# Automatic Tool Changers

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Dimensions and technical information are subject to change without notice.
**RQC/RTP, QC/TP, RHC SERIES**

Automatic Tool Changers | Introduction

**DESTACO Automatic Tool Changers** allows multiple tooling applications to be achieved using one robot with exceptional repeatability, high rigidity and load capacity.

Each Series offers:

- Durable locking components
- Heavy-duty locking spring mechanisms on certain models
- Optional air, electric and fluid ports modules
- Available in NPT, BSPP, and BSPT
- ISO pattern for direct robot arm mount
- Different models and sizes available to handle light-duty to heavy-duty applications.

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**Pneumatic Specification**

Pressure Range (Locked Cylinder):
- 3~7 bar [40~100 psi] (QC/TP, RHC Series)
- 4~7 bar [60~100 psi] (RQC/RTP Series)

Cylinder Type: Double Acting, Spring Assist

Valve Required to Actuate:
- 3-way, 2-position (QC-30 only)
- 4-way, 2-Position

**Air Quality Requirements**

Air Filtration: 40 Microns or Better
Air Lubrication: Not Necessary*
Air Humidity: Low Moisture Content (Dry)

(*)Addition of lubrication will greatly increase service life.

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**Temperature Operating Range**

Buna-N-Seals: -35°~80° C [-30°~180° F] (All Models)
Viton® Seals: -30°~150° C [-20°~300° F] (RHC Series)

---

**Maintenance Specification**

Expected Life:
- Normal Application: 5 Million Cycles
- With Preventative Maintenance: 10+ Million Cycles

Repeatability: ±0.025mm [±0.001 in]
Field Repairable: Yes
Seal Repair Kits Available: Yes

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**Application Restrictions**

- Dirty or Gritty Environments
- Machining Operations Generating Chips
- Environments with Loose Particulates

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**Technical Information**

**Features and Benefits**

**Robotic applications:** Perfect for those flexible/multiple tooling applications utilizing one Robot. This product was designed with exceptional repeatability, high rigidity & load capacity to make it ideal for any robotic application.

**Automation applications:** End effector tooling and interchangeable fixturing can be changed quickly and easily to accommodate many different styles of parts on the same assembly machine or machining center.

**Highly configurable, modular design (RQC/RTP):** The Modular RQC series easily accommodates up to (4) optional modular interfaces, offering a high level of flexibility.

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Dimensions and technical information are subject to change without notice

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**RQC/RTP SERIES**

**Additional Optional Air, Fluid, Electrical Modules are Available.**

Air and fluid ports modules are available in NPT, BSPP, and BSPT (See Page 17)

**Locking Mechanisms**
Made from hardened stainless steel, they provide a low stress, highly rigid locking capability

**Latch/Unlatch Switch**
RQC’s are pre-equipped for latch, unlatch (all sizes) and part presence sensing (sizes 800 & 1200 only)

Dry contact or inductive sensors with or w/o connectors are available

**Optional 6 Port Pneumatic Module**

**Optional 19 Pin I/O Module**
Spring loaded contacts are recessed for a better protection

V-Seal provides moisture resistance

**Optional (4) Self-Sealing Air Ports Module**
(sizes 800 & 1200 only)

**Robot Half Adaptor**
has counterbored holes for mounting with a dowel pin hole, a raised boss for location, and features a ISO9409-1 mounting pattern

**Tool Half Adaptor**
has tapped holes, two dowel pin holes for accurate location of payload, and features a ISO9409-1 mounting pattern

**Back Side of Robot Half Adaptor**

Dimensions and technical information are subject to change without notice
Combined Weight: 3 Kg [6.7 lb]
Max. Payload: 90 Kg [200 lb]
Max. Moment: 810 Nm [7200 in.-lb.]

Combined Weight: 4.7 Kg [10.4 lb]
Max. Payload: 180 Kg [400 lb]
Max. Moment: 1580 Nm [14000 in.-lb.]

Combined Weight: 7.1 Kg [15.8 lb]
Max. Payload: 360 Kg [800 lb]
Max. Moment: 2490 Nm [22000 in.-lb.]

Combined Weight: 8.3 Kg [18.4 lb]
Max. Payload: 550 Kg [1200 lb]
Max. Moment: 3390 Nm [30000 in.-lb.]
RQC-200/RTP-200

Automatic Tool Changers | Module Usage Illustrations

RQC-200
Robot Adaptor Module with Optional Modules (Robot Side)

RTP-200
Tool Adaptor Module with Optional Modules (Tool Side)

***Not compatible with CD, CP or CN sensing option on this side.
RQC-200/RTP-200

Automatic Tool Changers | Ordering Information

<table>
<thead>
<tr>
<th>Base Model</th>
<th>Model Size</th>
<th>Port Options (RQC-only)</th>
<th>Sensing (RQC-only)</th>
<th>Side A MODULES</th>
<th>Side B MODULES</th>
<th>Side C MODULES</th>
<th>Side D MODULES</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQC</td>
<td>200</td>
<td>N</td>
<td>L0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>RTP</td>
<td>200</td>
<td>N</td>
<td>L0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

- **No Sensing**
- **LP** - PNP Inductive Sensing
- **CP** - PNP Inductive Sensing with M12 connector
- **LN** - NPN Inductive Sensing
- **CN** - NPN Inductive Sensing with M12 connector
- **LD** - Dry contact sensor
- **CD** - Dry contact sensor with M12 connector

*Requires E19 or G19 module mounted on Side C.
†Cordset or plug are sold separately.

**Optional Electrical, Air and Vacuum Modules can be ordered with Base Model:**
See below for Module Description (See Page 5 for Illustrated Module Use Configuration)

<table>
<thead>
<tr>
<th>Side A</th>
<th>Side B</th>
<th>Side C</th>
<th>Side D</th>
<th>Order Code</th>
<th>Optional Modules</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>No Module</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>E19†</td>
<td>19 pin, 3 Amp, 48 VDC Module w/Turck M12 Conn, w/o Cordset</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>G19††</td>
<td>19 pin, 5 Amp, 120 VDC Module w/Industrial User Conn., w/o Cable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FN</td>
<td>6 X 1/8” NPT Air Ports Module, Face Seal, 10 Bar</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FP</td>
<td>6 X 1/8” BSPP Air Ports Module, Face Seal, 10 Bar</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>FT</td>
<td>6 X 1/8” BSPT Air Ports Module, Face Seal, 10 Bar</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>VN</td>
<td>2 X 3/4” Vacuum + 4 X 1/4” Air NPT Ports Module, Face Sealing</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>VP</td>
<td>2 X 3/4” Vacuum + 4 X 1/4” Air BSPP Ports Module, Face Sealing</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>VT</td>
<td>2 X 3/4” Vacuum + 4 X 1/4” Air BSPT Ports Module, Face Sealing</td>
</tr>
</tbody>
</table>

†Cordset or plug are sold separately. ††Not compatible with CD, CP or CN sensing option on Side C.

**NOTE:** Only (1) module can be mounted per side. Modules usage is based on the size of the Base Model and which side the module can be mounted.

Dimensions and technical information are subject to change without notice
**RQC-200 (ROBOT SIDE)**

Automatic Tool Changers | Technical Specifications | Dimensions

**Specification:**
- Max. Payload $W$: 90 Kg [200 lb]
- Cylinder Bore: $\varnothing 53\text{mm} [2.09\text{in}]$
- Displacement: 41.3 cm$^3 [2.52\text{in}^3]$

**Loading Capacity:**
- Max. Tensile $T$: 1330 N [300 lb]
- Max. Compressive $C$: 1780 N [400 lb]
- Max. Moment ($M_x/M_y/M_z$): 1580 Nm [810 in.-lb.]

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**FAILSAFE OPERATION:**
4-WAY VALVES WITH A SPRING RETURN ARE RECOMMENDED TO MAINTAIN AIR PRESSURE TO THE LOCK PORT DURING EMERGENCY STOP CONDITIONS.

---

UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

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**Dimensions and technical information are subject to change without notice.**
Specification:
Max. Payload W: 180 Kg [400 lb]

Loading Capacity:
Max. Tensile T: 2670 N [600 lb]
Max. Compressive C: 3560 N [800 lb]
Max. Moment (Mx/My/Mz): 1580 Nm [14000 in.-lb.]

Dimensions and technical information are subject to change without notice.
RQC-400, 800, 1200/RTP-400, 800, 1200

RQC-400
Robot Adaptor Module with Optional Modules (Robot Side)

RQC-800/RQC-1200
Robot Adaptor Module with Optional Modules (Robot Side)

RTP-400
Tool Adaptor Module with Optional Modules (Tool Side)

RTP-800/RTP-1200
Tool Adaptor Module with Optional Modules (Tool Side)

NOTE: Only (1) module can be mounted per side (except 2E19, 2G19 which are composed of (2) modules)

Dimensions and technical information are subject to change without notice
<table>
<thead>
<tr>
<th>Base Model</th>
<th>Model Size</th>
<th>Port Options (RQC-only)</th>
<th>Sensing (RQC-only)</th>
<th>Side A Modules</th>
<th>Side B Modules</th>
<th>Side C Modules</th>
<th>Side D Modules</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RQC</strong></td>
<td><strong>400</strong></td>
<td><strong>N</strong></td>
<td><strong>L0</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>RTP</strong></td>
<td><strong>800</strong></td>
<td><strong>M</strong></td>
<td><strong>LP</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>RQC</strong></td>
<td><strong>1200</strong></td>
<td><strong>A</strong></td>
<td><strong>CP</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Robot Side**

- **400**: 180 kg [400 lb] Max. Payload
- **800**: 360 kg [800 lb] Max. Payload
- **1200**: 550 kg [1200 lb] Max. Payload

**Tool Side**

- **400**: 180 kg [400 lb] Max. Payload
- **800**: 360 kg [800 lb] Max. Payload
- **1200**: 550 kg [1200 lb] Max. Payload

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**ELECTRICAL ACCESSORIES**

- **ELCT-048**: 90° Female Plug, w/o Cable, Solder Type, Cable Clamp for G19 (RQC Only)
- **ELCT-049**: 90° Male Plug, w/o Cable, Solder Type, Cable Clamp for G19 (RTP Only)
- **CABL-028**: 90° Female Cordset with 2M Cable for CP, CN, and CD (RQC Only)
- **CABL-031**: 90° Male Cordset with 2M Cable for E19 (RTP Only)
- **OSRK-004**: PNP Inductive Sensor Repair Kit (RQC Only)
- **OSRK-005**: NPN Inductive Sensor Repair Kit (RQC Only)
- **OSRK-006**: Dry Contact Sensor Repair Kit (RQC Only)

**PNEUMATIC ACCESSORIES**

- **SLKT-402**: RQC-400 Standard Seal Repair Kit
- **SLKT-403**: RQC-800 Standard Seal Repair Kit
- **SLKT-404**: RQC-1200 Standard Seal Repair Kit

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**Optional Modules**

- **E19**: 19 pin, 3 Amp, 48 VDC Module w/Turck M12 Conn, w/o Cordset
- **G19**: 19 pin, 5 Amp, 120 VDC Module w/Industrial User Conn., w/o Cable
- **2E19**: 2x 19 pin, 3 Amp, 48 VDC Module w/Turck M12 Conn, w/o Cordset
- **2G19**: 2x 19 pin, 5 Amp, 120 VDC Module w/Industrial User Conn., w/o Cable
- **FN**: 6 X 1/8" NPT Air Ports Module, Face Seal, 10 Bar
- **FP**: 6 X 1/8" BSPP Air Ports Module, Face Seal, 10 Bar
- **FT**: 6 X 1/4" NPT Air Ports Module, Face Seal, 10 Bar
- **PN**: 6 X 1/4" NPT Air Ports Module, Face Seal, 10 Bar
- **PP**: 6 X 1/4" BSPP Air Ports Module, Face Seal, 10 Bar
- **PT**: 6 X 1/4" BSPP Air Ports Module, Face Seal, 10 Bar
- **SN**: 6 X 1/4" NPT Air Ports Module, Self Sealing, 10 Bar
- **SP**: 6 X 1/4" BSPP Air Ports Module, Self Sealing, 10 Bar
- **ST**: 6 X 1/4" BSPP Air Ports Module, Self Sealing, 10 Bar
- **VN**: 2 X 3/4" Vacuum + 4 X 1/4" Air NPT Ports Module, Face Sealing
- **VP**: 2 X 3/4" Vacuum + 4 X 1/4" Air BSPP Ports Module, Face Sealing
- **VT**: 2 X 3/4" Vacuum + 4 X 1/4" Air BSPP Ports Module, Face Sealing
- **HN**: 4 X 3/8" NPT Fluid Ports Module, 100 Bar
- **HP**: 4 X 3/8" BSPP Fluid Ports Module, 100 Bar
- **HT**: 4 X 3/8" BSPP Fluid Ports Module, 100 Bar

---

**NOTE**: Only (1) module can be mounted per side. (Except 2E19 and 2G19, which are composed of (2) modules). Modules usage is based on the size of the Base Model and which side the module can be mounted.

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**Electrical and pneumatic accessories are ordered separately.**

Please note some electrical accessories can only be used with certain modules for either RQC or RTP "Base Models".

For pneumatic accessories, size of "Base Model" is considered.
**RQC-400 (ROBOT SIDE)**

Automatic Tool Changers | Technical Specifications | Dimensions

**Specification:**
- Max. Payload **W**: 180 Kg [400 lb]
- Cylinder Bore: Ø73mm [2.87in]
- Displacement: 80.9 cm³ [4.93in³]

**Loading Capacity:**
- Max. Tensile **T**: 2670 N [600 lb]
- Max. Compressive **C**: 3560 N [800 lb]
- Max. Moment (Mx/My/Mz): 1580 Nm [14000 in.-lb.]

**FAILSAFE OPERATION:**
4-WAY VALVES WITH A SPRING RETURN ARE RECOMMENDED TO MAINTAIN AIR PRESSURE TO THE LOCK PORT DURING EMERGENCY STOP CONDITIONS.

**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

---

**Dimensions and technical information are subject to change without notice**

![Diagram of RQC-400 (Robot Side)](image-url)
**RTP-400 (TOOLING SIDE)**

Automatic Tool Changers | Technical Specifications | Dimensions

**Specification:**
Max. Payload **W**: 180 Kg [400 lb]

**Loading Capacity:**
Max. Tensile **T**: 2670 N [600 lb]
Max. Compressive **C**: 3560 N [800 lb]
Max. Moment (**Mx/My/Mz**: 1580 Nm [14000 in.-lb.])

---

**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

- **DIMENSIONS ARE SYMMETRICAL ABOUT CENTERLINE**
- **THIRD ANGLE PROJECTION**
- **ALL DOWEL HOLES ARE SF (SLIP FIT) LOCATIONAL TOLERANCE ±0.005" OR [±0.13MM]
- **METRIC THREADS COURSE PITCH**
- **IMPERIAL ([IN.])**
  - [0] = ±[.25]
  - [0.0000] = ±[.0005]
- **METRIC (MM)**
  - [0] = ±[.13]
  - [0.00] = ±[.013]

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Dimensions and technical information are subject to change without notice

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**RQC-800, RQC-1200 (ROBOT SIDE)**

Automatic Tool Changers | Technical Specifications | Dimensions

**RQC-800 Specification:**
- Max. Payload \( W \): 360 Kg [800 lb]
- RQC-800 Cyl. Bore: \( \varnothing80 \text{mm} [3.15 \text{in}] \)
- RQC-800 Displacement: 95.6 \( \text{cm}^3 [5.83 \text{in}^3] \)

**Loading Capacity:**
- Max. Tensile \( T \): 5340 N [1200 lb]
- Max. Compressive \( C \): 7120 N [1600 lb]
- Max. Moment \( (M_x/M_y/M_z) \):
  - \( M_x \): 2490 Nm [22000 in.-lb.]

**RQC-1200 Specification:**
- Max. Payload \( W \): 550 Kg [1200 lb]
- RQC-1200 Cyl. Bore: \( \varnothing95 \text{mm} [3.74 \text{in}] \)
- RQC-1200 Displacement: 153.7 \( \text{cm}^3 [9.38 \text{in}^3] \)

**Loading Capacity:**
- Max. Tensile \( T \): 8000 N [1800 lb]
- Max. Compressive \( C \): 10700 N [2400 lb]
- Max. Moment \( (M_x/M_y/M_z) \):
  - \( M_x \): 3390 Nm [30000 in.-lb.]

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Dimensions and technical information are subject to change without notice.
RTP-800, RTP-1200 (Tooling Side)

**RTP-800 Specification:**
Max. Payload **W**: 360 Kg [800 lb]

**Loading Capacity:**
Max. Tensile **T**: 5340 N [1200 lb]
Max. Compressive **C**: 7120 N [1600 lb]
Max. Moment (Mx/My/Mz): 2490 Nm [22000 in.-lb.]

**RTP-1200 Specification:**
Max. Payload **W**: 550 Kg [1200 lb]

**Loading Capacity:**
Max. Tensile **T**: 8000 N [1800 lb]
Max. Compressive **C**: 10700 N [2400 lb]
Max. Moment (Mx/My/Mz): 3390 Nm [30000 in.-lb.]
RQC/RTP SERIES

Automatic Tool Changers | Technical Specifications | Dimensions

19 Pin Module 3 Amp - 48 VDC

**ROBOT HALF**

- TURCK MALE CONNECTOR M16 X .75
- FACE SEAL
- (2) M5 SHCS

**TOOL HALF**

- TURCK FEMALE CONNECTOR M16 X .78
- (2) M5 SHCS

Module kits above include:
- 90° Plug Support (without cable), indexing sleeves and hardware.

**MODULE REPLACEMENT**

- ROBOT SIDE: E19 KE19-RQC
- TOOL SIDE: E19 KE19-RTP

19 Pin Module 5 Amp - 120 VDC

**ROBOT HALF**

- AMPHENOL MALE CONNECTOR
- FACE SEAL
- (2) M5 SHCS

**TOOL HALF**

- AMPHENOL MALE CONNECTOR
- USER 90° PLUG NOT SHOWN.

Module kits above include:
- 90° Plug support (without cable), indexing sleeves and hardware.

**MODULE REPLACEMENT**

- ROBOT SIDE: G19 KG19-RQC
- TOOL SIDE: G19 KG19-RTP

Dimensions and technical information are subject to change without notice.
**Reserved Pin Numbers on E19/G19**

<table>
<thead>
<tr>
<th>Sensor/Switch</th>
<th>RQC 400</th>
<th>RQC 800 &amp; 1200</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LP or LN</strong></td>
<td>R: +10 -30 VDC</td>
<td>R: +10 - 30 VDC</td>
</tr>
<tr>
<td>(Inductive)</td>
<td>L: Common</td>
<td>L: Common</td>
</tr>
<tr>
<td></td>
<td>M: Lock</td>
<td>M: Lock</td>
</tr>
<tr>
<td></td>
<td>N: Unlock</td>
<td>N: Unlock</td>
</tr>
<tr>
<td><strong>LD</strong></td>
<td>R: +10 - 30 VDC</td>
<td>R: +10 - 30 VDC</td>
</tr>
<tr>
<td>(Dry Contact)</td>
<td>L: Common</td>
<td>L: Common</td>
</tr>
<tr>
<td></td>
<td>M: Lock</td>
<td>M: Lock</td>
</tr>
<tr>
<td></td>
<td>N: Unlock</td>
<td>N: Unlock</td>
</tr>
</tbody>
</table>

**Pin Numbering**

**E19 Pins Numbering**

**G19 Pins Numbering**

**Wire Color on CABL-029 Cordset**

<table>
<thead>
<tr>
<th>Contact</th>
<th>Wire Color</th>
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<tbody>
<tr>
<td>R</td>
<td>Red</td>
</tr>
<tr>
<td>L</td>
<td>Brown</td>
</tr>
<tr>
<td>M</td>
<td>Orange</td>
</tr>
<tr>
<td>N</td>
<td>Grey/Brown</td>
</tr>
<tr>
<td>P</td>
<td>White</td>
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**Lock/Unlock Tool Plate Presence Sensing Options**

(with inductive Sensors and Dry Contact Switches)

**MODEL**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>“A”</th>
<th>“B”</th>
<th>“C”</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQC-400</td>
<td>[0.811]</td>
<td>[1.329]</td>
<td>[0.685]</td>
</tr>
<tr>
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<td>20.6</td>
<td>33.7</td>
<td>17.4</td>
</tr>
<tr>
<td>RQC-800</td>
<td>[0.811]</td>
<td>[1.772]</td>
<td>[0.821]</td>
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<td>20.6</td>
<td>45.0</td>
<td>20.8</td>
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<tr>
<td>RQC-1200</td>
<td>[1.061]</td>
<td>[1.772]</td>
<td>[1.071]</td>
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<tr>
<td></td>
<td>26.9</td>
<td>45.0</td>
<td>27.2</td>
</tr>
</tbody>
</table>

**Dimensions and technical information are subject to change without notice**
6 x 1/8” Air Ports Module | Face Seal (for RQC/RTP-200 & RQC/RTP-400)

6 x 1/4” Air Ports Module | Face Seal (for RQC/RTP-800 & RQC/RTP-1200)

Module kits above include: Couplings, indexing sleeves and hardware.
2 x 3/4” Vacuum Ports Module | Face Seal (for RQC/RTP-800 & RQC/RTP-1200)

Module kits above include: Couplings, indexing sleeves and hardware.
RQC/RTP SERIES

Automatic Tool Changers | Technical Specifications | Dimensions

6 x 1/4” Air Ports Module | Face Seal (for RQC/RTP-800 & RQC/RTP-1200)

Module kits above include: Couplings, indexing sleeves and hardware.

4 x 3/8” Fluid Ports Module | Non Spilling | Double Shut-Off
(for RQC/RTP-800 & RQC/RTP-1200)

Module kits above include: Couplings, indexing sleeves and hardware.

Dimensions and technical information are subject to change without notice
6 x 1/4” Air Ports Module | Double Shut-Off Flat Face (SN/SP/ST)
(for RQC/RTP-800 & RQC/RTP-1200)

Module kits above include: Couplings, indexing sleeves and hardware.
QC/TP SERIES
Automatic Tool Changers | Features and Benefits

Failsafe Operation
Failsafe locking spring keeps units coupled in the event of pressure loss

Durable Components
Locking components are made from hardened bearing & tool steels

Self Lubricating Seals
Self lubricating dynamic seals

Offboard I/O Block
with heavy-duty pins offer reliable contact points

Robot Side

Tool Side

Heavy-Duty Locking Mechanism
Improved rigidity for heavy-duty and in-process changing

Module Mounting Surface
Flat for optional pneumatic, fluid or electric module

Switches for Couple/Uncouple/Ready-to-Couple
Switch for latch (size 150 only)

Mounting Information

Robot Half Adaptor
has counterbored holes for mounting and two dowel pins for hole location (size 30 has pilot boss)

Tool Half Adaptor
has counterbored holes for mounting and two dowel pins for hole location (size 30 has pilot boss)
**QC/TP SERIES**

Automatic Tool Changers | Technical Information

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**Combined Weight:** 0.34 Kg [0.75 lbs]

**Max. Payload:** 13.6 Kg [30 lbs]

**Max. Moment:** 22.6 Nm [200 in-lbs]

### QC-30/TP-30

**Robot Adaptor Module**

**Tool Adaptor Module**

---

**Combined Weight:** 1.27 Kg [2.8 lbs]

**Max. Payload:** 27 Kg [60 lbs]

**Max. Moment:** 88.1 Nm [780 in-lbs]

### QC-60/TP-60

**Robot Adaptor Module**

**Tool Adaptor Module**

---

**Combined Weight:** 1.27 Kg [2.8 lbs]

**Max. Payload:** 27 Kg [60 lbs]

**Max. Moment:** 88.1 Nm [780 in-lbs]

### QC-60-10P/TP-60-10P

**Robot Adaptor Module**

**Tool Adaptor Module**

---

**Combined Weight:** 3.2 Kg [7.1 lbs]

**Max. Payload:** 68 Kg [150 lbs]

**Max. Moment:** 215 Nm [1900 in-lbs]

### QC-150/TP-150

**Robot Adaptor Module**

**Tool Adaptor Module**

---

Dimensions and technical information are subject to change without notice
QC/TP SERIES

Automatic Tool Changers | Module Usage Illustrations

**QC Series**
Robot Adaptor Module
with Optional Modules
(Robot Side)

- HN38
- PN18/PP18/PT18
- PN14/PP14/PT14
- E26
- E19
- E10
- E12
- E15/D15

**TP Series**
Tool Adaptor Module
with Optional Modules
(Tool Side)

- HN38
- PN18/PP18/PT18
- PN14/PP14/PT14
- E26
- E19
- E10
- E12
- E15/D15

Dimensions and technical information are subject to change without notice.
** QC/TP Series **

Automatic Tool Changers | How to Order

---

<table>
<thead>
<tr>
<th>Base Model</th>
<th>Model Size</th>
<th>Port Options <em>(QC-only)</em></th>
<th>I/O Block</th>
<th>Optional Modules*</th>
<th>10-Port <em>(QC/TP-60 only)</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>QC</td>
<td>60</td>
<td>M</td>
<td>E15</td>
<td>PN18</td>
<td>10P</td>
</tr>
<tr>
<td>Robot Side</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Tool Side</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QC</td>
<td>30</td>
<td>Blank 1/8 NPT M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tool Side</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>QC</td>
<td>60</td>
<td>1/8 BSPP A</td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td>150</td>
<td>1/8 BSPT D</td>
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</tr>
<tr>
<td>Tool Side</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

*QC/TP-30 and QC/TP-60-10P cannot be ordered with optional modules*

---

** Electric and Pneumatic Accessories (Ordered Separately) **

<table>
<thead>
<tr>
<th>Electrical Accessories</th>
<th>Pneumatic Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELCT-047 Straight Female 12-pin D-Sub User Plug, w/o Cable, Solder Type for E15 <em>(QC/TP-60/150)</em></td>
<td>SLKT-387 Seal Repair Kit <em>(QC-30)</em></td>
</tr>
<tr>
<td>CABL-021 90° Female Cordset 4M for E12 <em>(QC-30/60/150)</em></td>
<td>SLKT-388 Face Seal Repair Kit <em>(QC-30)</em></td>
</tr>
<tr>
<td>CABL-023 90° Male Cordset 2M for E12 <em>(TP-30/60/150)</em></td>
<td>SLKT-389 Seal Repair Kit <em>(QC-60)</em></td>
</tr>
<tr>
<td>CABL-024 Straight Male Cordset 1.2M for E15 <em>(QC/TP-30)</em></td>
<td>SLKT-390 Face Seal Repair Kit <em>(QC-60/150)</em></td>
</tr>
<tr>
<td>OSRK-009 NPN Inductive Sensor Repair Kit <em>(QC-150 Only)</em></td>
<td>SLKT-392 Face Seal Repair Kit <em>(QC-60-10P)</em></td>
</tr>
<tr>
<td>OSRK-010 PNP Inductive Sensor Repair Kit <em>(QC-150 Only)</em></td>
<td>SLKT-393 Seal Repair Kit <em>(QC-150)</em></td>
</tr>
</tbody>
</table>

---

Dimensions and technical information are subject to change without notice.
**QC-30 Specification:**
- Max. Payload: 13.6 Kg [30 lbs]
- Max. Moment Rating: 22.6 Nm [200 in-lbs]
- Weight of QC Unit only: 0.23 Kg [0.50 lbs]
- Weight of Coupled Units: 0.34 Kg [0.75 lbs]
- Bore Ø: 25.4 mm [1.00 in]
- Displacement: 3.9 cm³ [0.24 in³]

**Loading Capacity**
- Max. Tensile T: 311 N [70 lb]
- Max. Compressive C: 445 N [100 lb]
- Max. Moment (Mx/My/Mz): 22.6 Nm [200 in.-lb.]

---

**Dimensions**

UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

- **IMPERIAL ([IN.])**
  - 0.00 = ±.01
  - 0.000 = ±.005
  - 0.0000 = ±.0005

- **METRIC (MM)**
  - [0] = ±.25
  - [0.0] = ±.13
  - [0.00] = ±.013

**Dimensions and technical information are subject to change without notice**
**TP-30 Specification:**
Max. Payload: 13.6 Kg [30 lbs]
Max. Moment Rating: 22.6 Nm [200 in-lbs]
Weight of TP Unit only: 0.11 Kg [0.25 lbs]
Weight of Coupled Units: 0.34 Kg [0.75 lbs]

**Loading Capacity**
Max. Tensile: 311 N [70 lb]
Max. Compressive: 445 N [100 lb]
Max. Moment (Mx/My/Mz): 22.6 Nm [200 in.-lb.]
**QC-60 Specification:**
- Max. Payload: 27 Kg [60 lbs]
- Max. Moment Rating: 88.1 Nm [780 in-lbs]
- Weight of QC Unit only: 0.86 Kg [1.9 lbs]
- Weight of Coupled Units: 1.27 Kg [2.8 lbs]
- Bore Ø: 44.5 mm [1.75 in]
- Displacement: 9.2 cm³ [0.56 in³]

**Loading Capacity**
- Max. Tensile T: 445 N [100 lb]
- Max. Compressive C: 534 N [120 lb]
- Max. Moment (Mx/My/Mz): 88.1 Nm [780 in.-lb.]

---

**Automatic Tool Changers | Technical Specifications | Dimensions**

**Failsafe operation:**
4-way valves with a spring return are recommended to maintain air pressure to the lock port during emergency stop conditions.

---

**QC-60 (ROBOT SIDE)**

Dimensions and technical information are subject to change without notice.
TP-60 Specification:
Max. Payload: 27 Kg [60 lbs]
Max. Moment Rating: 88 Nm [780 in-lbs]
Weight of TP Unit only: 0.41 Kg [0.90 lbs]
Weight of Coupled Units: 1.27 Kg [2.8 lbs]

Loading Capacity
Max. Tensile T: 445 N [100 lb]
Max. Compressive C: 534 N [120 lb]
Max. Moment (Mx/My/Mz): 88.1 Nm [780 in-lbs]

Dimensions and technical information are subject to change without notice.
QC-60-10P (ROBOT SIDE)

Automatic Tool Changers | Technical Specifications | Dimensions

**QC-60-10P Specification:**
- Max. Payload: 27 Kg [60 lbs]
- Max. Moment Rating: 88.1 Nm [780 in-lbs]
- Weight of QC Unit only: 0.86 Kg [1.9 lbs]
- Weight of Coupled Units: 1.27 Kg [2.8 lbs]
- Bore Ø: 44.5 mm [1.75 in]
- Displacement: 9.2 cm³ [0.56 in³]

**Loading Capacity**
- Max. Tensile T: 445 N [100 lb]
- Max. Compressive C: 534 N [120 lb]
- Max. Moment (Mx/My/Mz): 88.1 Nm [780 in.-lb.]
TP-60-10P Specification:
Max. Payload: 27 Kg [60 lbs]
Max. Moment Rating: 88 Nm [780 in-lbs]
Weight of TP Unit only: 0.41 Kg [0.90 lbs]
Weight of Coupled Units: 1.27 Kg [2.8 lbs]

Loading Capacity
Max. Tensile T: 445 N [100 lb]
Max. Compressive C: 534 N [120 lb]
Max. Moment (Mx/My/Mz): 88.1 Nm [780 in.-lb.]

Dimensions and technical information are subject to change without notice
QC-150 Specification:
Max. Payload: 68 Kg [150 lbs]
Max. Moment Rating: 215 Nm [1900 in-lbs]
Weight of QC Unit only: 2.2 Kg [4.8 lbs]
Weight of Coupled Units: 3.2 Kg [7.1 lbs]
Bore Ø: 66.8 mm [2.63 in]
Displacement: 25.4 cm³ [1.55 in³]

Loading Capacity
Max. Tensile T: 890 N [200 lb]
Max. Compressive C: 1334 N [300 lb]
Max. Moment (Mx/My/Mz): 214 Nm [1900 in.-lb.]

Failsafe operation:
4-way valves with a spring return are recommended to maintain air pressure to the lock port during emergency stop conditions.

Dimensions and technical information are subject to change without notice.
**TP-150 Specification:**
Max. Payload: 68 Kg [150 lbs]
Max. Moment Rating: 215 Nm [1900 in-lbs]
Weight of TP Unit only: 1.0 Kg [2.3 lbs]
Weight of Coupled Units: 3.2 Kg [7.1 lbs]

**Loading Capacity**
Max. Tensile T: 890 N [200 lb]
Max. Compressive C: 1334 N [300 lb]
Max. Moment (Mx/My/Mz): 214 Nm [1900 in.-lb.]

**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

Dimensions and technical information are subject to change without notice.
Automatic Tool Changers | Dimensions | 10-Pin Module 5Amp @ 120VDC Electric Module

<table>
<thead>
<tr>
<th>Model</th>
<th>Module</th>
<th>Robot Side</th>
<th>Tool Side</th>
<th>*Accessory</th>
</tr>
</thead>
<tbody>
<tr>
<td>QC/TP60</td>
<td>E10</td>
<td>KE10-QC60</td>
<td>KE10-TP60</td>
<td>ELCT-041</td>
</tr>
<tr>
<td>QC/TP150</td>
<td>E10</td>
<td>KE10-QC150</td>
<td>KE10-TP150</td>
<td>ELCT-042</td>
</tr>
</tbody>
</table>

*Straight Plug, (w/o Cable), Solder Type, Cable Clamp

Module kits above include: Flat for module mounting, straight plug (without cable), locating pins and hardware.

19-Pin Module 5Amp @ 120VDC Electric Module

<table>
<thead>
<tr>
<th>Model</th>
<th>Module</th>
<th>Robot Side</th>
<th>Tool Side</th>
<th>*Accessory</th>
</tr>
</thead>
<tbody>
<tr>
<td>QC/TP60</td>
<td>E19</td>
<td>KE19-QC60</td>
<td>KE19-TP60</td>
<td>ELCT-043</td>
</tr>
<tr>
<td>QC/TP150</td>
<td>E19</td>
<td>KE19-QC150</td>
<td>KE19-TP150</td>
<td>ELCT-044</td>
</tr>
</tbody>
</table>

*Straight Plug, (w/o Cable), Solder Type, Cable Clamp

Module kits above include: Flat for module mounting, straight plug (without cable), locating pins and hardware.
**Automatic Tool Changers | Dimensions | 26-Pin Module 5Amp @ 120VDC Electric Module**

<table>
<thead>
<tr>
<th>Model</th>
<th>Module</th>
<th>Robot Side</th>
<th>Tool Side</th>
<th>*Accessory</th>
</tr>
</thead>
<tbody>
<tr>
<td>QC/TP60</td>
<td>E26</td>
<td>KE26-QC60</td>
<td>KE26-TP60</td>
<td>ELCT-045 (Female)</td>
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<tr>
<td>QC/TP150</td>
<td>E26</td>
<td>KE26-QC150</td>
<td>KE26-TP150</td>
<td>ELCT-046 (Male)</td>
</tr>
</tbody>
</table>

*Straight Plug, (w/o Cable), Solder Type, Cable Clamp

Module kits above include: Flat for module mounting, straight plug (without cable), locating pins and hardware.

---

**2 X 1/4” Air Port Module | Face Seal**

Flat for module mounting not shown: See QC or TP drawings.

Module kits above include: Flat for module mounting, seals, locating pins and hardware.

---

<table>
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<tr>
<th>Module</th>
<th>Robot Side</th>
<th>Tool Side</th>
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<tbody>
<tr>
<td>PN14</td>
<td>KPN14-QC60</td>
<td>KPN14-TP60</td>
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<tr>
<td>PP14</td>
<td>KPP14-QC60</td>
<td>KPP14-TP60</td>
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<td>PT14</td>
<td>KPT14-QC60</td>
<td>KPT14-TP60</td>
</tr>
<tr>
<td>Seal Kit</td>
<td>SLKT-395</td>
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</table>

**For QC/TP-60**

<table>
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<th>Robot Side</th>
<th>Tool Side</th>
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<tbody>
<tr>
<td>PN14</td>
<td>KPN14-QC150</td>
<td>KPN14-TP150</td>
</tr>
<tr>
<td>PP14</td>
<td>KPP14-QC150</td>
<td>KPP14-TP150</td>
</tr>
<tr>
<td>PT14</td>
<td>KPT14-QC150</td>
<td>KPT14-TP150</td>
</tr>
<tr>
<td>Seal Kit</td>
<td>SLKT-395</td>
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</table>

**For QC/TP-150**

Dimensions and technical information are subject to change without notice
**QC/TP SERIES**

Automatic Tool Changers | Dimensions | 4 X 1/8" Air Port Module | Face Seal

**2 X 3/8" Fluid Ports Module | Non-Spilling Double Shut-off**

Module kits include: Flat for module mounting, couplings, locating pins and hardware.

**Maximum Working Pressure: 10 bar**

**For QC/TP-60**

<table>
<thead>
<tr>
<th>Module</th>
<th>Robot Side</th>
<th>Tool Side</th>
</tr>
</thead>
<tbody>
<tr>
<td>PN18</td>
<td>KPN18-QC60</td>
<td>KPN18-TP60</td>
</tr>
<tr>
<td>PP18</td>
<td>KPP18-QC60</td>
<td>KPP18-TP60</td>
</tr>
<tr>
<td>PT18</td>
<td>KPT18-QC60</td>
<td>KPT18-TP60</td>
</tr>
<tr>
<td>Seal Kit</td>
<td>SLKT-391</td>
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</tr>
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</table>

**For QC/TP-150**

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<tr>
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<th>Robot Side</th>
<th>Tool Side</th>
</tr>
</thead>
<tbody>
<tr>
<td>PN18</td>
<td>KPN18-QC150</td>
<td>KPN18-TP150</td>
</tr>
<tr>
<td>PP18</td>
<td>KPP18-QC150</td>
<td>KPP18-TP150</td>
</tr>
<tr>
<td>PT18</td>
<td>KPT18-QC150</td>
<td>KPT18-TP150</td>
</tr>
<tr>
<td>Seal Kit</td>
<td>SLKT-391</td>
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</table>

**Maximum Working Pressure: 100 bar**

**For QC/TP-60**

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<th>Tool Side</th>
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<td>KHN38-QC60</td>
<td>KHN38-TP60</td>
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</table>

**For QC/TP-150**

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<tr>
<th>Module</th>
<th>Robot Side</th>
<th>Tool Side</th>
</tr>
</thead>
<tbody>
<tr>
<td>HN38</td>
<td>KHN38-QC150</td>
<td>KHN38-TP150</td>
</tr>
</tbody>
</table>

Module kits include: Flat for module mounting, couplings, locating pins and hardware.
### 15 Pin w/Sub-D Conn and User Plug w/o cable

<table>
<thead>
<tr>
<th>Model</th>
<th>Module</th>
<th>Robot Side</th>
<th>Tool Side</th>
</tr>
</thead>
<tbody>
<tr>
<td>QC/TP30</td>
<td>E15</td>
<td>KE15-QC30</td>
<td>KE15-TP30</td>
</tr>
<tr>
<td>QC/TP60</td>
<td>E15</td>
<td>KE15-QC60</td>
<td>KE15-TP60</td>
</tr>
<tr>
<td>QC/TP150</td>
<td>E15</td>
<td>KE15-QC150</td>
<td>KE15-TP150</td>
</tr>
</tbody>
</table>

See individual datasheets for dimensions.

### 12 Pin w/Turck M12 Conn w/o Cordset

<table>
<thead>
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<th>Model</th>
<th>Module</th>
<th>Robot Side</th>
<th>Tool Side</th>
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<tr>
<td>QC/TP30</td>
<td>E12</td>
<td>KE12-QC30</td>
<td>KE12-TP30</td>
</tr>
<tr>
<td>QC/TP60</td>
<td>E12</td>
<td>KE12-QC60</td>
<td>KE12-TP60</td>
</tr>
<tr>
<td>QC/TP150</td>
<td>E12</td>
<td>KE12-QC150</td>
<td>KE12-TP150</td>
</tr>
</tbody>
</table>

See individual datasheets for dimensions.
**RHC SERIES**

Automatic Tool Changers | Features and Benefits

**Durable Components**
Locking components are made from hardened bearing & tool steels

**Self Lubricating Seals**
Self lubricating dynamic seals

**Quality Materials**
Each body is made of lightweight 7075-T6 aircraft quality aluminum

**Pneumatic Ports**
User pneumatic ports

**Robot Side**

**Tool Side**

**Electrical Contacts**
(Sold Separately-
See “How to Order”
Section for more info)

**Mounting Information**

**Robot Half Adaptor**
mounts with screws from behind or through the front and locates with dowel pins for accuracy.

**Tool Half Adaptor**
mounts payload with screws from behind or through the front and locates with dowel pins for accuracy. Protect cone surfaces from debris to insure proper positioning.

**Durable Finish**
Bodies have hard-coat anodize 60RC with Teflon® impregnation

**Precision Cone Positioning**
Machine tool proven mating conical coupling

**Failsafe Operation**
Failsafe locking spring keeps units coupled in the event of pressure loss

**Durable Components**
Locking components are made from hardened bearing & tool steels

**Self Lubricating Seals**
Self lubricating dynamic seals

**Quality Materials**
Each body is made of lightweight 7075-T6 aircraft quality aluminum

**Pneumatic Ports**
User pneumatic ports

**Robot Side**

**Tool Side**

**Electrical Contacts**
(Sold Separately-
See “How to Order”
Section for more info)

**Mounting Information**

**Robot Half Adaptor**
mounts with screws from behind or through the front and locates with dowel pins for accuracy.

**Tool Half Adaptor**
mounts payload with screws from behind or through the front and locates with dowel pins for accuracy. Protect cone surfaces from debris to insure proper positioning.

Dimensions and technical information are subject to change without notice.
RHC SERIES

Automatic Tool Changers | Ordering Information

Robot Side
RHC-1-R
RHC-2-R
RHC-3-R
RHC-4-R

Tool Side
RHC-1-T
RHC-2-T
RHC-3-T
RHC-4-T

Base Model
RHC

Model Size
1
2
3
4

Robot Side Adaptor Module
R

Tool Side Adaptor Module
T

Seals
Blank
Imperial
Metric

V
Viton® Seals

Contacts
OHCC-009

Sensor
P
PNP Sensors
N
NPN Sensors
No Sensors
Leave Blank

Optional Contacts
OHCC-009 15 Pin D-Sub Contacts (RHC-1)
OHCC-001 26 Pin D-Sub Contacts (RHC-1)
OHCC-011 15 Pin D-Sub Contacts (RHC-2, -3)
OHCC-003 25 Pin D-Sub Contacts (RHC-2, -3)
OHCC-005 19 Pin Mil. Spec. Contacts (RHC-3)
OHCC-007 38 Pin Mil. Spec. Contacts (RHC-3)
OHCC-021 24 Pin Mil. Spec. Contacts (RHC-4)

Optional Contacts
OHCC-010 15 Pin D-Sub Contacts (RHC-1)
OHCC-002 26 Pin D-Sub Contacts (RHC-1)
OHCC-012 15 Pin D-Sub Contacts (RHC-2, -3)
OHCC-004 25 Pin D-Sub Contacts (RHC-2, -3)
OHCC-006 19 Pin Mil. Spec. Contacts (RHC-3)
OHCC-027 24 Pin Mil. Spec. Contacts (RHC-4)
OHCC-023 24 Wire Single Pigtail Connector (RHC-4)
OHCC-022 24 Wire Double Pigtail Connector (RHC-4)

Sensor Accessories

OSMK-064 Replacement Sensor Mounting Kit (RHC-3-R)
OISP-009 Replacement Locked Position NPN Inductive Sensor with Hard Wired Cable (RHC-3-R)
OISP-009 Replacement Locked Position NPN Inductive Sensor with Hard Wired Cable (RHC-4-R)
OSMK-063 Replacement Sensor Mounting Kit (RHC-4-R)
OISN-008 Replacement Locked Position NPN Inductive Sensor with Hard Wired Cable (RHC-4-R)
OISP-008 Replacement Locked Position PNP Inductive Sensor with Hard Wired Cable (RHC-4-R)

Pneumatic Accessories

SLKT-028 Standard Seal Repair Kit (RHC-1-R)
SLKT-028V Viton Seal Repair Kit (RHC-1-R)
SLKT-029 Standard Seal Repair Kit (RHC-2-R)
SLKT-029V Viton Seal Repair Kit (RHC-2-R)
SLKT-030 Standard Seal Repair Kit (RHC-3-R)
SLKT-030V Viton Seal Repair Kit (RHC-3-R)
SLKT-031 Standard Seal Repair Kit (RHC-4-R)
SLKT-031V Viton Seal Repair Kit (RHC-4-R)

Dimensions and technical information are subject to change without notice

EE-ATC | 38
**RHC-1-R Specification:**
Max. Payload \((W)\): 9 Kg [20 lbs]
Weight of -R Unit only: 0.18 Kg [0.41 lbs]
Weight of Coupled Units: 0.28 Kg [0.63 lbs]
Bore \(\varnothing\): 19 mm [0.75 in]
Displacement: 4.18 cm\(^3\) [0.255 in\(^3\)]

**Loading Capacity**
Max. Tensile \(T\): 890 N [200 lb]
Max. Compressive \(C\): 2224 N [500 lb]
Max. Moment \((M_x/M_y)\): 14 Nm [125 in.-lb.]
Max. Moment \((M_z)\): 28 Nm [250 in.-lb.]

**RHC-1-R Coupled to RHC-1-T**
(Hidden lines show RHC-1-T)

**Model Robot Side Description Specification**

<table>
<thead>
<tr>
<th>Model</th>
<th>Robot Side</th>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>RHC-1</td>
<td>OHCC-009</td>
<td>15 Pin D-Sub Contacts</td>
<td>15 Pin @ 3 AMPS</td>
</tr>
<tr>
<td></td>
<td>OHCC-001</td>
<td>26 Pin D-Sub Contacts</td>
<td>26 Pin @ 3 AMPS</td>
</tr>
</tbody>
</table>

Dimensions and technical information are subject to change without notice.
RHC-1-T Specification:
Max. Payload (W): 9 Kg [20 lbs]
Weight of -T Unit only: 0.09 Kg [0.22 lbs]
Weight of Coupled Units: 0.28 Kg [0.63 lbs]

Loading Capacity
Max. Tensile T: 890 N [200 lb]
Max. Compressive C: 2224 N [500 lb]
Max. Moment (Mx/My): 14 Nm [125 in.-lb.]
Max. Moment (Mz): 28 Nm [250 in.-lb.]

Dimensions and technical information are subject to change without notice
RHC-2-R Specification:
Max. Payload (W): 59 Kg [130 lbs]
Weight of -R Unit only: 0.44 Kg [0.99 lbs]
Weight of Coupled Units: 0.82 Kg [1.81 lbs]
Bore Ø: 28.57 mm [1.125 in]
Displacement: 12.22 cm³ [0.746 in³]

Loading Capacity
Max. Tensile T: 3336 N [750 lb]
Max. Compressive C: 6672 N [1500 lb]
Max. Moment (Mx/My): 90 Nm [800 in.-lb.]
Max. Moment (Mz): 136 Nm [1200 in.-lb.]

UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

<table>
<thead>
<tr>
<th>Model</th>
<th>Robot Side</th>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>RHC-2</td>
<td>OHCC-011</td>
<td>15 Pin D-Sub Contacts</td>
<td>15 Pin @ 3 AMPS</td>
</tr>
<tr>
<td></td>
<td>OHCC-003</td>
<td>25 Pin D-Sub Contacts</td>
<td>25 Pin @ 3 AMPS</td>
</tr>
</tbody>
</table>

Dimensions and technical information are subject to change without notice
**RHC-2-T Specification:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Payload (W)</td>
<td>59 Kg [130 lbs]</td>
</tr>
<tr>
<td>Weight of -T Unit only</td>
<td>0.37 Kg [0.82 lbs]</td>
</tr>
<tr>
<td>Weight of Coupled Units</td>
<td>0.82 Kg [1.81 lbs]</td>
</tr>
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</table>

**Loading Capacity**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Tensile T</td>
<td>3336 N [750 lb]</td>
</tr>
<tr>
<td>Max. Compressive C</td>
<td>6672 N [1500 lb]</td>
</tr>
<tr>
<td>Max. Moment (Mx/My)</td>
<td>90 Nm [800 in.-lb.]</td>
</tr>
<tr>
<td>Max. Moment (Mz)</td>
<td>136 Nm [1200 in.-lb.]</td>
</tr>
</tbody>
</table>

---

### Technical Specifications

- **Dimensions and technical information are subject to change without notice**
- **EE-ATC | 42**
**RHC-3-R Specification:**
- **Max. Payload (W):** 136 Kg [300 lbs]
- **Weight of -R Unit only:** 1.79 Kg [3.95 lbs]
- **Weight of Coupled Units:** 3.1 Kg [6.7 lbs]
- **Bore Ø:** 44.45 mm [1.750 in]
- **Displacement:** 44.34 cm³ [2.706 in³]

**Loading Capacity**
- **Max. Tensile (T):** 8896 N [2000 lb]
- **Max. Compressive (C):** 17793 N [4000 lb]
- **Max. Moment (Mx/My):** 678 Nm [6000 in.-lb.]
- **Max. Moment (Mz):** 1017 Nm [9000 in.-lb.]

---

**Dimensions and technical information are subject to change without notice**

<table>
<thead>
<tr>
<th>Model</th>
<th>Robot Side</th>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>RHC-3</td>
<td></td>
<td><strong>15 Pin D-Sub Contacts</strong></td>
<td>15 Pin @ 3 AMPS</td>
</tr>
<tr>
<td></td>
<td>OHCC-011</td>
<td><strong>25 Pin D-Sub Contacts</strong></td>
<td>25 Pin @ 3 AMPS</td>
</tr>
<tr>
<td></td>
<td>OHCC-003</td>
<td><strong>19 Pin Mil. Spec. Contacts</strong></td>
<td>19 Pin @ 3 AMPS</td>
</tr>
<tr>
<td></td>
<td>OHCC-005</td>
<td><strong>38 Pin Mil. Spec. Contacts</strong></td>
<td>38 Pin @ 3 AMPS</td>
</tr>
</tbody>
</table>

**Destaco**

Dimensions and technical information are subject to change without notice
**RHC-3-T Specification:**

Max. Payload (W): 136 Kg [300 lbs]
Weight of -T Unit only: 1.29 Kg [2.85 lbs]
Weight of Coupled Units: 3.1 Kg [6.7 lbs]

**Loading Capacity**

Max. Tensile T: 8896 N [2000 lb]
Max. Compressive C: 17793 N [4000 lb]
Max. Moment (Mx/Mz): 678 Nm [6000 in.-lb.]
Max. Moment (Mz): 1017 Nm [9000 in.-lb.]

---

**Model Tool Side Description Specification**

<table>
<thead>
<tr>
<th>Model</th>
<th>Tool Side</th>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>RHC-3</td>
<td>OHCC-010</td>
<td>15 Pin D-Sub Contacts</td>
<td>15 Pin @ 3 AMPS</td>
</tr>
<tr>
<td></td>
<td>OHCC-002</td>
<td>25 Pin D-Sub Contacts</td>
<td>25 Pin @ 3 AMPS</td>
</tr>
<tr>
<td></td>
<td>OHCC-006</td>
<td>19 Pin Mil. Spec. Contacts</td>
<td>19 Pin @ 3 AMPS</td>
</tr>
</tbody>
</table>
RHC-4-R (ROBOT SIDE)

Automatic Tool Changers | Technical Specifications | Dimensions

**RHC-4-R Specification:**
- Max. Payload (W): 454 Kg [1000 lbs]
- Weight of -R Unit only: 6.52 Kg [12.39 lbs]
- Weight of Coupled Units: 22 Kg [10 lbs]
- Bore Ø: 57.15 mm [2.250 in]
- Displacement: 85.52 cm³ [85.52 in³]

**Loading Capacity**
- Max. Tensile (T): 35586 N [8000 lb]
- Max. Compressive (C): 71171 N [16000 lb]
- Max. Moment (Mx/My): 2825 Nm [25000 in.-lb.]
- Max. Moment (Mz): 2825 Nm [25000 in.-lb.]

**RHC-4-R Coupled to RHC-4-T**
(Hidden Lines Show RHC-4-R)

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**Model | Robot Side | Description | Specification**
---

RHC-4 | OHCC-021 | 24 Pin Mil. Spec. Contacts | 24 Pin @ 3 AMPS

Dimensions and technical information are subject to change without notice.
RHC-4-T Specification:
Max. Payload (W): 454 Kg [1000 lbs]
Weight of -T Unit only: 4.35 Kg [9.61 lbs]
Weight of Coupled Units: 10 Kg [22 lbs]

Loading Capacity
Max. Tensile T: 35586 N [8000 lb]
Max. Compressive C: 71171 N [16000 lb]
Max. Moment (Mx/My): 2825 Nm [25000 in.-lb.]
Max. Moment (Mz): 2825 Nm [25000 in.-lb.]

Dimensions and technical information are subject to change without notice

Model | Tool Side | Description | Specification
--- | --- | --- | ---
RHC-4 | OHCC-027 | 24 Pin Mil. Spec. Contacts | 24 Pin @ 3 AMPS
 | OHCC-023 | 24 Wire Single Pigtai Connector | 
 | OHCC-022 | 24 Wire Double Pigtai Connector | 

UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Dimensions are symmetrical about centerline

Third Angle Projection

All dowel holes are SF (supplied)
Locational Tolerance ±0.002” OR (±0.05mm)

Metric Threads
Course Pitch

Imperial (lf. in.) | Metric (mm)
--- | ---
0.00 = ±0.01 | 0.00 = ±0.003
0.000 = ±0.005 | 0.00 = ±0.013

Dimensions and technical information are subject to change without notice
**Flexibility of the tool:**
Cylindrical Horizontal compliance devices are used for inserting components that may be misaligned with the tool. They allow a horizontal displacement that compensates for part placing inaccuracies.

**For precision applications:**
The use of high quality components allow to get centering repeatability from 0.02mm and angular repeatability from ±10°.

**Harsh environments:**
The enclosed design of this series allows them to be used in harsh environments.

**Spring assist:**
Due to the optional spring assist, compliance may be used in single acting mode.

**Spring Assist**
Spring assist option allows to center the tool (RA) or to release the tooling (RL). It also allows the use in single acting mode.

**Quality Components**
Made from aluminum alloy hard coat anodization. Main components are made of hardened and precision ground steel.

**Air Ports**
Side or top airports (top ports require O-rings).

**Mounting Information**
The compliance is located using a pilot boss and a dowel pin and assembled using 4 or 6 through body screws. Tooling is located using a centering and a dowel pin and assembled using 4 screws.
Pneumatic Specification
Pressure Range (w/o springs): 2-7 bar [30-100 psi]
Pressure Range (w/springs CH-50): 3-7 bar [43-100 psi]
Pressure Range (w/springs): 4-7 bar [60-100 psi]
Cylinder Type: Double Acting, Double Acting Spring Assist, or Single Acting Spring Return
Dynamic Seals: Internally Lubricated Buna-N
Valve Required to Actuate: Double Acting: 4-way, 2-Position; Single Acting (-RL or -RA Option): 3-way, 2-Position

Air Quality Requirements
Air Filtration: 40 Microns or Better
Air Lubrication: Not Necessary*
Air Humidity: Low Moisture Content (Dry)
(*)Addition of lubrication will greatly increase service life.

Temperature Operating Range
Buna-N-Seals (Standard): -25°~80° C [-10°~180° F]

Maintenance Specification
Expected Life: Normal Application: 5 Million Cycles
With Preventative Maintenance: 6+ Million Cycles
Field Repairable: Yes
Seal Repair Kits Available: Yes

How to Order

Base Model Spring Assist Misalignment
CH-50 - RA - XX

<table>
<thead>
<tr>
<th>Base Model</th>
<th>Spring Assist</th>
<th>Misalignment</th>
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</thead>
<tbody>
<tr>
<td>CH-50</td>
<td>RA</td>
<td>XX</td>
</tr>
<tr>
<td>CH-50</td>
<td>Max. Payload 2 Kg [4.4 lbs]</td>
<td></td>
</tr>
<tr>
<td>CH-80</td>
<td>RA</td>
<td>XX</td>
</tr>
<tr>
<td>CH-80</td>
<td>Max. Payload 8 Kg [17.6 lbs]</td>
<td></td>
</tr>
<tr>
<td>CH-110</td>
<td>RA</td>
<td>XX</td>
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<tr>
<td>CH-110</td>
<td>Max. Payload 14 Kg [30.8 lbs]</td>
<td></td>
</tr>
<tr>
<td>CH-140</td>
<td>RA</td>
<td>XX</td>
</tr>
<tr>
<td>CH-140</td>
<td>Max. Payload 30 Kg [66.12 lbs]</td>
<td></td>
</tr>
<tr>
<td>CH-165</td>
<td>RL</td>
<td>XX</td>
</tr>
<tr>
<td>CH-165</td>
<td>Max. Payload 40 Kg [88.18 lbs]</td>
<td></td>
</tr>
</tbody>
</table>

Special Misalignment x 10 (ie: 15 is for ± 1.5 mm)
Leave Blank. Standard Capability
Tool Recentering
Tool Release
Leave Blank. No Spring Option (Standard)
CH-50P Specification:
Centering Force @ 7 bar [100 psi]: 322 N [74 lbs]
Max. Payload: 2 Kg [4.4 lbs]
Misalignment Capability: ±3 mm [± 0.12 in]
Weight: 0.195 Kg [0.43 lbs]
Cylinder Bore: 34 mm [1.34 in]
Displacement: 5.2 cm³ [0.32 in³ lbs]
Actuation: 0.07 sec [0.07 sec]
Repeatability: ±0.02 mm [±0.0008 in]
Angular Repeatability: ±10 mm

Loading Capacity (View A):
Max. Tensile T: 75 N [17 lb]
Max. Compressive C: 75 N [17 lb]
Max. Moment (Mx/My): 2 Nm [17.7 in.-lb.]
Max. Moment (Mz): 1 Nm [8.8 in.-lb.]

Dimensions and technical information are subject to change without notice.

UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

- Dimensions are symmetrical about centerline
- Third angle projection
- All dowel holes are SF (slip fit)
- Locational tolerance ±0.0005 [±0.013 mm]
- Metric threads course pitch
- Imperial [[IN.]]

Dimensions and technical information are subject to change without notice.
**CH-80P Specification:**
- Centering Force @ 7 bar [100 psi]: 1035 N [232 lbs]
- Max. Payload: 8 Kg [17.6 lbs]
- Misalignment Capability: ±5 mm [± 0.20 in]
- Weight: 0.750 Kg [1.65 lbs]
- Cylinder Bore: 60 mm [2.37 in]
- Displacement: 26.8 cm³ [1.64 in³ lbs]
- Actuation: 0.08 sec [0.08 sec]
- Repeatability: ±0.02 mm [±0.0008 in]
- Angular Repeatability: ±10 mm

**Loading Capacity (View A):**
- Max. Tensile T: 160 N [36 lb]
- Max. Compressive C: 160 N [36 lb]
- Max. Moment (Mx/My): 8 Nm [71 in.-lb.]
- Max. Moment (Mz): 6 Nm [53 in.-lb.]

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**Dimensions and technical information are subject to change without notice**
**CH-110P Specification:**
- Centering Force @ 7 bar [100 psi]: 1660 N [373 lbs]
- Max. Payload: 14 Kg [30.8 lbs]
- Misalignment Capability: ±6.5 mm [± 0.25 in]
- Weight: 2.10 Kg [4.6 lbs]
- Cylinder Bore: 76 mm [3.0 in]
- Displacement: 56 cm³ [3.42 in³ lbs]
- Actuation: 0.1 sec [0.1 sec]
- Repeatability: ±0.04 mm [±0.0016 in]
- Angular Repeatability: ±15 mm

**Loading Capacity (View A):**
- Max. Tensile T: 190 N [43 lb]
- Max. Compressive C: 190 N [43 lb]
- Max. Moment (Mx/My): 12 Nm [106 in.-lb.]
- Max. Moment (Mz): 18 Nm [159 in.-lb.]

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**Dimensions and technical information are subject to change without notice.**
**CH-140P Specification:**
Centering Force @ 7 bar [100 psi]: 3170 N [712 lbs]
Max. Payload: 30 Kg [66.1 lbs]
Misalignment Capability: ±8 mm [± 0.31 in]
Weight: 4.31 Kg [9.5 lbs]
Cylinder Bore: 105 mm [4.13 in]
Displacement: 148 cm³ [9.03 in³ lbs]
Actuation: 0.02 sec [0.02 sec]
Repeatability: ±0.06 mm [±0.0024 in]
Angular Repeatability: ±20 mm

**Loading Capacity (View A):**
Max. Tensile T: 225 N [50 lb]
Max. Compressive C: 225 N [50 lb]
Max. Moment (Mx/My): 19 Nm [168 in.-lb.]
Max. Moment (Mz): 20 Nm [177 in.-lb.]

---

**Tool Plate**

**UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW**

<table>
<thead>
<tr>
<th>Tolerance</th>
<th>Imperial (&quot; IN.)</th>
<th>Metric (MM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>±0.50</td>
<td>±0.01</td>
<td>±0.126</td>
</tr>
<tr>
<td>±0.25</td>
<td>±0.005</td>
<td>±0.066</td>
</tr>
<tr>
<td>±0.125</td>
<td>±0.003</td>
<td>±0.042</td>
</tr>
<tr>
<td>±0.0625</td>
<td>±0.0015</td>
<td>±0.026</td>
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</table>

**DIMENSIONS ARE SYMMETRICAL ABOUT CENTERLINE**

**IMPERIAL (" IN.)**

<table>
<thead>
<tr>
<th>Tolerance</th>
<th>Metric (MM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00 = ± 0.13</td>
<td>±0.333</td>
</tr>
<tr>
<td>0.000 = ± 0.05</td>
<td>±0.13</td>
</tr>
<tr>
<td>0.0000 = ± 0.003</td>
<td>±0.05</td>
</tr>
</tbody>
</table>

**METRIC (MM)**

<table>
<thead>
<tr>
<th>Tolerance</th>
<th>Metric (MM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00 = ± 0.13</td>
<td>±0.333</td>
</tr>
<tr>
<td>0.000 = ± 0.05</td>
<td>±0.13</td>
</tr>
<tr>
<td>0.0000 = ± 0.003</td>
<td>±0.05</td>
</tr>
</tbody>
</table>

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Dimensions and technical information are subject to change without notice.
**CH-165P Specification:**
- Centering Force @ 7 bar [100 psi]: 4140 N [931 lbs]
- Max. Payload: 40 Kg [88.2 lbs]
- Misalignment Capability: ±12 mm [± 0.47 in]
- Weight: 8.7 Kg [19.2 lbs]
- Cylinder Bore: 120 mm [4.72 in]
- Displacement: 236 cm³ [14.40 in³ lbs]
- Actuation: 0.36 sec [0.36 sec]
- Repeatability: ±0.06 mm [±0.0024 in]
- Angular Repeatability: ±20 mm

**Loading Capacity (View A):**
- Max. Tensile T: 230 N [52 lb]
- Max. Compressive C: 230 N [52 lb]
- Max. Moment (Mx/My): 23Nm [203 in.-lb.]
- Max. Moment (Mz): 28 Nm [248 in.-lb.]

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**Dimensions and technical information are subject to change without notice.**