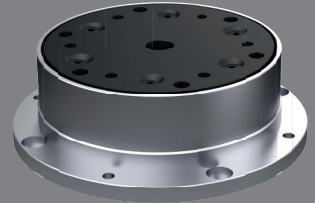


# Compliance Device for torque pressure operation with flange - T SERIES

Center Master® compensates for errors (position) occurred during an assembly that various precision parts are press or loose fitted into the holes. Thereby, it reduces assembly failure, enhances product quality, and shortens the cycle time in production line.

## Advantages

- Significant reduction of assembly failure due to center position errors
- Uniform press-fitting quality
- Wide range of applications
- Increased binding force between parts
- Saves assembly line construction time, reduces equipment investment cost
- Enhanced operation rate
- Longer life cycle of the assembler
- Simple maintenance



## SPECIFICATIONS

| Model (1)      | Allowable maximum force | Compliance center length P | Payload (2) | Compensation range |                 | Elasticity coefficient (3) |             |                      |                     | Angle Tolerance in Distortion Direction | Weight  |
|----------------|-------------------------|----------------------------|-------------|--------------------|-----------------|----------------------------|-------------|----------------------|---------------------|-----------------------------------------|---------|
|                |                         |                            |             | Position error     | Torsional angle | Axial direction            |             | Horizontal direction | Torsional direction |                                         |         |
|                |                         |                            |             |                    |                 | Compressional              | Tensile     |                      |                     |                                         |         |
| CCR-T6-040-048 | 6.0 kN                  | 40 mm                      | 14.7 N      | ±2 mm              | 0°              | 625.2 N/mm                 | 143.1 N/mm  | 9.5 N/mm             | 58.8 Nm/rad         | ±0.3°                                   | 0.7 kg  |
|                | 610 kgf                 | 1.57 in                    | 1.5 kgf     | ±0.08 in           |                 | 63.8 kgf/mm                | 14.6 kgf/mm | 1.0 kgf/mm           | 6.0 kgf.cm/rad      |                                         | 1.54 lb |
| CCR-T6-050-054 | 7.5 kN                  | 50 mm                      | 19.6 N      | ±2 mm              | 0°              | 1180.9 N/mm                | 143.1 N/mm  | 11.8 N/mm            | 70.6 Nm/rad         | ±0.3°                                   | 0.9 kg  |
|                | 770 kgf                 | 1.97 in                    | 2.0 kgf     | ±0.08 in           |                 | 120.5 kgf/mm               | 14.6 kgf/mm | 1.2 kgf/mm           | 7.2 kgf.cm/rad      |                                         | 1.98 lb |
| CCR-T6-060-060 | 8.5 kN                  | 60 mm                      | 19.6 N      | ±2 mm              | 0°              | 1180.9 N/mm                | 143.1 N/mm  | 11.8 N/mm            | 78.5 Nm/rad         | ±0.2°                                   | 1.1 kg  |
|                | 870 kgf                 | 2.36 in                    | 2.0 kgf     | ±0.08 in           |                 | 120.5 kgf/mm               | 14.6 kgf/mm | 1.2 kgf/mm           | 8.0 kgf.cm/rad      |                                         | 2.42 lb |
| CCR-T6-070-065 | 15.0 kN                 | 70 mm                      | 26.5 N      | ±2 mm              | 0°              | 1573.9 N/mm                | 191.1 N/mm  | 11.8 N/mm            | 117.7 Nm/rad        | ±0.2°                                   | 1.2 kg  |
|                | 1530 kgf                | 2.76 in                    | 2.7 kgf     | ±0.08 in           |                 | 160.6 kgf/mm               | 19.5 kgf/mm | 1.2 kgf/mm           | 12.0 kgf.cm/rad     |                                         | 2.64 lb |
| CCR-T6-080-070 | 25.0 kN                 | 80 mm                      | 26.5 N      | ±2 mm              | 0°              | 1573.9 N/mm                | 191.1 N/mm  | 11.8 N/mm            | 126.5 Nm/rad        | ±0.2°                                   | 1.4 kg  |
|                | 2550 kgf                | 3.15 in                    | 2.7 kgf     | ±0.08 in           |                 | 160.6 kgf/mm               | 19.5 kgf/mm | 1.2 kgf/mm           | 12.9 kgf.cm/rad     |                                         | 3.08 lb |
| CCR-T6-090-078 | 25.0 kN                 | 90 mm                      | 37.3 N      | ±2 mm              | 0°              | 1217.2 N/mm                | 225.4 N/mm  | 12.4 N/mm            | 201.0 Nm/rad        | ±0.2°                                   | 2.0 kg  |
|                | 2550 kgf                | 3.54 in                    | 3.8 kgf     | ±0.08 in           |                 | 124.2 kgf/mm               | 23.0 kgf/mm | 1.3 kgf/mm           | 20.5 kgf.cm/rad     |                                         | 4.4 lb  |
| CCR-T6-100-084 | 40.0 kN                 | 100 mm                     | 37.3 N      | ±2 mm              | 0°              | 1217.2 N/mm                | 225.4 N/mm  | 12.4 N/mm            | 216.7 Nm/rad        | ±0.15°                                  | 2.3 kg  |
|                | 4080 kgf                | 3.94 in                    | 3.8 kgf     | ±0.08 in           |                 | 124.2 kgf/mm               | 23.0 kgf/mm | 1.3 kgf/mm           | 22.1 kgf.cm/rad     |                                         | 5.06 lb |
| CCR-T6-110-088 | 40.0 kN                 | 110 mm                     | 37.8 N      | ±2 mm              | 0°              | 1217.2 N/mm                | 225.4 N/mm  | 12.4 N/mm            | 231.4 Nm/rad        | ±0.15°                                  | 2.4 kg  |
|                | 4080 kgf                | 4.33 in                    | 3.9 kgf     | ±0.08 in           |                 | 124.2 kgf/mm               | 23.0 kgf/mm | 1.3 kgf/mm           | 23.6 kgf.cm/rad     |                                         | 5.28 lb |
| CCR-T6-120-095 | 45.0 kN                 | 120 mm                     | 37.8 N      | ±2 mm              | 0°              | 1217.2 N/mm                | 225.4 N/mm  | 12.4 N/mm            | 247.1 Nm/rad        | ±0.1°                                   | 2.6 kg  |
|                | 4590 kgf                | 4.72 in                    | 3.9 kgf     | ±0.08 in           |                 | 124.2 kgf/mm               | 23.0 kgf/mm | 1.3 kgf/mm           | 25.2 kgf.cm/rad     |                                         | 5.72 lb |
| CCR-T6-130-099 | 50.0 kN                 | 130 mm                     | 37.8 N      | ±2 mm              | 0°              | 1217.2 N/mm                | 225.4 N/mm  | 12.4 N/mm            | 265.8 Nm/rad        | ±0.1°                                   | 2.7 kg  |
|                | 5100 kgf                | 5.12 in                    | 3.9 kgf     | ±0.08 in           |                 | 124.2 kgf/mm               | 23.0 kgf/mm | 1.3 kgf/mm           | 27.1 kgf.cm/rad     |                                         | 5.94 lb |
| CCR-T6-140-108 | 55.0 kN                 | 140 mm                     | 78.0 N      | ±2 mm              | 0°              | 1840.4 N/mm                | 407.7 N/mm  | 15.1 N/mm            | 495.2 Nm/rad        | ±0.1°                                   | 3.8 kg  |
|                | 5610 kgf                | 5.51 in                    | 8.0 kgf     | ±0.08 in           |                 | 187.8 kgf/mm               | 41.6 kgf/mm | 1.5 kgf/mm           | 50.5 kgf.cm/rad     |                                         | 8.36 lb |
| CCR-T6-150-130 | 60.0 kN                 | 150 mm                     | 78.0 N      | ±2 mm              | 0°              | 1840.4 N/mm                | 407.7 N/mm  | 15.1 N/mm            | 962.0 Nm/rad        | ±0.1°                                   | 5.2 kg  |
|                | 6120 kgf                | 5.91 in                    | 8.0 kgf     | ±0.08 in           |                 | 187.8 kgf/mm               | 41.6 kgf/mm | 1.5 kgf/mm           | 98.1 kgf.cm/rad     |                                         | 11.4 lb |

(1) Model: customized order is available

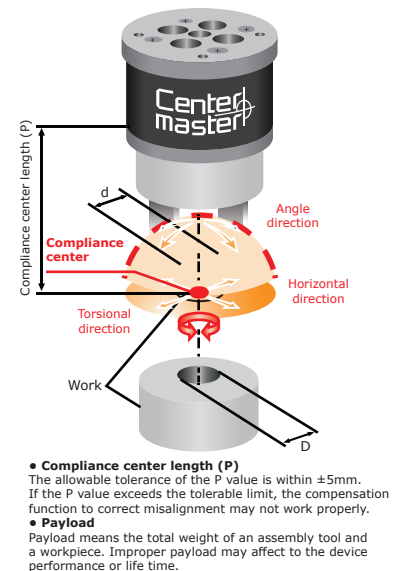
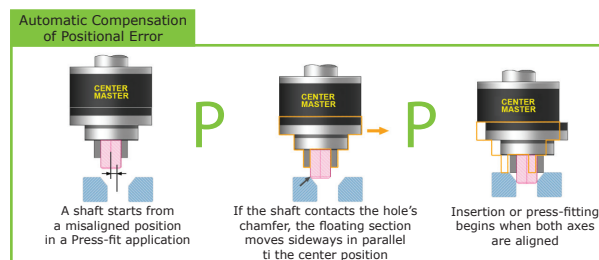
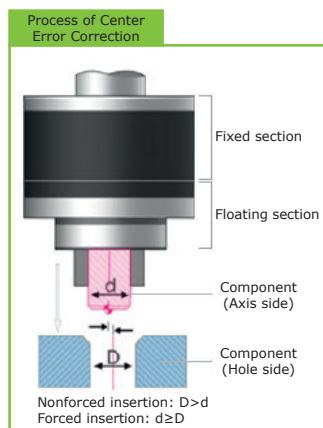
(2) This value can be doubled when Center Master is installed in the vertical direction upside down (reverse vertical).

(3) Elasticity coefficient indicates the elasticity at the compliance center (P) - the average value calculated until the plate runs into the stopper.

\* Center Master® compensates up to +/-2 mm of positional error, but this value can vary depending on the chamfer size.

Ambient temperature: 0-55 °C (32-131 °F)

## AUTOMATIC CORRECTION OF A POSITION ERROR



- **Compliance center length (P)**  
The allowable tolerance of the P value is within ±5mm. If the P value exceeds the tolerable limit, the compensation function to correct misalignment may not work properly.
- **Payload**  
Payload means the total weight of an assembly tool and a workpiece. Improper payload may affect to the device performance or life time.

# PRODUCT INFORMATION

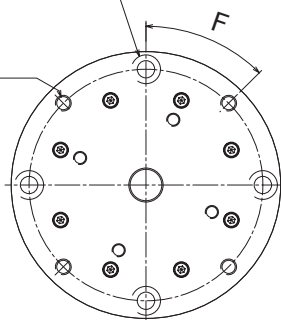


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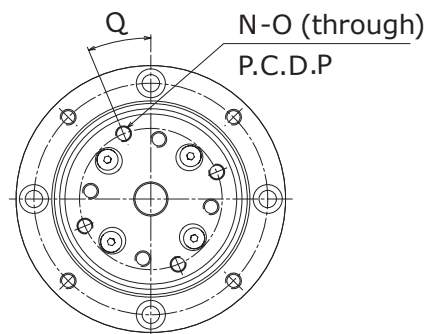
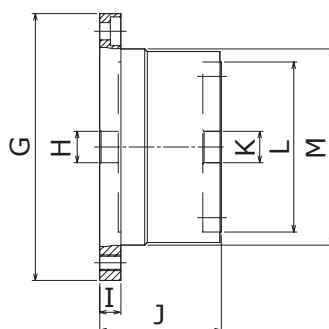
4-C Drill hole

D counterbore, Depth E  
(P.C.D.B)

4-A (through)  
P.C.D.B



MACHINE SIDE



TOOL SIDE

|                | A  | B               | C             | D            | E           | F   | G             | H                            | I            | J            | K                            | L             | M             | N           | O   | P             | Q     |
|----------------|----|-----------------|---------------|--------------|-------------|-----|---------------|------------------------------|--------------|--------------|------------------------------|---------------|---------------|-------------|-----|---------------|-------|
| CCR-T6-040-048 | M6 | 71.5<br>(2.81)  | 6.6<br>(0.26) | 11<br>(0.43) | 4<br>(0.16) | 45° | 85<br>(3.35)  | 12<br>+0.02<br>-0<br>(0.472) | 8<br>(0.32)  | 37<br>(1.46) | 12<br>+0.02<br>-0<br>(0.472) | 48<br>(1.89)  | 58<br>(2.28)  | 3<br>(0.12) | M6  | 36<br>(1.42)  | 22.5° |
| CCR-T6-050-054 | M6 | 77.5<br>(3.05)  | 6.6<br>(0.26) | 11<br>(0.43) | 4<br>(0.16) | 45° | 91<br>(3.58)  | 12<br>+0.02<br>-0<br>(0.472) | 8<br>(0.32)  | 46<br>(1.81) | 12<br>+0.02<br>-0<br>(0.472) | 54<br>(2.13)  | 64<br>(2.52)  | 3<br>(0.12) | M6  | 43<br>(1.69)  | 22.5° |
| CCR-T6-060-060 | M6 | 83.5<br>(3.29)  | 6.6<br>(0.26) | 11<br>(0.43) | 4<br>(0.16) | 45° | 97<br>(3.82)  | 12<br>+0.02<br>-0<br>(0.472) | 8<br>(0.32)  | 46<br>(1.81) | 12<br>+0.02<br>-0<br>(0.472) | 60<br>(2.36)  | 70<br>(2.76)  | 3<br>(0.12) | M6  | 48<br>(1.89)  | 22.5° |
| CCR-T6-070-065 | M6 | 88.5<br>(3.48)  | 6.6<br>(0.26) | 11<br>(0.43) | 4<br>(0.16) | 45° | 102<br>(4.02) | 12<br>+0.02<br>-0<br>(0.472) | 8<br>(0.32)  | 46<br>(1.81) | 12<br>+0.02<br>-0<br>(0.472) | 65<br>(2.56)  | 75<br>(2.95)  | 4<br>(0.16) | M6  | 54<br>(2.13)  | 22.5° |
| CCR-T6-080-070 | M6 | 93.5<br>(3.68)  | 6.6<br>(0.26) | 11<br>(0.43) | 4<br>(0.16) | 45° | 107<br>(4.21) | 12<br>+0.02<br>-0<br>(0.472) | 8<br>(0.32)  | 46<br>(1.81) | 12<br>+0.02<br>-0<br>(0.472) | 70<br>(2.76)  | 80<br>(3.15)  | 4<br>(0.16) | M6  | 58<br>(2.28)  | 22.5° |
| CCR-T6-090-078 | M8 | 104.5<br>(4.11) | 9<br>(0.35)   | 14<br>(0.55) | 5<br>(0.20) | 45° | 121<br>(4.76) | 16<br>+0.02<br>-0<br>(0.629) | 10<br>(0.39) | 52<br>(2.05) | 16<br>+0.02<br>-0<br>(0.629) | 78<br>(3.07)  | 88<br>(3.46)  | 4<br>(0.16) | M8  | 65<br>(2.56)  | 22.5° |
| CCR-T6-100-084 | M8 | 110.5<br>(4.35) | 9<br>(0.35)   | 14<br>(0.55) | 5<br>(0.20) | 45° | 127<br>(5.0)  | 16<br>+0.02<br>-0<br>(0.629) | 10<br>(0.39) | 52<br>(2.05) | 16<br>+0.02<br>-0<br>(0.629) | 84<br>(3.31)  | 94<br>(3.70)  | 4<br>(0.16) | M8  | 70<br>(2.76)  | 22.5° |
| CCR-T6-110-088 | M8 | 114.5<br>(4.51) | 9<br>(0.35)   | 14<br>(0.55) | 5<br>(0.20) | 45° | 131<br>(5.16) | 16<br>+0.02<br>-0<br>(0.629) | 10<br>(0.39) | 52<br>(2.05) | 16<br>+0.02<br>-0<br>(0.629) | 88<br>(3.46)  | 98<br>(3.86)  | 4<br>(0.16) | M8  | 75<br>(2.95)  | 22.5° |
| CCR-T6-120-095 | M8 | 121.5<br>(4.78) | 9<br>(0.35)   | 14<br>(0.55) | 5<br>(0.20) | 45° | 138<br>(5.43) | 16<br>+0.02<br>-0<br>(0.629) | 10<br>(0.39) | 52<br>(2.05) | 16<br>+0.02<br>-0<br>(0.629) | 95<br>(3.74)  | 105<br>(4.13) | 4<br>(0.16) | M8  | 80<br>(3.15)  | 22.5° |
| CCR-T6-130-099 | M8 | 125.5<br>(4.94) | 9<br>(0.35)   | 14<br>(0.55) | 5<br>(0.20) | 45° | 142<br>(5.59) | 16<br>+0.02<br>-0<br>(0.629) | 10<br>(0.39) | 52<br>(2.05) | 16<br>+0.02<br>-0<br>(0.629) | 99<br>(3.90)  | 109<br>(4.29) | 4<br>(0.16) | M8  | 86<br>(3.39)  | 22.5° |
| CCR-T6-140-108 | M8 | 134.5<br>(5.30) | 9<br>(0.35)   | 14<br>(0.55) | 5<br>(0.20) | 45° | 151<br>(5.94) | 16<br>+0.02<br>-0<br>(0.629) | 10<br>(0.39) | 56<br>(2.20) | 16<br>+0.02<br>-0<br>(0.629) | 108<br>(4.25) | 118<br>(4.65) | 4<br>(0.16) | M10 | 88<br>(3.46)  | 22.5° |
| CCR-T6-150-130 | M8 | 155<br>(6.10)   | 9<br>(0.35)   | 14<br>(0.55) | 5<br>(0.20) | 45° | 171<br>(6.73) | 16<br>+0.02<br>-0<br>(0.629) | 10<br>(0.39) | 56<br>(2.20) | 16<br>+0.02<br>-0<br>(0.629) | 130<br>(5.19) | 141<br>(5.55) | 6<br>(0.24) | M10 | 114<br>(4.49) | 17.5° |

\* Dimensions are in millimeters (inches).

\*\*All dimensions may vary due to technical upgrades. We reserve the right to make changes without prior notice



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