LOW PROFILE RAIL SLIDES

NL3

- Standard mounting for tooling (taps and dowels)
- Weld spatter resistant aluminized kevlar rail shrouds
- Shocks
- 3/4" manual lockout pin
- Lockout pin receive hole
- Shimmable NAAMS stops or Welker Smart Stop
- Simple coupler design for easy cylinder removal

WL3

- Same features and height as NL3
- Larger base and carriage

Features:
- Can be mounted in any orientation
- Successful operation in harsh environments
- Available pneumatic cylinders:
  - Non-locking, duplex and locking
  - Hydraulic and electro-servo powered available
- High capacity 35mm square rails
**ORDERING INFORMATION**

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

**Series**
- 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)**
- 01: Double Acting (NPT Ports)
- 03: Double Acting ("G" Ports)
- 04: Double Acting with Rod Lock (NPT Ports)
- 06: Double Acting with Rod Lock ("G" Ports)
- 07: Duplex (NPT Ports)
- 09: Duplex ("G" Ports)

**Switch Dog Location**
- X: No Switch Dogs
- J: Switch Dogs RH Side
- K: Switch Dogs LH Side

**Shroud & Lube Option**
- 1: Shroud/No Lube
- 3: Shroud & Lube

**Stop Options**
- X: NAAMS Stops
- P: Welker Smart Stops

**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).

**Shim Chart**

<table>
<thead>
<tr>
<th>THK (mm)</th>
<th>CODE</th>
<th>THK (mm)</th>
<th>CODE</th>
<th>THK (mm)</th>
<th>CODE</th>
<th>THK (mm)</th>
<th>CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>8</td>
<td>16</td>
<td>G</td>
<td>24</td>
<td>R</td>
<td>0.00</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>9</td>
<td>17</td>
<td>H</td>
<td>25</td>
<td>S</td>
<td>0.25</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>10</td>
<td>A</td>
<td>18</td>
<td>J</td>
<td>T</td>
<td>0.50</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>11</td>
<td>B</td>
<td>19</td>
<td>K</td>
<td>U</td>
<td>0.75</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>12</td>
<td>C</td>
<td>20</td>
<td>L</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>13</td>
<td>D</td>
<td>21</td>
<td>M</td>
<td>W</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>14</td>
<td>E</td>
<td>22</td>
<td>N</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>15</td>
<td>F</td>
<td>23</td>
<td>P</td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>

**WEIGHT IN LBS (WEIGHTS ARE APPROXIMATE AND VARY WITH OPTIONS)**

<table>
<thead>
<tr>
<th>STROKE (mm):</th>
<th>80</th>
<th>160</th>
<th>240</th>
<th>320</th>
<th>400</th>
<th>480</th>
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</thead>
<tbody>
<tr>
<td>NL3</td>
<td>411</td>
<td>432</td>
<td>435</td>
<td>472</td>
<td>495</td>
<td>516</td>
</tr>
<tr>
<td>WL3</td>
<td>729</td>
<td>738</td>
<td>759</td>
<td>824</td>
<td>855</td>
<td>887</td>
</tr>
</tbody>
</table>

**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: NL3000160010000P1W

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: NL308016007K5AAP1W

**WEIGHT IN LBS (DO NOT SCALE DRAWING)**

ENGINEERED PRODUCTS

(800) 229-0890 www.welkerproducts.com
GENERAL DIMENSIONS

SHOCK ABSORBER BOTH ENDS

100mm BORE AIR CYLINDER OPTIONAL DUPLEX AND LOCKING CYLINDERS SEE CYLINDER SHEET

MANUAL LOCKOUTS, BOTH ENDS, BOTH SIDES

TOP OF CARRIAGE

VARIES - SEE CYLINDER SHEET

HIGH TEMP ALUMINIZED KEVLAR SHROUD

SEE CARRIAGE SHEET FOR DIMENSIONS

OPTIONAL SWITCH DOGS MULTIPLE MOUNTING LOCATIONS

4X NL3 Ø17 THRU 6X WL3 MOUNTING HOLES
4X Ø12 DOWEL S.F. THRU MOUNTING HOLES

SEE CARRIAGE SHEET FOR DIMENSIONS

ENGINEERED PRODUCTS
(800) 229-0890 www.welkerproducts.com

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
</tr>
</thead>
<tbody>
<tr>
<td>NL3</td>
<td>300</td>
<td>370</td>
<td>365</td>
<td>730</td>
<td>760</td>
<td>400</td>
<td>492</td>
<td>230</td>
</tr>
<tr>
<td>WL3</td>
<td>600</td>
<td>670</td>
<td>485</td>
<td>970</td>
<td>1000</td>
<td>700</td>
<td>820</td>
<td>300</td>
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</table>

NL3

WL3
## CYLINDER OPTIONS

### CYLINDER OPTIONS (Pneumatic)

<table>
<thead>
<tr>
<th>CYLINDER OPTION</th>
<th>CYLINDER OPTION</th>
<th>CYLINDER LENGTH</th>
<th>CYL PORTS</th>
<th>CYL TYPE</th>
<th>BRAKE PORTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Double Acting (NPT Ports)</td>
<td>150 + STROKE</td>
<td>1/2&quot; NPT</td>
<td>NON-LOCK</td>
<td>N/A</td>
</tr>
<tr>
<td>03</td>
<td>Double Acting (&quot;G&quot; Ports)</td>
<td>150 + STROKE</td>
<td>1/2 G</td>
<td>NON-LOCK</td>
<td>N/A</td>
</tr>
<tr>
<td>04</td>
<td>Double Acting with Rod Lock (NPT Ports)</td>
<td>265 + STROKE</td>
<td>1/2&quot; NPT</td>
<td>LOCK</td>
<td>1/4&quot; NPT</td>
</tr>
<tr>
<td>06</td>
<td>Double Acting with Rod Lock (&quot;G&quot; Ports)</td>
<td>265 + STROKE</td>
<td>1/2 G</td>
<td>LOCK</td>
<td>1/4 G</td>
</tr>
<tr>
<td>07</td>
<td>Duplex (NPT Ports)</td>
<td>265 + **TOTAL STROKE + 1ST STROKE</td>
<td>1/2&quot; NPT</td>
<td>DUPLEX</td>
<td>N/A</td>
</tr>
<tr>
<td>09</td>
<td>Duplex (&quot;G&quot; Ports)</td>
<td>265 + **TOTAL STROKE + 1ST STROKE</td>
<td>1/2 G</td>
<td>DUPLEX</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*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.

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**CYLINDER OPTIONS 01, 03**

![Diagram of Cylinder Options 01 and 03]

**CYLINDER OPTIONS 04, 06**

![Diagram of Cylinder Options 04 and 06]

**CYLINDER OPTIONS 07, 09**

![Diagram of Cylinder Options 07 and 09]

(FLYER DRAWING)

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WEILER

ENGINEERED PRODUCTS

(800) 229-0890 www.welkerproducts.com
**NL3 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 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.
WL3 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 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.
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 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.