

# AUTOMATIC TOOL CHANGERS

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# RQC/RTP, QC/TP, RHC SERIES

Automatic Tool Changers | Introduction



RQC/RTP Series



QC/TP Series



RHC Series

**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.

## Technical Information

### 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.

### 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

### Application Restrictions

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

## 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.

# RQC/RTP SERIES

## Automatic Tool Changers | Features and Benefits

### Additional Optional Air, Fluid, Electrical and Weld Gun Modules are Available.

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

**Robot Side**

**Tool Side**

**Optional Servo Gun and Weld Gun Power Module (With Spring Loaded Pins)**  
Size 800 & 1200 only

### 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**

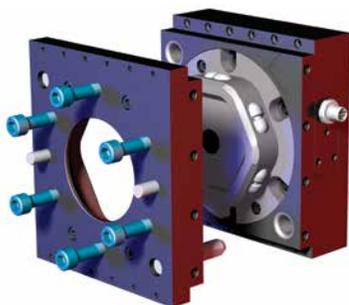
**Locating Pins**

**Optional 19 Pin I/O Module**

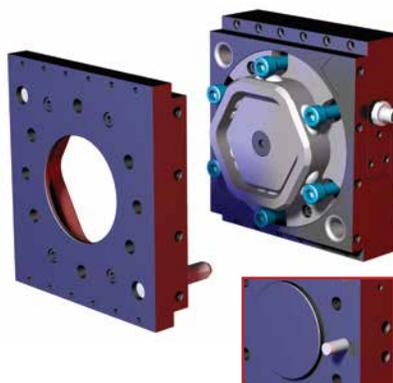
Spring loaded contacts are recessed for a better protection

V-Seal provides moisture resistance

**Optional (6) Self-Sealing Air Ports Module**  
(sizes 800 & 1200 only)



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



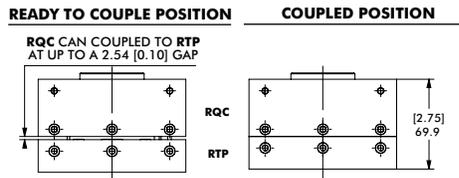
**Robot Half Adaptor** has counterbored holes for mounting with a dowel pin hole, a raised boss for location, and features a ISO9409-1 mounting pattern

**Back Side of Robot Half Adaptor**

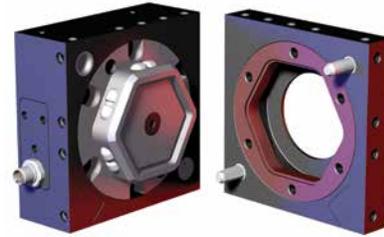
# RQC/RTP SERIES

Automatic Tool Changers | Technical Information

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

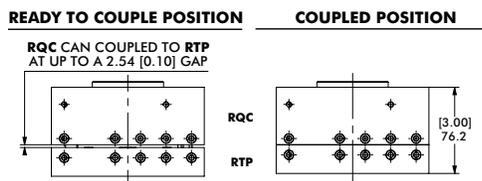


## RQC-200/RTP-200

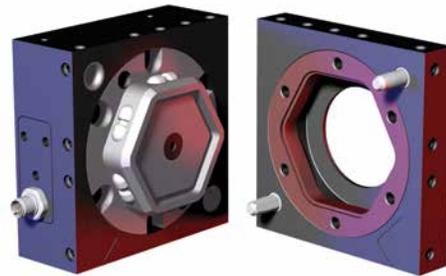


**RQC-200**      **RTP-200**  
**Robot Adaptor Module**      **Tool Adaptor Module**

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

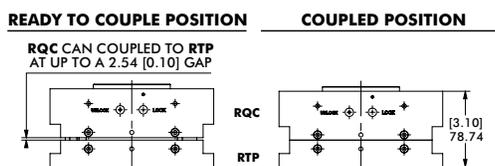


## RQC-400/RTP-400

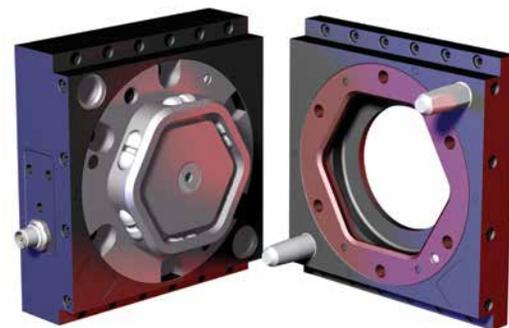


**RQC-400**      **RTP-400**  
**Robot Adaptor Module**      **Tool Adaptor Module**

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

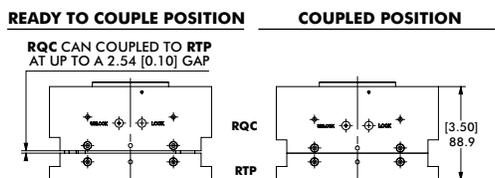


## RQC-800/RTP-800

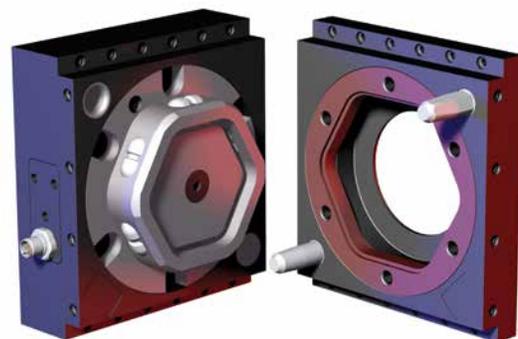


**RQC-800**      **RTP-800**  
**Robot Adaptor Module**      **Tool Adaptor Module**

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



## RQC-1200/RTP-1200



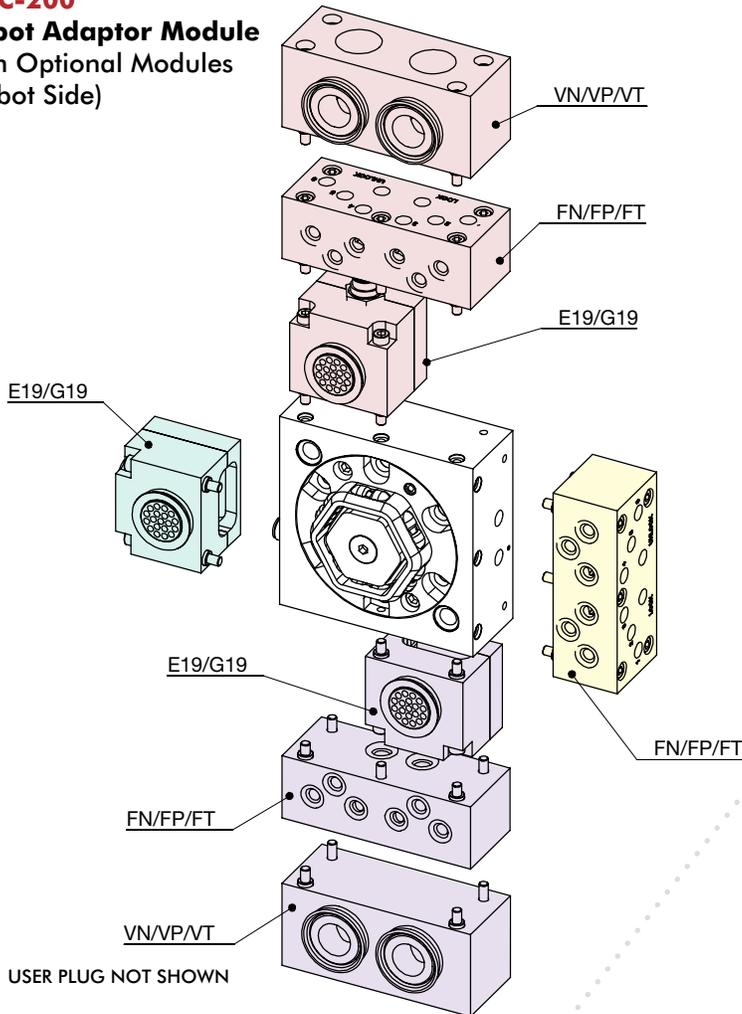
**RQC-1200**      **RTP-1200**  
**Robot Adaptor Module**      **Tool Adaptor Module**

# RQC-200/RTP-200

## Automatic Tool Changers | Module Usage Illustrations

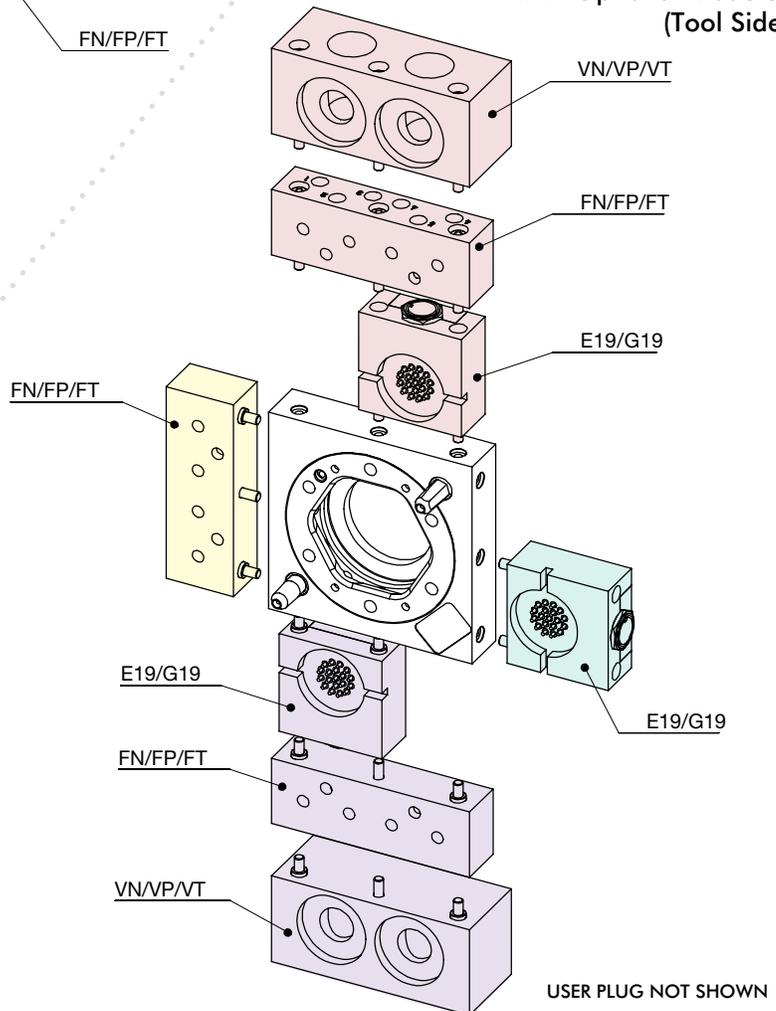
### RQC-200

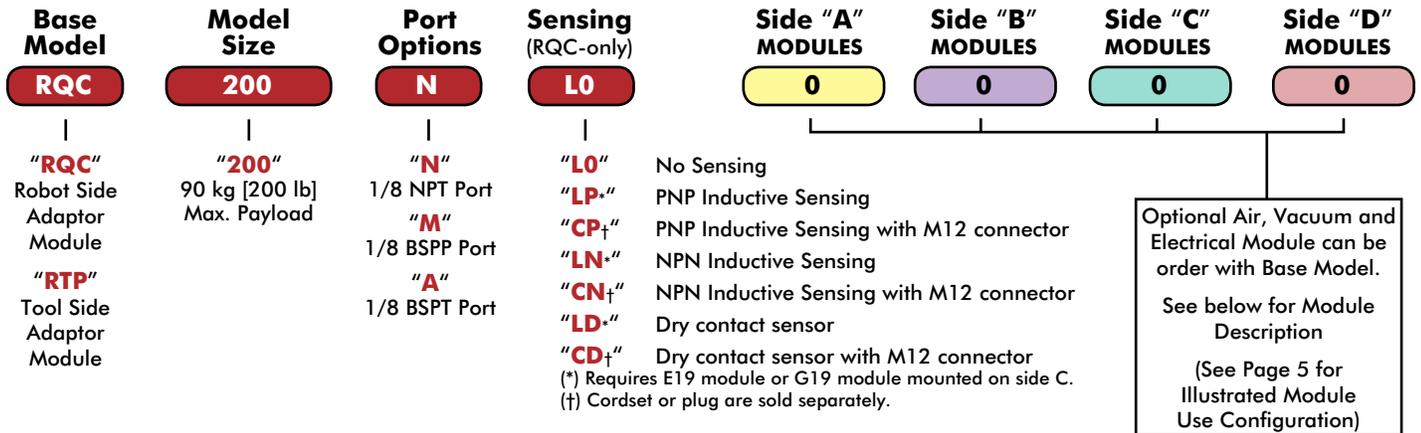
**Robot Adaptor Module**  
with Optional Modules  
(Robot Side)



### RTP-200

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





### NOTE:

Only (1) module can be mounted per side. (Except **2E19**, **2G19**, and **HISRxx** which are composed of (2) modules)

Modules usage is based on the size of the Base Model and which side the Module is can be Mounted.

### SIDE "A" ■ Optional Modules

- "0"** No Optional Module
- "FN"** 6 X 1/4" NPT Air Ports Module, Face Seal, 10 Bar
- "FP"** 6 X 1/4" BSPP Air Ports Module, Face Seal, 10 Bar
- "FT"** 6 X 1/4" BSPT Air Ports Module, Face Seal, 10 Bar

### SIDE "B" ■ AND/OR SIDE "D" ■

- "0"** No optional module
- "E19"** 19 pin, 3 Amp, 48 VDC Module w/Turck M12 connector, w/o Cordset
- "G19"** 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 1/8" BSPT Air Ports Module, Face Seal, 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 BSPT Ports Module, Face Sealing

†Cordset or plug are sold separately.

### SIDE "C" ■

- "0"** No optional module
- "E19"** 19 pin, 3 Amp, 48 VDC Module w/Turck M12 connector, w/o Cordset
- "G19"** 19 pin, 5 Amp, 120 VDC Module w/Industrial User Conn., w/o Cable

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

# RQC-200 (ROBOT SIDE)

## Automatic Tool Changers | Technical Specifications | Dimensions



### Specification:

Max. Payload **W**: 90 Kg [200 lb]

Cylinder Bore:  $\varnothing 53\text{mm}$  [2.09in]

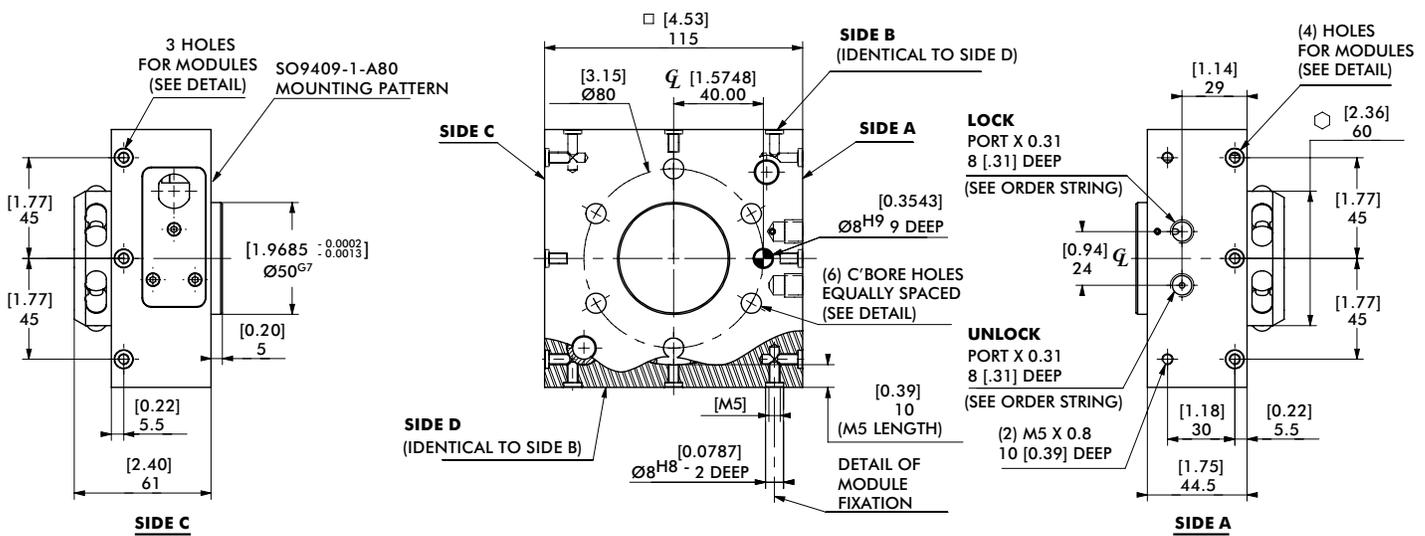
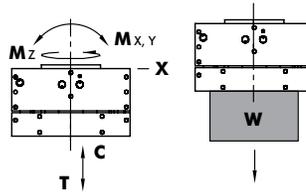
Displacement:  $41.3\text{ cm}^3$  [2.52in<sup>3</sup>]

### Loading Capacity:

Max. Tensile **T**: 1330 N [300 lb]

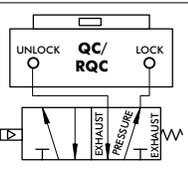
Max. Compressive **C**: 1780 N [400 lb]

Max. Moment (**M<sub>x</sub>/M<sub>y</sub>/M<sub>z</sub>**): 1580 Nm [810 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

$\varnothing$   
 DIMENSIONS ARE SYMMETRICAL ABOUT CENTERLINE

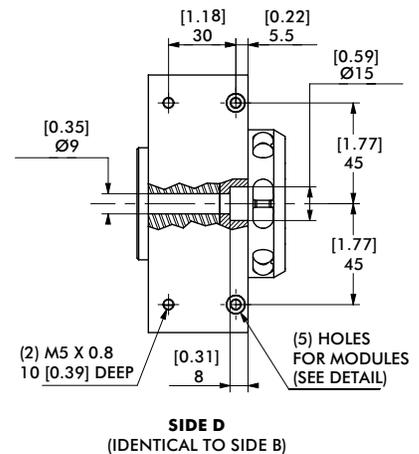
$\triangle$   
 THIRD ANGLE PROJECTION

$\odot$   
 ALL DOWEL HOLES ARE SF (SLIP FIT).  
 LOCATIONAL TOLERANCE  
 $\pm 0.005$ " OR  $\pm 0.13\text{MM}$

$\text{M}$   
 METRIC THREADS  
 COURSE PITCH

IMPERIAL ( [ IN. ] )  
 0.00 =  $\pm 0.01$   
 0.000 =  $\pm 0.005$   
 0.0000 =  $\pm 0.0005$

METRIC (MM)  
 [0] =  $\pm 0.25$   
 [0.] =  $\pm 0.13$   
 [0.00] =  $\pm 0.013$



# RTP-200 (TOOLING SIDE)

Automatic Tool Changers | Technical Specifications | Dimensions

## Specification:

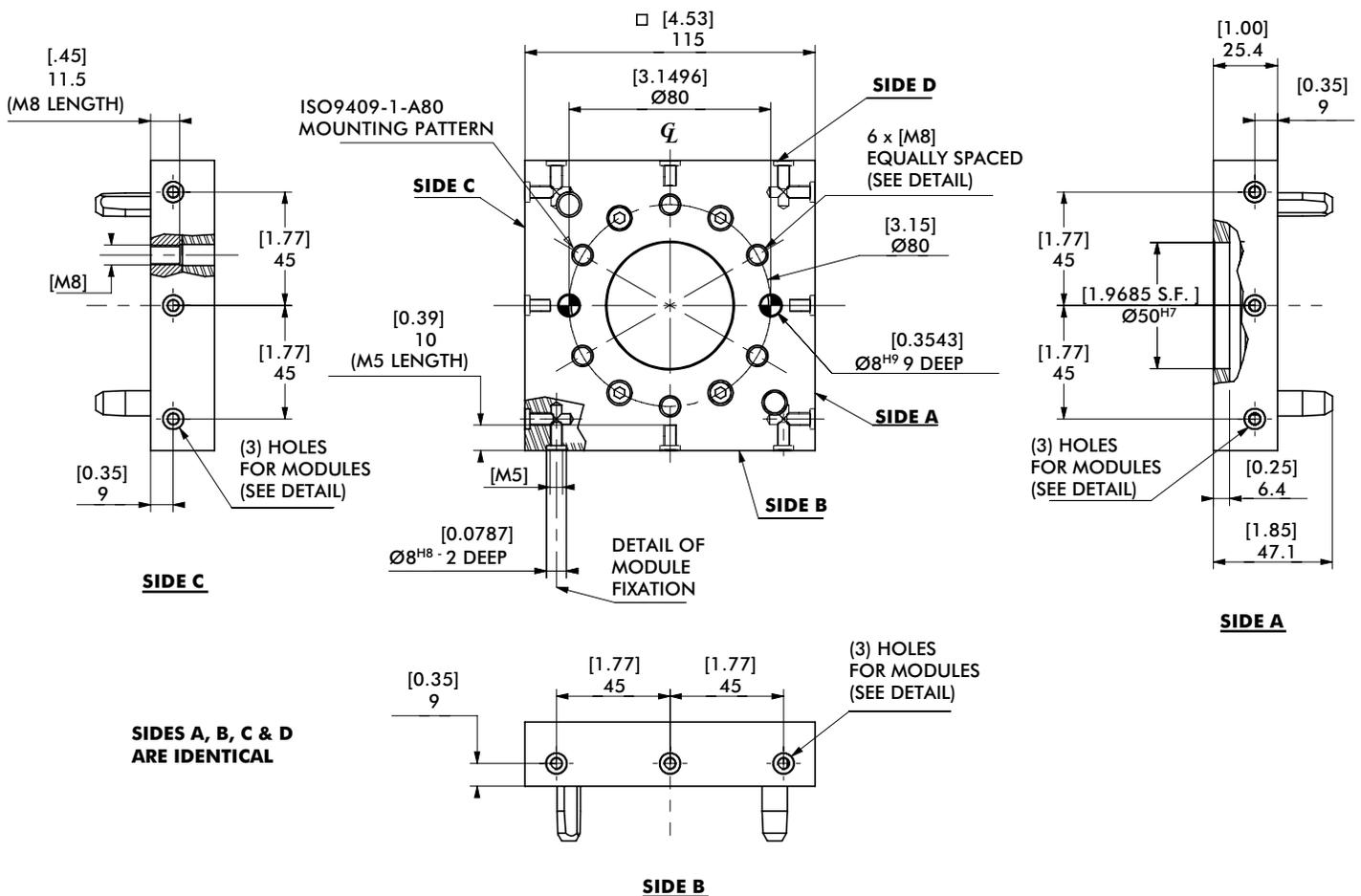
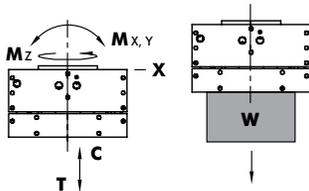
Max. Payload **W**: 180 Kg [400 lb]

## Loading Capacity:

Max. Tensile **T**: 2670 N [600 lb]

Max. Compressive **C**: 3560 N [800 lb]

Max. Moment (**M<sub>x</sub>/M<sub>y</sub>/M<sub>z</sub>**): 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). LOCAL TOLERANCE ±.0005" OR [±.013MM]

METRIC THREADS COURSE PITCH

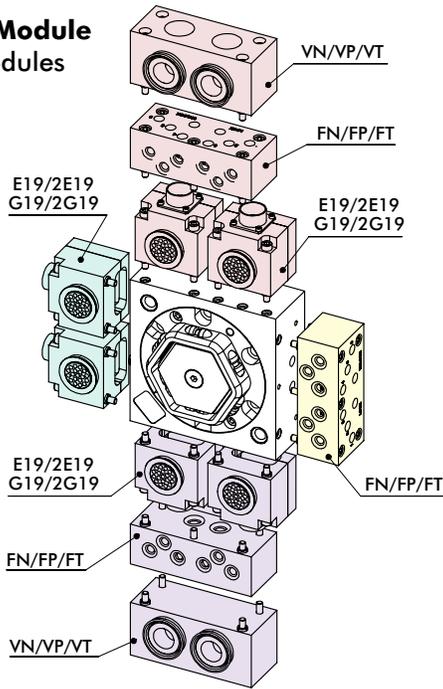
IMPERIAL ([ IN.])  
 0.00 = ±.01  
 0.000 = ±.005  
 0.0000 = ±.0005

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

# RQC-400, 800, 1200/RTP-400, 800, 1200

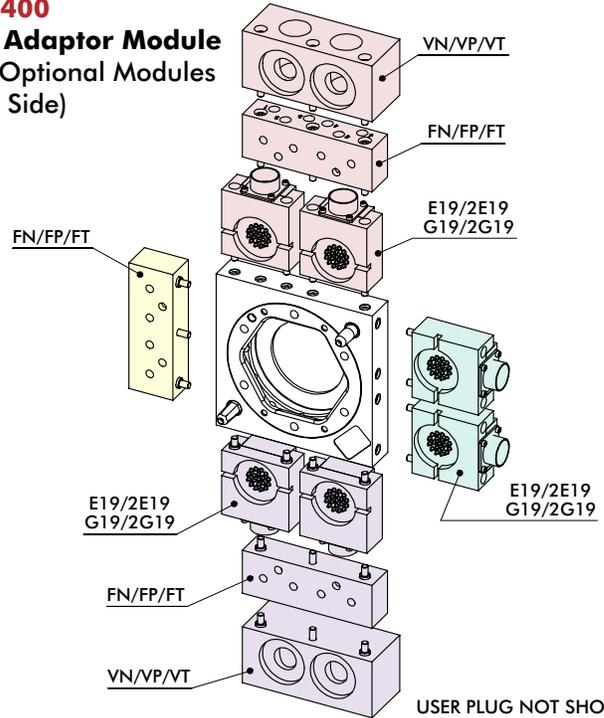
## Automatic Tool Changers | Module Usage Illustrations

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



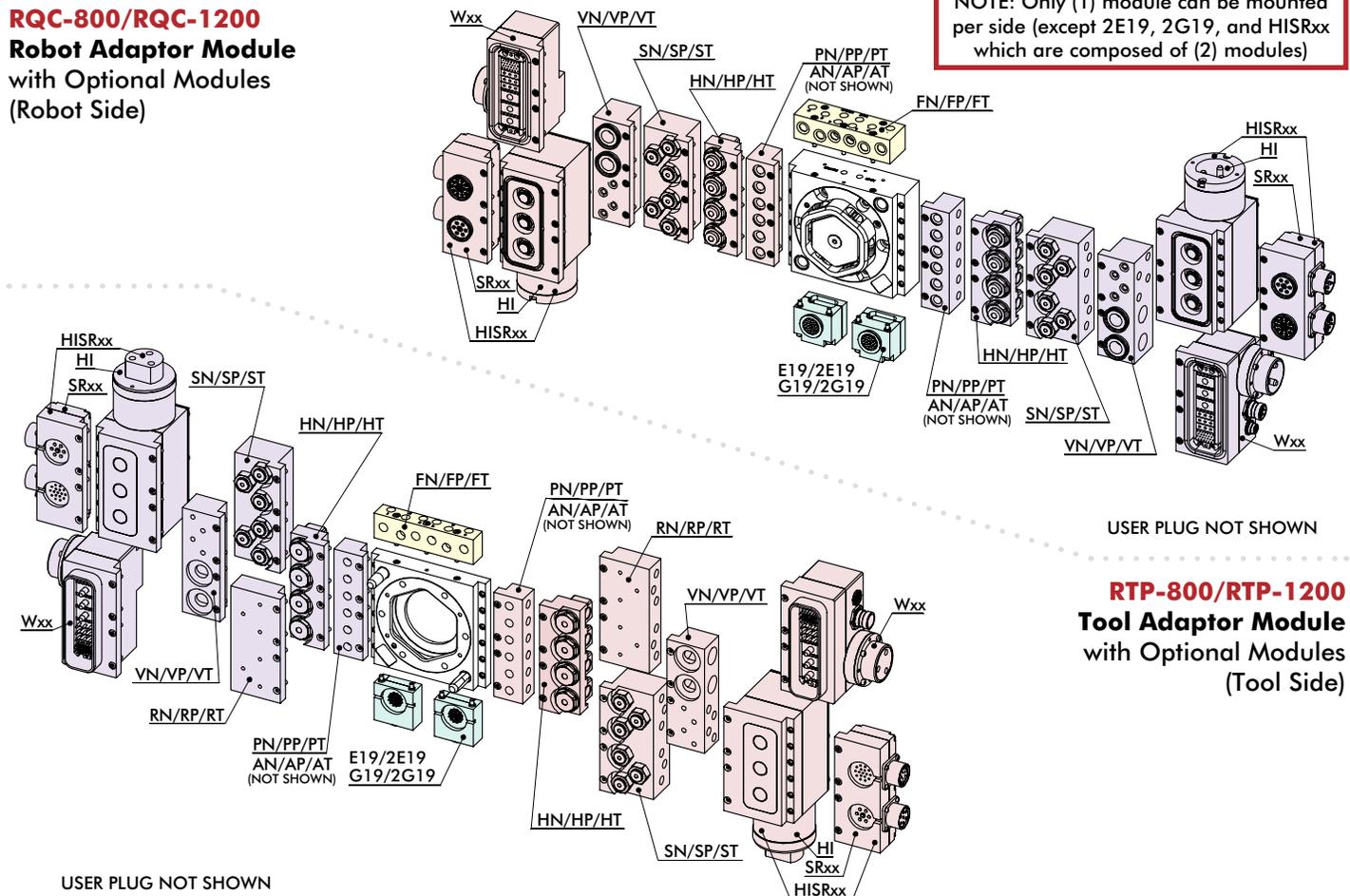
USER PLUG NOT SHOWN

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



USER PLUG NOT SHOWN

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



USER PLUG NOT SHOWN

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

USER PLUG NOT SHOWN

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

# RQC-400, 800, 1200/RTP-400, 800, 1200

## Automatic Tool Changers | Ordering Information

Base Model	Model Size	Port Options	Sensing (RQC-only)	Side "A" MODULES	Side "B" MODULES	Side "C" MODULES	Side "D" MODULES
<b>RQC</b>	<b>400</b>	<b>N</b>	<b>LO</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>"RQC"</b> Robot Side Adaptor Module  <b>"RTP"</b> Tool Side Adaptor Module	<b>"400"</b> 180 kg [400 lb] Max. Payload  <b>"800"</b> 360 kg [800 lb] Max. Payload  <b>"1200"</b> 550 kg [1200 lb] Max. Payload	<b>"N"</b> 1/8 NPT Port  <b>"M"</b> 1/8 BSPP Port  <b>"A"</b> 1/8 BSPT Port	<b>"LO"</b> No Sensing <b>"LP"</b> PNP Inductive Sensing <b>"CP†"</b> PNP Inductive Sensing with M12 connector <b>"LN"</b> NPN Inductive Sensing <b>"CN†"</b> NPN Inductive Sensing with M12 connector <b>"LD"</b> Dry contact sensor <b>"CD†"</b> Dry contact sensor with M12 connector (*) Requires E19 module or G19 module mounted on side C. (†) Cordset or plug are sold separately.	Optional Air, Vacuum and Electrical Module can be order with Base Model.  See below for Module Description  (See Page 9 for Illustrated Module Use Configuration)			

**NOTE:**  
Only (1) module can be mounted per side. (Except **2E19**, **2G19**, and **HISRxx** which are composed of (2) modules)

Modules usage is based on the size of the Base Model and which side the Module is can be Mounted.

### SIDE "A" Optional Modules

- "0"** No Optional Module
- "FN"** 6 X 1/4" NPT Air Ports Module, Face Seal, 10 Bar
- "FP"** 6 X 1/4" BSPP Air Ports Module, Face Seal, 10 Bar
- "FT"** 6 X 1/4" BSPT Air Ports Module, Face Seal, 10 Bar

### SIDE "B" AND/OR SIDE "D"

- "0"** No optional module
  - "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 1/8" BSPT 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" BSPT Air Ports Module, Face Seal, 10 Bar
  - "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" BSPT Fluid Ports Module, 100 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" BSPT 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 BSPT Ports Module, Face Sealing
  - "Wxx\*\*"** Servo Gun and Welding Gun Module (Pin And Socket)
  - "HI"** Welding Gun Module (3 X 180 Amp Spring Loaded Pins)
  - "SRxx\*\*"** Servo Gun Module (with Spring Loaded Pins)
  - "HISRxx\*\*††"** Servo Gun and Welding Gun Module (with Spring Loaded Pins)
- (\*\*) XX are attributed according to the customer wiring diagram. Consult factory.  
 (††) SRXX Module can be mounted on the HI module to use with electric welding gun.

**RTP/RQC 400 only**  
(Mounted on Side **A**, Side **B** and Side **D**)

**RTP/RQC 400**  
Modules has no "Air Ports"

### SIDE "C"

- "0"** No optional module
- "E19†"** 19 pin, 3 Amp, 48 VDC Module w/Turck M12 connector, w/o Cordset
- "2E19†\*\*"** 2x 19 pin, 3 Amp, 48 VDC Module w/Turck M12 connector, w/o Cordset
- "G19"** 19 pin, 5 Amp, 120 VDC Module w/Industrial User Conn., w/o Cable
- "2G19\*\*"** 2x 19 pin, 5 Amp, 120 VDC Module w/Industrial User Conn., w/o Cable

(†) Cordset or plug are sold separately. (\*\*\*)Not compatible with CD, CP or CN sensing option.

### 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

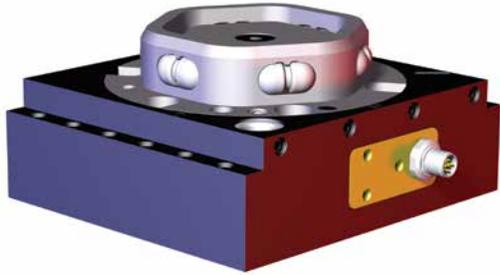
- "ELCT-048"** 90° Female Plug, w/o Cable, Solder Type, Cable Clamp for G19 (**RQC Only**)
- "ELCT-049"** 90° male Plug, w/o Cable, Solder Type, Cable Clamp for G19 (**RTP Only**)
- "CABL-028"** 90° Female M12 Cordset with 2M Cable for CP, CN, and CD (**RQC Only**)
- "CABL-029"** 90° Female Cordset with 4M Cable for E19 (**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

# RQC-400 (ROBOT SIDE)

## Automatic Tool Changers | Technical Specifications | Dimensions



### Specification:

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

Cylinder Bore:  $\varnothing 73\text{mm}$  [2.87in]

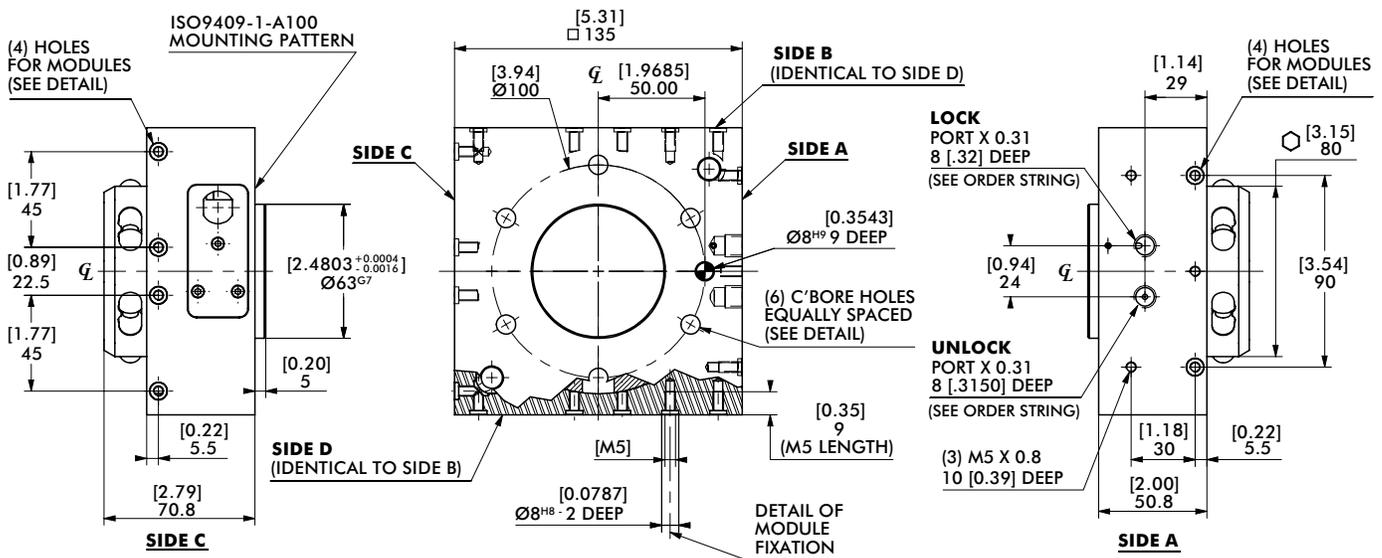
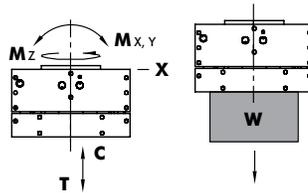
Displacement: 80.9 cm<sup>3</sup> [4.93in<sup>3</sup>]

### Loading Capacity:

Max. Tensile **T**: 2670 N [600 lb]

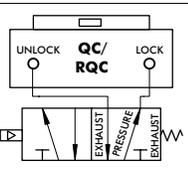
Max. Compressive **C**: 3560 N [800 lb]

Max. Moment (**M<sub>x</sub>/M<sub>y</sub>/M<sub>z</sub>**): 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

$\varnothing$   
DIMENSIONS ARE SYMMETRICAL ABOUT CENTERLINE

$\triangle$   
THIRD ANGLE PROJECTION

$\odot$   
ALL DOWEL HOLES ARE SF (SLIP FIT).  
LOCATIONAL TOLERANCE  
 $\pm 0.0005$ " OR  $\pm 0.013\text{MM}$

$\oplus$   
METRIC THREADS  
COURSE PITCH

IMPERIAL ([ IN. ])  
0.00 =  $\pm 0.01$   
0.000 =  $\pm 0.005$   
0.0000 =  $\pm 0.0005$

METRIC (MM)  
[0] =  $\pm 0.25$   
[0.0] =  $\pm 0.13$   
[0.00] =  $\pm 0.013$

# RTP-400 (TOOLING SIDE)

Automatic Tool Changers | Technical Specifications | Dimensions

## Specification:

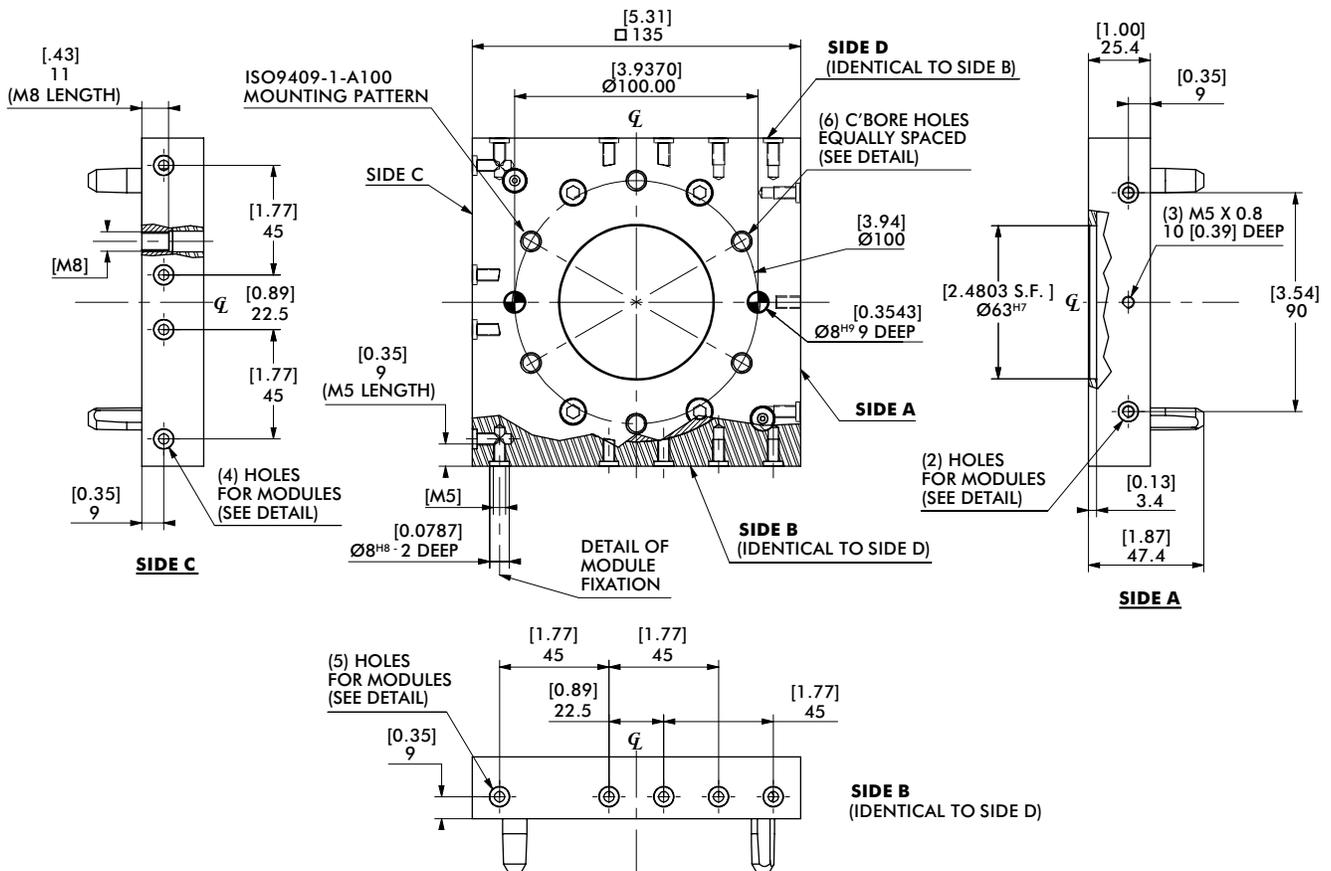
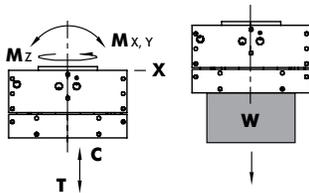
Max. Payload **W**: 180 Kg [400 lb]

## Loading Capacity:

Max. Tensile **T**: 2670 N [600 lb]

Max. Compressive **C**: 3560 N [800 lb]

Max. Moment (**M<sub>x</sub>/M<sub>y</sub>/M<sub>z</sub>**): 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). LOCAL TOLERANCE ±.0005" OR [±.013MM]

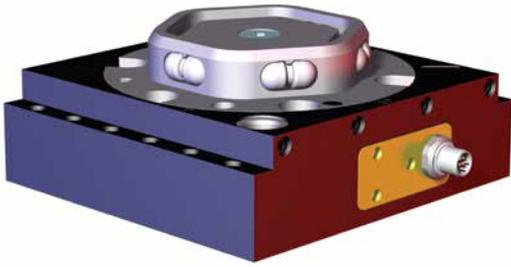
☉ METRIC THREADS COURSE PITCH

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

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

# 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:  
 Ø80mm [3.15in]  
 RQC-800 Displacement:  
 95.6 cm<sup>3</sup> [5.83in<sup>3</sup>]

### Loading Capacity:

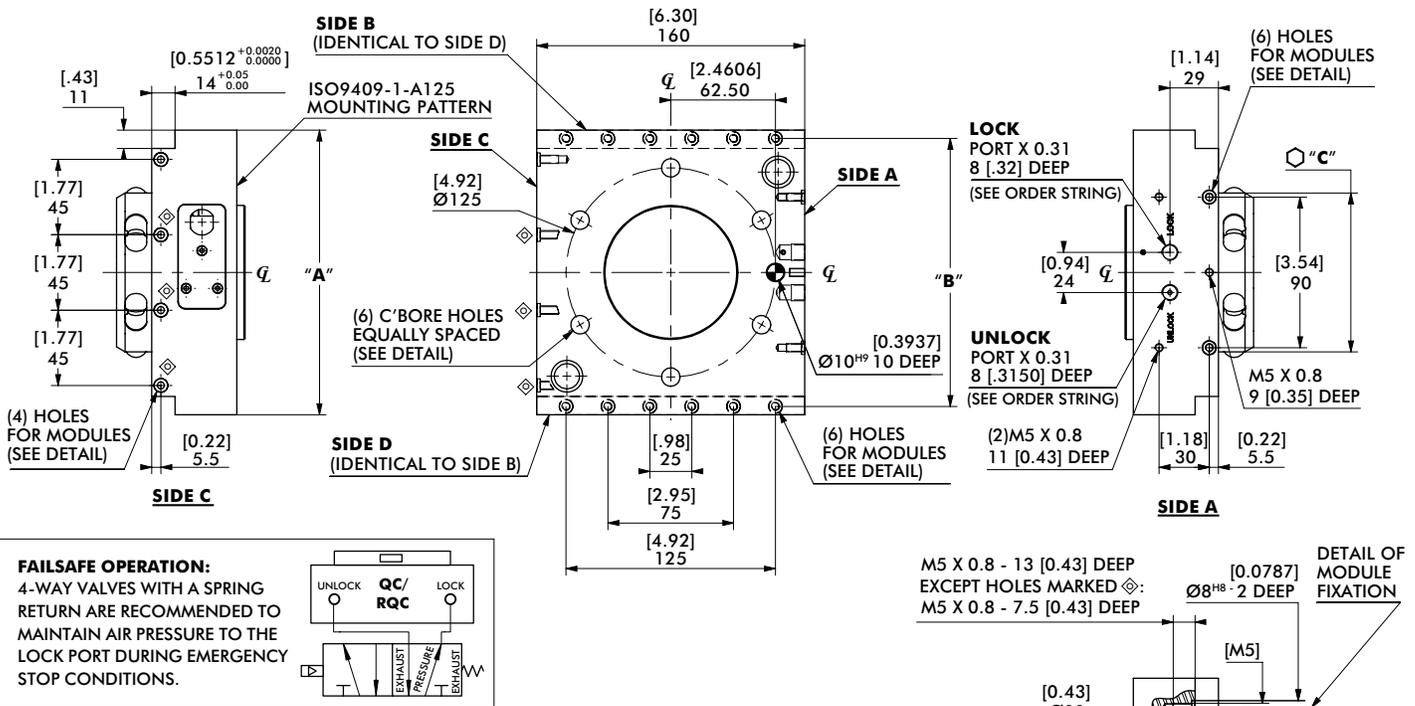
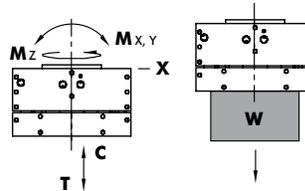
Max. Tensile **T**:  
 5340 N [1200 lb]  
 Max. Compressive **C**:  
 7120 N [1600 lb]  
 Max. Moment (**M<sub>x</sub>/M<sub>y</sub>/M<sub>z</sub>**):  
 2490 Nm [22000 in.-lb.]

### RQC-1200 Specification:

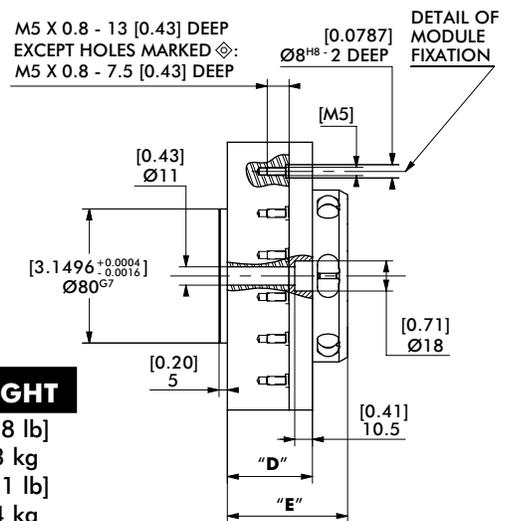
Max. Payload **W**: 550 Kg [1200 lb]  
 RQC-1200 Cyl. Bore:  
 Ø95mm [3.74in]  
 RQC-1200 Displacement:  
 153.7 cm<sup>3</sup> [9.38in<sup>3</sup>]

### Loading Capacity:

Max. Tensile **T**:  
 8000 N [1800 lb]  
 Max. Compressive **C**:  
 10700 N [2400 lb]  
 Max. Moment (**M<sub>x</sub>/M<sub>y</sub>/M<sub>z</sub>**):  
 3390 Nm [30000 in.-lb.]



MODEL NUMBER	"A"	"B"	"C"	"D"	"E"	WEIGHT
<b>RQC-800</b>	[6.69] 170.0	[6.2992] 160.0	[3.73] 94.75	[2.00] 50.8	[2.82] 71.75	[11.8 lb] 6.3 kg
<b>RQC-1200</b>	[7.01] 178.0	[6.6142] 168.0	[4.08] 103.6	[2.25] 57.15	[3.31] 84.15	[14.1 lb] 6.4 kg



# RTP-800, RTP-1200 (TOOLING SIDE)

Automatic Tool Changers | Technical Specifications | Dimensions

## 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 (**M<sub>x</sub>/M<sub>y</sub>/M<sub>z</sub>**):

2490 Nm [22000 in.-lb.]

## RTP-1200 Specification:

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

## Loading Capacity:

Max. Tensile **T**:

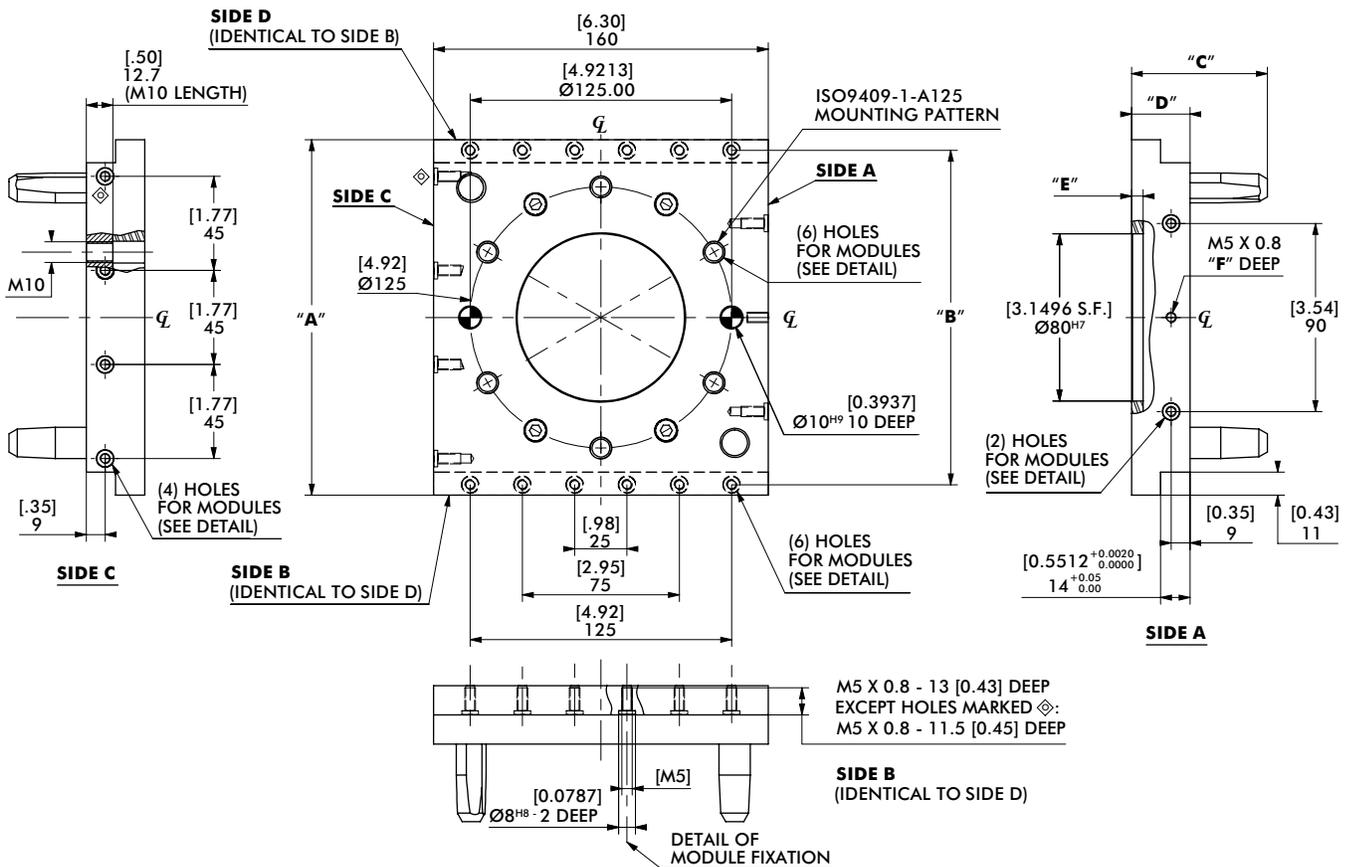
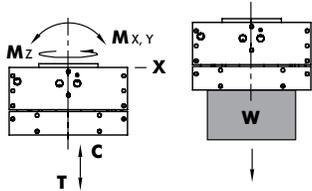
8000 N [1800 lb]

Max. Compressive **C**:

10700 N [2400 lb]

Max. Moment (**M<sub>x</sub>/M<sub>y</sub>/M<sub>z</sub>**):

3390 Nm [30000 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 ±.0005" OR [±.013MM]

Ⓢ METRIC THREADS COURSE PITCH

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

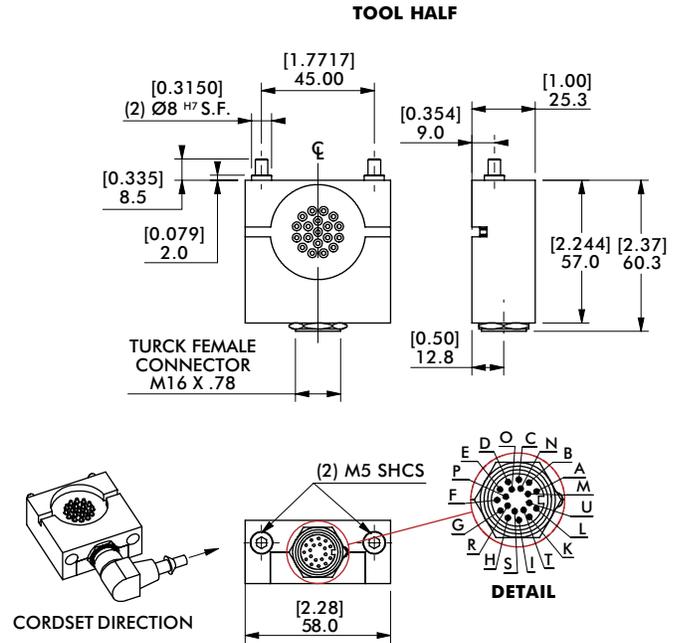
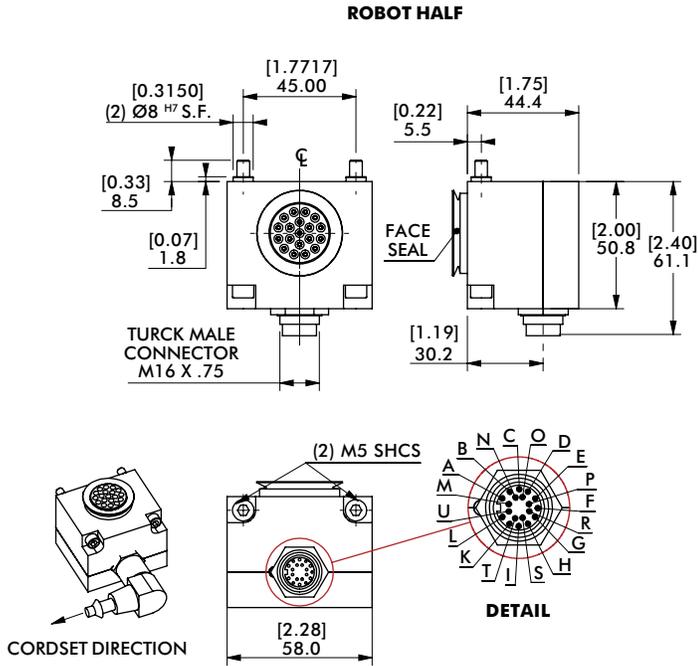
METRIC (MM)  
[0] = [±.25]  
[0.0] = [±.13]  
[0.00] = [±.013]

MODEL NUMBER	"A"	"B"	"C"	"D"	"E"	"F"	WEIGHT
RTP-800	[6.69] 170.0	[6.2992] 160.0	[2.56] 64.94	[1.10] 27.94	[0.22] 5.5	[0.39] 10.0	[4.00 lb] 1.8 kg
RTP-1200	[7.01] 178	[6.6142] 168.0	[2.71] 68.75	[1.25] 31.75	[0.13] 3.25	[0.30] 7.5	[2.90 lb] 1.32 kg

# RQC/RTP SERIES

## Automatic Tool Changers | Technical Specifications | Dimensions

### 19 Pin Module 3 Amp - 48 VDC

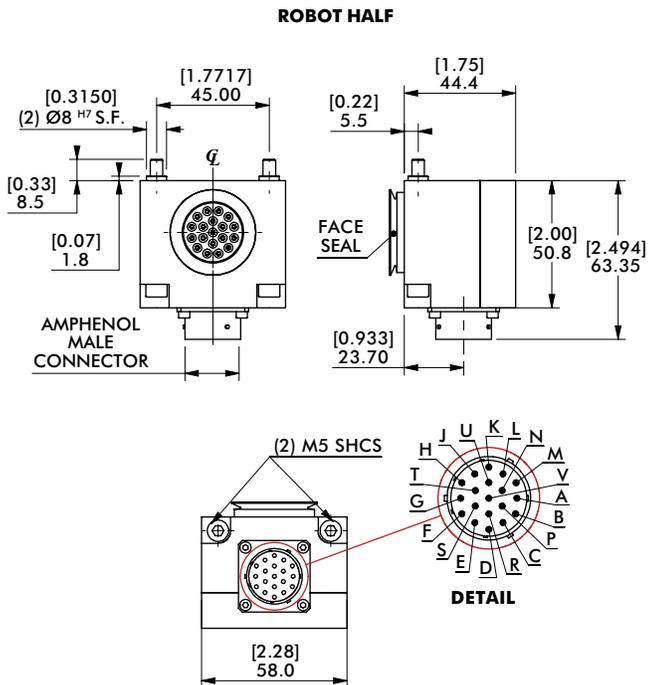


**MODULE REPLACEMENT** **ROBOT SIDE**  
**E19** **KE19-RQC**

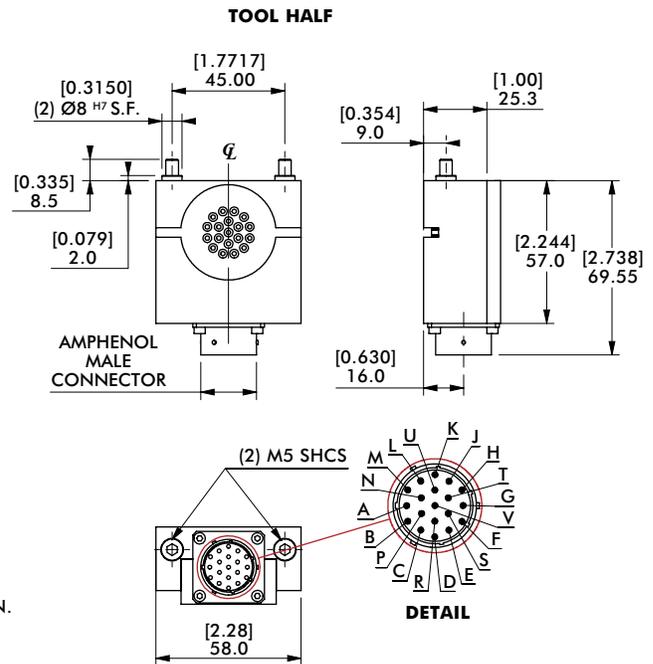
**Module kits above include:**  
90° Plug Support (without cable),  
indexing sleeves and hardware.

**MODULE REPLACEMENT** **TOOL SIDE**  
**E19** **KE19-RTP**

### 19 Pin Module 5 Amp - 120 VDC



USER  
90°  
PLUG  
NOT  
SHOWN.

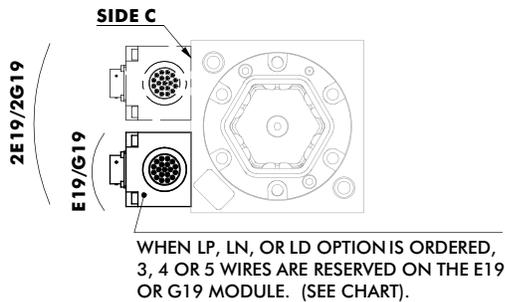


**MODULE REPLACEMENT** **ROBOT SIDE**  
**G19** **KG19-RQC**

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

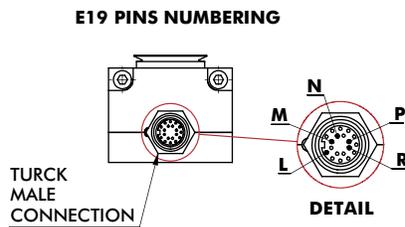
**MODULE REPLACEMENT** **TOOL SIDE**  
**G19** **KG19-RTP**

### Modules Connecting with Latch/Unlatch Sensors

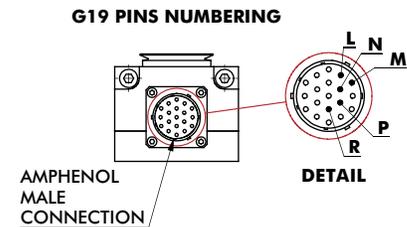


Reserved Pin Numbers on E19/G19		
Sensor/Switch	RQC 400	RQC 800 & 1200
LP or LN (Inductive)	R: + 10 - 30 VDC	R: + 10 - 30 VDC
	L: Common	L: Common
	M: Lock	M: Lock
	N: Unlock	N: Unlock
LD (Dry Contact)	R: + 10 - 30 VDC	R: + 10 - 30 VDC
	L: Common	L: Common
	M: Lock	M: Lock
	N: Unlock	N: Unlock
		P: Ready to Couple

### Pin Numbering

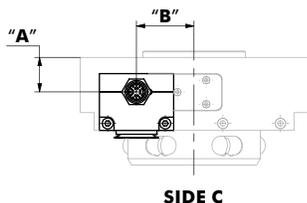


Wire Color on CABL-029 Cordset	
Contact	Wire Color
R	Red
L	Brown
M	Orange
N	Grey/Brown
P	White



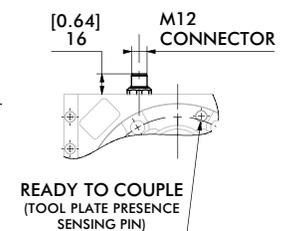
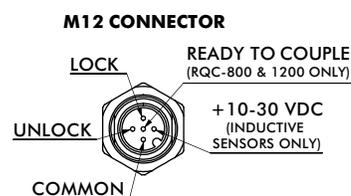
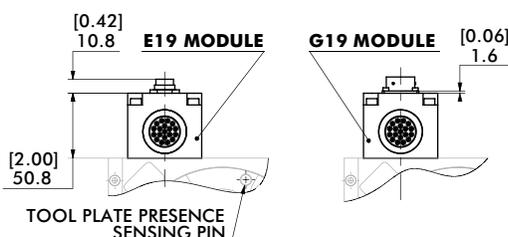
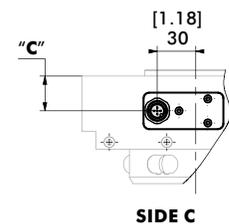
### Lock/Unlock Tool Plate Presence Sensing Options (with inductive Sensors and Dry Contact Switches)

SENSING ACCESSORIES LP, LN, OR LD USING 19 PINS MODULES E19 OR G19 (REQUIRES 3, 4, OR 5 OF THE 19 PINS) (AS SHOWN ABOVE)



MODEL	"A"	"B"	"C"
RQC-400	[0.811] 20.6	[1.329] 33.7	[0.685] 17.4
RQC-800	[0.811] 20.6	[1.772] 45.0	[0.821] 20.8
RQC-1200	[1.061] 26.9	[1.772] 45.0	[1.071] 27.2

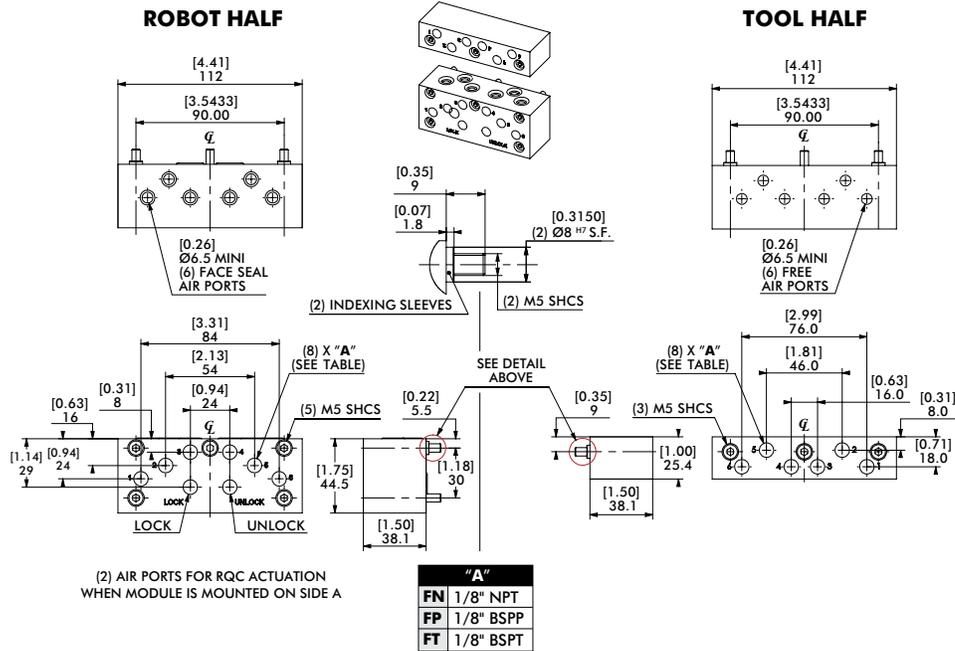
SENSING ACCESSORIES CP, CN, OR CD BY M12 CONNECTOR (3, 4, OR 5 PINS) (SEE BELOW)



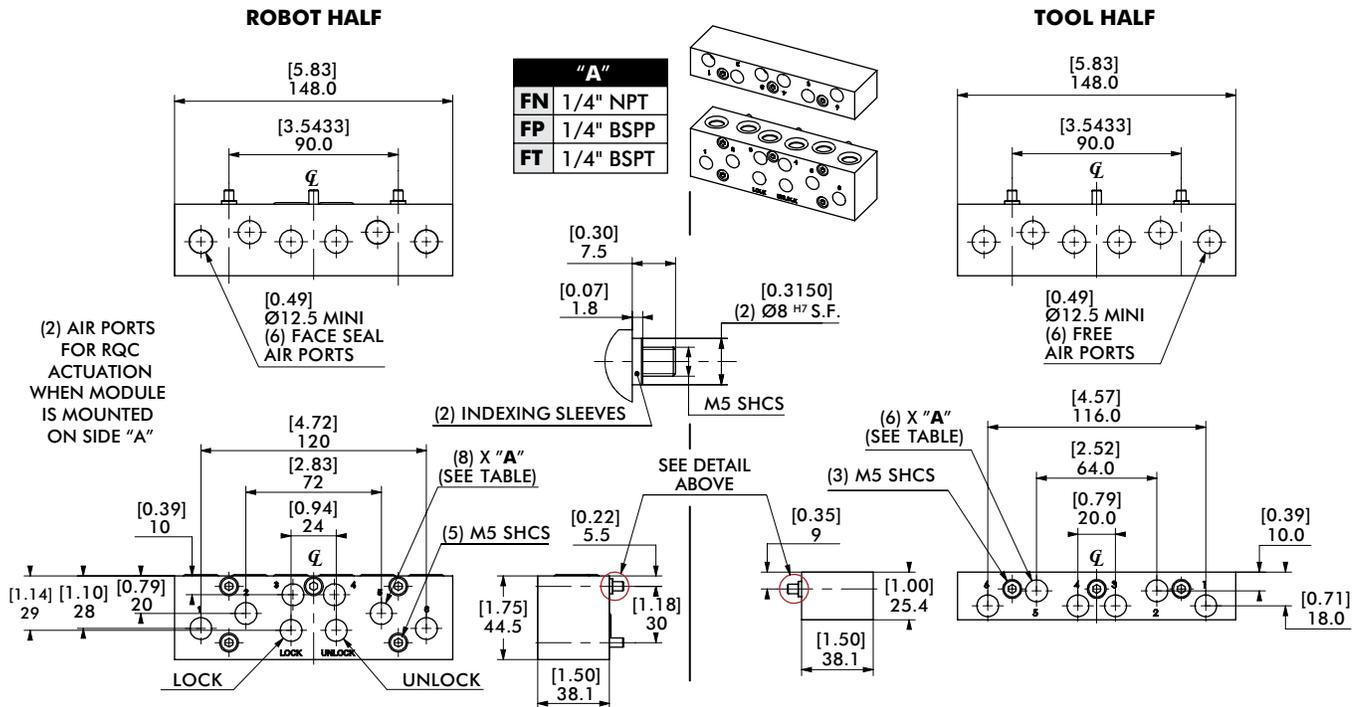
# RQC/RTP SERIES

## Automatic Tool Changers | Technical Specifications | Dimensions

### 6 x 1/8" Air Ports Module | Face Seal (for RQC/RTP-400)



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

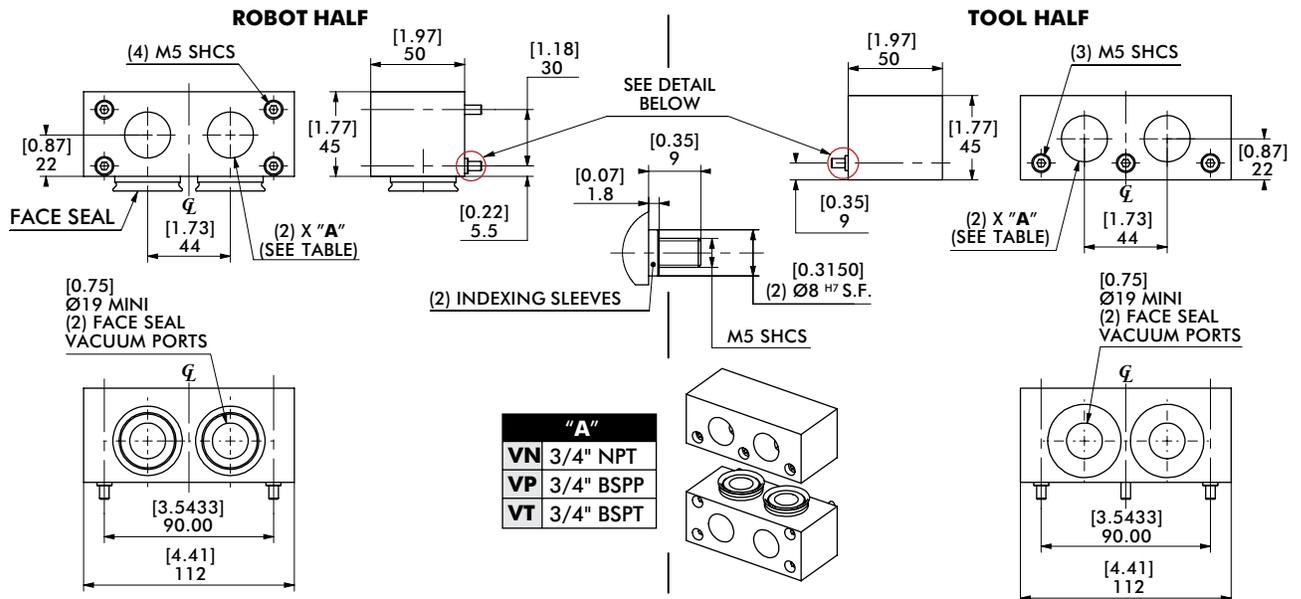


MODULE REPLACEMENT	FOR RQC-400	FOR RQC 800/1200
FN	KFN-RQC200	KFN-RQC800
FP	KFP-RQC200	KFP-RQC800
FT	KFT-RQC200	KFT-RQC800

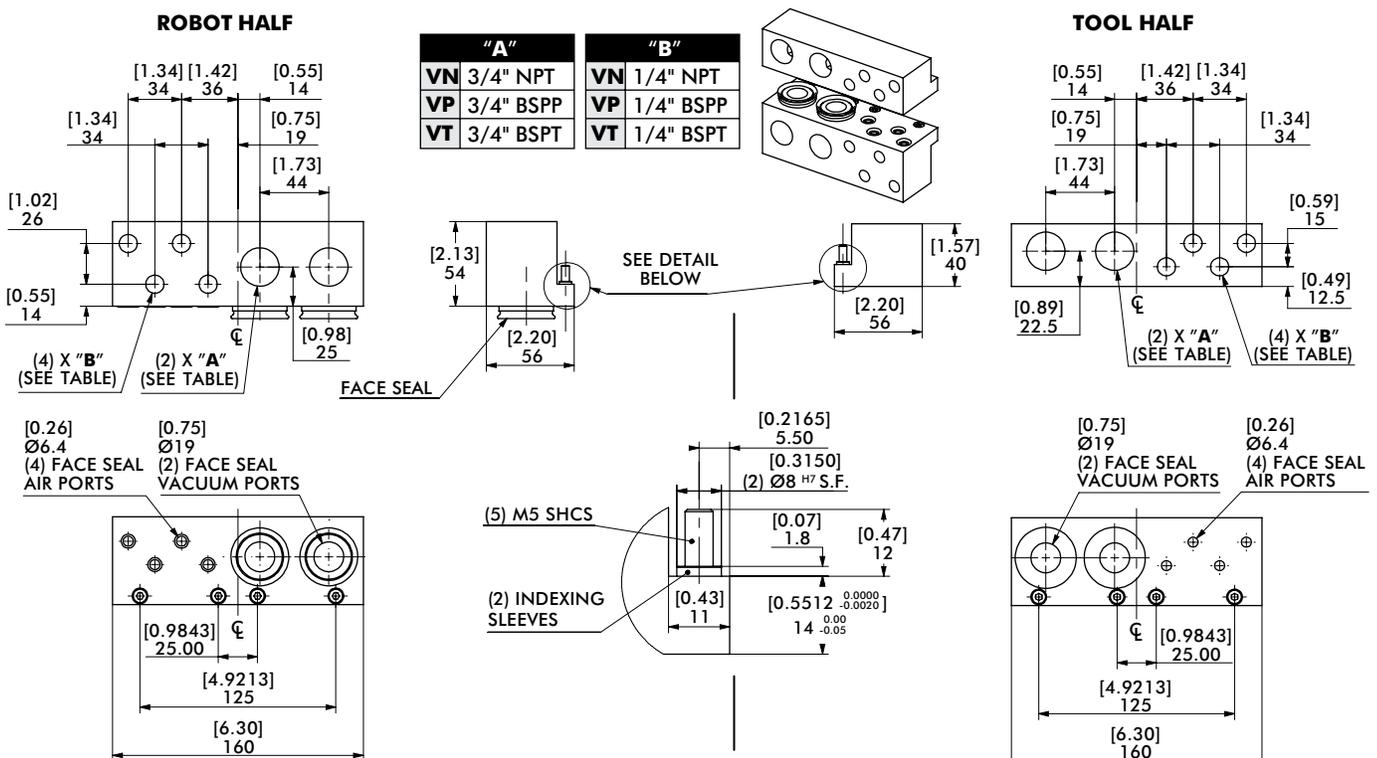
MODULE REPLACEMENT	FOR RTP-400	FOR RTP 800/1200
FN	KFN-RTP200	KFN-RTP800
FP	KFP-RTP200	KFP-RTP800
FT	KFT-RTP200	KFT-RTP800

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

### 2 x 3/4" Vacuum Ports Module | Face Seal (for RQC/RTP-400)



### 2 x 3/4" Vacuum Ports Module | Face Seal (for RQC/RTP-800 & RQC/RTP-1200)



MODULE REPLACEMENT	FOR RQC-400	FOR RQC 800/1200
VN	KVN-RQC200	KVN-RQC800
VP	KVP-RQC200	KVP-RQC800
VT	KVT-RQC200	KVT-RQC800

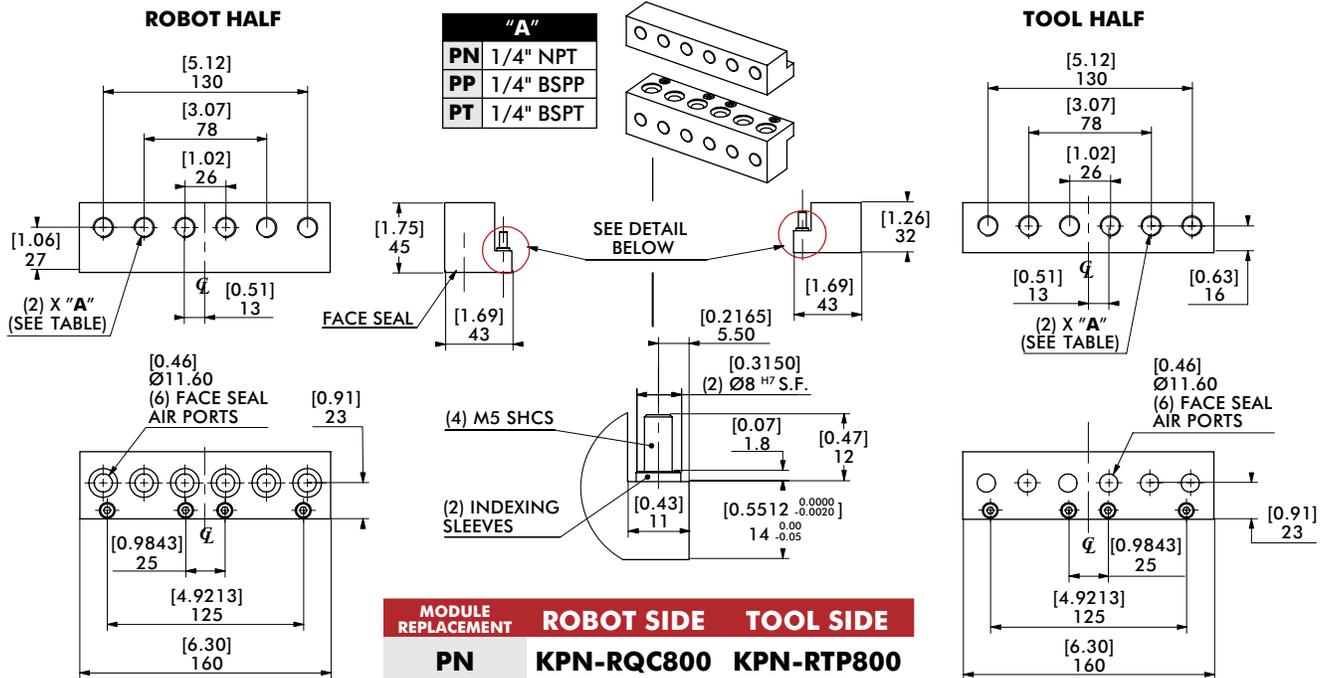
MODULE REPLACEMENT	FOR RTP-400	FOR RTP 800/1200
VN	KVN-RTP200	KVN-RTP800
VP	KVP-RTP200	KVP-RTP800
VT	KVT-RTP200	KVT-RTP800

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

# RQC/RTP SERIES

## Automatic Tool Changers | Technical Specifications | Dimensions

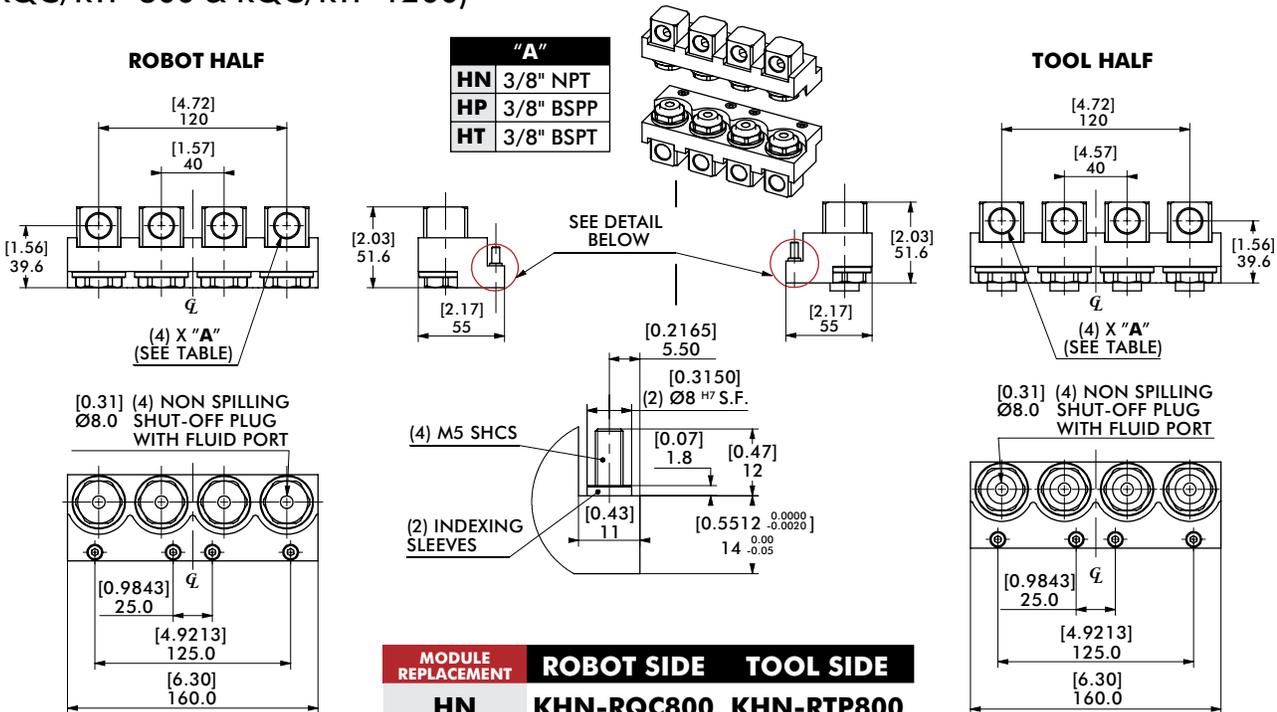
### 6 x 1/4" Air Ports Module | Face Seal (for RQC/RTP-800 & RQC/RTP-1200)



MODULE REPLACEMENT	ROBOT SIDE	TOOL SIDE
PN	KPN-RQC800	KPN-RTP800
PP	KPP-RQC800	KPP-RTP800
PT	KPT-RQC800	KPT-RTP800

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

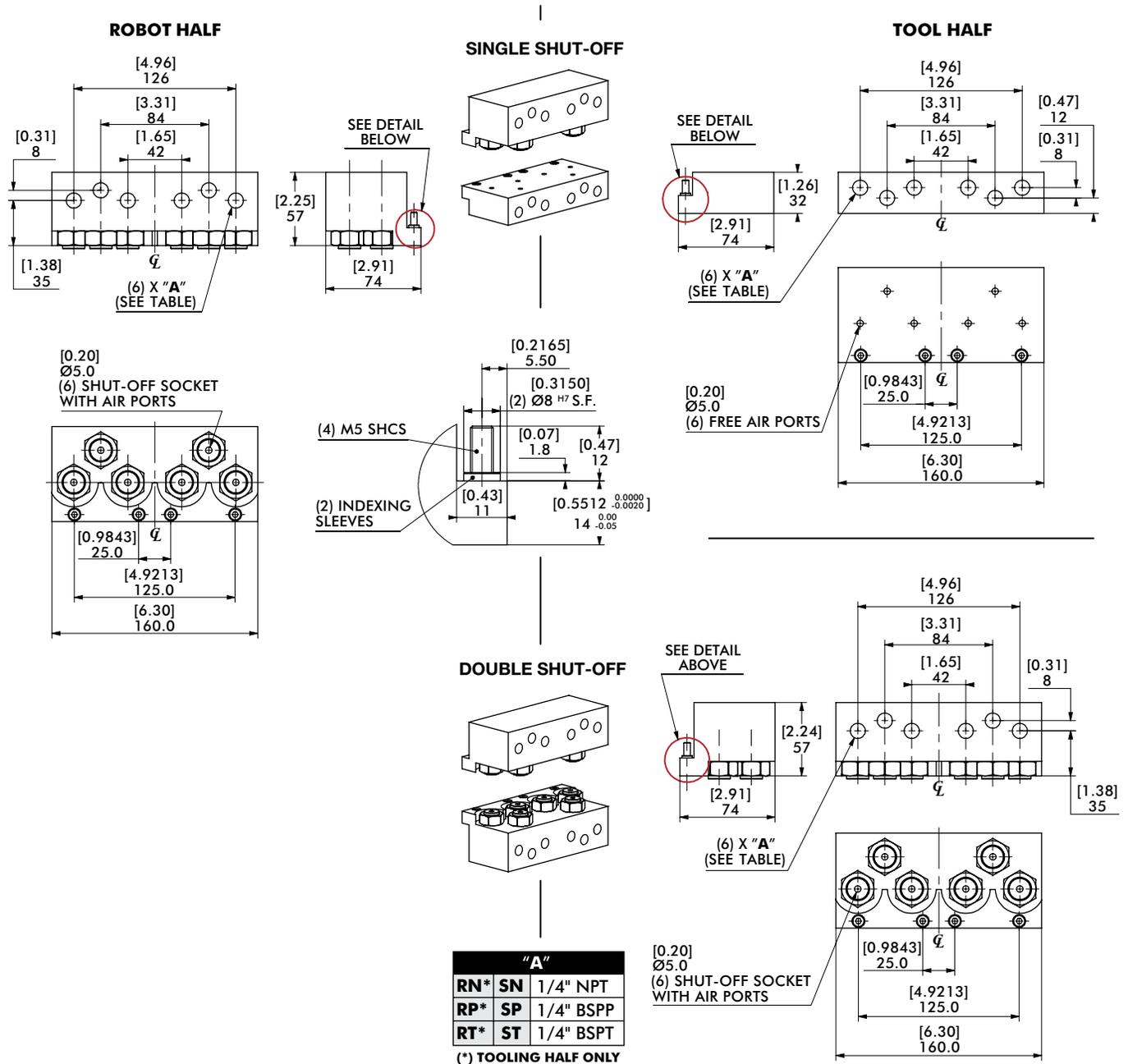
### 4 x 3/8" Fluid Ports Module | Non Spilling | Double Shut-Off (for RQC/RTP-800 & RQC/RTP-1200)



MODULE REPLACEMENT	ROBOT SIDE	TOOL SIDE
HN	KHN-RQC800	KHN-RTP800
HP	KHP-RQC800	KHP-RTP800
HT	KHT-RQC800	KHT-RTP800

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

6 x 1/4" Air Ports Module | Single Shut-Off Flat Face (RN/RP/RT)  
 or 6 x 1/4" Air Ports Module | Double Shut-Off Flat Face (SN/SP/ST)  
 (for RQC/RTP-800 & RQC/RTP-1200)



DOUBLE SHUT-OFF		
MODULE REPLACEMENT	ROBOT SIDE	TOOL SIDE
SN	KSN-RQC800	KSN-RTP800
SP	KSP-RQC800	KSP-RTP800
ST	KST-RQC800	KST-RTP800

SINGLE SHUT-OFF	
MODULE REPLACEMENT	TOOL SIDE
RN	KRN-RTP800
RP	KRP-RTP800
RT	KRT-RTP800

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

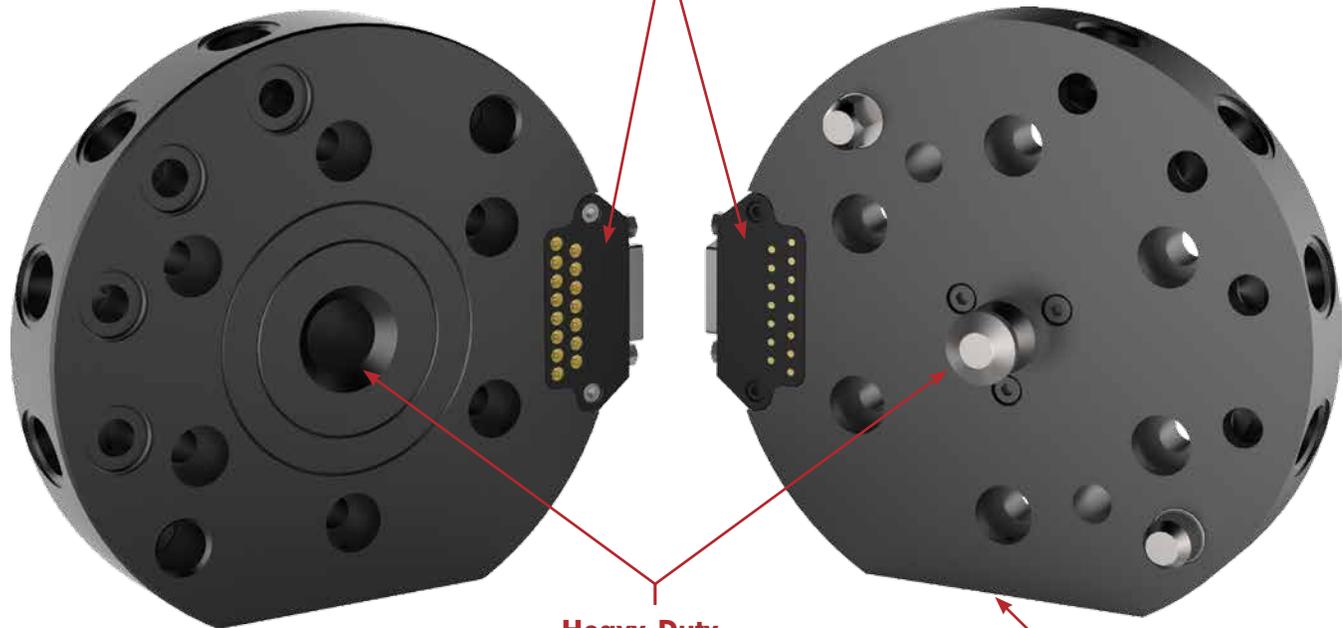
### Self Lubricating Seals

Self lubricating dynamic seals

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

Robot Side

Tool Side



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

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

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

## Mounting Information

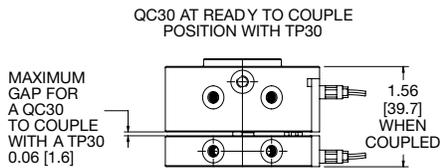


**Robot Half Adaptor**  
has counterbored holes for mounting and two dowel pins for hole location (size 30 has pilot boss)



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

**Combined Weight:** 0.34 Kg [0.75 lbs]  
**Max. Payload:** 13.6 Kg [30 lbs]  
**Max. Moment:** 22.6 Nm [200 in-lbs]

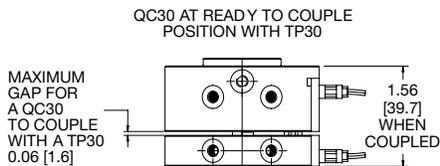


### QC-30/TP-30



**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]

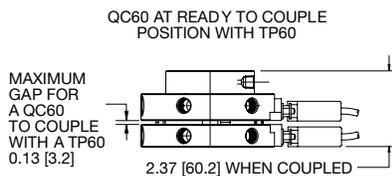


### QC-60/TP-60



**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]

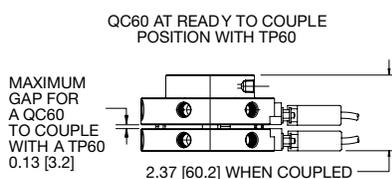


### QC-60-10P/TP-60-10P



**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

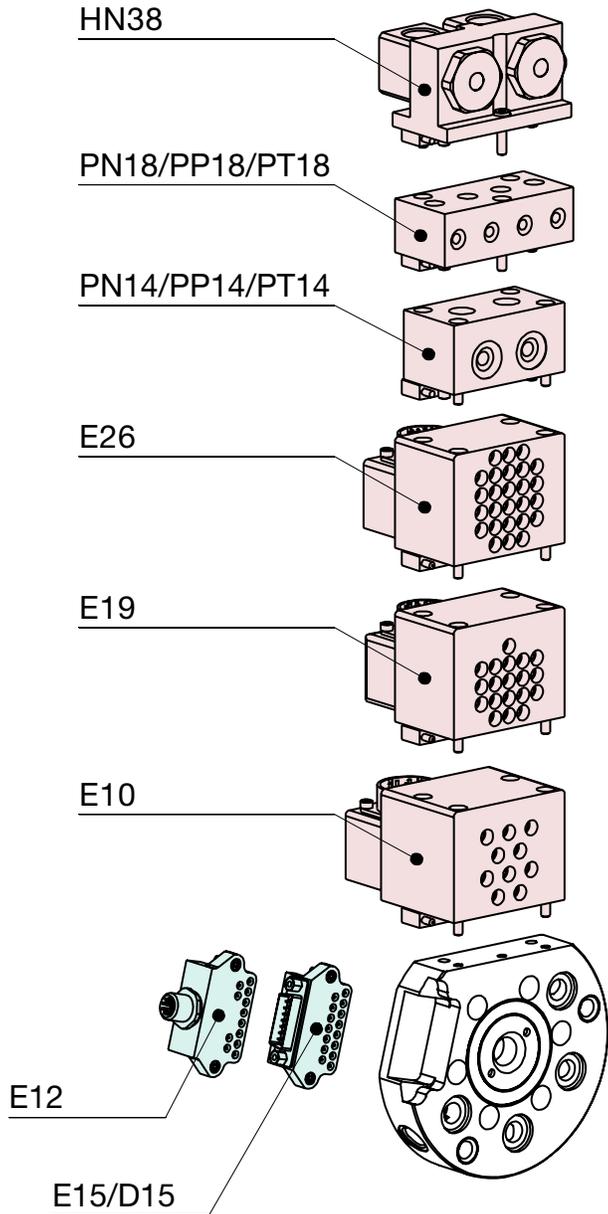


**QC-150** **TP-150**  
**Robot Adaptor Module** **Tool Adaptor Module**

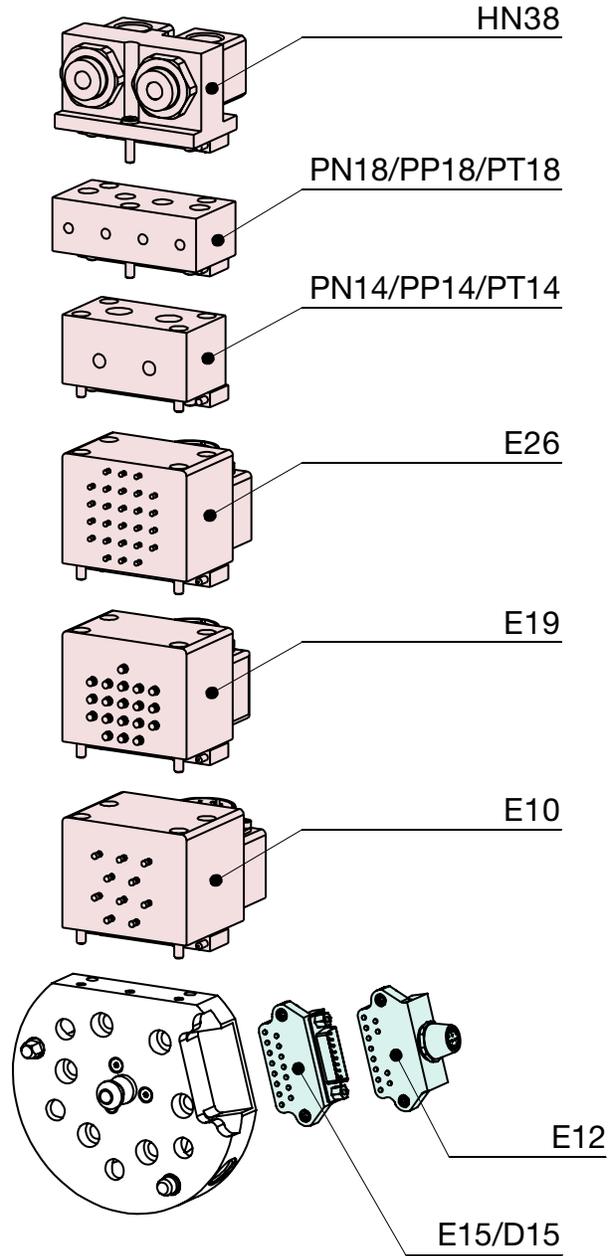
# QC/TP SERIES

## Automatic Tool Changers | Module Usage Illustrations

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



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





Base Model	Model Size	Port Options	I/O Block	Optional Modules	10-Port (for QC/TP-60 only)
<b>QC</b>	<b>60</b>	<b>M</b>	<b>E15</b>	<b>PN18</b>	<b>10P</b>
<b>"QC"</b> Robot Side Adaptor Module  <b>"TP"</b> Tool Side Adaptor Module	<b>"30"</b> 13.6kg [30 lb] Max. Payload  <b>"60"</b> 27kg [60 lb] Max. Payload  <b>"150"</b> 68kg [150 lb] Max. Payload	<b>"Blank"</b> NPT Port  <b>"M"</b> BSPP Port  <b>"A"</b> BSPT Port	<b>"0"</b> No I/O Block  <b>"E15"</b> 15-pin, Sub-D  <b>"D15"</b> (2) x E15 (QC/TP-30 only)  <b>"E12"</b> 12-pin, Turck	<b>Optional modules</b> below are used with QC/TP-60 and QC/TP-150 only  <b>"E26"</b> 26-PIN 5A Module <b>"E19*"</b> 19-PIN 5A Module <b>"E10"</b> 10-PIN 13A Module <b>"PN18"</b> 4 X 1/8" NPT Pneumatic Port <b>"PP18"</b> 4 X 1/8" BSPP Pneumatic Port <b>"PT18"</b> 4 X 1/8" BSPT Pneumatic Port <b>"PN14"</b> 2 X 1/4" NPT Pneumatic Port <b>"PP14"</b> 2 X 1/4" BSPP Pneumatic Port <b>"PT14"</b> 4 X 1/4" BSPT Pneumatic Port <b>"HN38"</b> 2 X 3/8" NPT Fluid Port	

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

### 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)

# QC-30 (ROBOT SIDE)

## Automatic Tool Changers | Technical Specifications | Dimensions

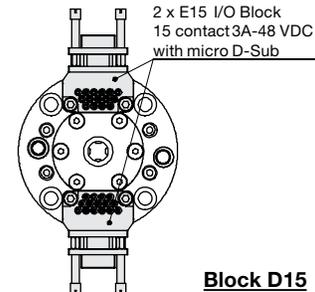
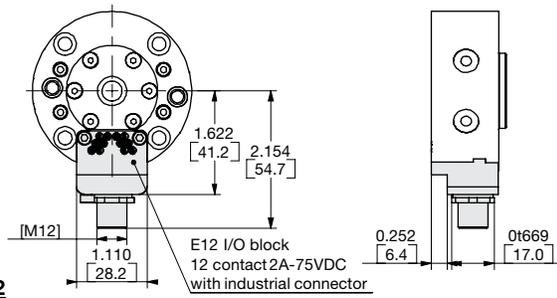
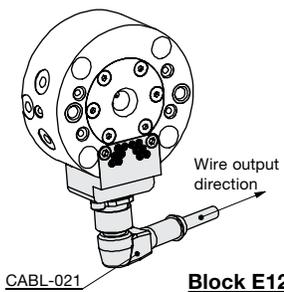
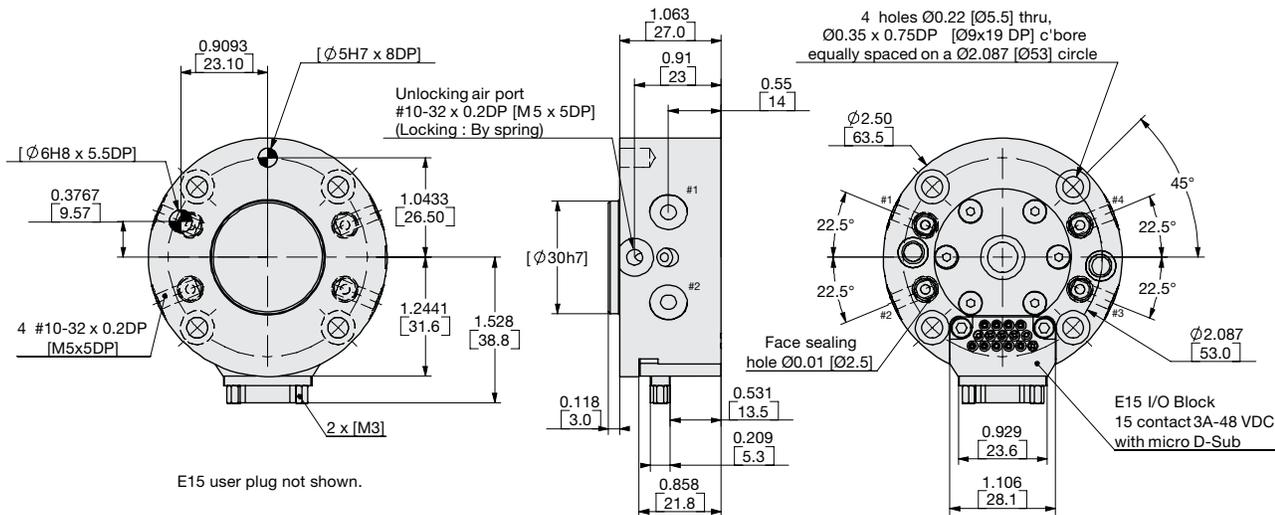
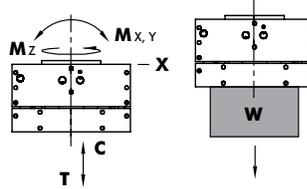


### QC-30 Specification:

- 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  $\varnothing$ : 25.4 mm [1.00 in]
- Displacement: 3.9 cm<sup>3</sup> [0.24 in<sup>3</sup>]

### Loading Capacity

- Max. Tensile **T**: 311 N [70 lb]
- Max. Compressive **C**: 445 N [100 lb]
- Max. Moment (**M<sub>x</sub>/M<sub>y</sub>/M<sub>z</sub>**): 22.6 Nm [200 in.-lb.]



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

$\varnothing$   
DIMENSIONS ARE SYMMETRICAL ABOUT CENTERLINE

$\triangle$   
THIRD ANGLE PROJECTION

$\oplus$   
ALL DOWEL HOLES ARE SF (SLIP FIT).  
LOCATIONAL TOLERANCE  $\pm .0005^\circ$  OR  $\pm .013$ MM

$\oplus$   
METRIC THREADS  
COURSE PITCH

IMPERIAL ( [ IN.] )  
0.00 =  $\pm .01$   
0.000 =  $\pm .005$   
0.0000 =  $\pm .0005$

METRIC (MM)  
[0] =  $\pm .25$   
[0.0] =  $\pm .13$   
[0.00] =  $\pm .013$

# TP-30 (TOOLING SIDE)

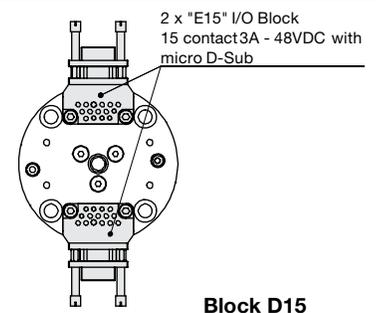
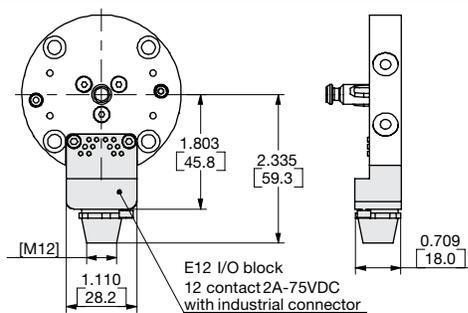
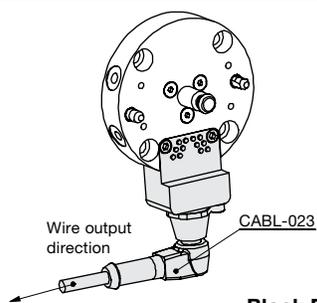
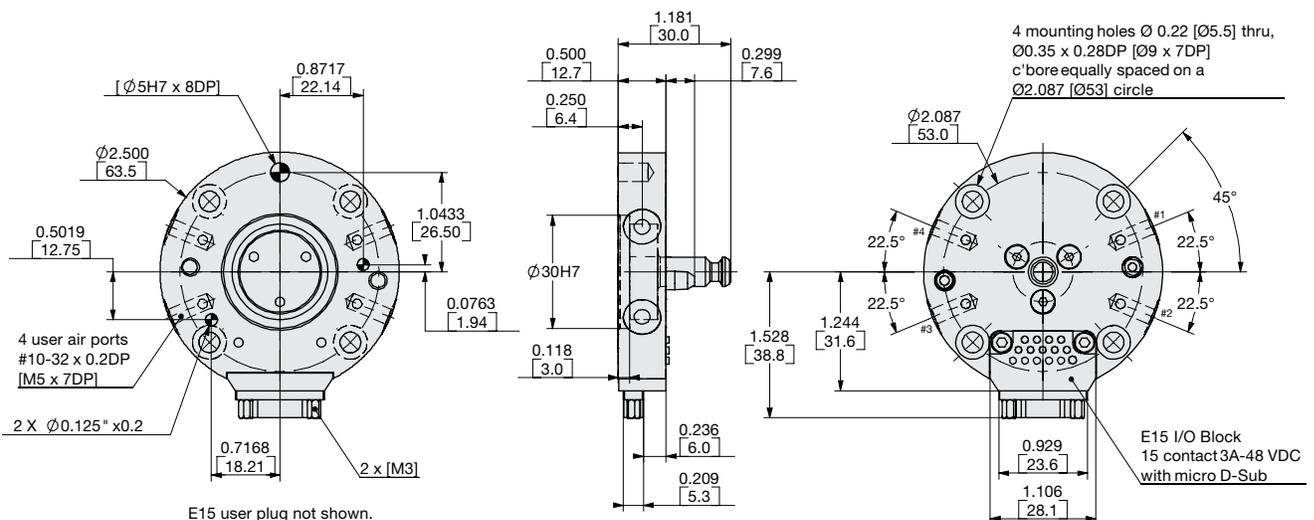
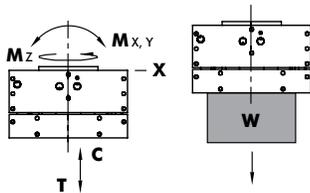
## Automatic Tool Changers | Technical Specifications | Dimensions

### 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 **T**: 311 N [70 lb]
- Max. Compressive **C**: 445 N [100 lb]
- Max. Moment (**M<sub>x</sub>/M<sub>y</sub>/M<sub>z</sub>**): 22.6 Nm [200 in.-lb.]



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

$\varnothing$   
DIMENSIONS ARE SYMMETRICAL ABOUT CENTERLINE

$\triangle$   
THIRD ANGLE PROJECTION

$\oplus$   
ALL DOWEL HOLES ARE SF (SLIP FIT).  
LOCATIONAL TOLERANCE  $\pm .0005$ " OR  $\pm .013$ MM

$\oplus$   
METRIC THREADS  
COURSE PITCH

IMPERIAL ([ IN.])  
0.00 =  $\pm .01$   
0.000 =  $\pm .005$   
0.0000 =  $\pm .0005$

METRIC (MM)  
[0] =  $\pm .25$   
[0.0] =  $\pm .13$   
[0.00] =  $\pm .013$

# QC-60 (ROBOT SIDE)

## Automatic Tool Changers | Technical Specifications | Dimensions

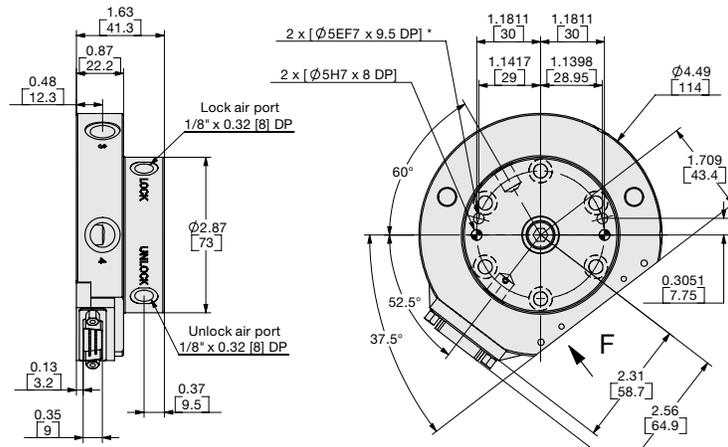
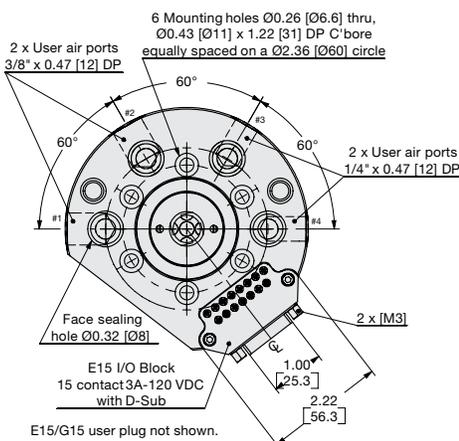
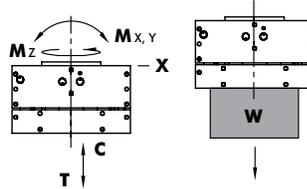


### QC-60 Specification:

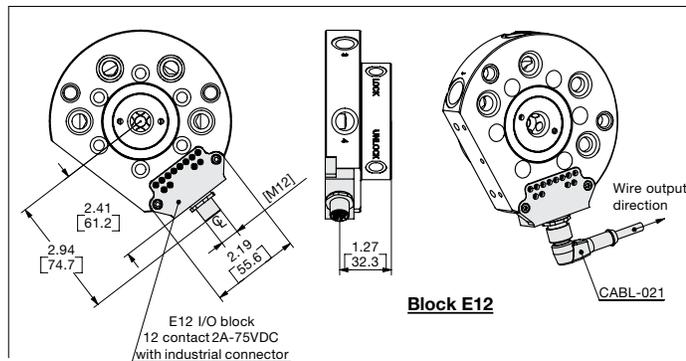
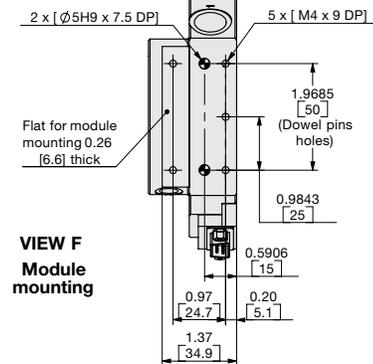
- Max. Payload: 27 Kg [60 lbs]
- Max. Moment Rating: 88.1 Nm [780 in.-lbs]
- Weight of QC Unit only: 0.86 Kg [1.9 lbs]
- Weight of Coupled Units: 1.27 Kg [2.8 lbs]
- Bore Ø: 44.5 mm [1.75 in]
- Displacement: 9.2 cm<sup>3</sup> [0.56 in<sup>3</sup>]

### Loading Capacity

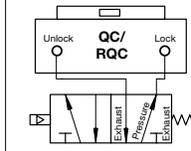
- Max. Tensile **T**: 445 N [100 lb]
- Max. Compressive **C**: 534 N [120 lb]
- Max. Moment (**M<sub>x</sub>/M<sub>y</sub>/M<sub>z</sub>**): 88.1 Nm [780 in.-lb.]



\* : Not preferred for new installation



**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 ARE SYMMETRICAL ABOUT CENTERLINE

THIRD ANGLE PROJECTION

ALL DOWEL HOLES ARE SF (SLIP FIT). LOCAL TOLERANCE ±.0005" OR ±.013MM

METRIC THREADS COURSE PITCH

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

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

# TP-60 (TOOLING SIDE)

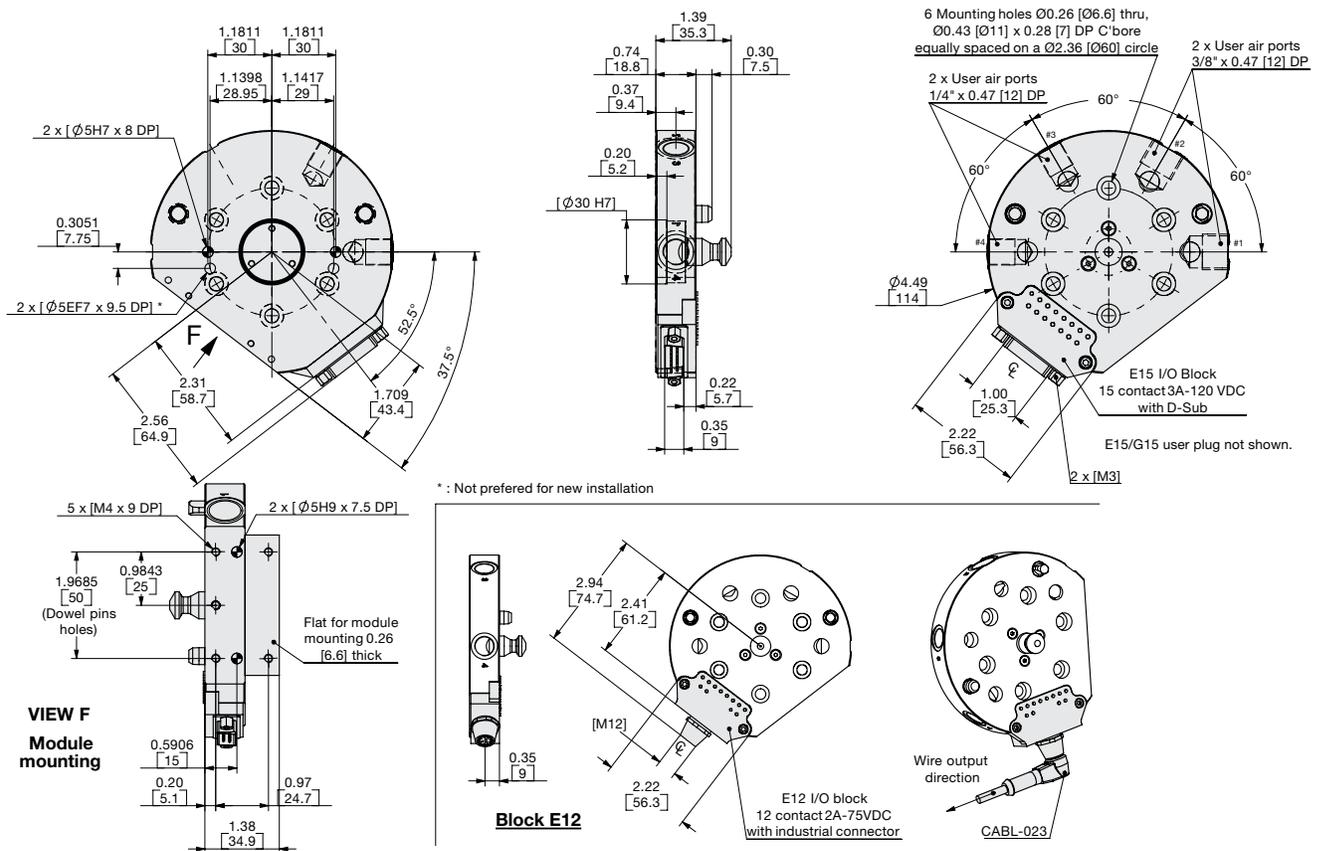
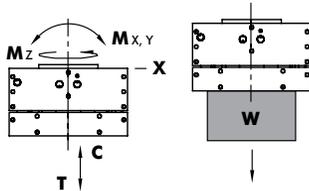
## Automatic Tool Changers | Technical Specifications | Dimensions

### 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 (**M<sub>x</sub>/M<sub>y</sub>/M<sub>z</sub>**): 88.1 Nm [780 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 ±.0005" OR [±.013MM]

METRIC THREADS COURSE PITCH

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

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

# QC-60-10P (ROBOT SIDE)

## Automatic Tool Changers | Technical Specifications | Dimensions

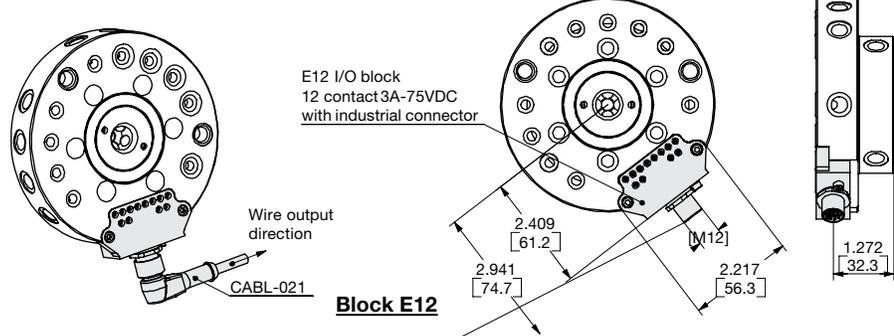
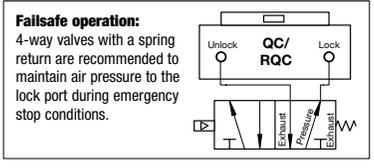
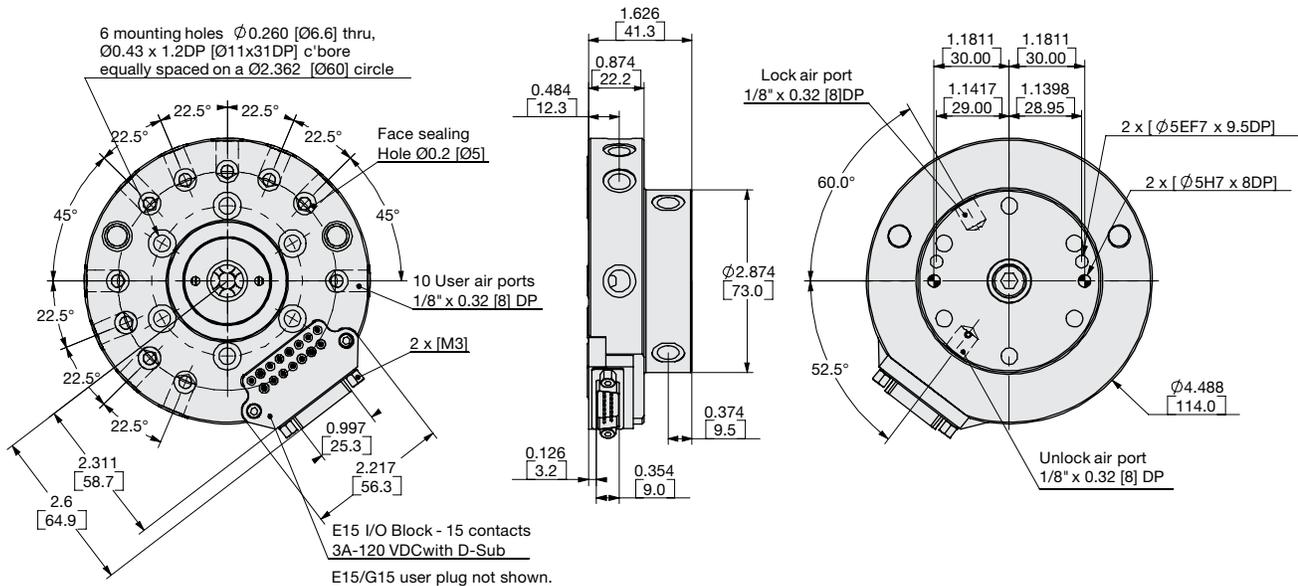
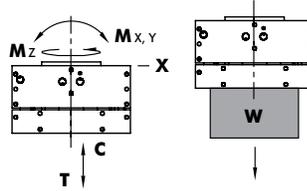


### QC-60-10P Specification:

- 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  $\varnothing$ : 44.5 mm [1.75 in]
- Displacement: 9.2 cm<sup>3</sup> [0.56 in<sup>3</sup>]

### Loading Capacity

- Max. Tensile **T**: 445 N [100 lb]
- Max. Compressive **C**: 534 N [120 lb]
- Max. Moment (**M<sub>x</sub>/M<sub>y</sub>/M<sub>z</sub>**): 88.1 Nm [780 in.-lb.]



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

IMPERIAL ( [ IN. ] )	METRIC ( MM )
0.00 = ± .01	[0] = [± .25]
0.000 = ± .005	[0.0] = [± .13]
0.0000 = ± .0005	[0.00] = [± .013]

$\varnothing$  DIMENSIONS ARE SYMMETRICAL ABOUT CENTERLINE  
 THIRD ANGLE PROJECTION  
 ALL DOWEL HOLES ARE SF (SLIP FIT).  
 LOCAL TOLERANCE ±.0005" OR [±.013MM]  
 METRIC THREADS  
 COURSE PITCH

# TP-60-10P (TOOLING SIDE)

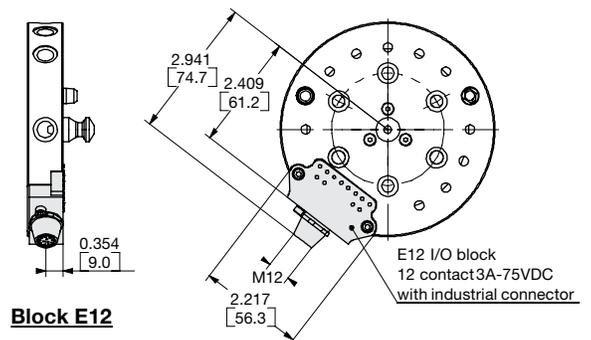
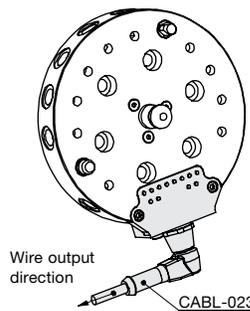
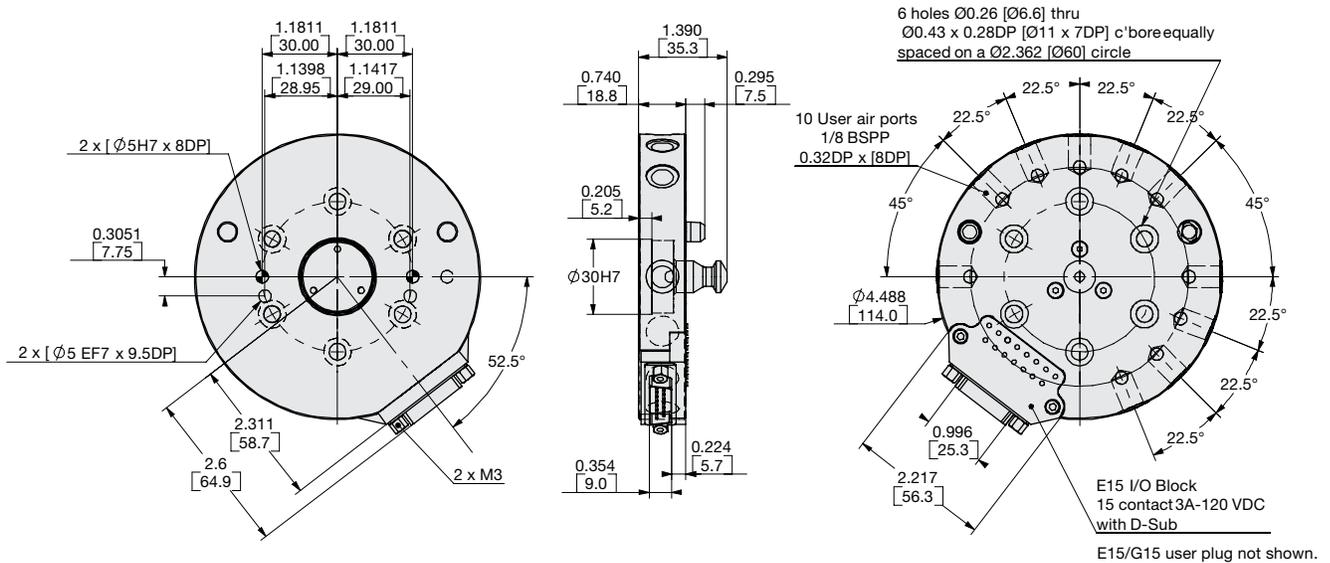
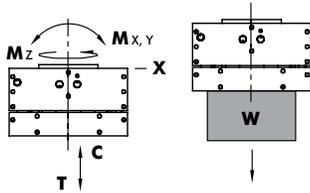
Automatic Tool Changers | Technical Specifications | Dimensions

## 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 (**M<sub>x</sub>/M<sub>y</sub>/M<sub>z</sub>**): 88.1 Nm [780 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  
±.0005" OR [±.013MM]

METRIC THREADS  
COURSE PITCH

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

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

# QC-150 (ROBOT SIDE)

## Automatic Tool Changers | Technical Specifications | Dimensions

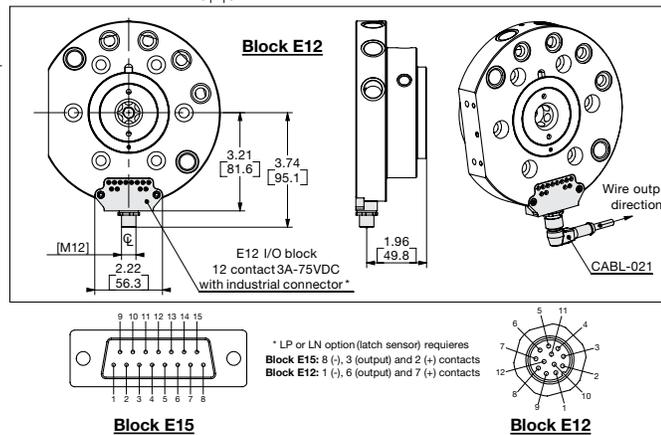
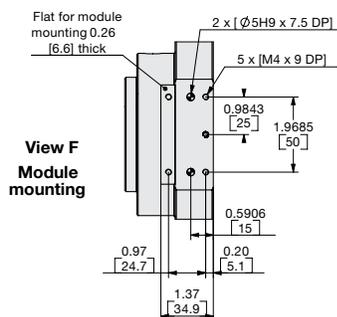
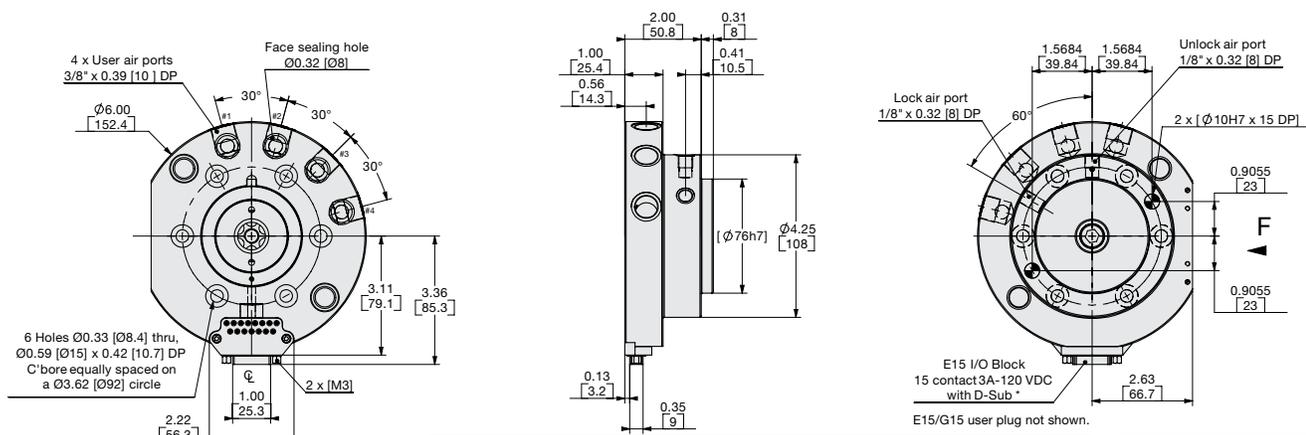
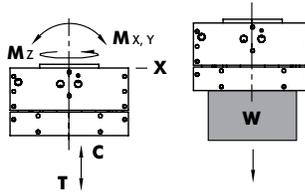


### QC-150 Specification:

- 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 cm<sup>3</sup> [1.55 in<sup>3</sup>]

### Loading Capacity

- Max. Tensile **T**: 890 N [200 lb]
- Max. Compressive **C**: 1334 N [300 lb]
- Max. Moment (**M<sub>x</sub>/M<sub>y</sub>/M<sub>z</sub>**): 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.

UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

⌀  
DIMENSIONS ARE SYMMETRICAL ABOUT CENTERLINE

THIRD ANGLE PROJECTION

ALL DOWEL HOLES ARE SF (SLIP FIT).  
 LOCAL TOLERANCE ±.0005" OR ±.013MM

METRIC THREADS  
 COURSE PITCH

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

METRIC (MM)  
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 [0.0] = [± .13]  
 [0.00] = [± .013]

# TP-150 (TOOLING SIDE)

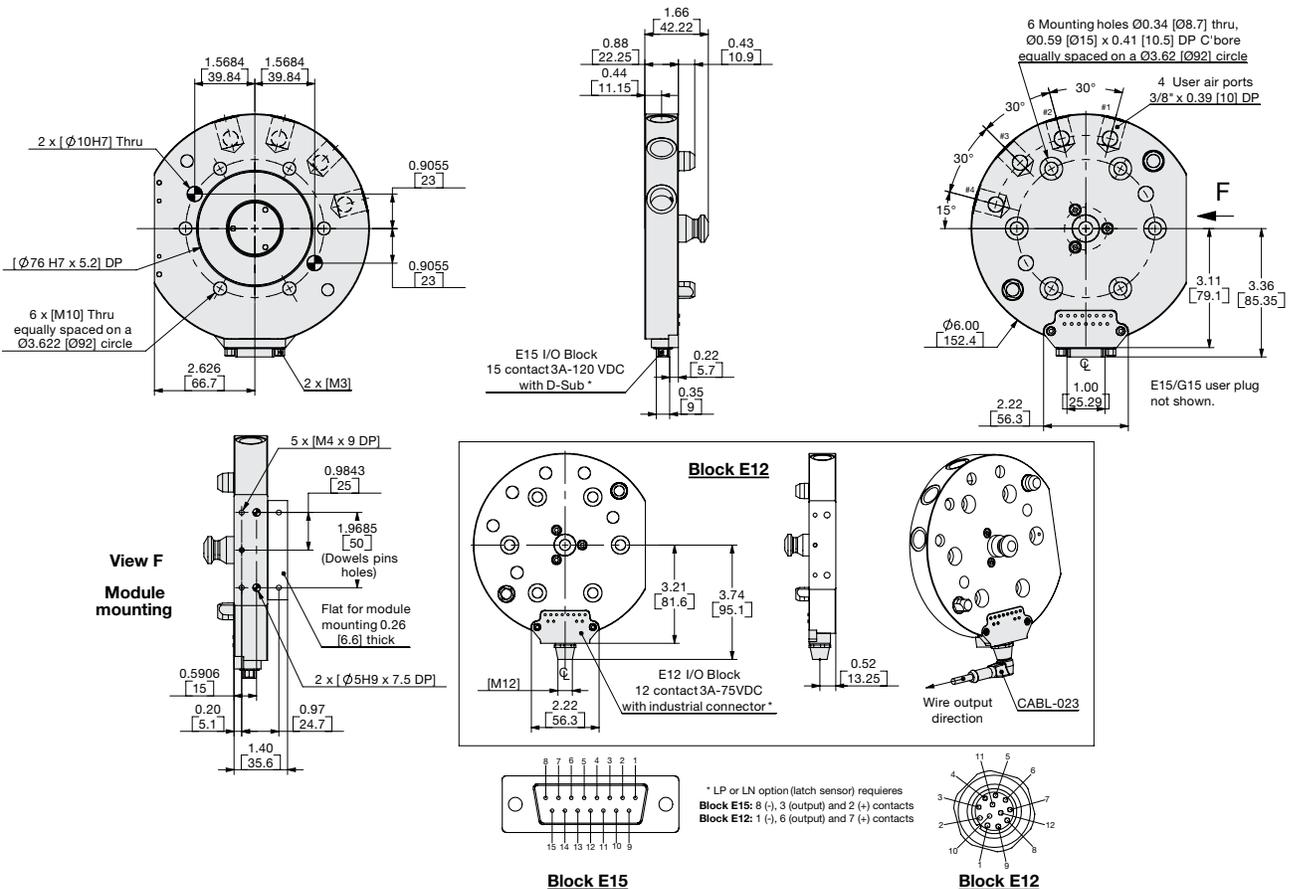
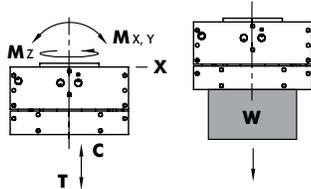
## Automatic Tool Changers | Technical Specifications | Dimensions

### 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 (**M<sub>x</sub>/M<sub>y</sub>/M<sub>z</sub>**): 214 Nm [1900 in.-lb.]

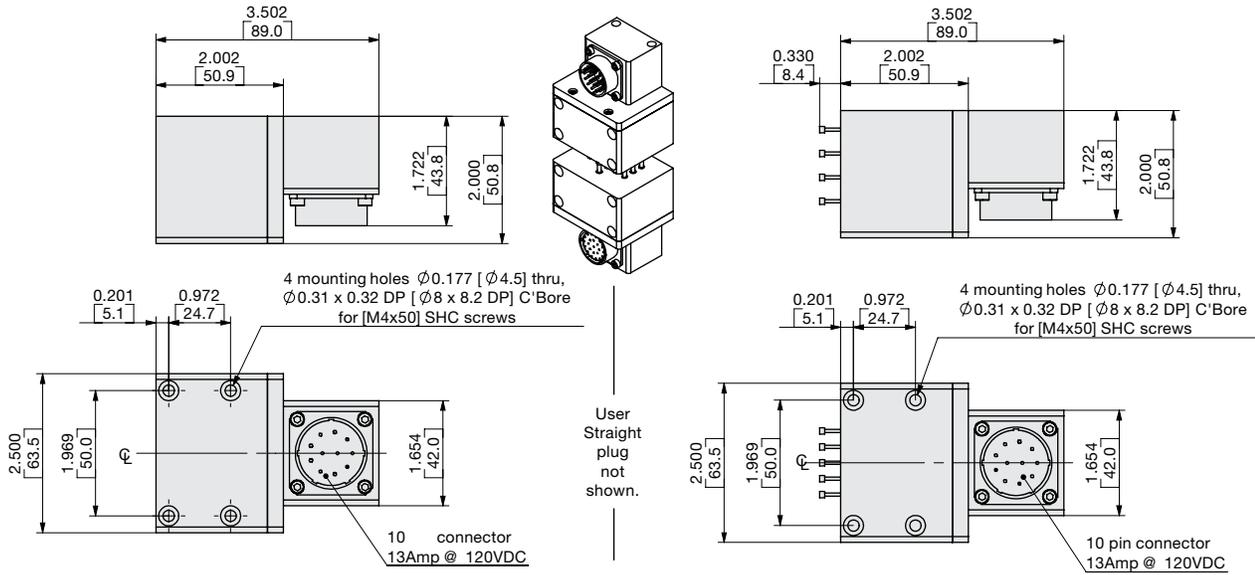


UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

				IMPERIAL ([ IN. ])	METRIC (MM)
DIMENSIONS ARE SYMMETRICAL ABOUT CENTERLINE	THIRD ANGLE PROJECTION	ALL DOWEL HOLES ARE SF (SLIP FIT). LOCATIONAL TOLERANCE ±.0005" OR [±.013MM]	METRIC THREADS COURSE PITCH	0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	[0] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

# QC/TP SERIES

## Automatic Tool Changers | Dimensions | 10-Pin Module 5Amp @ 120VDC Electric Module



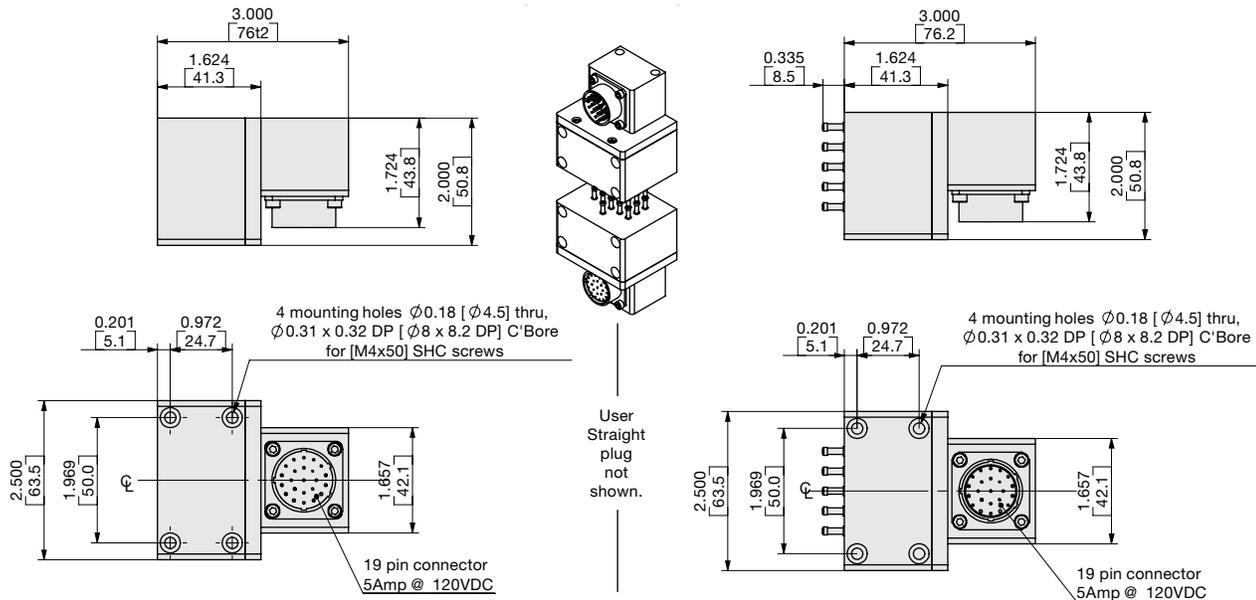
Flat for module mounting not shown: See QC or TP drawings.

Model	Module	Robot Side	Tool Side	*Accessory
QC/TP60	E10	KE10-QC60	KE10-TP60	ELCT-041 (Female)
QC/TP150	E10	KE10-QC150	KE10-TP150	ELCT-042 (Male)

\*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



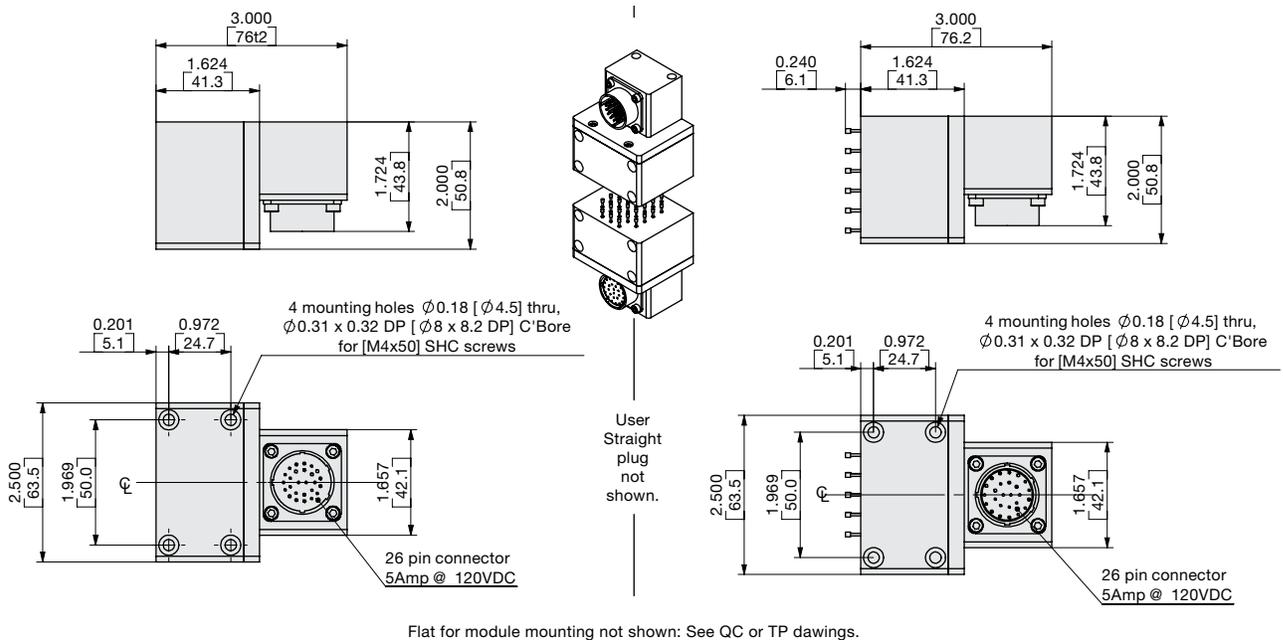
Flat for module mounting not shown: See QC or TP drawings.

Model	Module	Robot Side	Tool Side	*Accessory
QC/TP60	E19	KE19-QC60	KE19-TP60	ELCT-043 (Female)
QC/TP150	E19	KE19-QC150	KE19-TP150	ELCT-044 (Male)

\*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

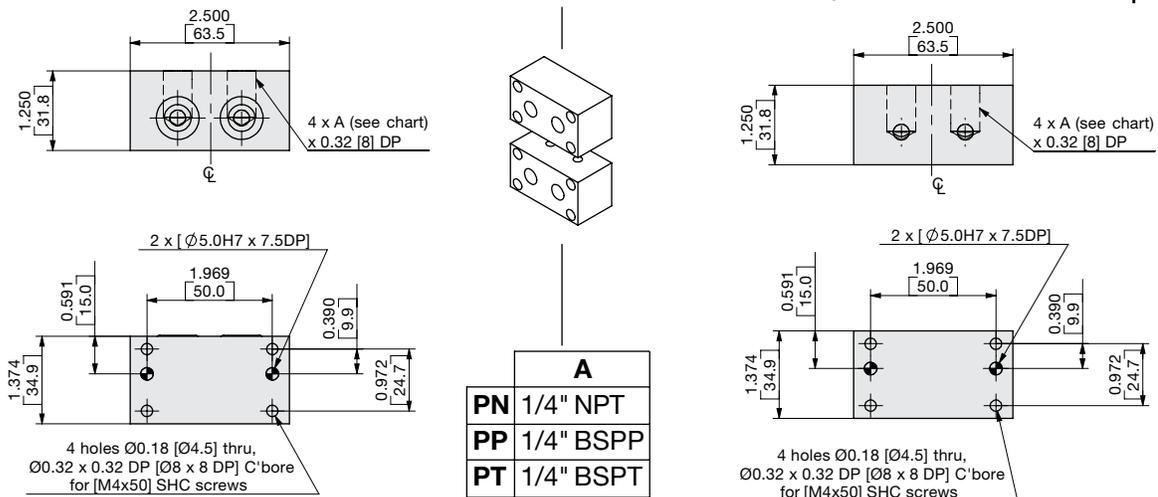


Model	Module	Robot Side	Tool Side	*Accessory
QC/TP60	E26	KE26-QC60	KE26-TP60	ELCT-045 (Female)
QC/TP150	E26	KE26-QC150	KE26-TP150	ELCT-046 (Male)

\*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



For **QC/TP-60**

Module	Robot Side	Tool Side
PN14	KPN14-QC60	KPN14-TP60
PP14	KPP14-QC60	KPP14-TP60
PT14	KPT14-QC60	KPT14-TP60
Seal Kit	SLKT-395	---

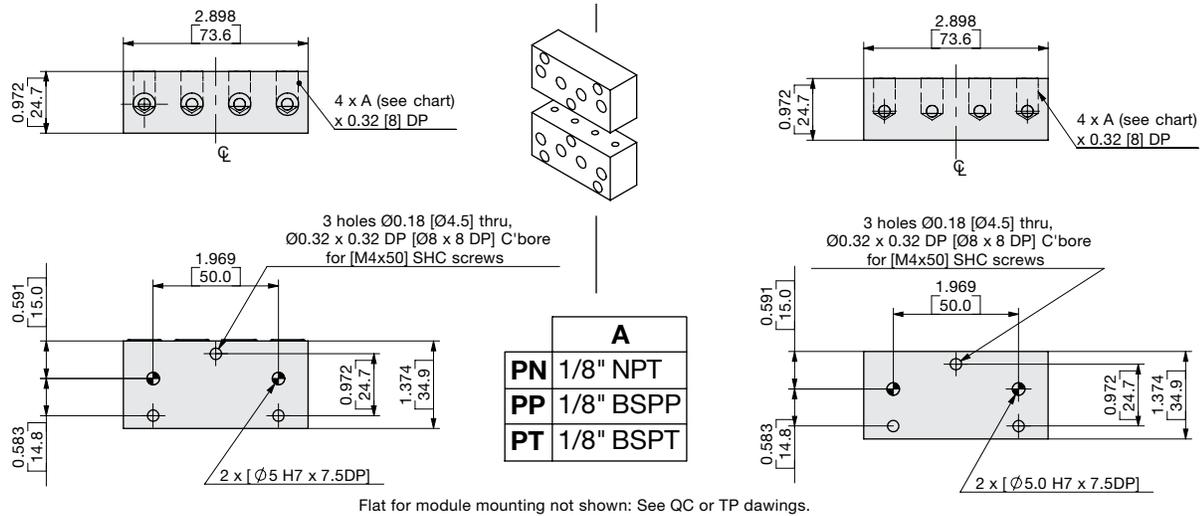
For **QC/TP-150**

Module	Robot Side	Tool Side
PN14	KPN14-QC150	KPN14-TP150
PP14	KPP14-QC150	KPP14-TP150
PT14	KPT14-QC150	KPT14-TP150
Seal Kit	SLKT-395	---

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

# QC/TP SERIES

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



Maximum Working Pressure: 10 bar

For **QC/TP-60**

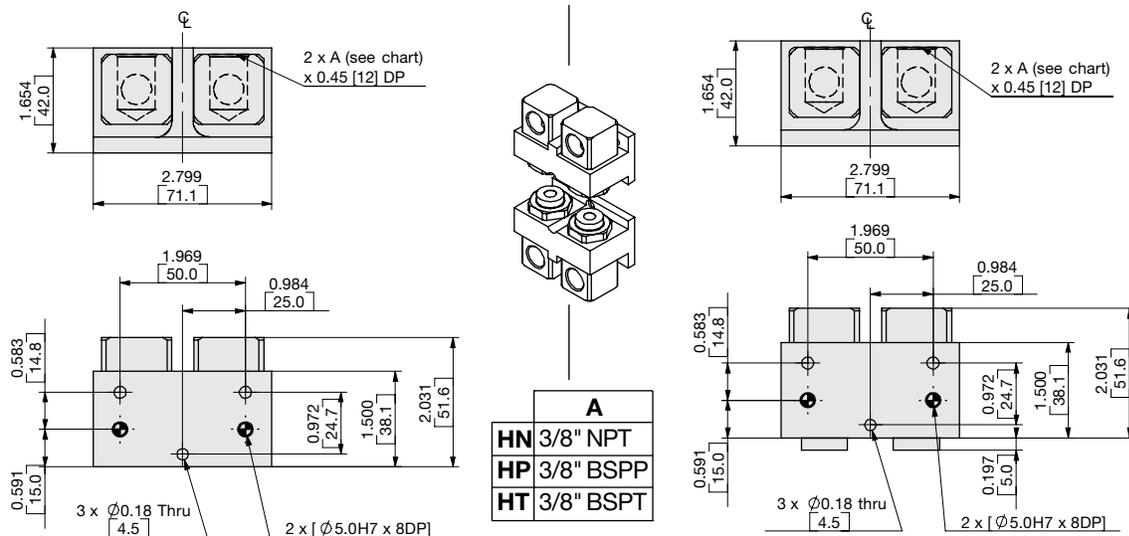
For **QC/TP-150**

Module	Robot Side	Tool Side
<b>PN18</b>	<b>KPN18-QC60</b>	<b>KPN18-TP60</b>
<b>PP18</b>	<b>KPP18-QC60</b>	<b>KPP18-TP60</b>
<b>PT18</b>	<b>KPT18-QC60</b>	<b>KPT18-TP60</b>
<b>Seal Kit</b>	<b>SLKT-391</b>	---

Module	Robot Side	Tool Side
<b>PN18</b>	<b>KPN18-QC150</b>	<b>KPN18-TP150</b>
<b>PP18</b>	<b>KPP18-QC150</b>	<b>KPP18-TP150</b>
<b>PT18</b>	<b>KPT18-QC150</b>	<b>KPT18-TP150</b>
<b>Seal Kit</b>	<b>SLKT-391</b>	---

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

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



Maximum Working Pressure: 100 bar

For **QC/TP-60**

For **QC/TP-150**

Module	Robot Side	Tool Side
<b>HN38</b>	<b>KHN38-QC60</b>	<b>KHN38-TP60</b>

Module	Robot Side	Tool Side
<b>HN38</b>	<b>KHN38-QC150</b>	<b>KHN38-TP150</b>

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

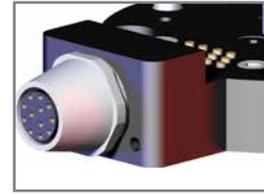
## Automatic Tool Changers | Dimensions | Sub-D Conn and User Plug IO Block



15 Pin w/Sub-D Conn and User Plug w/o cable

Model	Module	Robot Side	Tool Side
QC/TP30	E15	KE15-QC30	KE15-TP30
QC/TP60	E15	KE15-QC60	KE15-TP60
QC/TP150	E15	KE15-QC150	KE15-TP150

See individual datasheets for dimensions.



12 Pin w/Turck M12 Conn w/o Cordset

Model	Module	Robot Side	Tool Side
QC/TP30	E12	KE12-QC30	KE12-TP30
QC/TP60	E12	KE12-QC60	KE12-TP60
QC/TP150	E12	KE12-QC150	KE12-TP150

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

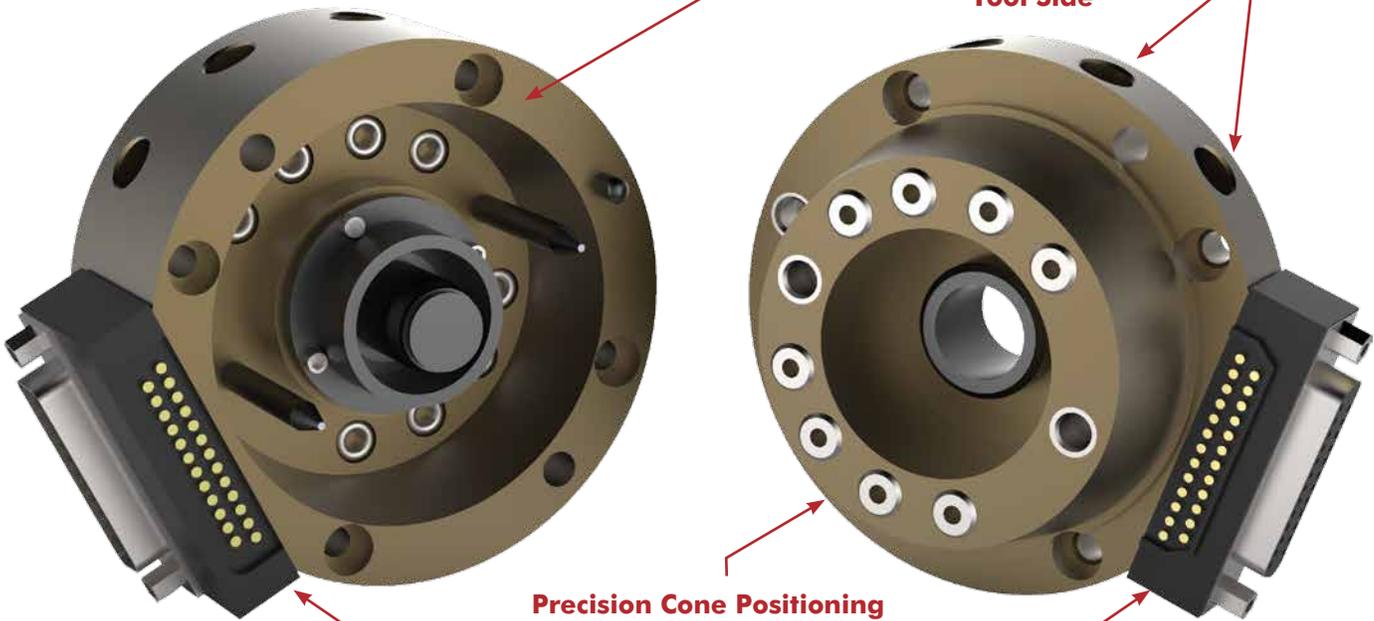
Each body is made of lightweight 7075-T6 aircraft quality aluminum

### Pneumatic Ports

User pneumatic ports

Robot Side

Tool Side



### Precision Cone Positioning

Machine tool proven mating conical coupling

### Durable Finish

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

### Electrical Contacts

(Sold Separately- See "How to Order" Section for more info)

### Failsafe Operation

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

## 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.

## Automatic Tool Changers | Ordering Information



Robot Side  
**RHC-1-R**

Tool Side  
**RHC-1-T**



Robot Side  
**RHC-2-R**

Tool Side  
**RHC-2-T**



Robot Side  
**RHC-3-R**

Tool Side  
**RHC-3-T**

Base Model	Model Size	Adapter Module	Seals (for -R only)	Contacts	Sensor (for RHC-3-R only)
<b>RHC</b>	<b>1</b>	<b>R</b>	<b>V</b>	<b>OHCC-009</b>	<b>P</b>
Base Model	"1" 9kg [20 lb] Max. Payload	"-R" Robot Side Adaptor Module	"V" Viton Seals		"P" PNP Sensors
	"2" 59kg [130 lb] Max. Payload	"-T" Tool Side Adaptor Module			"N" NPN Sensors
	"3" 136kg [300 lb] Max. Payload				"No Sensors" Leave Blank

Robot Side	
"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)
Tool Side	
"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-008"	38 Pin Mil. Spec. Contacts (RHC-3)

### Sensor and Pneumatic Accessories (Ordered Separately)

#### 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-3-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)

# RHC-1-R (ROBOT SIDE)

## Automatic Tool Changers | Technical Specifications | Dimensions

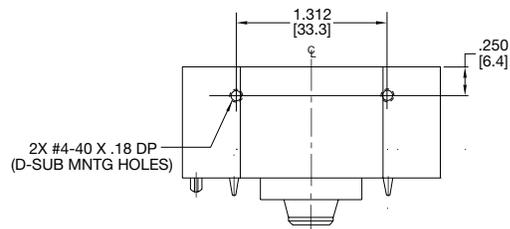
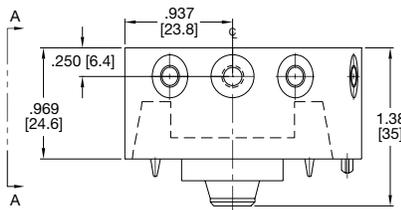
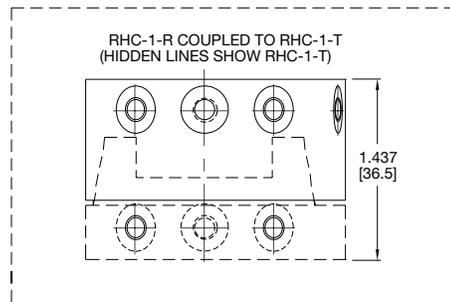
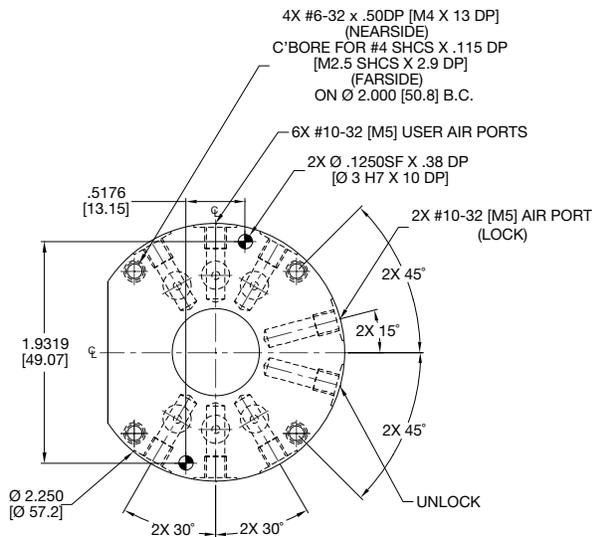
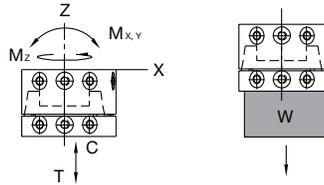


### RHC-1-R Specification:

- 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<sup>3</sup> [0.255 in<sup>3</sup>]

### Loading Capacity

- Max. Tensile **T**: 890 N [200 lb]
- Max. Compressive **C**: 2224 N [500 lb]
- Max. Moment (**M<sub>x</sub>/M<sub>y</sub>**): 14 Nm [125 in.-lb.]
- Max. Moment (**M<sub>z</sub>**): 28 Nm [250 in.-lb.]



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

$\varnothing$   
DIMENSIONS ARE  
SYMMETRICAL ABOUT  
CENTERLINE

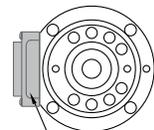
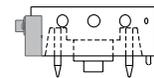
$\triangle$   
THIRD ANGLE  
PROJECTION

$\odot$   
ALL DOWEL HOLES ARE SF (SLIP FIT).  
LOCATIONAL TOLERANCE  
 $\pm .0005$ " OR  $\pm .013$ MM

$\text{M}$   
METRIC THREADS  
COURSE PITCH

IMPERIAL ( [ IN. ] )  
0.00 =  $\pm .01$   
0.000 =  $\pm .005$   
0.0000 =  $\pm .0005$

METRIC (MM)  
[0] =  $\pm .25$   
[0.0] =  $\pm .13$   
[0.00] =  $\pm .013$



26 PIN OR 15 PIN D-SUB  
ELECTRICAL CONTACTS

Model	Robot Side	Description	Specification
RHC-1	OHCC-009	15 Pin D-Sub Contacts	15 Pin @ 3 AMPS
	OHCC-001	26 Pin D-Sub Contacts	26 Pin @ 3 AMPS

# RHC-1-T (TOOLING SIDE)

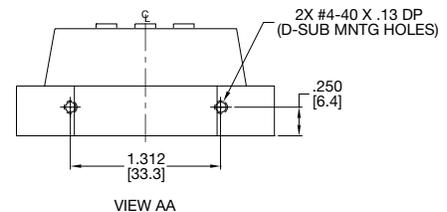
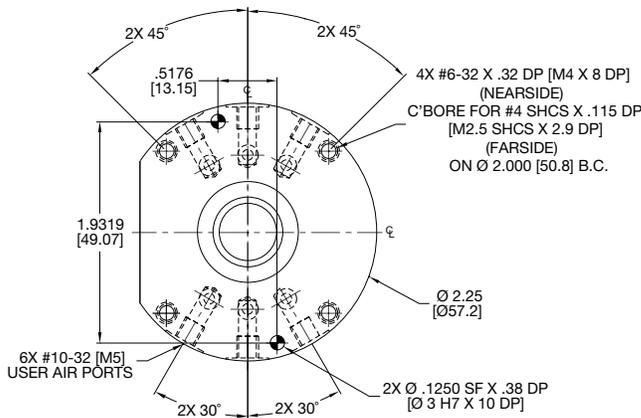
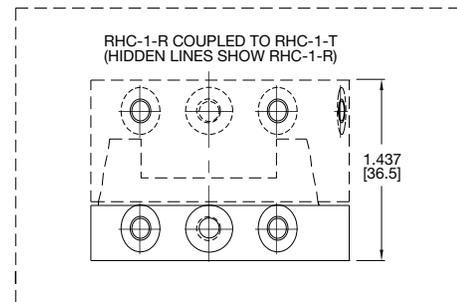
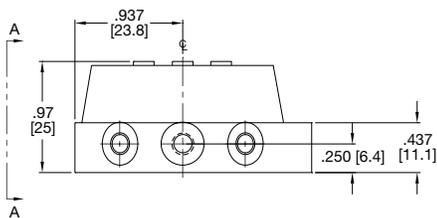
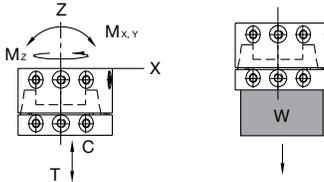
Automatic Tool Changers | Technical Specifications | Dimensions

## RHC-1-T Specification:

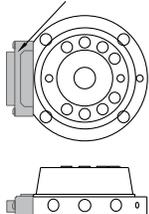
Max. Payload (**W**): 9 Kg [20 lbs]  
 Weight of **-T Unit only**: 0.09 Kg [0.22 lbs]  
 Weight of Coupled Units: 0.28 Kg [0.63 lbs]

## Loading Capacity

Max. Tensile **T**: 890 N [200 lb]  
 Max. Compressive **C**: 2224 N [500 lb]  
 Max. Moment (**M<sub>x</sub>/M<sub>y</sub>**): 14 Nm [125 in.-lb.]  
 Max. Moment (**M<sub>z</sub>**): 28 Nm [250 in.-lb.]



26 PIN OR 15 PIN D-SUB ELECTRICAL CONTACTS



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

$\phi$   
DIMENSIONS ARE SYMMETRICAL ABOUT CENTERLINE

$\triangle$   
THIRD ANGLE PROJECTION

$\oplus$   
ALL DOWEL HOLES ARE SF (SLIP FIT). LOCAL TOLERANCE  $\pm .0005$ " OR  $\pm .013$ MM]

$\oplus$   
METRIC THREADS COURSE PITCH

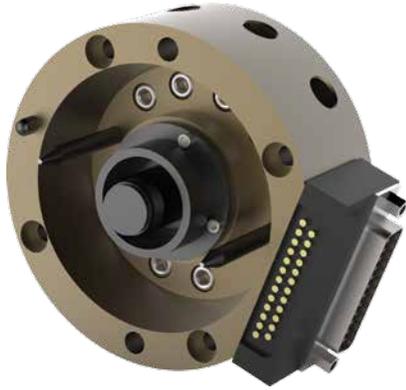
IMPERIAL ( [ IN. ] )  
 0.00 =  $\pm .01$   
 0.000 =  $\pm .005$   
 0.0000 =  $\pm .0005$

METRIC (MM)  
 [0] =  $\pm .25$   
 [0.0] =  $\pm .13$   
 [0.00] =  $\pm .013$

Model	Tool Side	Description	Specification
RHC-1	OHCC-010	15 Pin D-Sub Contacts	15 Pin @ 3 AMPS
	OHCC-002	26 Pin D-Sub Contacts	26 Pin @ 3 AMPS

# RHC-2-R (ROBOT SIDE)

## Automatic Tool Changers | Technical Specifications | Dimensions

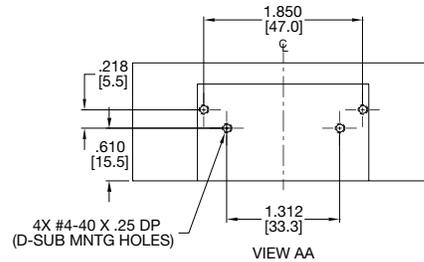
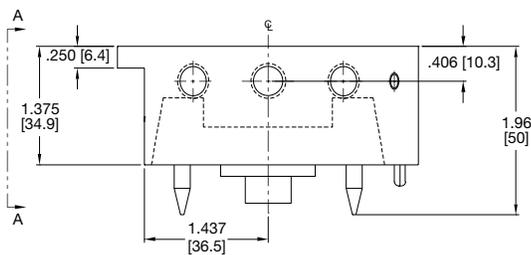
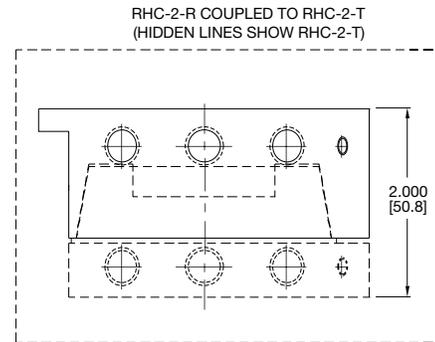
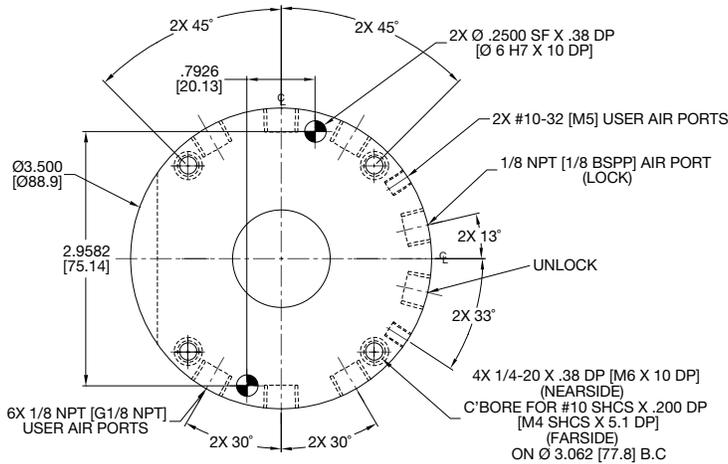
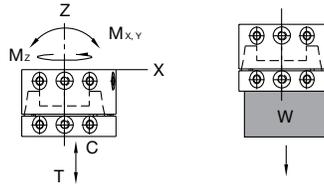


### RHC-2-R Specification:

- 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  $\varnothing$ : 28.57 mm [1.125 in]
- Displacement: 12.22 cm<sup>3</sup> [0.746 in<sup>3</sup>]

### Loading Capacity

- Max. Tensile **T**: 3336 N [750 lb]
- Max. Compressive **C**: 6672 N [1500 lb]
- Max. Moment (**M<sub>x</sub>/M<sub>y</sub>**): 90 Nm [800 in.-lb.]
- Max. Moment (**M<sub>z</sub>**): 136 Nm [1200 in.-lb.]



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Symbol	IMPERIAL ([ IN. ])	METRIC (MM)
$\varnothing$	0.00 = ±.01	[0] = [±.25]
$\varnothing$	0.000 = ±.005	[0.0] = [±.13]
$\varnothing$	0.0000 = ±.0005	[0.00] = [±.013]
$\varnothing$		
$\varnothing$		
$\varnothing$		

DIMENSIONS ARE SYMMETRICAL ABOUT CENTERLINE

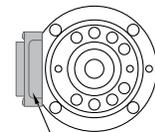
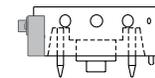
THIRD ANGLE PROJECTION

ALL DOWEL HOLES ARE SF (SLIP FIT).  
LOCATIONAL TOLERANCE  
±.0005" OR [±.013MM]

METRIC THREADS  
COURSE PITCH

IMPERIAL ([ IN. ])

METRIC (MM)



25 PIN OR 15 PIN D-SUB ELECTRICAL CONTACTS

Model	Robot Side	Description	Specification
RHC-2	OHCC-011	15 Pin D-Sub Contacts	15 Pin @ 3 AMPS
	OHCC-003	25 Pin D-Sub Contacts	25 Pin @ 3 AMPS

# RHC-2-T (TOOLING SIDE)

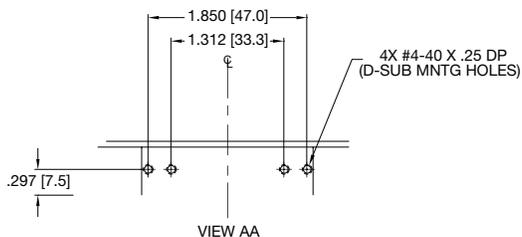
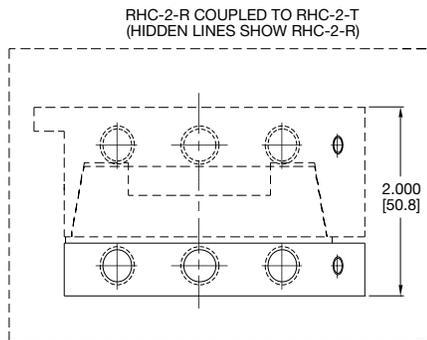
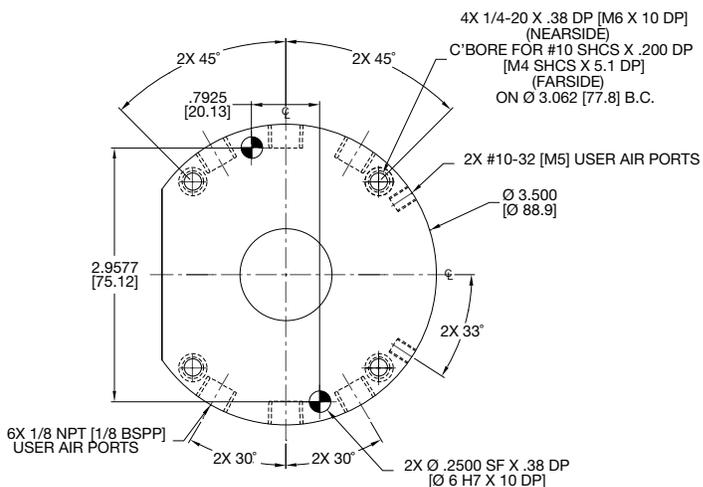
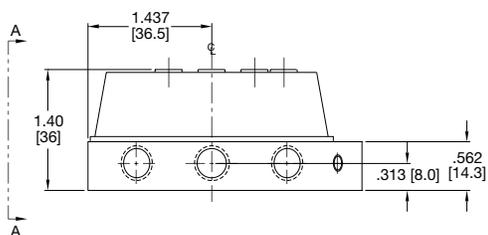
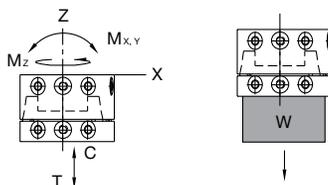
## Automatic Tool Changers | Technical Specifications | Dimensions

### RHC-2-T Specification:

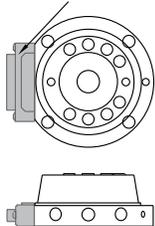
- Max. Payload (**W**): 59 Kg [130 lbs]
- Weight of **-T** Unit only: 0.37 Kg [0.82 lbs]
- Weight of Coupled Units: 0.82 Kg [1.81 lbs]

### Loading Capacity

- Max. Tensile **T**: 3336 N [750 lb]
- Max. Compressive **C**: 6672 N [1500 lb]
- Max. Moment (**M<sub>x</sub>/M<sub>y</sub>**): 90 Nm [800 in.-lb.]
- Max. Moment (**M<sub>z</sub>**): 136 Nm [1200 in.-lb.]



25 PIN OR 15 PIN D-SUB ELECTRICAL CONTACTS



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

$\phi$   
DIMENSIONS ARE SYMMETRICAL ABOUT CENTERLINE

$\triangle$   
THIRD ANGLE PROJECTION

$\oplus$   
ALL DOWEL HOLES ARE SF (SLIP FIT). LOCAL TOLERANCE  $\pm .0005$ " OR  $\pm .013$ MM]

$\oplus$   
METRIC THREADS COURSE PITCH

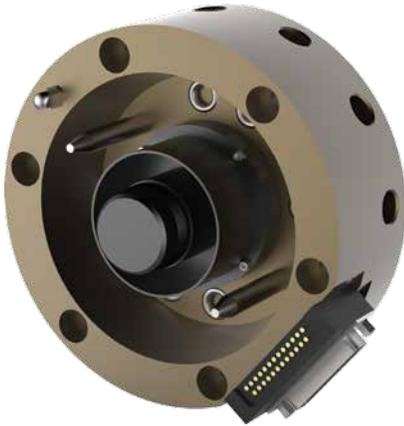
IMPERIAL ( [ IN.])  
0.00 =  $\pm .01$   
0.000 =  $\pm .005$   
0.0000 =  $\pm .0005$

METRIC (MM)  
[0] =  $\pm .25$   
[0.0] =  $\pm .13$   
[0.00] =  $\pm .013$

Model	Tool Side	Description	Specification
RHC-2	OHCC-012	15 Pin D-Sub Contacts	15 Pin @ 3 AMPS
	OHCC-004	25 Pin D-Sub Contacts	25 Pin @ 3 AMPS

# RHC-3-R (ROBOT SIDE)

## Automatic Tool Changers | Technical Specifications | Dimensions

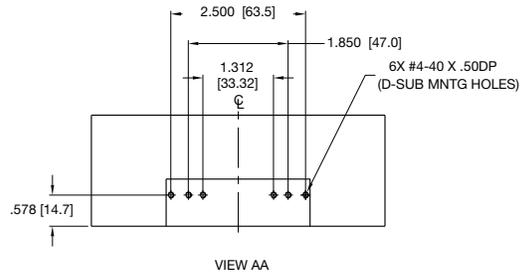
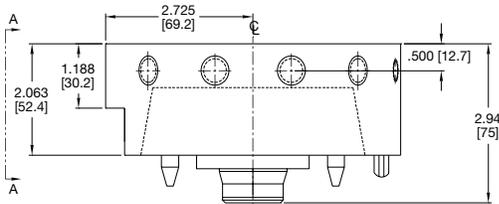
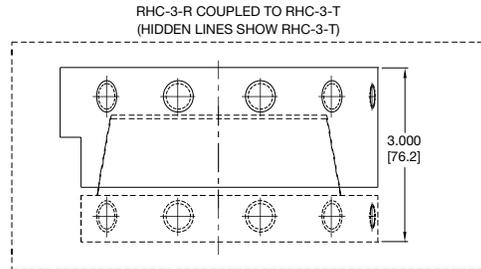
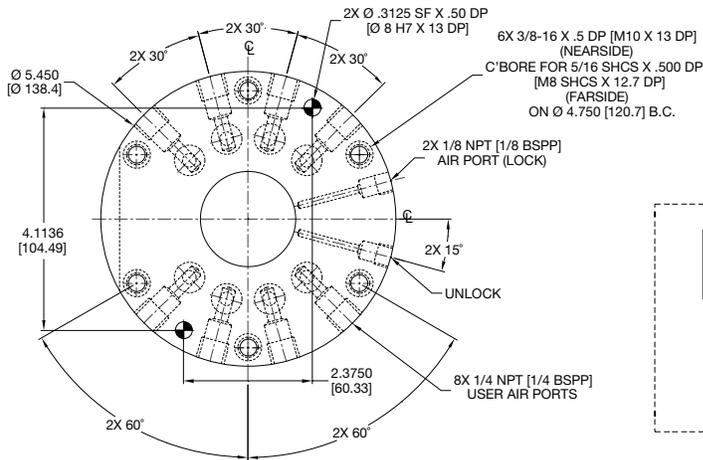
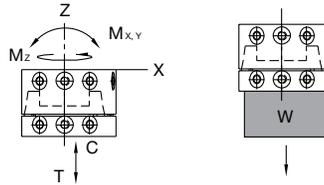


### RHC-3-R Specification:

- 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 cm<sup>3</sup> [2.706 in<sup>3</sup>]

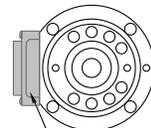
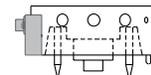
### Loading Capacity

- Max. Tensile **T**: 8896 N [2000 lb]
- Max. Compressive **C**: 17793 N [4000 lb]
- Max. Moment (**M<sub>x</sub>/M<sub>y</sub>**): 678 Nm [6000 in.-lb.]
- Max. Moment (**M<sub>z</sub>**): 1017 Nm [9000 in.-lb.]



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

				IMPERIAL ([ IN. ])	METRIC (MM)
DIMENSIONS ARE SYMMETRICAL ABOUT CENTERLINE	THIRD ANGLE PROJECTION	ALL DOWEL HOLES ARE SF (SLIP FIT). LOCAL TOLERANCE ±.0005" OR [±.013MM]	METRIC THREADS COURSE PITCH	0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	[0] = [±.25] [0.0] = [±.13] [0.00] = [±.013]



25 OR 15 PIN D-SUB or 19 OR 38 PIN MIL SPEC ELECTRICAL CONTACTS

Model	Robot Side	Description	Specification
RHC-3	OHCC-011	15 Pin D-Sub Contacts	15 Pin @ 3 AMPS
	OHCC-003	25 Pin D-Sub Contacts	25 Pin @ 3 AMPS
	OHCC-005	19 Pin Mil. Spec. Contacts	19 Pin @ 3 AMPS
	OHCC-007	38 Pin Mil. Spec. Contacts	38 Pin @ 3 AMPS

# RHC-3-T (TOOLING SIDE)

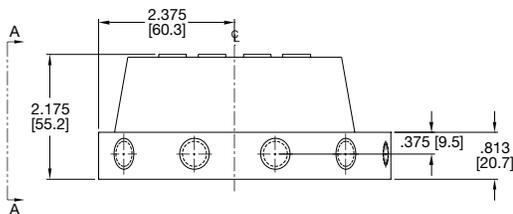
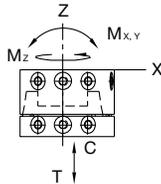
Automatic Tool Changers | Technical Specifications | Dimensions

## RHC-3-T Specification:

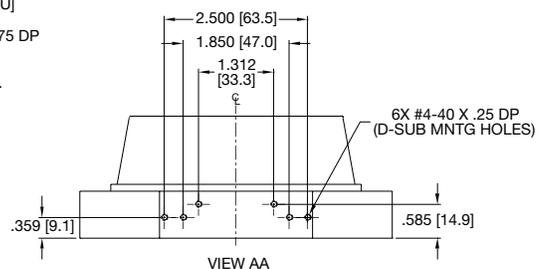
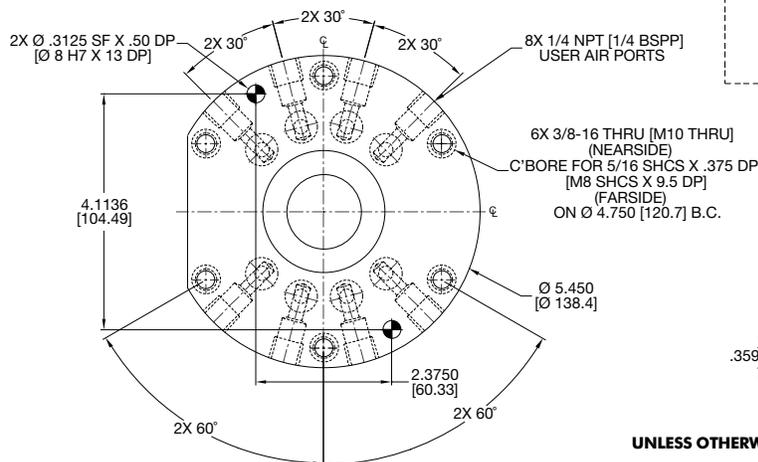
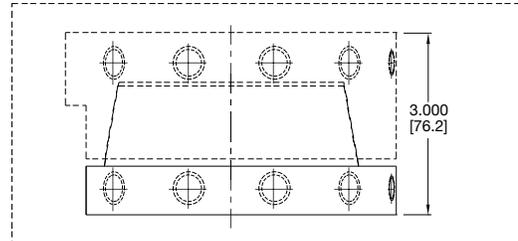
Max. Payload (**W**): 136 Kg [300 lbs]  
 Weight of **-T** Unit only: 1.29 Kg [2.85 lbs]  
 Weight of Coupled Units: 3.1 Kg [6.7 lbs]

## Loading Capacity

Max. Tensile **T**: 8896 N [2000 lb]  
 Max. Compressive **C**: 17793 N [4000 lb]  
 Max. Moment (**M<sub>x</sub>/M<sub>y</sub>**): 678 Nm [6000 in.-lb.]  
 Max. Moment (**M<sub>z</sub>**): 1017 Nm [9000 in.-lb.]

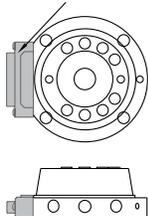


RHC-3-R COUPLED TO RHC-3-T  
(HIDDEN LINES SHOW RHC-3-R)



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

25 OR 15 PIN D-SUB OR  
 19 OR 38 PIN MIL SPEC  
 ELECTRICAL CONTACTS



☉  
 DIMENSIONS ARE  
 SYMMETRICAL ABOUT  
 CENTERLINE

▶  
 THIRD ANGLE  
 PROJECTION

⊕  
 ALL DOWEL HOLES ARE SF (SLIP FIT).  
 LOCATIONAL TOLERANCE  
 ±.0005" OR [±.013MM]

⊘  
 METRIC THREADS  
 COURSE PITCH

IMPERIAL ( [ IN.])      METRIC (MM)  
 0.00 = ± .01      [0] = [± .25]  
 0.000 = ± .005      [0.0] = [± .13]  
 0.0000 = ± .0005      [0.00] = [± .013]

Model	Tool Side	Description	Specification
RHC-3	OHCC-010	15 Pin D-Sub Contacts	15 Pin @ 3 AMPS
	OHCC-002	25 Pin D-Sub Contacts	25 Pin @ 3 AMPS
	OHCC-006	19 Pin Mil. Spec. Contacts	19 Pin @ 3 AMPS
	OHCC-008	38 Pin Mil. Spec. Contacts	38 Pin @ 3 AMPS

# CH SERIES

## Cylindrical Horizontal Compliance Device | Features and Benefits

### 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  $\pm 10^\circ$ .

### Harsh environments:

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

### Spring assist:

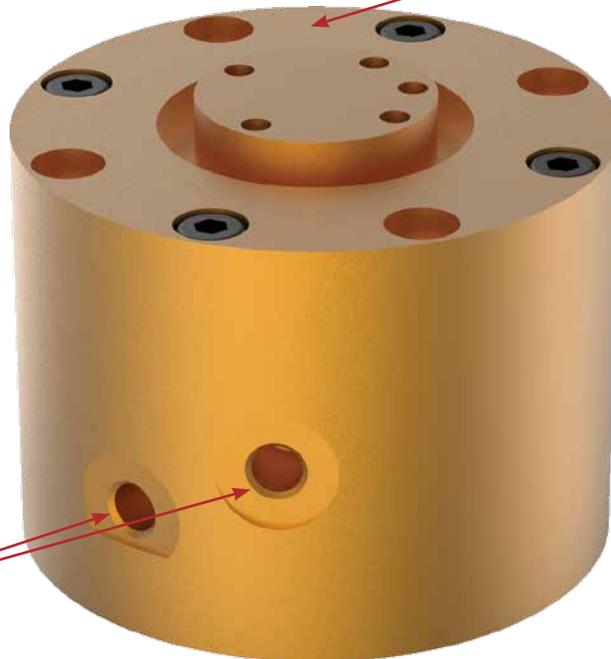
Due to the optional spring assist, compliance may be used in single acting mode.

### 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



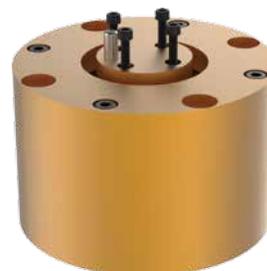
### Air Ports

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 pin and a dowel pin and assembled using 4 screws

## Cylindrical Horizontal Compliance Device | Technical Information | Dimensions

### 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

### Temperature Operating Range

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

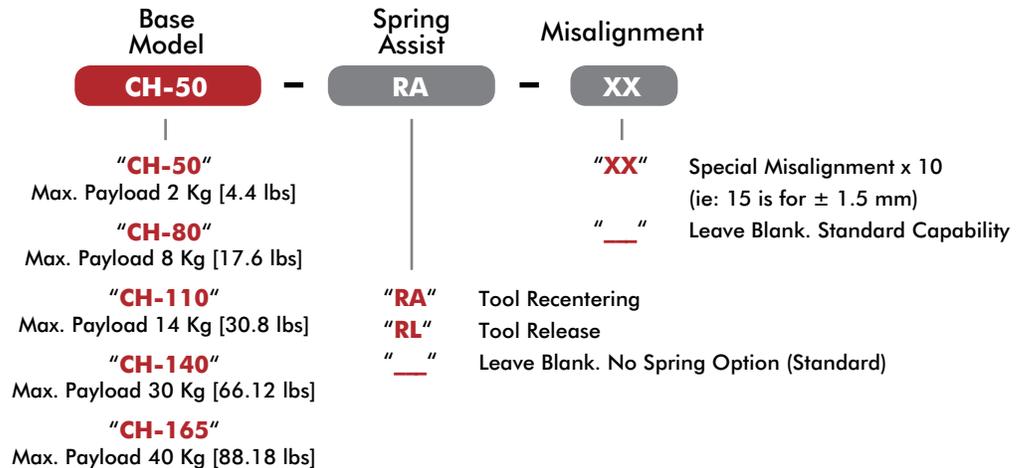
### Maintenance Specification

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

### 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.

## How to Order



# CH-50P

## Cylindrical Horizontal Compliance Device | Technical Information | Dimensions

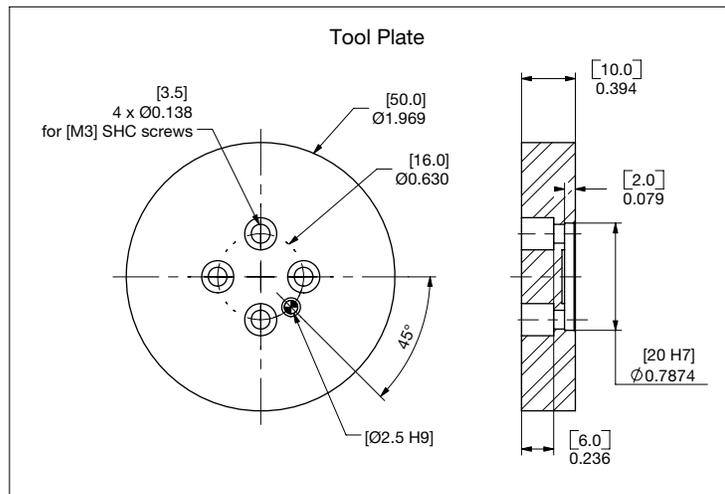
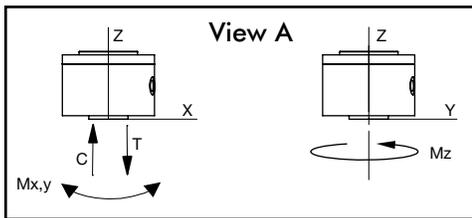
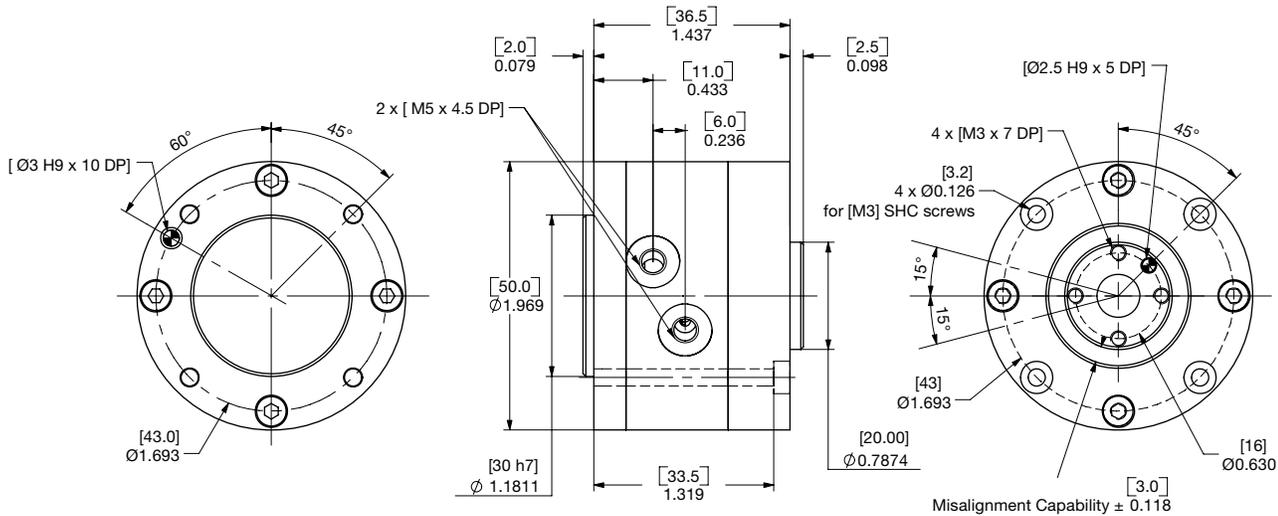


### CH-50P Specification:

Centering Force @ 7 bar [100 psi]: 322 N [74 lbs]  
 Max. Payload: 2 Kg [4.4 lbs]  
 Misalignment Capability:  $\pm 3$  mm [ $\pm 0.12$  in]  
 Weight: 0.195 Kg [0.43 lbs]  
 Cylinder Bore: 34 mm [1.34 in]  
 Displacement: 5.2 cm<sup>3</sup> [0.32 in<sup>3</sup> lbs]  
 Actuation: 0.07 sec [0.07 sec]  
 Repeatability:  $\pm 0.02$  mm [ $\pm 0.0008$  in]  
 Angular Repeatability:  $\pm 10$  mm

### Loading Capacity (View A):

Max. Tensile **T**: 75 N [17 lb]  
 Max. Compressive **C**: 75 N [17 lb]  
 Max. Moment (**M<sub>x</sub>/M<sub>y</sub>**): 2 Nm [17.7 in.-lb.]  
 Max. Moment (**M<sub>z</sub>**): 1 Nm [8.8 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 $\pm 0.0005^\circ$ OR [ $\pm 0.013$ MM]
	IMPERIAL ([IN.])	METRIC (MM)
METRIC THREADS COURSE PITCH	0.00 = $\pm 0.01$ 0.000 = $\pm 0.005$ 0.0000 = $\pm 0.0005$	[0] = [ $\pm 0.25$ ] [0.0] = [ $\pm 0.13$ ] [0.00] = [ $\pm 0.13$ ]

## Cylindrical Horizontal Compliance Device | Technical Information | Dimensions

### CH-80P Specification:

Centering Force @ 7 bar [100 psi]: 1035 N [232 lbs]

Max. Payload: 8 Kg [17.6 lbs]

Misalignment Capability:  $\pm 5$  mm [ $\pm 0.20$  in]

Weight: 0.750 Kg [1.65 lbs]

Cylinder Bore: 60 mm [2.37 in]

Displacement: 26.8 cm<sup>3</sup> [1.64 in<sup>3</sup> lbs]

Actuation: 0.08 sec [0.08 sec]

Repeatability:  $\pm 0.02$  mm [ $\pm 0.0008$  in]

Angular Repeatability:  $\pm 10$  mm



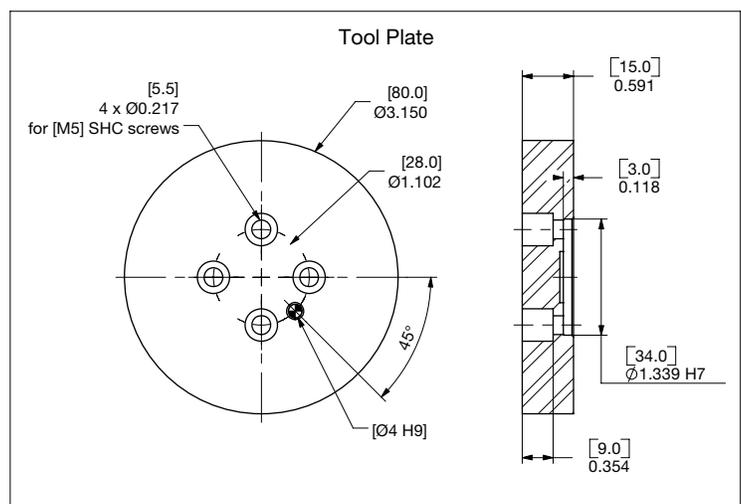
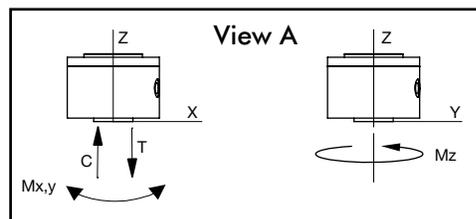
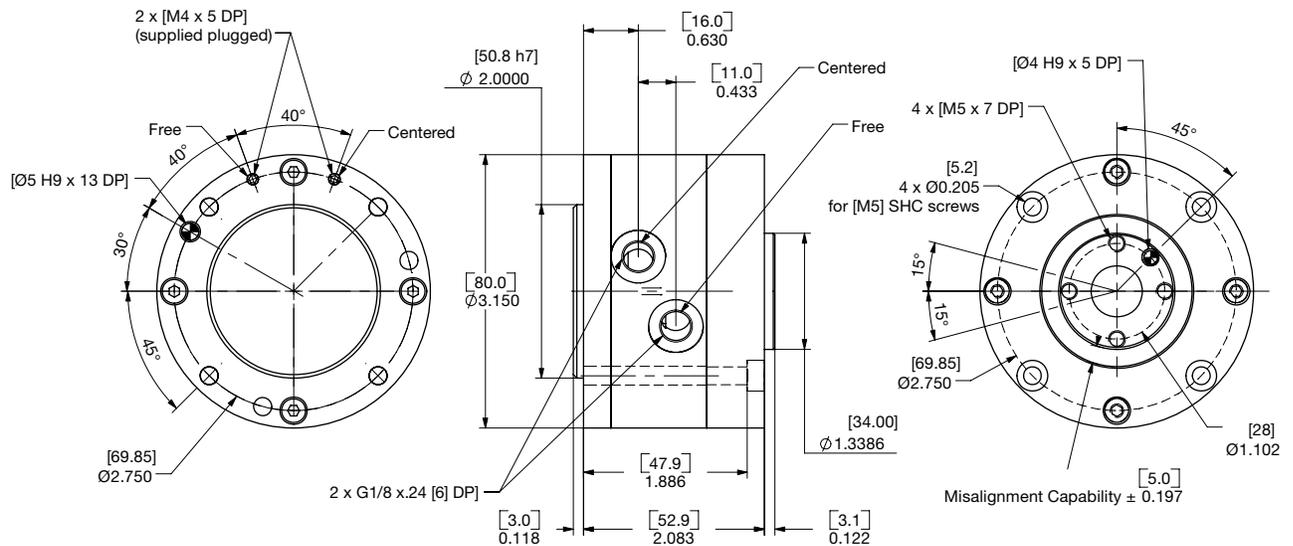
### Loading Capacity (View A):

Max. Tensile **T**: 160 N [36 lb]

Max. Compressive **C**: 160 N [36 lb]

Max. Moment (**M<sub>x</sub>/M<sub>y</sub>**): 8 Nm [71 in.-lb.]

Max. Moment (**M<sub>z</sub>**): 6 Nm [53 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). LOCAL TOLERANCE $\pm .0005$ " OR [ $\pm 0.13$ MM]
	IMPERIAL ([IN.])	METRIC (MM)
METRIC THREADS COURSE PITCH	0.00 = $\pm .01$ 0.000 = $\pm .005$ 0.0000 = $\pm .0005$	[0] = [ $\pm .25$ ] [0.0] = [ $\pm .13$ ] [0.00] = [ $\pm .013$ ]

# CH-110P

## Cylindrical Horizontal Compliance Device | Technical Information | Dimensions

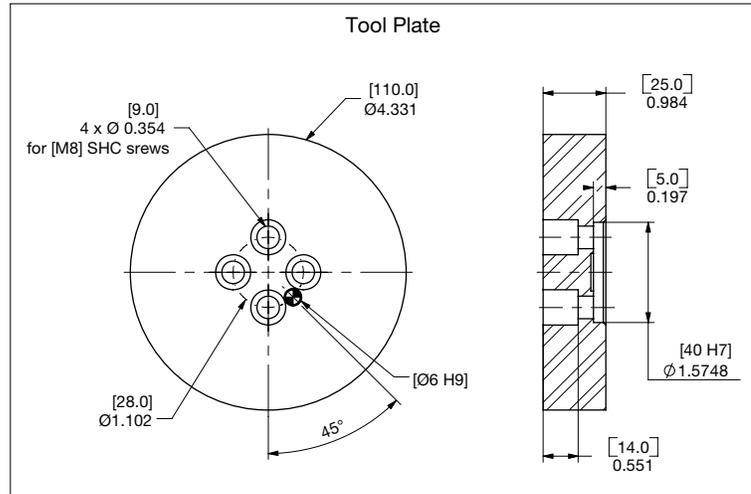
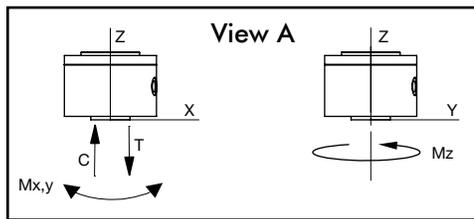
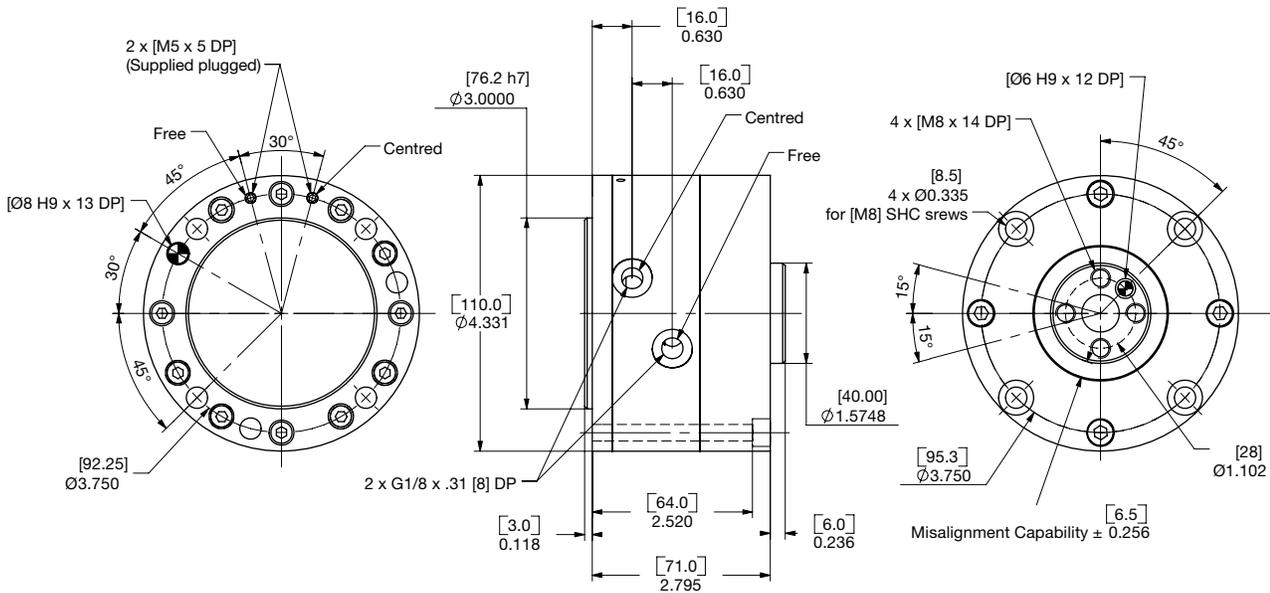


### CH-110P Specification:

Centering Force @ 7 bar [100 psi]: 1660 N [373 lbs]  
 Max. Payload: 14 Kg [30.8 lbs]  
 Misalignment Capability:  $\pm 6.5$  mm [ $\pm 0.25$  in]  
 Weight: 2.10 Kg [4.6 lbs]  
 Cylinder Bore: 76 mm [3.0 in]  
 Displacement: 56 cm<sup>3</sup> [3.42 in<sup>3</sup> lbs]  
 Actuation: 0.1 sec [0.1 sec]  
 Repeatability:  $\pm 0.04$  mm [ $\pm 0.0016$  in]  
 Angular Repeatability:  $\pm 15$  mm

### Loading Capacity (View A):

Max. Tensile **T**: 190 N [43 lb]  
 Max. Compressive **C**: 190 N [43 lb]  
 Max. Moment (**M<sub>x</sub>/M<sub>y</sub>**): 12 Nm [106 in.-lb.]  
 Max. Moment (**M<sub>z</sub>**): 18 Nm [159 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 $\pm 0.005^\circ$ OR [ $\pm 0.13$ MM]
	IMPERIAL ([IN.])	METRIC (MM)
METRIC THREADS COURSE PITCH	0.00 = $\pm 0.01$ 0.000 = $\pm 0.005$ 0.0000 = $\pm 0.0005$	[0] = [ $\pm 0.25$ ] [0.0] = [ $\pm 0.13$ ] [0.00] = [ $\pm 0.13$ ]

### CH-140P Specification:

Centering Force @ 7 bar [100 psi]: 3170 N [712 lbs]

Max. Payload: 30 Kg [66.1 lbs]

Misalignment Capability:  $\pm 8$  mm [ $\pm 0.31$  in]

Weight: 4.31 Kg [9.5 lbs]

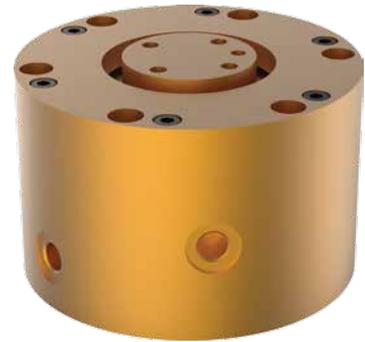
Cylinder Bore: 105 mm [4.13 in]

Displacement: 148 cm<sup>3</sup> [9.03 in<sup>3</sup> lbs]

Actuation: 0.02 sec [0.02 sec]

Repeatability:  $\pm 0.06$  mm [ $\pm 0.0024$  in]

Angular Repeatability:  $\pm 20$  mm



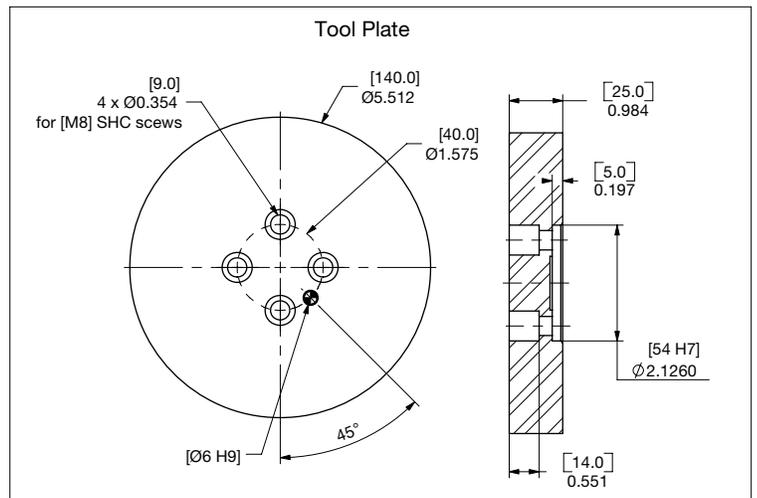
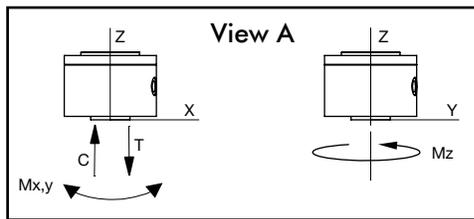
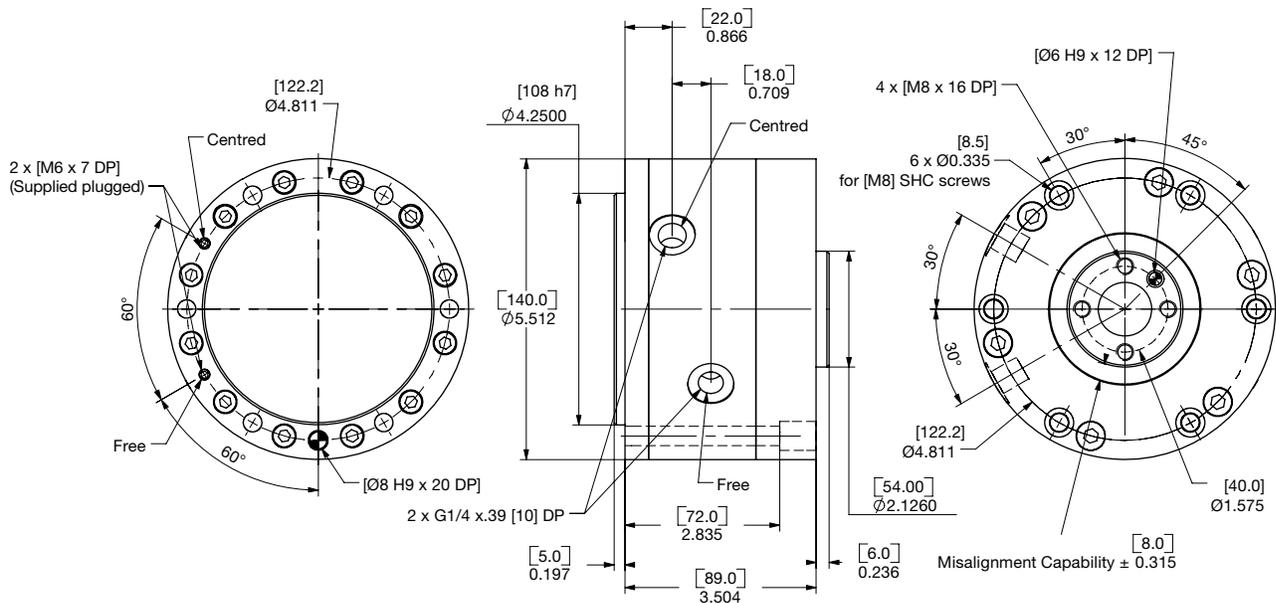
### Loading Capacity (View A):

Max. Tensile **T**: 225 N [50 lb]

Max. Compressive **C**: 225 N [50 lb]

Max. Moment (**M<sub>x</sub>/M<sub>y</sub>**): 19 Nm [168 in.-lb.]

Max. Moment (**M<sub>z</sub>**): 20 Nm [177 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 $\pm 0.005$ " OR [ $\pm 0.13$ MM]
	IMPERIAL ([IN.])	METRIC (MM)
METRIC THREADS COURSE PITCH	0.00 = $\pm 0.01$ 0.000 = $\pm 0.005$ 0.0000 = $\pm 0.0005$	[0] = [ $\pm 0.25$ ] [0.0] = [ $\pm 0.13$ ] [0.00] = [ $\pm 0.13$ ]

# CH-165P

## Cylindrical Horizontal Compliance Device | Technical Information | Dimensions



### CH-165P Specification:

Centering Force @ 7 bar [100 psi]: 4140 N [931 lbs]

Max. Payload: 40 Kg [88.2 lbs]

Misalignment Capability:  $\pm 12$  mm [ $\pm 0.47$  in]

Weight: 8.7 Kg [19.2 lbs]

Cylinder Bore: 120 mm [4.72 in]

Displacement: 236 cm<sup>3</sup> [14.40 in<sup>3</sup> lbs]

Actuation: 0.36 sec [0.36 sec]

Repeatability:  $\pm 0.06$  mm [ $\pm 0.0024$  in]

Angular Repeatability:  $\pm 20$  mm

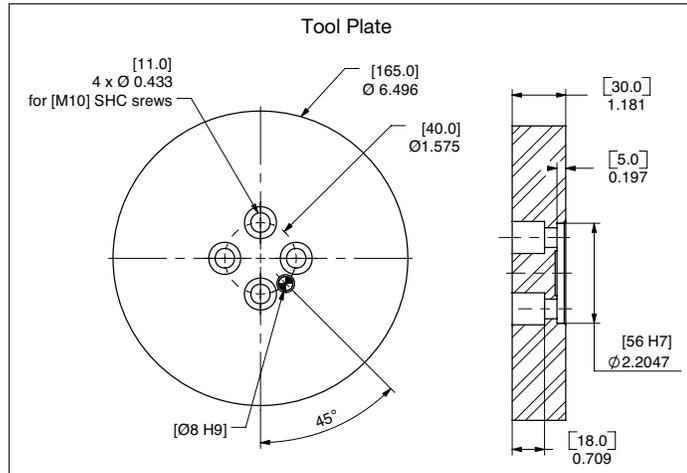
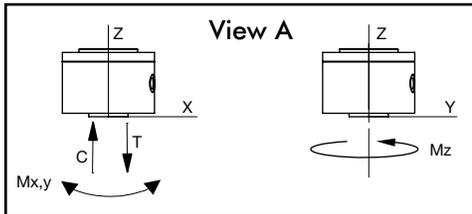
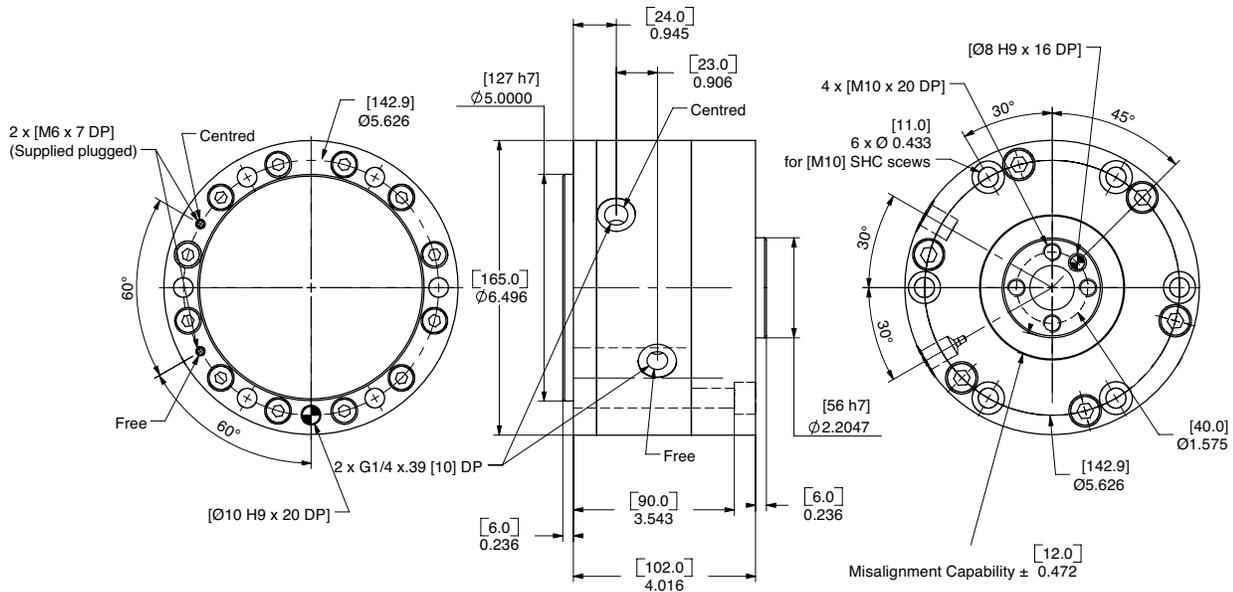
### Loading Capacity (View A):

Max. Tensile **T**: 230 N [52 lb]

Max. Compressive **C**: 230 N [52 lb]

Max. Moment (**M<sub>x</sub>/M<sub>y</sub>**): 23Nm [203 in.-lb.]

Max. Moment (**M<sub>z</sub>**): 28 Nm [248 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 $\pm .0005^\circ$ OR [ $\pm .013$ MM]
	IMPERIAL ([IN.])	METRIC (MM)
METRIC THREADS COURSE PITCH	0.00 = $\pm .01$ 0.000 = $\pm .005$ 0.0000 = $\pm .0005$	[0] = [ $\pm .25$ ] [0.0] = [ $\pm .13$ ] [0.00] = [ $\pm .013$ ]

