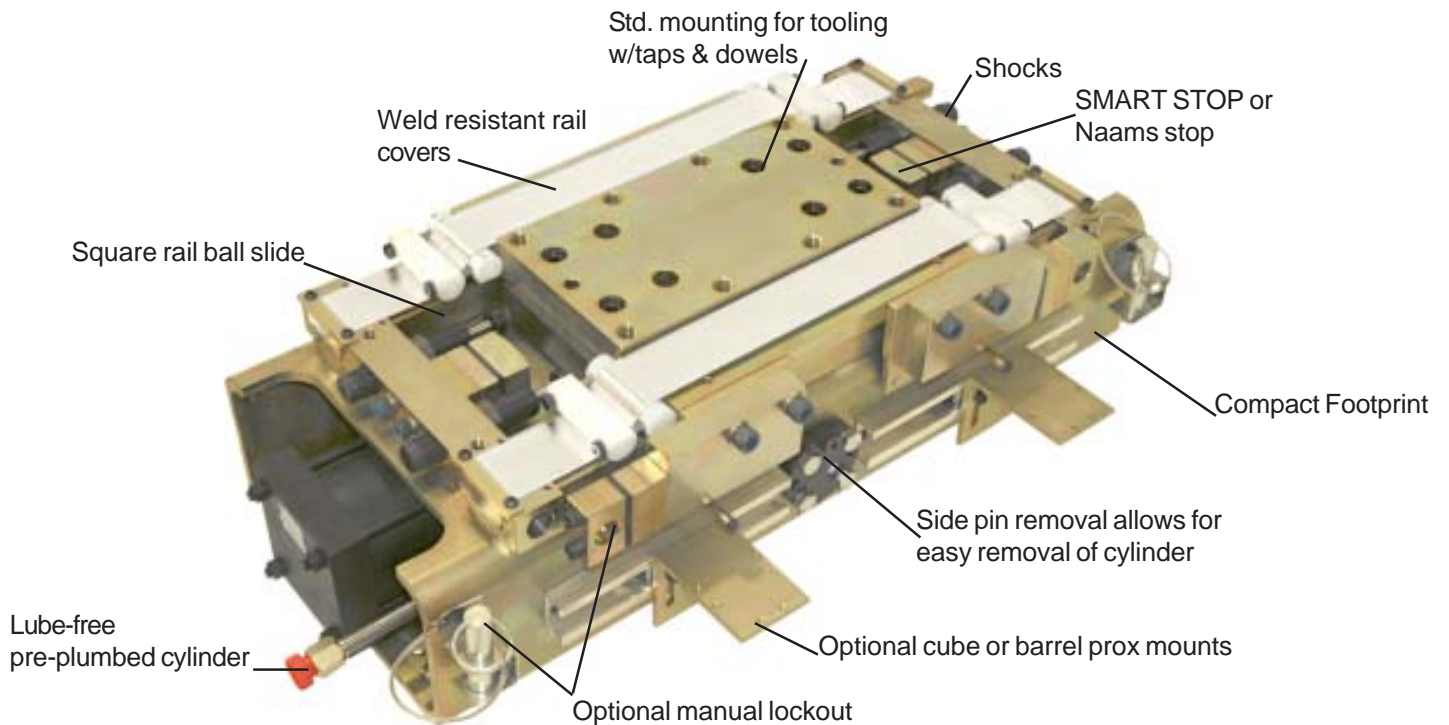


POWERED R2 RAIL SLIDE



WELKER R2 RAIL SLIDE is a commercially available slide that provides all the desired features that engineers and designers need. The compact, yet robust rail slide has been designed to provide symmetry and flexibility of installation.

R2 Slides can be mounted in any orientation and are designed to operate successfully in harsh environments.

Available pneumatic cylinder types are non-locking, duplex and locking. Hydraulic and electric servo-powered rail slides are also available.

**The manual lockout brackets and proximity switch mounts are reversible and can be relocated in the field or called out in the part number. Up to 30mm of spacers are available for the NAAMS stops or Smart Stops on both ends of the slide. Spacers will also be added to manual lockout when this option is specified.

Note: Adding spacers reduces the stroke of the slide by the total spacer thickness on both ends.



Welker SMART STOP does all the stopping and sensing functions in one part. SMART STOP minimizes engineering, field set up and operator adjustment time. Eliminates needs for separate mounts, brackets and flags.

Download CAD drawings @ www.welkerproducts.com

ORDERING INFORMATION

R2 0 0 0 0 5 0 0 1 E 0 0 0 0 X 1 W

Series (Sheet 12)

R2 Slide Series

1st Stroke

000-495 ("000" for Non-Duplex)

***2nd (or Total) Stroke**

020-500 (Total Stroke or 2nd Stroke of Duplex)

Cylinder Options (100mm Bore Pneumatic) Sheet 3

- 01** Double Acting (NPT Ports)
- 02** Double Acting (SAE Ports)
- 03** Double Acting ("G" Ports)
- 04** Double Acting with Rod Lock (NPT Ports)
- 05** Double Acting with Rod Lock (SAE Ports)
- 06** Double Acting with Rod Lock ("G" Ports)
- 07** Duplex (NPT Ports)
- 08** Duplex (SAE Ports)
- 09** Duplex ("G" Ports)
- 10** Duplex with Rod Lock (NPT Ports)
- 11** Duplex with Rod Lock (SAE Ports)
- 12** Duplex with Rod Lock ("G" Ports)

Lockout & Switch Mounting Options (Sheet 5)

- X** NONE
- A** Lockout only - LH Side
- B** Lockout only - RH Side
- C** Switch only - LH Side
- D** Switch & Lockout - LH Side
- E** Switch LH Side & Lockout RH Side
- F** Switch only - RH Side
- G** Switch RH Side & Lockout LH Side
- H** Switch & Lockout - RH Side

****Additional Retract Shim**

Whole (mm)

- 0** **G** 16
- 1** **H** 17
- 2** **J** 18
- 3** **K** 19
- 4** **L** 20
- 5** **M** 21
- 6** **N** 22
- 7** **P** 23
- 8** **R** 24
- 9** **S** 25
- A** **T** 26
- B** **U** 27
- C** **V** 28
- D** **W** 29
- E** **X** 30
- F** 15

****Additional Retract Shim**

Quarter (mm)

- 0** 0.00
- A** 0.25
- B** 0.50
- C** 0.75

****Additional Extend Shim**

Whole (mm)

- 0** **G** 16
- 1** **H** 17
- 2** **J** 18
- 3** **K** 19
- 4** **L** 20
- 5** **M** 21
- 6** **N** 22
- 7** **P** 23
- 8** **R** 24
- 9** **S** 25
- A** **T** 26
- B** **U** 27
- C** **V** 28
- D** **W** 29
- E** **X** 30
- F** 15

****Additional Extend Shim**

Quarter (mm)

- 0** 0.00
- A** 0.25
- B** 0.50
- C** 0.75

Shroud

- 0** No Shroud
- 1** Shroud

Options (Sheet 5)

- 0** No Switch Mount
- X** **18mm Barrel Prox Mount
- B** *18mm Barrel Switch Mount & Smart Stop (Duplex)
- C** **Cube Switch Mount
- D** *Cube Switch Mount & Smart Stop (Duplex)
- P** Welker Smart Stop (Sheet 6)

***Actuator options 07-12 only**

****If actuator options 07-12 are ordered, 3 switch brackets will be supplied**

***Stroke Note:** Standard unit strokes are 70mm to 490mm at increments of 60mm. The sum of the 1st & 2nd stroke of the duplex must equal a standard total stroke. If necessary, stops can be shimmed back to achieve the required travel. Unit can be built to a non standard stroke from 20mm to 500mm. Non standard strokes are available by special order and will increase lead time and spare part availability.

****Shim Note:** When ordering the shim option, shim packs/grind spacers are added to the specified stops and it will shorten the total working stroke.

Welker R2 slides utilize size 25 square rail bearings, manual lockouts both ends, prox switch mounts, aluminized kevlar shrouds and 100mm bore cylinders (locking and duplex cylinders available, see chart on Cylinder Options sheet).

Ordering examples: For an "R2" slide with 130mm total stroke, double acting air cylinder, lockouts & barrel prox switches on LH side, no additional shims, shroud, order as: **R200013001D0000X1W**

For an "R2" slide with 30mm 1st stroke and 100mm 2nd stroke, duplex air cylinder, lockouts & barrel prox switches on the LH side, 5.25 additional shims in the retract and 10.75mm additional shims in the extend, Welker smart stops, shroud, order as: **R203010007D5AACB1W**

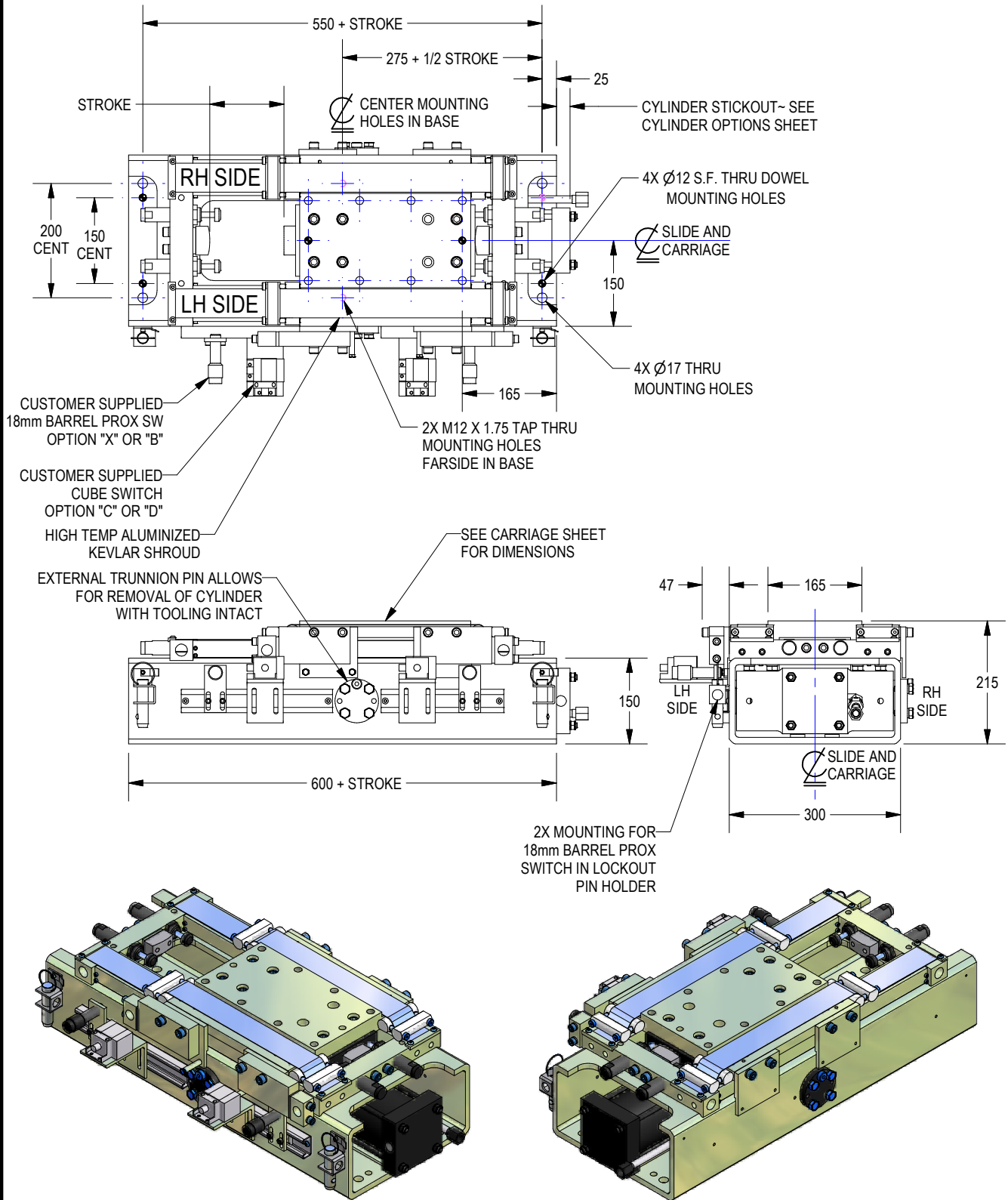
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GENERAL DIMENSIONS



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CYLINDER OPTIONS

R 2 | **0 0 0** | **0 5 0** | **0 1** | **E 0 0 0 0** | **X 1 W**

SERIES
R2

Cylinder Options (Pneumatic)

CYLINDER OPTION	CYL PORTS	CYL TYPE	BRAKE PORTS
01 Double Acting (NPT Ports)	1/2" NPT	NON-LOCK	N/A
02 Double Acting (SAE Ports)	#10 SAE	NON-LOCK	N/A
03 Double Acting ("G" Ports)	1/2 G	NON-LOCK	N/A
04 Double Acting with Rod Lock (NPT ports)	1/2" NPT	LOCK	1/4" NPT
05 Double Acting with Rod Lock (SAE Ports)	#10 SAE	LOCK	#4 SAE
06 Double Acting with Rod Lock ("G" Ports)	1/2 G	LOCK	1/4" G
07 Duplex (NPT Ports)	1/2" NPT	DUPLEX	N/A
08 Duplex (SAE Ports)	#10 SAE	DUPLEX	N/A
09 Duplex ("G" Ports)	1/2 G	DUPLEX	N/A
10 Duplex with Rod Lock	1/2" NPT	LOCKING DUPLEX	1/4" NPT
11 Duplex with Rod Lock	#10 SAE	LOCKING DUPLEX	#4 SAE
12 Duplex with Rod Lock	1/2 G	LOCKING DUPLEX	1/4" G

NOTE: ALL INACCESSIBLE PORTS WILL BE PRE-PLUMBED BY WELKER WITH FITTINGS THAT WILL BE ACCESSIBLE OUTSIDE THE END PLATE AND WITHIN 8" FROM THE BASE PLATE. WHEN "G" PORT OPTION IS ORDERED, METRIC TUBING & FITTINGS WILL BE SUPPLIED WHEN NECESSARY.

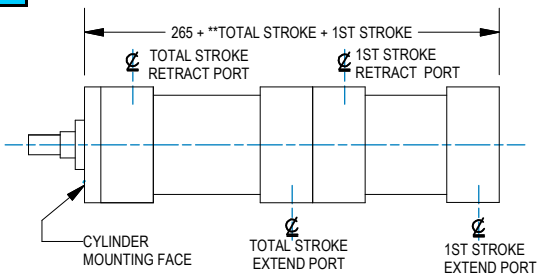
*CYLINDER LENGTH MAY INCLUDE OVERSTROKE, SPACERS OR OTHER VARIABLES. FOR MOUNTINGS AND LENGTHS OF NON-STANDARD CYLINDERS, CONSULT WELKER.

**TOTAL STROKE = 1ST STROKE + 2ND STROKE. 1ST STROKE STARTS FROM CARRIAGE IN RETRACTED POSITION AS SHOWN

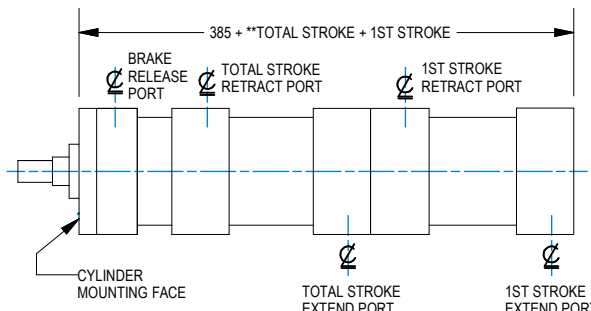
CYLINDER STICKOUT DIMENSION = CYL LENGTH - 325mm

CYL CODE	MINIMUM STICKOUT	MIN CYL LENGTH	CYL LENGTH
01	25mm	350mm	150mm + STROKE
04	40mm	365mm	265mm + STROKE
07	N/A	N/A	265mm + TOTAL STROKE + 1st STROKE
10	N/A	N/A	385mm + TOTAL STROKE + 1st STROKE

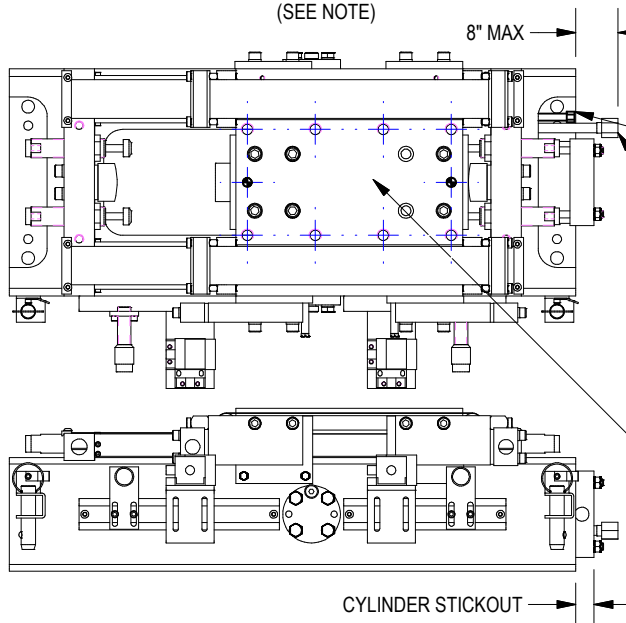
CYL CODE 07-12 TOTAL STROKE = 1st STROKE + 2nd STROKE



CYLINDER OPTIONS 07, 08, 09
(SEE NOTE)



CYLINDER OPTIONS 10, 11, 12
(SEE NOTE)



7/16-20" FEMALE THREAD 37° FLARE FITTING FROM BRAKE PORT FOR 1/4" O.D. TUBING **FOR LOCKING CYLINDER OPTION ONLY.** LOCATION WILL VARY PER CYLINDER. WHEN "G" PORT OPTION IS ORDERED, 6mm O.D. METRIC TUBING WILL BE SUPPLIED LESS FITTINGS & WILL BE ACCESSIBLE.

3/4-16" FEMALE THREAD 37° FLARE FITTING FOR 1/2" O.D. TUBING FROM CYL ROD END. LOCATION WILL VARY PER CYLINDER. WHEN "G" PORT OPTION IS ORDERED, 12mm O.D. METRIC TUBING WILL BE SUPPLIED LESS FITTINGS & WILL BE ACCESSIBLE.

FOR CARRIAGE DIMENSIONS, SEE SHEET 5.

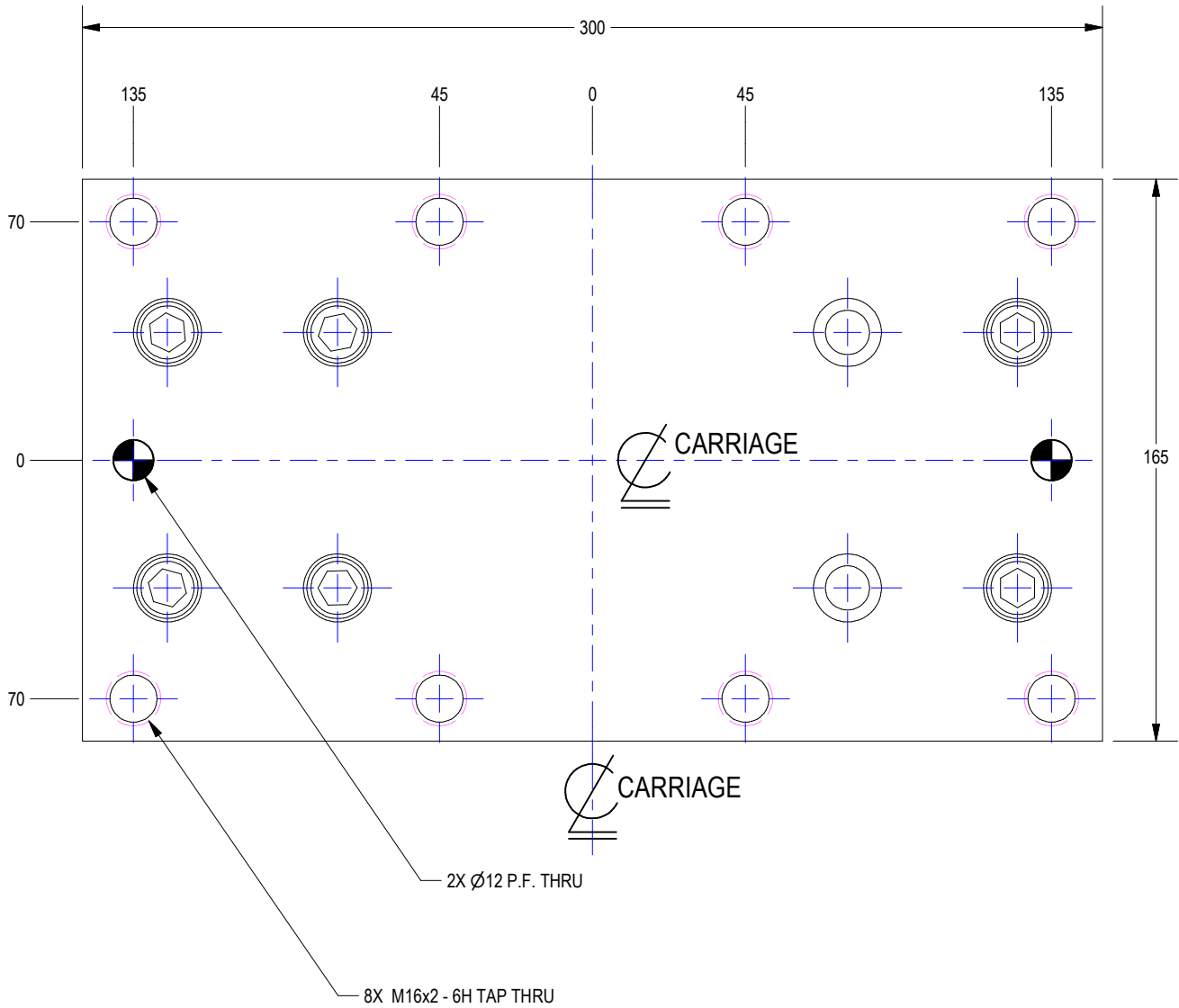
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CARRIAGE SHEET



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LOCKOUT AND SWITCHES

R2
0
0
0
0
5
0
0
1
E
0
0
0
0
X
1
W

Lockout & Switch Mounting Options

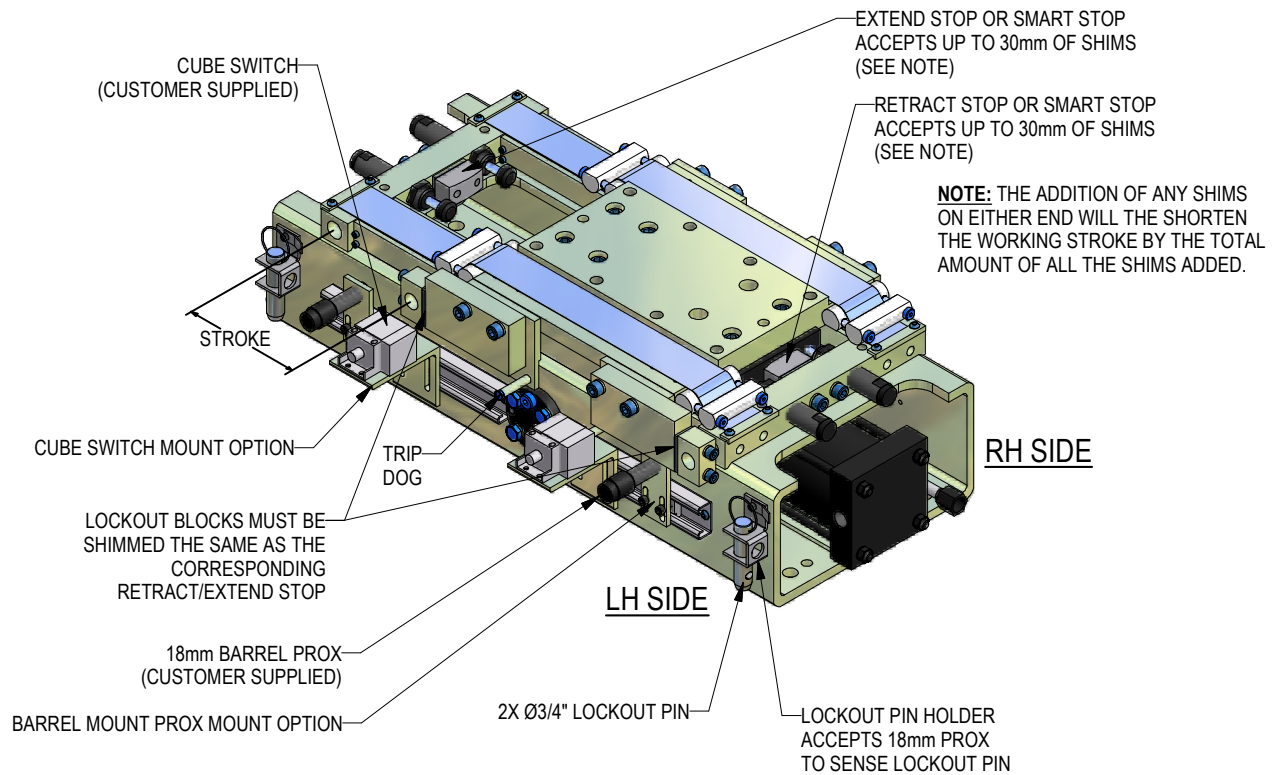
- X NONE
- A Lockout only - LH Side
- B Lockout only - RH Side
- C Switch only - LH Side
- D Switch & Lockout - LH Side
- E Switch LH Side & Lockout RH Side
- F Switch only - RH Side
- G Switch RH Side & Lockout LH Side
- H Switch & Lockout - RH Side

Options

- 0 No Switch Mount
- X **18mm Barrel Prox Mount
- B *18mm Barrel Switch Mnt & Smart Stop (Duplex)
- C **Cube Switch Mount
- D *Cube Switch Mnt & Smart Stop (Duplex)
- P Welker Smart Stop

***Actuator options 07-12 only**

****If actuator options 07-12 are ordered, 3 switch brackets will be supplied.**



(DO NOT SCALE DRAWING)

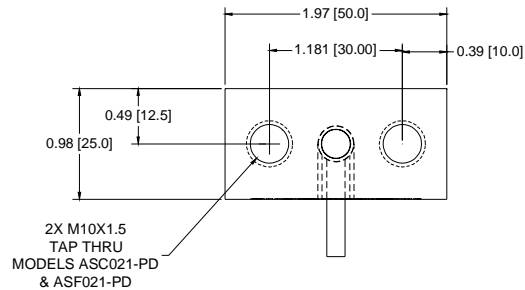


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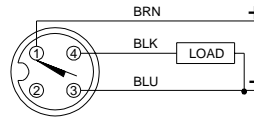
WELKER SMART STOP

MODEL NO:
 ASC020-PD FOR CROWNED, DRILL & C'BORE FOR M10 SHCS + DC SWITCH
 ASC021-PD FOR CROWNED, M10X1.5 TAP + DC SWITCH
 ASF020-PD FOR FLAT, DRILL & C'BORE FOR M10 SHCS + DC SWITCH
 ASF021-PD FOR FLAT, M10X1.5 TAP + DC SWITCH

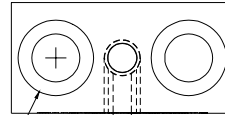


2X DR & C'BORE FOR M10 SHCS MODELS ASC020-PD & ASF020-PD

WIRING DIAGRAM (PNP)

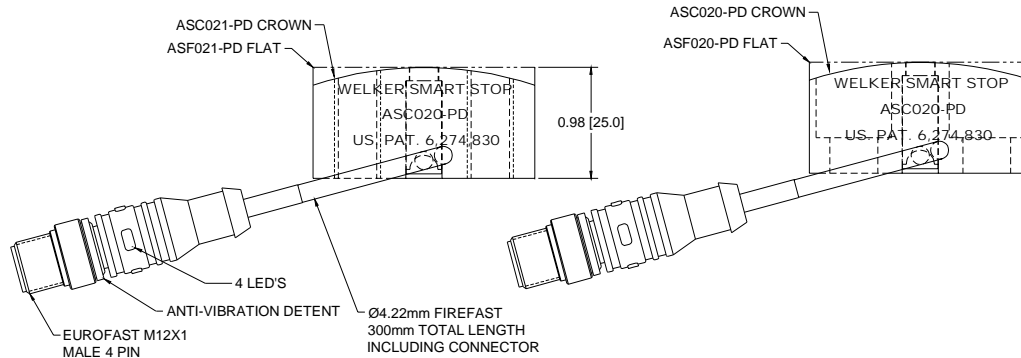


SHORT-CIRCUIT PROTECTED

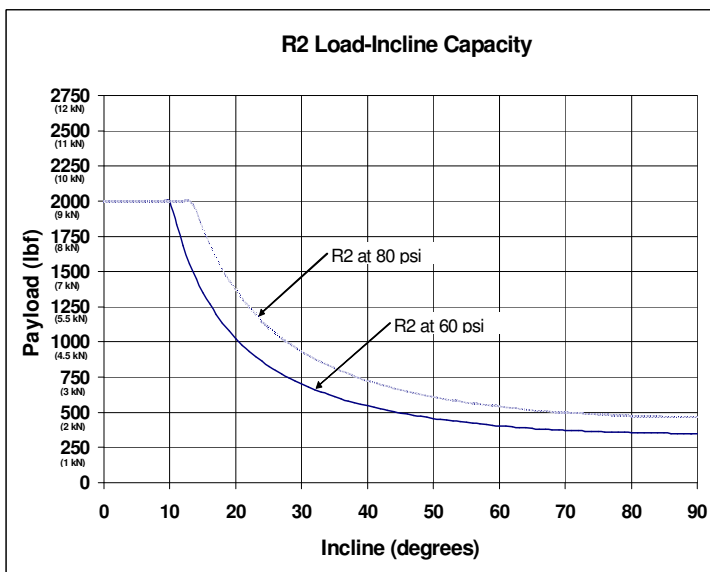
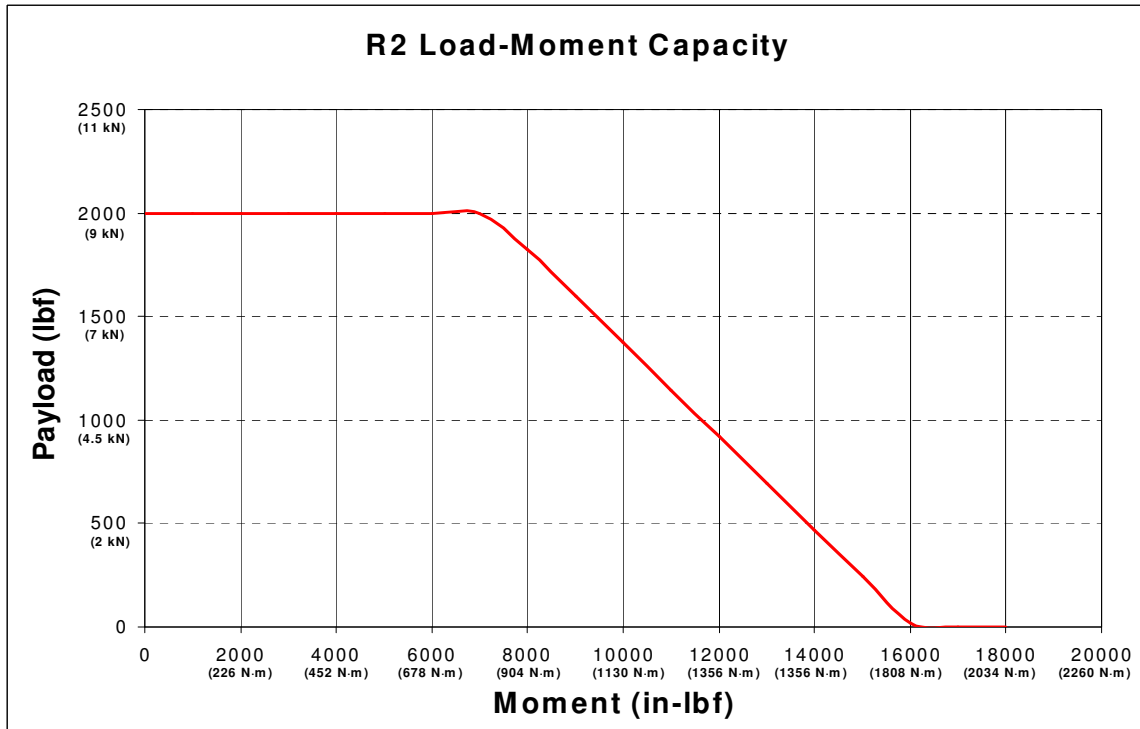


SPECIFICATIONS

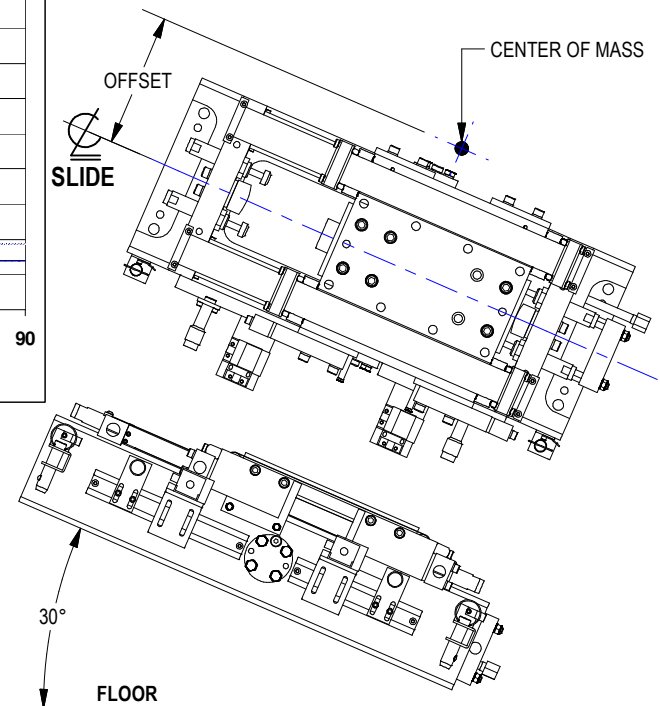
CONTACT CARRIER MATERIAL (RSE)	PUR
MOLDED HEAD MATERIAL/COLOR (RSE)	THERMOPLASTIC PUR/BLACK
CONTACT MATERIAL/PLATING (RSE)	GOLD-PLATED BRASS
COUPLING NUT MATERIAL/PLATING (RSE)	NICKEL-PLATED BRASS
RATED OPERATING DISTANCE	2mm = .079" (NOMINAL)
MOUNTING MODE	FLUSH
HYSTERESIS (DIFFERENTIAL TRAVEL)	3-15%
MAX. RELATIVE TEMPERATURE DRIFT	Ω#±10%
MIN. REPEAT ACCURACY	Ω#±2%
OPERATING TEMPERATURE	-25 to 70°C (-13 to 158°F)
RATED OPERATIONAL VOLTAGE (DC)	10-30 VDC
MAX. RIPPLE	Ω#10%
RATED OPERATIONAL CURRENT	Ω#150 mA
NO-LOAD CURRENT	Ω#15 mA
MAX. OFF-STATE CURRENT	Ω#0.1 mA
MAX. SWITCHING FREQUENCY	Ω#8 kHz
RATED INSULATION VOLTAGE	0.5 kV
OUTPUT FUNCTION	3-WIRE, NORMALLY OPEN, PNP
SHORT-CIRCUIT PROTECTION	YES
MAX. VOLTAGE DROP	Ω#1.8 V
WIRE BREAKAGE/REVERSE POLARITY PROTECT	YES
DEGREE OF PROTECTION	IP 67
HOUSING MATERIAL	SST, V2A 1.4301
ACTIVE FACE	PLASTIC, PA12-GF30
OUTER CABLE JACKET (SENSOR)	3mm PUR
VIBRATION RESISTANCE	55 Hz (1mm)
SHOCK RESISTANCE	30 x g (11 ms)
PIG-TAIL LED COLOR	GREEN=POWER, YELLOW=OUTPUT



Download CAD drawings @welkerbearing.com



Applications are evaluated in two separate calculations: payload and moment load. An approvable application meets both criteria. For applications outside the graph safety zone, contact Welker.



Loading Example for R2 Slide:

For an application with a 600 lbf (2.7 kN) payload, offset 10 inches and operating at a 30 degree incline, first verify if the payload falls inside the "Load-Incline" chart. The 600 lbf payload falls under the 60 psi curve at the 30° incline. This is an acceptable payload. Next, the center of mass, at 10" offset has an applied moment load of 6000 in-lbf. (678 N-m). Using the Moment-Load Capacity chart at 600 lbf, shows an allowable moment load of approx. 13,500 in-lbf (1525 N-m). The 6000 in-lb moment is less than the 13,500 allowable. This is an acceptable moment load. Note that the offset distance is the same regardless of the slide orientation to the floor.

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