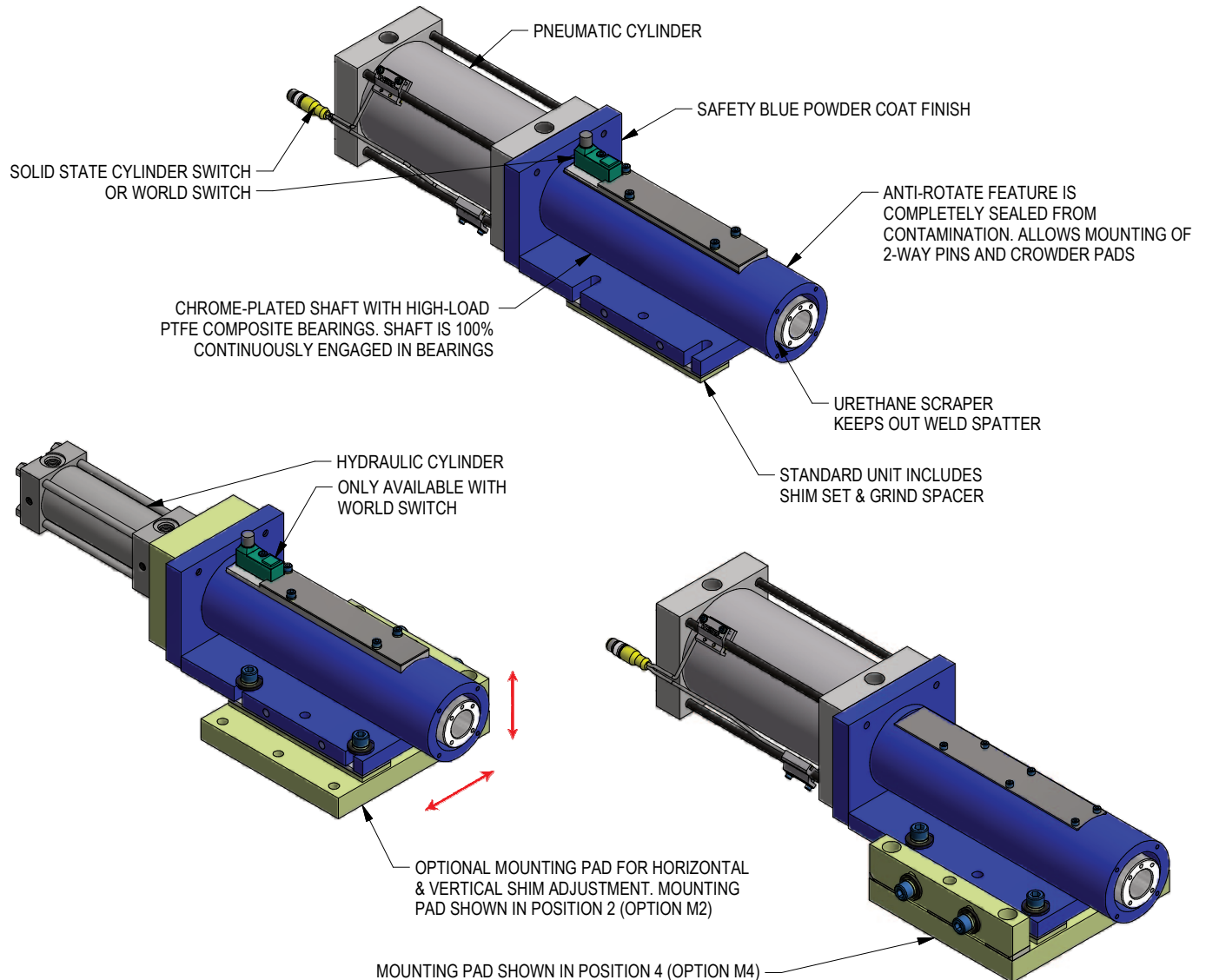


## HP5 BULL PIN

**FOR FRAME LINE APPLICATIONS**

754 LBF RETRACT FORCE @ 60 PSI

RETRACTING LOCATING PIN WITH A 2KG SLIDE HAMMER PISTON. RAP ACTION\* PROVIDES CONCENTRATED PULLING POWER. A GREATER THAN FOUR TIMES SHAFT DIAMETER TO BEARING LENGTH RATIO IS ALWAYS FULLY ENGAGED, OFFERING LONG PRECISION LIFE. NO MAINTENANCE OR GREASING REQUIRED.  
(\*RAP ACTION ON PNEUMATIC UNIT ONLY)



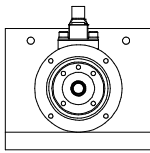
RELEASED 2/2/17

# APPLICATION GUIDE

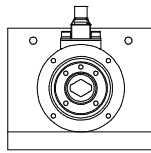
HP5 Bull Pins are made for inline balanced loads. There is an anti-rotate feature but it is for orientation only - not for offset loads.

## GOOD APPLICATIONS

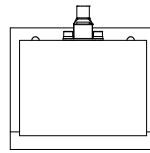
(VIEWS ARE FROM PIN END, HP5 SHOWN)



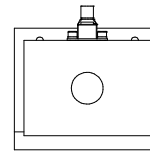
INLINE  
ROUND PIN



INLINE  
DIAMOND PIN



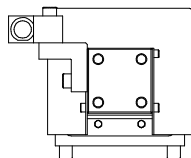
INLINE  
PUSHER BLOCK



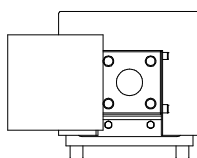
INLINE  
PIN/PUSHER BLOCK COMBO

## BAD APPLICATIONS FOR HP5, GOOD APPLICATIONS FOR WP6 SHOT PINS

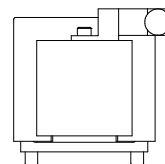
(VIEWS ARE FROM PIN END, WP6 SHOWN)



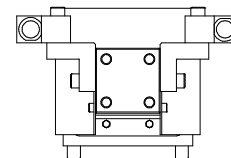
OFFSET PIN



INLINE PIN WITH  
OFFSET  
PUSHER BLOCK



INLINE PUSHER BLOCK  
WITH OFFSET PIN



DOUBLE PIN

(DO NOT SCALE DRAWING)

**WELKER**

ENGINEERED PRODUCTS

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# ORDERING INFORMATION

NOTE: ALL BOXES MUST BE FILLED IN FOR A COMPLETE PART NUMBER

H P 5 - 
 




0
0
0

**Cylinder** \_\_\_\_\_  
**P** Pneumatic  
**H** Hydraulic

**Port Position** \_\_\_\_\_  
**1** Port @ Position 1  
**2** Port @ Position 2  
**3** Port @ Position 3  
**4** Port @ Position 4

**Mounting Assembly** \_\_\_\_\_  
**00** None  
**M2** Mounting Position 2  
**M4** Mounting Position 4

**Switch Option** \_\_\_\_\_  
**00** None  
**VE** World Switch  
**L3** Cylinder Switch (Pneumatic Option only)

Welker Cylinder Switch Chart		
Option	Switch Part #	Mfr
L3	SWITCH L3	Welker

L3 switch is weld field immune, comparable to World Switches.  
 Switch is 4-wire, 4-pin, DC M12 x 1 (PNP) Quick Disconnect

## World Switch

**Order Number**  
 SO1 EXTEND (E) or  
 SO1 RETRACT (R)

	Part Number	Manufacturer	Description
00	NONE		
VE or VR	NBN2-F581-160S6-E8-V1	Pepperl & Fuchs	3-Wire, 4-Pin, DC M12 X 1 (PNP) Quick Disconnect

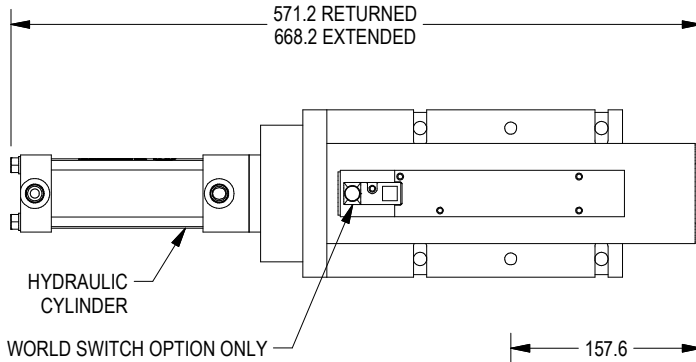
(DO NOT SCALE DRAWING)



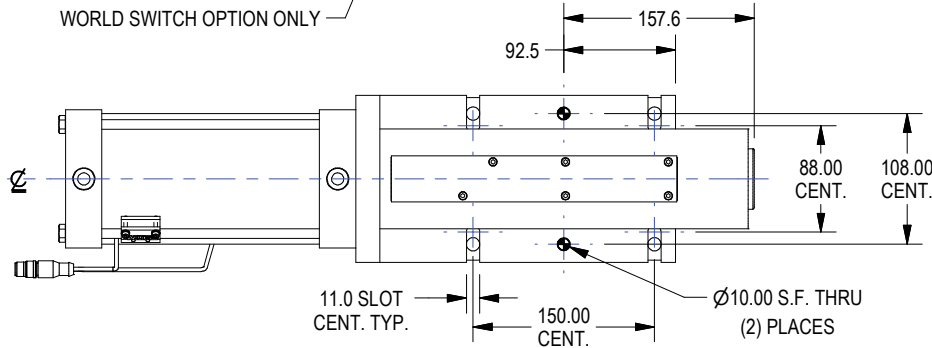
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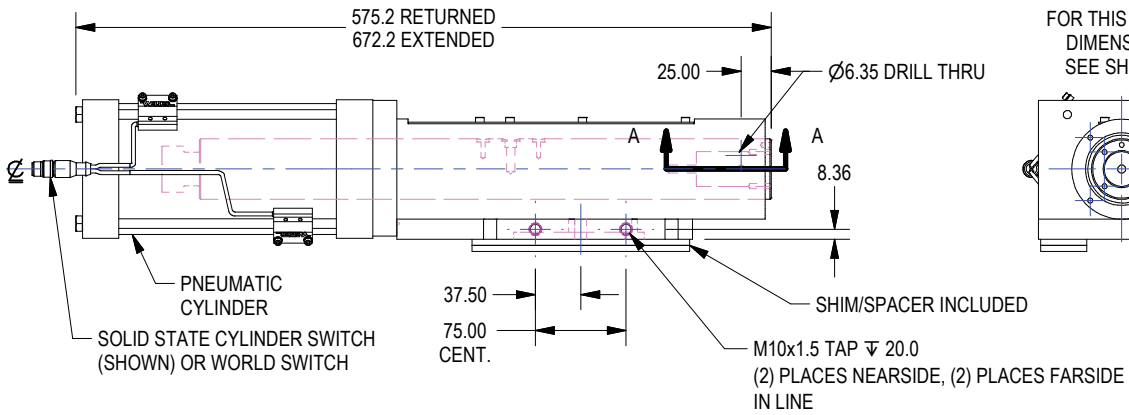
# GENERAL DIMENSIONS



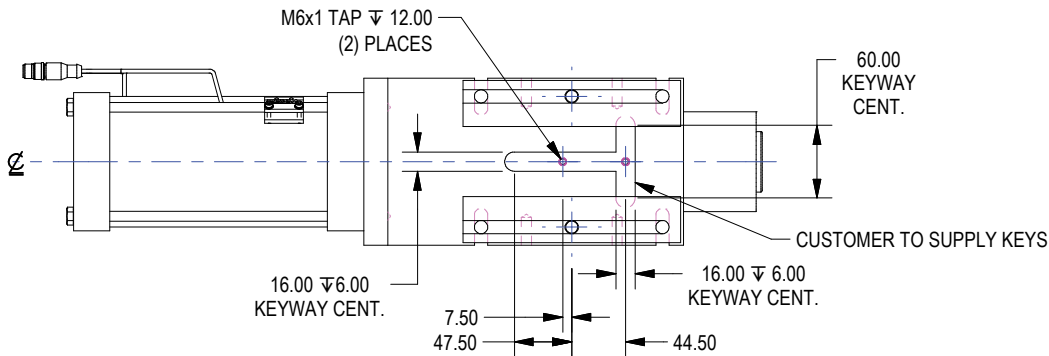
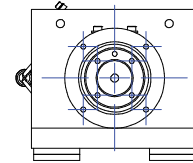
HYDRAULIC CYLINDER:  
2" BORE X 97mm [3.818] STROKE, 1400 PSI MAX  
CUSHIONS BOTH ENDS  
#6 SAE PORTS  
FLUOROCARBON SEALS FOR PISTON AND ROD  
HIGH LOAD PISTON



PNEUMATIC CYLINDER:  
4" BORE X 100mm STROKE  
LESS 3.0mm FOR RAP  
97.0mm ACTUAL STROKE  
1/2" NPT PORTS



FOR THIS VIEW'S DIMENSIONS SEE SHEET 5



SECTION A-A

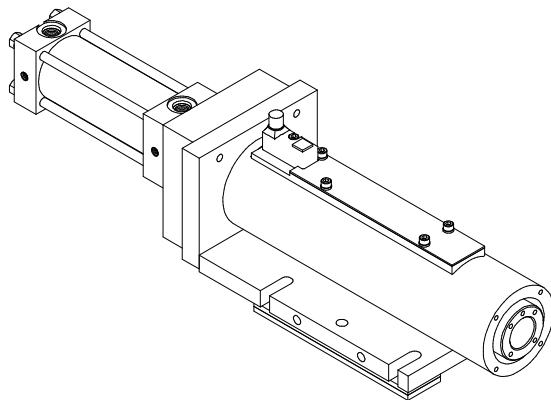
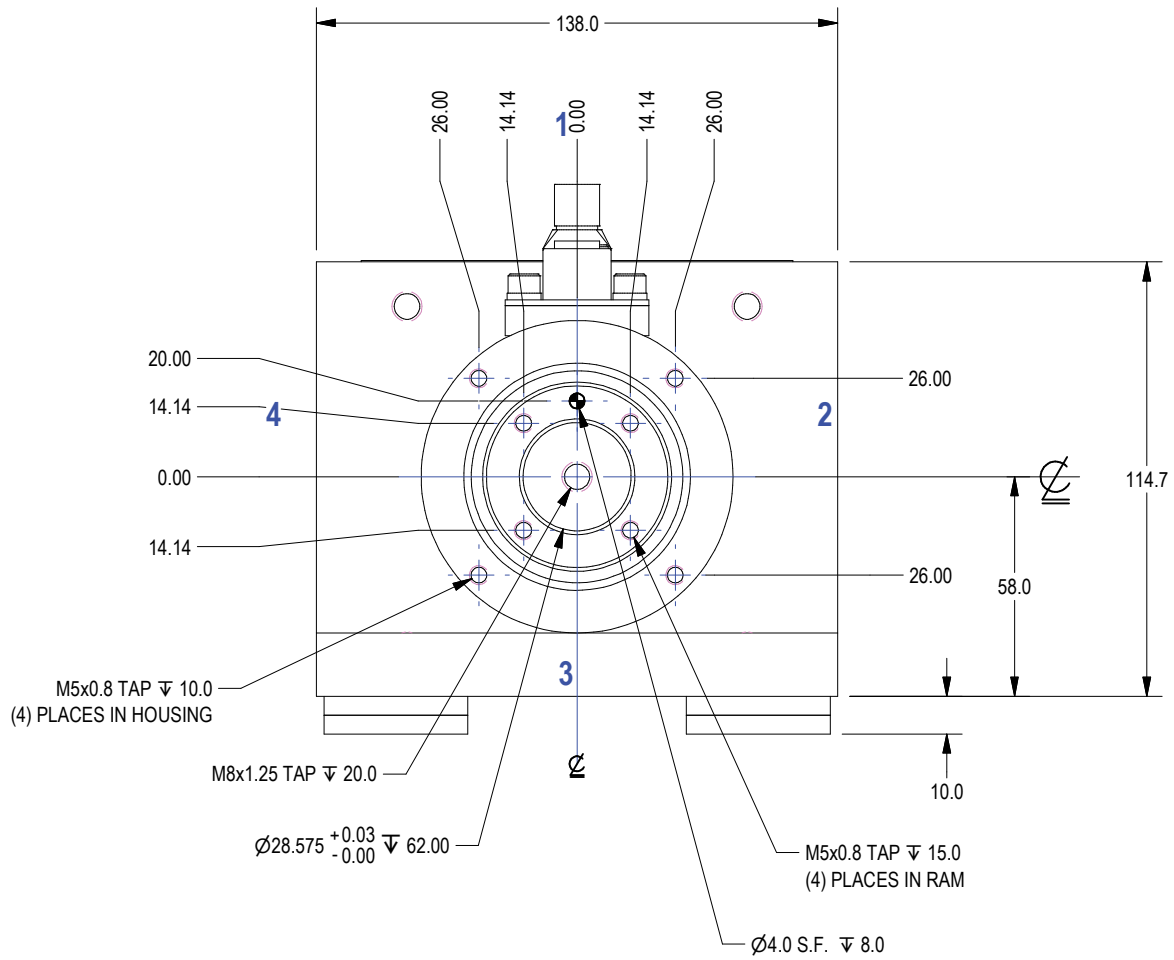
(DO NOT SCALE DRAWING)

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# GENERAL DIMENSIONS: HP5 NOSE END VIEW



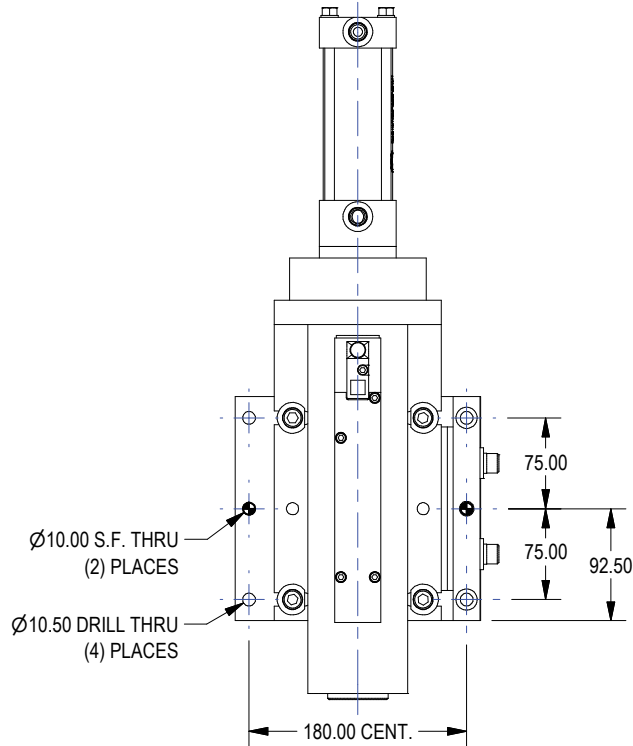
(DO NOT SCALE DRAWING)

**WELKER**

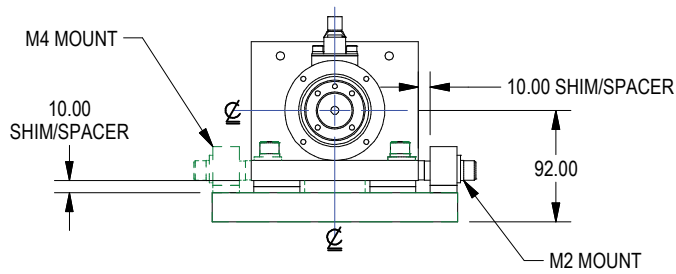
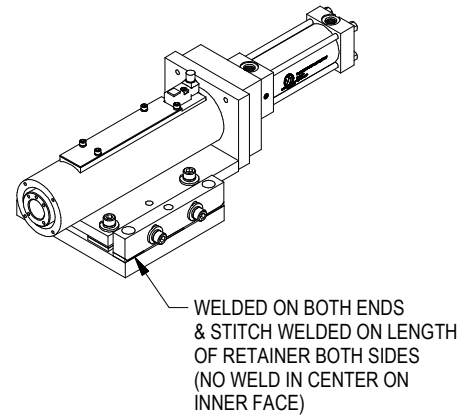
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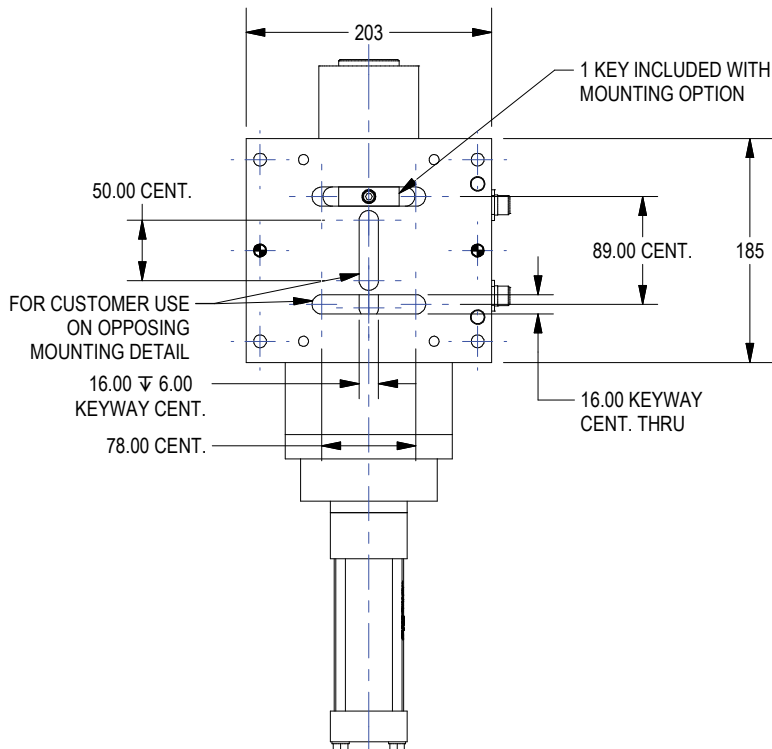
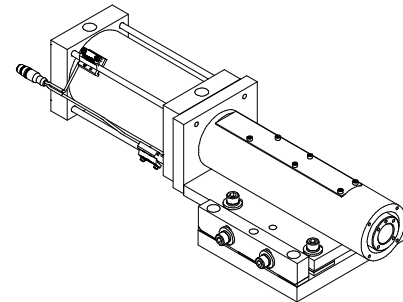
# MOUNTING OPTION DIMENSIONS



**HP5 WITH MOUNTING  
ASSEMBLY OPTION M2:**  
SHOWN WITH HYDRAULIC CYLINDER



**HP5 WITH MOUNTING  
ASSEMBLY OPTION M4:**  
SHOWN WITH PNEUMATIC CYLINDER



(DO NOT SCALE DRAWING)

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