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 ±10°.

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

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

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

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

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

**Mounting Information**

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

Tooling is located using a centering and a dowel pin and assembled using 4 screws.

Dimensions and technical information are subject to change without notice.
Pneumatic Specification
Pressure Range (w/o springs): 2-7 bar [30-100 psi]
Pressure Range (w/springs CH-50): 3-7 bar [43-100 psi]
Pressure Range (w/springs): 4-7 bar [60-100 psi]
Cylinder Type: Double Acting, Double Acting Spring Assist, or Single Acting Spring Return
Dynamic Seals: Internally Lubricated Buna-N
Valve Required to Actuate: Double Acting: 4-way, 2-Position; Single Acting (-RL or -RA Option): 3-way, 2-Position

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

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

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

How to Order

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

Special Misalignment x 10 (ie: 15 is for ± 1.5 mm)
Leave Blank. Standard Capability
Tool Recentering
Tool Release
Leave Blank. No Spring Option (Standard)

Dimensions and technical information are subject to change without notice.
**CH-50P Specification:**
Centering Force @ 7 bar [100 psi]: 322 N [74 lbs]
Max. Payload: 2 Kg [4.4 lbs]
Misalignment Capability: ±3 mm [± 0.12 in]
Weight: 0.195 Kg [0.43 lbs]
Cylinder Bore: 34 mm [1.34 in]
Displacement: 5.2 cm³ [0.32 in³ lbs]
Actuation: 0.07 sec [0.07 sec]
Repeatability: ±0.02 mm [±0.0008 in]
Angular Repeatability: ±10 mm

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

**Dimensions and Technical Information are Subject to Change Without Notice**

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

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

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

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

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**Dimensions and Technical Information**

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

- **Dimensions** are symmetrical about centerline
- **Third Angle Projection**
- **Imperial (IN) / Metric (MM)**
- **Metric Threads Course Pitch**

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**TC-CH 5**
Dimensions and technical information are subject to change without notice
**CH-140P Specification:**

Centering Force @ 7 bar [100 psi]: 3170 N [712 lbs]
Max. Payload: 30 Kg [66.1 lbs]
Misalignment Capability: ±8 mm [± 0.31 in]
Weight: 4.31 Kg [9.5 lbs]
Cylinder Bore: 105 mm [4.13 in]
Displacement: 148 cm³ [9.03 in³ lbs]
Actuation: 0.02 sec [0.02 sec]
Repeatability: ±0.06 mm [±0.0024 in]
Angular Repeatability: ±20 mm

**Loading Capacity (View A):**

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

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**CH-165P Specification:**
- **Centering Force @ 7 bar [100 psi]:** 4140 N [931 lbs]
- **Max. Payload:** 40 Kg [88.2 lbs]
- **Misalignment Capability:** ±12 mm [± 0.47 in]
- **Weight:** 8.7 Kg [19.2 lbs]
- **Cylinder Bore:** 120 mm [4.72 in]
- **Displacement:** 236 cm³ [14.40 in³]
- **Actuation:** 0.36 sec [0.36 sec]
- **Repeatability:** ±0.06 mm [± 0.0024 in]
- **Angular Repeatability:** ±20 mm

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

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