Robotic Tooling

Automatic Tool Changers and Compliance
Destaco, a Dover company, is a global leader in the design and manufacture of high-performance automation, workholding and remote-handling solutions. The company serves customers in a variety of end-markets, including the automotive, life sciences, consumer packaged goods, aerospace, industrial and nuclear sectors.

Built on a legacy of more than 100 years, Destaco offers a comprehensive portfolio of products designed to engineer precise movement, placement and control solutions that drive productivity and uptime for manufacturers around the world. The Destaco family of products consists of industry-leading brands such as Destaco Manual Clamps, Power Clamps, and End Effectors; CAMCO™ and Ferguson™ Indexers; Robohand™ Grippers; and CRL™ Manipulators and Transfer Ports.

Destaco is based in Auburn Hills, Michigan, U.S.A. The company has more than 800 employees with 13 locations, in 9 countries, across the Americas, Europe and Asia.

Destaco is part of Dover Corporation, a diversified global manufacturer with annual revenues of $7 billion. The company delivers innovative equipment and components, specialty systems and support services through four major operating segments: Energy, Engineered Systems, Fluids, and Refrigeration & Food Equipment. Headquartered in Downers Grove, IL, (NYSE: DOV)

More information is available at destaco.com and dovercorporation.com
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.

Robotic Tooling Solutions

Features and Benefits

Automatic Tool Changers

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

Mounting Information

RQC Robot Half Adaptor
Counterbored holes for mounting with a dowel pin hole, a raised boss for location, and features a ISO9409-1 mounting pattern.

Back Side of RQC

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

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

Ch Horizontal Compliance
The compliance is located using a pilot boss and a dowel pin and assembled using 4 or 6 through body screws.

For Precision Applications:
High quality components allows for centering repeatability from 0.02mm and angular repeatability from ±10°.

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.

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

RHC 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.

Harsh Environments:
Enclosed design allows them to be used in harsh environments.

Spring Assist:
Optional spring assist allows for use in single acting mode.

Mounting Information

RTP Tool Half Adaptor
Tapped holes, two dowel pin holes for accurate location of payload, and features a ISO9409-1 mounting pattern.
### ROBOTIC TOOLING SOLUTIONS

**Sizing and Application Chart**

#### Automatic Tool Changers

<table>
<thead>
<tr>
<th>Series</th>
<th>Max Moment Kg [lb]</th>
<th>Max Payload Kg [lb]</th>
<th>Weight Kg [lb]</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQC/RTP-200</td>
<td>8</td>
<td></td>
<td></td>
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<tr>
<td>RQC/RTP-400</td>
<td>10</td>
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<tr>
<td>RQC/RTP-800</td>
<td>10</td>
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<td></td>
<td></td>
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<tr>
<td>RQC/RTP-1200</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RQC/RTP-2400</td>
<td>12</td>
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<tr>
<td>QC/TP-30</td>
<td>16</td>
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<tr>
<td>QC/TP-60</td>
<td>16</td>
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<tr>
<td>QC/TP-60-10</td>
<td>16</td>
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<td></td>
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<tr>
<td>QC/TP-150</td>
<td>16</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>RHC-1</td>
<td>20</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>RHC-2</td>
<td>20</td>
<td></td>
<td></td>
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<tr>
<td>RHC-3</td>
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<tr>
<td>RHC-4</td>
<td>20</td>
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</table>

#### Compliance Devices

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CH-50</td>
<td>21</td>
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<td>CH-110</td>
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</tr>
<tr>
<td>CH-140</td>
<td>21</td>
<td></td>
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<tr>
<td>CH-165</td>
<td>21</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Tool Changer Sizing

For tool changer sizing, the maximum effective moment during displacement will be considered. The effective moment will be calculated in the worst case of the application, and must consider:

- The weight of the tool
- The position of the center of gravity
- The dynamic effect due to the maximum acceleration or deceleration. (Emergency stop for example)

See below the simplified calculation formula to estimate the effective moment of your application.

\[
M_{\text{eff}} = (90 \times 9.81) \times 0.5 \times (1 + 2)
\]
\[
M_{\text{eff}} = 883 \times 0.5 \times 3
\]
\[
M_{\text{eff}} = 1324.5 \text{ Nm}
\]

The obtained value 1324.5 Nm should be compared to the technical data of our products in this catalog in the “loading capacity information” section. For this application, the choice will be a RQC-400M tool changer that has a qualifying capacity, in terms of torque, of 1580Nm, over than the 1325Nm of the application.

CAUTION: Applications with high and wide loads: in case of heavy application, we strongly recommend to strengthen the cylindrical and diamond indexing pins, between tool changer and tool plate, by adding larger diameter pins, the farthest to the center of changer tool, incorporated into the design of the tooling.
AUTOMATIC TOOL CHANGERS

Technical Information

**RQC-200/RTP-200**
- Combined Weight: 3 Kg [6.7 lb]
- Max. Payload: 90 Kg [200 lb]
- Max. Moment: 810 Nm [7200 in-lb]

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

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

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

**RQC-2400/RTP-2400**
- Combined Weight: 30 Kg [66.1 lb]
- Max. Payload: 1089 Kg [2400 lb]
- Max. Moment: 7000 Nm [61955 in-lb]
AUTOMATIC TOOL CHANGERS

RQC/RTP Series Tool Changers

**RQC-200**

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

**RTP-200**

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

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Dimensions and technical information are subject to change without notice.

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**E19/G19***

***Not compatible with CD, CP or CN sensing option on this side.**

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### Optional Electrical, Air and Vacuum Modules can be ordered with Base Model

See below for Module Description

(See Page 8 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>6X 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>6X 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>6X 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>2X 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>2X 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>2X 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.

**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.
### AUTOMATIC TOOL CHANGERS

#### RQC/RTP Series Tool Changers

**Base Model**

<table>
<thead>
<tr>
<th>Model</th>
<th>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>400</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>400</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>800</td>
<td>N</td>
<td>LP*</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>RTP</td>
<td>1200</td>
<td>N</td>
<td>CP†</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Requires E19 or G19 module mounted on Side C.

†Cordset or plug are sold separately.

**Optional Electrical, Air, Vacuum and Fluid Modules can be ordered with Base Model.**

See below for Module Description

(See Page 10 for Illustrated Module Use Configuration)

---

### Module Description

<table>
<thead>
<tr>
<th>Port Options</th>
<th>Sensing</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>400</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>800/1200</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
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</table>

**Optional Modules**

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Optional Modules</th>
</tr>
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<tbody>
<tr>
<td>E19</td>
<td>19 pin, 3 Amp, 48 VDC Module w/Turck M12 Conn, w/o Cordset</td>
</tr>
<tr>
<td>2E19</td>
<td>2X 19 pin, 3 Amp, 48 VDC Module w/Turck M12 Conn, w/o Cordset</td>
</tr>
<tr>
<td>G19</td>
<td>19 pin, 5 Amp, 120 VDC Module w/Industrial User Conn., w/o Cable</td>
</tr>
<tr>
<td>2G19</td>
<td>2X 19 pin, 5 Amp, 120 VDC Module w/Industrial User Conn., w/o Cable</td>
</tr>
</tbody>
</table>

---

1Cordset or plug are sold separately. ***Not compatible with CD, CP or CN sensing option.

**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.

---

Dimensions and technical information are subject to change without notice
AUTOMATIC TOOL CHANGERS

RQC/RTP Series Tool Changers

RQC-2400
Robot Adaptor Module
with Optional Modules
(Robot Side)

RTP-2400
Tool Adaptor Module
with Optional Modules
(Tool Side)

Dimensions and technical information are subject to change without notice.

USER PLUG NOT SHOWN
### AUTOMATIC TOOL CHANGERS

**RQC/RTP Series Tool Changers**

![Robot Side](RQC-2400)  
**Robot Side**  
**RQC-2400**

![Tool Side](RTP-2400)  
**Tool Side**  
**RTP-2400**

<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>
</tr>
</thead>
<tbody>
<tr>
<td>RQC</td>
<td>2400</td>
<td>N</td>
<td>L0</td>
<td>0</td>
</tr>
<tr>
<td>RTP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **RQC**  
  - Robot Side
  - 2400 (See Page 6 for Specifications)
  - N: 1/8 NPT
  - M: 1/8 BSPP
  - A: 1/8 BSPT

- **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

- **L0** No Sensing
- **FP** 6X 1/8" BSPP Air Ports Module, Face Seal, 10 Bar

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Optional Air Modules can be ordered with Base Model
See below for Module Description
(See Page 12 for Illustrated Module Use Configuration)

---

Side A **Order Code** Optional Modules

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>No Module</th>
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</thead>
<tbody>
<tr>
<td>FP</td>
<td>6X 1/8&quot; BSPP Air Ports Module, Face Seal, 10 Bar</td>
<td></td>
</tr>
</tbody>
</table>

Dimensions and technical information are subject to change without notice
AUTOMATIC TOOL CHANGERS

RQC/RTP Series Tool Changers

Optional Electrical Modules

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

Air Ports Modules with Face Seals

Robot Side

<table>
<thead>
<tr>
<th>MODULE REPLACEMENT</th>
<th>FOR RQC-200/400</th>
<th>FOR RQC 800/1200</th>
</tr>
</thead>
<tbody>
<tr>
<td>FN</td>
<td>KFN-RQC200</td>
<td>KFN-RQC800</td>
</tr>
<tr>
<td>FP</td>
<td>KFP-RQC200</td>
<td>KFP-RQC800</td>
</tr>
<tr>
<td>FT</td>
<td>KFT-RQC200</td>
<td>KFT-RQC800</td>
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</table>

Tool Side

<table>
<thead>
<tr>
<th>MODULE REPLACEMENT</th>
<th>FOR RTP-200/400</th>
<th>FOR RTP 800/1200</th>
</tr>
</thead>
<tbody>
<tr>
<td>FN</td>
<td>KFN-RTP200</td>
<td>KFN-RTP800</td>
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<tr>
<td>FP</td>
<td>KFP-RTP200</td>
<td>KFP-RTP800</td>
</tr>
<tr>
<td>FT</td>
<td>KFT-RTP200</td>
<td>KFT-RTP800</td>
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</table>

Air Ports Modules with Face Seals (for RQC/RTP-800 & RQC/RTP-1200)

Double Shut-Off

<table>
<thead>
<tr>
<th>MODULE REPLACEMENT</th>
<th>ROBOT SIDE</th>
<th>TOOL SIDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SN</td>
<td>KSN-RQC800</td>
<td>KSN-RTP800</td>
</tr>
<tr>
<td>SP</td>
<td>KSP-RQC800</td>
<td>KSP-RTP800</td>
</tr>
<tr>
<td>ST</td>
<td>KST-RQC800</td>
<td>KST-RTP800</td>
</tr>
</tbody>
</table>
Air Ports Module Face Seal (for RQC/RTP-800 & RQC/RTP-1200)

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

Vacuum Ports Modules with Face Seal

Robot Side

<table>
<thead>
<tr>
<th>Module Replacement</th>
<th>FOR RQC-200/400</th>
<th>FOR RQC 800/1200</th>
</tr>
</thead>
<tbody>
<tr>
<td>VN</td>
<td>KVN-RQC200</td>
<td>KVN-RQC800</td>
</tr>
<tr>
<td>VP</td>
<td>KVP-RQC200</td>
<td>KVP-RQC800</td>
</tr>
<tr>
<td>VT</td>
<td>KVT-RQC200</td>
<td>KVT-RQC800</td>
</tr>
</tbody>
</table>

Tool Side

<table>
<thead>
<tr>
<th>Module Replacement</th>
<th>FOR RQC-200/400</th>
<th>FOR RTP 800/1200</th>
</tr>
</thead>
<tbody>
<tr>
<td>VN</td>
<td>KVN-RTP200</td>
<td>KVN-RTP800</td>
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<tr>
<td>VP</td>
<td>KVP-RTP200</td>
<td>KVP-RTP800</td>
</tr>
<tr>
<td>VT</td>
<td>KVT-RTP200</td>
<td>KVT-RTP800</td>
</tr>
</tbody>
</table>

Fluid Ports Modules, Non-Spilling, Double Shut-Off (for RQC/RTP-800 & RQC/RTP-1200)

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

Electric and Pneumatic Accessories (Ordered Separately)

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.

ELECTRICAL ACCESSORIES

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELCT-048</td>
<td>90° Female Plug, w/o Cable, Solder Type, Cable Clamp for G19 (RQC Only)</td>
</tr>
<tr>
<td>ELCT-049</td>
<td>90° male Plug, w/o Cable, Solder Type, Cable Clamp for G19 (RTP Only)</td>
</tr>
<tr>
<td>CABL-028</td>
<td>90° Female M12 Cordset with 2M Cable for CP, CN, and CD (RQC Only)</td>
</tr>
<tr>
<td>CABL-029</td>
<td>90° Female Cordset with 4M Cable for E19 (RQC Only)</td>
</tr>
<tr>
<td>CABL-031</td>
<td>90° male Cordset with 2M Cable for E19 (RTP Only)</td>
</tr>
<tr>
<td>OSRK-004</td>
<td>PNP Inductive Sensor Repair Kit (RQC Only)</td>
</tr>
<tr>
<td>OSRK-005</td>
<td>NPN Inductive Sensor Repair Kit (RQC Only)</td>
</tr>
<tr>
<td>OSRK-006</td>
<td>Dry Contact Sensor Repair Kit (RQC Only)</td>
</tr>
</tbody>
</table>

PNEUMATIC ACCESSORIES

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLKT-402</td>
<td>RQC-400 Standard Seal Repair Kit</td>
</tr>
<tr>
<td>SLKT-403</td>
<td>RQC-800 Standard Seal Repair Kit</td>
</tr>
<tr>
<td>SLKT-404</td>
<td>RQC-1200 Standard Seal Repair Kit</td>
</tr>
<tr>
<td>SLKT-XXX</td>
<td>RQC-2400 Standard Seal Repair Kit</td>
</tr>
</tbody>
</table>
AUTOMATIC TOOL CHANGERS

QC/TP Series Tool Changers

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

#### Electrical Accessories
- **ELCT-047**: Straight Female 12-pin D-Sub User Plug, w/o Cable, Solder Type for E15 (QC/TP-60/150)
- **CABL-021**: 90° Female Cordset 4M for E12 (QC-30/60/150)
- **CABL-023**: 90° Male Cordset 2M for E12 (TP-30/60/150)
- **CABL-024**: Straight Male Cordset 1.2M for E15 (QC/TP-30)
- **OSRK-009**: NPN Inductive Sensor Repair Kit (QC-150 Only)
- **OSRK-010**: PNP Inductive Sensor Repair Kit (QC-150 Only)

#### Pneumatic Accessories
- **SLKT-387**: Seal Repair Kit (QC-30)
- **SLKT-388**: Face Seal Repair Kit (QC-30)
- **SLKT-389**: Seal Repair Kit (QC-60)
- **SLKT-390**: Face Seal Repair Kit (QC-60/150)
- **SLKT-392**: Face Seal Repair Kit (QC-60-10P)
- **SLKT-393**: Seal Repair Kit (QC-150)

---

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

### 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 (Female)</td>
</tr>
<tr>
<td>QC/TP150</td>
<td>E10</td>
<td>KE10-QC150</td>
<td>KE10-TP150</td>
<td>ELCT-042 (Male)</td>
</tr>
</tbody>
</table>

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

### 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 (Female)</td>
</tr>
<tr>
<td>QC/TP150</td>
<td>E19</td>
<td>KE19-QC150</td>
<td>KE19-TP150</td>
<td>ELCT-044 (Male)</td>
</tr>
</tbody>
</table>

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

### 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>
</tr>
<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.

### Air Ports Modules with Face Seals

#### 2 X 1/8"

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

**For QC/TP-60**

**For QC/TP-150**

<table>
<thead>
<tr>
<th>Module</th>
<th>Robot Side</th>
<th>Tool Side</th>
</tr>
</thead>
<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>
<td>...</td>
</tr>
</tbody>
</table>

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

Sub-D Conn and User Plug IO Block

<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>

<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>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>

Dimensions and technical information are subject to change without notice.
# AUTOMATIC TOOL CHANGERS

## RHC Series Tool Changers

### 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**

### Adapter Module
- **R**
- **M**

### Seals
- **V** (for -R only)

### Contacts
- **OHCC-009**
- **P**

### Sensor
- **V** (Viton® Seals)

### 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)

### Sensor and Pneumatic Accessories (Ordered Separately)
- **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-3-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)

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Dimensions and technical information are subject to change without notice.
CH Series Cylindrical Horizontal Compliance Device

**Base Model**
- **CH-50**
- **CH-80**
- **CH-110**
- **CH-140**
- **CH-165**

**Spring Assist**
- **RA**

**Misalignment**
- **XX**
  - Special Misalignment x 10
  - (ie: 15 is for ± 1.5 mm)
  - Leave Blank. Standard Capability

**Size** | **Centering Force** | **Max. Payload**
--- | --- | ---
CH-50 | 322 [74] | 2 [4.4]
CH-80 | 1035 [232] | 8 [17.6]
CH-110 | 1660 [373] | 14 [30.8]
CH-140 | 3170 [712] | 30 [66.1]
CH-165 | 4140 [931] | 40 [88.2]

Dimensions and technical information are subject to change without notice.

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