



# ORDERING INFORMATION

NL3
0
0
0
0
5
0
0
1
X
0
0
0
0
P
1
W

**Series (Sheet 2)**

NL3 Narrow Low Profile Slide  
 WL3 Wide Low Profile Slide

**1st Stroke**

000-475 ("000" for Non-Duplex)

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

080 080, 160, 240, 320, 400 or 480 Total Stroke  
 (005-475 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)

**Switch Dog Location**

- X No Switch Dogs
- J Switch Dogs RH Side (Shown)
- K Switch Dogs LH Side

**\*\*Additional Retract Shim**

**Whole (mm)**

- 0 0 G 16
- 1 1 H 17
- 2 2 J 18
- 3 3 K 19
- 4 4 L 20
- 5 5 M 21
- 6 6 N 22
- 7 7 P 23
- 8 8 R 24
- 9 9 S 25
- A 10 T 26
- B 11 U 27
- C 12 V 28
- D 13 W 29
- E 14 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 0 G 16
- 1 1 H 17
- 2 2 J 18
- 3 3 K 19
- 4 4 L 20
- 5 5 M 21
- 6 6 N 22
- 7 7 P 23
- 8 8 R 24
- 9 9 S 25
- A 10 T 26
- B 11 U 27
- C 12 V 28
- D 13 W 29
- E 14 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**

- 0 No Switch Mount
- P Welker Smart Stop (Sheet 5)

**\*Stroke Note:** Standard unit strokes are 80mm to 480mm at increments of 80mm. The sum of the 1st & 2nd stroke of the duplex must equal a standard 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 NL3 & WL3 slides utilize size 35 square rail bearings, manual lockouts both ends, aluminized kevlar shrouds and 100mm bore cylinders (locking and duplex cylinders available, see chart on Cylinder Options sheet).

**Ordering examples:** For an "NL3" slide with 160mm stroke (160mm total stroke), double acting air cylinder, Welker Smart Stop switch, no additional shims, shroud, order as: **NL300016001X0000P1W**  
 For an "NL3" slide with 80mm 1st stroke and 160mm 2nd stroke (240mm total stroke), duplex air cylinder, switch dogs 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: **NL308016007K5AACP1W**

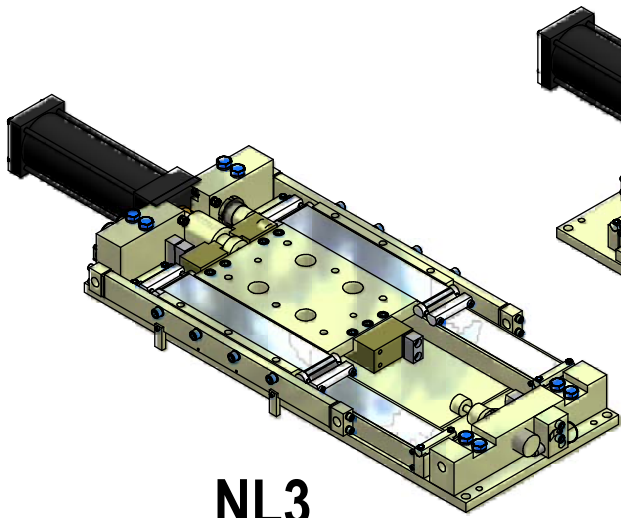
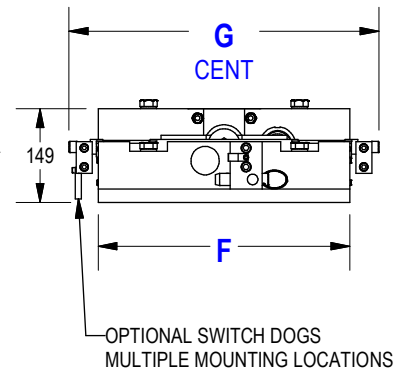
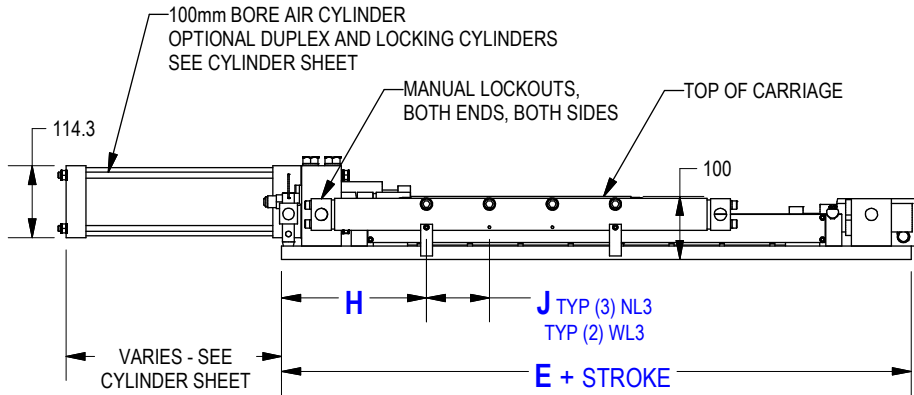
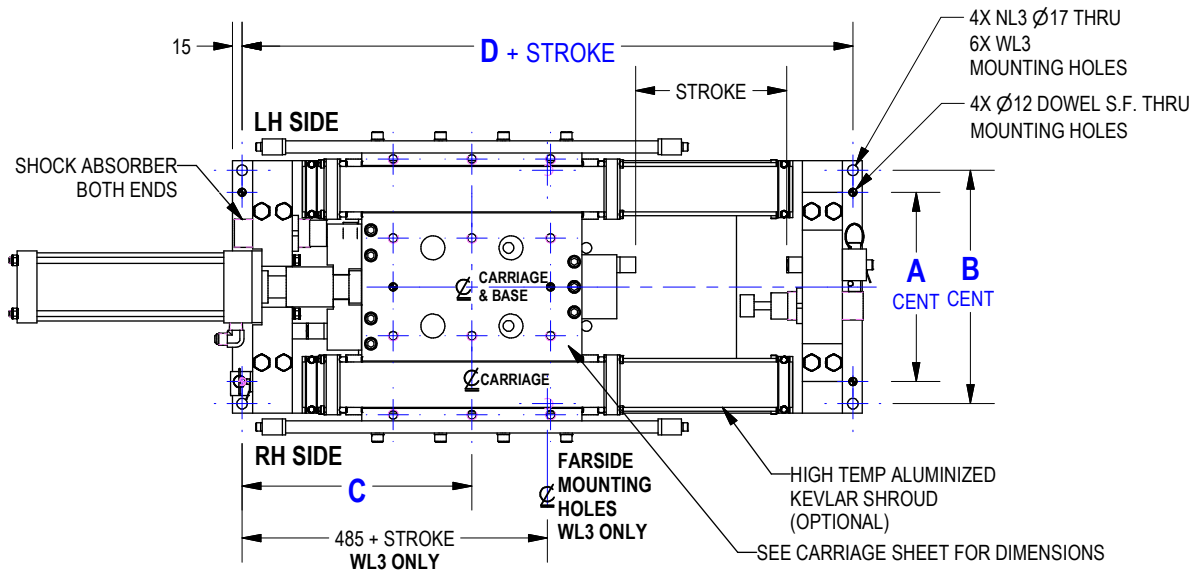
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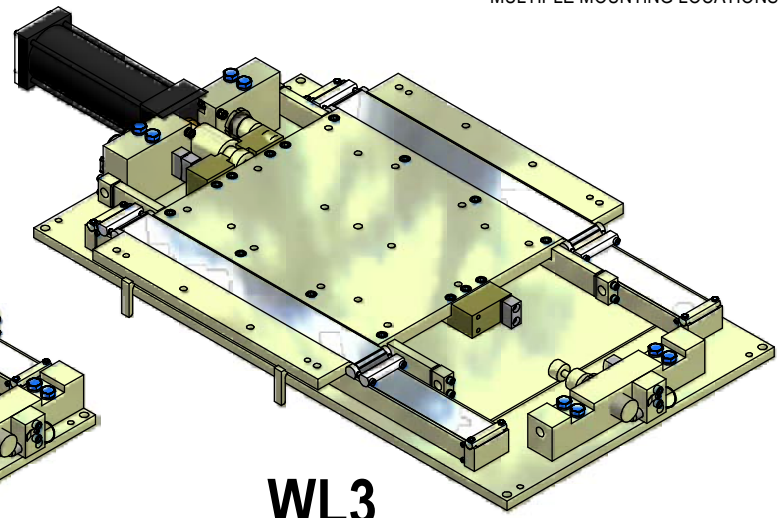
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# GENERAL DIMENSIONS



**NL3**



**WL3**

	A	B	C	D	E	F	G	H	J
<b>NL3</b>	300	370	365	730	760	400	492	230	100
<b>WL3</b>	600	670	485	970	1000	700	820	300	200

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# CYLINDER OPTIONS

SERIES NL3, WL3

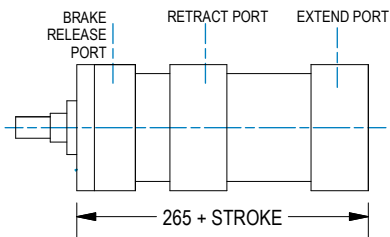
**NL3** **0 0 0** **0 5 0** **0 1** **X** **0** **0** **0** **0** **P** **1** **W**

## Cylinder Options (Pneumatic)

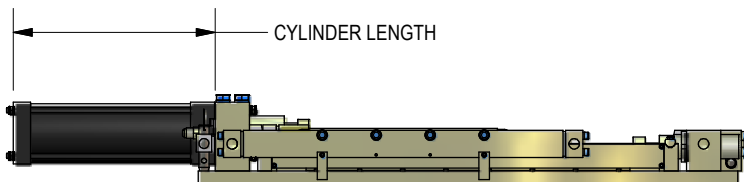
CYLINDER OPTION	*CYLINDER LENGTH	CYL PORTS	CYL TYPE	BRAKE PORTS
<b>01</b> Double Acting (NPT Ports)	150 + STK	1/2" NPT	NON-LOCK	N/A
<b>02</b> Double Acting (SAE Ports)	150 + STK	#10 SAE	NON-LOCK	N/A
<b>03</b> Double Acting ("G" Ports)	150 + STK	1/2 G	NON-LOCK	N/A
<b>04</b> Double Acting with Rod Lock (NPT Ports)	265 + STK	1/2" NPT	LOCK	1/4" NPT
<b>05</b> Double Acting with Rod Lock (SAE Ports)	265 + STK	#10 SAE	LOCK	#4 SAE
<b>06</b> Double Acting with Rod Lock ("G" Ports)	265 + STK	1/2 G	LOCK	1/4" G
<b>07</b> Duplex (NPT Ports)	265 + **TOTAL STROKE + 1ST STROKE	1/2" NPT	DUPLEX	N/A
<b>08</b> Duplex (SAE Ports)	265 + **TOTAL STROKE + 1ST STROKE	#10 SAE	DUPLEX	N/A
<b>09</b> Duplex ("G" Ports)	265 + **TOTAL STROKE + 1ST STROKE	1/2 G	DUPLEX	N/A
<b>10</b> Duplex with Rod Lock	385 + **TOTAL STROKE + 1ST STROKE	1/2" NPT	LOCKING DUPLEX	1/4" NPT
<b>11</b> Duplex with Rod Lock	385 + **TOTAL STROKE + 1ST STROKE	#10 SAE	LOCKING DUPLEX	#4 SAE
<b>12</b> Duplex with Rod Lock	385 + **TOTAL STROKE + 1ST STROKE	1/2 G	LOCKING DUPLEX	1/4" G

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

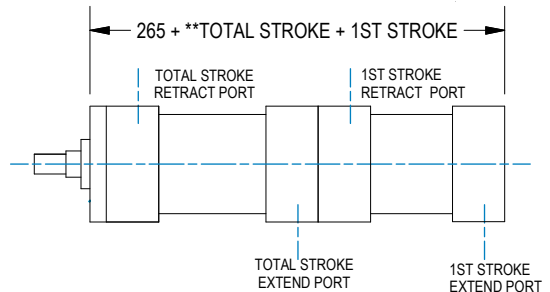
\*\*TOTAL STROKE = 1ST STROKE + 2ND STROKE. 1ST STROKE STARTS FROM CARRIAGE IN RETRACTED POSITION AS SHOWN



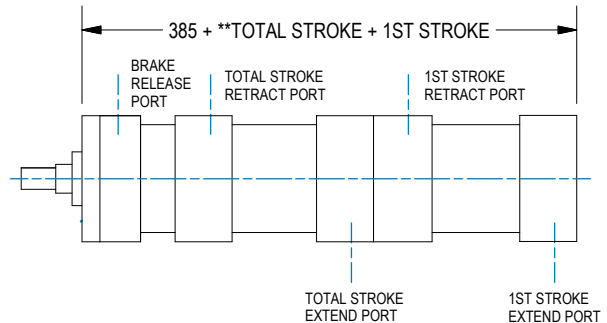
**CYLINDER OPTIONS 04, 05, 06**



**CYLINDER OPTIONS 01, 02, 03**



**CYLINDER OPTIONS 07, 08, 09**



**CYLINDER OPTIONS 10, 11, 12**

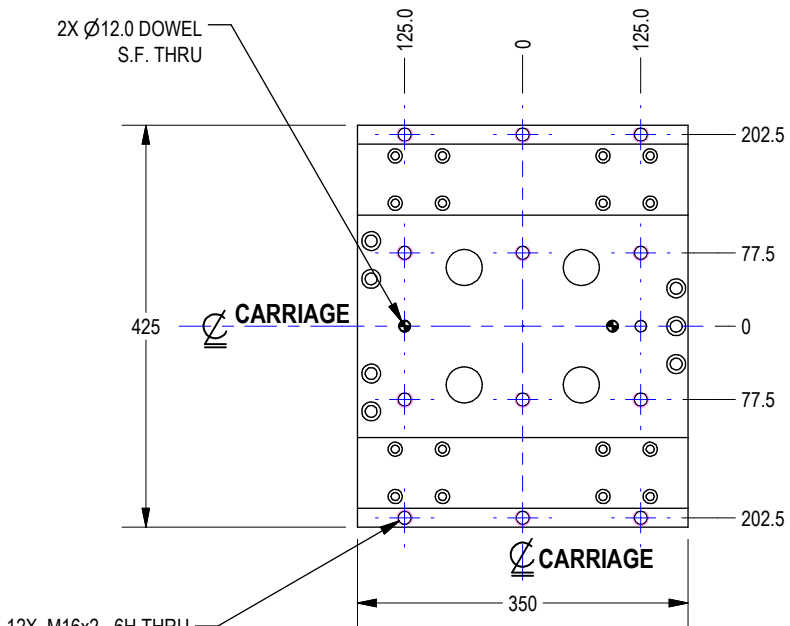
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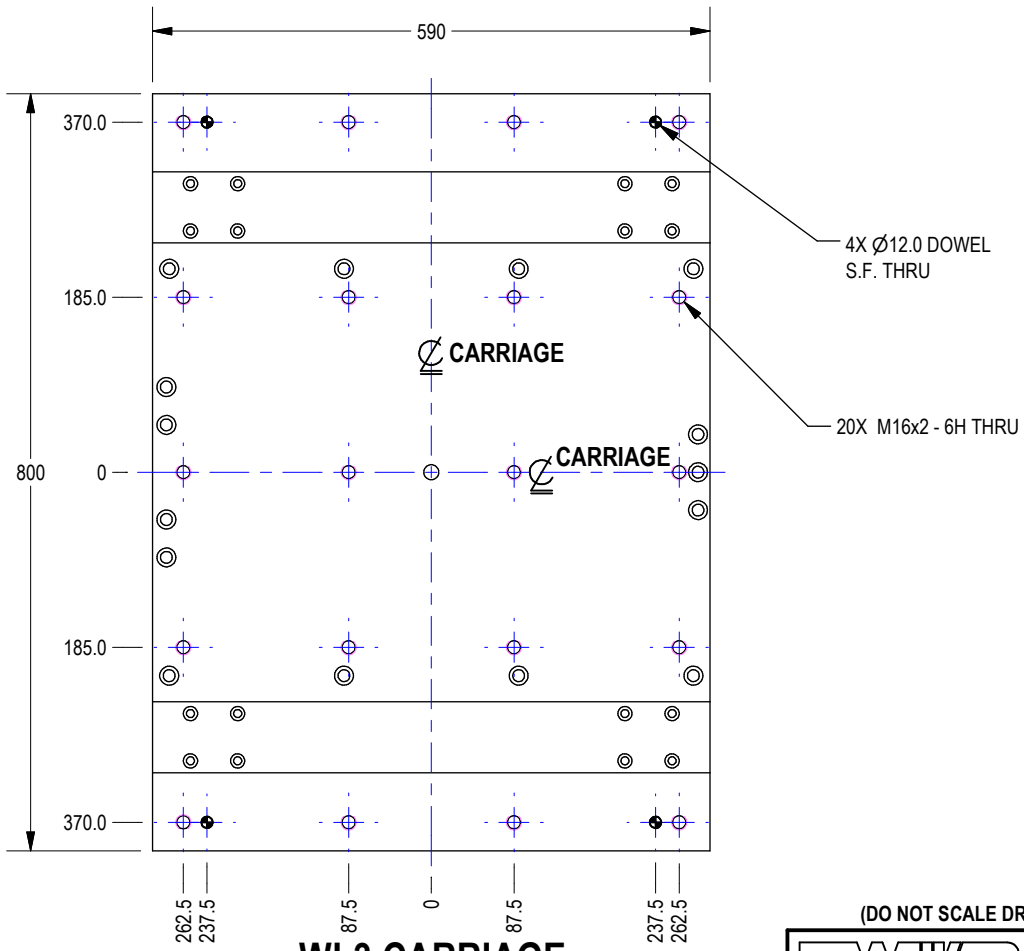
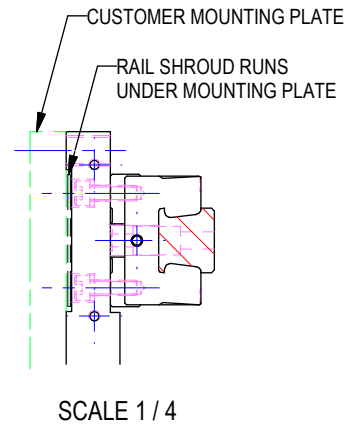
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# CARRIAGE SHEET



## NL3 CARRIAGE



## WL3 CARRIAGE

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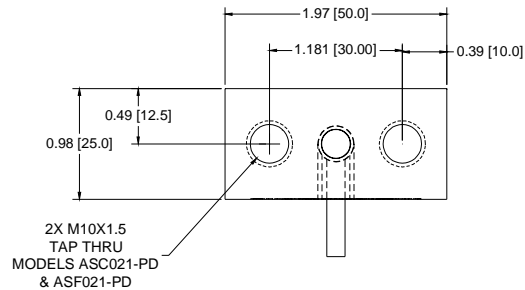
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# WELKER SMART STOP

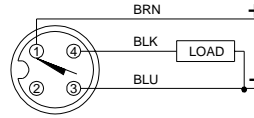
## MODEL NO:

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

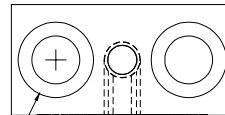


2X DR & C'BORE FOR M10 SHCS MODELS ASC020-PD & ASF020-PD

## WIRING DIAGRAM (PNP)

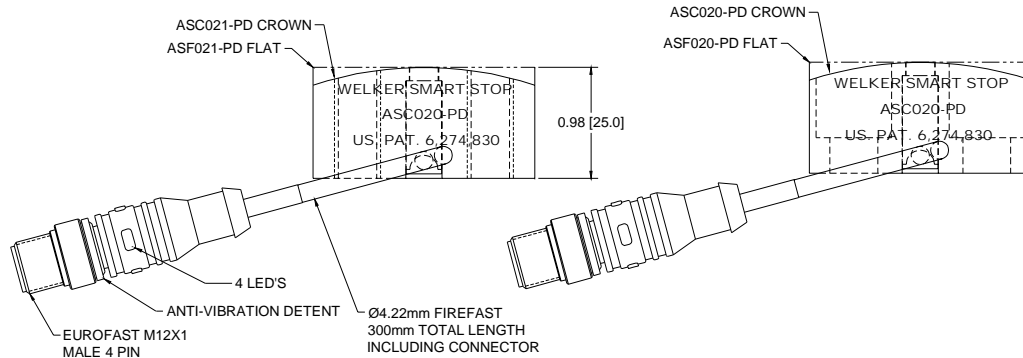


SHORT-CIRCUIT PROTECTED



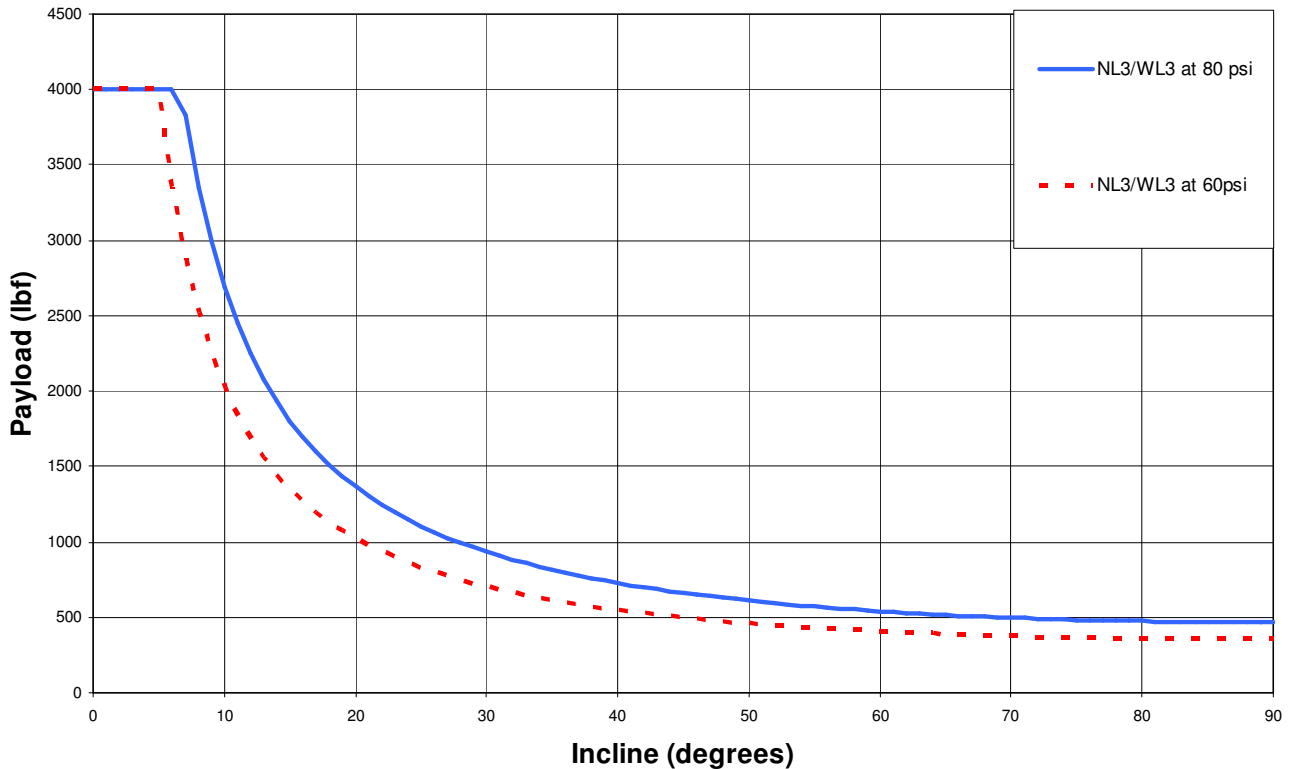
## SPECIFICATIONS

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



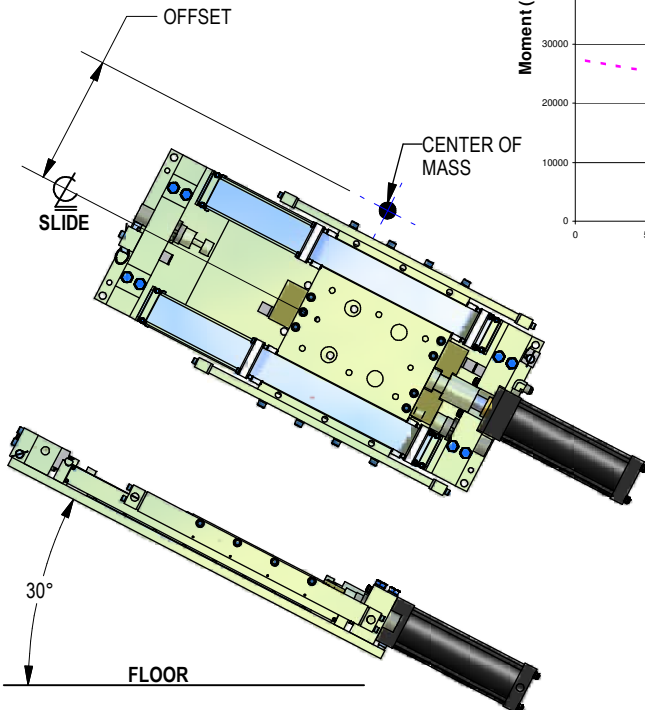
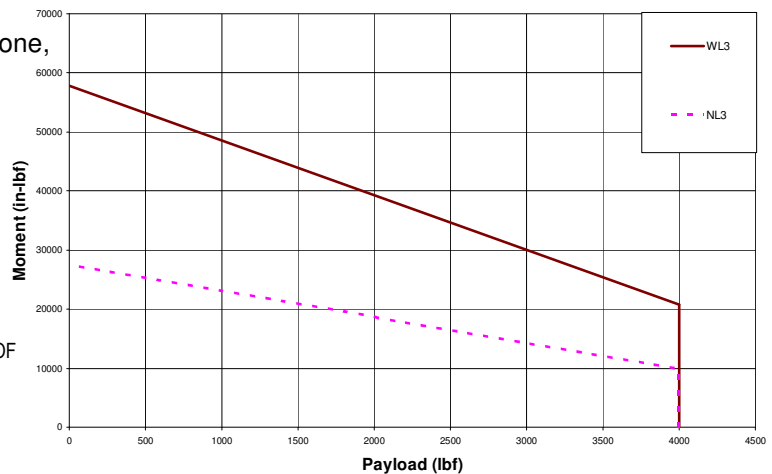
Download CAD drawings @[welkerbearing.com](http://welkerbearing.com)

## Rail Slide Load-Incline Capacity



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.

## Rail Slide Load-Moment Capacity



### Loading Example for NL3 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. 25,000 in-lbf (2825 N-m). The 6000 in-lb moment is less than the 25,000 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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