

QC/TP SERIES

Automatic Tool Changers | 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.

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

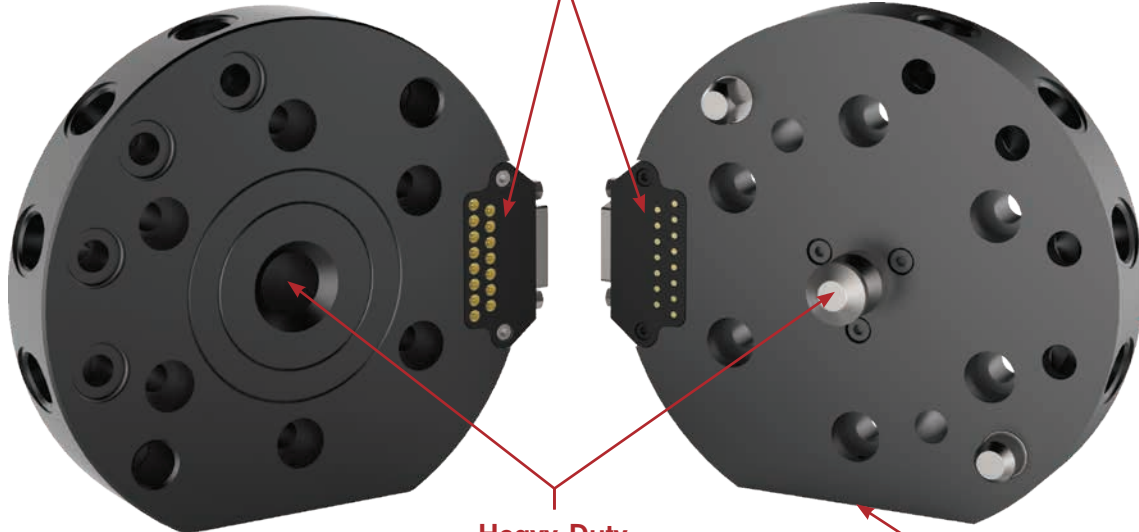
Self lubricating dynamic seals

Offboard I/O Block

with heavy-duty pins offer reliable contact points

Robot Plate

Tool Plate



**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
(See Page TC-QCTP-13)

Mounting Information



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

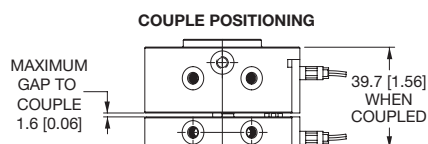


Tool Plate
has counterbored
holes for mounting
and two dowel pins
for hole location (size
30 has pilot boss)

QC/TP SERIES

Automatic Tool Changers | Technical Information

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

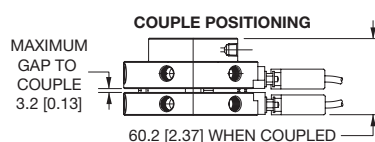


QC-30/TP-30



QC-30 **TP-30**
 Robot Plate Tool Plate

Combined Weight: 1.27 Kg [2.8 lbs]
Max. Payload: 27 Kg [60 lbs]
Max. Moment: 88.1 Nm [780 in-lbs]

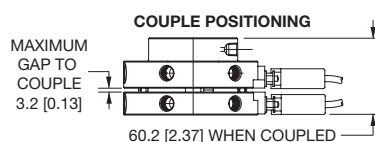


QC-60/TP-60



QC-60 **TP-60**
 Robot Plate Tool Plate

Combined Weight: 1.27 Kg [2.8 lbs]
Max. Payload: 27 Kg [60 lbs]
Max. Moment: 88.1 Nm [780 in-lbs]

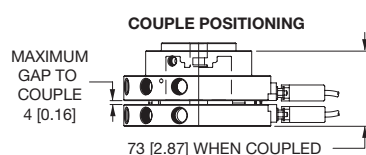


QC-60-10P/TP-60-10P



QC-60-10P **TP-60-10P**
 Robot Plate Tool Plate

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

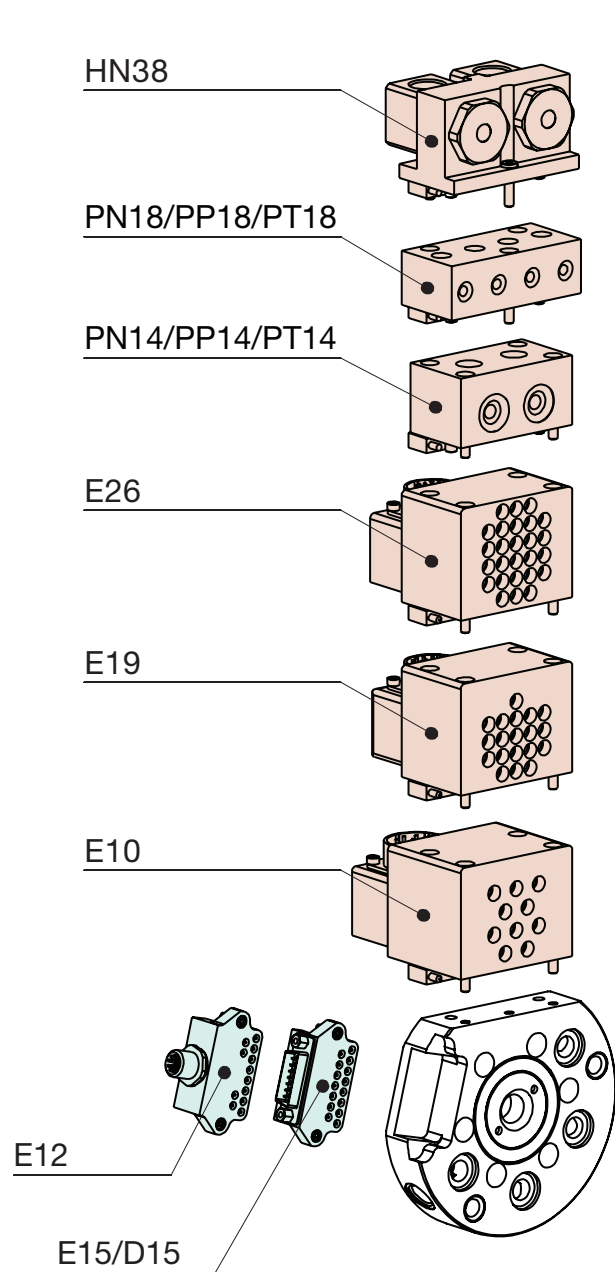


QC-150 **TP-150P**
 Robot Plate Tool Plate

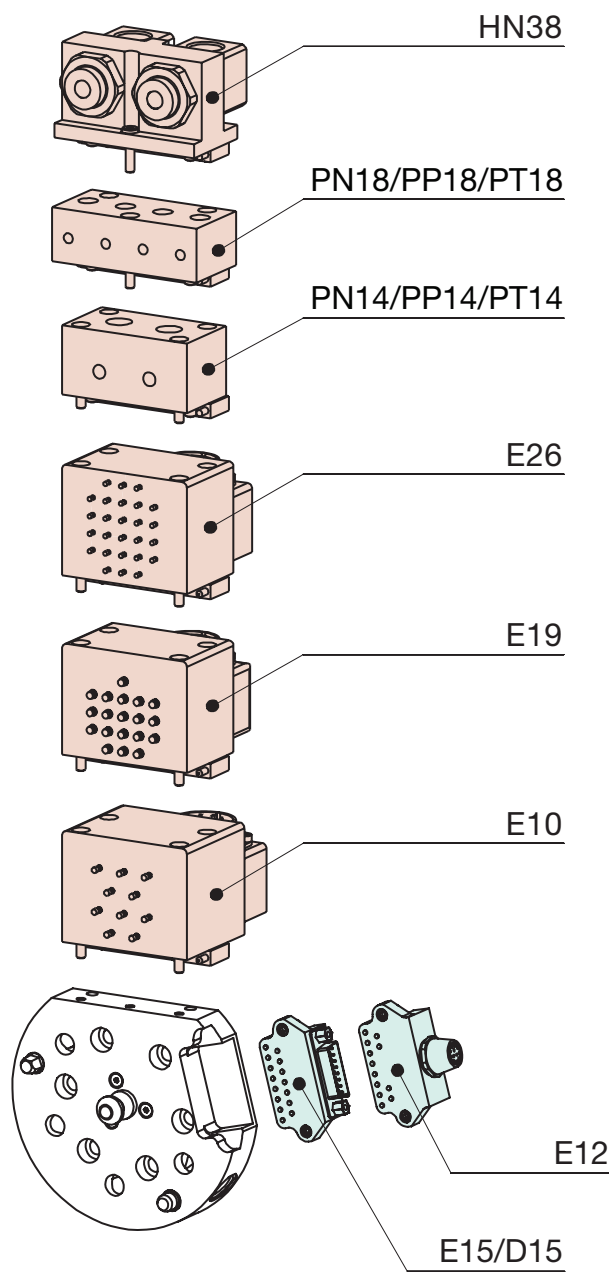
QC/TP SERIES

Automatic Tool Changers | Module Usage Illustrations

QC Series Robot Plate with Optional Modules

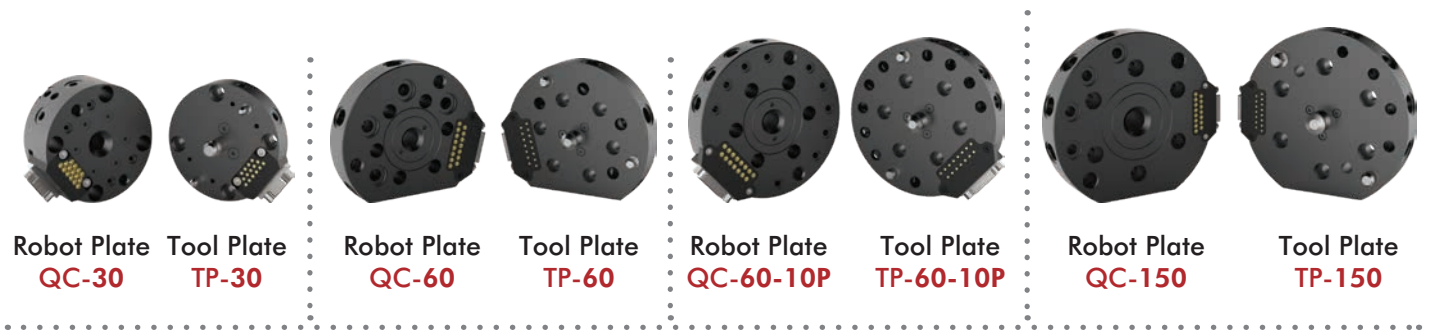


TP Series Tool Plate with Optional Modules



QC/TP SERIES

Automatic Tool Changers | How to Order



Base Model	Model Size	Port Options (QC-only)	I/O Block	Sensing†	Optional Modules*	10-Port (QC/TP-60 only)
QC Robot Plate	60	M	E15	LP	PN18	10P
TP Tool Plate	30 60 150 (See Page TC-QCTP-2 for Specifications)	Blank NPT M BSPP A BSPT (QC-60 and QC-150 only)	0 No I/O Block E15 15-pin, Sub-D D15 (2) X E15 (QC/TP-30 only) E12 12-pin, Turck	0 No Sensing LP PNP Inductive Latch Sensor LN NPN Inductive Latch Sensor	Order Code E26 E19* E10 PN18 PP18 PT18 PN14 PP14 PT14 HN38	Optional Modules 26-PIN 5A Module 19-PIN 5A Module 10-PIN 13A Module 4X 1/8 NPT Pneumatic Port 4X 1/8 BSPP Pneumatic Port 4X 1/8 BSPT Pneumatic Port 2X 1/4 NPT Pneumatic Port 2X 1/4 BSPP Pneumatic Port 2X 1/4 BSPT Pneumatic Port 2X 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 PLATE)

Automatic Tool Changers | Technical Specifications | Dimensions



QC-30 Specification:

Max. Payload: 13.6 Kg [30 lbs]

Weight: 0.23 Kg [0.50 lbs]

Bore Ø: 25.4 mm [1.00 in]

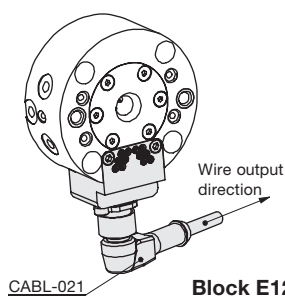
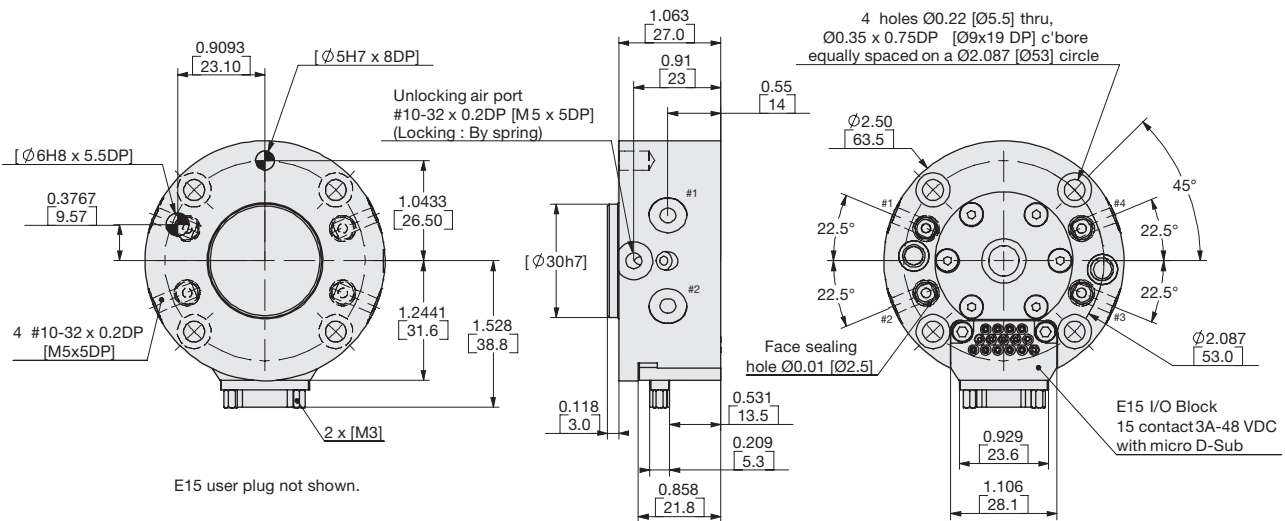
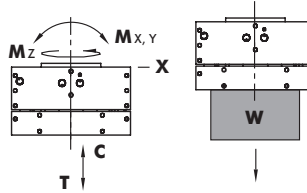
Displacement: 3.9 cm³ [0.24 in³]

Loading Capacity

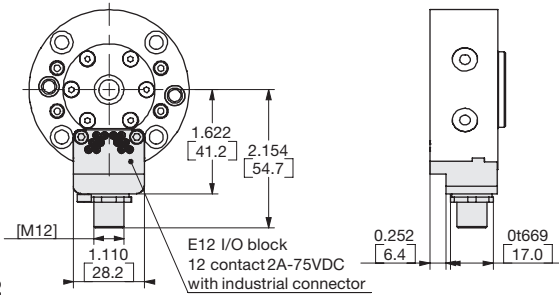
Max. Tensile T: 311 N [70 lb]

Max. Compressive C: 445 N [100 lb]

Max. Moment (M_x/M_y/M_z): 22.6 Nm [200 in-lb]



Block E12



Block D15

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

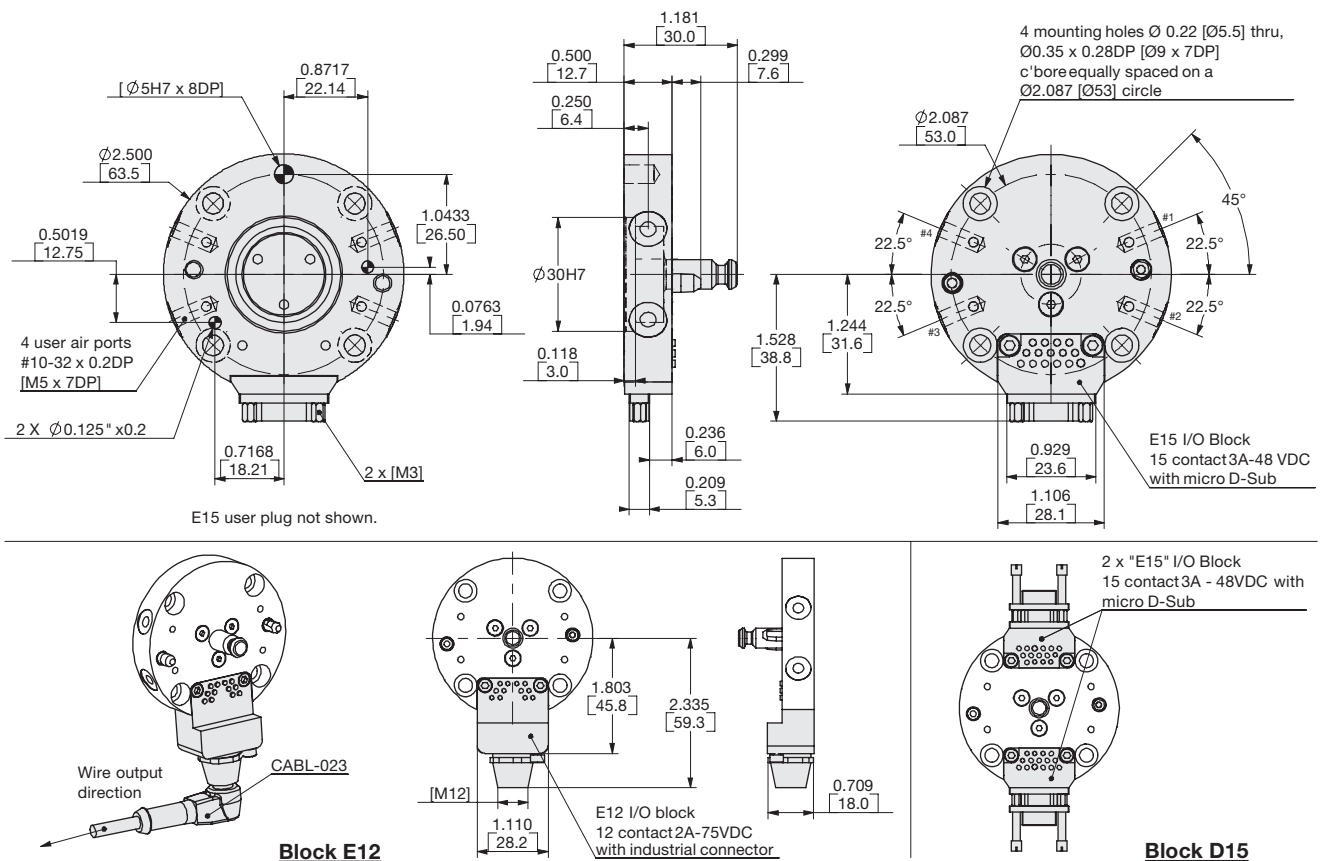
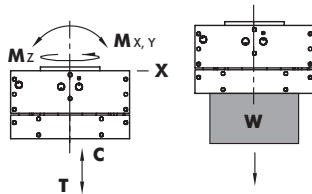
IMPERIAL ([IN.])
0.00 = ±.01
0.000 = ±.005
0.0000 = ±.0005

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

Automatic Tool Changers | Technical Specifications | Dimensions

Weight: 0.11 Kg [0.25 lbs]

Max. Moment ($M_x/M_y/M_z$): 22.6 Nm [200 in-lb]



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LOCATIONAL TOLERANCE
±.0005" OR [±.013MM]



IMPERIAL ([IN.])

$$\begin{aligned} 0.00 &= \pm .01 \\ 0.000 &= \pm .005 \\ 0.0000 &= \pm .0005 \end{aligned}$$

METRIC (MM)

$$\begin{aligned}[0] &= [\pm .25] \\ [0.0] &= [\pm .13] \\ [0.00] &= [\pm .013]\end{aligned}$$

QC-60 (ROBOT PLATE)

Automatic Tool Changers | Technical Specifications | Dimensions



QC-60 Specification:

Max. Payload: 27 Kg [60 lbs]

Weight: 0.86 Kg [1.9 lbs]

Bore Ø: 44.5 mm [1.75 in]

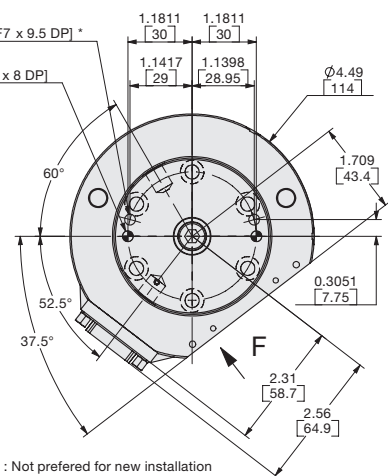
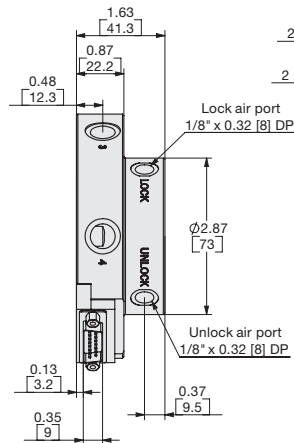
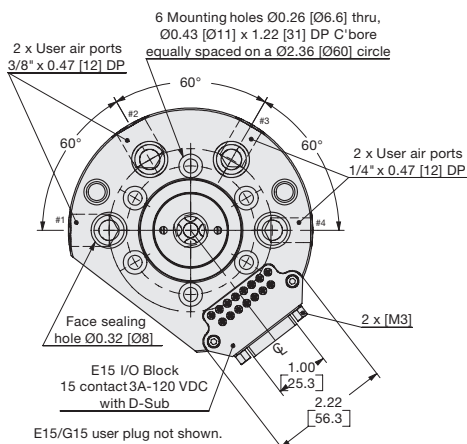
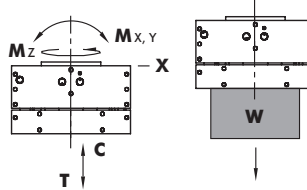
Displacement: 9.2 cm³ [0.56 in³]

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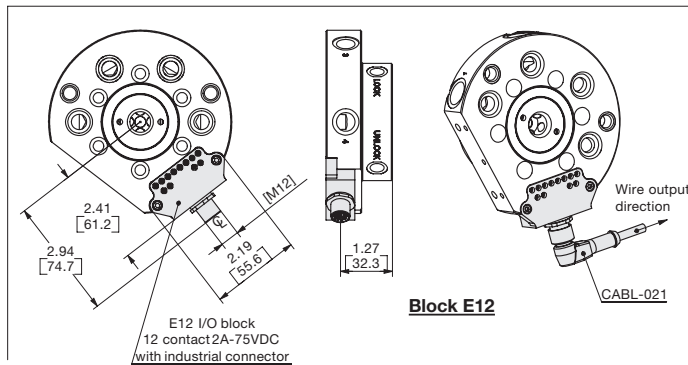
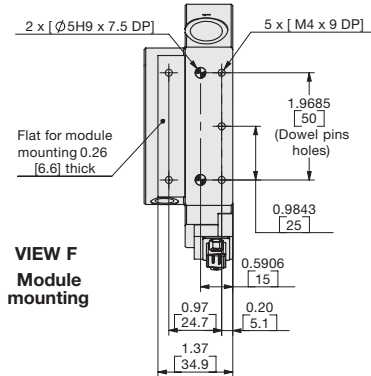
Max. Tensile T: 445 N [100 lb]

Max. Compressive C: 534 N [120 lb]

Max. Moment (M_x/M_y/M_z): 88.1 Nm [780 in-lb]

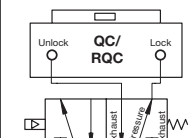


* : Not preferred for new installation



Failsafe operation:

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



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⌀
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]

TP-60 (TOOL PLATE)

Automatic Tool Changers | Technical Specifications | Dimensions

TP-60 Specification:

Max. Payload: 27 Kg [60 lbs]

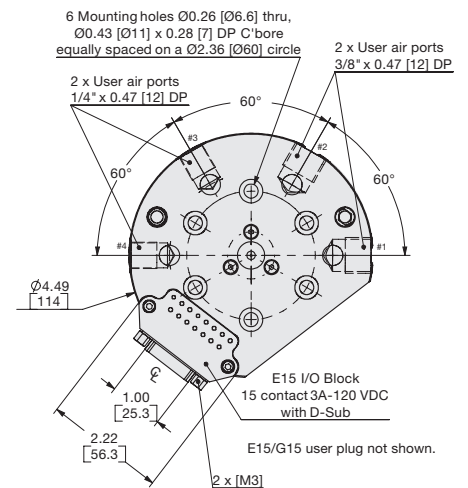
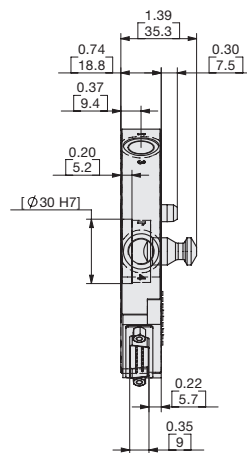
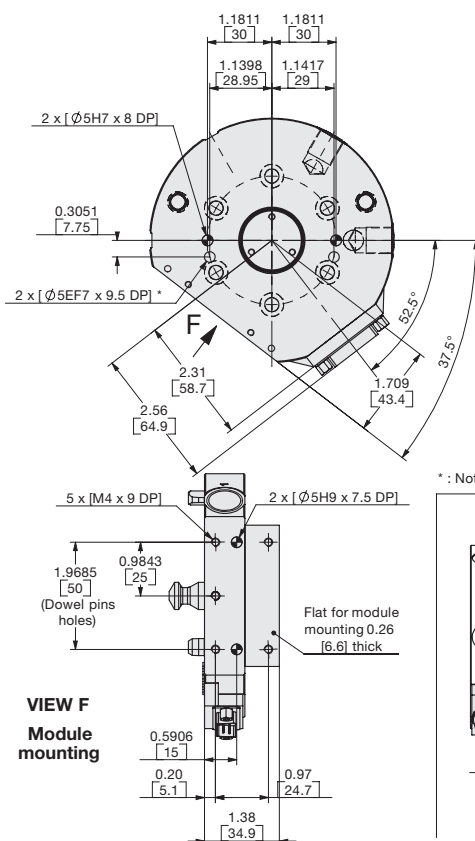
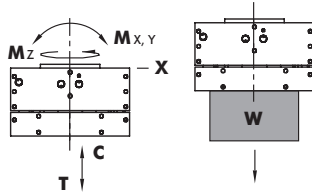
Weight: 0.41 Kg [0.90 lbs]

Loading Capacity

Max. Tensile T: 445 N [100 lb]

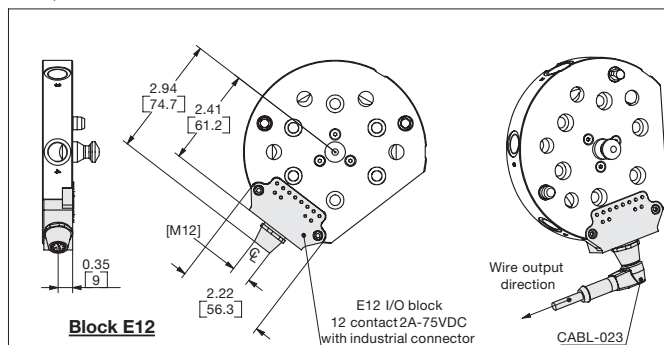
Max. Compressive C: 534 N [120 lb]

Max. Moment (M_x/M_y/M_z): 88.1 Nm [780 in-lb]



* : Not preferred for new installation

VIEW F Module mounting



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

Automatic Tool Changers | Technical Specifications | Dimensions



TP-60-10P (TOOL PLATE)

Automatic Tool Changers | Technical Specifications | Dimensions

TP-60-10P Specification:

Max. Payload: 27 Kg [60 lbs]

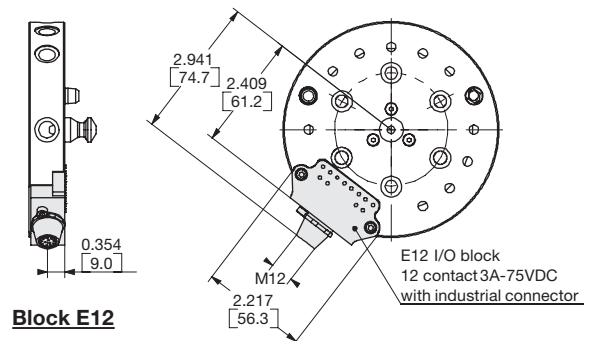
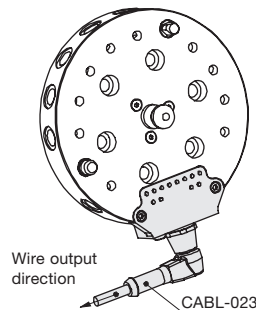
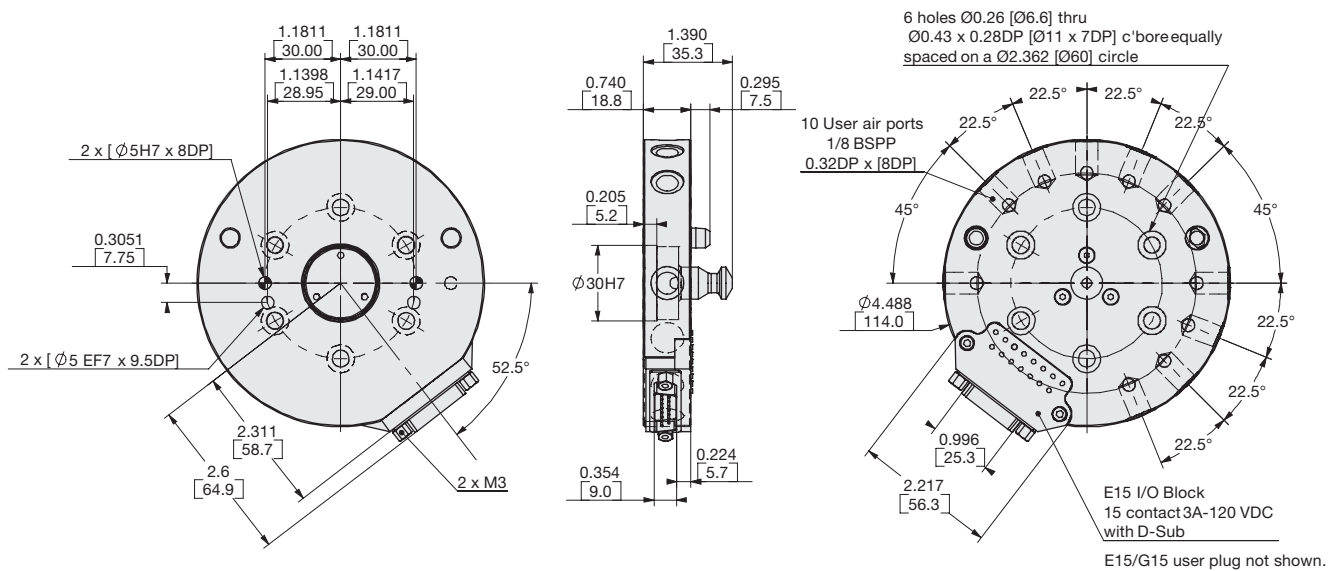
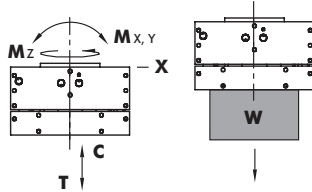
Weight: 0.41 Kg [0.90 lbs]

Loading Capacity

Max. Tensile **T**: 445 N [100 lb]

Max. Compressive **C**: 534 N [120 lb]

Max. Moment ($M_x/M_y/M_z$): 88.1 Nm [780 in-lb]



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

QC-150 (ROBOT PLATE)

Automatic Tool Changers | Technical Specifications | Dimensions



QC-150 Specification:

Max. Payload: 68 Kg [150 lbs]

Weight: 2.2 Kg [4.8 lbs]

Bore Ø: 66.8 mm [2.63 in]

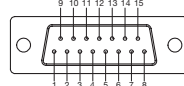
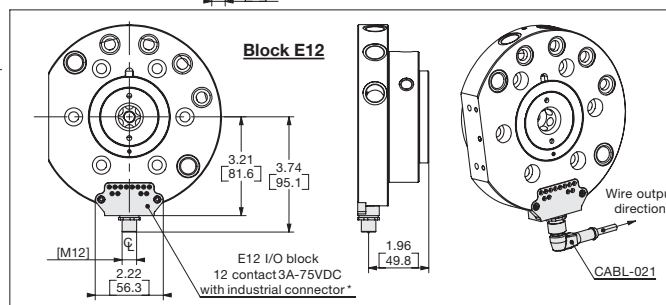
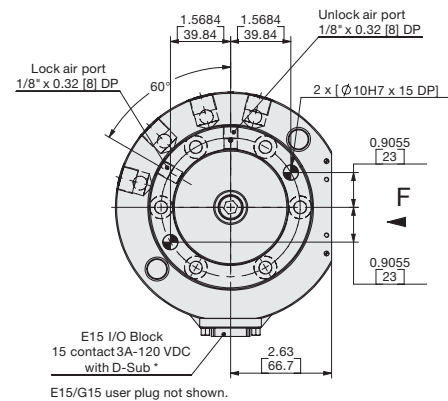
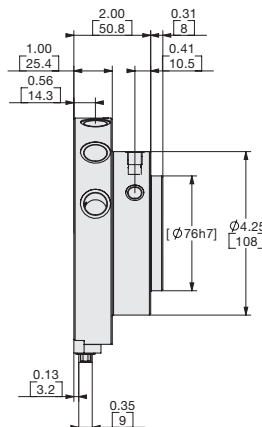
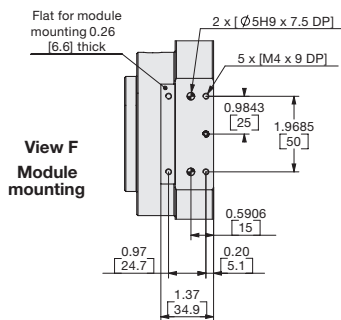
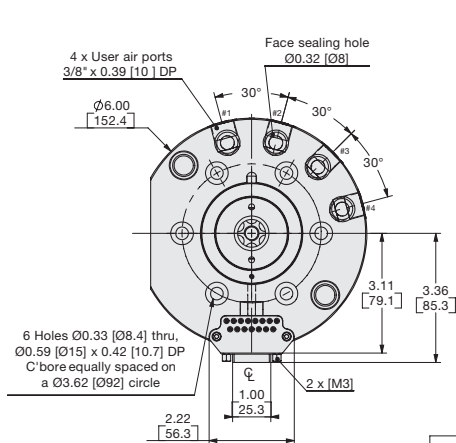
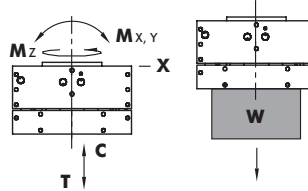
Displacement: 25.4 cm³ [1.55 in³]

Loading Capacity

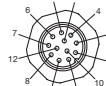
Max. Tensile T: 890 N [200 lb]

Max. Compressive C: 1334 N [300 lb]

Max. Moment (M_x/M_y/M_z): 215 Nm [1900 in-lb]



Block E15

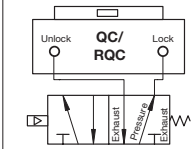


Block E12

* LP or LN option (latch sensor) requires
Block E15: 8 (-), 3 (output) and 2 (+) contacts
Block E12: 1 (-), 6 (output) and 7 (+) contacts

Failsafe operation:

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



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PROJECTION

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0.000 = ±.005
0.0000 = ±.0005

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

TP-150 (TOOL PLATE)

Automatic Tool Changers | Technical Specifications | Dimensions

TP-150 Specification:

Max. Payload: 68 Kg [150 lbs]

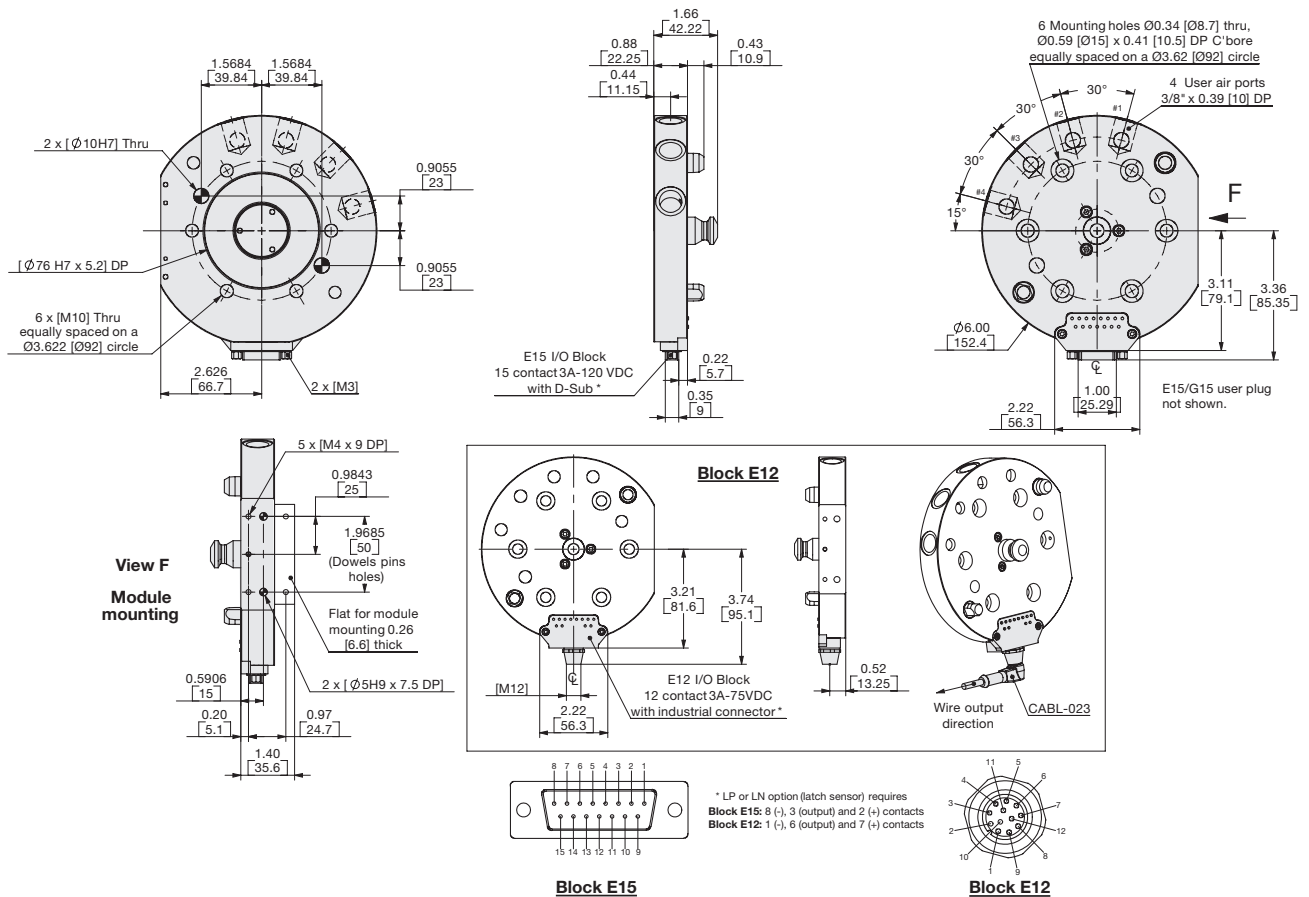
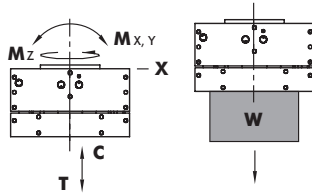
Weight: 1.0 Kg [2.3 lbs]

Loading Capacity

Max. Tensile **T**: 890 N [200 lb]

Max. Compressive **C**: 1334 N [300 lb]

Max. Moment (**M_x/M_y/M_z**): 215 Nm [1900 in-lb]



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LOCATIONAL TOLERANCE
±.0005" OR [±.013MM]

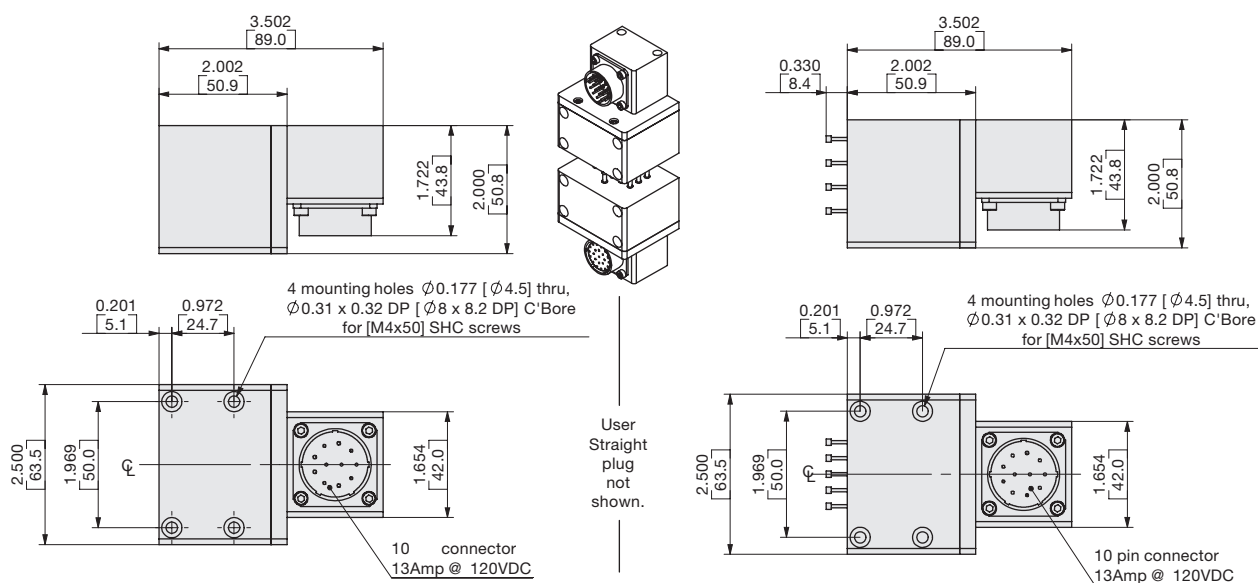
⌂
METRIC THREADS
COURSE PITCH

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

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

QC/TP SERIES

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



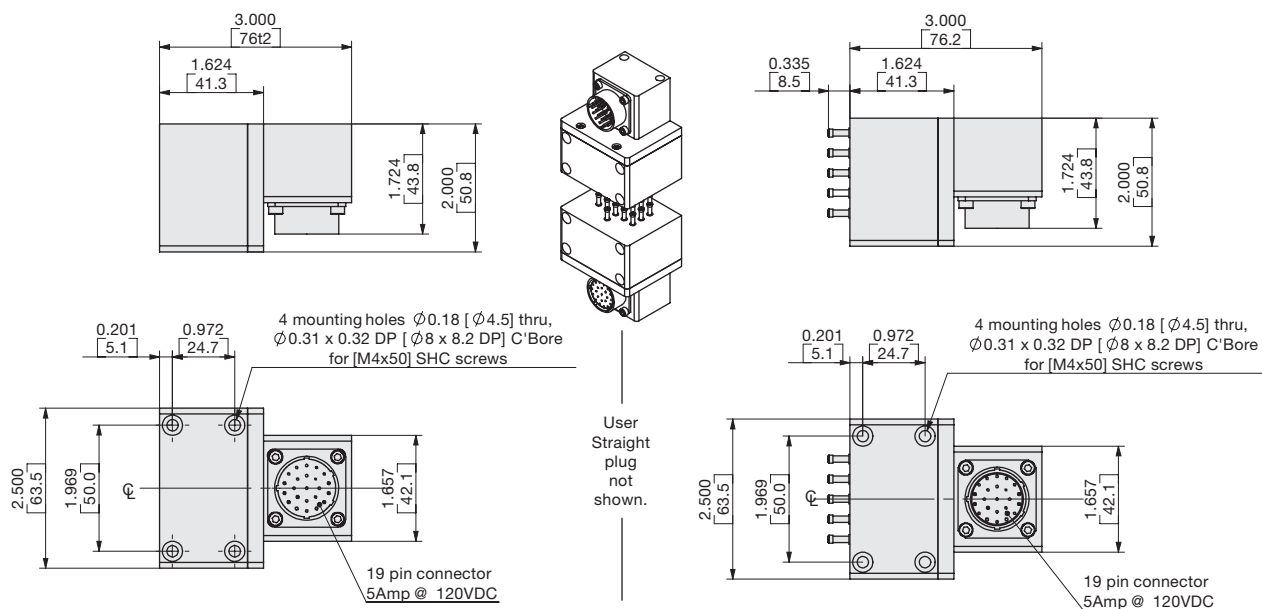
Flat for module mounting not shown: See QC or TP drawings.

Model	Module	Robot Plate	Tool Plate	*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



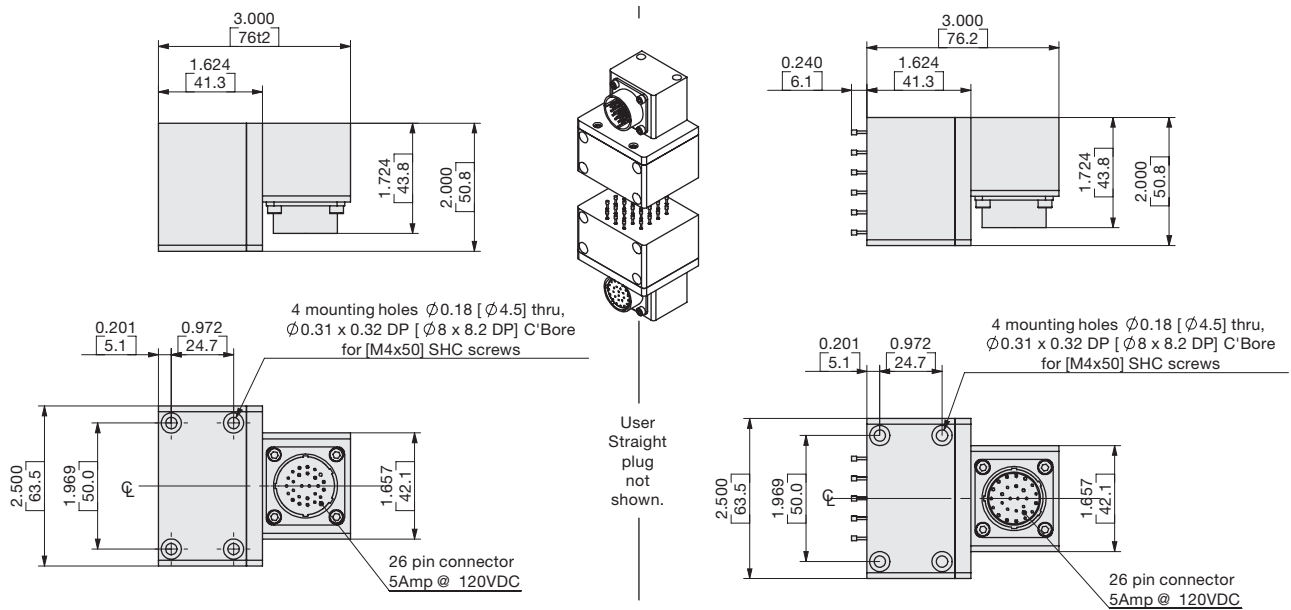
Flat for module mounting not shown: See QC or TP drawings.

Model	Module	Robot Plate	Tool Plate	*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



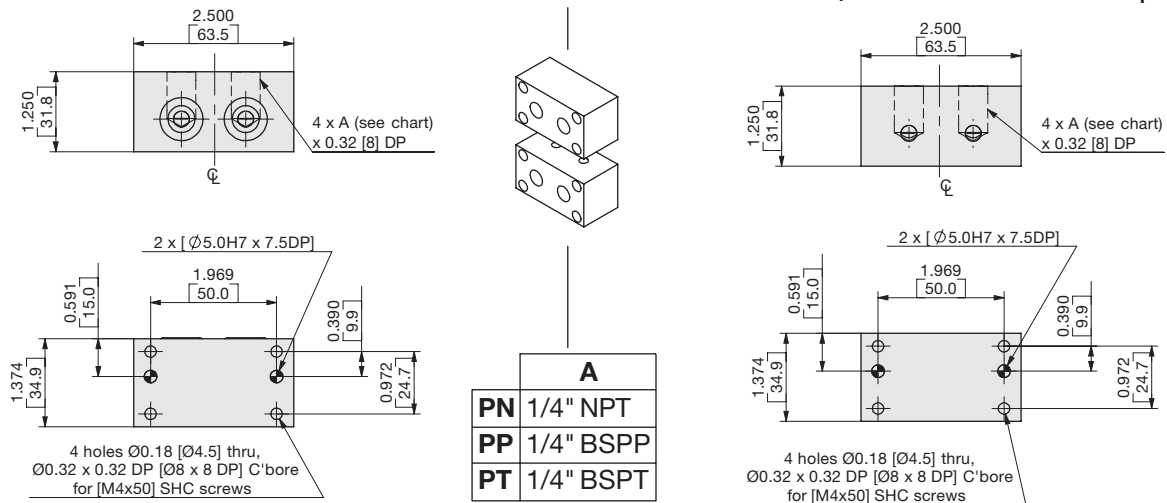
Flat for module mounting not shown: See QC or TP drawings.

Model	Module	Robot Plate	Tool Plate	*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



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

For QC/TP-60

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

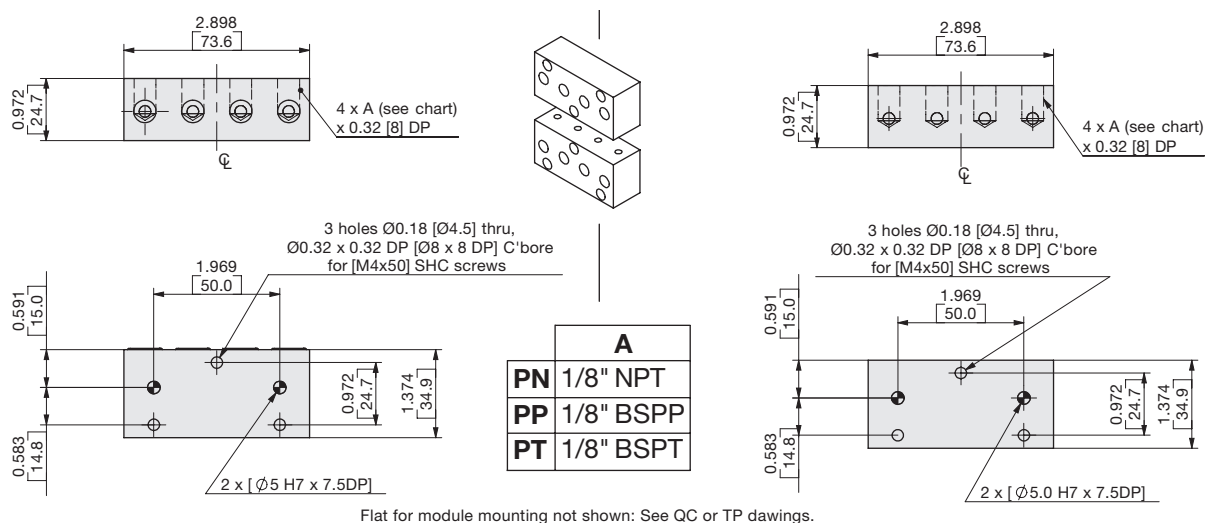
For QC/TP-150

Module	Robot Plate	Tool Plate
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

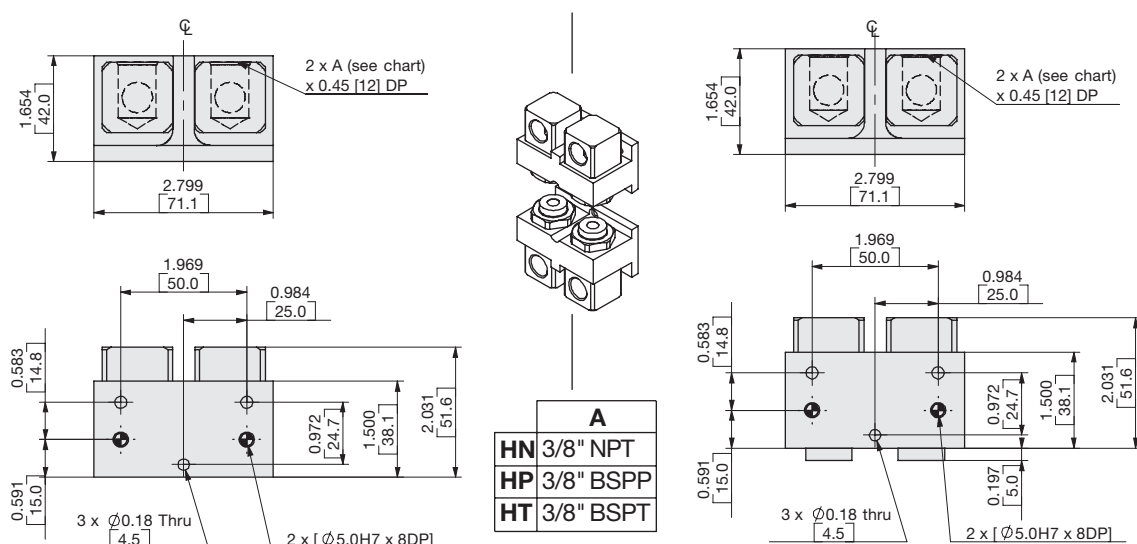
Module	Robot Plate	Tool Plate
PN18	KPN18-QC60	KPN18-TP60
PP18	KPP18-QC60	KPP18-TP60
PT18	KPT18-QC60	KPT18-TP60
Seal Kit	SLKT-391	---

For QC/TP-150

Module	Robot Plate	Tool Plate
PN18	KPN18-QC150	KPN18-TP150
PP18	KPP18-QC150	KPP18-TP150
PT18	KPT18-QC150	KPT18-TP150
Seal Kit	SLKT-391	---

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

Module	Robot Plate	Tool Plate
HN38	KHN38-QC60	KHN38-TP60

For QC/TP-150

Module	Robot Plate	Tool Plate
HN38	KHN38-QC150	KHN38-TP150

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

QC/TP SERIES

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 Plate	Tool Plate
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 Plate	Tool Plate
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.