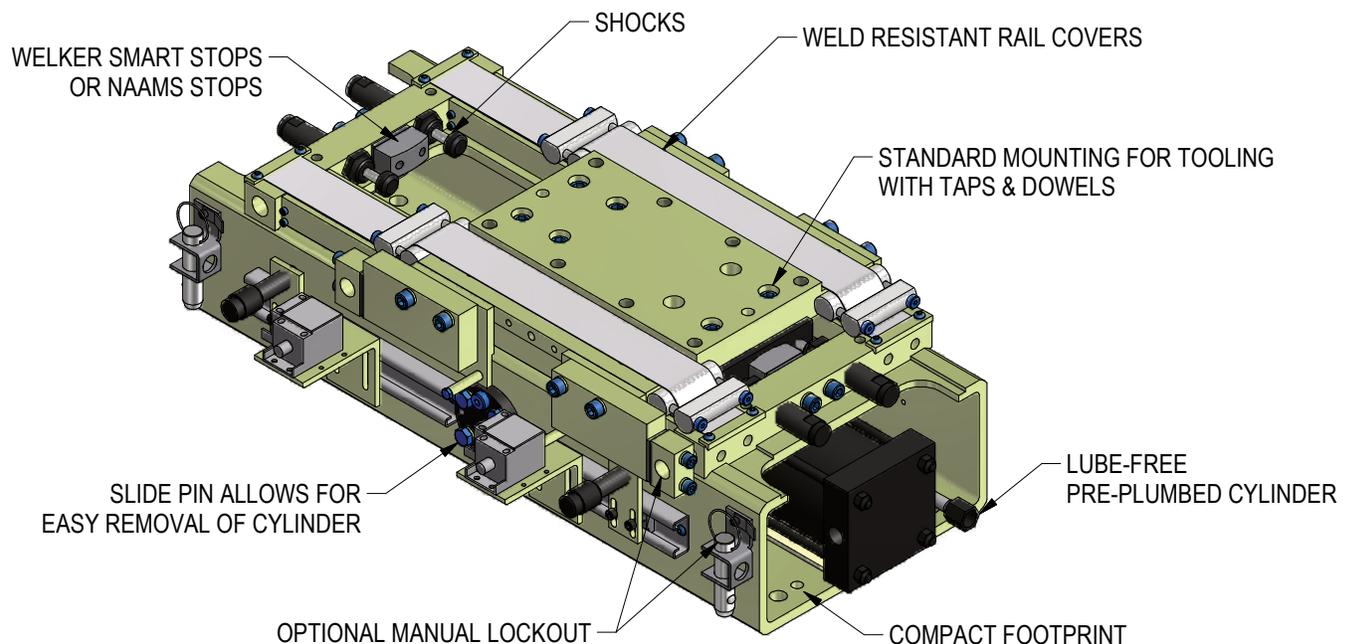


R2 POWERED SLIDES

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 35mm 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.

Released 1/10/22

ORDERING INFORMATION FOR NON-DUPLEX CYLINDER UNITS

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

SEE NEXT PAGE FOR
DUPLEX CYLINDER
UNITS >>>



Total Stroke

000-495 *Standard Strokes: _____
70, 130, 190, 250, 310, 370, 430, 490

Cylinder Opts (100mm Bore Pneumatic)

- 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)
- 30 Double Acting ISO (NPT Ports)
- 31 Double Acting ISO ("G" Ports)

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

Shroud & Lube

- 0 No Shroud/No Lube
- 1 Shroud/No Lube
- 2 No Shroud with Lube
- 3 Shroud & Lube

Stop Options

- X NAAMS Stops
- P Welker Smart Stop

**Extend Shim ~ Quarter mm

**Extend Shim ~ Whole mm

**Retract Shim ~ Quarter mm

**Retract Shim ~ Whole mm

*Stroke Note: Standard unit strokes are 70mm to 490mm at increments of 60mm. 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).

SHIM CHART									
WHOLE MILLIMETER CODES								QUARTER MM CODES	
THK (mm)	CODE	THK (mm)	CODE	THK (mm)	CODE	THK (mm)	CODE	THK (mm)	CODE
0	0	8	8	16	G	24	R	0.00	0
1	1	9	9	17	H	25	S	0.25	A
2	2	10	A	18	J	26	T	0.50	B
3	3	11	B	19	K	27	U	0.75	C
4	4	12	C	20	L	28	V		
5	5	13	D	21	M	29	W		
6	6	14	E	22	N	30	X		
7	7	15	F	23	P	35	Y		

Ordering example:

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

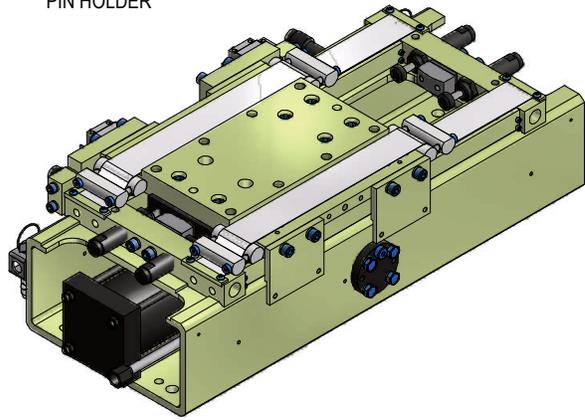
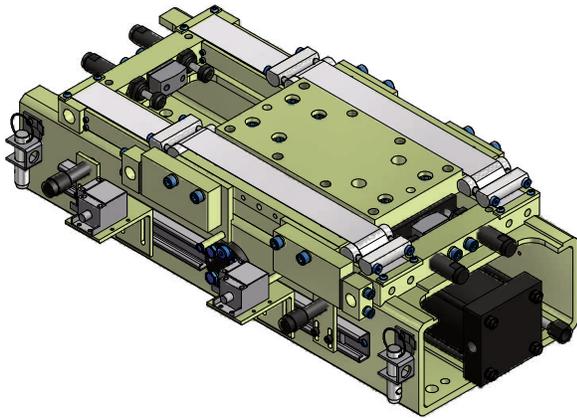
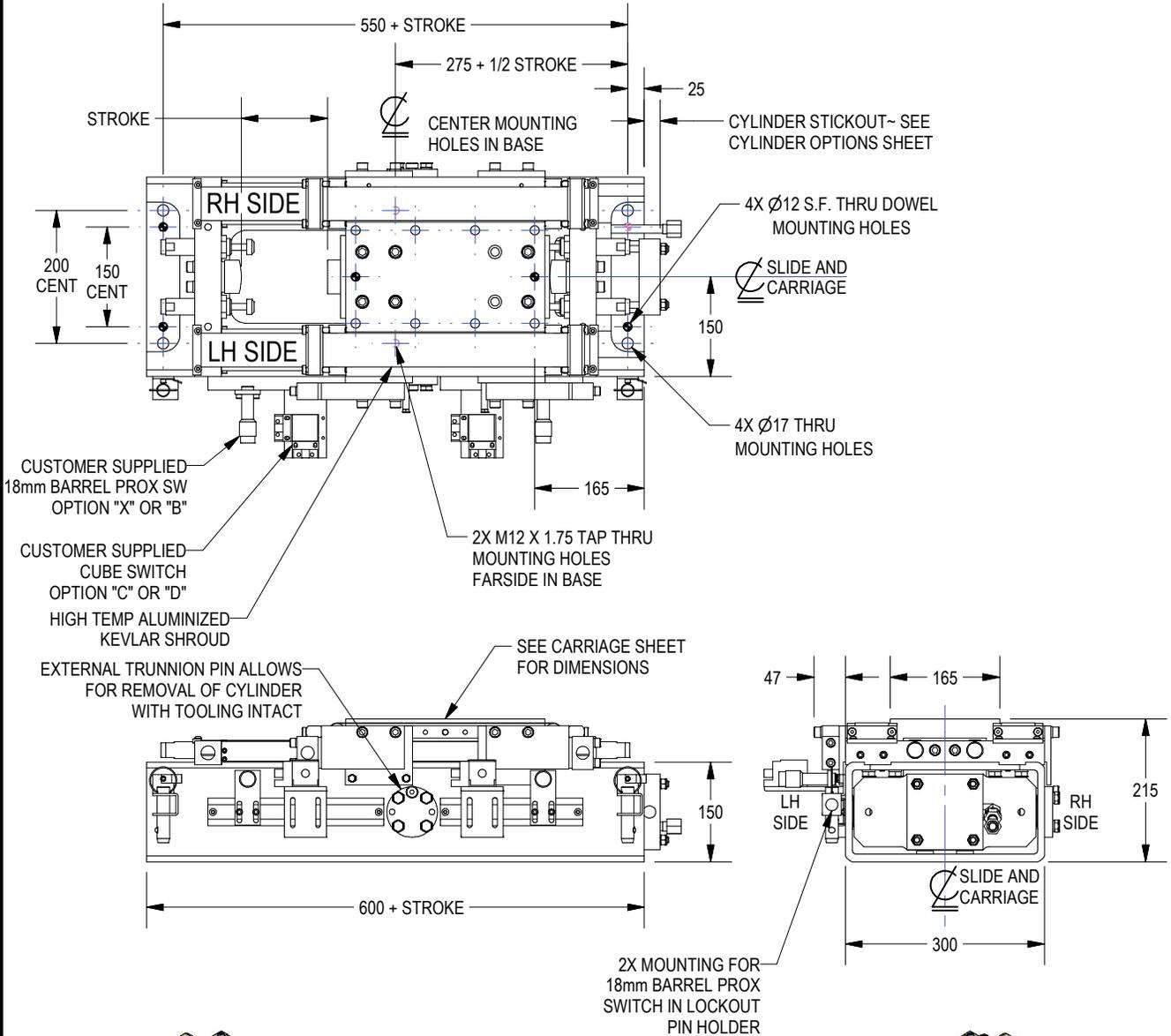
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GENERAL DIMENSIONS



WEIGHT IN LBS (WEIGHTS SHOWN ARE APPROXIMATE, VARY WITH OPTIONS)

50mm	100mm	200mm	300mm	400mm	500mm
231	247	280	312	344	376

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CYLINDER OPTIONS

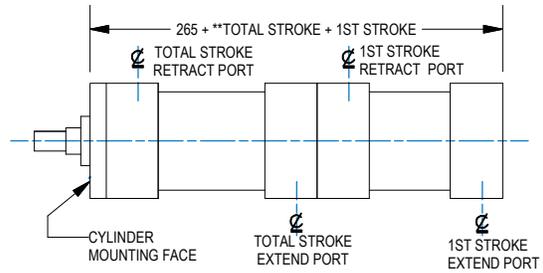
R 2 0 0 0 0 5 0 [] E 0 0 0 0 X 1 W

Cylinder Options (Pneumatic)

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

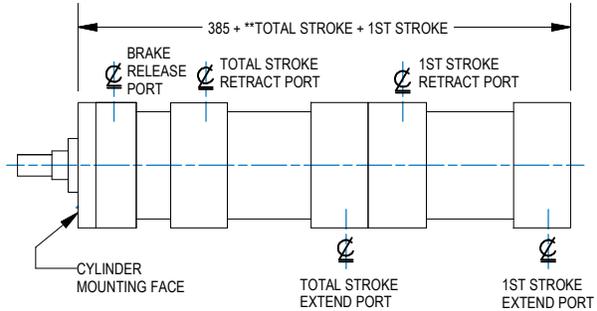
CYLINDER OPTIONS 07, 08, 09

(SEE NOTE)



CYLINDER OPTIONS 10, 11, 12

(SEE NOTE)



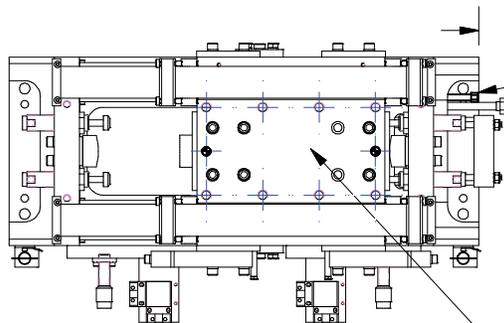
NOTE: ALL INACCESSIBLE PORTS WILL BE PRE-PLUMBED BY WELKER WITH FITTINGS THAT WILL BE ACCESSIBLE OUTSIDE THE END PLATE AND WITHIN 8" FROM THE BASE PLATE. WHEN "G" PORT OPTION IS ORDERED, METRIC TUBING & FITTINGS WILL BE SUPPLIED WHEN NECESSARY.

*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
30	45mm	370mm	195mm + STROKE



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.

CYLINDER STICKOUT

SHEET 5

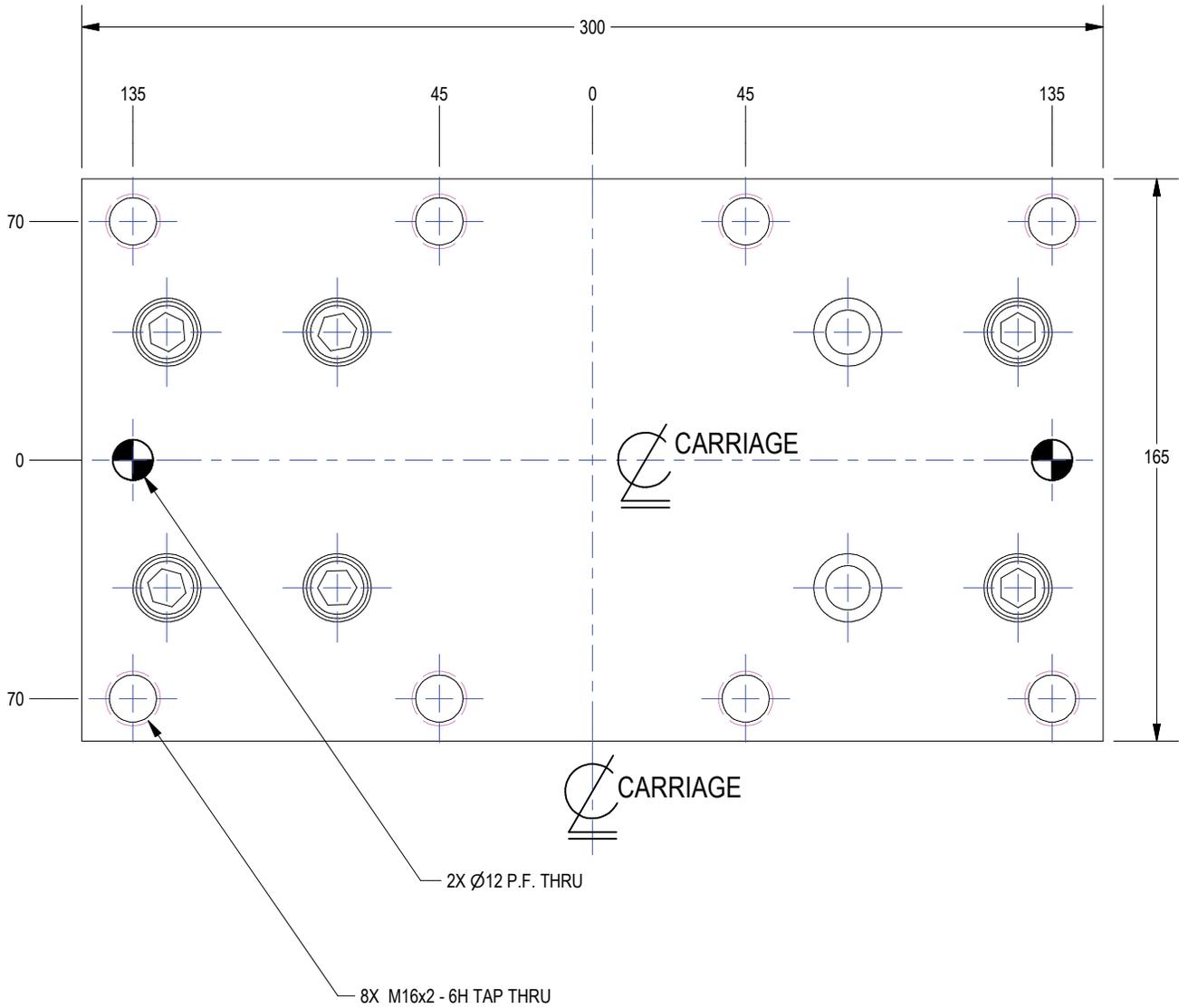
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CARRIAGE SHEET



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LOCKOUT AND SWITCHES

R2
0
0
0
0
5
0
0
1

0
0
0
0

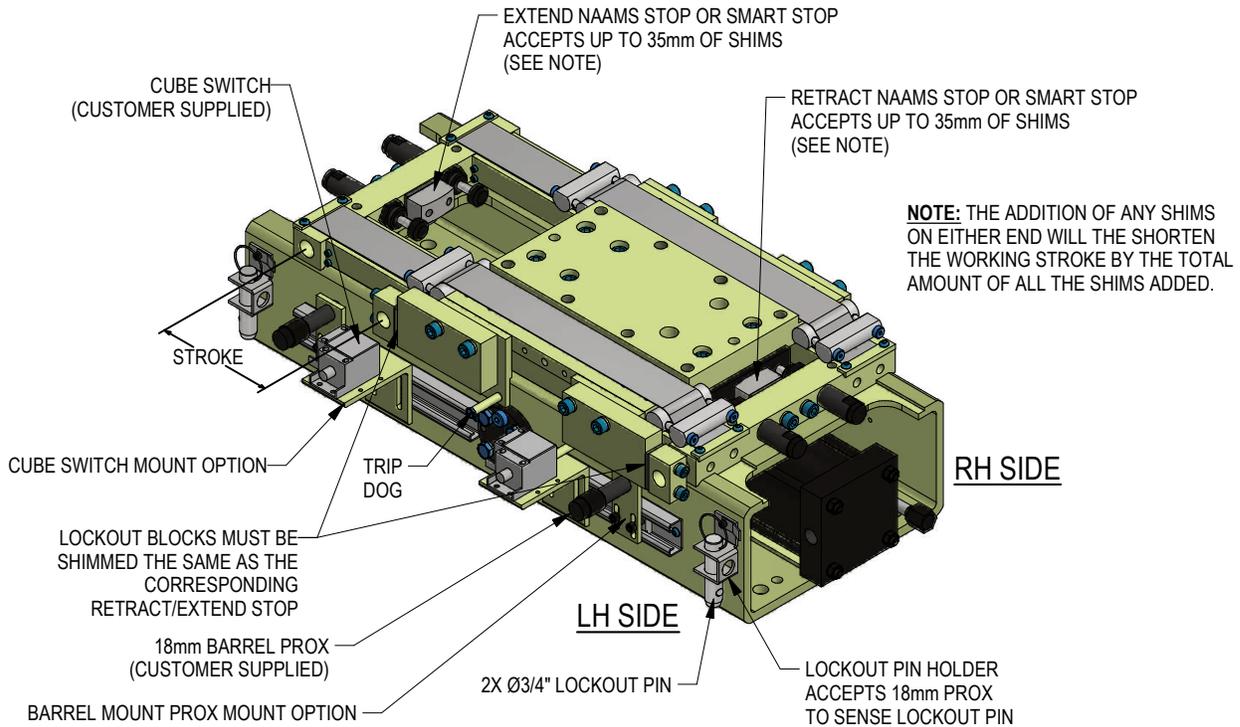
1
W

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

- X NAAMS Stops
- P Welker Smart Stops



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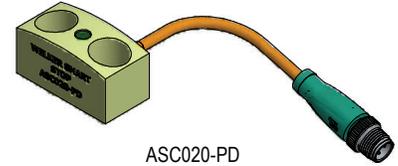
WELKER SMART STOP

WELKER SMART STOP does all stopping & sensing functions in one part.
SMART STOP minimizes engineering, field set up and operator adjustment time.

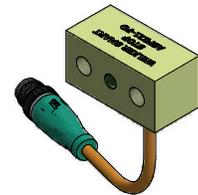
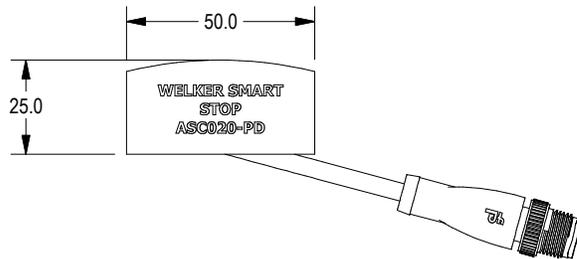
WELKER SMART STOP eliminates:

- Need for separate mounts, brackets & flags.
- Need for switch adjustments when shimming.
- Improper adjustment of outboard switches.
- Outboard switch vibrating loose in bracket.
- Protecting outboard proxies from being stepped on or bent in tools.

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



ASC020-PD



ASF021-PD

General Specifications

Switching function	Normally Open (NO)
Output type	PNP
Rated operating distance, s_n	1.75mm
Output polarity	DC
Assured operating distance s_a	0 - 1.42 mm
Output type	3-wire

Nominal Ratings

Operating voltage, U_B	5 - 30 V DC
Switching frequency, f	0 - 6000 Hz
Reverse polarity protection	Reverse polarity protected
Short-circuit protection	Pulsing
Voltage drop, U_d	≤ 1.5 V
Operating current, I_L	0 - 100 mA
Off-state current, I_r	0 - 0.2 mA
No-load supply current, I_0	≤ 15 mA

Indicators/Operating Means

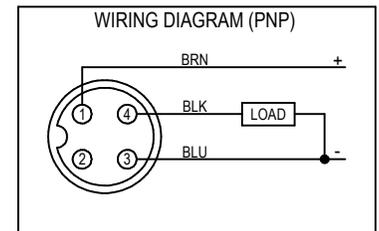
Operating voltage indicator	LED green
Switching state indicator	LED yellow

Ambient Conditions

Ambient temperature	-40 - 85 °C (-40 - 185 °F)
Storage temperature	-40 - 85 °C (-40 - 185 °F)

Mechanical Specifications

Connection type Connector plug	M12 x 1 , 4-pin
Cable length	255mm
Degree of protection	IP67
Cable material	Weld spatter resistant, robotic quality POC
Cable color	Orange



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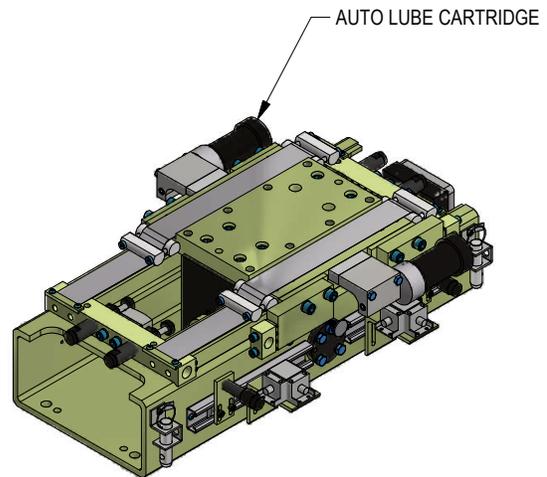
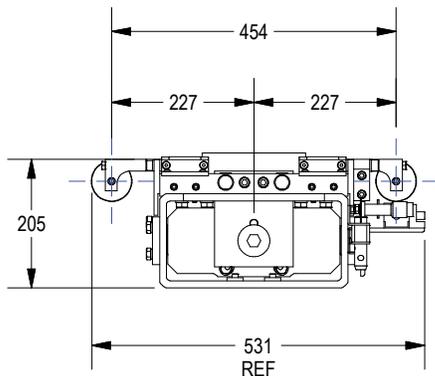
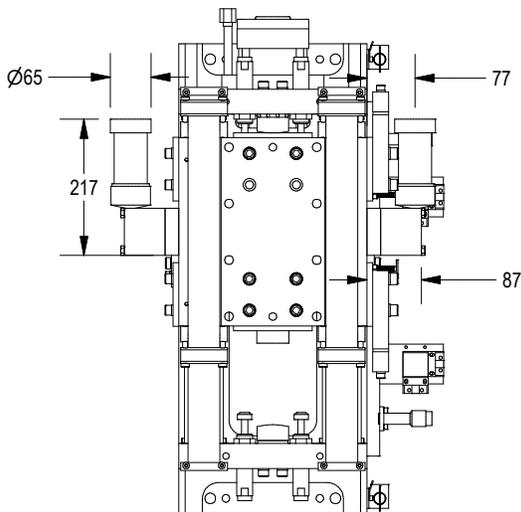
AUTO LUBE OPTION

Rail Slides

Bearing assemblies in rail slides must be lubricated to maintain proper slide function and avoid rail damage. The auto lube option is a cost effective alternative to scheduled manual lubrication. Maintenance requires no tools or assembly - simply replace cartridge when empty. When ordered as an option for a new slide, it must be turned on by the customer after final installation. Recommended setting is 12 months. Rail slides require one unit for each bearing side. Replace every 12 months.

Servo Slides

Ball screws must be lubricated monthly. Insufficient lubrication shortens the life of the ball screw and may cause failure. A lubrication port is provided for manual application or installation of an auto lube unit. When ordered as an option for a new slide, it must be turned on by customer after final installation. Recommended setting is 12 months. Servo slides require one auto lube unit. Replace every 12 months.



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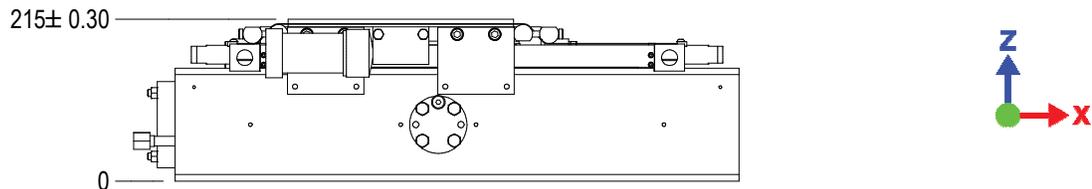
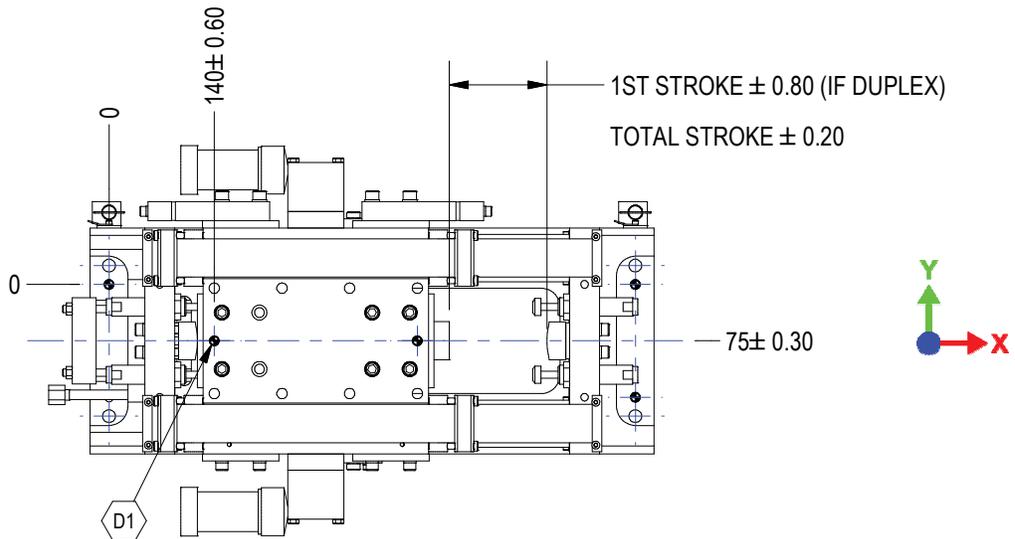
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R2 SLIDE ACCURACY

POSITIONAL ACCURACY specifies the allowable deviation between the nominal position of a reference point on the carriage (D1 as shown) to the actual position that is achieved.

TRAVEL ACCURACY specifies the allowable deviation along the plane of motion of a reference point on the carriage (D1 as shown) to the actual position *during movement* - in other words, the allowable side-to-side movement (in the direction of Y) and up-and-down movement (in the direction of Z) as the unit travels.



TRAVEL ACCURACY (RUNOUT)	
Y-DIRECTION	Z-DIRECTION
0.15	0.15

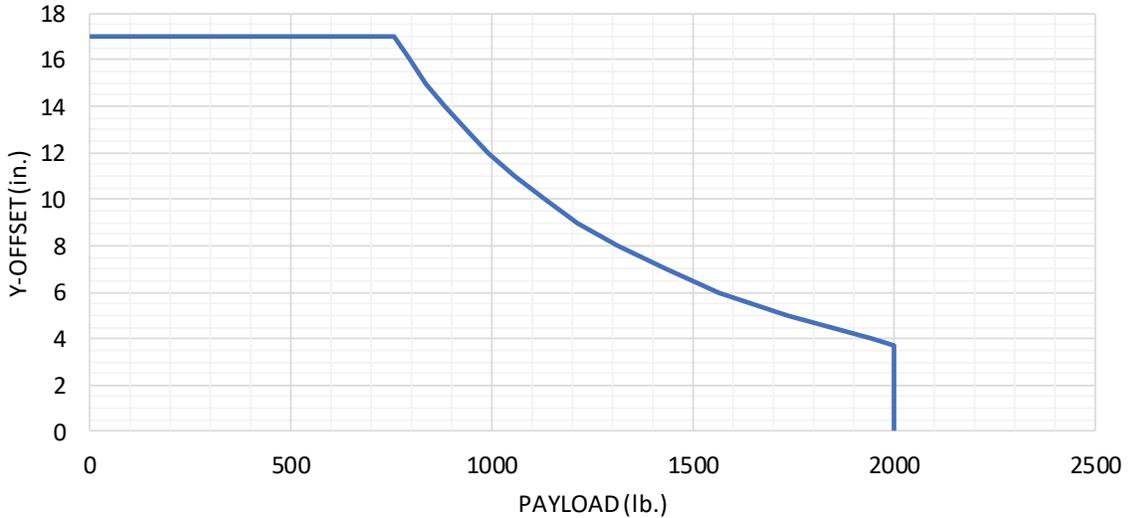
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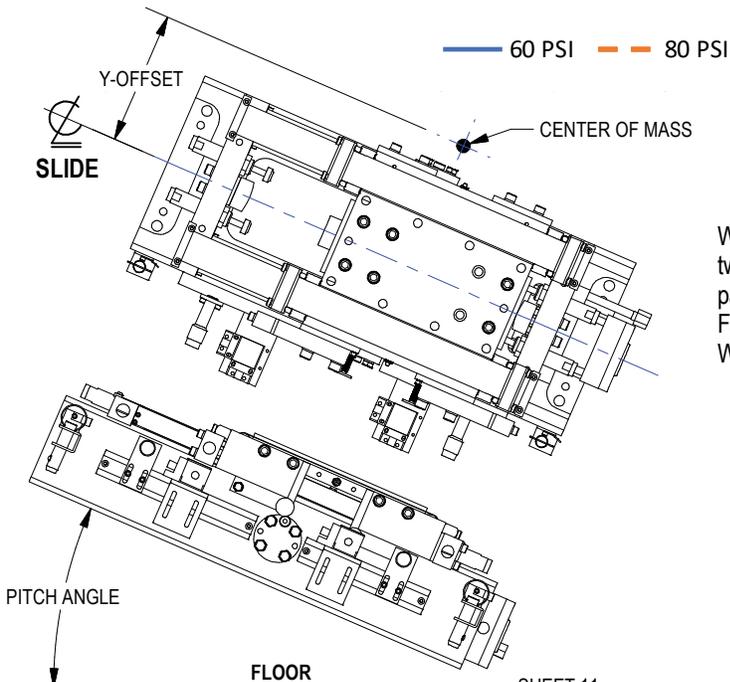
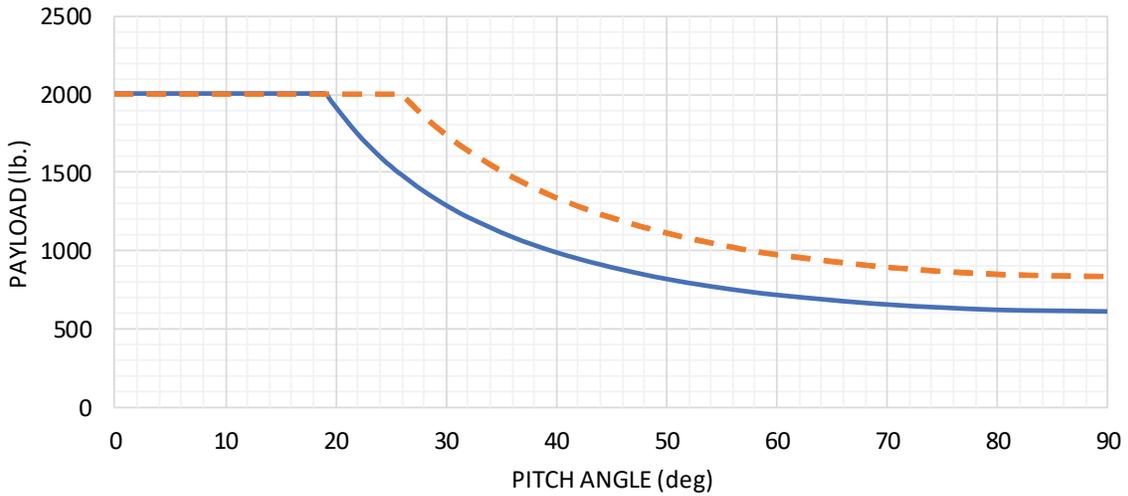
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R2 PAYLOAD v. Y-OFFSET CAPACITY



R2 PITCH ANGLE v. PAYLOAD CAPACITY



When using these graphs, applications are evaluated on two separate criteria: payload v. offset and pitch angle v. payload. An approved application meets both criteria. For applications outside the graph safety zone, contact Welker.

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