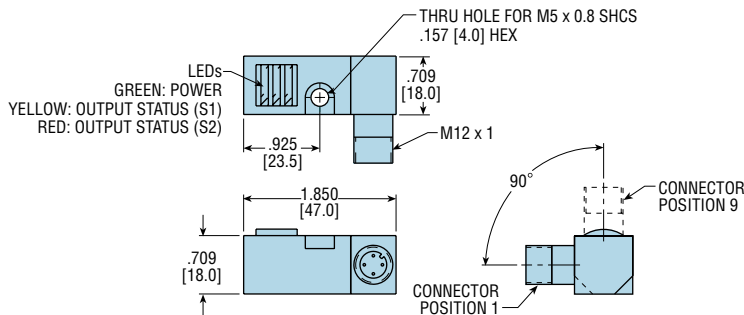


| OPTION CODE | SATELLITE |         | QUICK DISCONNECT PIN NUMBER |
|-------------|-----------|---------|-----------------------------|
|             | UNCLAMPED | CLAMPED |                             |
| PSxAx       | S02       | S01     | S01 = PIN 5                 |
| PRxAx       | S01       | S02     | S02 = PIN 4                 |

## 4-WIRE AC/DC

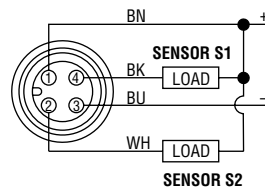


**SWITCH OPTION D**    **71483-001-PSP**    **P + F Part #: NBN2-F581-160S6-E8-V1 (PNP)**  
**SWITCH OPTION H**    **71483-005-PSP**    **P + F Part #: NBN2-F581-160S6-E10-V1 (NPN)**

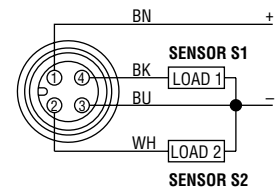


| OPTION CODE | SATELLITE |         | QUICK DISCONNECT PIN NUMBER |
|-------------|-----------|---------|-----------------------------|
|             | UNCLAMPED | CLAMPED |                             |
| PSxDx       | S2        | S1      | S1 = PIN 4                  |
| PRxDx       | S1        | S2      | S2 = PIN 2                  |

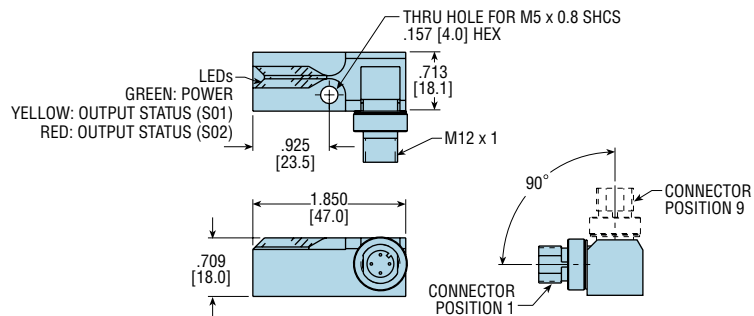
## 4-WIRE DC (V1 TYPE) NPN DUAL NORMALLY OPEN



## 4-WIRE DC (V1 TYPE) PNP DUAL NORMALLY OPEN

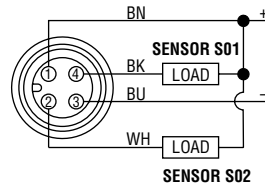


**SWITCH OPTION E**    **71483-003-PSP**    **Turck Part #: Ni 2-Q6.5-0.16-BDS-2AP6X3-H1141/S34 (PNP)**  
**SWITCH OPTION J**    **71483-006-PSP**    **Turck Part #: Ni-2-Q6.5-AN6-0.16-FS 4.4X3/S304 (NPN)**

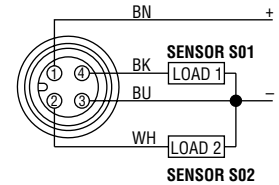


| OPTION CODE | SATELLITE |         | QUICK DISCONNECT PIN NUMBER |
|-------------|-----------|---------|-----------------------------|
|             | UNCLAMPED | CLAMPED |                             |
| PSxEx       | S02       | S01     | S01 = PIN 4                 |
| PRxEx       | S01       | S02     | S02 = PIN 2                 |

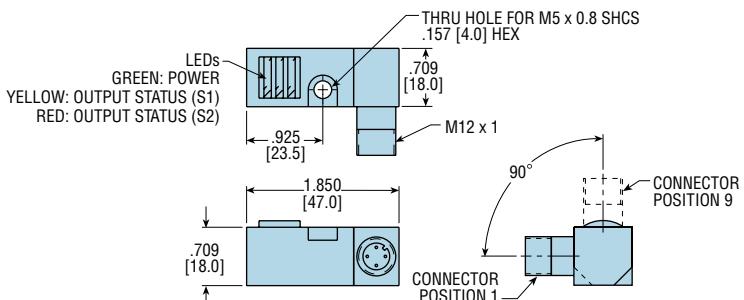
## 4-WIRE DC (V1 TYPE) NPN DUAL NORMALLY OPEN



## 4-WIRE DC PNP DUAL NORMALLY OPEN

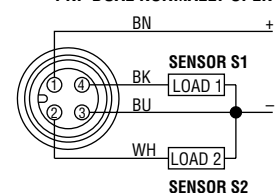


**SWITCH OPTION F**    **71483-004-PSP**    **Efector Part #: IN 5375 (PNP)**



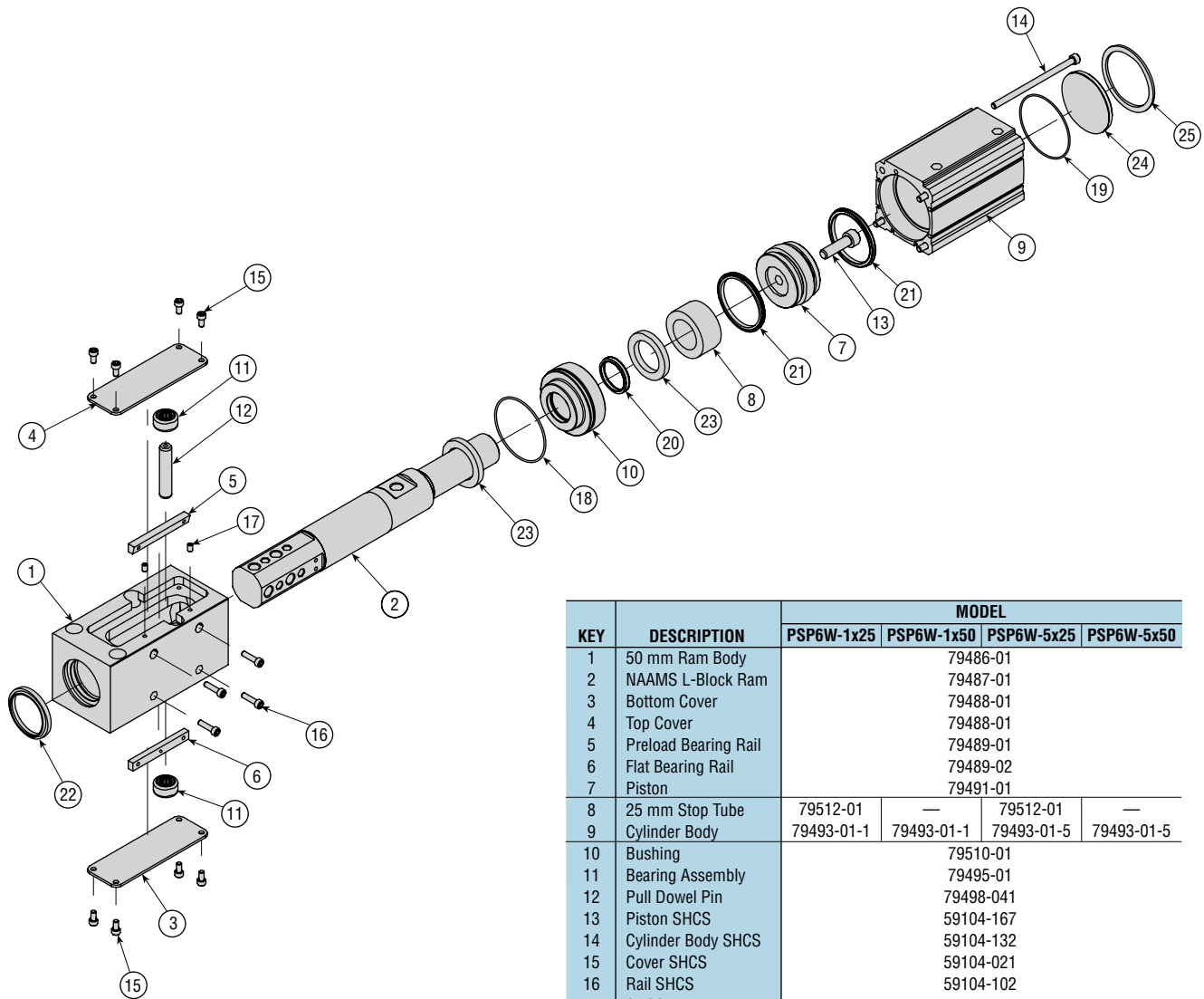
| OPTION CODE | SATELLITE |         | QUICK DISCONNECT PIN NUMBER |
|-------------|-----------|---------|-----------------------------|
|             | UNCLAMPED | CLAMPED |                             |
| PSxFx       | S2        | S1      | S1 = PIN 4                  |
| PRxFx       | S1        | S2      | S2 = PIN 2                  |

## 4-WIRE DC PNP DUAL NORMALLY OPEN



All dimensions are reference only unless specifically tolerated.

# EXPLODED VIEW & PARTS LIST: SERIES PSP SHOT PINS



| KEY | DESCRIPTION          | MODEL      |            |             |            |
|-----|----------------------|------------|------------|-------------|------------|
|     |                      | PSP6W-1x25 | PSP6W-1x50 | PSP6W-5x25  | PSP6W-5x50 |
| 1   | 50 mm Ram Body       |            |            | 79486-01    |            |
| 2   | NAAMS L-Block Ram    |            |            | 79487-01    |            |
| 3   | Bottom Cover         |            |            | 79488-01    |            |
| 4   | Top Cover            |            |            | 79488-01    |            |
| 5   | Preload Bearing Rail |            |            | 79489-01    |            |
| 6   | Flat Bearing Rail    |            |            | 79489-02    |            |
| 7   | Piston               |            |            | 79491-01    |            |
| 8   | 25 mm Stop Tube      | 79512-01   | —          | 79512-01    | —          |
| 9   | Cylinder Body        | 79493-01-1 | 79493-01-1 | 79493-01-5  | 79493-01-5 |
| 10  | Bushing              |            |            | 79510-01    |            |
| 11  | Bearing Assembly     |            |            | 79495-01    |            |
| 12  | Pull Dowel Pin       |            |            | 79498-041   |            |
| 13  | Piston SHCS          |            |            | 59104-167   |            |
| 14  | Cylinder Body SHCS   |            |            | 59104-132   |            |
| 15  | Cover SHCS           |            |            | 59104-021   |            |
| 16  | Rail SHCS            |            |            | 59104-102   |            |
| 17  | SHSS                 |            |            | 17424-065   |            |
| 18  | Body O-Ring Seal     |            |            | 1950-038-1  |            |
| 19  | Plug O-Ring Seal     |            |            | 3642-083-1  |            |
| 20  | Rod Seal             |            |            | 67156-15-1  |            |
| 21  | Piston Seal          |            |            | 63624-014-1 |            |
| 22  | Rod Wiper            |            |            | 79499-012   |            |
| 23  | Shock Pad            |            |            | 52992       |            |
| 24  | Bore Plug            |            |            | 73882       |            |
| 25  | Retaining Ring       |            |            | 1980-646    |            |

| KIT DESCRIPTION        | PART NO.  |
|------------------------|-----------|
| Cylinder Repair Kit    | 79513-01* |
| Rap Coupling Kit       | 79514-01* |
| Rod Wiper Kit          | 79515-01  |
| Rod Scraper Kit        | 79516-01  |
| Positional Sensing Kit | 79517-01  |

\* = Kit requires tube stuffer 75724-02 (sold separately)

TUBE STUFFER REQUIRED TO ASSEMBLE PISTON/SEALS INTO BORE