**GR and RC Series Pneumatic Pivot Units**

GR and RC Series Pneumatic Pivot Units are used in welding applications or anywhere it is necessary to accurately position tooling. Both the RC and GR series can be mounted in an upright vertical or horizontal position.

**RC100-120 shown in a vertical “V” orientation**

**Proximity Switch**
Can be placed on the left or right side of the unit by removing and reversing the position of the protective guards

**Cut Off Valve (GR Series Only)**
Stops movement when air pressure is lost.

**Four Cylinder Bore Sizes**
Available in 100, 125, 160 & 200mm cylinder bore sizes. Cylinders are offered with NPT or ISO G ports
Available in three different arm opening angles
45°, 90° and 120° arm opening angles are available in both the horizontal and vertical mount orientation. Both mounting orientations can also be ordered with an inverted mounting bracket.

Arm Limit Block
Assures the repeatability of the arm position, independent from the mass applied to the unit

Protective Guard
Protects proximity switch and provides access to rod-fork connecting pin

Checking Pin
Used to check the locking mechanism which can be done visually or by feeling for a gap of 2mm between the base and the pin.

Safety Ring Nuts
Attached to the arms, prevent slipping effect between the arms and hubs, assuring precise positioning and repeatability.

GRP/RCP Series Pivot Units
Are the only versions which can be used with external hard stops. These pivots are non-locking and shimmable

GR160-120 shown in a horizontal “O” orientation
GR AND RC MEDIUM DUTY SERIES

Pneumatic Pivot Units | Ordering Information

PNEUMATIC PIVOT MODEL

GR = GR SERIES PIVOT UNITS
(HYDRAULIC MOTION CONTROL
WITH BRAKING FEATURE)

*GRP = GR SERIES PIVOT UNITS
NON LOCKING VERSION)
(HYDRAULIC MOTION CONTROL
WITH BRAKING FEATURE)

RC = RC SERIES PIVOT UNITS
(HYDRAULIC MOTION CONTROL
WITHOUT BRAKING FEATURE)

*RCP = RC SERIES PIVOT UNITS
NON LOCKING VERSION
(HYDRAULIC MOTION CONTROL
WITHOUT BRAKING FEATURE)

CYLINDER OPTIONS

100 = 100MM BORE CYLINDER
125 = 125MM BORE CYLINDER
160 = 160MM BORE CYLINDER
200 = 200MM BORE CYLINDER

OPENING ANGLE

45 = 45°
90 = 90°
120 = 120°

ORIENTATION

O = HORIZONTAL
V = VERTICAL
O/LS = INVERTED HORIZONTAL
V/LS = INVERTED VERTICAL

*ONLY RCP AND GRP PIVOT UNITS
CAN BE USED WITH EXTERNAL HARD
STOPS AND SHIMMING

Dimensions and technical information are subject to change without notice
GR AND RC MEDIUM DUTY SERIES

Pneumatic Pivot Units | Ordering Information

Dimensions and technical information are subject to change without notice

GR & RC Series Optional Cylinder Position (See page 9 for port sizes and locations)
GR AND RC MEDIUM DUTY SERIES

Pneumatic Pivot Units | Dimensions

GR-RC 100 Vertical Orientation Pivot Dimensions

Gr-RC 100 Horizontal Orientation Pivot Dimensions

* Toleranz für Stifffächter : ± 0.02
  Toleranz für Schraubenlöcher : ± 0.1
Dimensions and technical information are subject to change without notice.

**GR-RC 125-160-200 Vertical Orientation Pivot Dimensions**

* Toleranz für Stiftlöcher : ± 0.02
* Toleranz für Schraubenlöcher : ± 0.1

**GR-RC 125-160-200 Horizontal Orientation Pivot Dimensions**

* Toleranz für Stiftlöcher : ± 0.02
* Toleranz für Schraubenlöcher : ± 0.1

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Dimensions and technical information are subject to change without notice
GR AND RC MEDIUM DUTY SERIES

Pneumatic Pivot Units | Arm Opening Angle and Saddle Movement

Vertical Saddle Orientation
Arm opening angles offered:
- 45° Arm Opening Angle
- 90° Arm Opening Angle
- 120° Arm Opening Angle

Horizontal Saddle Orientation
Arm opening angles offered:
- 45° Arm Opening Angle
- 90° Arm Opening Angle
- 120° Arm Opening Angle

Swivel Arm Position

Dimensions and technical information are subject to change without notice
GR AND RC MEDIUM DUTY SERIES

Pneumatic Pivot Units | Orientation Dimensions

Type “LS” Vertical Orientation

<table>
<thead>
<tr>
<th>MODEL</th>
<th>A1</th>
<th>A2</th>
<th>A3</th>
<th>A4</th>
<th>A5</th>
<th>A6</th>
<th>A7</th>
<th>L1 (mm)</th>
<th>L2</th>
<th>L3</th>
<th>L4</th>
<th>L5</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
<th>Max. opening angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>GR/RC100-...V/LS</td>
<td>110</td>
<td>30</td>
<td>125</td>
<td>50</td>
<td>195</td>
<td>30</td>
<td>90</td>
<td>20</td>
<td>5</td>
<td>140</td>
<td>145</td>
<td>60</td>
<td>216</td>
<td>117</td>
<td>M12</td>
<td>Ø10</td>
<td>120°</td>
</tr>
<tr>
<td>GR/RC125-...V/LS</td>
<td>150</td>
<td>30</td>
<td>175</td>
<td>70</td>
<td>265</td>
<td>45</td>
<td>120</td>
<td>25</td>
<td>5</td>
<td>170</td>
<td>180</td>
<td>80</td>
<td>276</td>
<td>126</td>
<td>M16</td>
<td>Ø12</td>
<td></td>
</tr>
</tbody>
</table>

(*) Tolerance for dowel holes : ± 0,02
Tolerance for screw holes : ± 0,1

Type “LS” Horizontal Orientation

<table>
<thead>
<tr>
<th>MODEL</th>
<th>A1</th>
<th>A2</th>
<th>A3</th>
<th>A4</th>
<th>A5</th>
<th>A6</th>
<th>A7</th>
<th>L1 (mm)</th>
<th>L2</th>
<th>L3</th>
<th>L4</th>
<th>L5</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
<th>Max. opening angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>GR/RC100-...O/LS</td>
<td>5</td>
<td>50</td>
<td>210</td>
<td>60</td>
<td>145</td>
<td>55</td>
<td>110</td>
<td>95</td>
<td>30</td>
<td>20</td>
<td>90</td>
<td>216</td>
<td>117</td>
<td>M12</td>
<td>Ø10</td>
<td>90°</td>
<td></td>
</tr>
<tr>
<td>GR/RC125-...O/LS</td>
<td>5</td>
<td>70</td>
<td>265</td>
<td>80</td>
<td>180</td>
<td>70</td>
<td>150</td>
<td>130</td>
<td>30</td>
<td>25</td>
<td>45</td>
<td>120</td>
<td>276</td>
<td>126</td>
<td>M16</td>
<td>Ø12</td>
<td></td>
</tr>
<tr>
<td>GR/RC160-...O/LS</td>
<td>5</td>
<td>70</td>
<td>265</td>
<td>80</td>
<td>180</td>
<td>70</td>
<td>150</td>
<td>130</td>
<td>30</td>
<td>25</td>
<td>45</td>
<td>120</td>
<td>276</td>
<td>126</td>
<td>M16</td>
<td>Ø12</td>
<td></td>
</tr>
<tr>
<td>GR/RC200-...O/LS</td>
<td>5</td>
<td>70</td>
<td>265</td>
<td>80</td>
<td>180</td>
<td>70</td>
<td>150</td>
<td>130</td>
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<td>25</td>
<td>45</td>
<td>120</td>
<td>276</td>
<td>126</td>
<td>M16</td>
<td>Ø12</td>
<td></td>
</tr>
</tbody>
</table>

Dimensions and technical information are subject to change without notice
GR AND RC MEDIUM DUTY SERIES

Pneumatic Pivot Units | Cylinder Dimensions and Technical Specifications

GR Series Cylinder Dimensions

<table>
<thead>
<tr>
<th>GR MODEL</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>A-B</th>
<th>P3</th>
<th>P1 - P2</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>GR100-45°</td>
<td>683.5</td>
<td>383.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>36 kg</td>
</tr>
<tr>
<td>GR100-90°</td>
<td>728.5</td>
<td>428.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>80 kg</td>
</tr>
<tr>
<td>GR100-120°</td>
<td>758.0</td>
<td>458.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GR125-45°</td>
<td>818.0</td>
<td>466.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>36 kg</td>
</tr>
<tr>
<td>GR125-90°</td>
<td>867.0</td>
<td>515.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>80 kg</td>
</tr>
<tr>
<td>GR125-120°</td>
<td>895.0</td>
<td>543.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GR160-45°</td>
<td>827.0</td>
<td>472.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>36 kg</td>
</tr>
<tr>
<td>GR160-90°</td>
<td>876.0</td>
<td>521.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>80 kg</td>
</tr>
<tr>
<td>GR160-120°</td>
<td>904.0</td>
<td>547.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GR200-45°</td>
<td>835.0</td>
<td>478.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>36 kg</td>
</tr>
<tr>
<td>GR200-90°</td>
<td>884.0</td>
<td>527.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>80 kg</td>
</tr>
<tr>
<td>GR200-120°</td>
<td>912.0</td>
<td>555.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>103 kg</td>
</tr>
</tbody>
</table>

NOTE: “P1-P2” DEPENDANT ON ORDERING CODE

<table>
<thead>
<tr>
<th>RC MODEL</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>A-B</th>
<th>P3</th>
<th>P1 - P2</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC100-45°</td>
<td>566.5</td>
<td>266.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>29 kg</td>
</tr>
<tr>
<td>RC100-90°</td>
<td>611.5</td>
<td>311.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>62 kg</td>
</tr>
<tr>
<td>RC100-120°</td>
<td>641.0</td>
<td>341.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>77 kg</td>
</tr>
<tr>
<td>RC125-45°</td>
<td>656.0</td>
<td>304.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>36 kg</td>
</tr>
<tr>
<td>RC125-90°</td>
<td>705.0</td>
<td>353.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>80 kg</td>
</tr>
<tr>
<td>RC125-120°</td>
<td>733.0</td>
<td>381.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RC160-45°</td>
<td>665.0</td>
<td>310.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>36 kg</td>
</tr>
<tr>
<td>RC160-90°</td>
<td>714.0</td>
<td>359.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>77 kg</td>
</tr>
<tr>
<td>RC160-120°</td>
<td>742.0</td>
<td>387.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RC200-45°</td>
<td>670.0</td>
<td>313.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>85 kg</td>
</tr>
<tr>
<td>RC200-90°</td>
<td>719.0</td>
<td>362.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RC200-120°</td>
<td>746.5</td>
<td>389.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE: “P1-P2” DEPENDANT ON ORDERING CODE

GR & RC Series Optional Cylinder Orientation

Dimensions and technical information are subject to change without notice
GR AND RC MEDIUM DUTY SERIES

Pneumatic Pivot Units | Maximum Torque for Weight

Dimensions and technical information are subject to change without notice

Center of Gravity to Pivot (distance in Meters [Inches]) X Tooling Weight (N [lb]) = Torque for weight (N*m [lbf*in])
Distance from Center of Gravity to pivot is measured parallel to the floor

Notes

The total torque for the application must be less than the Maximum Torque for a given pressure in the Maximum Torque for Weight charts above. For applications with a total torque greater than the Maximum Torque shown, please see RU Series Pivot Units.

Based on cycle time of 7-8 seconds. Flow controls must be used to provide this cycle time. Cushions must also be adjusted to provide deceleration to the load. Failure to control movement will severely damage unit and cause premature failure.

Use the following graphs to determine the maximum amount of tooling weight that is allowed. The tooling load should be placed as close to the center line of the unit as possible.
Dimensions and technical information are subject to change without notice.
GR AND RC MEDIUM DUTY SERIES

Pneumatic Pivot Units | Maximum Added Tooling Weight Greater than 90°

GR/RC Medium Duty Series

GR/RC100

Max tooling weight ≥ 90°

5 BAR
6 BAR
7 BAR

Distance in millimeters

GR/RC125

Max tooling weight ≥ 90°

5 BAR
6 BAR
7 BAR

Distance in millimeters

GR/RC160

Max tooling weight ≥ 90°

5 BAR
6 BAR
7 BAR

Distance in millimeters

GR/RC200

Max tooling weight ≥ 90°

5 BAR
6 BAR
7 BAR

Distance in millimeters
GR AND RC MEDIUM DUTY SERIES

Pneumatic Pivot Units | Force Charts for Opening Angles

WARNING: Make sure that the tilting device runs a complete working cycle and reaches the angle position at 0°. (Any interference in the highlighted angle area may seriously damage both the tooling and the tilting device, as the result of the very high forces developed, as shown in the chart).

Do not use external stops with GR/RC Series Pivot Units!

NOTE: Values at 6 bar

### MODEL TORQUE WITH ARM AT 90°

<table>
<thead>
<tr>
<th>MODEL</th>
<th>TORQUE [Nm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>GR/RC 100</td>
<td>240 Nm</td>
</tr>
<tr>
<td>GR/RC 125</td>
<td>370 Nm</td>
</tr>
<tr>
<td>GR/RC 160</td>
<td>630 Nm</td>
</tr>
<tr>
<td>GR/RC 200</td>
<td>1000 Nm</td>
</tr>
</tbody>
</table>

**Conditions:**
- Emergency stop in operation
- Cylinder depressurized
- Max. load
  Max. play 10°

Play of swing arm while closed emergency stop value

(Values calculated at 1 m from center of rotation)