

# 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:

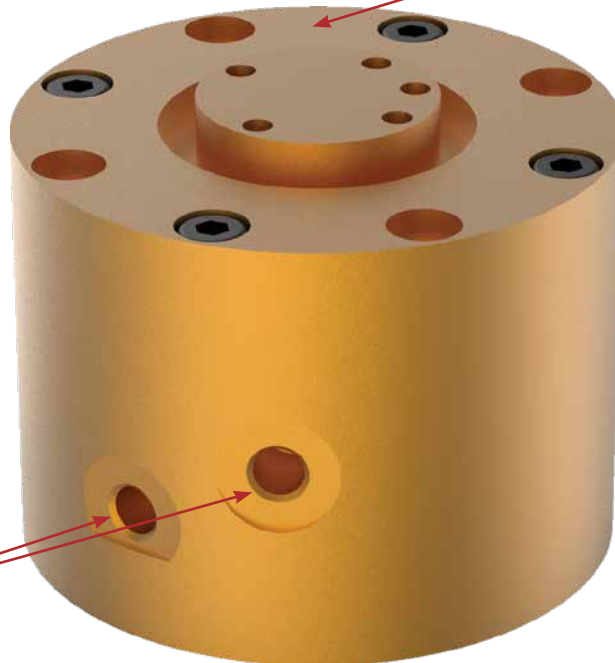
Due to the optional spring assist, compliance may be used in single acting mode.

### 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



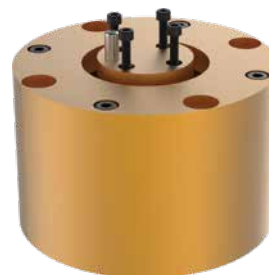
### Air Ports

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]

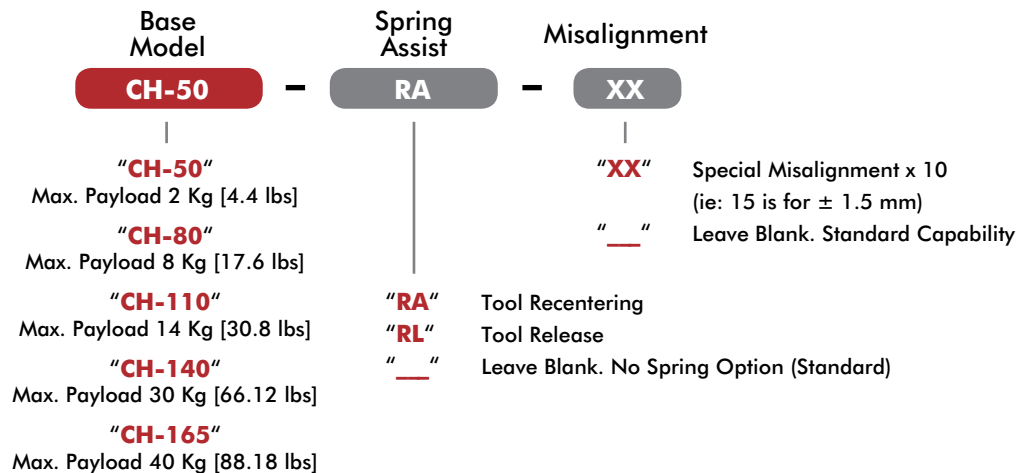
### Maintenance Specification

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

### Air Quality Requirements

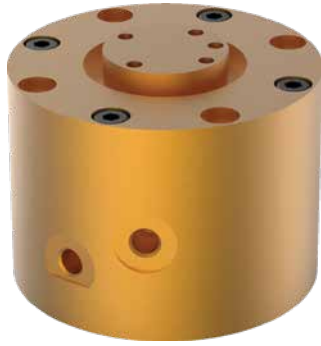
Air Filtration: 40 Microns or Better  
 Air Lubrication: Not Necessary\*  
 Air Humidity: Low Moisture Content (Dry)  
 (\*)Addition of lubrication will greatly increase service life.

## How to Order



# CH-50P

## Cylindrical Horizontal Compliance Device | Technical Information | Dimensions

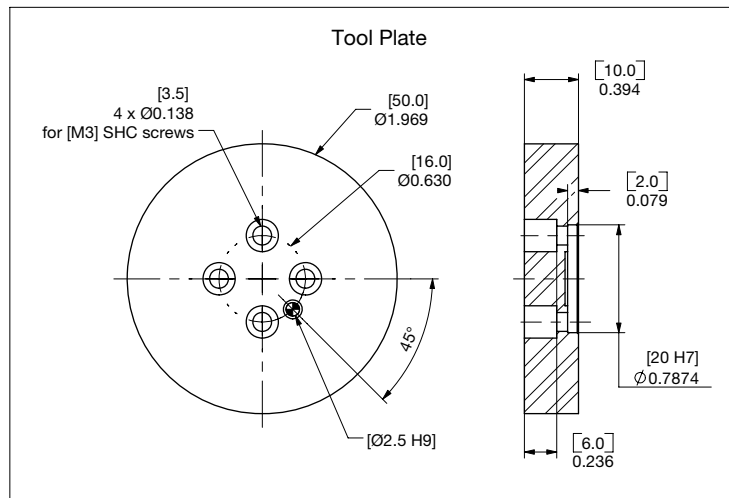
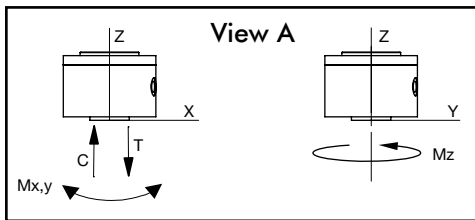
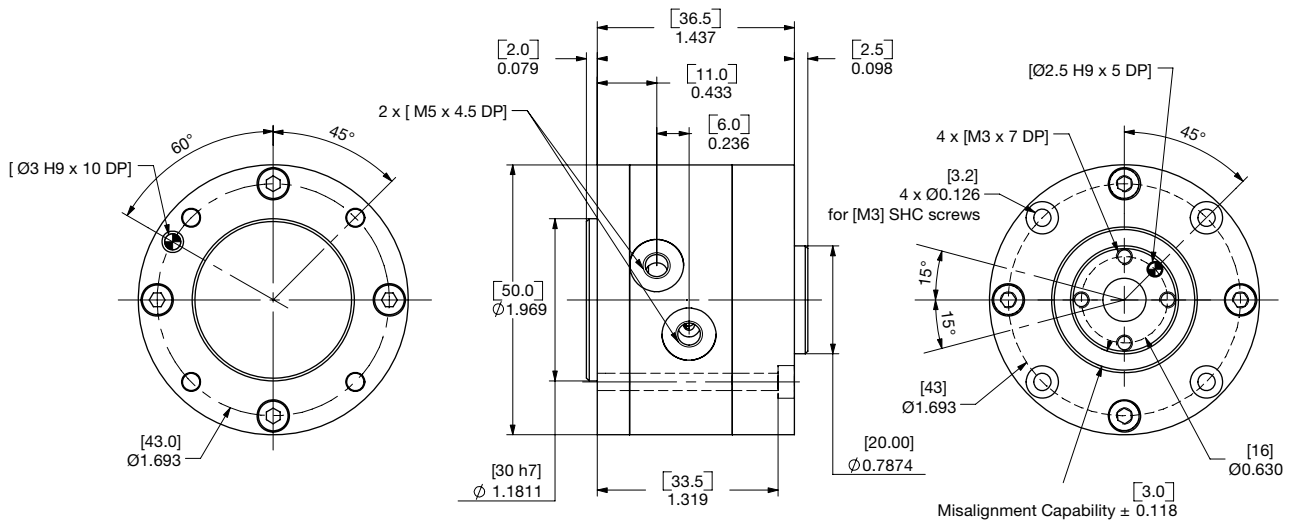


### CH-50P Specification:

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  
 $\pm 0.005^\circ$  OR [ $\pm 0.13$ MM]



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] =  $\pm 0.13$

### 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]

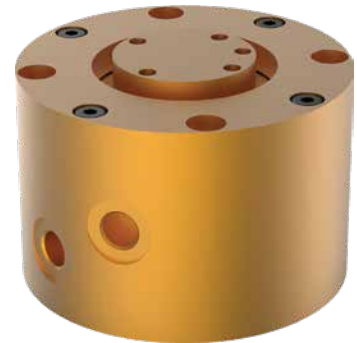
Cylinder Bore: 60 mm [2.37 in]

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



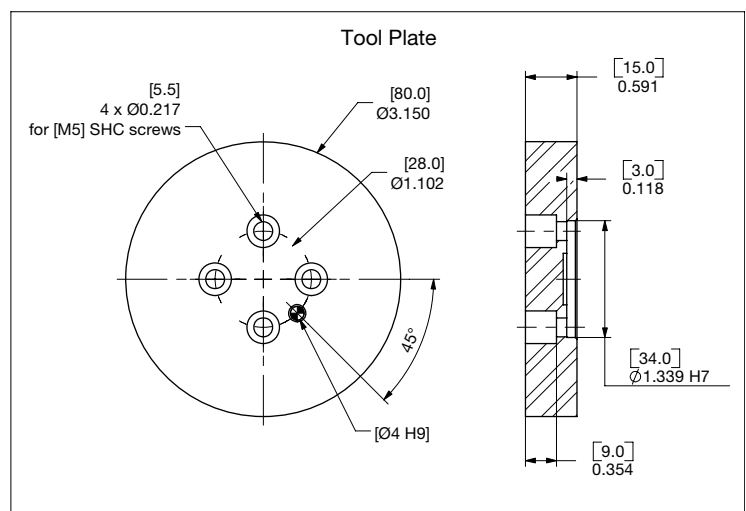
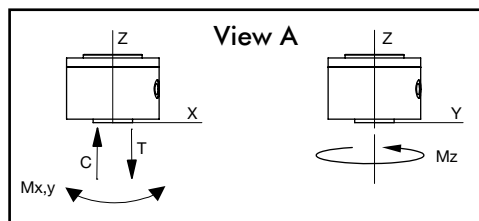
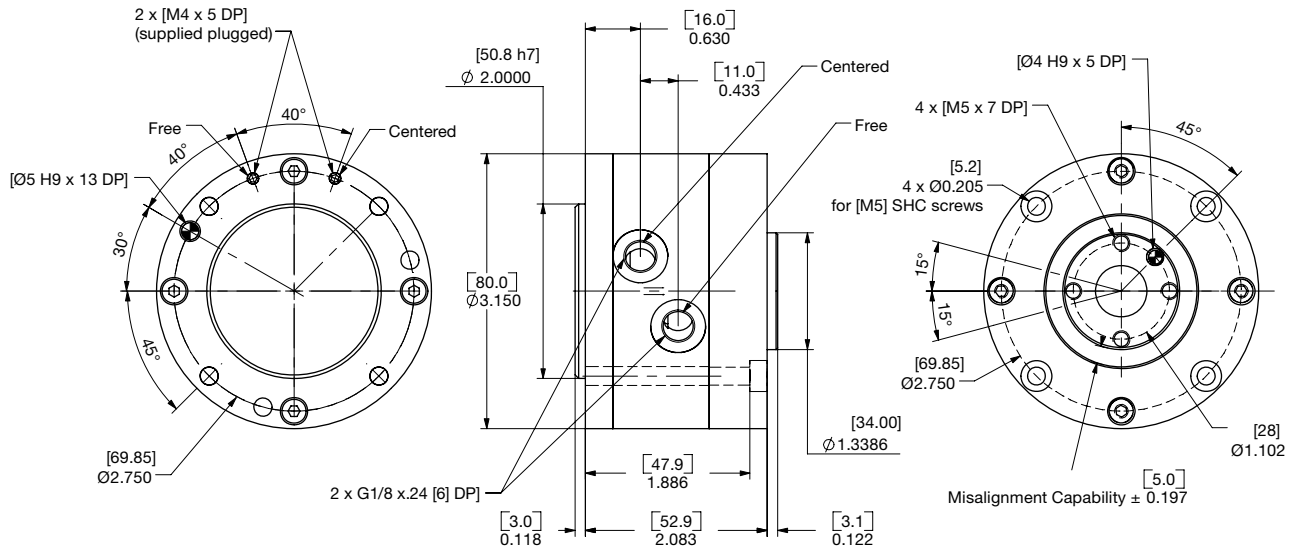
### Loading Capacity (View A):

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 [ $\pm .013$ 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] = [ $\pm .013$ ]

# CH-110P

## Cylindrical Horizontal Compliance Device | Technical Information | Dimensions

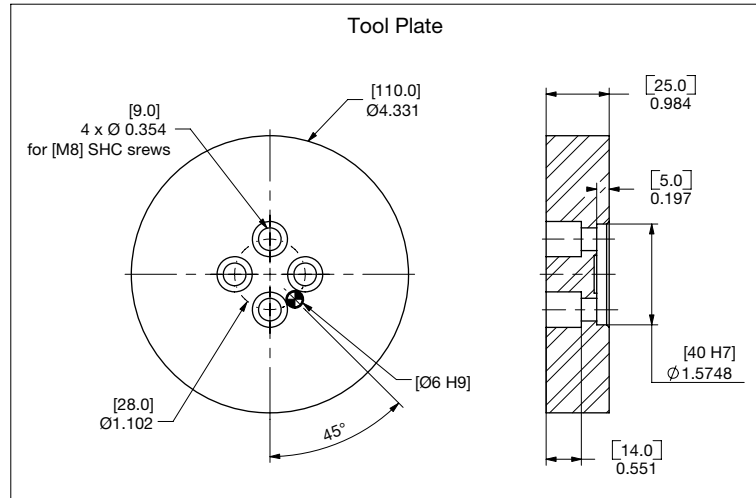
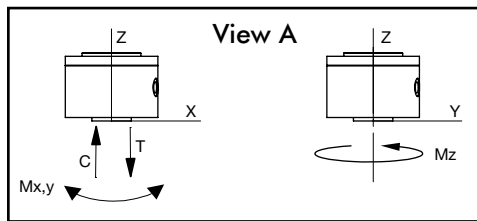
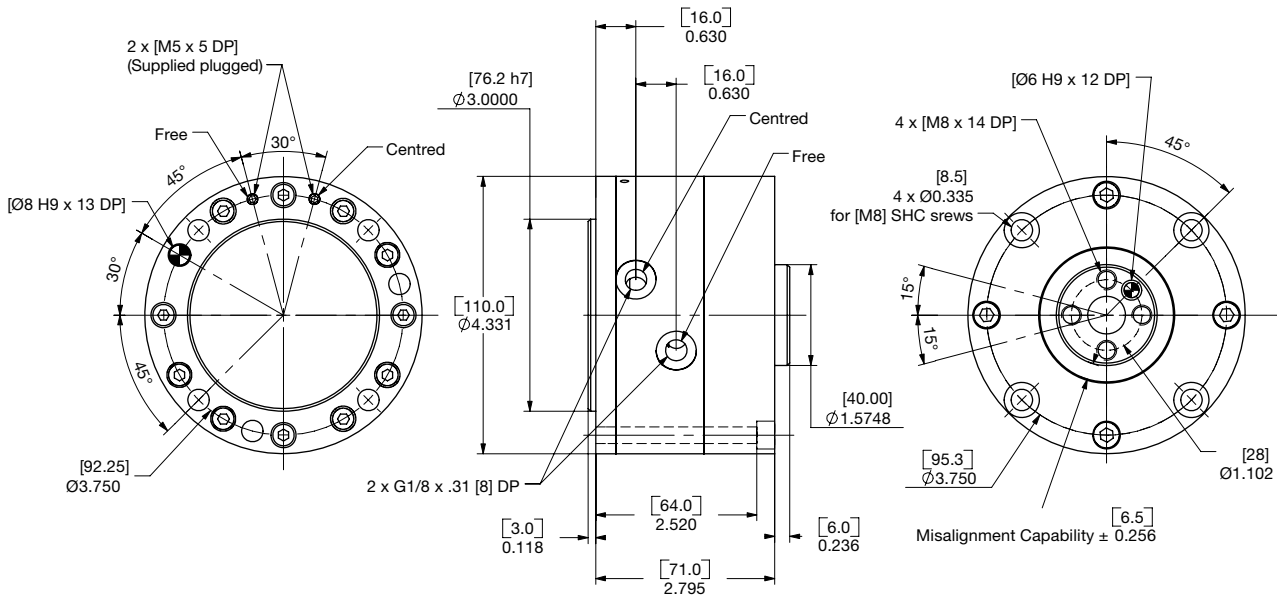


### CH-110P Specification:

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 $\pm 0.0005$ " 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] = [ $\pm 0.13$ ]

### 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]

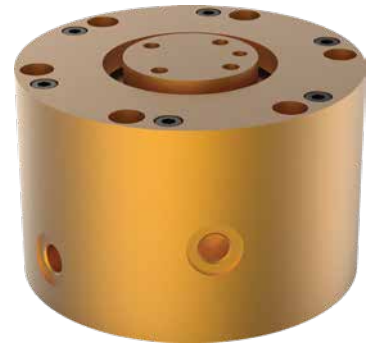
Cylinder Bore: 105 mm [4.13 in]

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



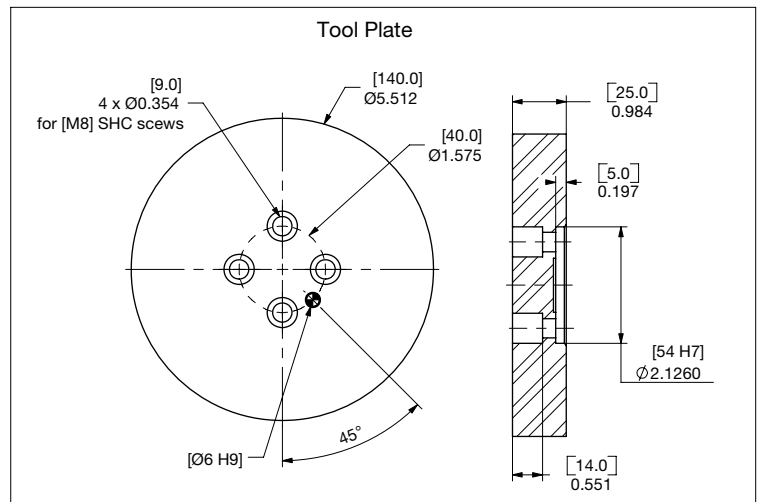
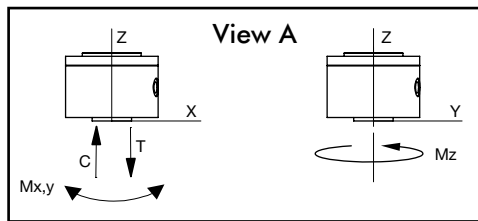
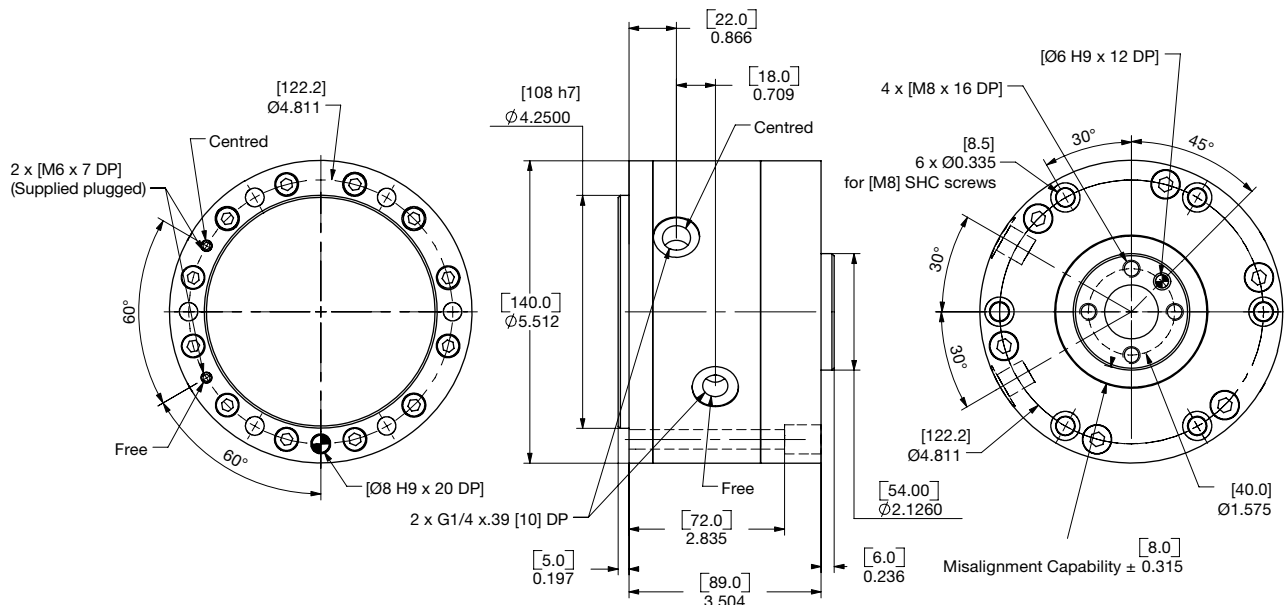
### Loading Capacity (View A):

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.]

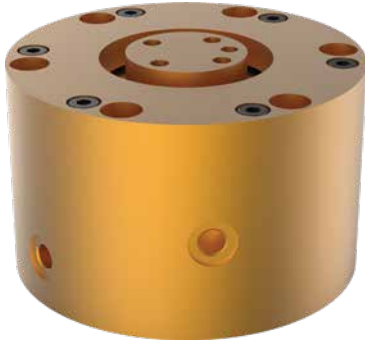


UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

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 = $\pm .01$ 0.000 = $\pm .005$ 0.0000 = $\pm .0005$	[0] = [ $\pm .25$ ] [0.0] = [ $\pm .13$ ] [0.00] = [ $\pm .013$ ]

# 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

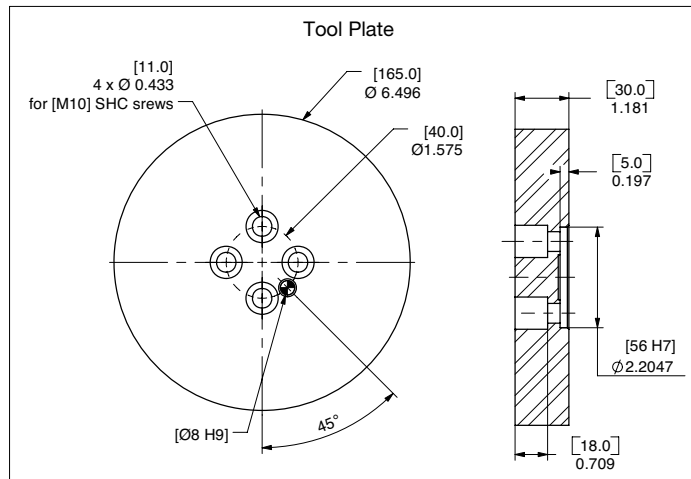
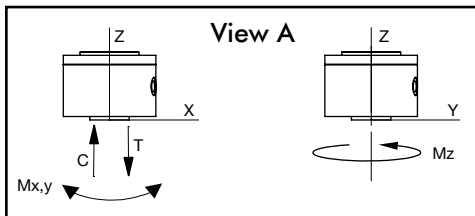
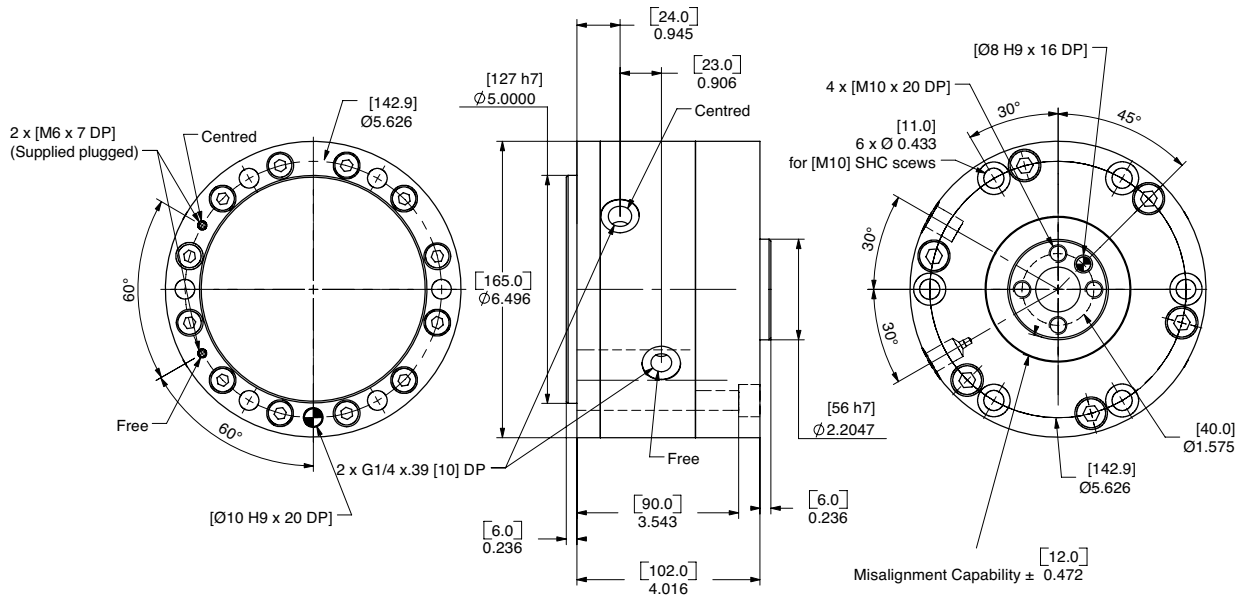
### Loading Capacity (View A):

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] = [ $\pm .013$ ]

