

ROUND TOOLING SYSTEMS

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ROUND TOOLING SYSTEMS

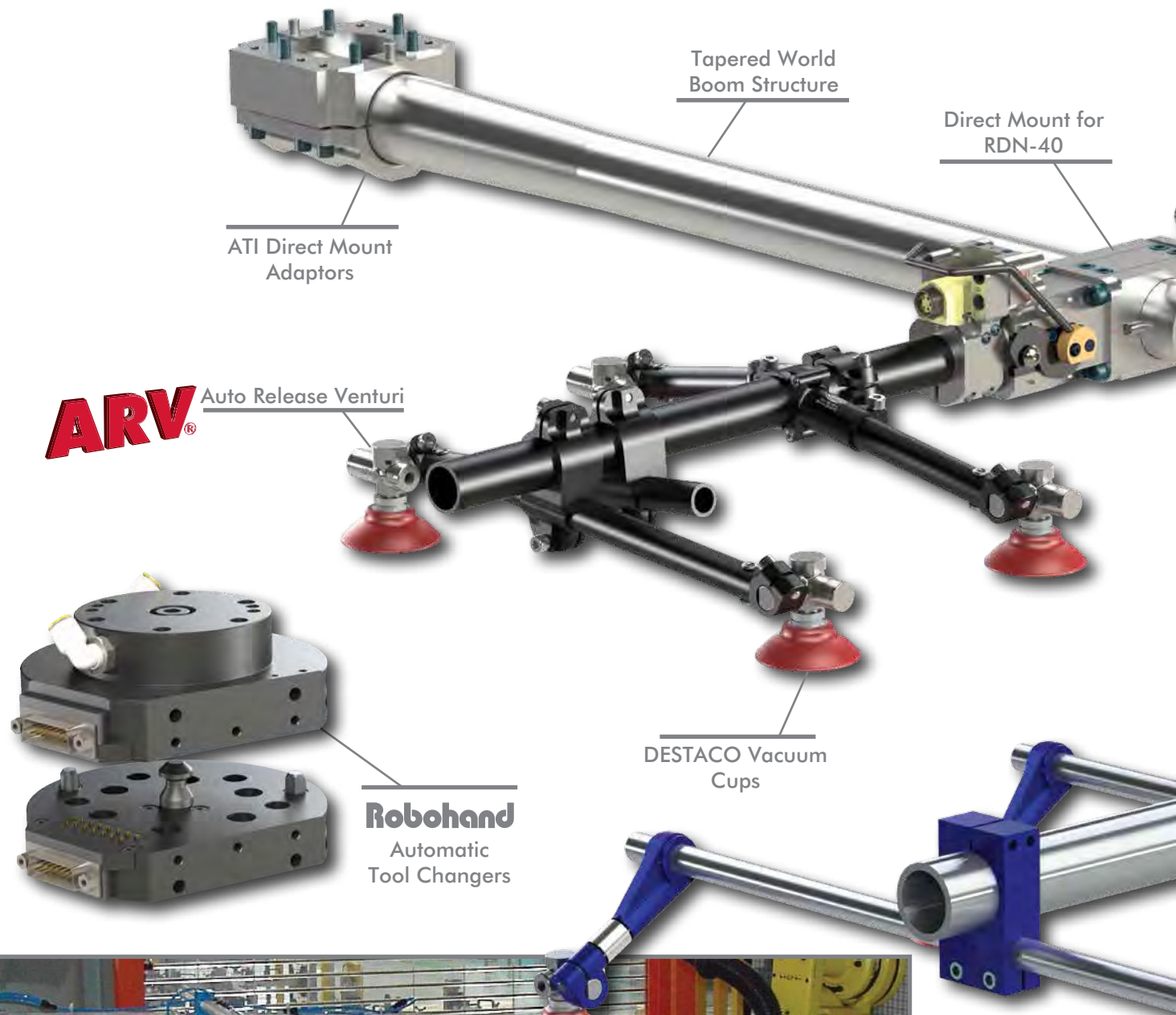
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ROUND TOOLING SYSTEMS

World Tool System Example with Accelerate® Lightweight Tooling Components

DESTACO's world tool components are configured to handle parts of any size and shape, and can be re-used for future applications.



ROUND TOOLING SYSTEMS

Traditional Round Tooling System Example

Round tooling components are used in combination with the Accelerate® Collection for lightweight tooling solutions



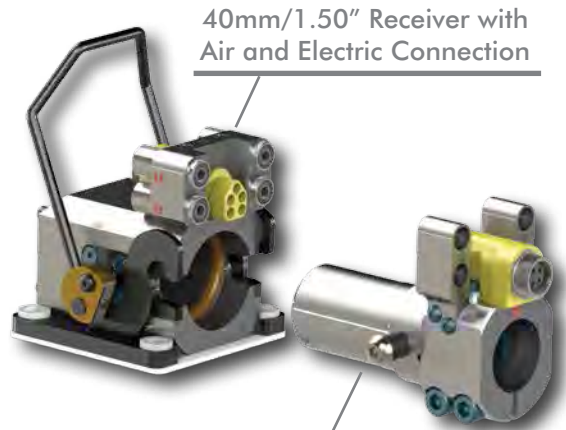
Most commonly used in:

| Applications | Markets |
|-------------------|------------|
| Load/Unload | Automotive |
| Pick and Place | Industrial |
| Material Handling | Appliance |
| Hot Forming | Plastics |



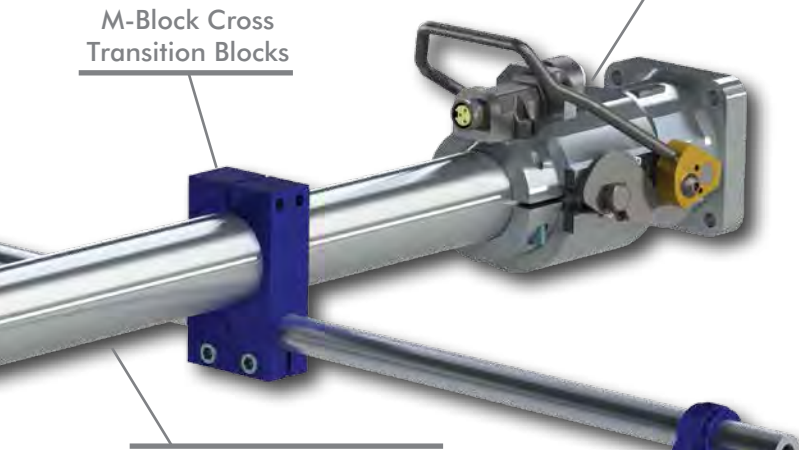
40mm/1.50" Quick Disconnect

60mm/2.50" Quick Disconnect with Electric Connection



40mm/1.50" Receiver with Air and Electric Connection

40mm/1.50" Receiver with Air and Electric Connection



M-Block Cross Transition Blocks

Aluminum Round Tubing (also available slotted)



Aluminum Round Tubing

Standard Swivel Arms

Hot Forming Solutions



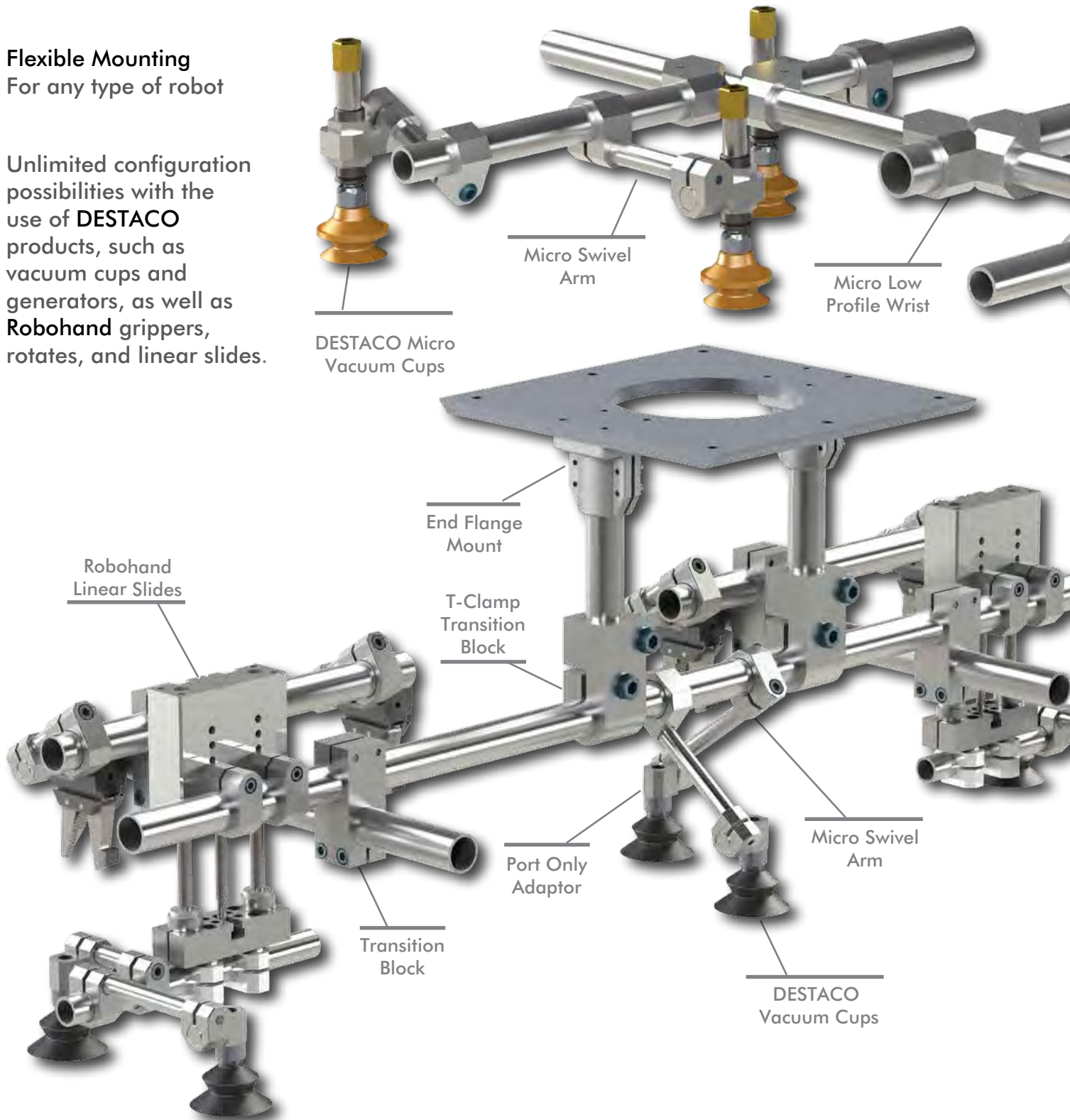
ROUND TOOLING SYSTEMS

Micro Round Tooling System Example

A family within the traditional round tooling system, **micro tooling components** are made from lightweight aluminum with thin wall tubing. This system is designed to handle small, lightweight parts, plastic injection mold unloading, and unusual shaped objects.

Flexible Mounting
For any type of robot

Unlimited configuration possibilities with the use of DESTACO products, such as vacuum cups and generators, as well as Robohand grippers, rotates, and linear slides.



ROUND TOOLING SYSTEMS

Micro Round Tooling System Example

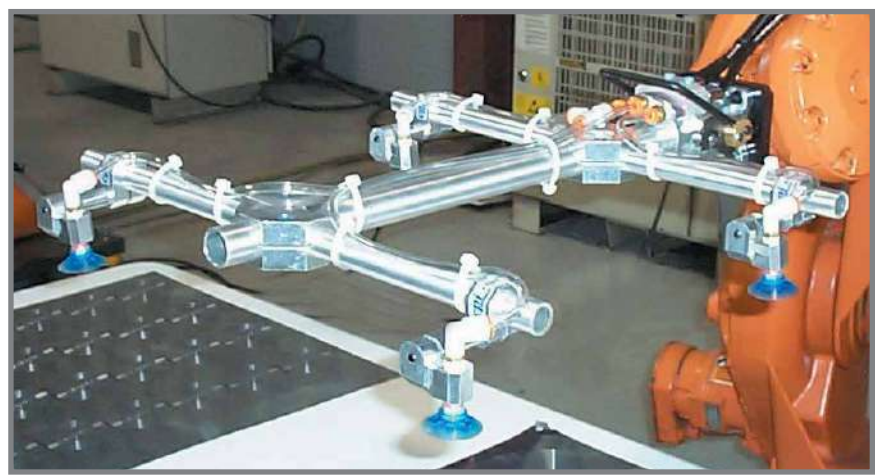
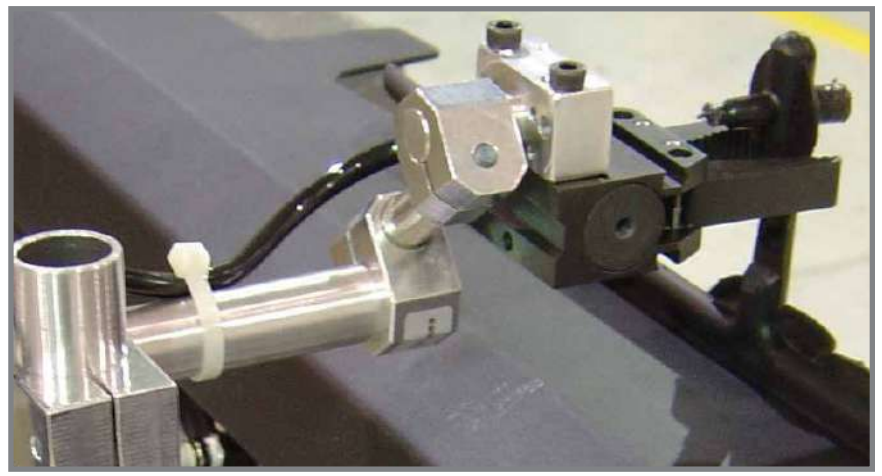


Most commonly used in:

| Applications | Markets |
|--|---|
| Pick and Place Material Handling Plastic Injection Vision/Testing | Medical Industrial Consumer Food and Packaging |

Level Compensator and Mount

The micro tooling system can be used with DESTACO's award winning, world's first electric vacuum cup.

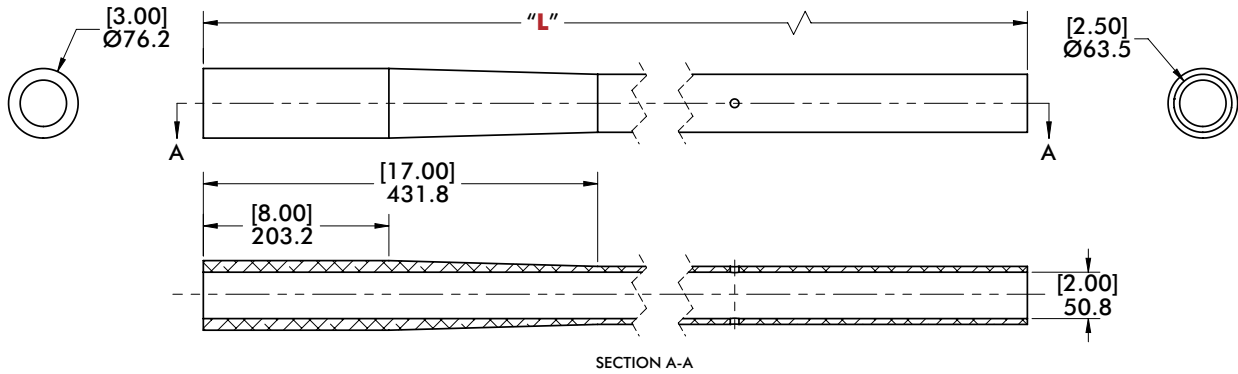
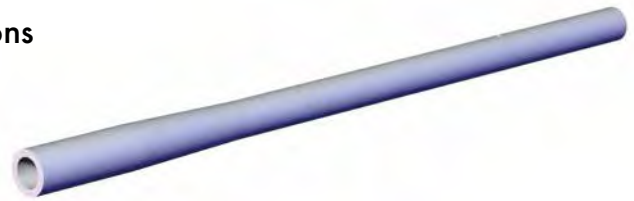


Micro round tooling systems can be permanently mounted to the robot with a direct mount or with manual or automatic tool changers. Optional quick disconnect air ports provides a simple connection point for air supply when changing between different tooling configurations.

WORLD TOOL BOOMS

Round Tooling | Dimensions and Technical Specifications

PAT Ø3.00" Tapered Aluminum Main Booms



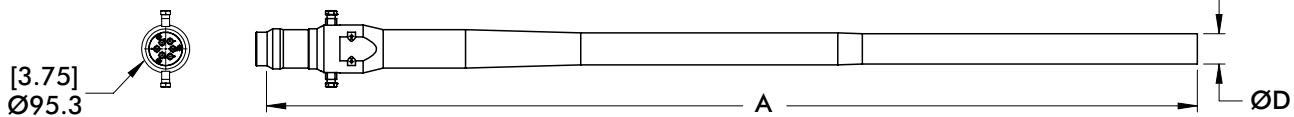
| Model | "L" | Weight |
|----------------------|----------------|--------------------|
| CPI-PAT-30TP-0M-1600 | [62.99] 1600.0 | [13.43 lb] 6.09 kg |
| CPI-PAT-30TP-0M-30 | [30.00] 762.0 | [7.91 lb] 3.59 kg |
| CPI-PAT-30TP-0M-34 | [34.00] 863.6 | [8.58 lb] 3.89 kg |
| CPI-PAT-30TP-0M-36 | [36.00] 914.4 | [8.91 lb] 4.04 kg |
| CPI-PAT-30TP-0M-60 | [60.00] 1524.0 | [12.95 lb] 5.87 kg |

| Model | "L" | Weight |
|--------------------|----------------|--------------------|
| CPI-PAT-30TP-1M-55 | [55.00] 1397.0 | [12.08 lb] 5.48 kg |
| CPI-PAT-30TP-1M-60 | [60.00] 1524.0 | [12.95 lb] 5.87 kg |
| CPI-PAT-30TP-1M-64 | [64.00] 1625.6 | [13.60 lb] 6.17 kg |
| CPI-PAT-30TP-2M-55 | [55.00] 1397.0 | [12.08 lb] 5.48 kg |

WTTB World Tool Bayonet Boom

Material: Aluminum

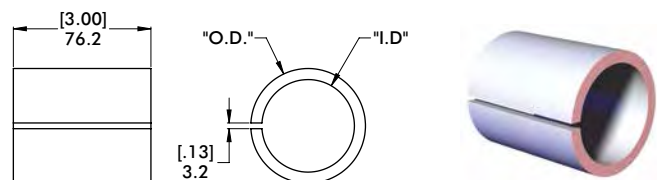
| Part Number | ØD | A | Weight |
|------------------------------|--------|--------|------------------|
| CPI-WTTB-RDC-A6-EL10-60-2000 | 60mm | 2000mm | 9.3kg [20.50 lb] |
| CPI-WTTB-RDC-A6-EL10-25-64 | 2.5 in | 64 in | 8.0kg [17.60 lb] |



CB Aluminum Bushing

For use in cooperation with Clamp Blocks.

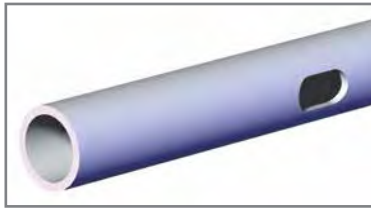
| Model | (Ø)"O.D." | (Ø)"I.D." | Weight |
|--------------|-----------|-----------|-----------------|
| CPI-CB-15-10 | 1.50"(in) | 1.00"(in) | [.76 lb] .34 kg |
| CPI-CB-20-15 | 2.00"(in) | 1.50"(in) | [.81 lb] .37 kg |
| CPI-CB-25-20 | 2.50"(in) | 2.00"(in) | [.81 lb] .37 kg |



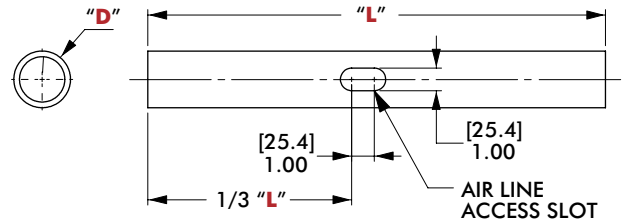
TUBES AND RODS

Round Tooling | Dimensions and Technical Specifications

BT1 Slotted Aluminum Boom/Tubing

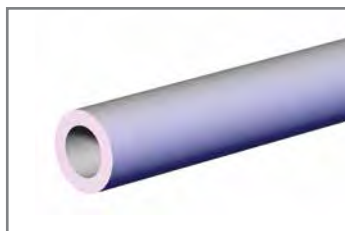


"L" = Specify Length
in 6.00" or 150mm Increments
English Example:
CPI-BT1-150-7S-06 (6.00")
Metric Example:
CPI-BT1-150-7S-150 (150mm)

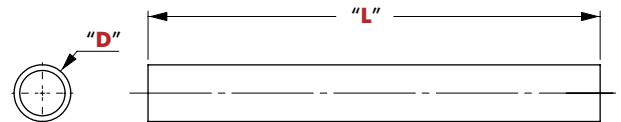


| Model | (Ø) "D" | Wall Thickness | Weight | Linear Deflection | Torsional Twist |
|----------------------------|-----------|--------------------|-------------------------|----------------------------------|----------------------|
| CPI-BT1-150-7S-"L" | 1.50"(in) | [0.25"] 6.35mm | [1.2 lb/ft] 1.8 kg/m | 5.6mm [0.22"] @ 100lb/24.00" | .3.1° @ 300ft-lbs |
| CPI-BT1-250-9S-"L" | 2.50"(in) | [0.25"] 6.35mm | [2.1 lb/ft] 3.1 kg/m | 12.7mm [0.50"] @ 150lb/48.00" | 2.3° @ 600ft-lbs |
| CPI-BT1-2538-9S-"L" | 2.50"(in) | [0.375"] 9.53mm | [2.9 lb/ft] 4.3 kg/m | 10.2mm [0.40"] @ 150lb/48.00" | 1.8° @ 600ft-lbs |
| CPI-BT1-60-9S-"L" (Metric) | 60mm | [0.20"] 5mm | [1.6 lb/ft] 2.4 kg/m | 17.8mm [0.70"] @ 150lb/48.00" | 3.3° @ 600ft-lbs |

PAT Aluminum Tubing



"L" = Specify Length
in 6.00" or 150mm Increments
English Example:
CPI-PAT-15-06 (6.00")
Metric Example:
CPI-PAT-40-150 (150mm)

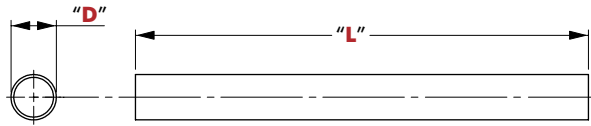


| Model | (Ø) "D" | Wall Thickness | Weight | Linear Deflection | Torsional Twist |
|-------------------------|-----------|--------------------|--------------------------|----------------------------------|----------------------|
| CPI-PAT-1025-"L" | 1.00"(in) | [0.25"] 6.35mm | [0.7 lb/ft] 1.02 kg/m | 1.5mm [0.06"] @ 50lb/12.00" | 2.4° @ 100ft-lbs |
| CPI-PAT-12-"L" | 1.25"(in) | [0.25"] 6.35mm | [0.9 lb/ft] 1.37kg/m | 3.3mm [0.13"] @ 75lb/18.00" | 1.6° @ 100ft-lbs |
| CPI-PAT-15-"L" | 1.50"(in) | [0.25"] 6.35mm | [1.2 lb/ft] 1.8 kg/m | 5.6mm [0.22"] @ 100lb/24.00" | .3.1° @ 300ft-lbs |
| CPI-PAT-40-"L" (Metric) | 40mm | [0.20"] 5mm | [1.2 lb/ft] 1.8 kg/m | 5.6mm [0.22"] @ 100lb/24.00" | 3.2° @ 300ft-lbs |
| CPI-PAT-25-"L" | 2.50"(in) | [0.25"] 6.35mm | [2.1 lb/ft] 3.1 kg/m | 12.7mm [0.50"] @ 150lb/48.00" | 2.3° @ 600ft-lbs |
| CPI-PAT-60-"L" (Metric) | 60mm | [0.20"] 5mm | [1.6 lb/ft] 2.4 kg/m | 17.8mm [0.70"] @ 150lb/48.00" | 3.3° @ 600ft-lbs |
| CPI-PAT-2538-"L" | 2.50"(in) | [0.375"] 9.53mm | [2.9 lb/ft] 4.3 kg/m | 10.2mm [0.40"] @ 150lb/48.00" | 1.8° @ 600ft-lbs |

TUBING, RODS AND BUSHINGS

Round Tooling | Dimensions | Technical Specifications

PAT Thin Wall Aluminum Tubing



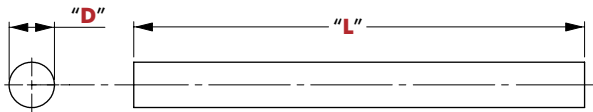
| Model | (Ø) "O.D." | Wall Thickness | Weight |
|-----------------|------------|--------------------|---------------------------|
| CPI-PAT-50T-"L" | 0.50"(in) | [0.085"] 2.16mm | [0.13 lb/ft] 193.0 g/m |
| CPI-PAT-75T-"L" | 0.75"(in) | [0.085"] 2.16mm | [0.20 lb/ft] 309.3 g/m |
| CPI-PAT-10T-"L" | 1.00"(in) | [0.085"] 2.16mm | [0.28 lb/ft] 425.6 g/m |

"L" = Specify Length

Standard Lengths

04 (4.00")
06 (6.00")
08 (8.00")
10 (10.00")
12 (12.00")
24 (24.00")
36 (36.00")

PAB Aluminum Rods



"L" = Specify Length

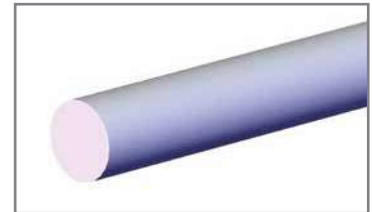
in 6.00" or 150mm Increments

English Example:

CPI-PAB-10-06 (6.00")

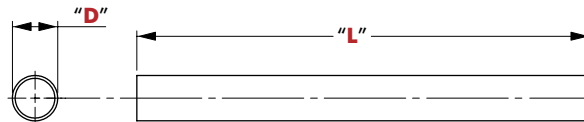
Metric Example:

CPI-PAB-25-150 (150mm)



| Model | (Ø) "D" | Wall Thickness | Weight | Linear Deflection | Torsional Twist |
|-------------------------|-----------|----------------|-------------------------|---------------------------------|---------------------|
| CPI-PAB-10-"L" | 1.00"(in) | SOLID BAR | [0.9 lb/ft] 1.4 kg/m | 1.52mm [0.06"] @ 50lb/12.00" | .002° @ 100ft-lb |
| CPI-PAB-25-"L" (Metric) | 25.0mm | SOLID BAR | [0.9 lb/ft] 1.4 kg/m | 1.52mm [0.06"] @ 50lb/12.00" | .002° @ 100ft-lb |

PST Steel Tubing



(L) = Specify Length

PST-10: 150, 200, 225, 250, 275, 300 [mm] (CPI-PST-10-150)

PST-1212: 6, 8, 10, 12, 14, 16, 18 [in] (CPI-PST-1212-6)

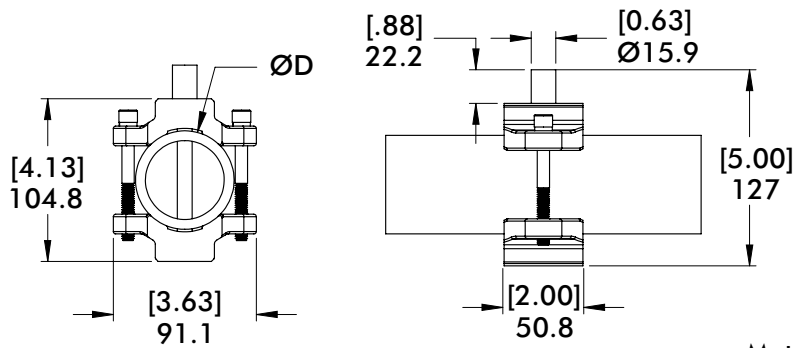
M1512: 125, 160, 300, 350, 350, 600, 900 [mm] (M1512-150)

| Model | (Ø) "D" | Wall Thickness | Weight | Linear Deflection | Torsional Twist |
|------------------|-----------|--------------------|-------------------------|---------------------------------|---------------------|
| CPI-PST-10-"L" | 1.00"(in) | 3.18mm [0.125"] | 1.8 kg/m [1.2 lb/ft] | 0.9mm [0.003"] @ 50lb/12.00" | .001° @ 100ft-lb |
| CPI-PST-1212-"L" | 1.25"(in) | 3.18mm [0.125"] | 2.2 kg/m [1.5 lb/ft] | 0.3mm [0.001"] @ 50lb/12.00" | .001° @ 100ft-lb |

| Model | (Ø) "O.D." | Wall Thickness | Weight |
|-----------|------------|------------------|--------------------------|
| M1512-"L" | 1.00"(in) | 3.0mm [0.12"] | 1.5 kg/m [1.03 lb/ft] |

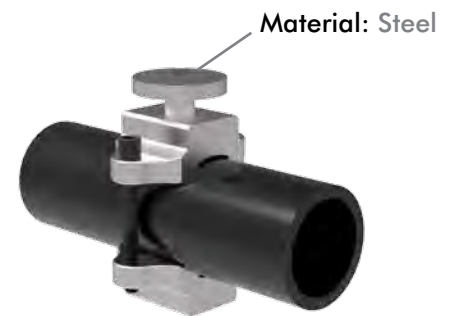
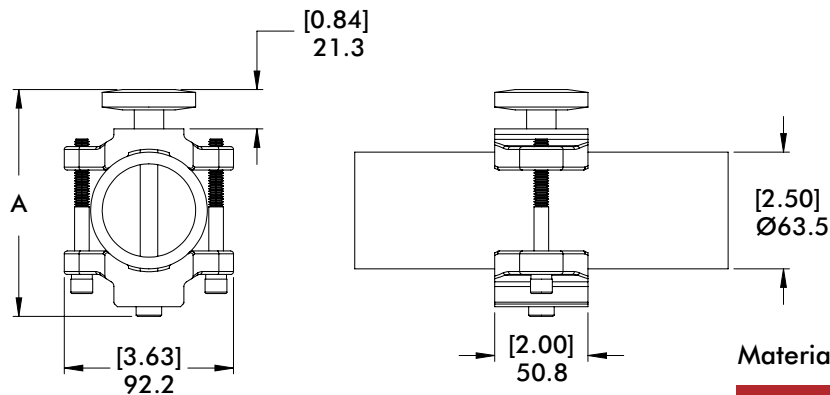
SINGLE MUSHROOM TOOL HOLDER

Round Tooling | Dimensions



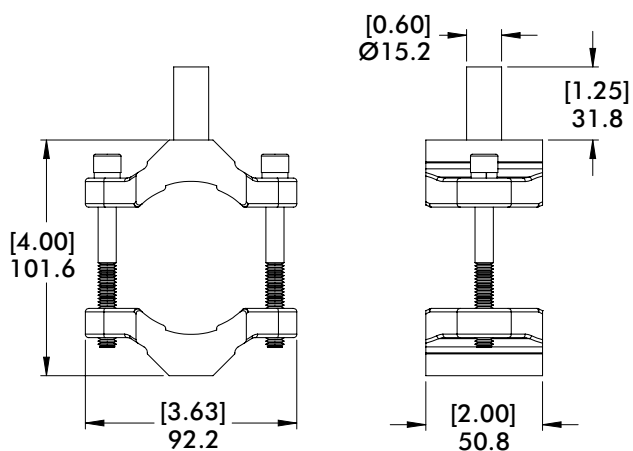
Material: Aluminum

| Model Number | ØD | Weight |
|-------------------------|--------|----------------|
| CPI-THM-250-POST | 2.5 in | 499g [1.10 lb] |
| CPI-THM-60-POST | 60mm | 499g [1.10 lb] |



Material: Aluminum

| Model Number | A | Weight |
|-------------------------|--------------|----------------|
| CPI-THM-250 | 122.7 [4.83] | 635g [1.40 lb] |
| CPI-THM-250-WTTB | 127 [5.00] | 590g [1.30 lb] |

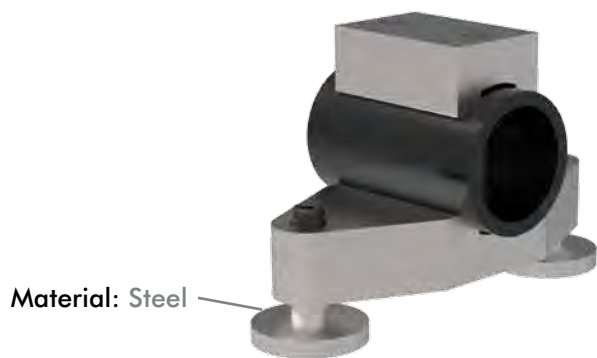


Material: Aluminum

| Model Number | Weight |
|------------------------|----------------|
| CPI-THM-250-SVP | 408g [0.90 lb] |

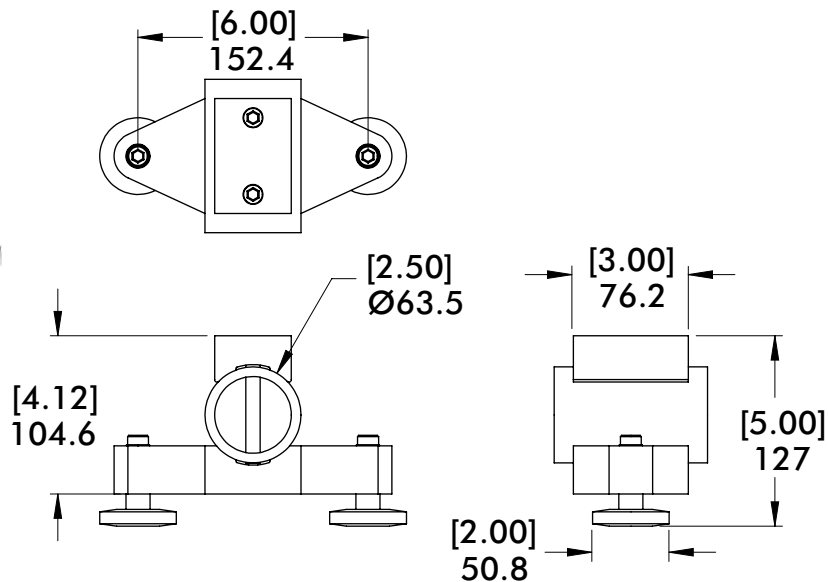
DOUBLE MUSHROOM TOOL HOLDER

Round Tooling | Dimensions



Material: Steel

Material: Aluminum

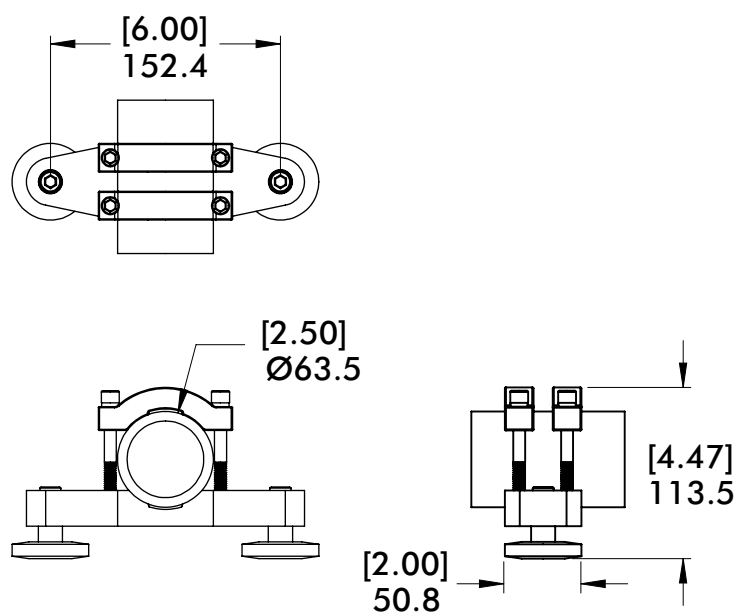


| Model Number | Weight |
|------------------------|-----------------|
| CPI-THM-250-DBL | 1.54g [3.40 lb] |



Material: Steel

Material: Aluminum



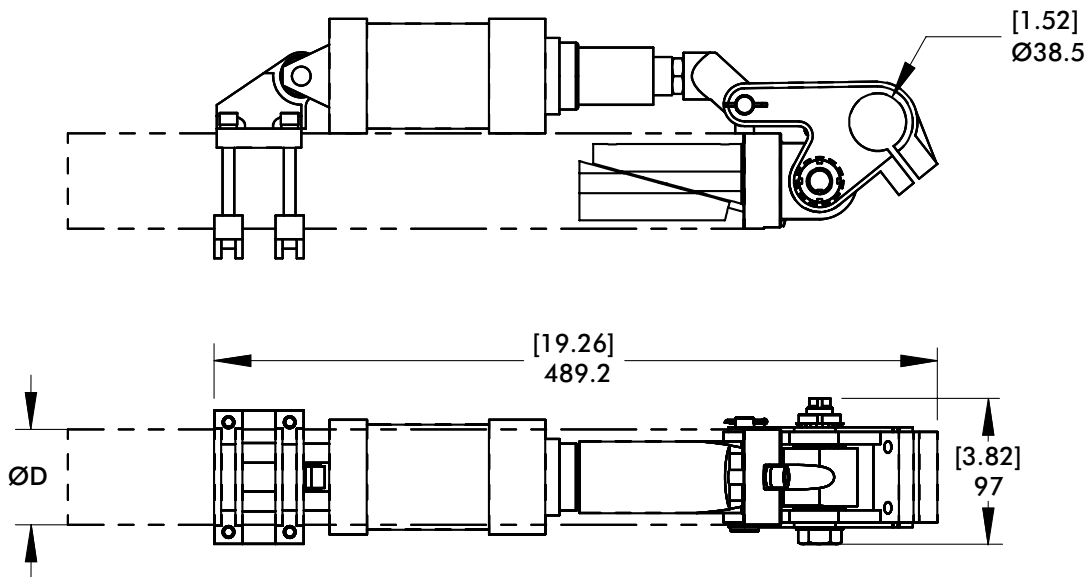
| Model Number | Weight |
|-----------------------------|-----------------|
| CPI-THM-250-DBL-WTTB | 1.09g [2.40 lb] |

WRIST ROTATE ASSEMBLY

Round Tooling | Dimensions and Technical Specifications

Features:

- These self-contained tip units are designed for use with dual-axis loaders and unloaders.
- The amount of rotation can be adjusted with the use of a cylinder stop tube.
- The unique wedge-lock uses frictional force to secure the unit within the tubing.
(U.S. Patent No. 5,411,232)
- * Rotation is controlled by adjusting the length of a stop tube and limiting the stroke of the cylinder
- A rod extension is used to move the cylinder away from the rotate point. To order the rod extension separately, the part number is CPI-CRE-10-[Length]



| Model Number | ØD | Weight |
|--------------------|------|---------------------|
| CPI-WRWM-45 | 60mm | [8.5 lb] 3.9 kg |
| CPI-WRWM-90 | 60mm | [10.5 lb] 4.8 kg |

CPI - **WRWM** - **60**

**Base Model
WRWM**
Wrist Rotate
Assembly
(Metric Version)

Rotation

45 0° - 45°
90 0° - 90°

Cylinder Bore

00 No Cylinder Provided
50 50 mm
60 60 mm

| Model Number | ØD | Weight |
|-------------------|---------|---------------------|
| CPI-WRW-45 | 2.50 in | [8.5 lb] 3.9 kg |
| CPI-WRW-90 | 2.50 in | [10.5 lb] 4.8 kg |

CPI - **WRW** - **25**

**Base Model
WRW**
Wrist Rotate
Assembly

Rotation

45 0° - 45°
90 0° - 90°

Cylinder Bore

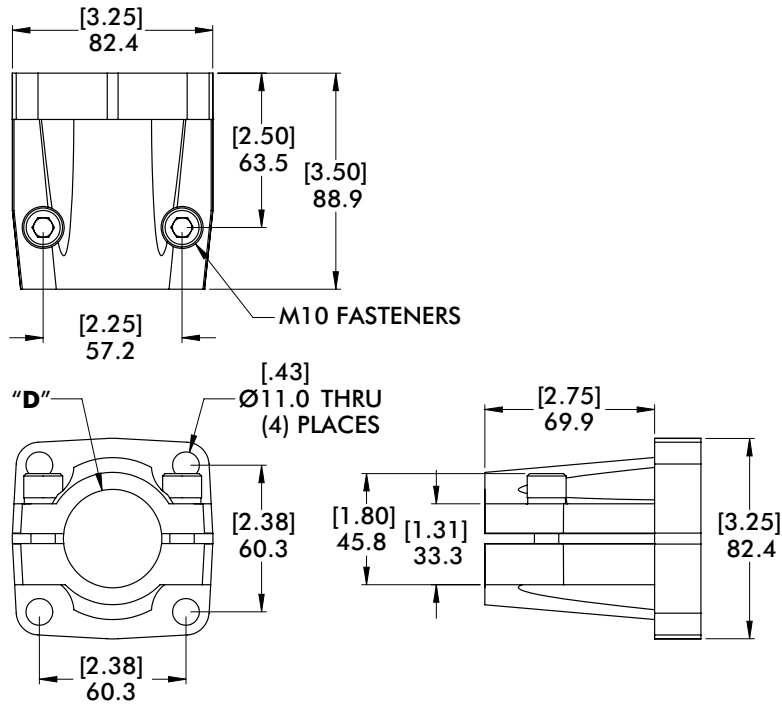
00 No Cylinder Provided
20 2.00"
25 2.50"

FLANGE END MOUNT BRACKET AND BLOCKS

Round Tooling | Dimensions and Technical Specifications

Nominal (Ø) given
See chart on Page 72
for actual (Ø) size

KL/CL End Flange Mount for Ø40mm/1.50" Tube



Specifications:

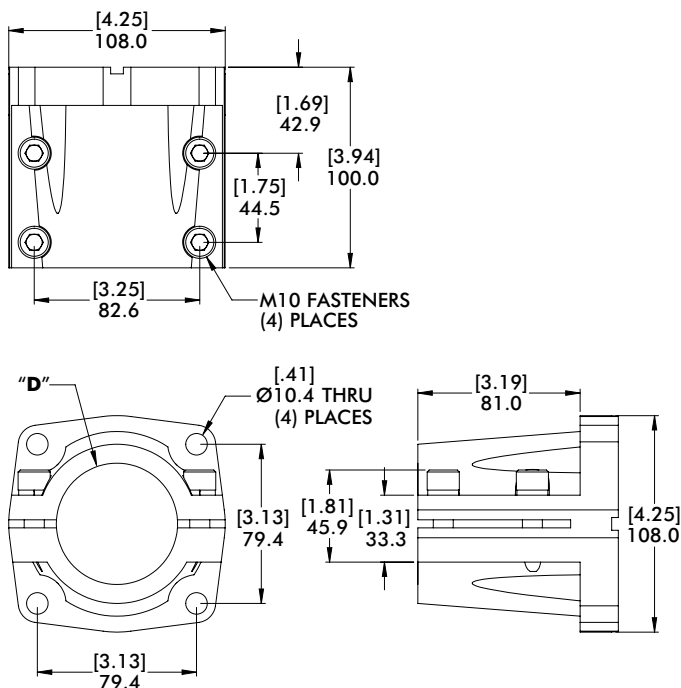
Max. Static Clamp Load:

203 N*m [150 ft-lb]

Material: Aluminum

| Model Number | (Ø)"D" | Weight |
|----------------|-----------|---------------------|
| CPI-KL-40-60F | 40mm | [1.55 lb] .70 kg |
| CPI-CL-15-238F | 1.50"(in) | [1.61 lb] .73 kg |

KL/CL End Flange Mount for Ø60mm/2.50" Tube



Specifications:

Max. Static Clamp Load:

675 N*m [500 ft-lb]

Material: Aluminum

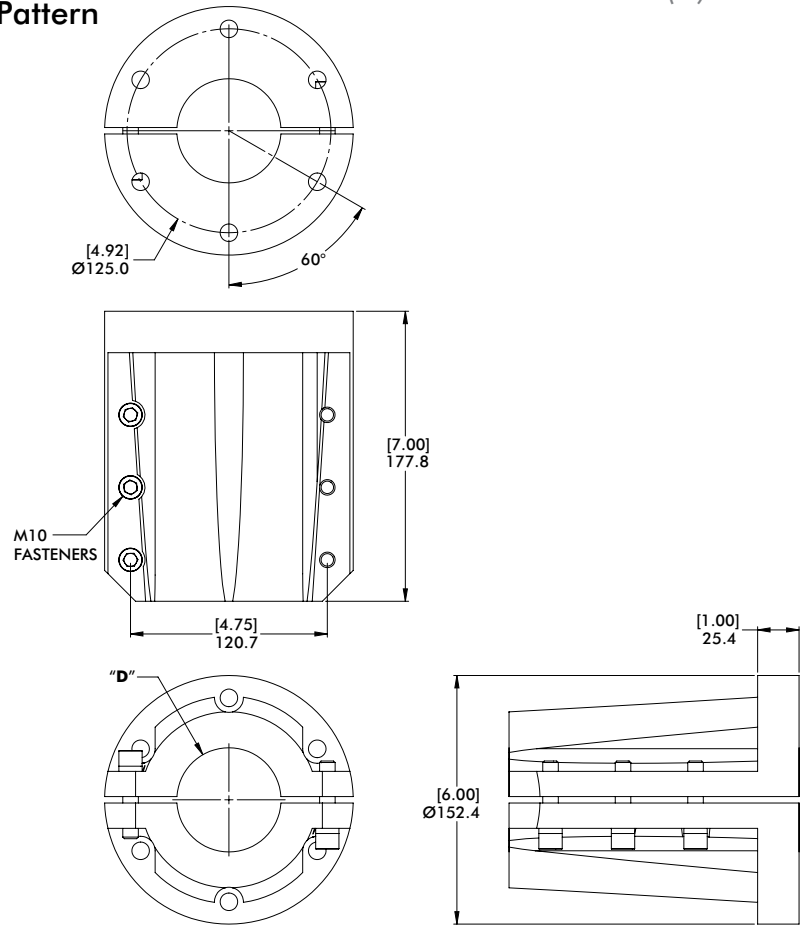
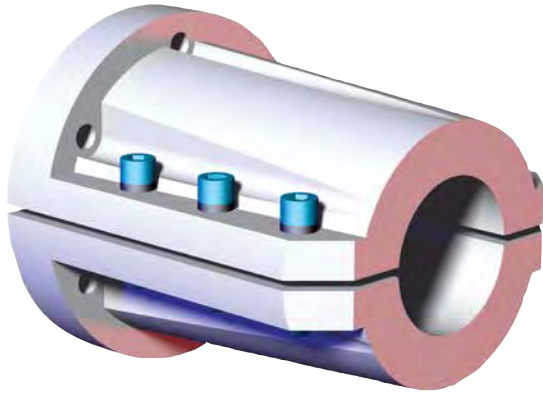
| Model Number | (Ø)"D" | Weight |
|----------------|-----------|----------------------|
| CPI-KL-60-78F | 60mm | [2.73 lb] 1.24 kg |
| CPI-CL-25-312F | 2.50"(in) | [2.52 lb] 1.14 kg |

FLANGE END MOUNT BRACKET AND BLOCKS

Round Tooling | Dimensions and Technical Specifications

Nominal (Ø) given
See chart on Page 72
for actual (Ø) size

CL End Flange Mount with Ø125mm Bolt Pattern



Specifications:

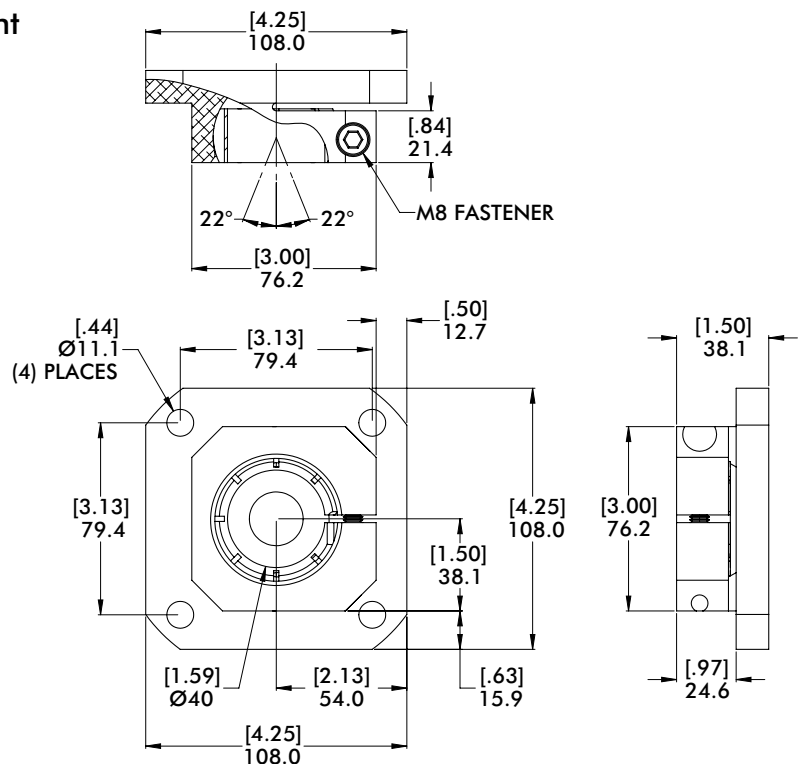
Max. Static Clamp Load:

746 N*m [550 ft-lb]

Material: Aluminum

| Model Number | (Ø) "D" | Weight |
|-----------------|-----------|-----------------------|
| CPI-CL-60-125F | 60mm | [9.86 lb] 4.47 kg |
| CPI-CL-250-125F | 2.50"(in) | [10.20 lb] 4.63 kg |
| CPI-CL-300-125F | 3.00"(in) | [8.70 lb] 3.95 kg |

RJM Ø40mm Spherical Flange End Mount



Specifications:

Max. Static Clamp Load:

203 N*m [150 ft-lb]

Material: Aluminum

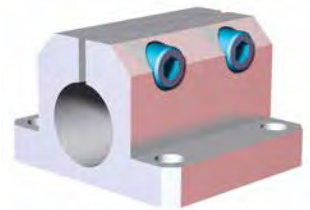
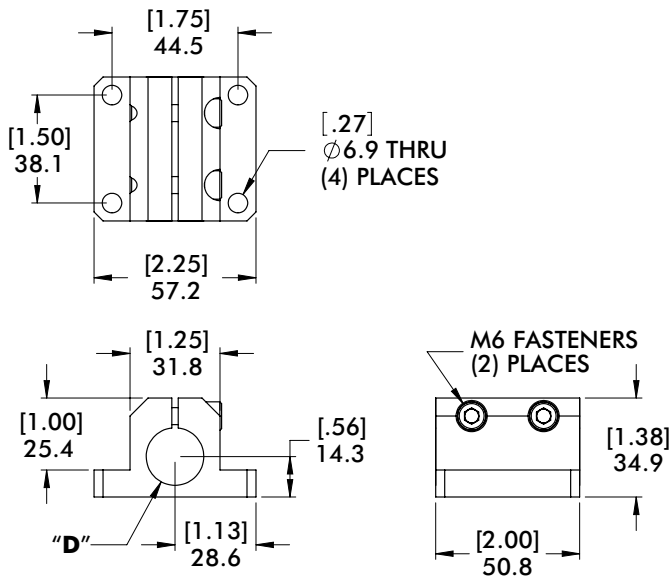
| Model Number | Weight |
|-----------------|---------------------|
| CPI-RJM-78F-40S | [1.54 lb] .70 kg |

FLANGE MID MOUNT BRACKETS AND BLOCKS

Round Tooling | Dimensions and Technical Specifications

Nominal (Ø) given
See chart on Page 72
for actual (Ø) size

CLM-xxx-1517F-90 Mid Flange Mount for Ø20mm/0.75" Tube (Micro)

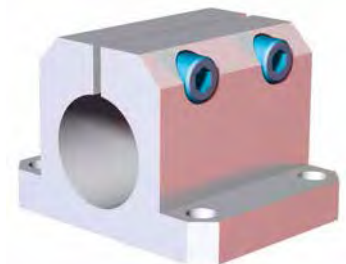
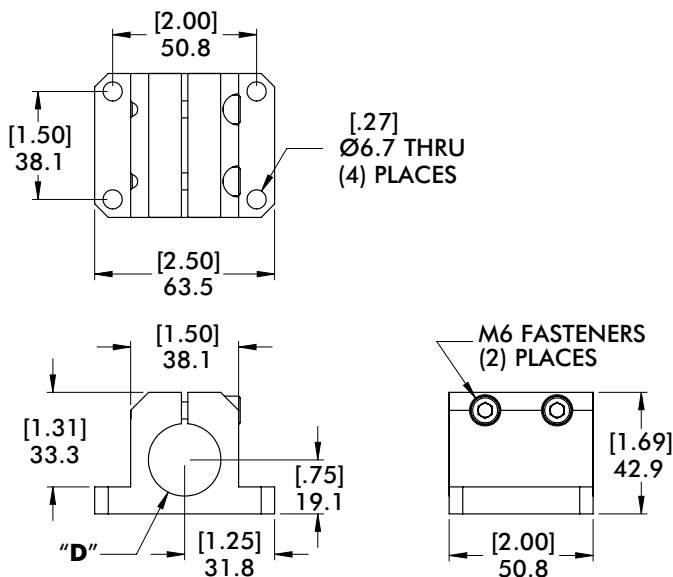


Specifications:

Max. Static Clamp Load:
47.5 N*m [35 ft-lb]
Material: Aluminum

| Model Number | (Ø)"D" | Weight |
|----------------------|----------|--------------------|
| CPI-CLM-20M-1517F-90 | 20mm | [.33 lb] .14 kg |
| CPI-CLM-75-1517F-90 | .75"(in) | [.35 lb] .16 kg |

CLM-xxx-152F-90 Mid Flange Mount for Ø25mm/1.00" Tube (Micro)



Specifications:

Max. Static Clamp Load:
81.4 N*m [60 ft-lb]
Material: Aluminum

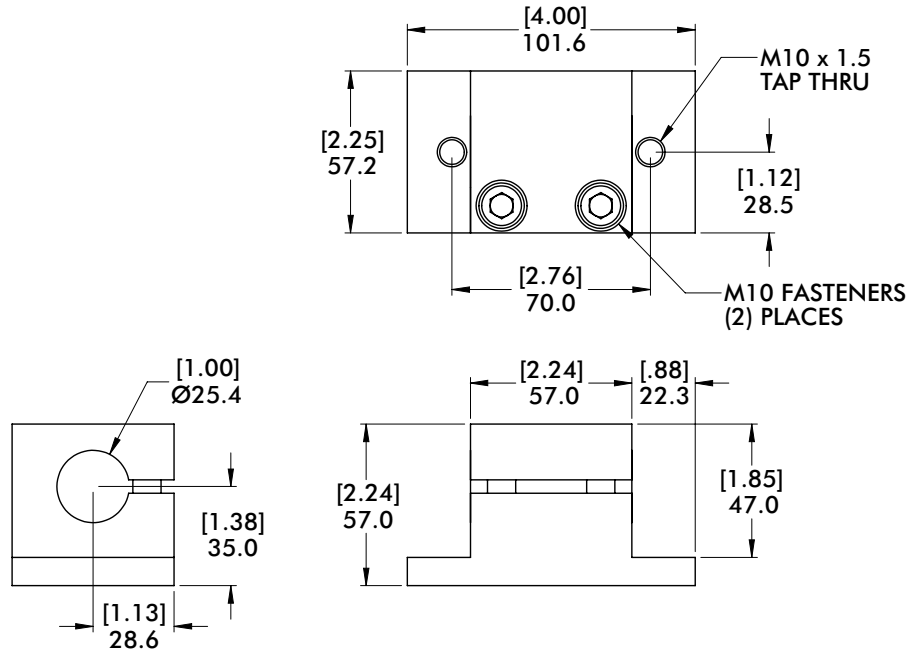
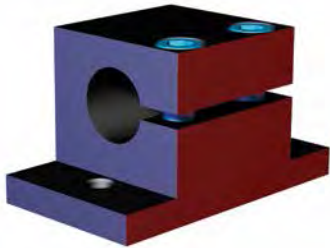
| Model Number | (Ø)"D" | Weight |
|---------------------|-----------|--------------------|
| CPI-CLM-25M-152F-90 | 25mm | [.41 lb] .19 kg |
| CPI-CLM-10-152F-90 | 1.00"(in) | |

FLANGE MID MOUNT BRACKETS AND BLOCKS

Round Tooling | Dimensions and Technical Specifications

Nominal (Ø) given
See chart on Page 72
for actual (Ø) size

M-1509 Inline End Flange Mount for Ø1.00" Tube

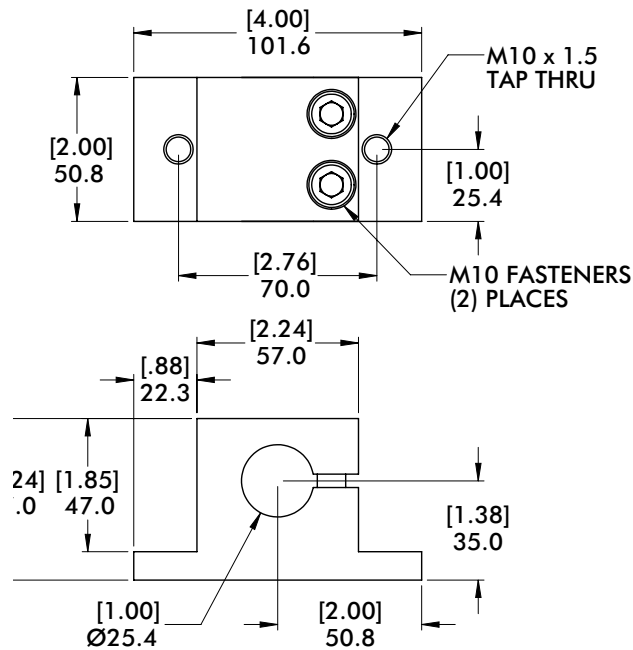
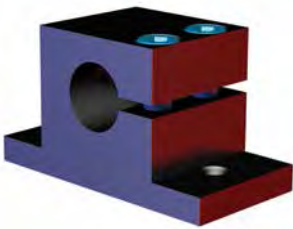


Specifications:

Max. Static Clamp Load:
203 N*m [150 ft-lb]
Material: Aluminum

| Model Number | Weight |
|--------------|--------------------|
| M1509 | [.99 lb] .45 kg |

M-1510 End Flange Mount for Ø1.00" Tube



Specifications:

Max. Static Clamp Load:
203 N*m [150 ft-lb]
Material: Aluminum

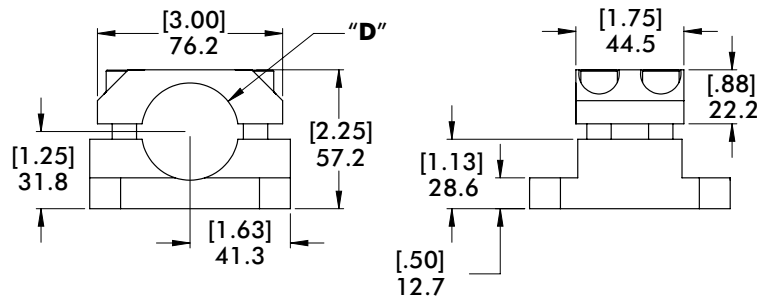
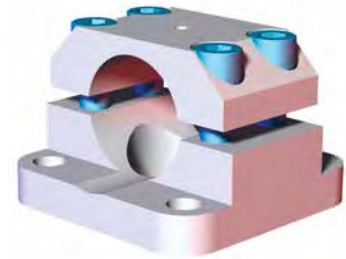
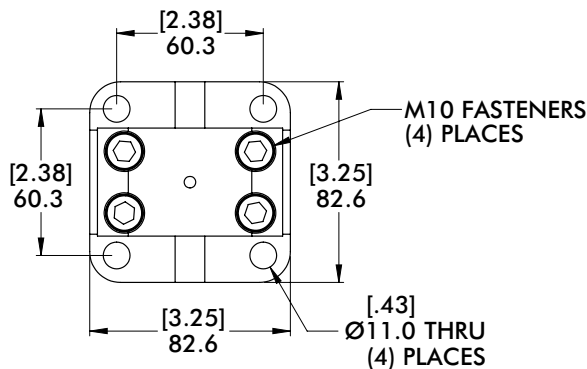
| Model Number | Weight |
|--------------|--------------------|
| M1510 | [.87 lb] .39 kg |

FLANGE MID MOUNT BRACKETS AND BLOCKS

Round Tooling | Dimensions and Technical Specifications

Nominal (Ø) given
See chart on Page 72
for actual (Ø) size

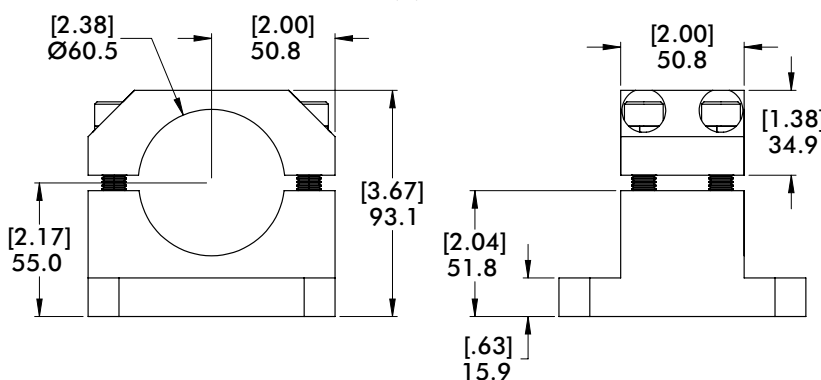
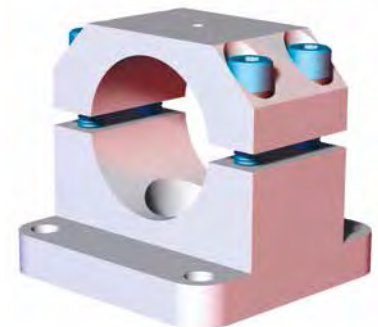
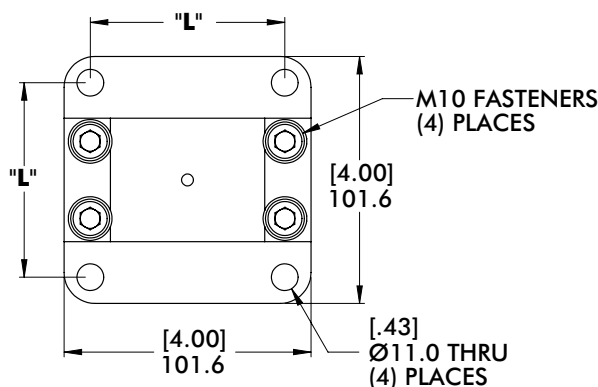
CL-xx-xxxF-90 Mid Flange Mount for Ø40mm/1.50" Tube



Specifications:
Max. Static Clamp Load:
475 N*m [350 ft-lb]
Material: Aluminum

| Model Number | (Ø)"D" | Weight |
|-------------------|-----------|---------------------|
| CPI-KL-40-60F-90 | 40mm | [1.09 lb] .49 kg |
| CPI-CL-15-238F-90 | 1.50"(in) | [1.11 lb] .50 kg |

KL-60-xxxF-90 Mid Flange Mount for Ø60mm Tube



Specifications:
Max. Static Clamp Load:
675 N*m [500 ft-lb]
Material: Aluminum

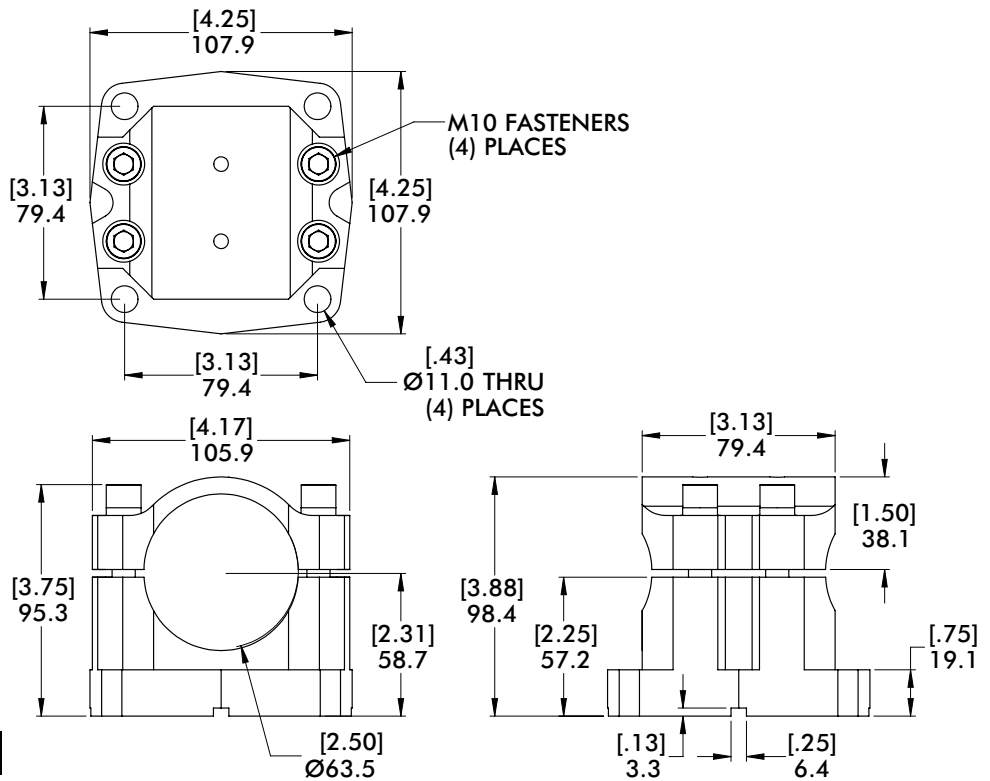
| Model Number | "L" | Weight |
|------------------|--------------|-----------|
| CPI-KL-60-78F-90 | [3.07] 78 | [2.24 lb] |
| CPI-KL-60-80F-90 | [3.15] 80 | 1.02 kg |

FLANGE MID MOUNT BRACKETS AND BLOCKS

Round Tooling | Dimensions and Technical Specifications

Nominal (Ø) given
See chart on Page 72
for actual (Ø) size

CL-25-312F-90 Mid Flange Mount for Ø2.50" Tube



Specifications:

Max. Static Clamp Load:

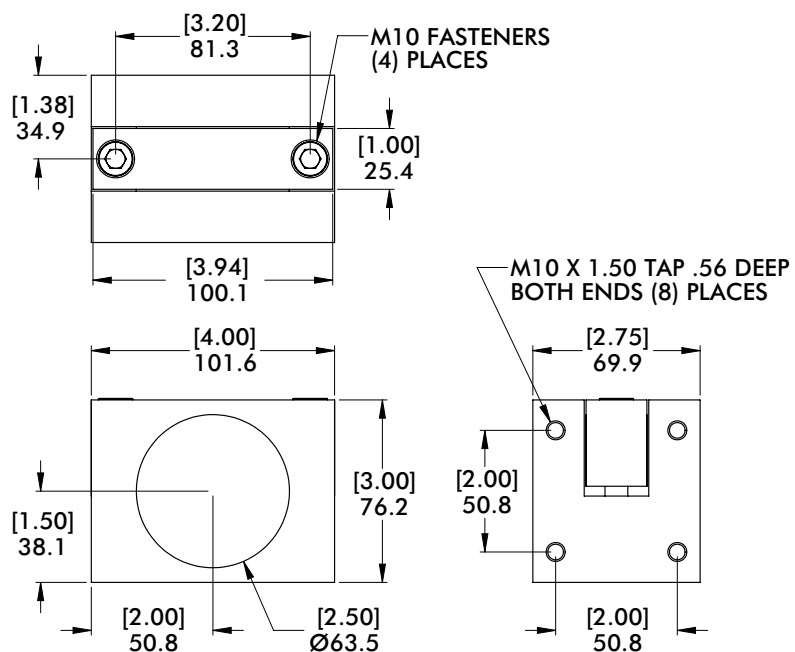
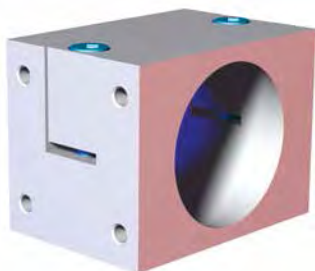
675 N*m [500 ft-lb]

Material: Aluminum

| Model Number | Weight |
|-------------------|----------------------|
| CPI-CL-25-312F-90 | [2.51 lb] 1.14 kg |

World Tool Direct Mounts

CL-xx-DM-10F Direct Mount Bracket for 2.50" Tube



Material: Aluminum

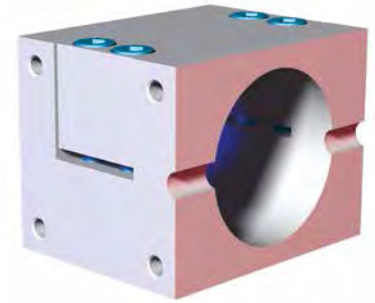
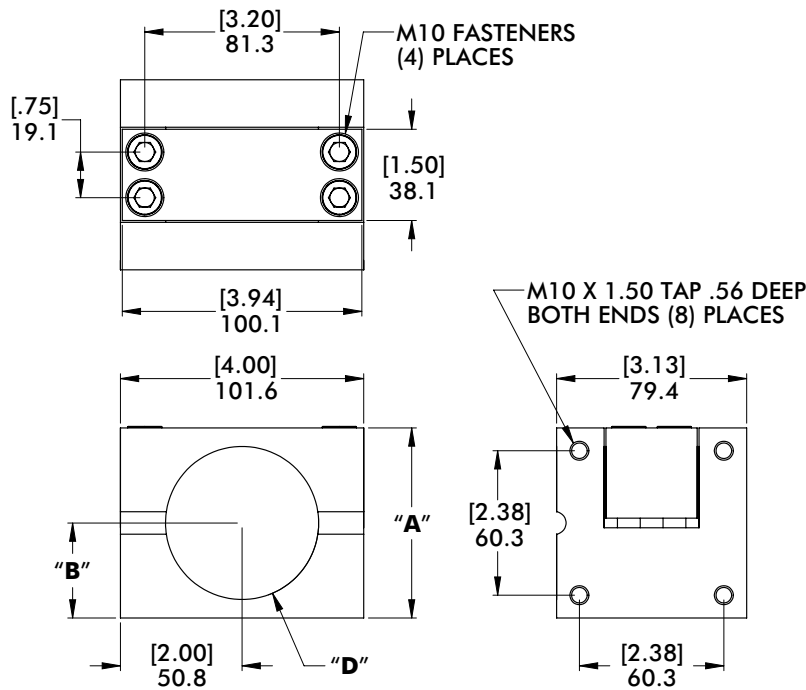
| Model Number | Weight |
|------------------|---------------------|
| CPI-CL-25-DM-10F | [1.89 lb] .86 kg |

WORLD TOOL DIRECT MOUNTS

Round Tooling | Dimensions and Technical Specifications

Nominal (Ø) given
See chart on Page 72
for actual (Ø) size

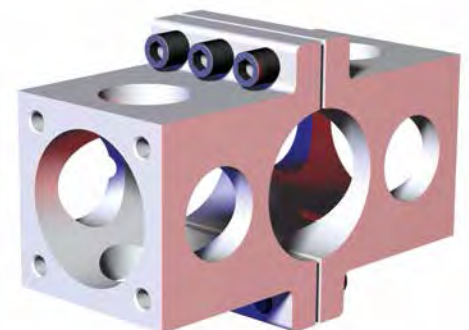
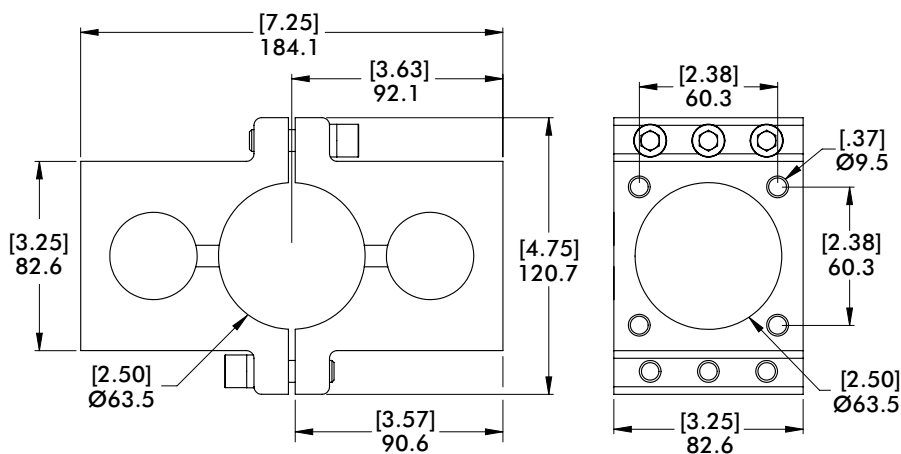
CL-xx-DM-xxF Direct Mount Bracket for Ø60mm/2.50" Tube



Material: Aluminum

| Model Number | (Ø)"D" | A | B | Weight |
|------------------|-----------|----------------|----------------|----------------------|
| CPI-CL-60-DM-40F | 60mm | [3.25] 82.6 | [1.63] 41.3 | [2.49 lb] 1.13 kg |
| CPI-CL-25-DM-15F | 2.50"(in) | [3.13] 79.4 | [1.58] 39.7 | [2.36 lb] 1.07 kg |

CL-25EX-238F-90 Direct Mount Bracket for Ø2.50" Tube



Material: Aluminum

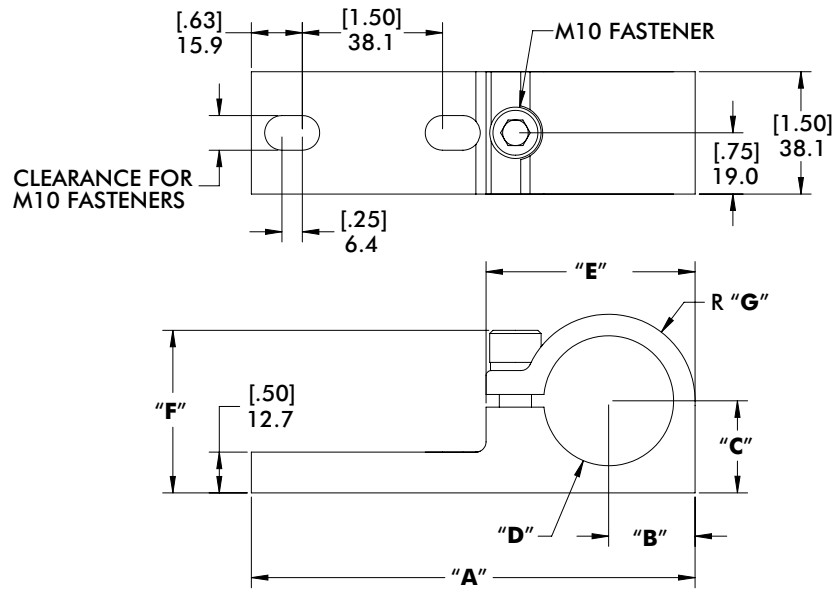
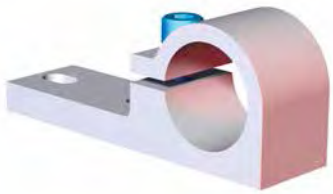
| Model Number | Weight |
|---------------------|----------------------|
| CPI-CL-25EX-238F-90 | [3.64 lb] 1.65 kg |

BASE MOUNT BLOCK

Round Tooling | Dimensions and Technical Specifications

Nominal (Ø) given
See chart on Page 72
for actual (Ø) size

BC-00-xxx Ø25mm/1.00" Tube/Ø40mm/1.50" Tube



Specifications:

Max. Static Clamp Load:

13.6 N*m [10 ft-lb]

Material: Aluminum

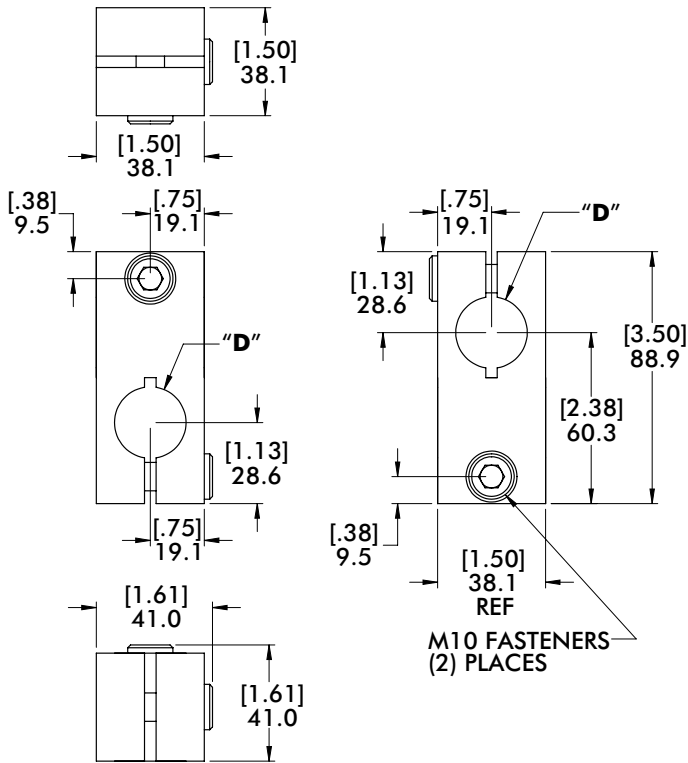
| Model Number | (Ø)"D" | "A" | "B" | "C" | "E" | "F" | "G" | Weight |
|---------------|-----------|--------|--------|--------|--------|--------|--------|----------|
| CPI-BC-00-25 | 25mm | [4.88] | [.75] | [.88] | [2.00] | [1.87] | [.75] | [.55 lb] |
| CPI-BC-00-100 | 1.00"(in) | 124.0 | 19.0 | 22.4 | 50.8 | 47.6 | 19.0 | .25 kg |
| CPI-BC-00-40 | 40mm | [5.44] | [1.06] | [1.13] | [2.56] | [2.11] | [1.06] | [.67 lb] |
| CPI-BC-00-150 | 1.50"(in) | 138.2 | 26.9 | 28.7 | 65.1 | 53.6 | 26.9 | .30 kg |

CROSS TRANSITION BRACKETS AND BLOCKS

Round Tooling | Dimensions and Technical Specifications

Nominal (Ø) given
See chart on Page 72
for actual (Ø) size

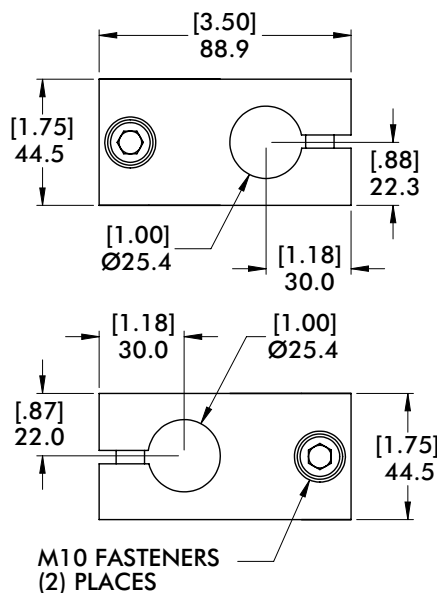
SC-xx-xx Ø25mm/1.00" to Ø25mm/1.00" (Single Bolt)



Specifications:
Max. Static Clamp Load:
162 N*m [120 ft-lb]
Material: Aluminum

| Model Number | (Ø)"D" | Weight | Finish |
|-----------------|-----------|--------------------|--------|
| CPI-SC-25-25 | 25mm | | SILVER |
| CPI-SC-25-25-BL | 25mm | [.60 lb] .27 kg | BLUE |
| CPI-SC-1010 | 1.00"(in) | | SILVER |

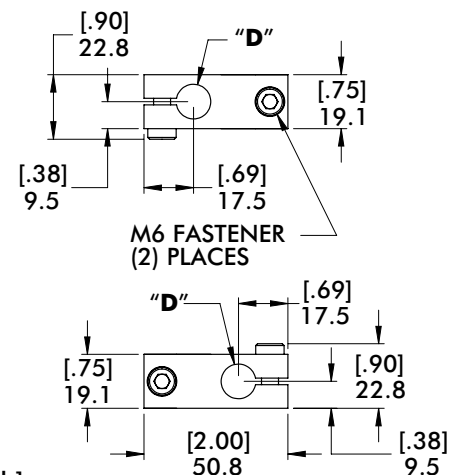
M1513 Ø1.00" to Ø1.00"



Specifications:
Max. Static
Clamp Load:
203 N*m [150 ft-lb]
Material: Aluminum

| Model Number | Weight |
|--------------|--------------------|
| M1513 | [.82 lb] .37 kg |

CLM Ø12mm/.50" to Ø12mm/.50"



Specifications:
Max. Static
Clamp Load:
13.6 N*m [10 ft-lb]
Material: Aluminum

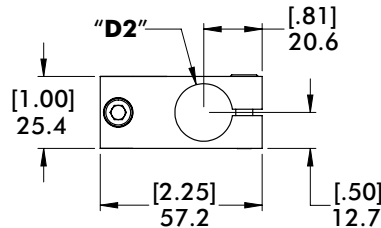
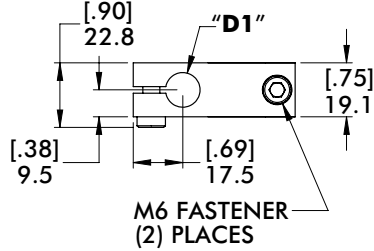
| Model Number | (Ø)"D" | Weight |
|-----------------|----------|--------------------|
| CPI-CLM-12M-12M | 12mm | [.10 lb] .05 kg |
| CPI-CLM-50-50 | .50"(in) | |

CROSS TRANSITION BRACKETS AND BLOCKS

Round Tooling | Dimensions and Technical Specifications

Nominal (Ø) given
See chart on Page 72
for actual (Ø) size

CLM Ø20mm/.75" to Ø12mm/.50"

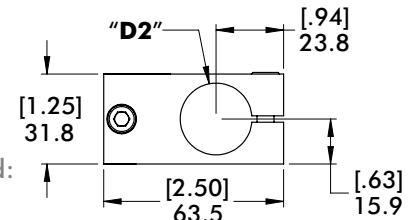
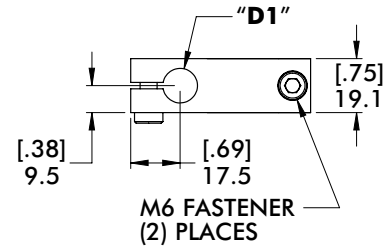


Specifications:

Max. Static
Clamp Load:
Ø20mm/.75":
20.3 N*m [15 ft-lb]
Ø12mm/.50":
13.6 N*m [10 ft-lb]
Material: Aluminum

| Model Number | (Ø)"D1" | (Ø)"D2" | Weight |
|-----------------|----------|---------|-------------------|
| CPI-CLM-20M-12M | 12mm | 20mm | [13 lb] .06 kg |
| CPI-CLM-75-50 | .50"(in) | .75 in | |

CLM Ø25mm/1.00" to Ø12mm/.50"

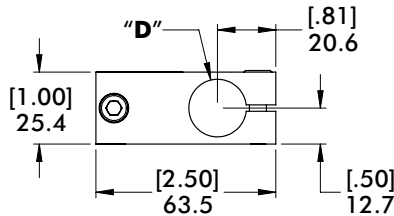
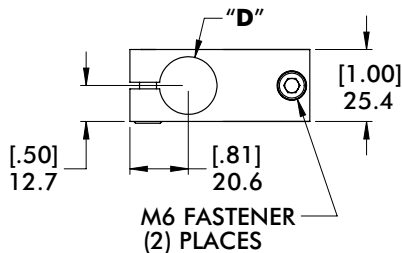


Specifications:

Max. Static Clamp Load:
Ø25mm/1.00":
67.8 N*m [50 ft-lb]
Ø12mm/.50":
13.6 N*m [10 ft-lb]
Material: Aluminum

| Model Number | (Ø)"D1" | (Ø)"D2" | Weight |
|-----------------|----------|-----------|--------------------|
| CPI-CLM-25M-12M | 12mm | 25mm | [.08 lb] .17 kg |
| CPI-CLM-10-50 | .50"(in) | 1.00"(in) | |

CLM Ø20mm/.75" to Ø20mm/.75"

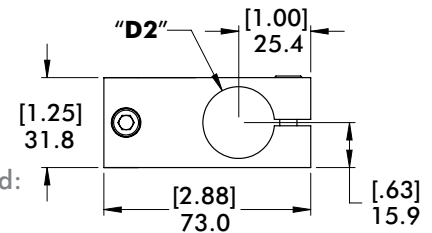
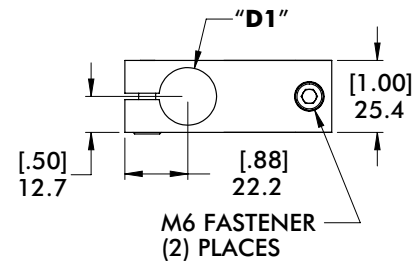


Specifications:

Max. Static
Clamp Load:
20.3 N*m
[15 ft-lb]

| Model Number | (Ø)"D" | Weight |
|--------------------|----------|--------------------|
| CPI-CLM-20M-20M | 20mm | [.16 lb] .07 kg |
| CPI-CLM-20M-20M-ST | 20mm | [.40 lb] .18 kg |
| CPI-CLM-75-75 | .75"(in) | [.17 lb] .08 kg |

CLM Ø25mm/1.00" to Ø20mm/.75"



Specifications:

Max. Static Clamp Load:
Ø25mm/1.00":
67.8 N*m [50 ft-lb]
Ø20mm/.75":
20.3 N*m [15 ft-lb]
Material: Aluminum

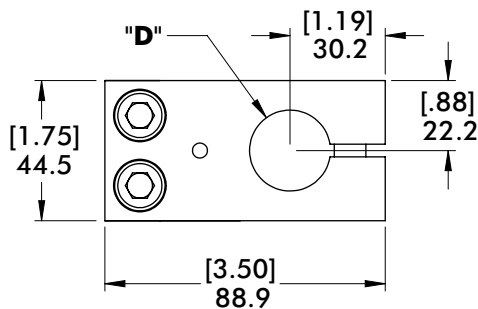
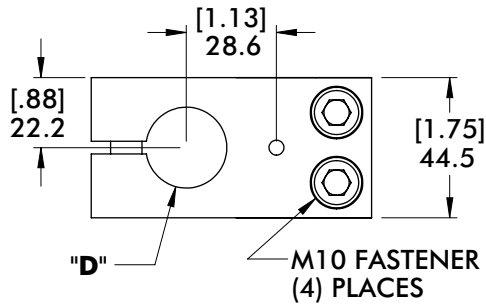
| Model Number | (Ø)"D1" | (Ø)"D2" | Weight |
|-----------------|----------|-----------|--------------------|
| CPI-CLM-25M-20M | 20mm | 25mm | [.23 lb] .11 kg |
| CPI-CLM-10-75 | .75"(in) | 1.00"(in) | |

CROSS TRANSITION BRACKETS AND BLOCKS

Round Tooling | Dimensions and Technical Specifications

Nominal (Ø) given
See chart on Page 72
for actual (Ø) size

M-xxx-xxx-M Ø25mm/1.00" to Ø25mm/1.00" (Double Bolt)

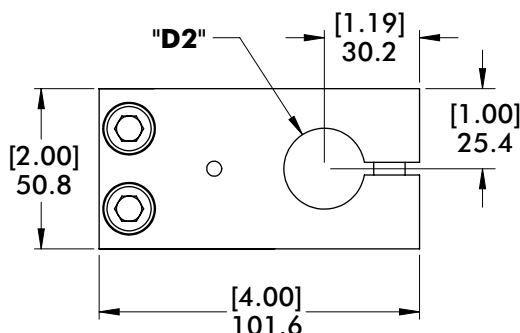
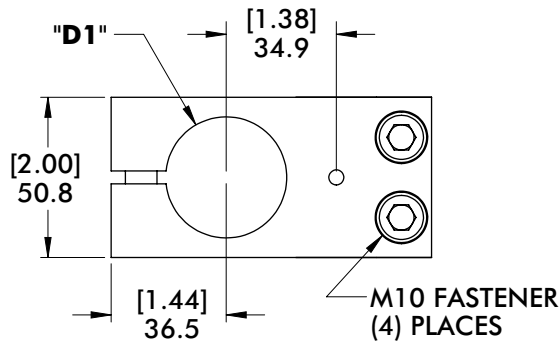


Specifications:

Max. Static Clamp Load:
Ø25mm/1.00":
434 N*m [320 ft-lb]
Material: Aluminum

| Model Number | (Ø)"D" | Weight | Finish |
|--------------|-----------|--------------------|--------|
| M-25M-25M-M | 25mm | [.93 lb] .42 kg | BLUE |
| M-10E-10E-M | 1.00"(in) | | BLACK |

M-xxx-xxx-M Ø40mm/1.25"/1.50" to Ø25mm/1.00" (Double Bolt)



Specifications:

Max. Static Clamp Load:
Ø25mm/1.00":
434 N*m [320 ft-lb]
Ø40mm/1.50":
624 N*m [460 ft-lb]
Material: Aluminum

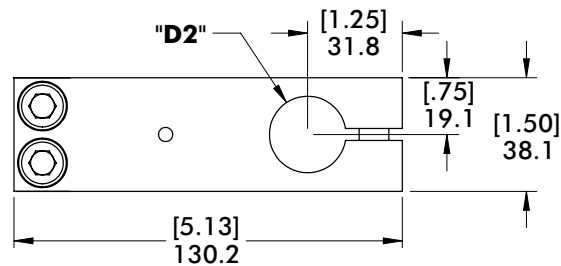
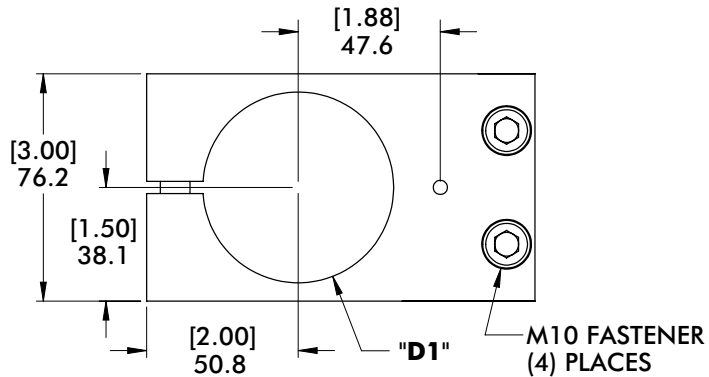
| Model Number | (Ø)"D1" | (Ø)"D2" | Weight | Finish |
|--------------|-----------|-----------|---------------------|--------|
| M-10E-12E-M | 1.25"(in) | 1.00"(in) | [1.29 lb] .58 kg | BLACK |
| M-10E-15E-M | 1.50"(in) | 1.00"(in) | [1.18 lb] .54 kg | BLACK |
| M-25M-40M-M | 40mm | 25mm | | BLUE |

CROSS TRANSITION BRACKETS AND BLOCKS

Round Tooling | Dimensions and Technical Specifications

Nominal (Ø) given
See chart on Page 72
for actual (Ø) size

M-xxx-xxx-M Ø60mm/2.50" to Ø25mm/1.00" (Double Bolt)



Specifications:

Max. Static Clamp Load:

Ø25mm/1.00":

434 N*m [320 ft-lb]

Ø60mm/2.50":

813 N*m [600 ft-lb]

Material: Aluminum

| Model Number | (Ø)"D1" | (Ø)"D2" | Weight | Finish |
|--------------|-----------|-----------|---------------------|--------|
| M-25M-60M-M | 60mm | 25mm | [1.52 lb] .69 kg | BLUE |
| M-10E-25E-M | 2.50"(in) | 1.00"(in) | [1.44 lb] .65 kg | BLACK |

M-xxx-xxx-M Ø40mm/1.25"/1.50" to Ø40mm/1.25"/1.50" (Double Bolt)



Specifications:

Max. Static Clamp Load:

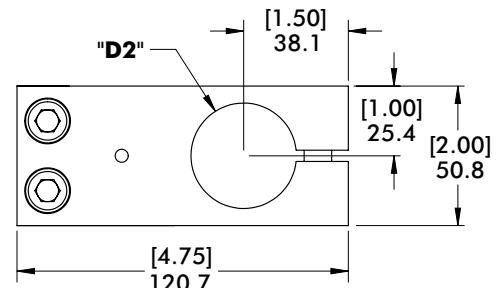
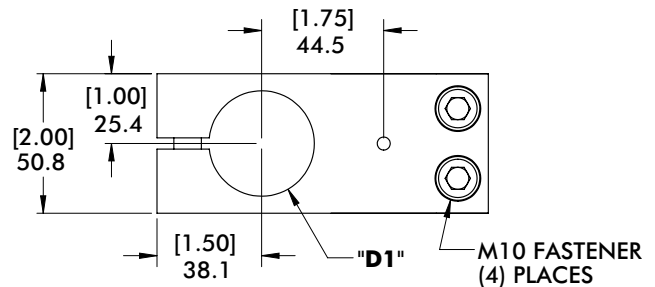
Ø1.25":

515 N*m [380 ft-lb]

Ø40mm/1.50":

624 N*m [460 ft-lb]

Material: Aluminum



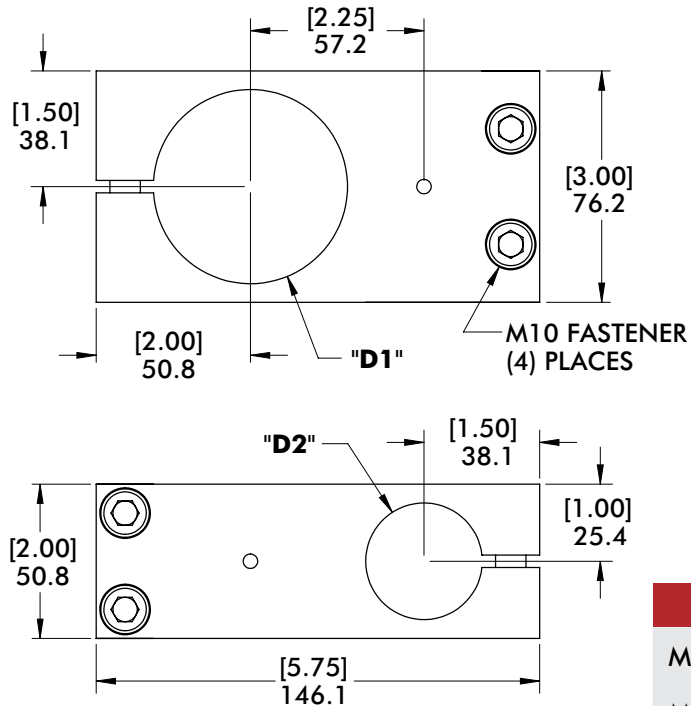
| Model Number | (Ø)"D1" | (Ø)"D2" | Weight | Finish |
|--------------|-----------|-----------|---------------------|--------|
| M-12E-12E-M | 1.25"(in) | 1.25"(in) | [1.51 lb] .69 kg | BLACK |
| M-12E-15E-M | 1.25"(in) | 1.50"(in) | [1.41 lb] .64 kg | BLACK |
| M-15E-15E-M | 1.50"(in) | 1.50"(in) | [1.31 lb] .59 kg | BLACK |
| M-40M-40M-M | 40mm | 40mm | [1.23 lb] .56 kg | BLUE |

CROSS TRANSITION BRACKETS AND BLOCKS

Round Tooling | Dimensions and Technical Specifications

Nominal (Ø) given
See chart on Page 72
for actual (Ø) size

M-xxx-xxx-M Ø60mm/2.50 to Ø40mm/1.50" (Double Bolt)

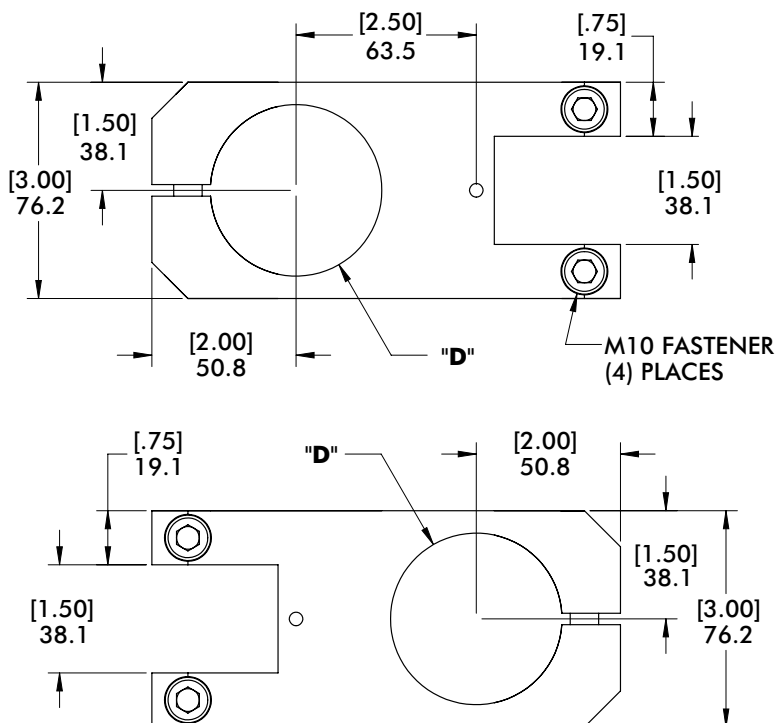


Specifications:

Max. Static Clamp Load:
Ø40mm/1.50":
624 N*m [460 ft-lb]
Ø60mm/2.50":
813 N*m [600 ft-lb]
Material: Aluminum

| Model Number | (Ø)"D1" | (Ø)"D2" | Weight | Finish |
|--------------|-----------|-----------|---------------------|--------|
| M-40M-60M-M | 60mm | 40mm | [2.08 lb] .95 kg | BLUE |
| M-15E-25E-M | 2.50"(in) | 1.50"(in) | | BLACK |

M-xxx-xxx-M Ø60mm/2.50" to Ø60mm/2.50" (Double Bolt)



Specifications:

Max. Static Clamp Load:
813 N*m [600 ft-lb]
Material: Aluminum

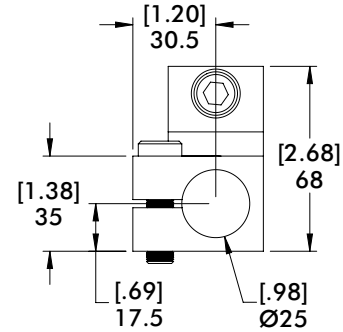
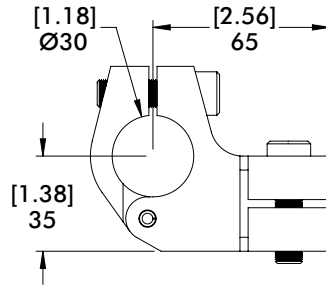
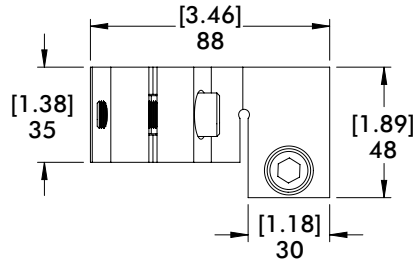
| Model Number | (Ø)"D" | Weight | FINISH |
|--------------|-----------|---------------------|--------|
| M-60M-60M-M | 60mm | [2.07 lb] .94 kg | BLUE |
| M-25E-25E-M | 2.50"(in) | [2.03 lb] .92 kg | BLACK |

T-CLAMP TRANSITION BRACKETS AND BLOCKS

Round Tooling | Dimensions and Technical Specifications

Nominal (Ø) given
See chart on Page 72
for actual (Ø) size

TCAH Ø30mm to Ø25mm



Specifications:

Max. Static Clamp Load:

Ø30mm:

237 N*m [175 ft-lb]

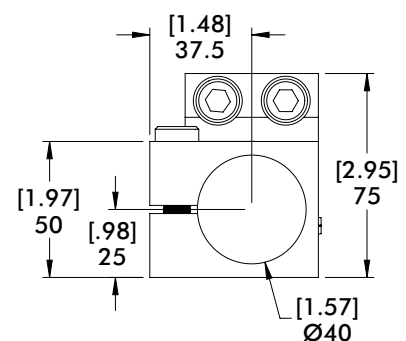
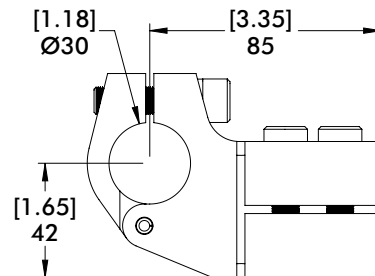
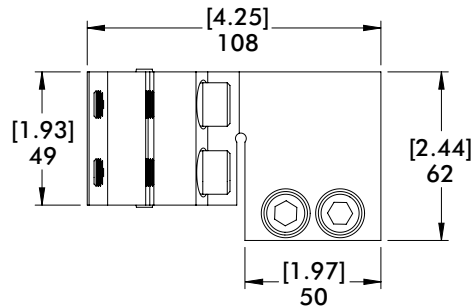
Ø25mm/1.00":

200 N*m [150 ft-lb]

Material: Aluminum

| Model Number | Weight |
|-----------------|-------------------|
| CPI-TCAH30M-25M | [0.72 lb] 325g |

TCAH Ø30mm to Ø40mm



Specifications:

Max. Static Clamp Load:

Ø30mm:

237 N*m [175 ft-lb]

Ø40mm:

271 N*m [200 ft-lb]

Material: Aluminum

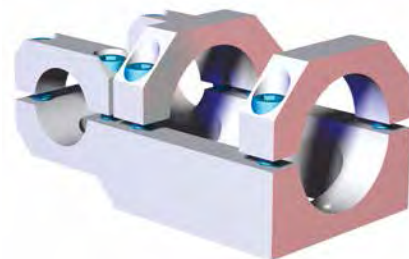
| Model Number | Weight |
|-----------------|-------------------|
| CPI-TCAH30M-40M | [1.40 lb] 634g |

T-CLAMP TRANSITION BRACKETS AND BLOCKS

Round Tooling | Dimensions and Technical Specifications

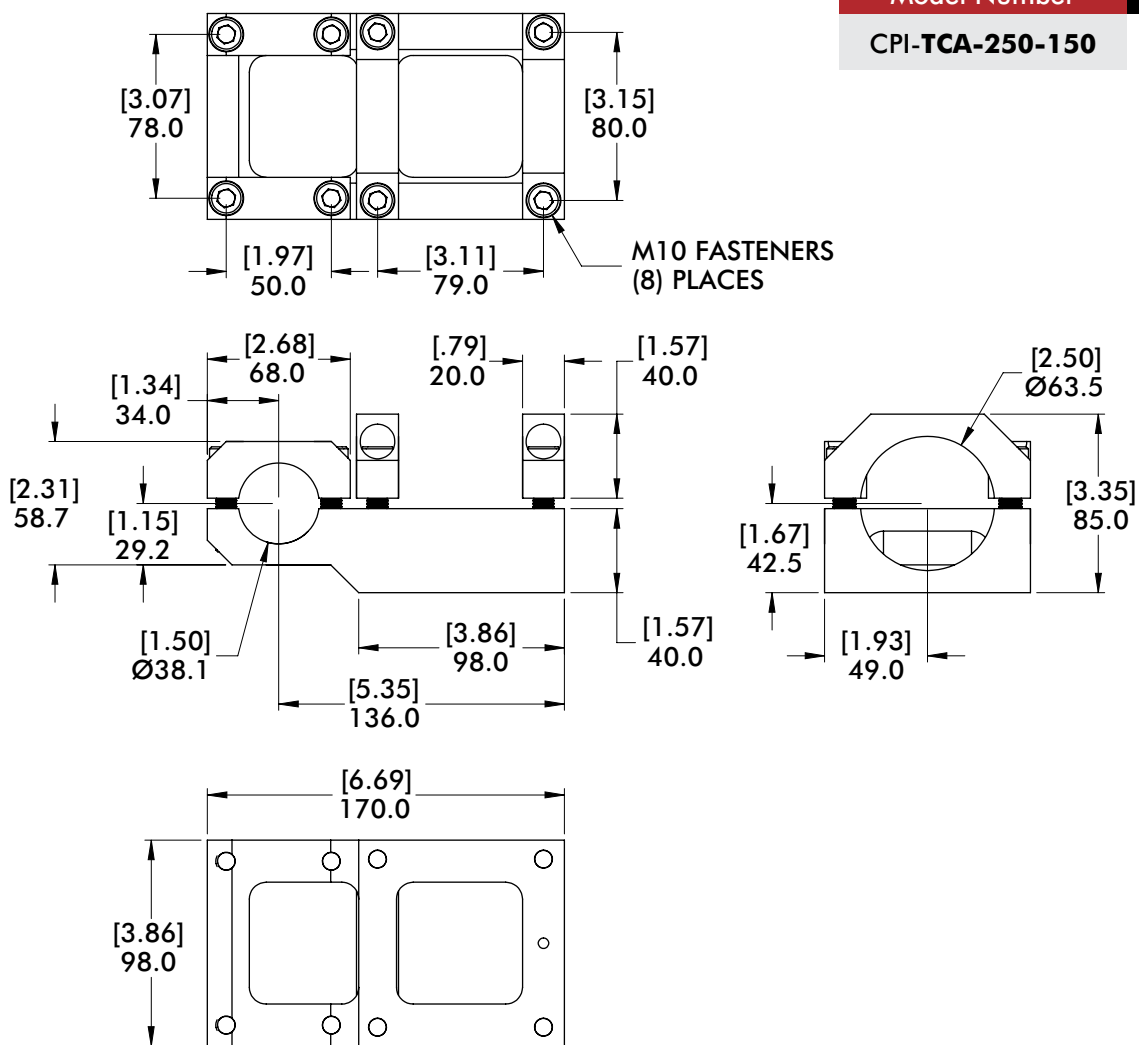
Nominal (Ø) given
See chart on Page 72
for actual (Ø) size

TCA Ø2.50" to Ø1.50" T-Clamp Bracket Assembly



Specifications:
Max. Static Clamp Load:
Ø1.50":
271 N*m [200 ft-lb]
Ø2.50":
677 N*m [500 ft-lb]
Material: Aluminum

| Model Number | Weight |
|-----------------|----------------------|
| CPI-TCA-250-150 | [2.76 lb] 1.25 kg |

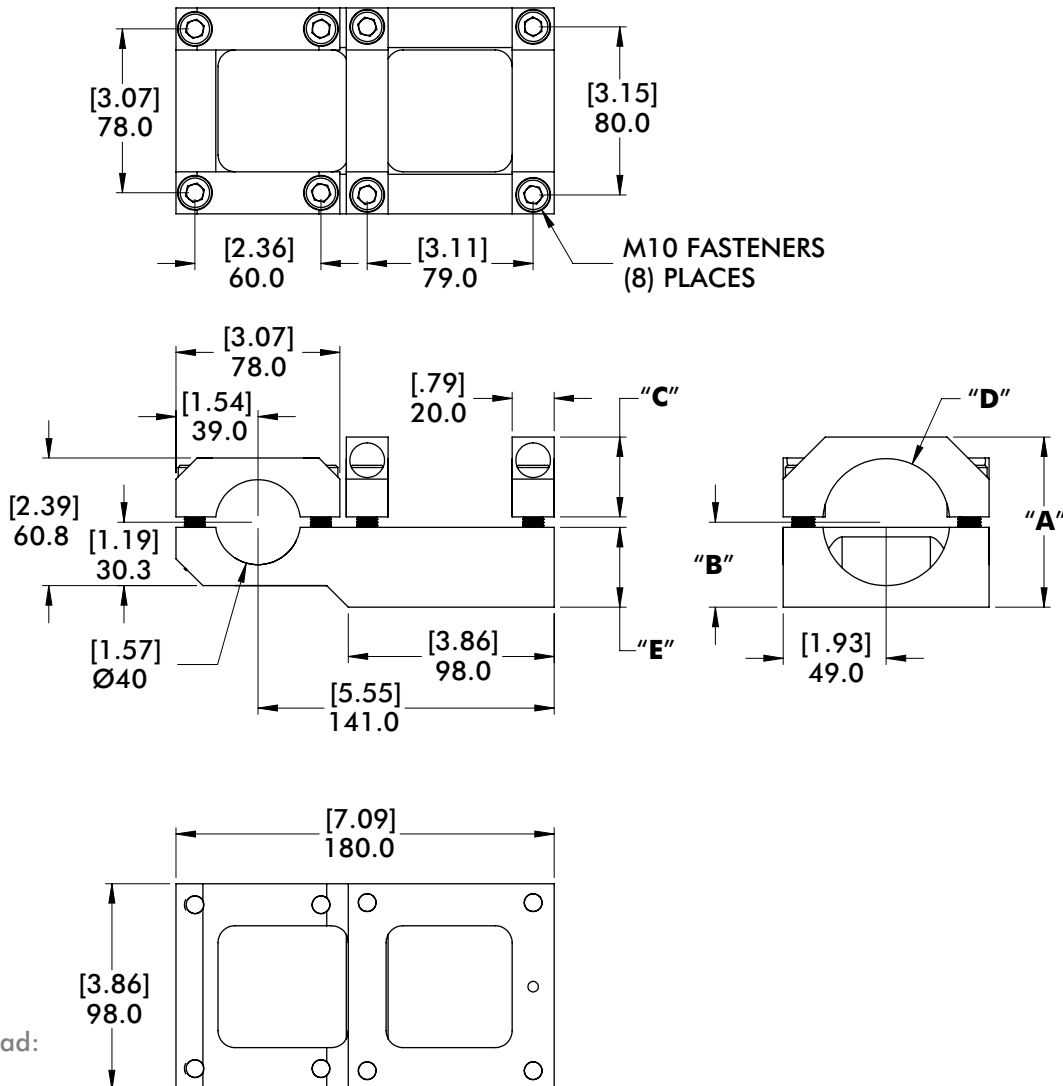
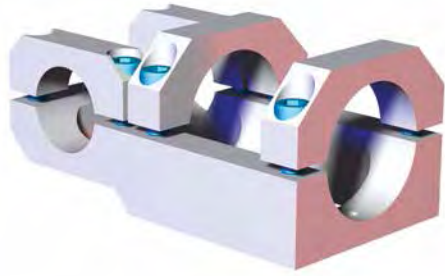


T-CLAMP TRANSITION BRACKETS AND BLOCKS

Round Tooling | Dimensions and Technical Specifications

Nominal (Ø) given
See chart on Page 72
for actual (Ø) size

TCA Ø60mm/2.50" to Ø40mm T-Clamp Bracket Assembly



Specifications:
Max. Static Clamp Load:
Ø40mm:
271 N*m [200 ft-lb]
Ø60mm/2.50":
677 N*m [500 ft-lb]
Material: Aluminum

| Model Number | (Ø)"D" | "A" | "B" | "C" | "E" | Weight |
|-----------------|--------|----------------|----------------|----------------|----------------|----------------------|
| CPI-TCA-60M-40M | 60mm | [3.19] 81.0 | [1.59] 40.5 | [1.50] 38.0 | [1.50] 38.0 | [2.89 lb] 1.31 kg |



EE-RND-29

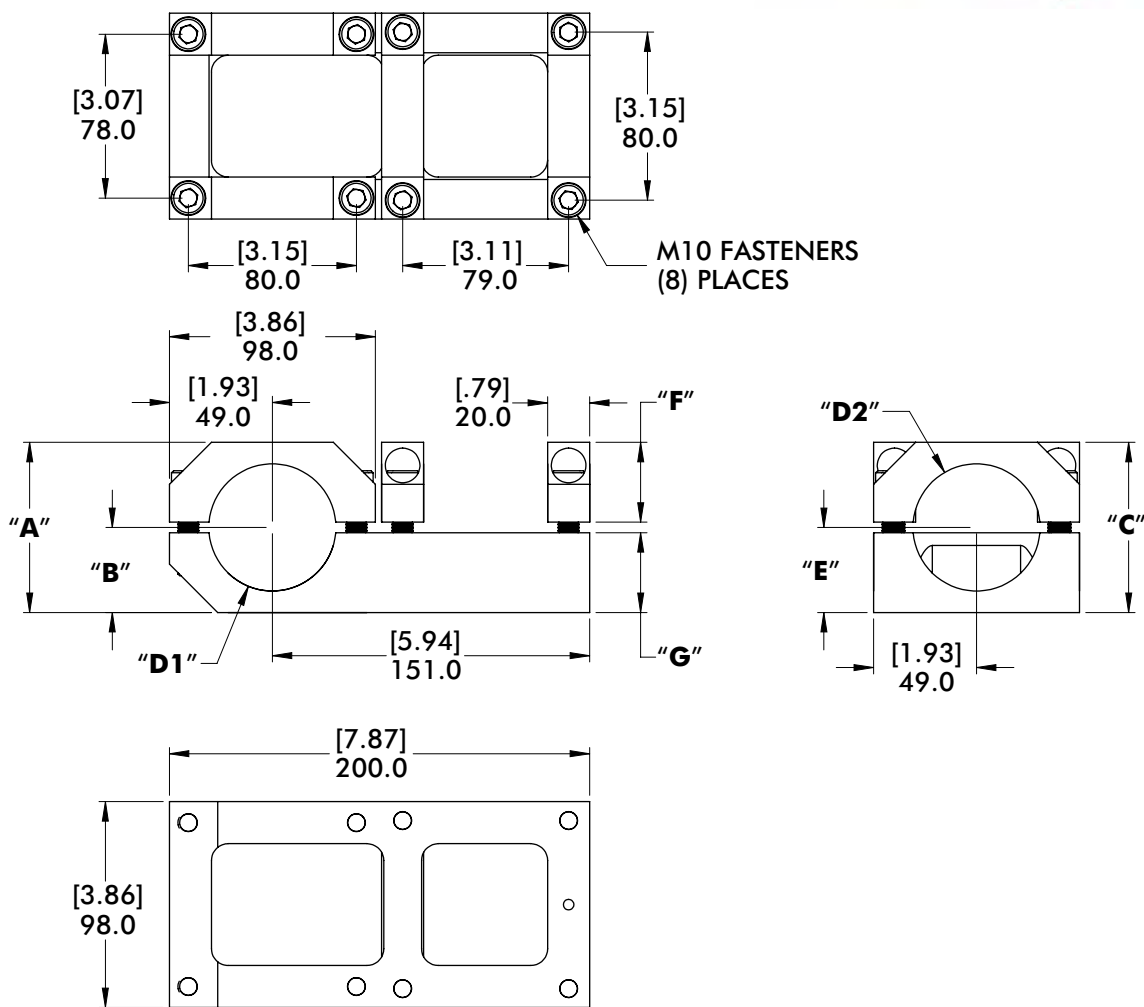
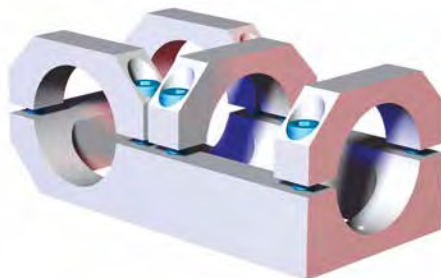
Dimensions and technical information are subject to change without notice

T-CLAMP TRANSITION BRACKETS AND BLOCKS

Round Tooling | Dimensions and Technical Specifications

Nominal (Ø) given
See chart on Page 72
for actual (Ø) size

TCA Ø60mm/2.50" to Ø60mm/2.50" T-Clamp Bracket Assembly



Specifications:
Max. Static Clamp Load:
813 N*m [600 ft-lb]
Material: Aluminum

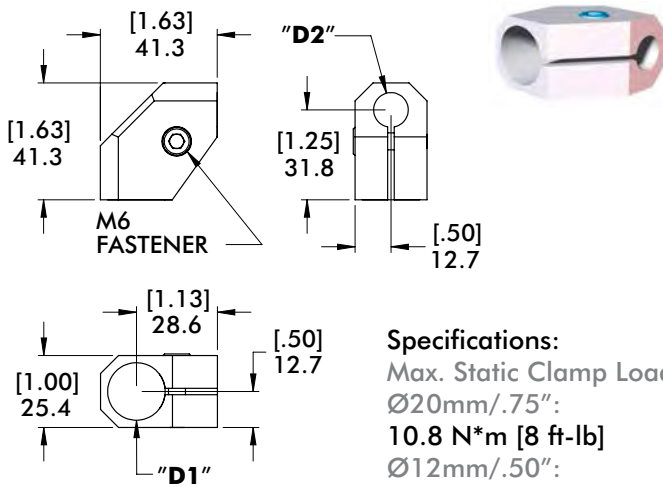
| Model Number | (Ø)"D1" | (Ø)"D2" | "A" | "B" | "C" | "E" | "F" | "G" | Weight |
|-----------------|-----------|-----------|----------------|----------------|----------------|----------------|----------------|----------------|----------------------|
| CPI-TCA-60M-60M | 60mm | 60mm | [3.19] 81.0 | [1.59] 40.5 | [3.19] 81.0 | [1.59] 40.5 | [1.50] 38.0 | [1.50] 38.0 | [3.15 lb] 1.43 kg |
| CPI-TCA-250-250 | 2.50"(in) | 2.50"(in) | [3.35] 85.0 | [1.67] 42.5 | [3.35] 85.0 | [4.67] 42.5 | [1.57] 40.0 | [1.57] 40.0 | |

WRIST CLAMPS

Round Tooling | Dimensions and Technical Specifications

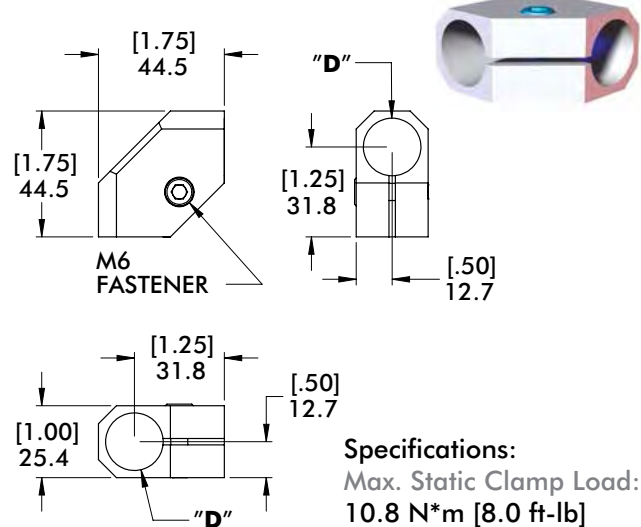
Nominal (Ø) given
See chart on Page 72
for actual (Ø) size

SECM Ø20mm/.75" to Ø12mm/.50"



Specifications:
Max. Static Clamp Load:
Ø20mm/.75":
10.8 N*m [8 ft-lb]
Ø12mm/.50":
10.8 N*m [8 ft-lb]
Material: Aluminum

SECM Ø20mm/.75" to Ø20mm/.75"

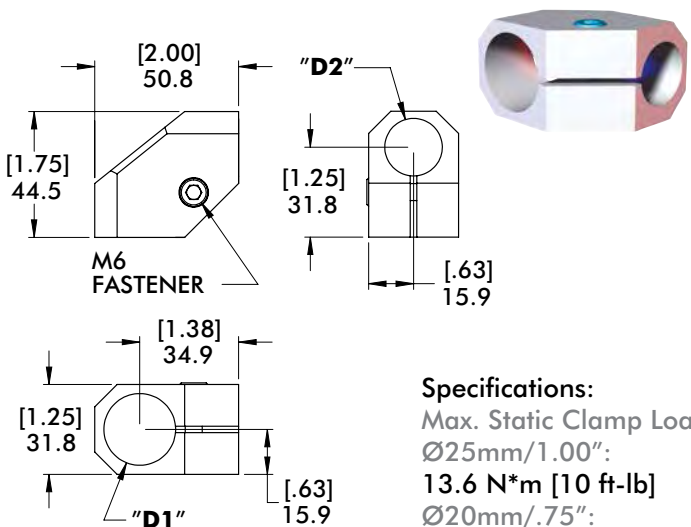


Specifications:
Max. Static Clamp Load:
10.8 N*m [8.0 ft-lb]
Material: Aluminum

| Model Number | (Ø)"D1" | (Ø)"D2" | Weight |
|----------------|----------|----------|--------------------|
| CPI-SECM-2012M | 12mm | 20mm | [.12 lb] .05 kg |
| CPI-SECM-7550 | .50"(in) | .75"(in) | |

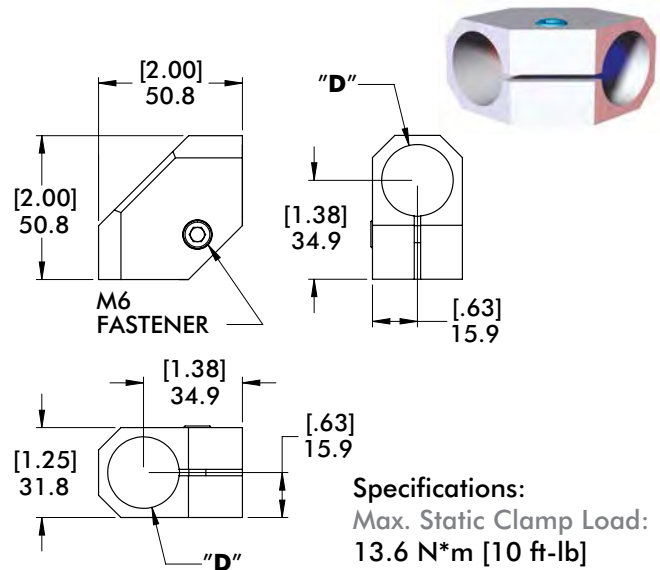
| Model Number | (Ø)"D" | Weight |
|----------------|----------|--------------------|
| CPI-SECM-2020M | 20mm | [.12 lb] .06 kg |
| CPI-SECM-7575 | .75"(in) | |

SECM Ø25mm/1.00" to Ø20mm/.75"



Specifications:
Max. Static Clamp Load:
Ø25mm/1.00":
13.6 N*m [10 ft-lb]
Ø20mm/.75":
10.8 N*m [8.0 ft-lb]
Material: Aluminum

SECM Ø25mm/1.00" to Ø25mm/1.00"



Specifications:
Max. Static Clamp Load:
13.6 N*m [10 ft-lb]
Material: Aluminum

| Model Number | (Ø)"D1" | (Ø)"D2" | Weight |
|----------------|-----------|----------|--------------------|
| CPI-SECM-2520M | 25mm | 20mm | [.17 lb] .08 kg |
| CPI-SECM-1075 | 1.00"(in) | .75"(in) | |

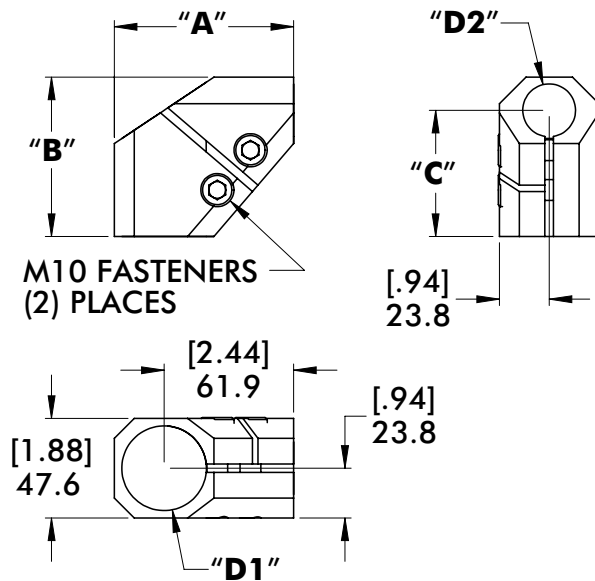
| Model Number | (Ø)"D" | Weight |
|----------------|-----------|--------------------|
| CPI-SECM-2525M | 25mm | [.17 lb] .08 kg |
| CPI-SECM-1010 | 1.00"(in) | |

WRIST CLAMPS

Round Tooling | Dimensions and Technical Specifications

Nominal (Ø) given
See chart on Page 72
for actual (Ø) size

SEC/SLK Ø40mm/1.50" to Ø25mm/1.00"



Specifications:

Max. Static Clamp Load:

Ø40mm/1.50":

271 N*m [200 ft-lb]

Ø25mm/1.00":

203 N*m [150 ft-lb]

Material: Aluminum

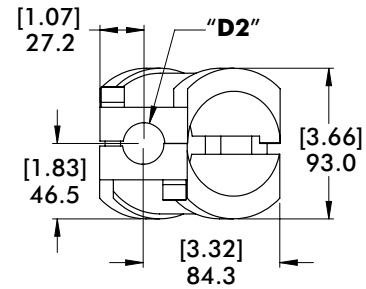
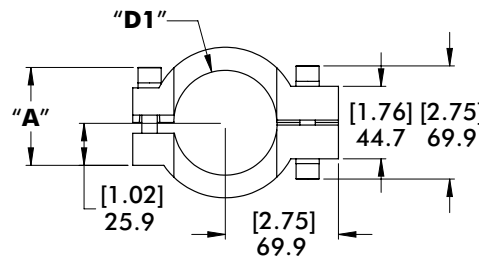
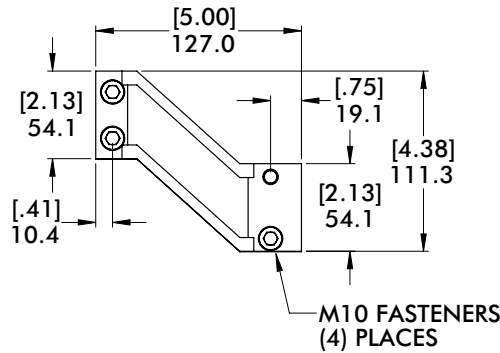
| Model Number | (Ø)"D1" | (Ø)"D2" | "A" | "B" | "C" | "E" | Weight |
|--------------|-----------|-----------|----------------|----------------|----------------|---------------|--------------------|
| CPI-SEC-1510 | 1.50"(in) | 1.00"(in) | [3.25] 82.6 | [2.38] 60.3 | [1.75] 44.5 | [.88] 22.2 | [.67 lb] .31 kg |
| CPI-SLK-4025 | 40mm | 25mm | [3.38] 85.7 | [2.44] 61.9 | [1.88] 47.6 | [.94] 23.8 | [.77 lb] .35 kg |

OFFSET WRIST BRACKETS AND BLOCKS

Round Tooling | Dimensions and Technical Specifications

Nominal (Ø) given
See chart on Page 72
for actual (Ø) size

SEC/SLK Ø60mm/2.50" to Ø25mm/1.00" Wrist Bracket



Specifications:

Max. Static Clamp Load:

Ø25mm/1.00":

149 N*m [110 ft-lb]

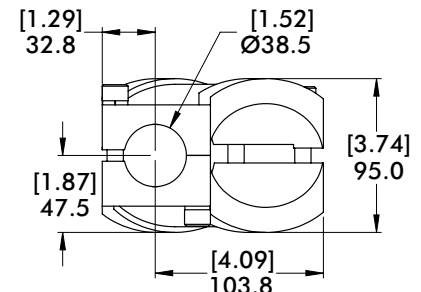
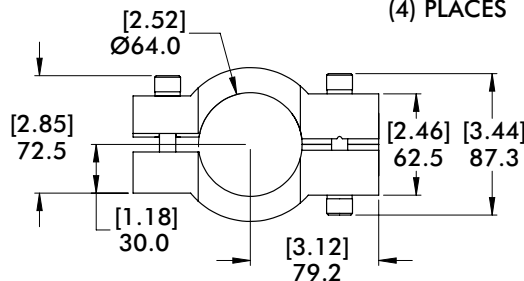
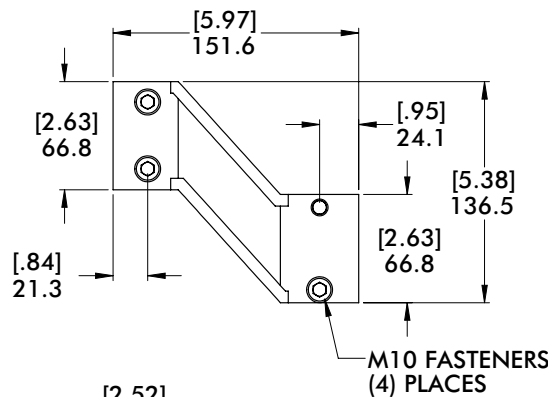
Ø60mm/2.50":

677 N*m [500 ft-lb]

Material: Aluminum

| Model Number | (Ø)"D1" | (Ø)"D2" | "A" | Weight |
|--------------|-----------|-----------|-------------|------------------|
| CPI-SLK-6025 | 60mm | 25mm | [2.25] 57.1 | [1.72 lb] .78 kg |
| CPI-SEC-2510 | 2.50"(in) | 1.00"(in) | [2.38] 60.5 | [1.61 lb] .73 kg |

SEC Ø2.50" to Ø1.50" Wrist Bracket



Specifications:

Max. Static Clamp Load:

Ø40mm/1.50":

271 N*m [200 ft-lb]

Ø60mm/2.50":

677 N*m [500 ft-lb]

Material: Aluminum

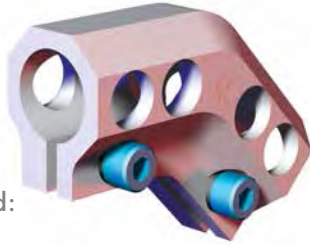
| Model Number | Weight |
|--------------|-------------------|
| CPI-SEC-2515 | [2.72 lb] 1.23 kg |

ELBOW AND STRAIGHT BRACKETS

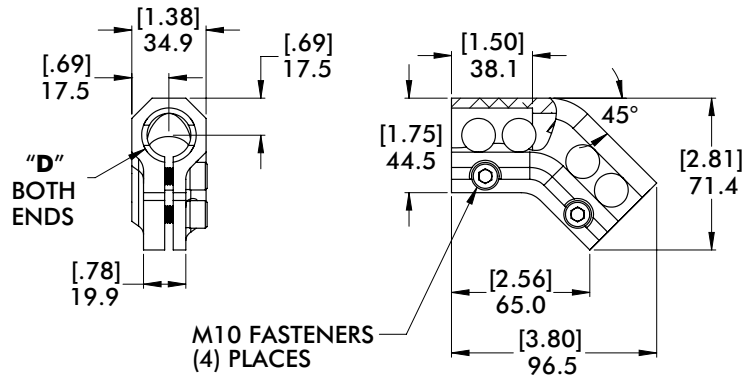
Round Tooling | Dimensions and Technical Specifications

Nominal (\emptyset) given
See chart on Page 72
for actual (\emptyset) size

DC $\emptyset 25\text{mm}/1.00''$ to $\emptyset 25\text{mm}/1.00''$ 45° Elbow

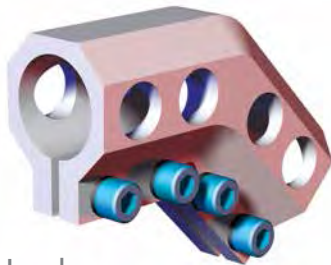


Specifications:
Max. Static Clamp Load:
203 N*m [150 ft-lb]
Material: Aluminum

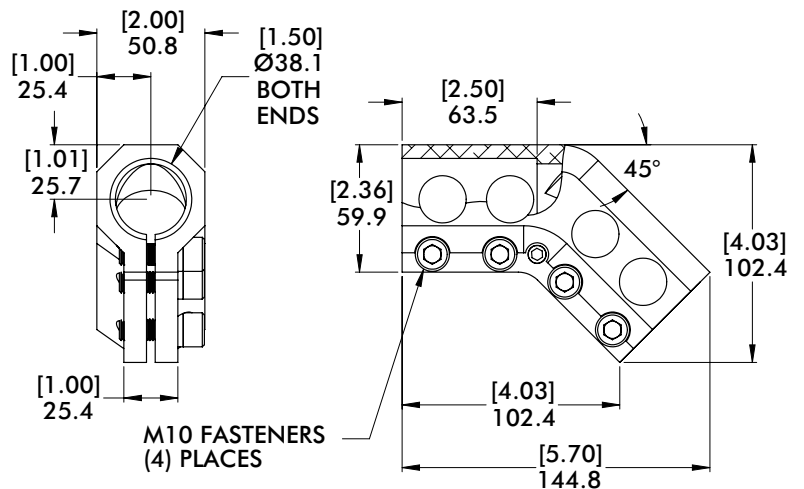


| Model Number | (\emptyset) "D" | Weight |
|-----------------|---------------------|--------------------|
| CPI-DC-2525M-45 | 25mm | [.35 lb] .16 kg |
| CPI-DC-1010-45 | 1.00"(in) | |

DC $\emptyset 1.50''$ to $\emptyset 1.50''$ 45° Elbow

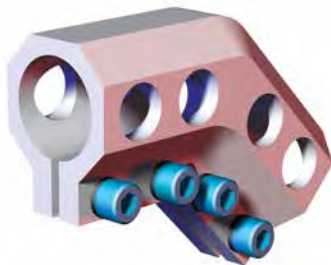


Specifications:
Max. Static Clamp Load:
271 N*m [200 ft-lb]
Material: Aluminum

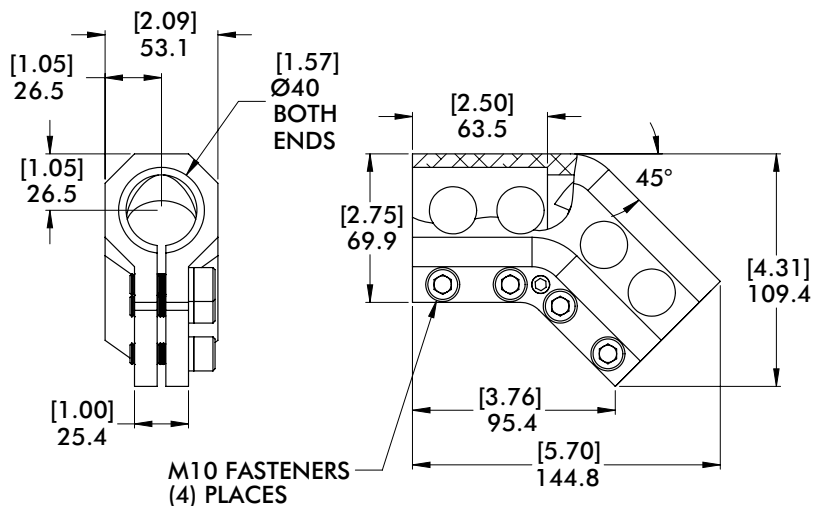


| Model Number | Weight |
|----------------|---------------------|
| CPI-DC-1515-45 | [1.41 lb] .64 kg |

DC $\emptyset 40\text{mm}$ to $\emptyset 40\text{mm}$ 45° Elbow



Specifications:
Max. Static Clamp Load:
271 N*m [200 ft-lb]
Material: Aluminum



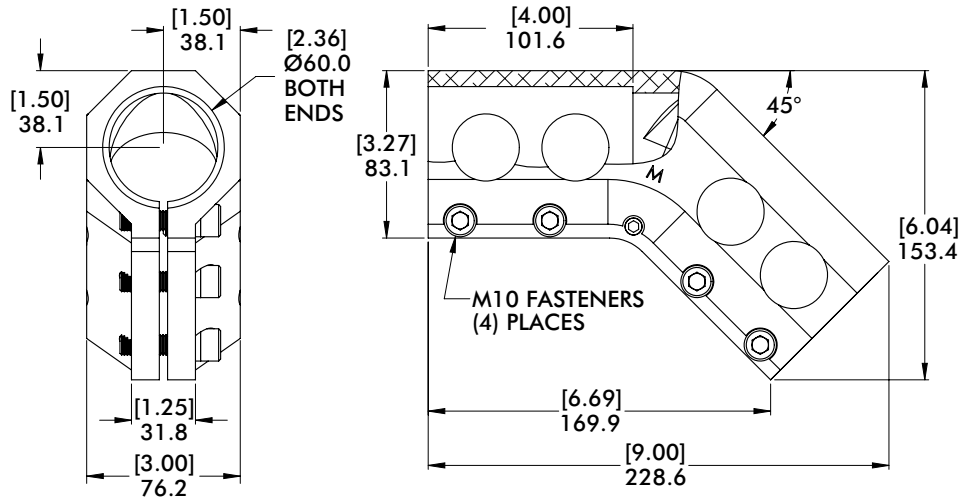
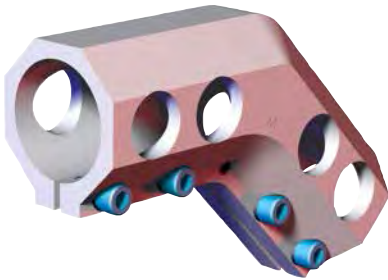
| Model Number | Weight |
|-----------------|---------------------|
| CPI-DC-40-40-45 | [1.41 lb] .64 kg |

ELBOW AND STRAIGHT BRACKETS

Round Tooling | Dimensions and Technical Specifications

Nominal (Ø) given
See chart on Page 72
for actual (Ø) size

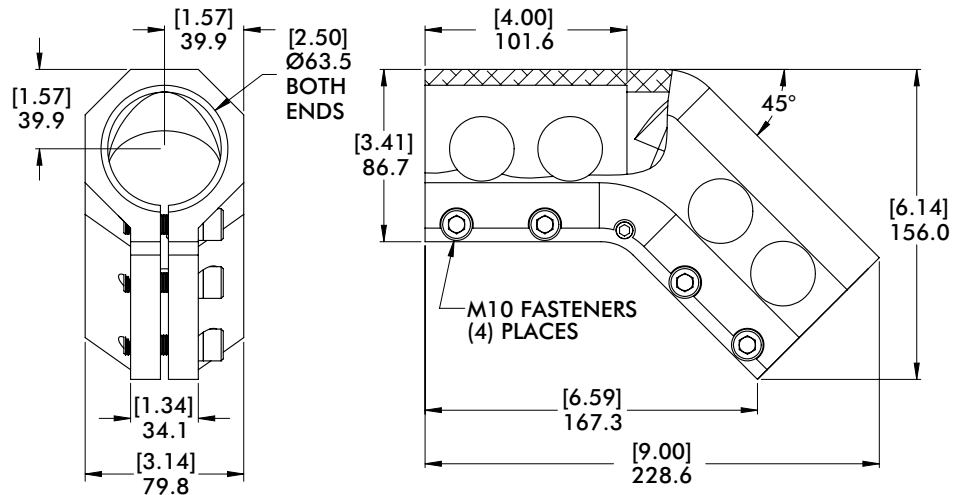
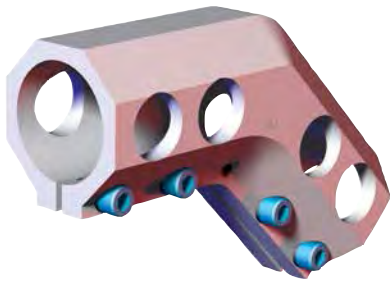
DC Ø60mm to Ø60mm 45° Elbow



Specifications:
Max. Static Clamp Load:
677N*m [500 ft-lb]
Material: Aluminum

| Model Number | Weight |
|-----------------|----------------------|
| CPI-DC-6060M-45 | [2.94 lb] 1.33 kg |

DC Ø2.50" to Ø2.50" 45° Elbow



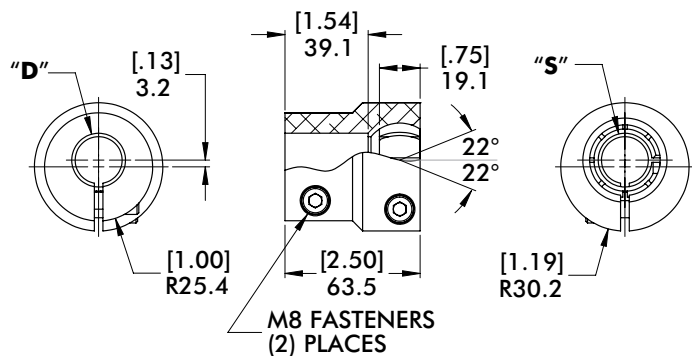
Specifications:
Max. Static Clamp Load:
677 N*m [500 ft-lb]
Material: Aluminum

| Model Number | Weight |
|----------------|----------------------|
| CPI-DC-2525-45 | [3.19 lb] 1.46 kg |

DC Ø25mm/1.00" to Ø25mm/1.00" Straight with Swivel



Specifications:
Max. Static Clamp Load:
203 N*m [150 ft-lb]
Material: Aluminum

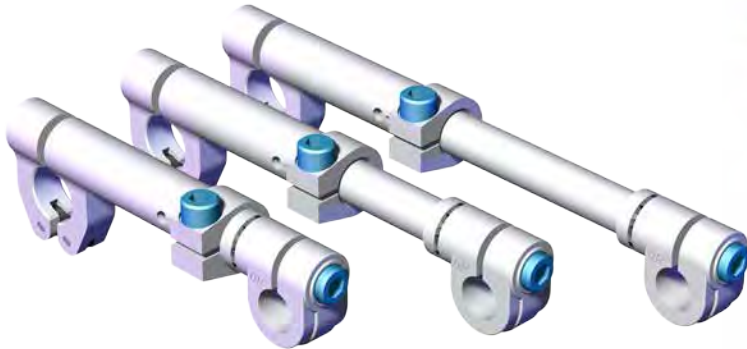


| Model Number | (Ø)"D" | (Ø)"S" | Weight |
|----------------|-----------|-----------|--------------------|
| CPI-DC-2525S-8 | 25mm | 25mm | [.80 lb] .36 kg |
| CPI-DC-1010S-8 | 1.00"(in) | 1.00"(in) | |

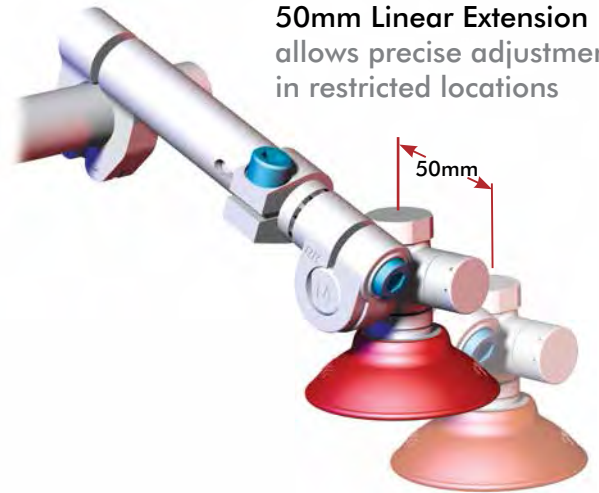
SWIVEL ARMS

Round Tooling | Features and Benefits

Extend Arm Swivel Arms are available in (3) standard lengths to offer (3) ranges of linear adjustability



50mm Linear Extension allows precise adjustment in restricted locations



Three-bolt adjustment system (2) bolts for individual adjustment of each joint along with (1) bolt for linear adjustment. Adjust a single point of axis while the other areas of adjustment remains secure.

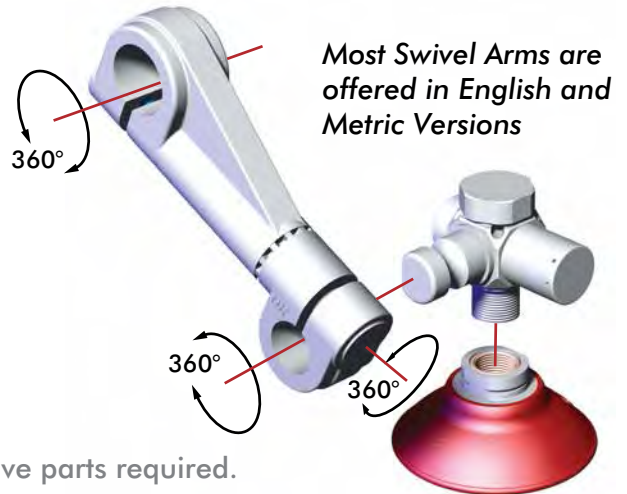
Double-Hinge Design provides even-clamping force to better hold mounting position. End opens to allow mounting in the center of tube/bar without removing existing components. These features reduce downtime for setup and adjustment.



Standard Swivel Arms offer a versatile attachment point for vacuum generators and adaptors, proximity switches, and nest mounts brackets.

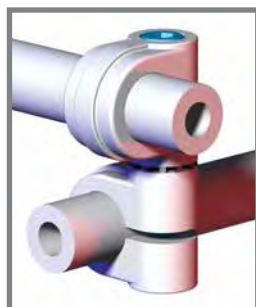
Single-Bolt adjustment for (3) axis
Standard Swivel Arms, as well as Single-Bolt Transition Swivel Arms, and Single End Extensions all share the convenient one-bolt design for quick setup, easy assembly and adjustment. Tool setup is therefore quick and easy, saving time and money.

360° of adjustment in (3) different axes
Easily locate cups on most panels. No special or expensive parts required.



Most Swivel Arms are offered in English and Metric Versions

Transition Swivel Arms can be used in the same fashion as a Standard Swivel Arm or as a transition junction from tube to Single End Extensions or tube.



Double-Bolt Transition Swivel Arms allow individual adjustment at each end of the swivel arm for more flexibility.

Single End Extensions can be used to add linear adjustment to the 360° (3) axes adjustment, when used in conjunction with Transition Swivel Arms or Transition Blocks.



EXTEND-ARM SWIVEL ARMS

Round Tooling | Dimensions and Technical Specifications



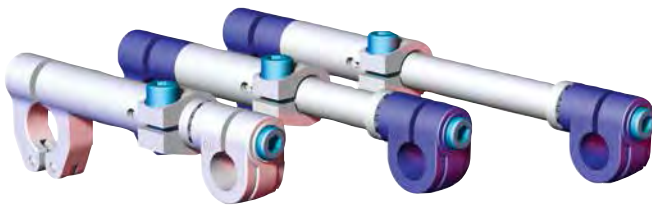
Features:

- Mounts apple core accessories to Ø25mm/1.00" round tube
- 50.8 [2.00] linear extension allows for precise adjustment
- Provides 360° of rotational adjustments along (3) axes
- Used to mount venturi, bumpers, round locators, and proximity switches

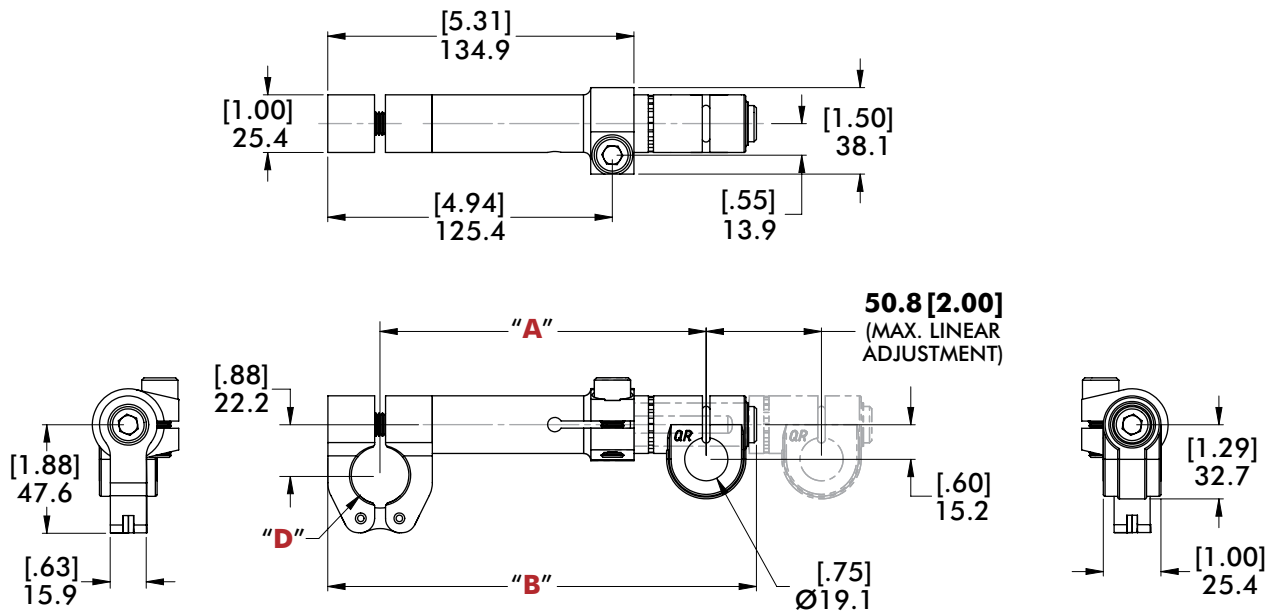
Specifications:

Maximum Clamp Load:
140 ft-lb [190 Nm]
Material:
Body and Insert:
Machined Aluminum
End:
Cast Aluminum

TSA Ø25mm/1.00" for Ø19mm [.75"] Apple Core



Double-hinge design allows swivel arm to be mounted directly onto boom/tube and slid into position, without having to remove existing components to slide on from boom/tube end.



| Model Number | (Ø)"D" | "A" | "B" | Weight | FINISH |
|----------------|-----------|--------|---------|-----------|--------|
| CPI-55-1-TSA | 1.00"(in) | [5.66] | [7.44] | [0.83 lb] | SILVER |
| CPI-140-25-TSA | 25mm | 143.7 | 188.9 | 0.38 kg | BLUE |
| CPI-75-1-TSA | 1.00"(in) | [7.66] | [9.44] | [0.90 lb] | SILVER |
| CPI-190-25-TSA | 25mm | 194.5 | 239.7 | 0.41 kg | BLUE |
| CPI-95-1-TSA | 1.00"(in) | [9.66] | [11.44] | [0.98 lb] | SILVER |
| CPI-240-25-TSA | 25mm | 245.3 | 290.5 | 0.44 kg | BLUE |

EXTEND-ARM SWIVEL ARMS

Round Tooling | Dimensions and Technical Specifications

Features:

- Mounts apple core accessories to $\text{\O}40\text{mm}/1.50''$ round tube
- 50.8 [2.00] linear extension allows for precise adjustment
- Provides 360° of rotational adjustments along (3) axes
- Used to mount venturi, bumpers, round locators, and proximity switches

Specifications:

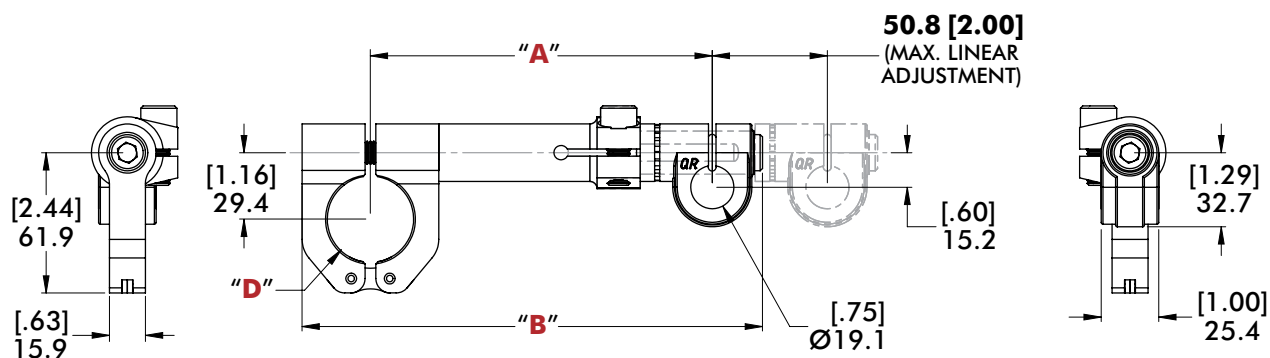
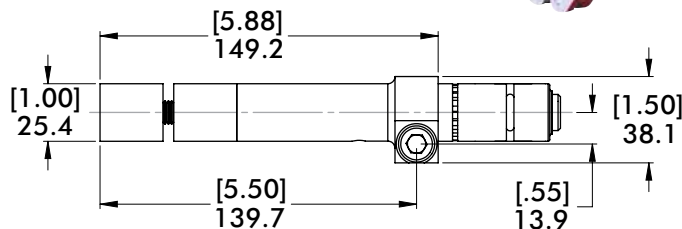
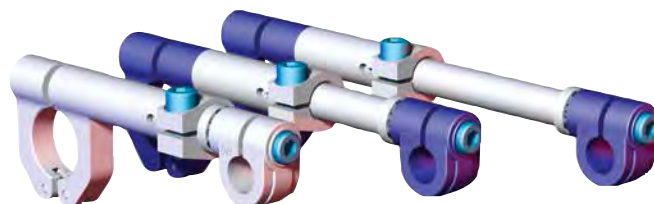
Maximum Clamp Load:
140 ft-lb [190 Nm]
Material:
Body and Insert:
Machined Aluminum
End:
Cast Aluminum



TSA $\text{\O}40\text{mm}/1.50''$ for $\text{\O}19\text{mm} [.75'']$ Apple Core



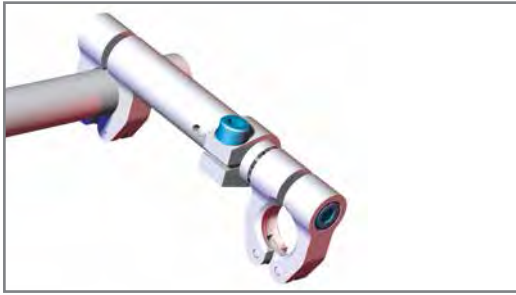
Double-hinge design allows swivel arm to be mounted directly onto boom/tube and slid into position, without having to remove existing components to slide on from boom/tube end.



| Model Number | (\O) "D" | "A" | "B" | Weight | FINISH |
|----------------|---------------------|--------|---------|-----------|--------|
| CPI-55-150-TSA | 1.50"(in) | [5.94] | [8.00] | [0.99 lb] | SILVER |
| CPI-140-40-TSA | 40mm | 150.9 | 203.2 | 0.45 kg | BLUE |
| CPI-75-150-TSA | 1.50"(in) | [7.94] | [10.00] | [1.06 lb] | SILVER |
| CPI-190-40-TSA | 40mm | 201.7 | 254.0 | 0.48 kg | BLUE |
| CPI-95-150-TSA | 1.50"(in) | [9.94] | [12.00] | [1.13 lb] | SILVER |
| CPI-240-40-TSA | 40mm | 252.5 | 304.8 | 0.51 kg | BLUE |

EXTEND-ARM SWIVEL ARMS

Round Tooling | Dimensions and Technical Specifications



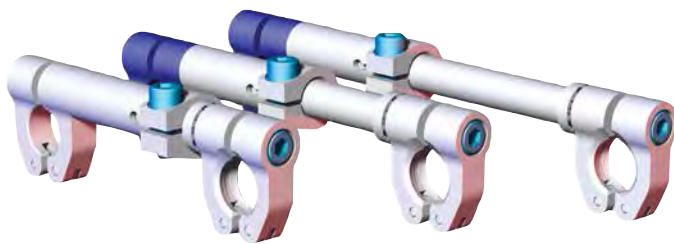
Features:

- Mounts swivel ball accessories to Ø25mm/1.00" round tube
- 50.8 [2.00] linear extension allows for precise adjustment
- Provides 360° of rotational adjustments along (3) axes
- Used to mount venturi, bumpers, round locators, and proximity switches

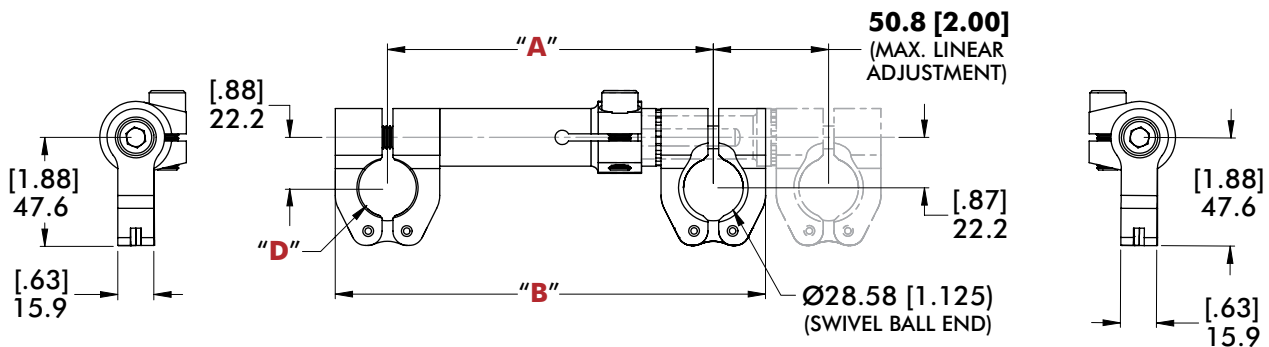
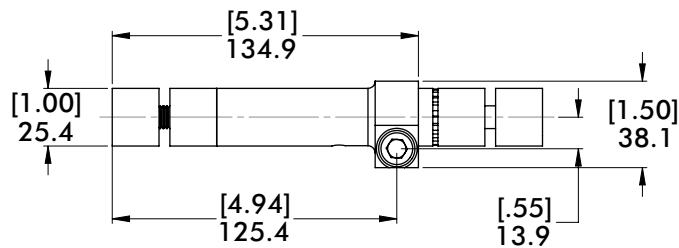
Specifications:

Maximum Clamp Load:
140 ft-lb [190 Nm]
Material:
Body and Insert:
Machined Aluminum
End:
Cast Aluminum

TSA-B112 Ø25mm/1.00" for Ø28.6mm [1.125"] Spherical Swivel Ball



Double-hinge design allows swivel arm to be mounted directly onto boom/tube and slid into position, without having to remove existing components to slide on from boom/tube end.



| Model Number | (Ø)"D" | "A" | "B" | Weight | FINISH |
|---------------------|-----------|--------|---------|-----------|--------|
| CPI-55-1-TSA-B112 | 1.00"(in) | [5.65] | [7.47] | [0.93 lb] | SILVER |
| CPI-140-25-TSA-B112 | 25mm | 143.6 | 189.6 | 0.42 kg | BLUE |
| CPI-75-1-TSA-B112 | 1.00"(in) | [7.65] | [9.47] | [1.00 lb] | SILVER |
| CPI-190-25-TSA-B112 | 25mm | 194.4 | 240.4 | 0.45 kg | BLUE |
| CPI-95-1-TSA-B112 | 1.00"(in) | [9.65] | [11.47] | [1.07 lb] | SILVER |
| CPI-240-25-TSA-B112 | 25mm | 245.2 | 291.2 | 0.49 kg | BLUE |

EXTEND-ARM SWIVEL ARMS

Round Tooling | Dimensions and Technical Specifications

Features:

- Mounts swivel ball accessories to $\text{Ø}40\text{mm}/1.50''$ round tube
- 50.8 [2.00] linear extension allows for precise adjustment
- Provides 360° of rotational adjustments along (3) axes
- Used to mount venturi, bumpers, round locators, and proximity switches

Specifications:

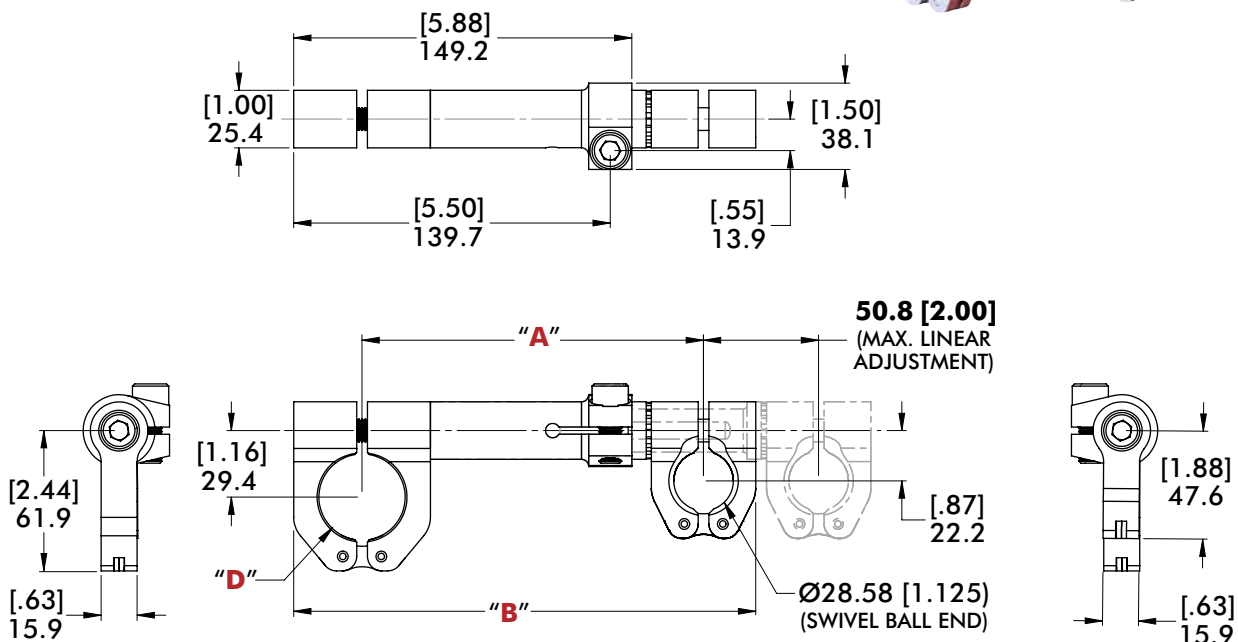
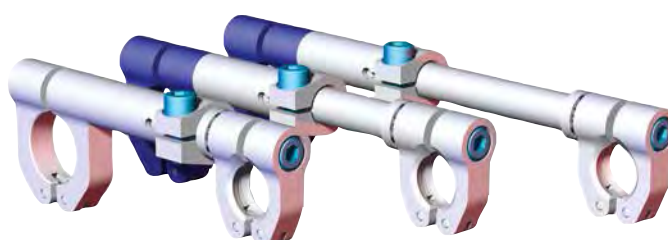
Maximum Clamp Load:
140 ft-lb [190 Nm]
Material:
Body and Insert:
Machined Aluminum
End:
Cast Aluminum



TSA-B112 $\text{Ø}40\text{mm}/1.50''$ for $\text{Ø}28.6\text{mm}$ [1.125"] Spherical Swivel Ball



Double-hinge design allows swivel arm to be mounted directly onto boom/tube and slid into position, without having to remove existing components to slide on from boom/tube end.

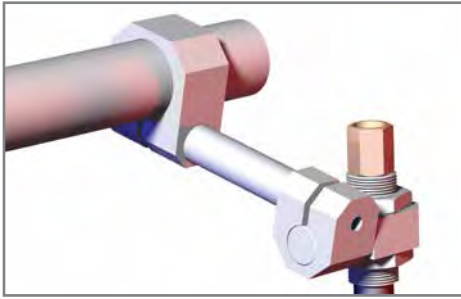


| Model Number | (Ø) "D" | "A" | "B" | Weight | FINISH |
|---------------------|--------------------|--------|---------|-----------|--------|
| CPI-55-150-TSA-B112 | 1.50"(in) | [5.93] | [8.03] | [1.03 lb] | SILVER |
| CPI-140-40-TSA-B112 | 40mm | 150.7 | 203.9 | 0.47 kg | BLUE |
| CPI-75-150-TSA-B112 | 1.50"(in) | [7.93] | [10.03] | [1.10 lb] | SILVER |
| CPI-190-40-TSA-B112 | 40mm | 201.5 | 254.7 | 0.50 kg | BLUE |
| CPI-95-150-TSA-B112 | 1.50"(in) | [9.93] | [12.03] | [1.17 lb] | SILVER |
| CPI-240-40-TSA-B112 | 40mm | 252.3 | 305.5 | 0.53 kg | BLUE |

MICRO TOOLING SWIVEL ARMS

Round Tooling | Dimensions and Technical Specifications

Nominal (Ø) given
See chart on Page 72
for actual (Ø) size



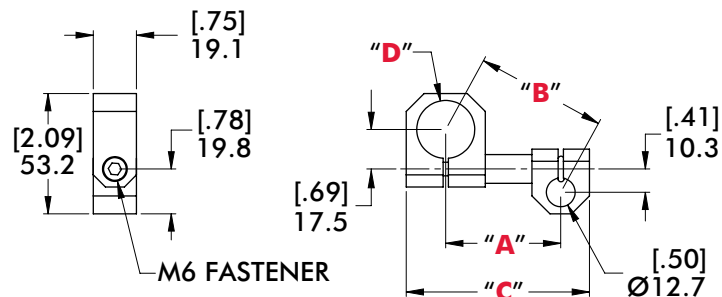
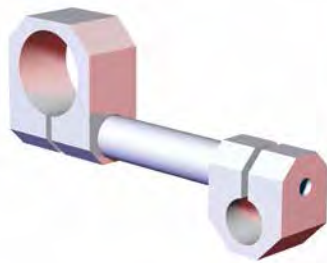
Features:

- Mounts micro apple core accessories to Ø25mm/1.00" Round tube
- Provides 360° of rotational adjustments along (3) axes
- Used to mount venturi, bumpers, round locators, and proximity switches

Specifications:

Maximum Clamp Load:
120 ft-lb [163 Nm]
Material:
Body and Spacer:
Machined Aluminum

MSA Ø25mm/1.00" for Ø12.7mm [.50"] Apple Core (Micro)



| Model Number | (Ø)"D" | "A" | "B" | "C" | Weight |
|-------------------|-----------|--------------|--------------|--------------|------------------|
| CPI-200-1050-MSA | 1.00"(in) | | | | |
| | 25mm | [2.00] 50.7 | [2.23] 56.6 | [3.06] 77.7 | [0.18 lb] 0.08kg |
| CPI-300-1050-MSA | 1.00"(in) | | | | |
| | 25mm | [3.00] 76.1 | [3.16] 80.2 | [4.11] 104.4 | [0.21 lb] 0.09kg |
| CPI-300-30B50-MSA | 30mm | | | | |
| CPI-400-1050-MSA | 1.00"(in) | | | | |
| | 25mm | [4.00] 101.6 | [4.12] 104.7 | [5.08] 129.0 | [0.23 lb] 0.10kg |
| CPI-400-30B50-MSA | 30mm | | | | |
| CPI-500-1050-MSA | 1.00"(in) | | | | |
| | 25mm | [5.00] 127.0 | [5.10] 129.5 | [6.14] 156.0 | [0.25 lb] 0.11kg |
| CPI-500-30B50-MSA | 30mm | | | | |
| CPI-600-1050-MSA | 1.00"(in) | | | | |
| | 25mm | [6.00] 152.4 | [6.08] 154.4 | [7.09] 180.0 | [0.27 lb] 0.13kg |
| CPI-600-30B50-MSA | 30mm | | | | |

STANDARD SWIVEL ARMS

Round Tooling | Dimensions and Technical Specifications



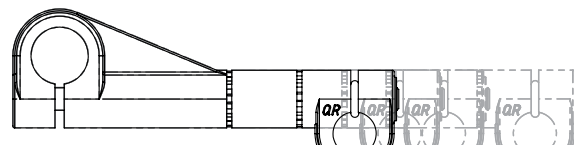
Features:

- Mounts apple core accessories to Ø25mm/1.00" round tube
- Provides 360° of rotational adjustments along (3) axes
- Used to mount venturi, bumpers, round locators, and proximity switches

Specifications:

Maximum Clamp Load:
200 ft-lb [271 Nm]
Material:
Body:
Cast Aluminum
Spacer:
Machined Aluminum

SA Ø25mm/1.00" for Ø19.1mm [.75"] Apple Core

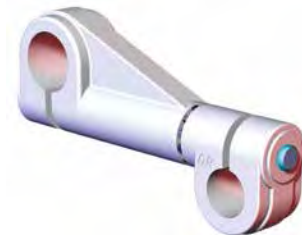
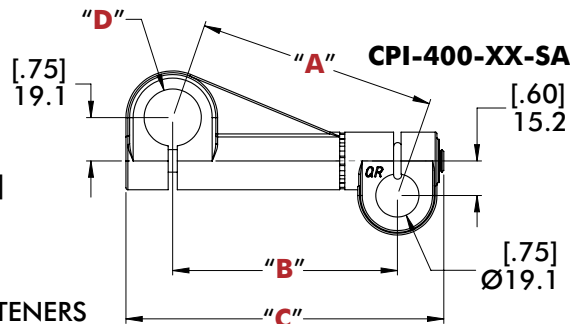
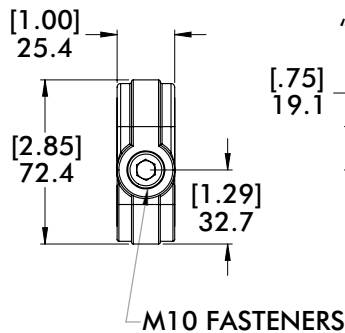


CPI-500-XX-SA

CPI-800-XX-SA

CPI-600-XX-SA

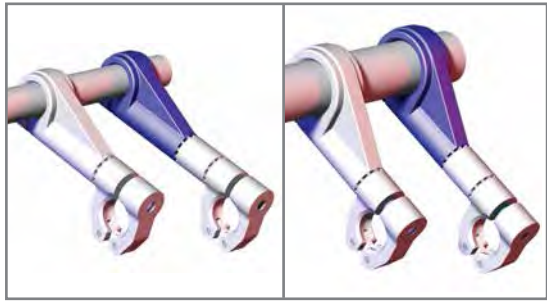
CPI-700-XX-SA



| Model Number | (Ø)"D" | "A" | "B" | "C" | Weight | FINISH |
|---------------|-----------|--------|--------|--------|-----------|--------|
| CPI-400-1-SA | 1.00"(in) | [4.13] | [3.90] | [5.52] | [0.70 lb] | SILVER |
| CPI-100-25-SA | 25mm | 104.9 | 99.1 | 140.2 | 0.31 kg | BLUE |
| CPI-500-1-SA | 1.00"(in) | [5.30] | [5.12] | [6.70] | [0.82 lb] | SILVER |
| CPI-140-25-SA | 25mm | 134.5 | 130.1 | 170.2 | 0.37 kg | BLUE |
| CPI-600-1-SA | 1.00"(in) | [6.05] | [5.90] | [7.49] | [0.90 lb] | SILVER |
| CPI-160-25-SA | 25mm | 153.8 | 149.9 | 190.2 | 0.41 kg | BLUE |
| CPI-700-1-SA | 1.00"(in) | [6.81] | [6.67] | [8.27] | [0.97 lb] | SILVER |
| CPI-180-25-SA | 25mm | 172.9 | 169.4 | 210.2 | 0.44 kg | BLUE |
| CPI-800-1-SA | 1.00"(in) | [8.36] | [8.25] | [9.85] | [1.13 lb] | SILVER |
| CPI-200-25-SA | 25mm | 212.4 | 209.6 | 250.2 | 0.51 kg | BLUE |

STANDARD SWIVEL ARMS

Round Tooling | Dimensions and Technical Specifications



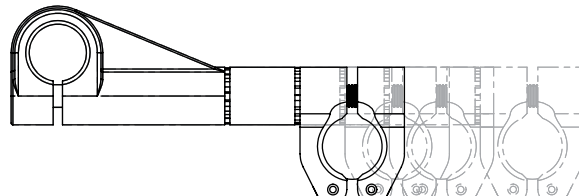
Features:

- Mounts swivel ball accessories to round tube
- Provides 360° of rotational adjustments along (3) axes
- Used to mount venturi, bumpers, round locators, and proximity switches

Specifications:

Maximum Clamp Load:
200 ft-lb [271 Nm]
Material:
Body:
Cast Aluminum
Spacer:
Machined Aluminum

SA-B112 Ø25mm/1.00" for Ø28.6mm [1.125"] Spherical Swivel Ball

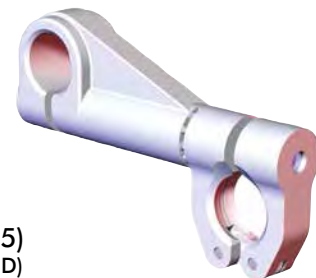
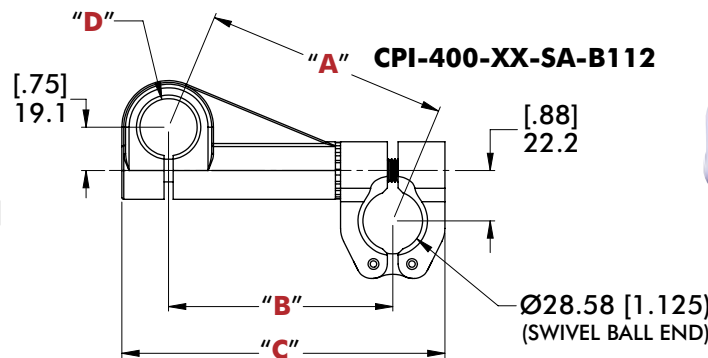
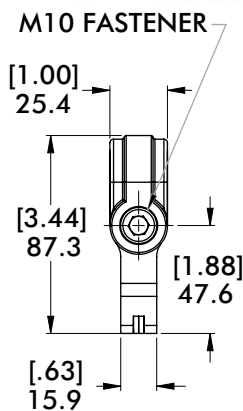


CPI-500-XX-SA-B112

CPI-800-XX-SA-B112

CPI-600-XX-SA-B112

CPI-700-XX-SA-B112



| Model Number | (Ø)"D" | "A" | "B" | "C" | Weight | FINISH |
|--------------------|-----------|--------|--------|--------|-----------|--------|
| CPI-400-1-SA-B112 | 1.00"(in) | [4.22] | [3.90] | [5.61] | [0.74 lb] | SILVER |
| CPI-100-25-SA-B112 | 25mm | 107.2 | 98.9 | 142.6 | 0.34 kg | BLUE |
| CPI-500-1-SA-B112 | 1.00"(in) | [5.37] | [5.12] | [6.83] | [0.86 lb] | SILVER |
| CPI-140-25-SA-B112 | 25mm | 136.3 | 129.9 | 173.5 | 0.39 kg | BLUE |
| CPI-600-1-SA-B112 | 1.00"(in) | [6.12] | [5.90] | [7.61] | [0.94 lb] | SILVER |
| CPI-160-25-SA-B112 | 25mm | 155.3 | 149.7 | 193.4 | 0.43 kg | BLUE |
| CPI-700-1-SA-B112 | 1.00"(in) | [6.86] | [6.67] | [8.38] | [1.02 lb] | SILVER |
| CPI-180-25-SA-B112 | 25mm | 174.3 | 169.3 | 212.9 | 0.46 kg | BLUE |
| CPI-800-1-SA-B112 | 1.00"(in) | [8.40] | [8.25] | [9.96] | [1.17 lb] | SILVER |
| CPI-200-25-SA-B112 | 25mm | 213.5 | 209.4 | 253.0 | 0.53 kg | BLUE |

STANDARD SWIVEL ARMS

Round Tooling | Dimensions and Technical Specifications



Features:

- Mounts apple core accessories to Ø25mm/1.00" round tube
- Provides 360° of rotational adjustments along (3) axes
- Used to mount venturi, bumpers, round locators, and proximity switches

Specifications:

Maximum Clamp Load:
200 ft-lb [271 Nm]

Material:

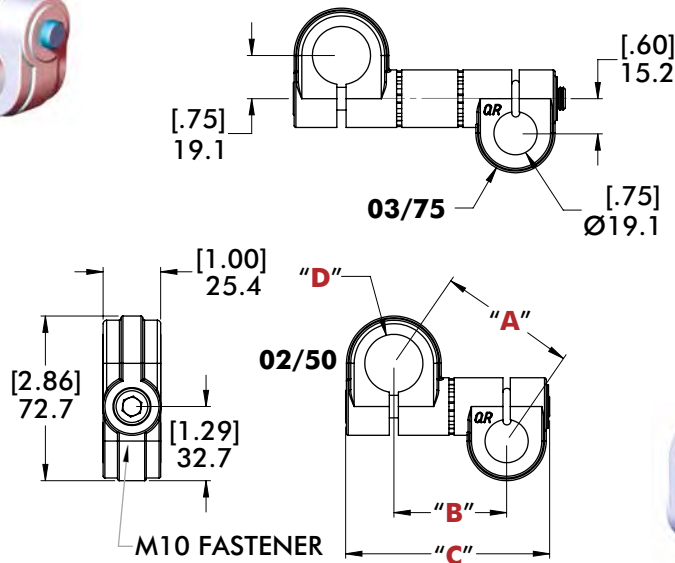
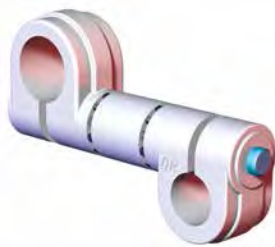
Body:

Cast Aluminum

Spacer:

Machined Aluminum

SAxx Single-Bolt Ø25mm/1.00" for Ø19.1mm [.75"] Apple Core

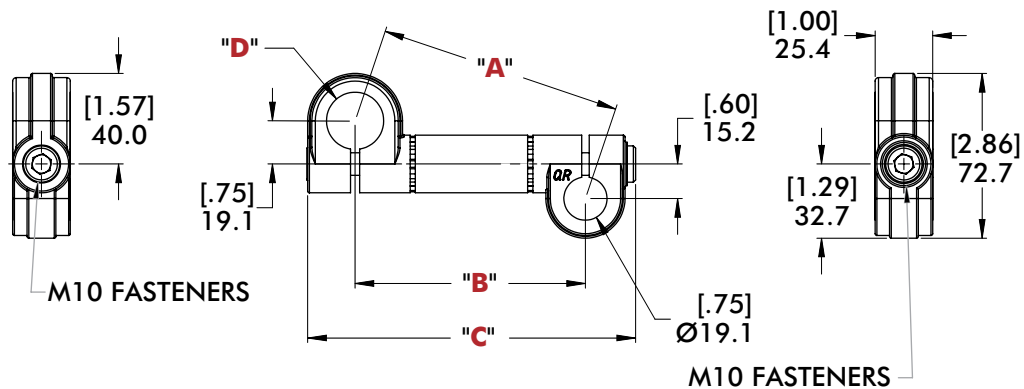


| Model Number | (Ø)"D" | "A" | "B" | "C" | Weight | FINISH |
|---------------------|-----------|--------|--------|--------|-----------|--------|
| CPI-SA10-100-075-02 | 1.00"(in) | [2.38] | [1.96] | [3.54] | [0.46 lb] | SILVER |
| CPI-SA25-25-19-50 | 25mm | 60.4 | 49.8 | 90.0 | 0.21 kg | BLUE |
| CPI-SA10-100-075-03 | 1.00"(in) | [3.31] | [3.02] | [4.72] | [0.57 lb] | SILVER |
| CPI-SA25-25-19-75 | 25mm | 84.1 | 76.8 | 120.0 | 0.26 kg | BLUE |

STANDARD SWIVEL ARMS

Round Tooling | Dimensions and Technical Specifications

EDxx Double-Bolt Ø25mm/1.00" for Ø19.1mm [.75"] Apple Core



| Model Number | (Ø)"D" | "A" | "B" | "C" | Weight | FINISH |
|---------------------|-----------|------------------|------------------|------------------|----------------------|--------|
| CPI-ED10-100-075-04 | 1.00"(in) | [4.27] 108.4 | [4.05] 102.9 | [5.74] 145.9 | [0.65 lb] 0.29 kg | SILVER |
| CPI-ED25-25-19-100 | 25mm | [4.22] 107.2 | [4.00] 101.6 | [5.69] 144.6 | | BLUE |
| CPI-ED10-100-075-05 | 1.00"(in) | [5.23] 132.8 | [5.05] 128.3 | [6.74] 171.3 | [0.71 lb] 0.32 kg | SILVER |
| CPI-ED10-100-075-06 | 1.00"(in) | [6.20] 157.4 | [6.05] 153.7 | [7.74] 196.7 | [0.78 lb] | SILVER |
| CPI-ED25-25-19-150 | 25mm | [6.13] 155.7 | [5.98] 151.9 | [7.67] 194.2 | 0.36 kg | BLUE |
| CPI-ED10-100-075-07 | 1.00"(in) | [7.18] 182.3 | [7.05] 179.1 | [8.74] 222.1 | [0.85 lb] 0.39 kg | SILVER |
| CPI-ED10-100-075-08 | 1.00"(in) | [8.16] 207.3 | [8.05] 204.5 | [9.74] 247.5 | [0.92 lb] | SILVER |
| CPI-ED25-25-19-200 | 25mm | [8.06] 204.8 | [7.95] 201.9 | [9.64] 244.9 | 0.42 kg | BLUE |
| CPI-ED10-100-075-09 | 1.00"(in) | [9.15] 232.4 | [9.05] 229.9 | [10.74] 272.9 | [0.99 lb] 0.45 kg | SILVER |
| CPI-ED10-100-075-10 | 1.00"(in) | [10.14] 257.6 | [10.05] 255.3 | [11.74] 298.3 | [1.06 lb] | SILVER |
| CPI-ED25-25-19-250 | 25mm | [10.01] 254.3 | [9.92] 252.0 | [11.61] 295.0 | 0.48 kg | BLUE |
| CPI-ED10-100-075-11 | 1.00"(in) | [11.13] 282.7 | [11.05] 280.7 | [12.74] 323.7 | [1.13 lb] 0.51 kg | SILVER |
| CPI-ED10-100-075-12 | 1.00"(in) | [12.13] 308.0 | [12.05] 306.1 | [13.74] 349.0 | [1.20 lb] | SILVER |
| CPI-ED25-25-19-300 | 25mm | [11.97] 303.9 | [11.89] 302.0 | [13.58] 345.0 | 0.54 kg | BLUE |
| CPI-ED10-100-075-13 | 1.00"(in) | [13.12] 338.2 | [13.05] 331.5 | [14.74] 374.5 | [1.27 lb] 0.58 kg | SILVER |
| CPI-ED10-100-075-14 | 1.00"(in) | [14.11] 358.5 | [14.05] 356.9 | [15.74] 399.9 | [1.34 lb] | SILVER |
| CPI-ED25-25-19-350 | 25mm | [13.92] 353.4 | [13.85] 351.8 | [15.54] 394.8 | 0.61 kg | BLUE |
| CPI-ED10-100-075-15 | 1.00"(in) | [15.11] 383.8 | [15.05] 382.3 | [16.74] 425.3 | [1.41 lb] 0.64 kg | SILVER |
| CPI-ED10-100-075-16 | 1.00"(in) | [16.11] 409.1 | [16.05] 407.7 | [17.74] 450.7 | [1.48 lb] | SILVER |
| CPI-ED25-25-19-400 | 25mm | [15.88] 403.3 | [15.82] 401.8 | [17.51] 444.9 | 0.67 kg | BLUE |

STANDARD SWIVEL ARMS

Round Tooling | Dimensions and Technical Specifications



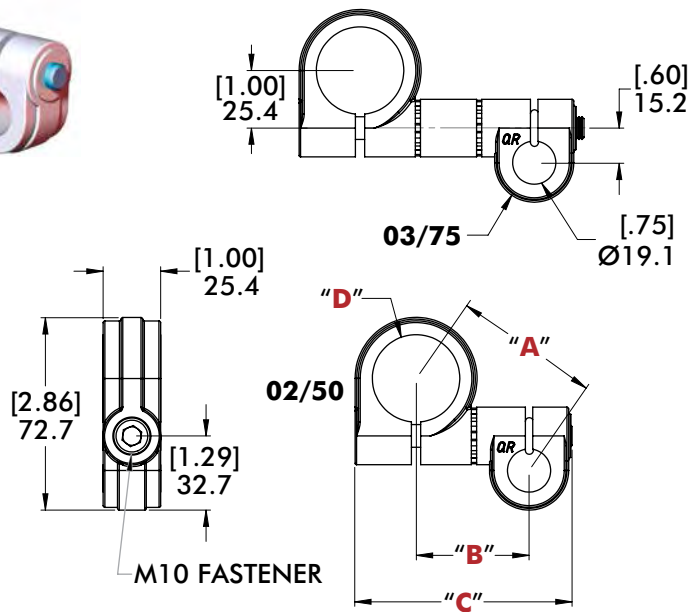
Features:

- Mounts apple core accessories to Ø40mm/1.50" round tube
- Provides 360° of rotational adjustments along (3) axes
- Used to mount venturi, bumpers, round locators, and proximity switches

Specifications:

Maximum Clamp Load:
200 ft-lb [271 Nm]
Material:
Body:
Cast Aluminum
Spacer:
Machined Aluminum

SAxx Single-Bolt Ø40mm/1.50" for Ø19.1mm [.75"] Apple Core

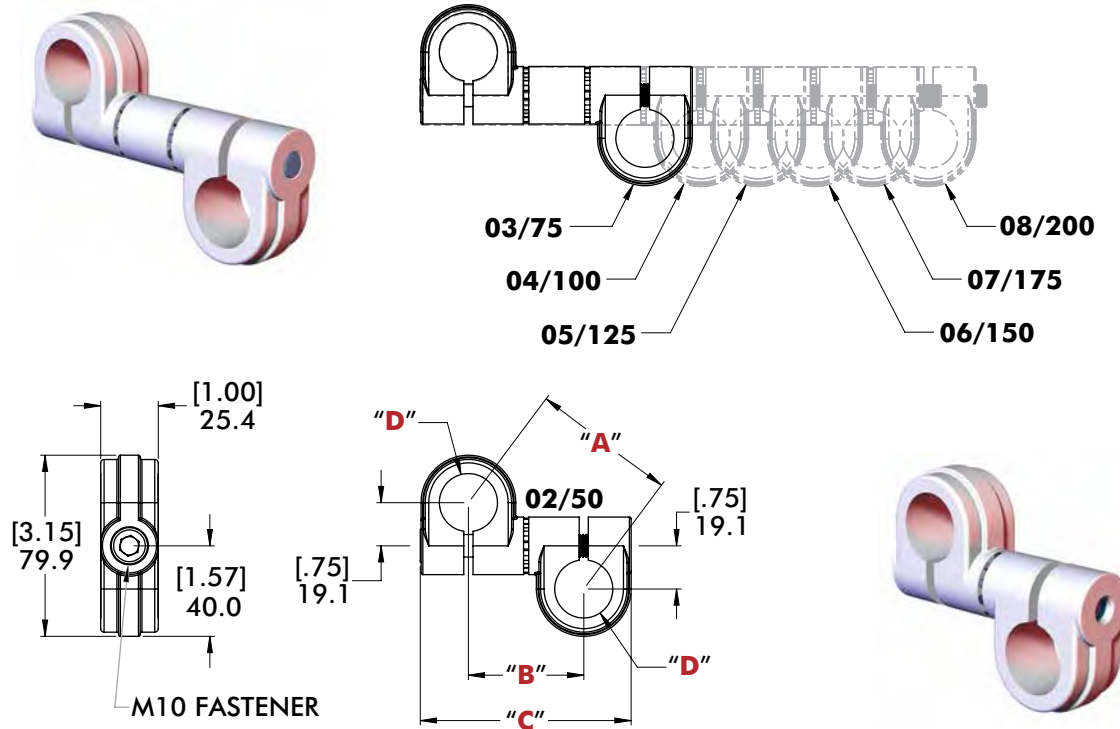


| Model Number | (Ø) "D" | "A" | "B" | "C" | Weight | FINISH |
|---------------------|-----------|--------|--------|--------|-----------|--------|
| CPI-SA10-150-075-02 | 1.50"(in) | [2.53] | [1.96] | [3.77] | [0.50 lb] | SILVER |
| CPI-SA25-40-19-50 | 40mm | 64.3 | 49.8 | 95.9 | 0.23 kg | BLUE |
| CPI-SA10-150-075-03 | 1.50"(in) | [3.42] | [3.03] | [4.95] | [0.62 lb] | SILVER |
| CPI-SA25-40-19-75 | 40mm | 87.0 | 76.9 | 125.9 | 0.28 kg | BLUE |

TRANSITION SWIVEL ARMS

Round Tooling | Dimensions and Technical Specifications

SAxx Single-Bolt Ø25mm/1.00" to 25mm/Ø1.00"

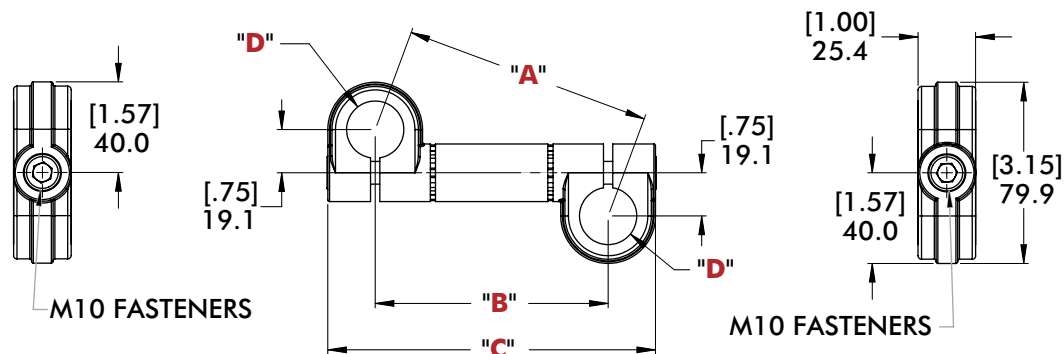


| Model Number | (Ø)"D" | "A" | "B" | "C" | Weight | FINISH |
|---------------------|-----------|--------|--------|--------|-----------|--------|
| CPI-SA10-100-100-02 | 1.00"(in) | [2.50] | [2.00] | [3.66] | [0.49 lb] | SILVER |
| CPI-SA25-25-25-50 | 25mm | 63.6 | 50.9 | 93.1 | 0.22 kg | BLUE |
| CPI-SA10-100-100-03 | 1.00"(in) | [3.42] | [3.07] | [4.73] | [0.60 lb] | SILVER |
| CPI-SA25-25-25-75 | 25mm | 86.7 | 77.9 | 120.1 | 0.27 kg | BLUE |
| CPI-SA10-100-100-04 | 1.00"(in) | [4.31] | [4.04] | [5.70] | [0.69 lb] | SILVER |
| CPI-SA25-25-25-100 | 25mm | 109.6 | 102.7 | 144.9 | 0.31 kg | BLUE |
| CPI-SA10-100-100-05 | 1.00"(in) | [5.25] | [5.03] | [6.69] | [0.79 lb] | SILVER |
| CPI-SA25-25-25-125 | 25mm | 133.4 | 127.9 | 170.0 | 0.36 kg | BLUE |
| CPI-SA10-100-100-06 | 1.00"(in) | [6.21] | [6.02] | [7.68] | [0.88 lb] | SILVER |
| CPI-SA25-25-25-150 | 25mm | 157.7 | 153.0 | 195.2 | 0.40 kg | BLUE |
| CPI-SA10-100-100-07 | 1.00"(in) | [7.16] | [7.00] | [9.06] | [1.00 lb] | SILVER |
| CPI-SA25-25-25-175 | 25mm | 181.9 | 177.9 | 230.0 | 0.45 kg | BLUE |
| CPI-SA10-100-100-08 | 1.00"(in) | [8.13] | [7.99] | [9.84] | [1.09 lb] | SILVER |
| CPI-SA25-25-25-200 | 25mm | 206.6 | 203.0 | 250.0 | 0.50 kg | BLUE |

TRANSITION SWIVEL ARMS

Round Tooling | Dimensions and Technical Specifications

EDxx Double-Bolt Ø25mm/1.00" to Ø25mm/1.00"

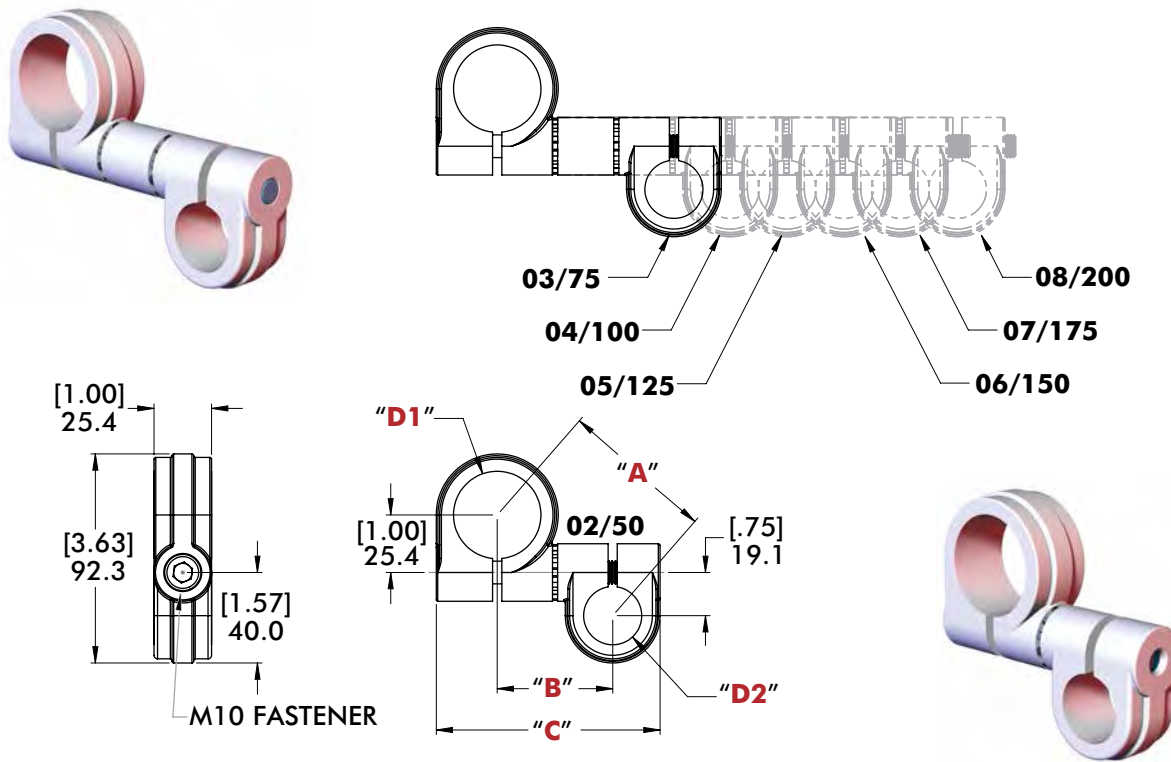


| Model Number | (Ø)"D" | "A" | "B" | "C" | Weight | FINISH |
|---------------------|-----------|------------------|------------------|------------------|----------------------|--------|
| CPI-ED10-100-100-04 | 1.00"(in) | [4.36] 110.7 | [4.09] 104.0 | [5.74] 145.8 | [0.67 lb] 0.30 kg | SILVER |
| CPI-ED25-25-25-100 | 25mm | [4.31] 109.6 | [4.04] 102.7 | [5.69] 144.5 | | BLUE |
| CPI-ED10-100-100-05 | 1.00"(in) | [5.31] 134.9 | [5.09] 129.4 | [6.74] 171.2 | [0.74 lb] 0.34 kg | SILVER |
| CPI-ED10-100-100-06 | 1.00"(in) | [6.28] 159.4 | [6.09] 154.8 | [7.74] 196.6 | [0.81 lb] | SILVER |
| CPI-ED25-25-25-150 | 25mm | [6.21] 157.7 | [6.02] 153.0 | [7.67] 194.8 | 0.37 kg | BLUE |
| CPI-ED10-100-100-07 | 1.00"(in) | [7.25] 184.2 | [7.09] 180.2 | [8.74] 222.0 | [0.88 lb] 0.40 kg | SILVER |
| CPI-ED10-100-100-08 | 1.00"(in) | [8.23] 209.1 | [8.09] 205.6 | [9.74] 247.4 | [0.95 lb] | SILVER |
| CPI-ED25-25-25-200 | 25mm | [8.13] 206.6 | [7.99] 203.0 | [9.64] 244.9 | 0.43 kg | BLUE |
| CPI-ED10-100-100-09 | 1.00"(in) | [9.22] 234.1 | [9.09] 231.0 | [10.74] 272.8 | [1.02 lb] 0.46 kg | SILVER |
| CPI-ED10-100-100-10 | 1.00"(in) | [10.20] 259.2 | [10.09] 256.4 | [11.74] 298.2 | [1.09 lb] | SILVER |
| CPI-ED25-25-25-250 | 25mm | [10.08] 255.9 | [9.96] 253.1 | [11.61] 294.9 | 0.49 kg | BLUE |
| CPI-ED10-100-100-11 | 1.00"(in) | [11.19] 284.4 | [11.09] 281.8 | [12.74] 323.6 | [1.15 lb] 0.52 kg | SILVER |
| CPI-ED10-100-100-12 | 1.00"(in) | [12.19] 309.5 | [12.09] 307.2 | [13.74] 349.0 | [1.22 lb] | SILVER |
| CPI-ED25-25-25-300 | 25mm | [12.03] 305.5 | [11.93] 303.1 | [13.58] 344.9 | 0.56 kg | BLUE |
| CPI-ED10-100-100-13 | 1.00"(in) | [13.18] 334.8 | [13.09] 332.6 | [14.74] 374.4 | [1.29 lb] 0.59 kg | SILVER |
| CPI-ED10-100-100-14 | 1.00"(in) | [14.17] 360.0 | [14.09] 358.0 | [15.74] 399.8 | [1.36 lb] | SILVER |
| CPI-ED25-25-25-350 | 25mm | [13.97] 355.0 | [13.89] 352.9 | [15.54] 394.7 | 0.62 kg | BLUE |
| CPI-ED10-100-100-15 | 1.00"(in) | [15.17] 385.3 | [15.09] 383.4 | [16.74] 425.2 | [1.43 lb] 0.65 kg | SILVER |
| CPI-ED10-100-100-16 | 1.00"(in) | [16.16] 410.6 | [16.09] 408.8 | [17.74] 450.6 | [1.50 lb] | SILVER |
| CPI-ED25-25-25-400 | 25mm | [15.93] 404.7 | [15.86] 402.9 | [17.51] 444.8 | 0.68 kg | BLUE |

TRANSITION SWIVEL ARMS

Round Tooling | Dimensions and Technical Specifications

SAxx Single-Bolt Ø40mm/1.50" to Ø25mm/1.00"

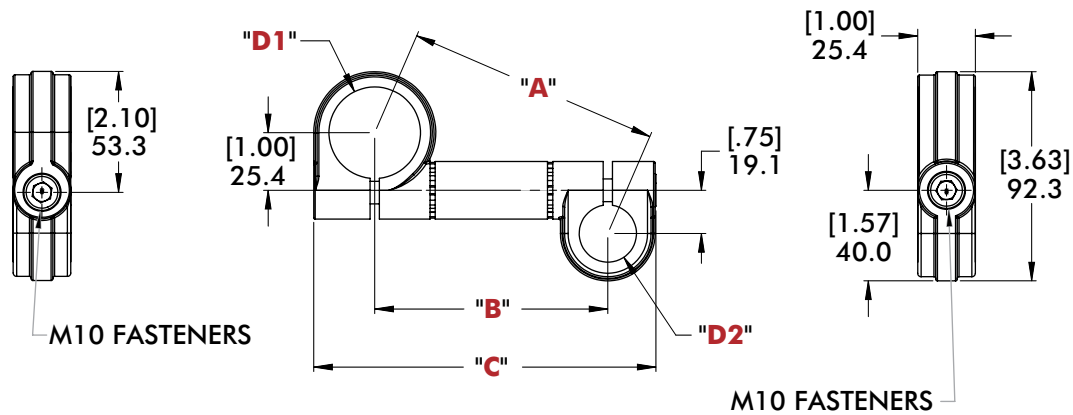


| Model Number | (Ø)"D1" | (Ø)"D2" | "A" | "B" | "C" | Weight | FINISH |
|---------------------|-----------|-----------|--------|--------|--------|-----------|--------|
| CPI-SA10-150-100-02 | 1.50"(in) | 1.00"(in) | [2.66] | [2.01] | [3.89] | [0.53 lb] | SILVER |
| CPI-SA25-40-25-50 | 40mm | 25mm | 67.6 | 51.0 | 98.8 | 0.24 kg | BLUE |
| CPI-SA10-150-100-03 | 1.50"(in) | 1.00"(in) | [3.53] | [3.07] | [4.95] | [0.64 lb] | SILVER |
| CPI-SA25-40-25-75 | 40mm | 25mm | 89.8 | 78.0 | 125.7 | 0.29 kg | BLUE |
| CPI-SA10-150-100-04 | 1.50"(in) | 1.00"(in) | [4.41] | [4.05] | [5.93] | [0.73 lb] | SILVER |
| CPI-SA25-40-25-100 | 40mm | 25mm | 112.0 | 102.8 | 150.6 | 0.33 kg | BLUE |
| CPI-SA10-150-100-05 | 1.50"(in) | 1.00"(in) | [5.33] | [5.04] | [6.92] | [0.83 lb] | SILVER |
| CPI-SA25-40-25-125 | 40mm | 25mm | 135.4 | 127.9 | 175.8 | 0.38 kg | BLUE |
| CPI-SA10-150-100-06 | 1.50"(in) | 1.00"(in) | [6.28] | [6.03] | [7.91] | [0.93 lb] | SILVER |
| CPI-SA25-40-25-150 | 40mm | 25mm | 159.4 | 153.1 | 200.9 | 0.42 kg | BLUE |
| CPI-SA10-150-100-07 | 1.50"(in) | 1.00"(in) | [7.22] | [7.01] | [8.89] | [1.04 lb] | SILVER |
| CPI-SA25-40-25-175 | 40mm | 25mm | 183.4 | 178.0 | 225.8 | 0.47 kg | BLUE |
| CPI-SA10-150-100-08 | 1.50"(in) | 1.00"(in) | [8.19] | [8.00] | [9.88] | [1.13 lb] | SILVER |
| CPI-SA25-40-25-200 | 40mm | 25mm | 207.9 | 203.1 | 251.0 | 0.51 kg | BLUE |

TRANSITION SWIVEL ARMS

Round Tooling | Dimensions and Technical Specifications

EDxx Double-Bolt Ø40mm/1.50" to Ø25mm/1.00"

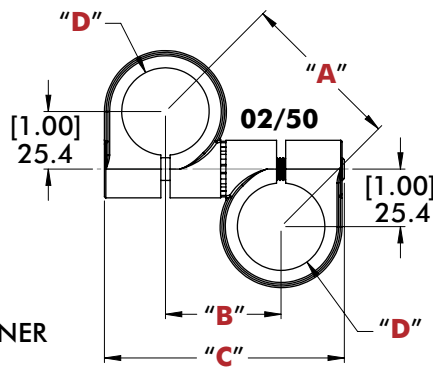
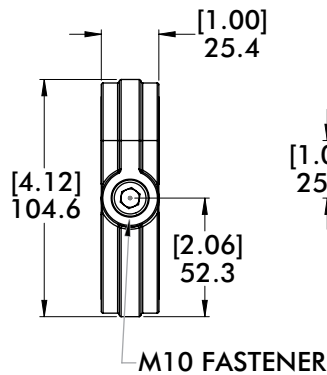
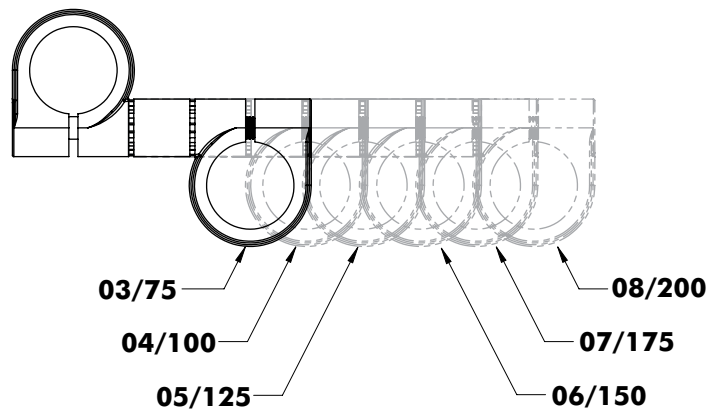
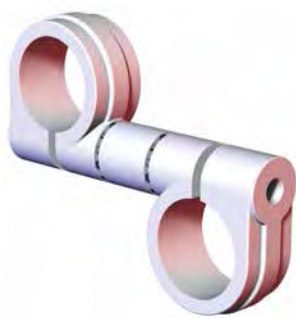


| Model Number | (Ø)"D1" | (Ø)"D2" | "A" | "B" | "C" | Weight | FINISH |
|---------------------|-----------|-----------|-------------------|------------------|-------------------|----------------------|--------|
| CPI-ED10-150-100-04 | 1.50"(in) | 1.00"(in) | [4.46] 113.2 | [4.10] 104.1 | [5.98] 151.9 | [0.71 lb] 0.32 kg | SILVER |
| CPI-ED25-40-25-100 | 40mm | 25mm | [4.41] 112.8 | [4.05] 102.8 | [5.93] 150.6 | | BLUE |
| CPI-ED10-150-100-05 | 1.50"(in) | 1.00"(in) | [5.39] 136.9 | [5.10] 129.5 | [6.98] 177.3 | [0.78 lb] 0.36 kg | SILVER |
| CPI-ED10-150-100-06 | 1.50"(in) | 1.00"(in) | [6.34] 161.1 | [6.10] 154.9 | [7.98] 202.7 | [0.85 lb] | SILVER |
| CPI-ED25-40-25-150 | 40mm | 25mm | [6.28] 159.4 | [6.03] 153.1 | [7.91] 200.9 | 0.39 kg | BLUE |
| CPI-ED10-150-100-07 | 1.50"(in) | 1.00"(in) | [7.31] 185.7 | [7.10] 180.3 | [8.98] 228.1 | [0.92 lb] 0.42 kg | SILVER |
| CPI-ED10-150-100-08 | 1.50"(in) | 1.00"(in) | [8.28] 210.4 | [8.10] 205.7 | [9.98] 253.5 | [0.99 lb] | SILVER |
| CPI-ED25-40-25-200 | 40mm | 25mm | [8.19] 207.9 | [8.00] 203.1 | [9.88] 251.0 | 0.45 kg | BLUE |
| CPI-ED10-150-100-09 | 1.50"(in) | 1.00"(in) | [9.26] 235.3 | [9.10] 231.1 | [10.98] 278.9 | [1.06 lb] 0.48 kg | SILVER |
| CPI-ED10-150-100-10 | 1.50"(in) | 1.00"(in) | [10.25] 260.3 | [10.10] 256.5 | [11.98] 304.3 | [1.13 lb] | SILVER |
| CPI-ED25-40-25-250 | 40mm | 25mm | [10.12] 257.03 | [9.97] 253.2 | [11.85] 301.0 | 0.51 kg | BLUE |
| CPI-ED10-150-100-11 | 1.50"(in) | 1.00"(in) | [11.23] 285.3 | [11.10] 281.9 | [12.98] 329.7 | [1.20 lb] 0.54 kg | SILVER |
| CPI-ED10-150-100-12 | 1.50"(in) | 1.00"(in) | [12.22] 310.5 | [12.10] 307.3 | [13.98] 355.1 | [1.27 lb] | SILVER |
| CPI-ED25-40-25-300 | 40mm | 25mm | [12.06] 306.4 | [11.94] 303.2 | [13.82] 351.03 | 0.57 kg | BLUE |
| CPI-ED10-150-100-13 | 1.50"(in) | 1.00"(in) | [13.21] 335.6 | [13.10] 332.7 | [14.98] 380.5 | [1.34 lb] 0.61 kg | SILVER |
| CPI-ED10-150-100-14 | 1.50"(in) | 1.00"(in) | [14.21] 360.8 | [14.10] 358.1 | [15.98] 405.9 | [1.41 lb] | SILVER |
| CPI-ED25-40-25-350 | 40mm | 25mm | [14.00] 355.8 | [13.90] 353.0 | [15.78] 400.8 | 0.64 kg | BLUE |
| CPI-ED10-150-100-15 | 1.50"(in) | 1.00"(in) | [15.20] 386.0 | [15.10] 383.5 | [16.98] 431.3 | [1.47 lb] 0.67 kg | SILVER |
| CPI-ED10-150-100-16 | 1.50"(in) | 1.00"(in) | [16.19] 411.3 | [16.10] 408.9 | [17.98] 456.7 | [1.54 lb] | SILVER |
| CPI-ED25-40-25-400 | 40mm | 25mm | [15.96] 405.5 | [15.87] 403.0 | [17.75] 450.9 | 0.70 kg | BLUE |

TRANSITION SWIVEL ARMS

Round Tooling | Dimensions and Technical Specifications

SAxx Single-Bolt Ø40mm/1.50" to Ø40mm/1.50"

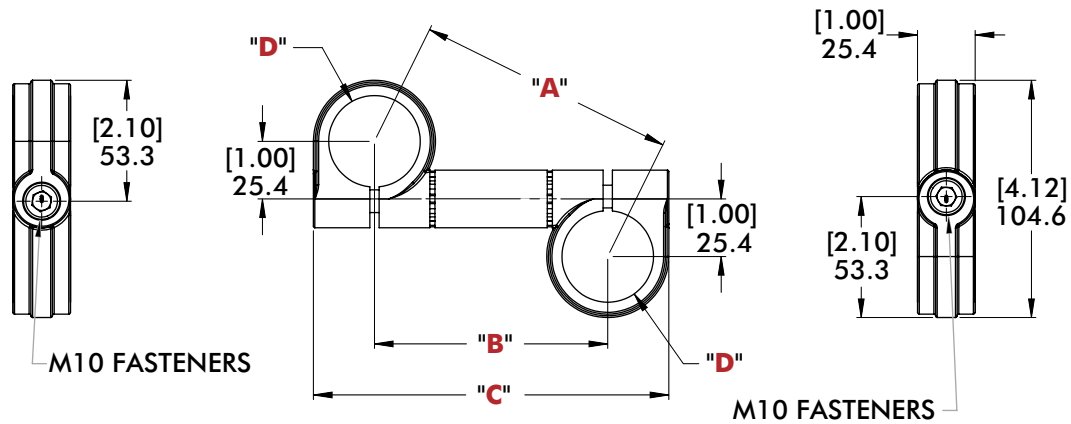


| Model Number | (Ø)"D" | "A" | "B" | "C" | Weight | FINISH |
|---------------------|-----------|--------|--------|---------|-----------|--------|
| CPI-SA10-150-150-02 | 1.50"(in) | [2.84] | [2.01] | [4.17] | [0.59 lb] | SILVER |
| CPI-SA25-40-40-50 | 40mm | 72.0 | 51.1 | 105.9 | 0.27 kg | BLUE |
| CPI-SA10-150-150-03 | 1.50"(in) | [3.67] | [3.07] | [5.19] | [0.69 lb] | SILVER |
| CPI-SA25-40-40-75 | 40mm | 93.2 | 78.1 | 131.9 | 0.31 kg | BLUE |
| CPI-SA10-150-150-04 | 1.50"(in) | [4.52] | [4.05] | [6.17] | [0.79 lb] | SILVER |
| CPI-SA25-40-40-100 | 40mm | 114.7 | 102.9 | 156.7 | 0.36 kg | BLUE |
| CPI-SA10-150-150-05 | 1.50"(in) | [5.42] | [5.04] | [7.16] | [0.88 lb] | SILVER |
| CPI-SA25-40-40-125 | 40mm | 137.7 | 128.0 | 181.9 | 0.40 kg | BLUE |
| CPI-SA10-150-150-06 | 1.50"(in) | [6.35] | [6.03] | [8.15] | [0.97 lb] | SILVER |
| CPI-SA25-40-40-150 | 40mm | 161.4 | 153.2 | 207.0 | 0.44 kg | BLUE |
| CPI-SA10-150-150-07 | 1.50"(in) | [7.29] | [7.01] | [9.13] | [1.09 lb] | SILVER |
| CPI-SA25-40-40-175 | 40mm | 185.2 | 178.1 | 231.9 | 0.49 kg | BLUE |
| CPI-SA10-150-150-08 | 1.50"(in) | [8.25] | [8.00] | [10.12] | [0.54 lb] | SILVER |
| CPI-SA25-40-40-200 | 40mm | 209.5 | 203.2 | 257.0 | 1.18 kg | BLUE |

TRANSITION SWIVEL ARMS

Round Tooling | Dimensions and Technical Specifications

EDxx Double-Bolt Ø40mm/1.50" to Ø40mm/1.50"

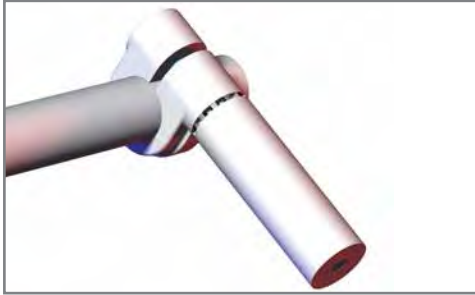


| Model Number | (Ø)"D" | "A" | "B" | "C" | Weight | FINISH |
|---------------------|-----------|------------------|------------------|-------------------|----------------------|--------|
| CPI-ED10-150-150-04 | 1.50"(in) | [4.56] 115.9 | [4.10] 104.1 | [6.22] 158.0 | [0.76 lb] 0.34 kg | SILVER |
| CPI-ED25-40-40-100 | 40mm | [4.52] 114.7 | [4.05] 102.9 | [6.17] 156.7 | | BLUE |
| CPI-ED10-150-150-06 | 1.50"(in) | [6.42] 163.1 | [6.10] 154.9 | [8.22] 208.8 | [0.90 lb] 0.41 kg | SILVER |
| CPI-ED25-40-40-150 | 40mm | [6.35] 161.4 | [6.03] 153.2 | [8.15] 207.0 | | BLUE |
| CPI-ED10-150-150-08 | 1.50"(in) | [8.34] 211.9 | [8.10] 205.7 | [10.22] 259.6 | [1.03 lb] 0.47 kg | SILVER |
| CPI-ED25-40-40-200 | 40mm | [8.25] 209.5 | [8.00] 203.2 | [10.12] 257.0 | | BLUE |
| CPI-ED10-150-150-10 | 1.50"(in) | [10.30] 261.5 | [10.10] 256.4 | [12.22] 310.4 | [1.17 lb] 0.53 kg | SILVER |
| CPI-ED25-40-40-250 | 40mm | [10.17] 258.3 | [9.97] 253.2 | [12.09] 307.1 | | BLUE |
| CPI-ED10-150-150-12 | 1.50"(in) | [12.27] 311.5 | [12.10] 307.3 | [14.22] 361.2 | [1.31 lb] 0.59 kg | SILVER |
| CPI-ED25-40-40-300 | 40mm | [12.11] 307.5 | [11.94] 303.3 | [14.06] 357.1 | | BLUE |
| CPI-ED10-150-150-14 | 1.50"(in) | [14.24] 361.7 | [14.10] 358.1 | [16.22] 411.98 | [1.45 lb] 0.66 kg | SILVER |
| CPI-ED25-40-40-350 | 40mm | [14.03] 356.7 | [13.90] 353.1 | [16.02] 406.9 | | BLUE |
| CPI-ED10-150-150-16 | 1.50"(in) | [16.22] 412.1 | [16.10] 408.9 | [18.22] 462.7 | [1.59 lb] 0.72 kg | SILVER |
| CPI-ED25-40-40-400 | 40mm | [16.00] 406.3 | [15.87] 403.1 | [18.00] 457.0 | | BLUE |

SINGLE END EXTENSIONS

Round Tooling | Dimensions and Technical Specifications

ES Rod End and Mounting Extensions



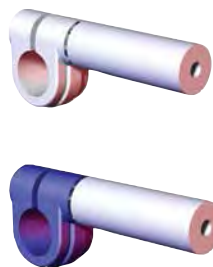
Features:

- Mounts to round tube for extended mounting options
- Provides 360° of rotational adjustments along a single axis

Specifications:

Maximum Clamp Load:
200 ft-lb [271 Nm]
Material:
Body:
Cast Aluminum
Extension:
Machined Aluminum

ES Ø25mm/1.00" Rod End Extensions



"L" = Specify Length from Below

English Lengths:

From **03**(3.00") to **28**(28.00")
in 1.00" Increments

Order Example

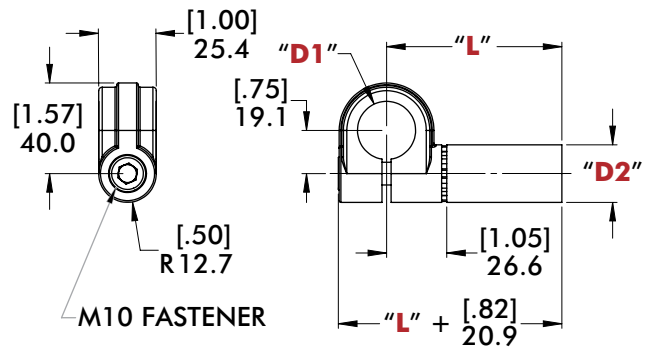
CPI-ES10-100-06 (6.00" Length)

Metric Lengths:

From **50**(50mm) to **400**(400mm)
in 50mm Increments

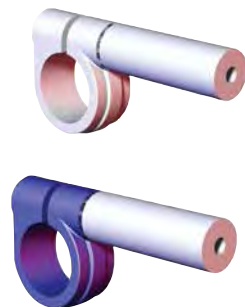
Order Example

CPI-ES25-25-250 (250mm Length)



| Model Number | (Ø)"D1" | (Ø)"D2" | Weight (Base + Additional Increments) | FINISH |
|------------------|-----------|-----------|---|--------|
| CPI-ES10-100-"L" | 1.00"(in) | 1.00"(in) | Base Length "L" 03 = 0.19 kg [0.42 lb] Add .031 kg [.068 lb] per additional increment | SILVER |
| CPI-ES25-25-"L" | 25mm | 25mm | Base Length "L" 100 = 0.22 kg [0.49 lb] Add .061 kg [.134 lb] per additional increment | BLUE |

ES Ø40mm/1.50" Rod End Extensions



"L" = Specify Length from Below

English Lengths:

From **03**(3.00") to **28**(28.00")
in 1.00" Increments

Order Example

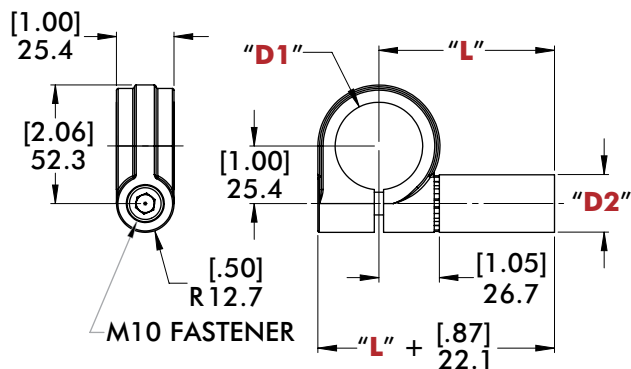
CPI-ES10-150-06 (6.00" Length)

Metric Lengths:

From **50**(50mm) to **400**(400mm)
in 50mm Increments

Order Example

CPI-ES25-40-250 (250mm Length)

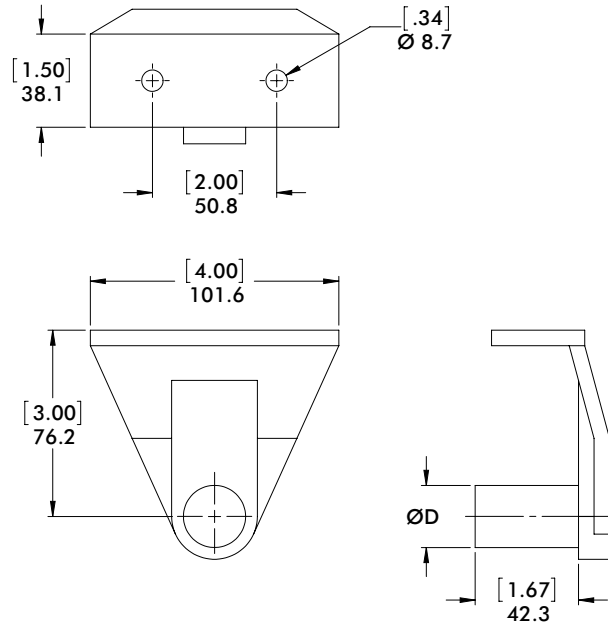


| Model Number | (Ø)"D1" | (Ø)"D2" | Weight (Base + Additional Increments) | FINISH |
|------------------|-----------|-----------|---|--------|
| CPI-ES10-150-"L" | 1.50"(in) | 1.00"(in) | Base Length "L" 03 = 0.21 kg [0.46 lb] Add .031 kg [.068 lb] per additional increment | SILVER |
| CPI-ES25-40-"L" | 40mm | 25mm | Base Length "L" 100 = 0.23 kg [0.51 lb] Add .061 kg [.134 lb] per additional increment | BLUE |

NEST PAD BRACKETS

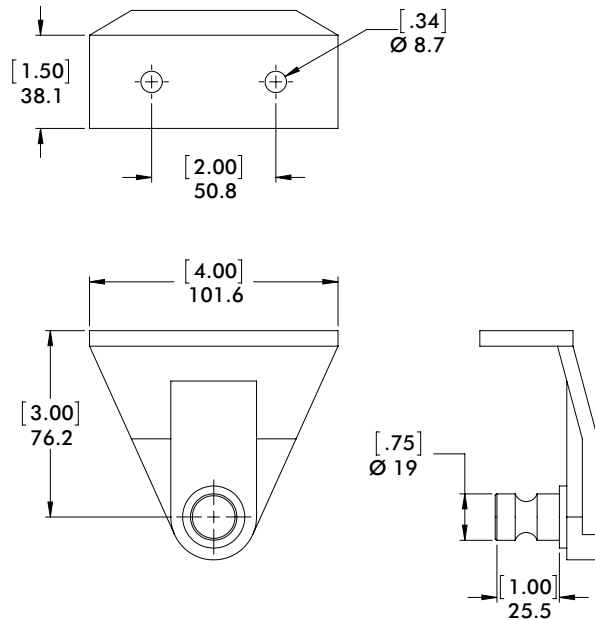
Round Tooling | Dimensions and Technical Specifications

EST



| Model Number | ØD | Weight |
|--------------------------|------|---------------|
| CPI-EST-00-1E-24 | 1 in | 142 g [5 oz.] |
| CPI-EST-00-25-410 | 25mm | 142 g [5 oz.] |

EST Apple Core Version

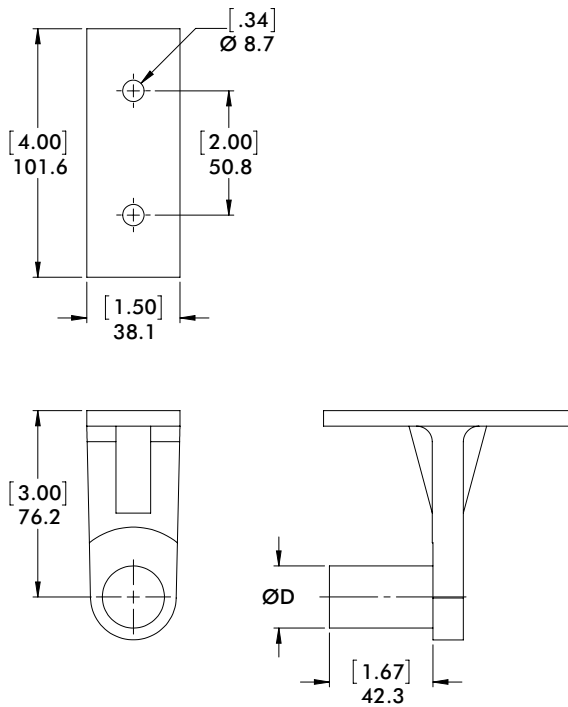


| Model Number | Weight |
|--------------------------|---------------|
| CPI-EST-00-075-24 | 142 g [5 oz.] |
| CPI-EST-00-19-410 | 142 g [5 oz.] |

NEST PAD BRACKETS

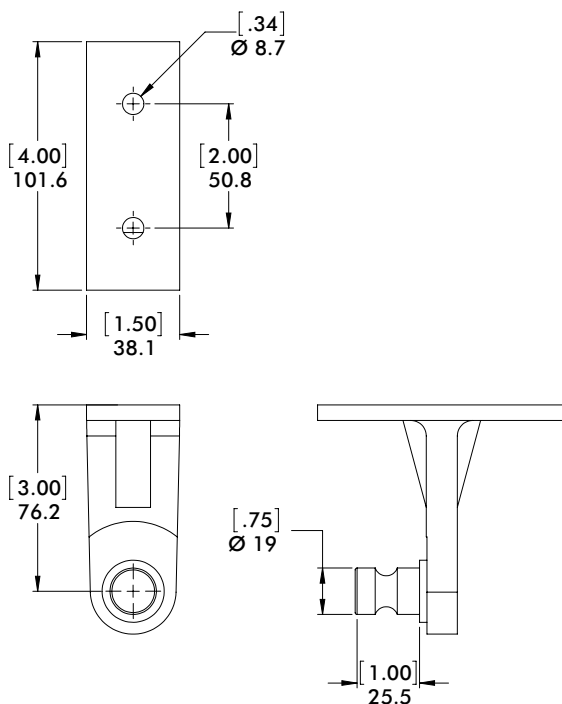
Round Tooling | Dimensions and Technical Specifications

EST 90° Version



| Model Number | ØD | Weight |
|---------------------------|------|---------------|
| CPI-EST-90-1E-24 | 1 in | 142 g [5 oz.] |
| CPI-EST-90-25E-410 | 25mm | 142 g [5 oz.] |

EST Apple Core 90° Version

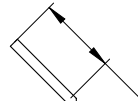
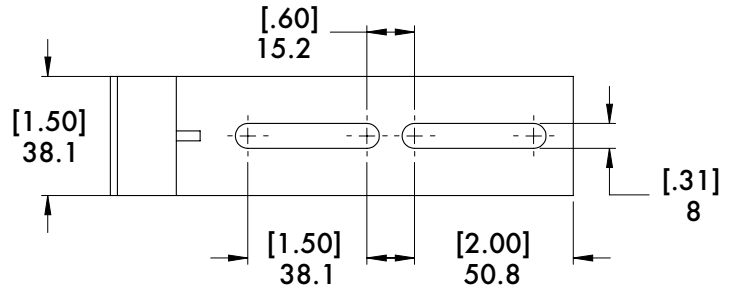
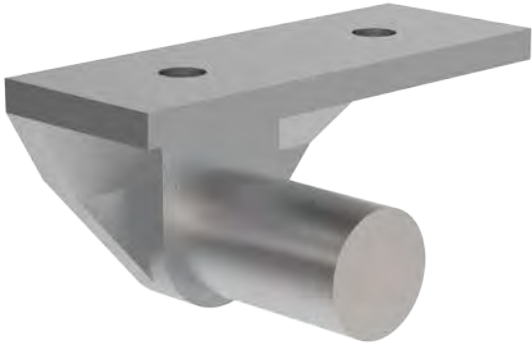


| Model Number | Weight |
|--------------------------|---------------|
| CPI-EST-90-075-24 | 142 g [5 oz.] |
| CPI-EST-90-19-410 | 142 g [5 oz.] |

NEST PAD BRACKETS

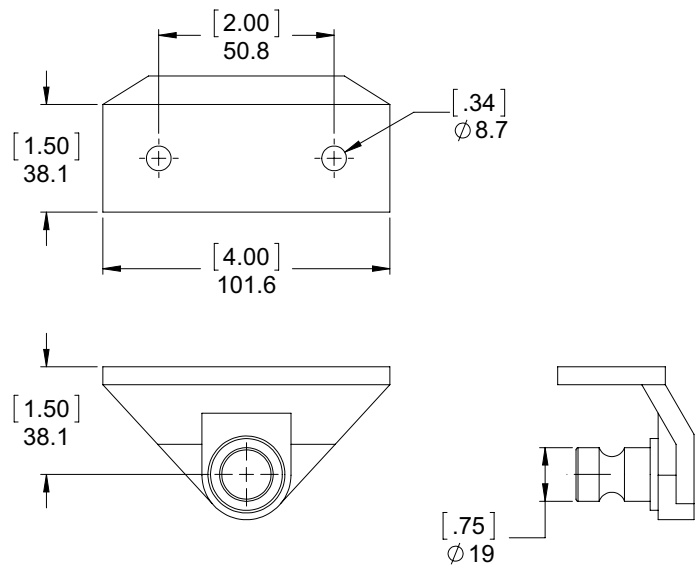
Round Tooling | Dimensions and Technical Specifications

AB Version



| Model Number | ØD | Weight |
|------------------------|------|---------------|
| CPI-AB-00-1E-24 | 1 in | 142 g [5 oz.] |
| CPI-AB-25-410 | 25mm | 142 g [5 oz.] |

AB Apple Core Version

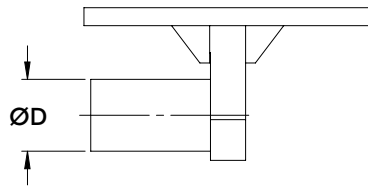
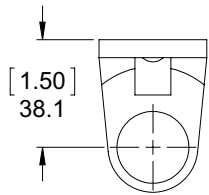
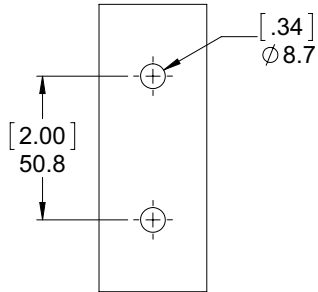


| Model Number | Weight |
|----------------------|---------------|
| CPI-AB-750-24 | 142 g [5 oz.] |
| CPI-AB-19-410 | 142 g [5 oz.] |

NEST PAD BRACKETS

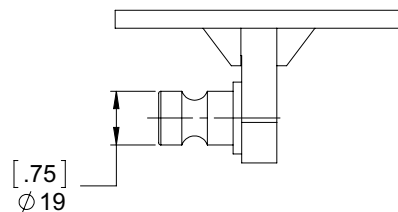
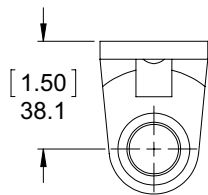
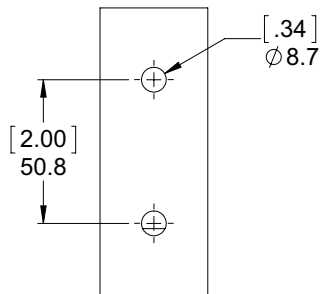
Round Tooling | Dimensions and Technical Specifications

AB 90° Version



| Model Number | ØD | Weight |
|-------------------------|------|---------------|
| CPI-AB-90-1E-24 | 1 in | 142 g [5 oz.] |
| CPI-AB-90-25-410 | 25mm | 142 g [5 oz.] |

AB Apple Core 90° Version

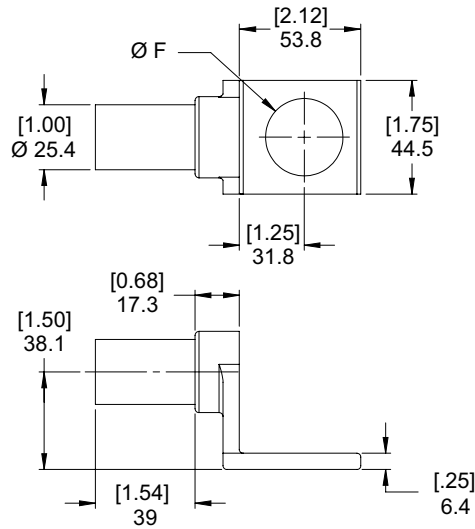


| Model Number | Weight |
|-------------------------|---------------|
| CPI-AB-90-24 | 142 g [5 oz.] |
| CPI-AB-90-19-410 | 142 g [5 oz.] |

PROXIMITY SWITCH MOUNT

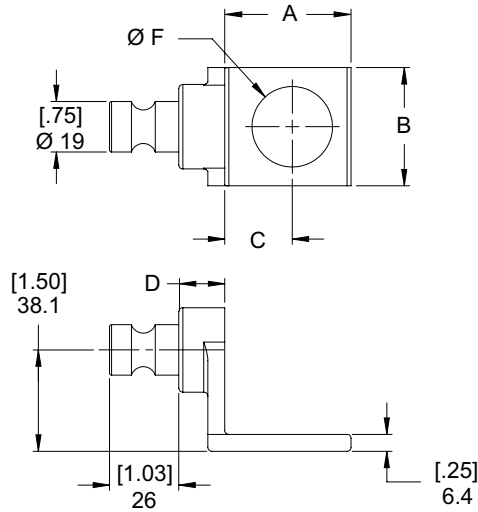
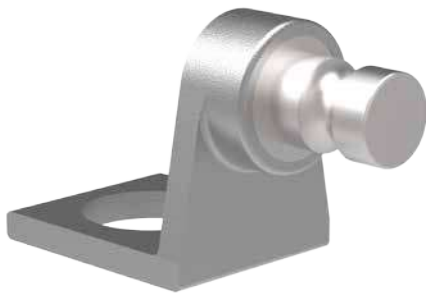
Round Tooling | Dimensions | Technical Specifications

SAP Series with 1" Extension



| Model Number | (Ø)"F" | Weight |
|---------------|--------------|------------------|
| CPI-SAP-18-1E | [0.71] 18 | [0.2 lb] 91 g |
| CPI-SAP-30-1E | [1.18] 30 | [0.2 lb] 91 g |

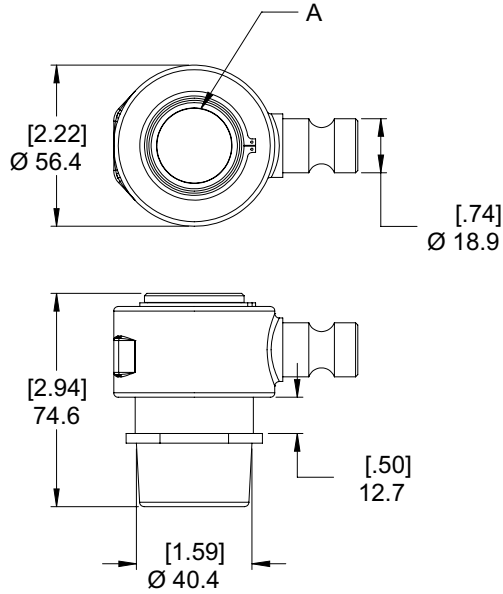
SAP Series with Apple Core



| Model Number | A | B | C | D | (Ø)"F" | Weight |
|--------------|----------------|----------------|-----------------|----------------|--------------|-------------------|
| CPI-SAP-00 | | | | | NA | [0.3 lb] 136 g |
| CPI-SAP-10 | | | | | [0.39] 10 | [0.2 lb] 91 g |
| CPI-SAP-18 | [1.88] 47.5 | [1.75] 44.5 | [1.00] 25.4 | | [0.71] 18 | [0.2 lb] 91 g |
| CPI-SAP-30 | | | | [0.68] 17.3 | [1.18] 30 | [0.2 lb] 91 g |
| CPI-SAP-36 | | | | | [1.42] 36 | [0.2 lb] 91 g |
| CPI-SAP-42 | [2.74] 69.6 | [2.38] 60.4 | [1.55] 39.4 | | [1.65] 42 | [0.3 lb] 136 g |
| CPI-SAP-47 | | | | | [1.85] 47 | [0.3 lb] 136 g |
| CPI-SAP-54 | [2.90] 73.7 | [2.68] 68.1 | [1.56] 39.62 | [0.50] 12.7 | [2.13] 54 | [0.3 lb] 136 g |

PROXIMITY SWITCH BUMPER

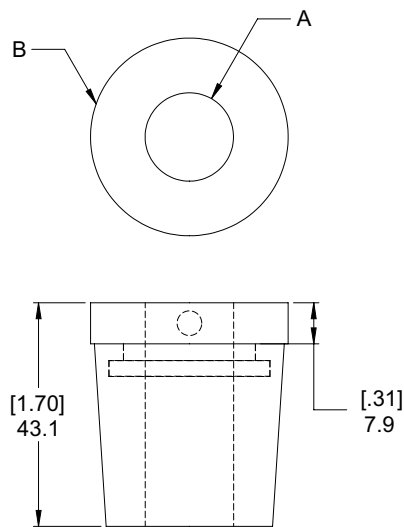
Round Tooling | Dimensions and Technical Specifications



PSM Spring Loaded Bumper



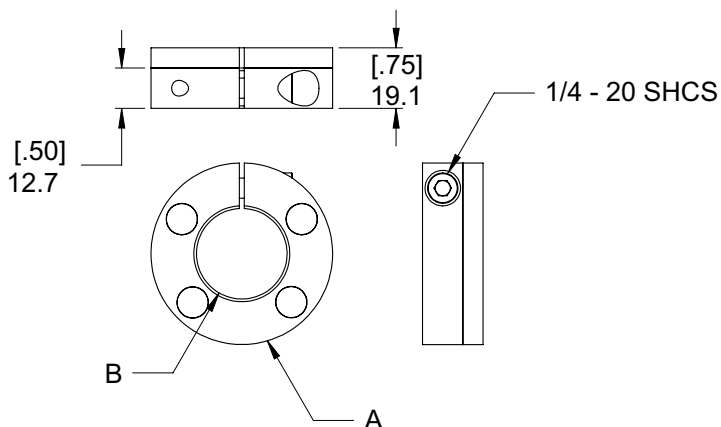
| Model Number | (Ø)"A" | Weight |
|---------------|---------------|------------------|
| CPI-PSM-18-75 | [18] 0.71" | [7 oz.] 198 g |
| CPI-PSM-30-75 | [30] 1.18" | [7 oz.] 198 g |



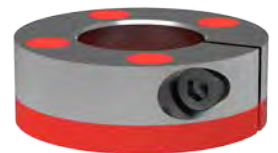
PB Friction Style Bumper



| Model Number | (Ø)"A" | (Ø)"B" | Weight |
|--------------|--------------|----------------|-----------------|
| CPI-PB-18-I | [18] 0.71 | [38.1] 1.50 | [2 oz.] 57 g |
| CPI-PB-30-I | [30] 1.18 | [50.8] 2.00 | [3 oz.] 85 g |



PB Locking Collar Style Bumper

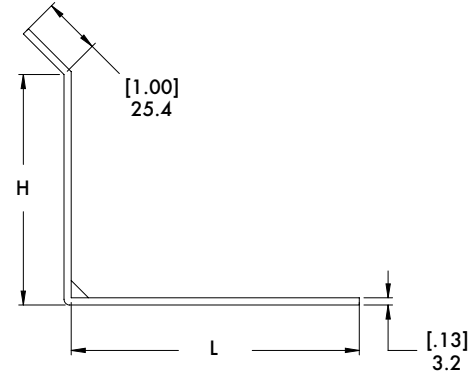
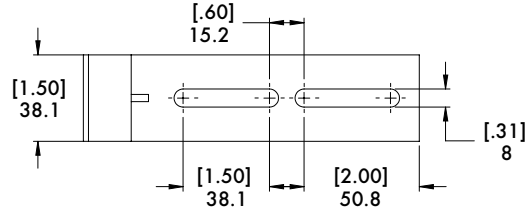


| Model Number | (Ø)"A" | (Ø)"B" | Weight |
|--------------|----------------|--------------|------------------|
| CPI-PB-30M | [57.2] 2.25 | [30] 1.18 | [3 oz.] 85 g |
| CPI-PB-36M | [63.5] 2.50 | [36] 1.42 | [3 oz.] 85 g |
| CPI-PB-42M | [69.9] 2.75 | [42] 1.65 | [4 oz.] 113 g |
| CPI-PB-47M | [76.2] 3.00 | [47] 1.85 | [5 oz.] 141 g |
| CPI-PB-54M | [85.9] 3.38 | [54] 2.13 | [5 oz.] 141 g |

NEST PAD GUIDES

Round Tooling | Dimensions | How To Order

Single

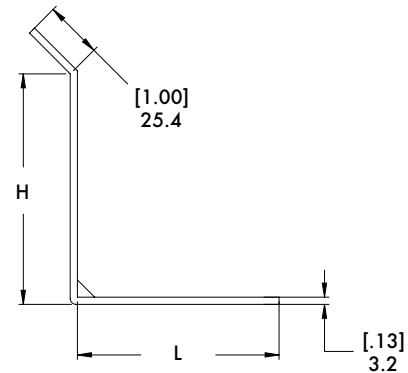
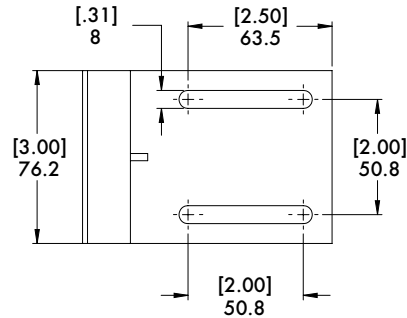


CPI - **NPG** - **24E** -  - 

Base Model
NPG
Steel Nest
Pad Guides
Single

| Length | | Height | |
|-----------|-------|-----------|-------|
| 05 | 5.00" | 04 | 4.00" |
| 06 | 6.00" | 06 | 6.00" |
| 07 | 7.00" | 08 | 8.00" |
| 08 | 8.00" | | |

Wide



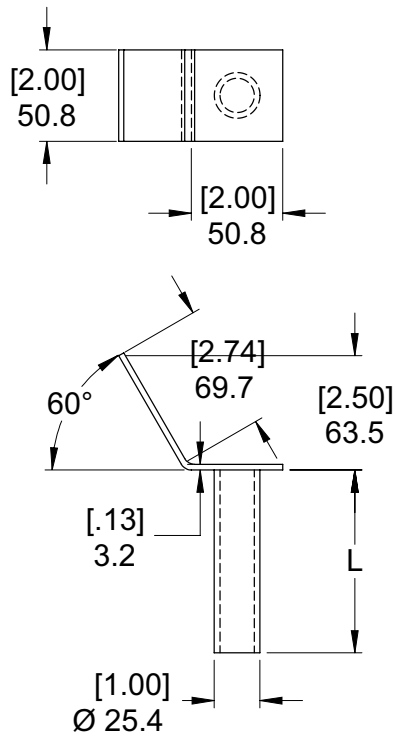
CPI - **NPG** - **24S** -  - 

Base Model
NPG
Steel Nest
Pad Guides
Wide

| Length | | Height | |
|------------|-------|-----------|-------|
| 3.5 | 3.50" | 04 | 4.00" |
| 4.5 | 4.50" | 06 | 6.00" |
| 5.5 | 5.50" | 08 | 8.00" |
| 6.5 | 6.50" | | |

NEST PAD GUIDES

Round Tooling | Dimensions | How To Order



CPI - NPG - 10 - []

Base Model
NPG
Steel Nest
Pad Guides

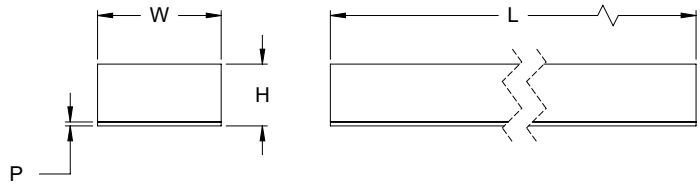
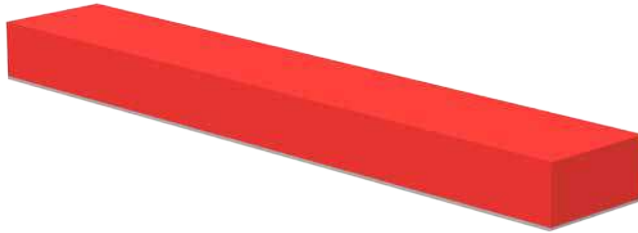
Length

| | |
|-----------|--------|
| 04 | 4.00" |
| 06 | 6.00" |
| 08 | 8.00" |
| 10 | 10.00" |
| 12 | 12.00" |
| 14 | 14.00" |

NEST PAD BLOCKS

Round Tooling | Dimensions and Technical Specifications

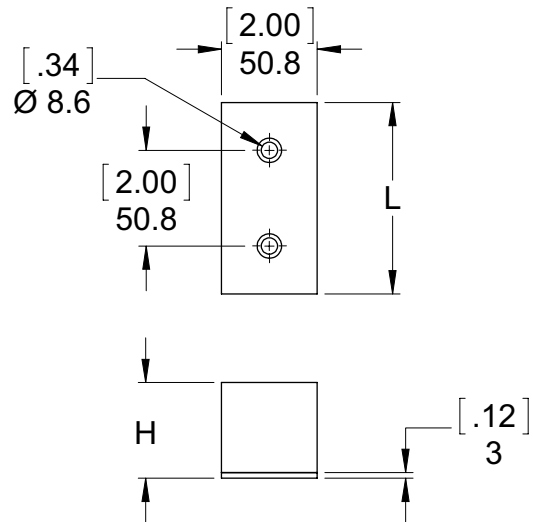
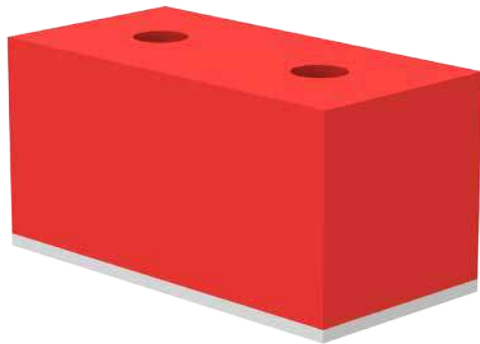
Bar Stock Urethane



CPI - BS - [] - [] - [] - 24 Length L 24 24.00" 609.6 mm

| Base Model BS | Height H | Backing Plate Height P | Width W |
|-----------------------|-------------|---------------------------|------------|
| Bar Stock Urethane | 1 | 1/8 | 1 |
| | 2 | 1/4 | 2 |
| | 3 | 3/8 | 3 |
| | 4 | 1/2 | 4 |
| | 5 | 1 | |
| | 6 | | |

Urethane Pads

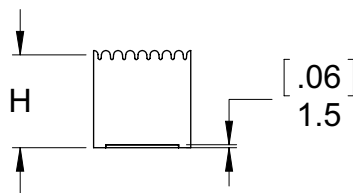
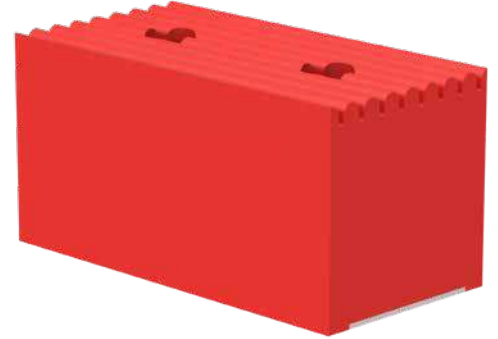
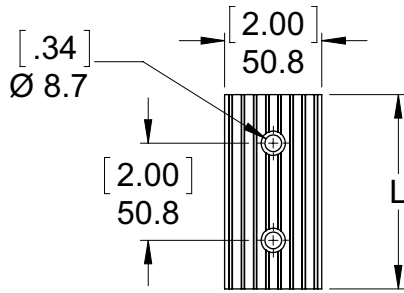


| Model | "H" | "L" | Weight |
|---------------|-----------|-----------|--------------|
| CPI-UT-1-4-85 | 1.00"(in) | 4.00"(in) | 9oz. [255g] |
| CPI-UT-2-4-85 | 2.00"(in) | 4.00"(in) | 14oz. [397g] |
| CPI-UT-2-6-85 | 2.00"(in) | 6.00"(in) | 19oz. [539g] |

NEST PAD BLOCKS

Round Tooling | Dimensions | Technical Specifications

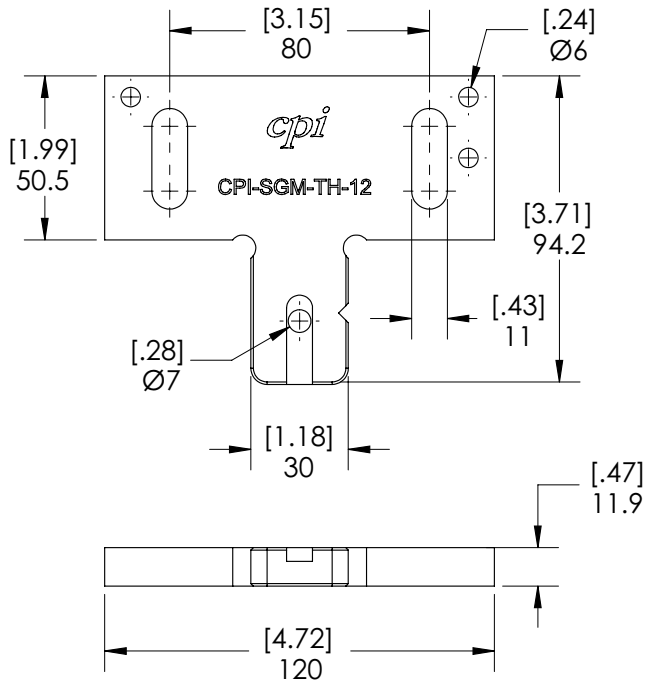
Ribbed Pads Neoprene



| Base Model RT | Height H | | | Length L | | | Durometer D | |
|-------------------------|-------------|-------|----------|-------------|--------|----------|----------------|---------------|
| Ribbed Pads Neoprene | 1/2 | 0.50" | 12.7 mm | 4 | 4.00" | 101.6 mm | 15 | Shore A Tan |
| | 1 | 1.00" | 25.4 mm | 6 | 6.00" | 152.4 mm | 30 | Shore A Teal |
| | 2 | 2.00" | 50.8 mm | 8 | 8.00" | 203.2 mm | 45 | Shore A Red |
| | 3 | 3.00" | 76.2 mm | 12 | 12.00" | 304.8 mm | 60 | Shore A Black |
| | 4 | 4.00" | 101.6 mm | | | | | |

PLASTICS - BLUE SLICE

Round Tooling | Dimensions and Technical Specifications



| Model Number | Material | Weight |
|---------------|----------|----------------|
| CPI-SGM-TH-12 | Steel | 604g [1.33 lb] |



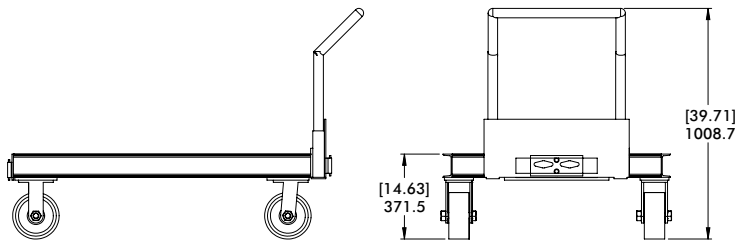
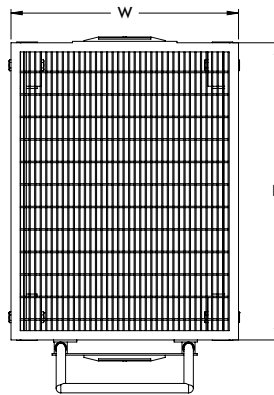
Name: Blue Slice Nest Tooling
Material: Blue Nylon, 1" (25.4mm) thickness
Benefits: Lightweight, durable, machinable material
Process: Machined from 3D CAD



TOOL STORAGE

Round Tooling | Dimensions | How To Order

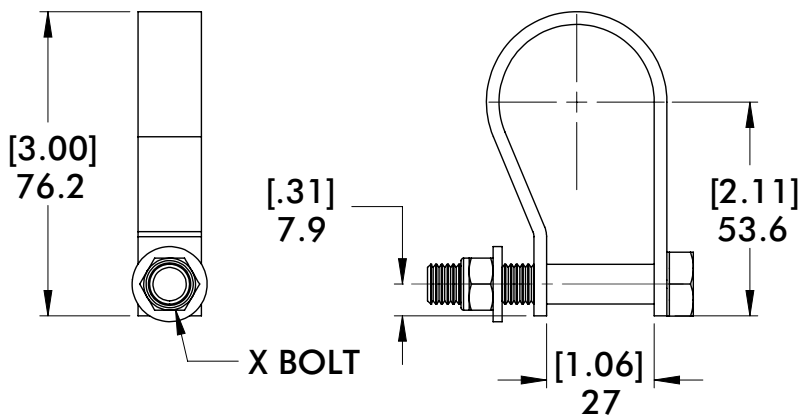
Tool Storage Cart



CPI - **TC** - - - **DP** - **FP**

| Base Model | Width | | | Length | | |
|--------------------|-----------|--------|-------|-----------|--------|-------|
| TC | 36 | 36.00" | 0.9 m | 48 | 48.00" | 1.2 m |
| Tool Storage Carts | 48 | 48.00" | 1.2 m | 60 | 60.00" | 1.5 m |
| | | | | 72 | 72.00" | 1.8 m |
| | | | | 84 | 84.00" | 2.1 m |
| | | | | 96 | 96.00" | 2.4 m |

Tool Hanger



Material: Steel

| Model Number | Weight |
|--------------|---------------|
| CPI-THR-516 | 91g [0.20 lb] |

TOOL STORAGE

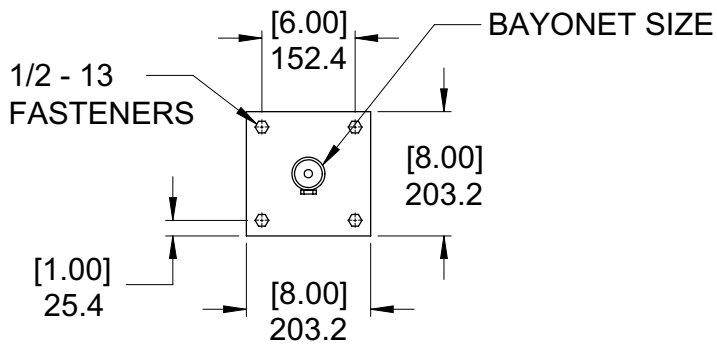
Round Tooling | Dimensions | How To Order

Tool Holder Strap

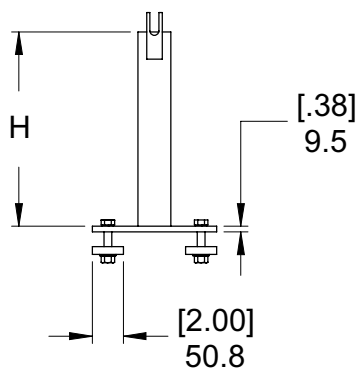


| Model Number | Weight |
|---------------------|---------------|
| CPI-SGM-TH-CABLE-08 | 68g [0.15 lb] |

Tool Storage Can



Material: Steel










CPI - TH - [] - [] - BF

| Base Model | Bayonet Size | Height |
|--------------------------|-----------------------|--------------------------|
| TH Tool Holder | 150 1.5" 40 mm | 6.5 6.5" 165 mm |
| | 250 2.5" 60 mm | 12.5 12.5" 318 mm |
| | | 18.5 18.5" 470 mm |

VACUUM SOLUTIONS

Table of Contents

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DESTACO vacuum cups can be ordered in different types, sizes, materials and durometers to be used in a broad array of applications, ranging from sheet metal handling to plastics to glass.



DESTACO also provides vacuum cups for extreme temperatures and hot-forming applications



EcoCup™ is the world's first electric vacuum cup, creating vacuum without air. The EcoCup™ is ideal for pick-and-place applications of flat, rigid, non-porous parts, including plastic, glass, and other consumer goods with smooth, flat surfaces.



ARV® The original, patented Auto-Release Venturi offers users the fastest vacuum and blow-off in the industry with single line operation, integrated blow-off and standard silencer.

Destacker Double Blank Detectors (DBD) allows compliance to blanks within $\pm 15^\circ$ without needing to adjust the robot, automation or tooling.



NITRILE VACUUM CUPS

Vacuum Products | Families and Features

Round Destacker Vacuum Cup

- Designed specifically for pogo-style destacking applications.
- High compressive-strength and shock-resistance extends cup life.
- High vertical lifting capacity prior to part release.
- Provides low-impact part release during pull-off by utilizing the patent-pending stress relief port.



Round Traction Vacuum Cups

- For applications with slick/oily surfaces or for destackers.
- Internal cleats holds part more securely in high speed applications.
- Bellows add flexibility for minor misalignments.

Round Flatfoot Vacuum Cups

- For applications with flat to medium curvature and dry to medium slick/oily surfaces.
- Cleats provide full support to prevent damage to thin outer panels.
- Maximizes lifting capacity and minimizes slip.



Round Belcup Vacuum Cups

- For applications with flat to mild contoured surfaces.
- Bellows add flexibility for minor misalignments.
- Ideal for general purpose.

Round Deepdish Vacuum Cups

- For applications with contoured surfaces.
- Thin lip wraps and seals curved surfaces tightly.
- Bell structure and internal design works best on materials with convex surfaces.



Oval Flatfoot Vacuum Cups

- For applications with medium slick/oily to dry surfaces.
- Oval shape maximizes contact on narrow panels and maximizes vertical lifting capacity.
- Cleats provide full support to prevent damage to thin outer panels.

Oval Deepdish Vacuum Cups

- For applications with contoured surfaces as well as wet or oily surfaces.
- Oval shape maximizes contact on narrow panels and bell structure works well on materials with convex surfaces.

POLYURETHANE VACUUM CUPS

Vacuum Products | Families and Features



Round Bellows Vacuum Cups

- For applications with slick/oily surfaces or for destackers
- Bellows add flexibility for minor misalignments
- Dual Durometer Polyurethane - Outside 55 durometer (red), internal treads 60 durometer (dark green)
- Optional TCT (Triple durometer) style cup offers extra soft internal cleat to eliminate possible dimples on thin sheet metal



Round Flat Foot Vacuum Cups

- Works well on flat to slightly contoured parts
- Maximizes lifting capacity and minimizes slip
- Excellent for transverse loads with high acceleration and deceleration applications
- Dual Durometer Polyurethane - Outside 55 durometer (red), internal treads 60 durometer (dark green)



Round Deepdish Vacuum Cups

- Interchangeable with existing/competitor vacuum cups
- New bell shape design is excellent for highly contoured surfaces
- Optional lightweight plastic mount available
- Designed to handle higher acceleration/deceleration speeds
- Shape and design offers better transverse loading



Oval Bellows Vacuum Cups

- Works well on flat and contoured parts
- Maximum lifting capacity where limited space is available
- Bellows add flexibility for minor misalignments
- Dual Durometer Polyurethane - Outside 55 durometer (red), internal treads 60 durometer (dark green)



Oval Flat Foot Vacuum Cups

- Works well on flat to slightly contoured parts.
- Long oval shape maximizes contact on narrow surfaces
- Cleats provide full support to prevent damage to thin outer panel
- Dual Durometer Polyurethane - Outside 55 durometer (red), internal treads 60 durometer (dark green)

CHOOSE THE RIGHT VACUUM CUP FOR YOUR APPLICATION

Vacuum Products | Application, Characteristics and Usage Chart for Vacuum Cups






| Vacuum Cup Type | DESTACKER APPLICATION | FLAT CONTOURS | MILD CONTOURS | HIGH CONTOURS | SLICK/OILY SURFACES | DRY SURFACES | HOT FORMING | Application Direction |
|-----------------------------------|-----------------------|---------------|---------------|---------------|---------------------|--------------|-------------|-----------------------|
| | | | | | | | | |
| Destacker Vacuum Cups | 5 | 5 | N/A | N/A | 3 | 5 | N/A | VERTICAL |
| Round Traction Vacuum Cups | N/A | N/A | N/A | N/A | N/A | N/A | N/A | HORIZONTAL |
| Round Flatfoot Vacuum Cups | 4 | 5 | 4 | 2 | 5 | 5 | N/A | VERTICAL |
| Round Belcup Vacuum Cups | N/A | 5 | 3 | 1 | 5 | 5 | N/A | HORIZONTAL |
| Round Deepdish Vacuum Cups | 4 | 4 | 5 | 3 | 4 | 4 | N/A | VERTICAL |
| Oval Deepdish Vacuum Cups | N/A | 4 | 5 | 3 | 4 | 4 | N/A | HORIZONTAL |
| Oval Flatfoot Vacuum Cups | 4 | 5 | 4 | 2 | 3 | 4 | N/A | VERTICAL |
| Hot Forming Vacuum Cups | N/A | 3 | 3 | 1 | 2 | 4 | N/A | HORIZONTAL |
| Hot Forming Vacuum Cups | 1 | 1 | 3 | 5 | 3 | 3 | N/A | VERTICAL |
| Hot Forming Vacuum Cups | N/A | 1 | 3 | 5 | 3 | 3 | N/A | HORIZONTAL |
| Hot Forming Vacuum Cups | 1 | 3 | 4 | 2 | 4 | 3 | N/A | VERTICAL |
| Hot Forming Vacuum Cups | N/A | 3 | 4 | 2 | 3 | 3 | N/A | HORIZONTAL |
| Hot Forming Vacuum Cups | 3 | 4 | 3 | 1 | 4 | 4 | N/A | VERTICAL |
| Hot Forming Vacuum Cups | N/A | 4 | 3 | 1 | 3 | 4 | N/A | HORIZONTAL |
| Hot Forming Vacuum Cups | 3 | 3 | 2 | 1 | 3 | 4 | 5 | VERTICAL |
| Hot Forming Vacuum Cups | N/A | 3 | 2 | 1 | 2 | 3 | 5 | HORIZONTAL |

Worst Cup for the Job **1** **2** **3** **4** **5** Best Cup for the Job **N/A** Not Advised for the application

This chart is a guide to aid in selecting the right family of cup for general surfaces, contours, and applications.

CHOOSE THE RIGHT VACUUM CUP FOR YOUR APPLICATION

Vacuum Products | Application, Characteristics and Usage Chart for Vacuum Cups

| | DESTACKER APPLICATION | FLAT CONTOURS | MILD CONTOURS | HIGH CONTOURS | SLICK/OILY SURFACES | DRY SURFACES | HOT FORMING | Application Direction |
|---|-----------------------|---------------|---------------|---------------|---------------------|--------------|-------------|-----------------------|
| Polyurethane Vacuum Cups | | | | | | | | |
|  | 4 | 5 | 4 | 2 | 5 | 5 | N/A | VERTICAL |
| Round Bellows Vacuum Cups | N/A | 5 | 3 | 1 | 5 | 5 | N/A | HORIZONTAL |
|  | 4 | 4 | 5 | 2 | 4 | 5 | N/A | VERTICAL |
| Round Flat Foot Vacuum Cups | N/A | 4 | 5 | 2 | 4 | 5 | N/A | HORIZONTAL |
|  | 3 | 4 | 5 | 5 | 4 | 5 | N/A | VERTICAL |
| Round Deepdish Vacuum Cups | 3 | 4 | 5 | 5 | 4 | 5 | N/A | HORIZONTAL |
|  | 3 | 4 | 4 | 2 | 4 | 5 | N/A | VERTICAL |
| Oval Bellows Vacuum Cups | N/A | 4 | 3 | 2 | 3 | 5 | N/A | HORIZONTAL |
|  | 3 | 4 | 3 | 2 | 3 | 5 | N/A | VERTICAL |
| Oval Flat Foot Vacuum Cups | N/A | 3 | 3 | 2 | 2 | 5 | N/A | HORIZONTAL |

Worst Cup for the Job 1 2 3 4 5 Best Cup for the Job
N/A **Not Advised for the application**

This chart is a guide to aid in selecting the right family of cup for general surfaces, contours, and applications.

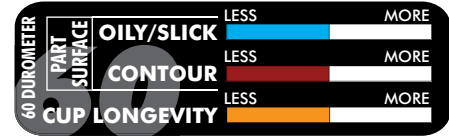
CHOOSE THE RIGHT VACUUM CUP FOR YOUR APPLICATION

Vacuum Products | ACU Index, How Vacuum Cups Work, Cup Usage, and Safety Factor

Application, Characteristics, and Usage (ACU) Index

Determining the type and durometer of vacuum cup appropriate for a particular application is typically based on three criteria.

- How oily or slick the part surface is.
- How much contour or curvature the part has.
- How long you can expect the cup to last (Longevity)?

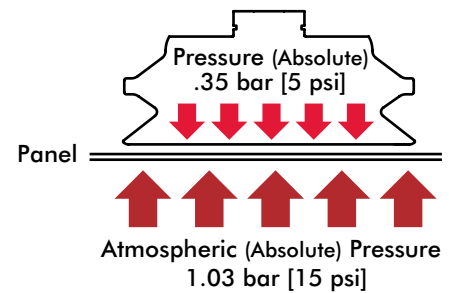


A set of vacuum cups of the same size and type, each having different durometers may handle oily/slick or contoured parts differently. However, cup longevity of each may be affected as a result of durometer, application and usage. The ACU Index is a reference shown with each type of vacuum cup and is used to illustrate the differences between vacuum cup types and durometers, when considering the above criteria.

How Vacuum Cups work

A panel adheres to a vacuum cup because the surrounding pressure (atmospheric pressure) is greater than the pressure inside the vacuum cup. The greater pressure pushes the panel onto the cup.

To create the low pressure in the vacuum cup, it is connected to a vacuum generator. The lower the pressure (higher vacuum) inside the cup; the greater the lifting force of the suction cup.



Vacuum Cup Usage

It is important to use the proper size and quantity of vacuum cups needed for your application. There are five steps which will help you make sure your application has the appropriate vacuum cup usage.

- Step 1:** Determine application and find appropriate cup family type.
- Step 2:** Determine panel weight.
- Step 3:** Find maximum cup size based on panel contour and shape.
- Step 4:** Find the appropriate cup size lifting capacity in the chart, found on the catalog page featuring the cup family type chosen.
- Step 5:** Determine safety factor determined on application (See Below).

Use the formula on the right to determine the proper amount of cups needed to move your panel.

Formula

$$n = \frac{w \times s}{f}$$

- w = Weight of Panel
- f = Lifting force of cup
- s = Safety factor
- n = Number of cups

Weight and lifting force must be in the same units, either English or Metric.

Safety Factor

Ideal plant conditions*: (2)

- Fast moving robot: (+1)
- Slick or Oily Panel: (+1)
- Flexing Panel: (+2)
- Small cups: (+1)
- High Horizontal Loads: (+1)

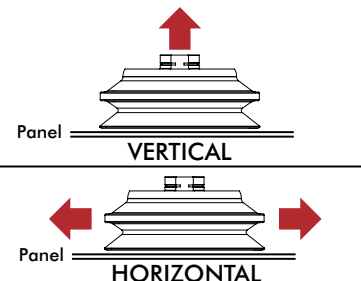
Starting with Ideal conditions (2), add each additional conditions to determine total safety factor.

For example:

| | |
|----------------------------|----------|
| Ideal conditions: | 2 |
| Fast moving robots: | +1 |
| Flexing Panel: | +2 |
| Total Safety Factor | 5 |

(*Ideal conditions are defined as having no surface, operational, or environmental conditions which could adversely effect the performance to the vacuum cup.

Relative Cup Motion



VACUUM CUP OPTIONS

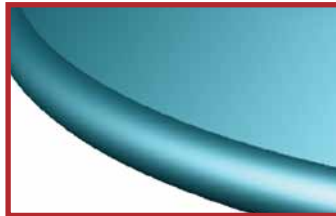
Vacuum Products | Durometer and Mounting Options

DESTACO Vacuum Cups are offered in different families, and may be offered in different durometers. Vacuum cups are also offered in Imperial and Metric mounting options which may vary according to the size and type of the vacuum cup.

Vacuum cups can be ordered as follows:
CPI-"MODEL"-"Mounting"-"DuRometer"



Vacuum Cup Durometers ("**DR**") (Color equals Durometer (Shore A Scale))



30

This soft durometer is useful for dryer, contoured panels. However, this durometer has less life.



45

This medium hard durometer will seal and adapt to contours well and is good for all around usage. This durometer has a longer life than the 30 durometer.



60

This hard durometer is helpful for extremely oily panels and flat surfaces such as a destacker operation. This durometer has a longer life than the 45 durometer.



PU55/PU60

This durable long-lasting polyurethane material is resistant to oils, UV light and oxygen. No dry rotting or cracking with better elastic memory.

= Durometer not available in cup style.

Imperial Vacuum Cup Mounting Options ("**M**")



1/4" NPT



3/8" NPT



1.25" SQUARE



1/2" NPT



1/8" NPT MALE



QUICK DISCONNECT

Metric Vacuum Cup Mounting Options ("**M**")



1/4" G



3/8" G



1.25" SQUARE



M10 MALE



M8 FEMALE



SMOOTH BORE

= Mount only available in this cup size.

= Mount not available in this cup size.

Specialty Vacuum Cup Mounting Options ("**M**")



3/8 NPT



Nylon G3/8



G3/8



1.25 in. Square

Micro Industrial Mounting Options ("**M**")



10-32 MALE



1/8" G FEMALE



1/8" G MALE

ACCELERATE® COLLECTION VACUUM CUPS

Vacuum Products | Dimensions | Ordering Information

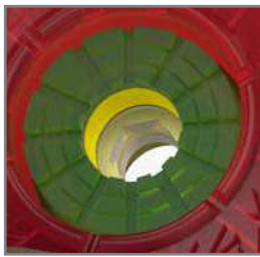
TC Polyurethane Round Bellows

Specifications:

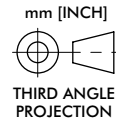
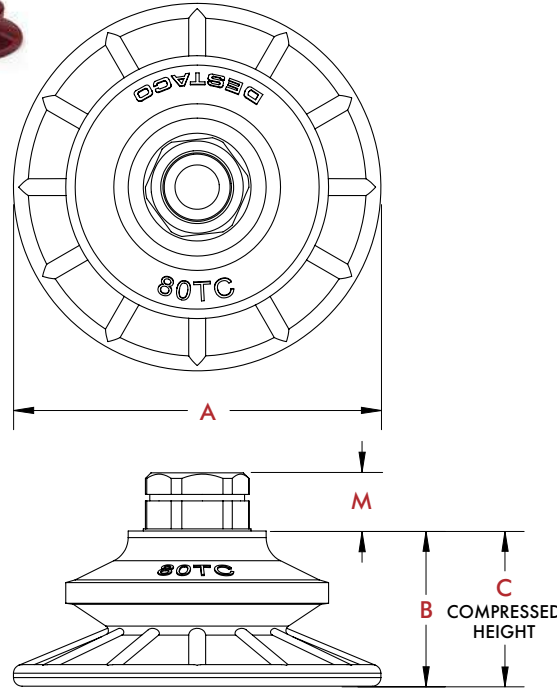
Temperature:

10°-49° C [50°-120° F]

Materials: Dual Durometer Polyurethane - Outside 55 durometer (red), internal treads 60 durometer (dark green).



TCT (triple durometer) style cup offers extra soft, 30 durometer, internal cushion (yellow) to eliminate possible dimples on thin sheet metal.



| Mount | M |
|---------|--------|
| U38/G38 | [0.57] |
| | 14.5 |
| P38 | [0.85] |
| | 21.5 |
| C | [0.73] |
| | 18.5 |

Dimensions shown "[inch] mm"

TC Dimensions

| Model | A | B | C | Weight |
|------------------|--------|--------|--------|-----------|
| 30TC | [1.18] | [0.57] | [0.37] | [1.00 oz] |
| | 30 | 14.5 | 9.5 | 28 g |
| 40TC | [1.77] | [0.69] | [0.41] | [1.20 oz] |
| | 45 | 17.5 | 10.5 | 34 g |
| 60TC | [2.40] | [0.85] | [0.45] | [2.15 oz] |
| | 61 | 21.5 | 11.5 | 61 g |
| 80TC/ 80TCT | [3.35] | [1.40] | [0.85] | [4.97 oz] |
| | 85 | 35.5 | 21.5 | 141 g |
| 110TC/ 110TCT | [4.53] | [2.03] | [1.20] | [9.70 oz] |
| | 115 | 51.5 | 30.5 | 275 g |

Dimensions shown "[inch] mm"

TC Holding Capacity @ -0.6 bar vacuum

| Appl. | Vert. Lift | Horz. Dry | Horz. Wet |
|------------------|------------|-----------|-----------|
| 30TC | [6] | [3] | [1.75] |
| | 2.72 | 1.36 | 0.79 |
| 40TC | [18] | [13] | [10] |
| | 8.16 | 5.90 | 4.54 |
| 60TC | [25] | [27] | [20] |
| | 11.34 | 12.25 | 9.07 |
| 80TC/ 80TCT | [53] | [54] | [36] |
| | 24.04 | 24.49 | 16.33 |
| 110TC/ 110TCT | [85] | [78] | [57] |
| | 38.56 | 35.38 | 25.86 |

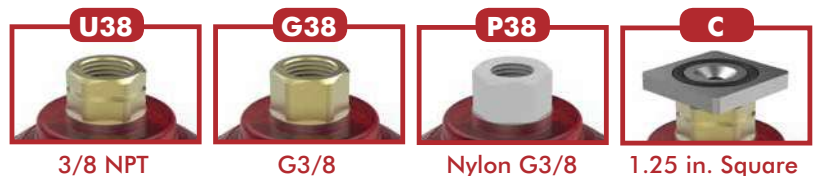
Holding capacities shown "[lbs] kg"

TC Round Bellows Ordering Information

Metric

| | |
|--------|--------------------|
| Ø30mm | VC-30TC-(M)-PU55 |
| Ø45mm | VC-40TC-(M)-PU55 |
| Ø61mm | VC-60TC-(M)-PU55 |
| Ø85mm | VC-80TC-(M)-PU55 |
| Ø85mm | VC-80TCT-(M)-PU55 |
| Ø115mm | VC-110TC-(M)-PU55 |
| Ø115mm | VC-110TCT-(M)-PU55 |

Mounting Options ("M")



ACCELERATE® COLLECTION VACUUM CUPS

Vacuum Products | Dimensions | Ordering Information

Specifications:

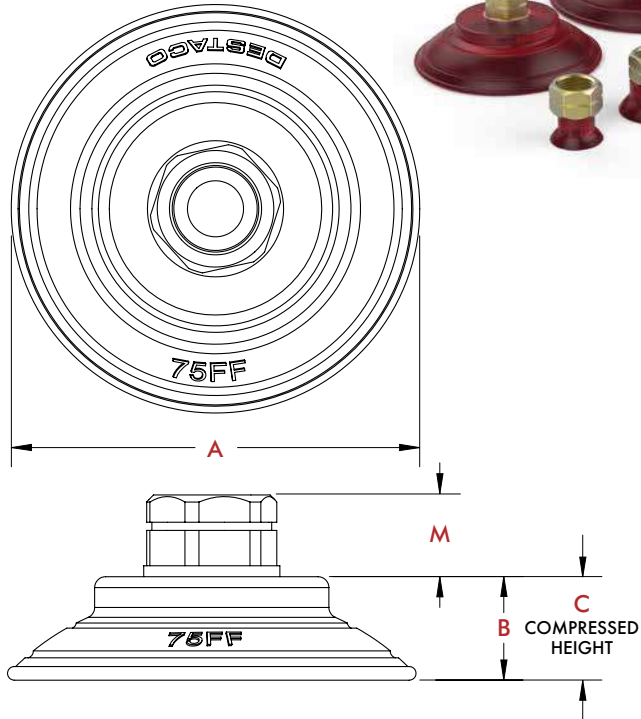
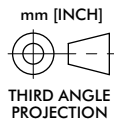
Temperature:

10°-49° C [50°-120° F]

Materials: Dual Durometer

Polyurethane - Outside 55 durometer (red), internal treads 60 durometer (dark green).

FF Polyurethane Round Flat



| Mount | M |
|---------|--------|
| U38/G38 | [0.57] |
| | 14.5 |
| P38 | [0.85] |
| | 21.5 |
| C | [0.73] |
| | 18.5 |

Dimensions shown "[inch] mm"

FF Dimensions

| Model | A | B | C | Weight |
|-------|--------|--------|--------|-----------|
| 25FF | [0.98] | [0.57] | [0.49] | [0.36 oz] |
| | 25 | 14.5 | 12.5 | 10 g |
| 35FF | [1.38] | [0.61] | [0.51] | [1.48 oz] |
| | 35 | 15.5 | 13 | 42 g |
| 50FF | [1.97] | [0.26] | [0.51] | [2.36 oz] |
| | 50 | 6.5 | 13 | 67 g |
| 75FF | [2.95] | [0.77] | [0.59] | [3.21 oz] |
| | 75 | 19.5 | 15 | 91 g |
| 100FF | [3.94] | [0.96] | [0.73] | [6.06 oz] |
| | 100 | 24.5 | 18.5 | 172 g |
| 125FF | [4.92] | [1.20] | [0.89] | [9.88 oz] |
| | 125 | 30.5 | 22.5 | 280 g |

Dimensions shown "[inch] mm"

FF Holding Capacity @ -0.6 bar vacuum

| Appl. | Vert. Lift | Horz. Dry | Horz. Wet |
|-------|------------|-----------|-----------|
| 25FF | [6] | [2] | [1.5] |
| | 2.72 | 0.91 | 0.68 |
| 35FF | [13] | [9] | [7] |
| | 5.90 | 4.08 | 3.18 |
| 50FF | [24] | [23] | [16] |
| | 10.89 | 10.43 | 7.26 |
| 75FF | [53] | [47] | [31] |
| | 24.04 | 21.32 | 14.06 |
| 100FF | [110] | [109] | [46] |
| | 49.90 | 49.44 | 20.87 |
| 125FF | [146] | [135] | [53] |
| | 66.23 | 61.24 | 24.04 |

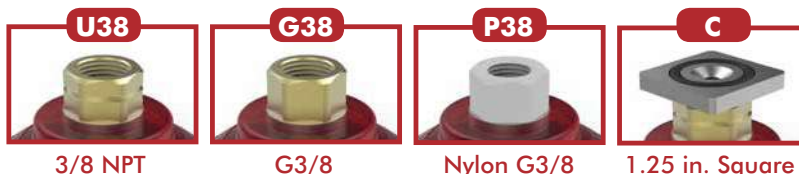
Holding capacities shown "[lbs] kg"

FF Round Flat Ordering Information

Metric

| | |
|--------|-------------------|
| Ø25mm | VC-25FF-(M)-PU55 |
| Ø35mm | VC-35FF-(M)-PU55 |
| Ø50mm | VC-50FF-(M)-PU55 |
| Ø75mm | VC-75FF-(M)-PU55 |
| Ø100mm | VC-100FF-(M)-PU55 |
| Ø125mm | VC-125FF-(M)-PU55 |

Mounting Options ("M")



Dimensions and technical information are subject to change without notice

EE-VAC-10



ACCELERATE® COLLECTION VACUUM CUPS

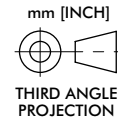
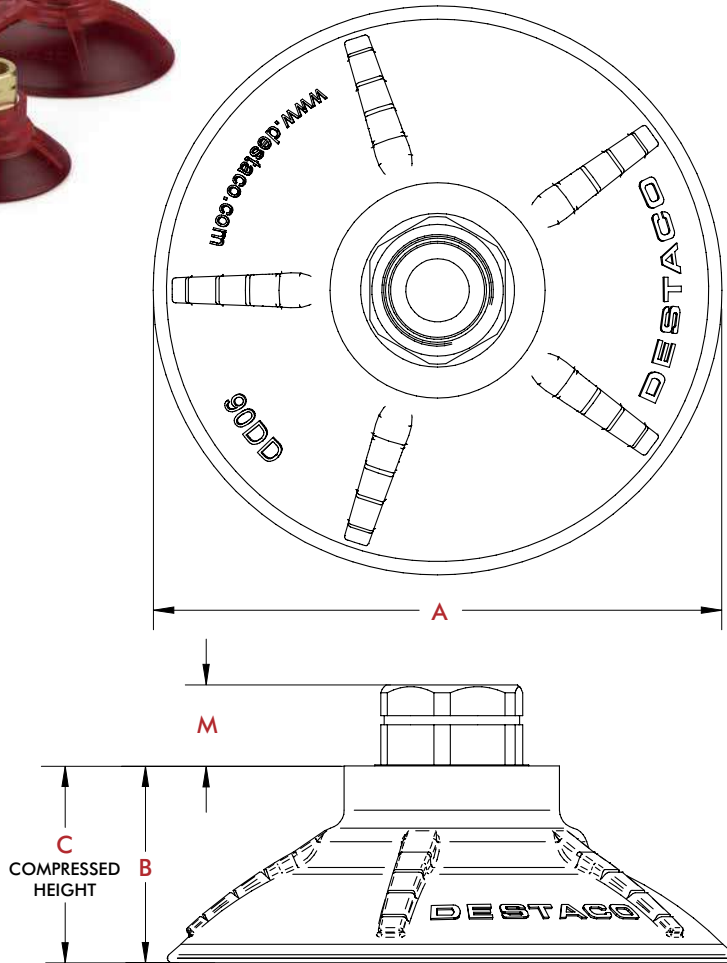
Vacuum Products | Dimensions | Technical Specifications

DD Polyurethane Round Deepdish

Specifications:

Temperature:
10°-49° C [50°-120° F]

Materials:
60 durometer (red)



| Mount | M |
|------------|----------------|
| U38 | [0.51] 13 |
| G38 | [0.77] 19.5 |
| P38 | [0.68] 17.3 |
| C | [0.37] 9.5 |

Dimensions shown "[inch] mm"

DD Dimensions

| Model | A | B | C | Weight with U38/G38/C | Weight with P38 |
|--------------|--------|--------|--------|-----------------------|-----------------|
| 65DD | [2.66] | [1.11] | [0.67] | [2.08 oz] | [0.9 oz] |
| | 67.5 | 28.2 | 17.0 | 59 g | 25 g |
| 90DD | [3.64] | [1.27] | [0.75] | [2.72 oz] | [1.5 oz] |
| | 92.5 | 32.2 | 19.0 | 77 g | 43 g |
| 110DD | [4.43] | [1.60] | [0.83] | [3.60 oz] | [2.4 oz] |
| | 112.5 | 40.6 | 21.0 | 102 g | 68 g |

Dimensions shown "[inch] mm"

DD Holding Capacity

@ -0.9 bar [25.6 inhg] vacuum

| Appl. | Vert. Lift | Horz. Dry | Horz. Wet |
|--------------|------------|-----------|-----------|
| 65DD | [42.8] | [44.1] | [30.2] |
| | 19.4 | 20.0 | 13.7 |
| 90DD | [69.7] | [80.5] | [55.8] |
| | 31.6 | 36.5 | 25.3 |
| 110DD | [97.4] | [129.0] | [80.5] |
| | 44.2 | 58.5 | 36.5 |

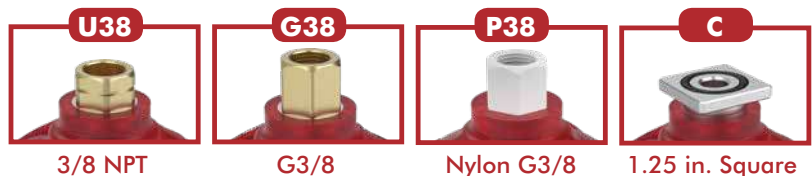
Holding capacities shown "[lbs] kg"

DD Round Deepdish Ordering Information

Metric

- Ø67.5mm VC-65DD-(M)-PU60
- Ø92.5mm VC-90DD-(M)-PU60
- Ø112.5mm VC-110DD-(M)-PU60

Mounting Options ("M")



ACCELERATE® COLLECTION VACUUM CUPS

Vacuum Products | Dimensions | Ordering Information

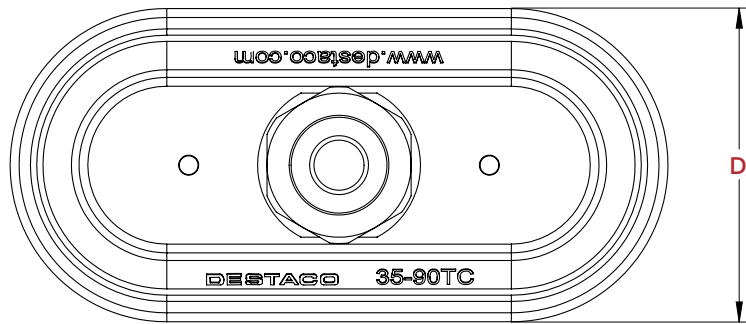
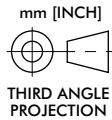


Positioning Kit (for G38 and P38 thread mounts only). Sold separately. Order No. **CPI-LNB-VSA-19** Includes (1) O-ring and (1) locknut.

Specifications:

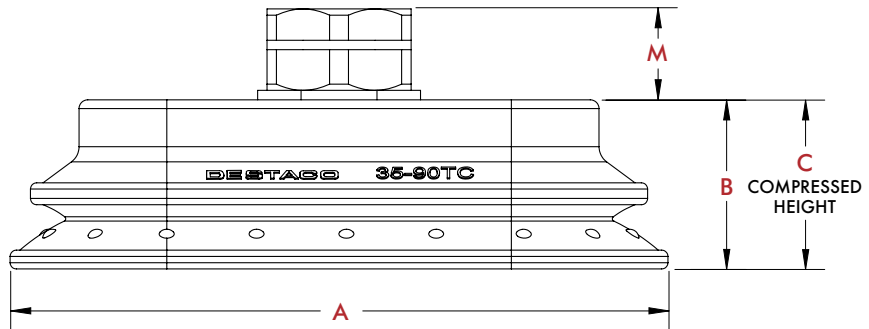
Temperature: 10°-49° C [50°-120° F]
Materials: Dual Durometer Polyurethane - Outside 55 durometer (red), internal treads 60 durometer (dark green).

TC Polyurethane Oval Bellows



| Mount | M |
|---------|----------------|
| U38/G38 | [0.57] 14.5 |
| P38 | [0.85] 21.5 |
| C | [0.73] 18.5 |

Dimensions shown "[inch] mm"



TC Dimensions

| Model | A | B | C | D | Weight |
|----------|--------|--------|--------|--------|------------|
| 35-90TC | [4.13] | [1.08] | [0.65] | [1.97] | [3.42 oz] |
| | 105 | 27.5 | 16.5 | 50 | 97 g |
| 50-140TC | [6.18] | [1.40] | [0.85] | [2.64] | [6.70 oz] |
| | 157 | 35.5 | 21.5 | 67 | 190 g |
| 65-170TC | [7.36] | [1.63] | [1.04] | [3.23] | [10.93 oz] |
| | 187 | 41.5 | 26.5 | 82 | 310 g |

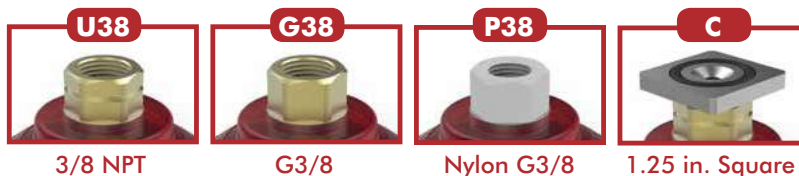
Dimensions shown "[inch] mm"

TC Holding Capacity @ -0.6 bar vacuum

| Appl. | Vert. Lift | Horz. Dry | Horz. Wet |
|----------|------------|-----------|-----------|
| 35-90TC | [45] | [40] | [34] |
| | 20.41 | 18.14 | 15.42 |
| 50-140TC | [99] | [93] | [78] |
| | 44.91 | 42.18 | 35.38 |
| 65-170TC | [128] | [139] | [149] |
| | 58.06 | 63.05 | 67.59 |

Holding capacities shown "[lbs] kg"

Mounting Options ("M")



TC Oval Bellows Ordering Information

Metric

Ø33x105mm VC-35-90TC-(M)-PU55
 Ø50x157mm VC-50-140TC-(M)-PU55
 Ø82x187mm VC-65-170TC-(M)-PU55

ACCELERATE® COLLECTION VACUUM CUPS

Vacuum Products | Dimensions | Ordering Information

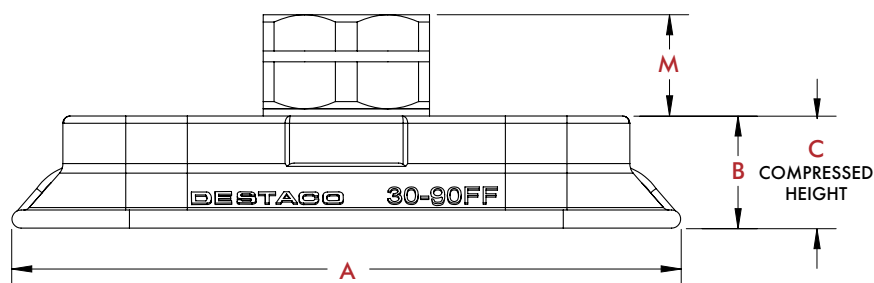
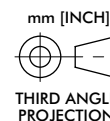
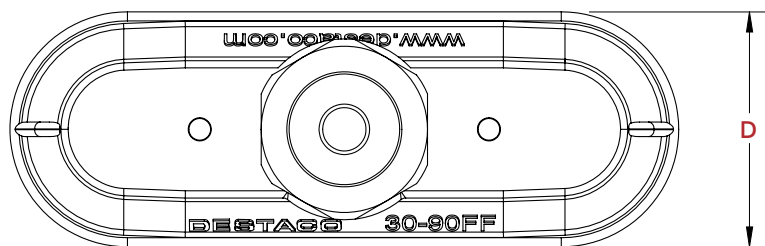
FF Polyurethane Oval Flat



Specifications:

Temperature:
10°-49° C [50°-120° F]
Materials: Dual Durometer Polyurethane - Outside 55 durometer (red), internal treads 60 durometer (dark green).

Positioning Kit (for G38 and P38 thread mounts only).
Sold separately.
Order No. **CPI-LNB-VSA-19**
Includes (1) O-ring and (1) locknut.



| Mount | M |
|---------|----------------|
| U38/G38 | [0.57] 14.5 |
| | [0.85] 21.5 |
| P38 | [0.73] 18.5 |

Dimensions shown "[inch] mm"

FF Dimensions

| Model | A | B | C | D | Weight |
|----------|---------------|----------------|----------------|--------------|-------------------|
| 20-80FF | [3.31] 84 | [0.61] 15.5 | [0.49] 12.5 | [0.94] 24 | [0.85 oz] 24 g |
| | [3.66] 93 | [0.61] 15.5 | [0.45] 11.5 | [1.30] 33 | [1.05 oz] 30 g |
| 40-110FF | [4.45] 113 | [0.85] 21.5 | [0.65] 16.5 | [1.69] 43 | [1.94 oz] 55 g |

Dimensions shown "[inch] mm"

FF Holding Capacity @ -0.6 bar vacuum

| Appl. | Vert. Lift | Horz. Dry | Horz. Wet |
|----------|---------------|---------------|--------------|
| 20-80FF | [25] 11.34 | [25] 11.34 | [11] 4.99 |
| | [35] 15.88 | [36] 16.33 | [17] 7.71 |
| 40-110FF | [55] 24.95 | [52] 23.59 | [18] 8.16 |

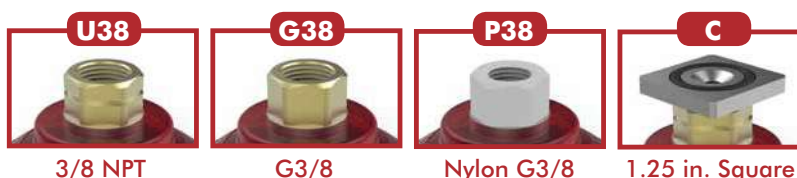
Holding capacities shown "[lbs] kg"

FF Oval Flat Ordering Information

Metric

Ø24x84mm VC-20-80FF-(M)-PU55
Ø33x93mm VC-30-90FF-(M)-PU55
Ø43x113mm VC-40-110FF-(M)-PU55

Mounting Options ("M")



VACUUM CUPS

Vacuum Products | Dimensions | Ordering Information

Specifications:

Temperature:

15-59 Sec: -20° to 250° F [-29° to 121° C]

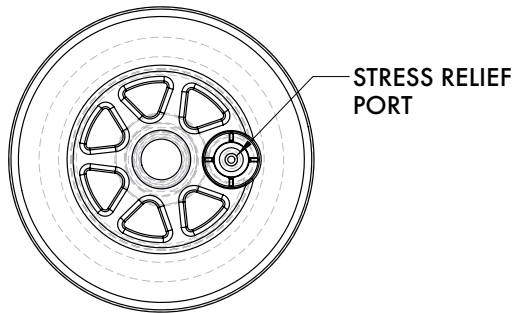
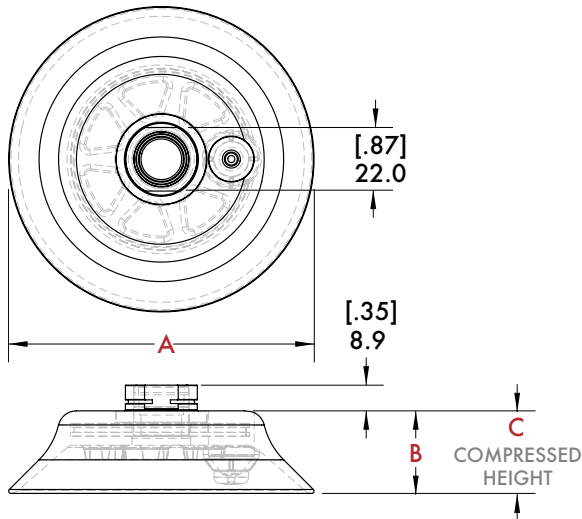
1-5 min: 15° to 180° F [-9° to 82° C]

Material: Nitrile

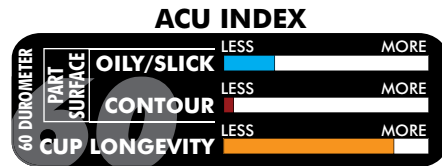
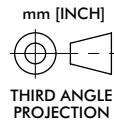
Chemical Resistance:

Oil, water, grease, hydraulic fluid, alcohol

DC Destacker Stress Relieving



STRESS RELIEF PORT



US Patent# 7,309,089

DC Dimensions

| Model | A | B | C | Weight |
|--------|--------|--------|-------|----------|
| 75DC | 84.8 | 25.4 | 16.7 | 84 g |
| [30DC] | [3.34] | [1.00] | [.68] | [3.0 oz] |
| 100DC | 105.9 | 28.6 | 16.7 | 120 g |
| [40DC] | [4.16] | [1.11] | [.68] | [4.2 oz] |

Dimensions shown "mm [inch]"

DC Capacity

| Appl. | Ver. Lift |
|--------|-----------|
| 75DC | 15.9 kg |
| [30DC] | [35 lb] |
| 100DC | 63.1 kg |
| [40DC] | [139 lb] |

Holding capacities shown "N [lbf]"

DC Destacker Stress Relieving Ordering Information

Imperial

Ø3.00" CPI-**30DC-(M)-60**

Ø4.00" CPI-**40DC-(M)-60**

Metric

Ø75 mm..... CPI-**75DC-(M)-60**

Ø100 mm..... CPI-**100DC-(M)-60**

(DR) = Durometer



(M) = Mounts Available



(DR) = Durometer



(M) = Mounts Available



VACUUM CUPS

Vacuum Products | Dimensions | Ordering Information

TC/HT Round Traction



Specifications:

Temperature:

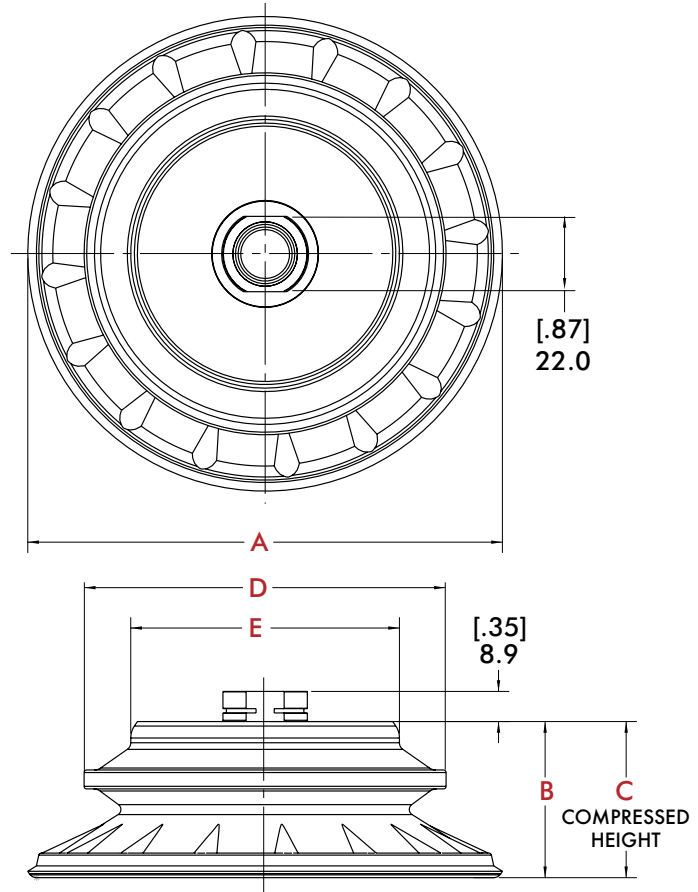
15-59 Sec: -29° to 121° C [-20° to 250° F]

1-5 min: -9° to 82° C [15° to 180° F]

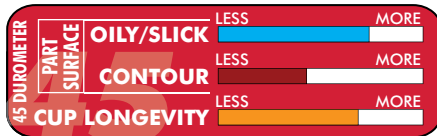
Material: Nitrile

Chemical Resistance:

Oil, water, grease, hydraulic fluid, alcohol



ACU INDEX



TC/HT Dimensions

| Model | A | B | C | D | E | Weight |
|--------|--------|--------|-------|--------|--------|----------|
| [20TC] | [2.06] | [1.02] | [.68] | [1.64] | [1.25] | [1.3 oz] |
| 50HT | 52.3 | 25.7 | 17.3 | 41.7 | 31.8 | 37 g |
| [35TC] | [3.50] | [1.71] | [.82] | [2.50] | [1.65] | [2.6 oz] |
| 90HT | 88.9 | 43.44 | 20.8 | 63.5 | 41.9 | 73 g |
| [45TC] | [4.50] | [1.81] | [.87] | [3.25] | [2.25] | [4.4 oz] |
| 115HT | 114.3 | 46.1 | 22.1 | 82.4 | 57.2 | 125 g |
| [55TC] | [5.50] | [1.81] | [.87] | [4.00] | [3.04] | [7.2 oz] |
| 140HT | 139.7 | 46.1 | 22.1 | 101.4 | 77.1 | 204 g |

Dimensions shown "mm [inch]"

TC/HT Holding Capacity

| Appl. | Hor. Dry | Hor. Wet | Ver. Lift |
|--------|----------|----------|-----------|
| [20TC] | [8.5 lb] | [7 lb] | [22.7 lb] |
| 50HT | 3.9 kg | 3.2 kg | 10.3 kg |
| [35TC] | [30 lb] | [20 lb] | [66 lb] |
| 90HT | 13.6 kg | 9.1 kg | 29.9 kg |
| [45TC] | [45 lb] | [30 lb] | [103 lb] |
| 115HT | 20.4 kg | 13.6 kg | 46.7 kg |
| [55TC] | [100 lb] | [45 lb] | [164 lb] |
| 140HT | 45.5 kg | 20.4 kg | 74.4 kg |

Holding capacities shown "N [lbf]"

TC/HT Round Traction Ordering Information

Imperial

- Ø2.00" CPI-20TC-(M)-(DR)
- Ø3.50" CPI-35TC-(M)-(DR)
- Ø4.50" CPI-45TC-(M)-(DR)
- Ø5.50" CPI-55TC-(M)-(DR)

..(M) = Mounts Available..

K B C D ~~20TC~~ ~~E1~~ ~~20TC~~

..(DR) = Durometer..

~~45~~ **60**

Metric

- Ø50mm CPI-50HT-(M)-(DR)
- Ø90mm CPI-90HT-(M)-(DR)
- Ø115mm CPI-115HT-(M)-(DR)
- Ø140mm CPI-140HT-(M)-(DR)

..(M) = Mounts Available..

A B C

..(DR) = Durometer..

~~45~~ **60**

VACUUM CUPS

Vacuum Products | Dimensions | Technical Specifications

Specifications:

Temperature:

15-59 Sec: -20° to 250° F [-29° to 121° C]

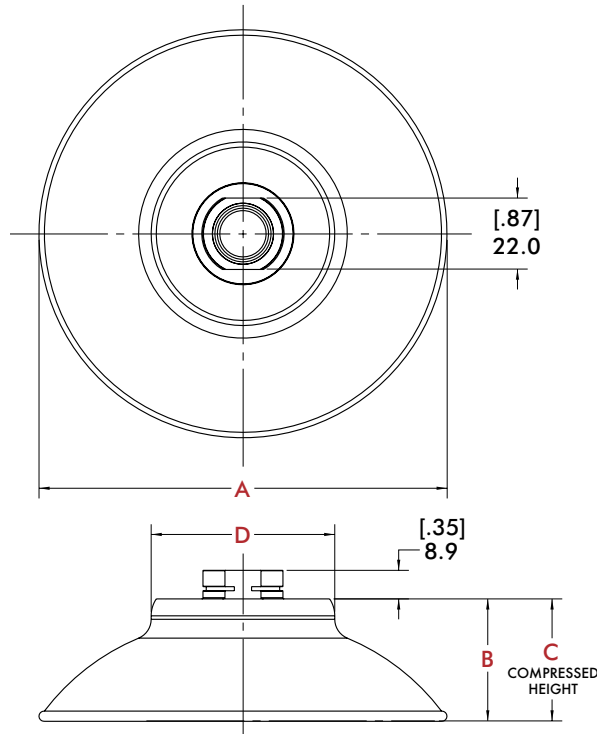
1-5 min: 15° to 180° F [-9° to 82° C]

Material: Nitrile

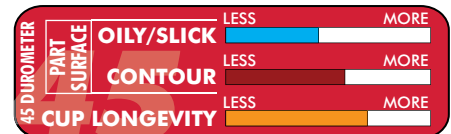
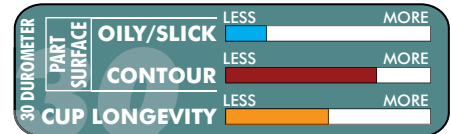
Chemical Resistance:

Oil, water, grease, hydraulic fluid, alcohol

FF/PF Round Flatfoot



ACU INDEX



FF/PF Round Flatfoot

| Model | A | B | C | D | Weight |
|--------|--------|--------|--------|--------|----------|
| 50PF | 50.8 | 22.5 | 13.0 | 19.1 | 40 g |
| [20FF] | [2.00] | [.89] | [.51] | [.75] | [1.4 oz] |
| 75PF | 76.2 | 25.4 | 18.2 | 39.6 | 57 g |
| [30FF] | [3.00] | [1.00] | [.72] | [1.56] | [2.0 oz] |
| 100PF | 101.6 | 33.3 | 22.2 | 39.6 | 96 g |
| [40FF] | [4.00] | [1.31] | [.88] | [1.56] | [3.4 oz] |
| 125PF | 127.0 | 38.2 | 25.4 | 57.2 | 159 g |
| [50FF] | [5.00] | [1.50] | [1.00] | [2.25] | [5.6 oz] |

Dimensions shown "mm [inch]"

FF/PF Vacuum Cup Capacities:

| Appl. | Hor. Dry | Hor. Wet | Ver. Lift |
|--------|----------|----------|-----------|
| 50PF | 6.4 kg | 2.7 kg | 9.1 kg |
| [20FF] | [14 lb] | [6 lb] | [20 lb] |
| 75PF | 13.6 kg | 5.9 kg | 27.2 kg |
| [30FF] | [30 lb] | [13 lb] | [60 lb] |
| 100PF | 15.9 kg | 9.1 kg | 46.3 kg |
| [40FF] | [35 lb] | [20 lb] | [102 lb] |
| 125PF | 31.8 kg | 25.8 kg | 74.8 kg |
| [50FF] | [70 lb] | [55 lb] | [165 lb] |

Holding capacities shown "N [lbf]"

FF/PF Round Flatfoot Vacuum Cups Ordering Information

Imperial

Ø2.00" CPI-20FF-(M)-(DR)
 Ø3.50" CPI-30FF-(M)-(DR)
 Ø4.50" CPI-40FF-(M)-(DR)
 Ø5.50" CPI-50FF-(M)-(DR)

(DR) = Durometer

30 45 60

(M) = Mounts Available

K B C D 40FF 50FF E1

Metric

Ø50mm CPI-50PF-(M)-(DR)
 Ø75mm CPI-75PF-(M)-(DR)
 Ø100mm CPI-100PF-(M)-(DR)
 Ø125mm CPI-125PF-(M)-(DR)

(DR) = Durometer

30 45 60

(M) = Mounts Available

A B C

VACUUM CUPS

Vacuum Products | Dimensions | Ordering Information

AC/BT Round Belcup



Specifications:

Temperature:

15-59 Sec: -20° to 250° F [-29° to 121° C]

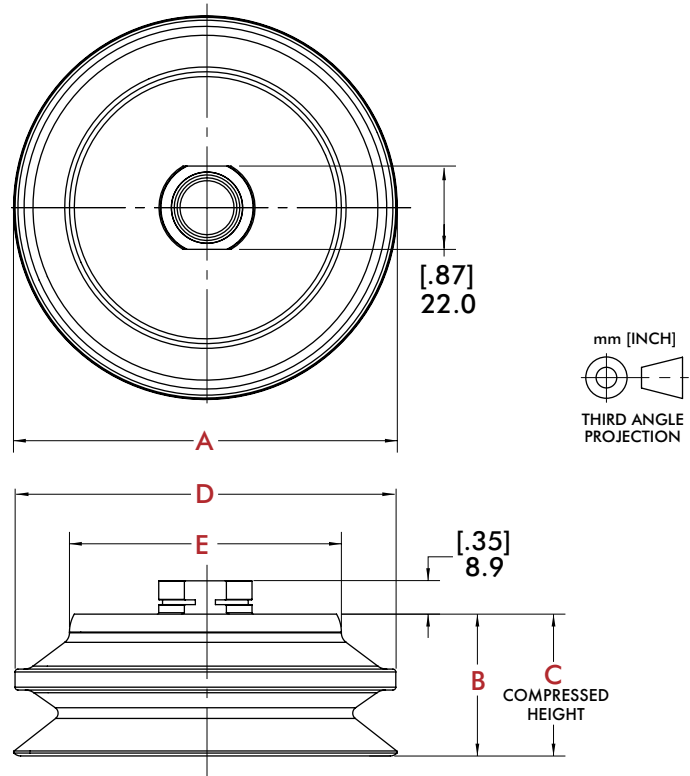
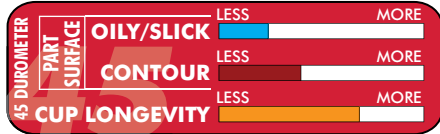
1-5 min: 15° to 180° F [-9° to 82° C]

Material: Nitrile

Chemical Resistance:

Oil, water, grease, hydraulic fluid, alcohol

ACU INDEX



AC/BT Round Belcup

| Model | A | B | C | D | E | Weight |
|--------|--------|--------|-------|--------|--------|----------|
| 40BT | 41.1 | 25.9 | 11.9 | 41.1 | 31.8 | 35 g |
| [15AC] | [1.62] | [1.02] | .[47] | [1.63] | [1.25] | [1.2 oz] |
| 50BT | 57.4 | 37.4 | 18.3 | 57.9 | 38.1 | 57 g |
| [20AC] | [2.26] | [1.47] | .[72] | [2.28] | [1.50] | [2.0 oz] |
| 75BT | 78.9 | 38.8 | 19.8 | 80.0 | 56.6 | 91 g |
| [30AC] | [3.11] | [1.53] | .[78] | [3.15] | [2.23] | [3.2 oz] |
| 100BT | 102.4 | 37.8 | 18.6 | 101.6 | 72.6 | 159 g |
| [40AC] | [4.03] | [1.49] | .[73] | [4.00] | [2.85] | [5.6 oz] |
| 125BT | 127.0 | 38.1 | 19.0 | 127.0 | 97.8 | 232 g |
| [50AC] | [5.00] | [1.50] | .[75] | [5.00] | [3.85] | [8.2 oz] |

Dimensions shown "mm [inch]"

AC/BT Vacuum Cup Capacities:

| Appl. | Hor. Dry | Hor. Wet | Ver. Lift |
|--------|----------|----------|-----------|
| 40BT | 2.7 kg | 1.4 kg | 3.6 kg |
| [15AC] | [6 lb] | [3 lb] | [8 lb] |
| 50BT | 3.9 kg | 2.0 kg | 11.8 kg |
| [20AC] | [8.5 lb] | [4.5 lb] | [26 lb] |
| 75BT | 5.4 kg | 2.7 kg | 25.4 kg |
| [30AC] | [12 lb] | [6 lb] | [56 lb] |
| 100BT | 15.0 kg | 3.6 kg | 40.4 kg |
| [40AC] | [33 lb] | [8 lb] | [89 lb] |
| 125BT | 24.0 kg | 6.8 kg | 62.6 kg |
| [50AC] | [53 lb] | [15 lb] | [138 lb] |

Holding capacities shown "N [lbf]"

AC/BT Round Belcup Vacuum Cups Ordering Information

Imperial

Ø1.50" CPI-15AC-(M)-(DR)
 Ø2.00" CPI-20AC-(M)-(DR)
 Ø3.00" CPI-30AC-(M)-(DR)
 Ø4.00" CPI-40AC-(M)-(DR)
 Ø5.00" CPI-50AC-(M)-(DR)

(DR) = Durometer

~~45~~ 60

(M) = Mounts Available

~~K~~ ~~B~~ ~~C~~ ~~D~~ ~~15AC~~ ~~20AC~~ ~~E1~~ ~~125AC~~ M8F 20AC

Metric

Ø40mm CPI-40BT-(M)-(DR)
 Ø50mm CPI-50BT-(M)-(DR)
 Ø75mm CPI-75BT-(M)-(DR)
 Ø100mm CPI-100BT-(M)-(DR)
 Ø125mm CPI-125BT-(M)-(DR)

(DR) = Durometer

~~45~~ 60

(M) = Mounts Available

A B C M10

VACUUM CUPS

Vacuum Products | Dimensions | Ordering Information

DD/DM Round Deepdish

Specifications:

Temperature:

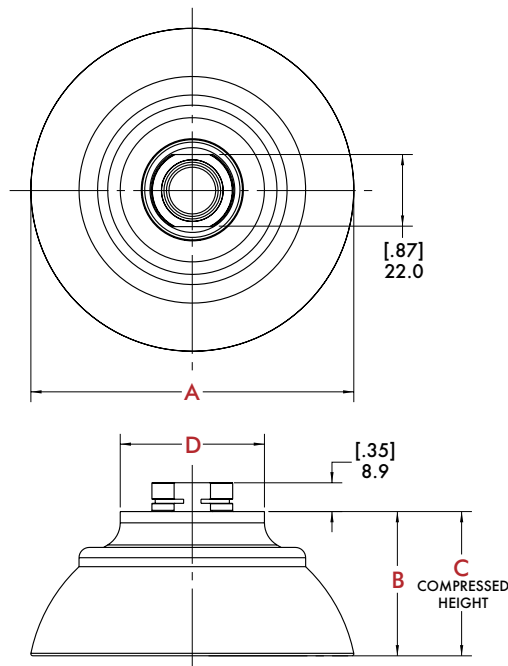
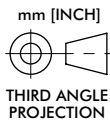
15-59 Sec: -20° to 250° F [-29° to 121° C]

1-5 min: 15° to 180° F [-9° to 82° C]

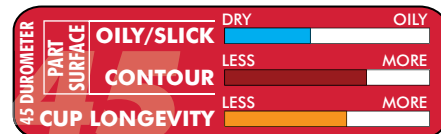
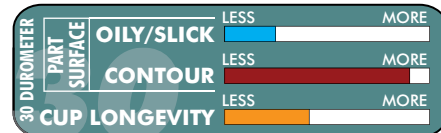
Material: Nitrile

Chemical Resistance:

Oil, water, grease, hydraulic fluid, alcohol



ACU INDEX



DD/DM Round Deepdish

| Model | A | B | C | D | Weight |
|--------|--------|--------|-------|--------|----------|
| 50DM | 50.8 | 29.1 | 18.3 | 38.1 | 40 g |
| [20DD] | [2.00] | [1.14] | [.72] | [1.50] | [1.4 oz] |
| 75DM | 76.2 | 40.4 | 24.3 | 44.0 | 57 g |
| [30DD] | [3.00] | [1.59] | [.96] | [1.73] | [2.0 oz] |
| 100DM | 101.6 | 44.5 | 20.8 | 44.5 | 96 g |
| [40DD] | [4.00] | [1.75] | [.82] | [1.75] | [3.4 oz] |

Dimensions shown "mm [inch]"

DD/DM Vacuum Cup Capacities:

| Appl. | Hor. Dry | Hor. Wet | Ver. Lift |
|--------|----------|----------|-----------|
| 50DM | 4.1 kg | 3.2 kg | 5.4 kg |
| [20DD] | [9 lb] | [7 lb] | [12 lb] |
| 75DM | 6.4 kg | 2.7 kg | 9.1 kg |
| [30DD] | [14 lb] | [6 lb] | [20 lb] |
| 100DM | 11.3 kg | 3.2 kg | 15.8 kg |
| [40DD] | [25 lb] | [7lb] | [35 lb] |

Holding capacities shown "N [lbf]"

DD/DM Round Deepdish Vacuum Cups Ordering Information

Imperial

Ø2.00" CPI-20DD-(M)-(DR)

Ø3.00" CPI-30DD-(M)-(DR)

Ø4.00" CPI-40DD-(M)-(DR)

(DR) = Durometer



(M) = Mounts Available



Metric

Ø50mm CPI-50DM-(M)-(DR)

Ø75mm CPI-75DM-(M)-(DR)

Ø100mm CPI-100DM-(M)-(DR)

(DR) = Durometer



(M) = Mounts Available



VACUUM CUPS

Vacuum Products | Dimensions | Ordering Information

FF/PF Oval FlatFoot



Specifications:

Temperature:

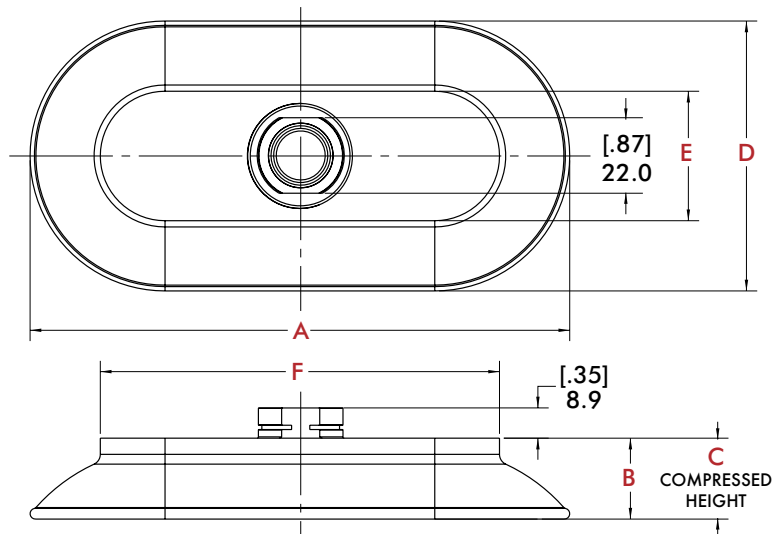
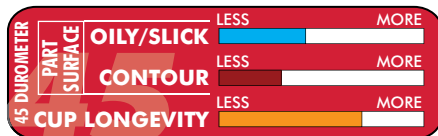
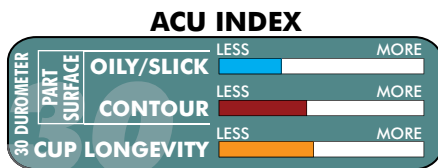
15-59 Sec: -20° to 250° F [-29° to 121° C]

1-5 min: 15° to 180° F [-9° to 82° C]

Material: Nitrile

Chemical Resistance:

Oil, water, grease, hydraulic fluid, alcohol



FF/PF Oval Flatfoot

| Model | A | B | C | D | E | F | Weight |
|---------------------|-----------------|----------------|---------------|----------------|----------------|-----------------|-------------------|
| 40-75PF [153FF] | 76.2 [3.00] | 22.3 [.88] | 16.2 [.64] | 38.1 [1.50] | 22.2 [.88] | 60.3 [2.37] | 35 g [1.2 oz] |
| 50-100PF [24FF] | 101.6 [4.00] | 23.8 [.94] | 16.2 [.64] | 50.8 [2.00] | 22.2 [.88] | 73.0 [2.88] | 119 g [4.2 oz] |
| 60-125PF [255FF] | 127.0 [5.00] | 22.3 [.88] | 16.2 [.64] | 63.5 [2.50] | 22.2 [.88] | 85.7 [3.38] | 147 g [5.2 oz] |
| 75-150PF [36FF] | 152.9 [6.00] | 25.4 [1.00] | 18.3 [.72] | 76.2 [3.00] | 38.1 [1.50] | 114.3 [4.50] | 201 g [7.1 oz] |

Dimensions shown "mm [inch]"

FF/PF Vacuum Cup Capacities:

| Appl. | Hor. Dry | Hor. Wet | Ver. Lift |
|---------------------|-------------------|------------------|--------------------|
| 40-75PF [153FF] | 6.8 kg [15 lb] | 2.3 kg [5 lb] | 8.2 kg [18 lb] |
| 50-100PF [24FF] | 8.2 kg [18 lb] | 2.7 kg [6 lb] | 19.1 kg [42 lb] |
| 60-125PF [255FF] | 20.4 [45 lb] | 3.2 kg [7 lb] | 25 kg [55 lb] |
| 75-150PF [36FF] | 24.9 [55 lb] | 4.1 kg [9 lb] | 32.7 kg [72 lb] |

Holding capacities shown "N [lbf]"

FF/PF Oval FlatFoot Vacuum Cups Ordering Information

Imperial

1.50" x 3.00" CPI-153FF-(M)-(DR)
 2.00" x 4.00" CPI-24FF-(M)-(DR)
 2.50" x 5.00" CPI-255FF-(M)-(DR)
 3.00" x 6.00" CPI-36FF-(M)-(DR)

(DR) = Durometer

30 45 ~~30~~

(M) = Mounts Available

K B C D 24FF E1 24FF

Metric

40 x 75mm CPI-40-75PF-(M)-(DR)
 50 x 100mm CPI-50-100PF-(M)-(DR)
 60 x 125mm CPI-60-125PF-(M)-(DR)
 75 x 150mm CPI-75-150PF-(M)-(DR)

(DR) = Durometer

30 45 ~~30~~

(M) = Mounts Available

A B C ~~60-125PF~~

VACUUM CUPS

Vacuum Products | Dimensions | Ordering Information

DD/DM Oval Deepdish

Specifications:

Temperature:

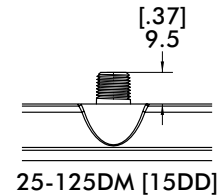
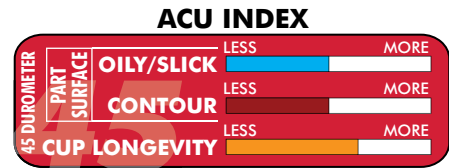
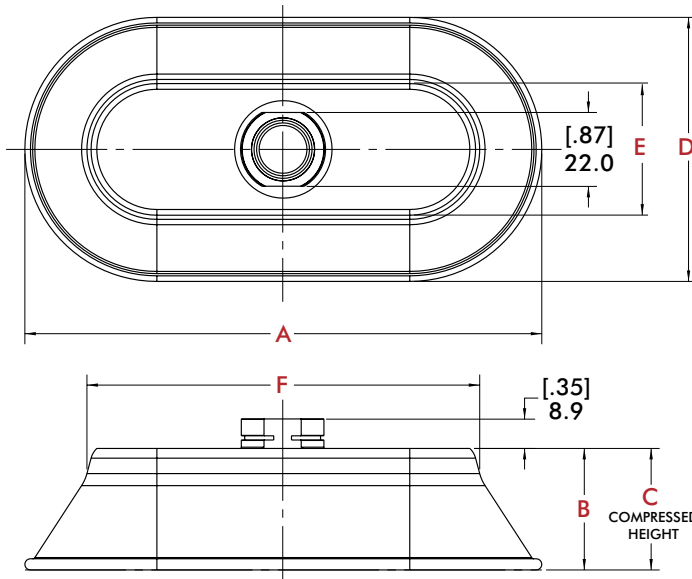
15-59 Sec: -20° to 250° F [-29° to 121° C]

1-5 min: 15° to 180° F [-9° to 82° C]

Material: Nitrile

Chemical Resistance:

Oil, water, grease, hydraulic fluid, alcohol



DD/DM Oval Deepdish

| Model | A | B | C | D | E | F | Weight |
|--------------------|-----------------|----------------|----------------|----------------|----------------|-----------------|-------------------|
| 25-125DM [15DD] | 128.7 [5.06] | 17.1 [.67] | 8.7 [.34] | 27.0 [1.06] | 12.9 [.51] | 114.5 [4.51] | 35 g [1.2 oz] |
| 75-150DM [36DD] | 155.8 [6.13] | 36.7 [1.44] | 16.51 [.65] | 79.6 [3.13] | 39.7 [1.56] | 118.4 [4.65] | 201 g [7.1 oz] |

Dimensions shown "mm [inch]"

DD/DM Vacuum Cup Capacities:

| Appl. | Hor. Dry | Hor. Wet | Ver. Lift |
|--------------------|--------------------|--------------------|---------------------|
| 25-125DM [15DD] | 10.0 kg [22 lb] | 3.2 kg [7 lb] | 15.9 kg [35 lb] |
| 75-150DM [36DD] | 24.9 kg [55 lb] | 10.4 kg [23 lb] | 63.1 kg [139 lb] |

Holding capacities shown "N [lbf]"

DD/DM Oval Deepdish Vacuum Cups Ordering Information

Imperial

1.00" x 5.00" CPI-15DD-(M)-(45)

3.00" x 6.00" CPI-36DD-(M)-(45)

Metric

25 x 125mm CPI-25-125DM-(M)-(45)

75 x 150mm CPI-75-150DM-(M)-(45)

(DR) = Durometer



(M) = Mounts Available



(DR) = Durometer



(M) = Mounts Available



HOT FORMING VACUUM CUPS

Vacuum Products | Dimensions | Ordering Information

MFF Round Flat



Specifications:

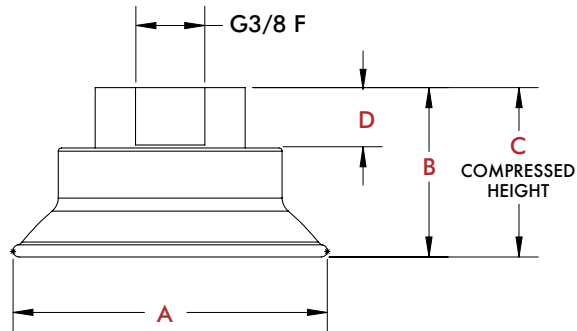
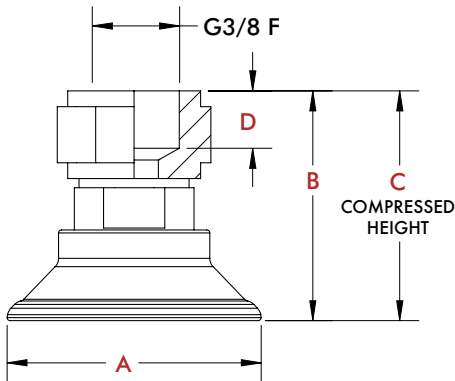
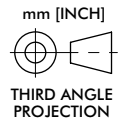
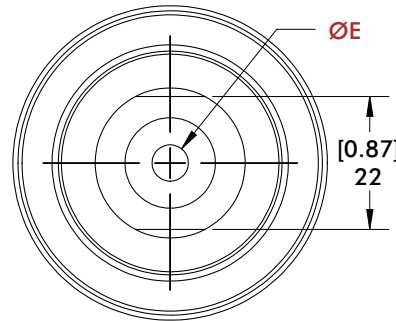
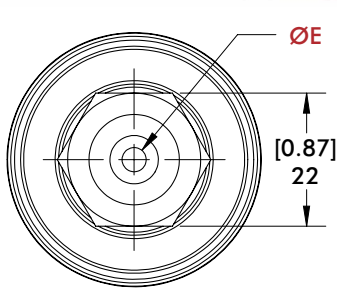
Temperature:

Resistant up to 250° C [482° F]
(sheet metal temperature)

Material: Silicone free HT2

Chemical Resistance:

Oil, water, grease, hydraulic fluid, alcohol



MFF Dimensions

| Model | A | B | C | D | E | Weight |
|-------|--------|--------|--------|--------|--------|-----------|
| 30MFF | [1.34] | [1.42] | [1.30] | [0.35] | [0.16] | [1.64 oz] |
| | 34 | 36 | 33 | 9 | 4 | 46.5 g |
| 40MFF | [1.81] | [1.50] | [1.34] | [0.35] | [0.16] | [1.77 oz] |
| | 46 | 38 | 34 | 9 | 4 | 50.1 g |
| 50MFF | [2.20] | [1.10] | [0.91] | [0.59] | [0.24] | [1.35 oz] |
| | 56 | 28 | 23 | 15 | 6 | 38.2 g |
| 60MFF | [2.64] | [1.22] | [0.98] | [0.59] | [0.24] | [0.95 oz] |
| | 67 | 31 | 25 | 15 | 6 | 27 g |

Dimensions shown "mm [inch]"

MFF Holding Capacity @ -0.6 bar vacuum

| Appl. | Vert. Lift | Horz. Dry | Horz. Wet |
|-------|------------|-----------|-----------|
| 30MFF | [8.5] | [6.7] | [6.3] |
| | 38 | 30 | 28 |
| 40MFF | [15.5] | [11.7] | [11.2] |
| | 69 | 52 | 50 |
| 50MFF | [22.5] | [18.0] | [17.1] |
| | 100 | 80 | 76 |
| 60MFF | [33.7] | [23.6] | [19.1] |
| | 150 | 105 | 85 |

Holding capacities shown "N [lbf]"

MFF Round Flat Ordering Information

Metric

| | |
|-------|----------------|
| Ø30mm | CPI-30MFF-B-HT |
| Ø40mm | CPI-40MFF-B-HT |
| Ø50mm | CPI-50MFF-B-HT |
| Ø60mm | CPI-60MFF-B-HT |

HOT FORMING VACUUM CUPS

Vacuum Products | Dimensions | Ordering Information

Specifications:

Temperature:

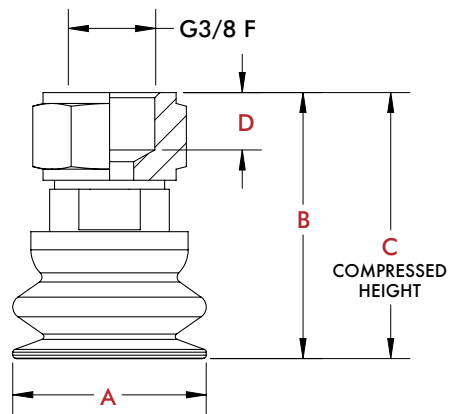
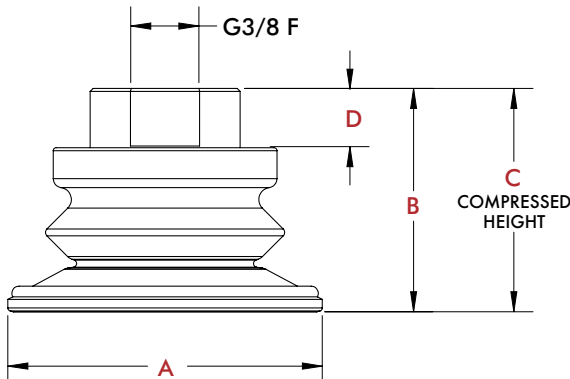
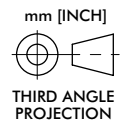
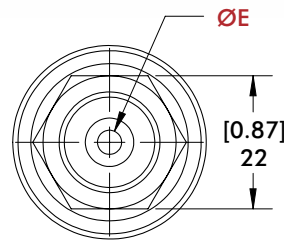
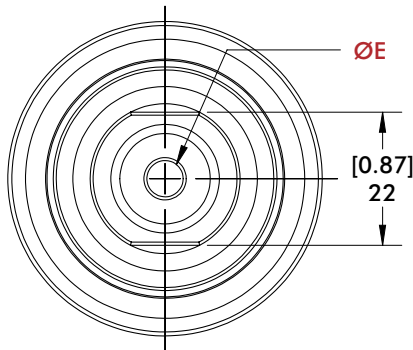
Resistant up to 250° C [482° F]
(sheet metal temperature)

Material: Silicone free HT2

Chemical Resistance:

Oil, water, grease, hydraulic fluid, alcohol

MTC Round Bellows



MTC Dimensions

| Model | A | B | C | D | E | Weight |
|-------|--------------|----------------|----------------|---------------|---------------|---------------------|
| 22MTC | [0.87] 22 | [1.61] 41 | [1.39] 35.2 | [0.35] 9.5 | [0.14] 3.5 | [1.54 oz] 43.6 g |
| 30MTC | [1.34] 34 | [1.73] 44 | [1.38] 35 | [0.35] 9 | [0.16] 4 | [1.74 oz] 49.3 g |
| 40MTC | [1.77] 45 | [1.73] 44 | [1.34] 34 | [0.35] 9 | [0.16] 4 | [1.79 oz] 50.8 g |
| 50MTC | [2.20] 56 | [1.46] 37 | [1.00] 25.5 | [0.59] 15 | [0.24] 6 | [1.40 oz] 39.6 g |
| 60MTC | [2.64] 67 | [1.63] 41.5 | [1.06] 27 | [0.59] 15 | [0.24] 6 | [1.83 oz] 51.8 g |

Dimensions shown "mm [inch]"

MTC Holding Capacity @ -0.6 bar vacuum

| Appl. | Vert. Lift | Horz. Dry | Horz. Wet |
|-------|--------------|--------------|--------------|
| 22MTC | [3.6] 16 | [4.0] 18 | [1.3] 6 |
| 30MTC | [4.9] 22 | [6.7] 30 | [2.9] 13 |
| 40MTC | [8.5] 38 | [8.1] 36 | [7.4] 33 |
| 50MTC | [11.9] 53 | [12.4] 55 | [11.7] 52 |
| 60MTC | [18.4] 82 | [18.4] 82 | [17.3] 77 |

Holding capacities shown "N [lbf]"

MTC Round Bellows Ordering Information

Metric

| | |
|-------------|----------------|
| Ø22mm | CPI-22MTC-B-HT |
| Ø30mm | CPI-30MTC-B-HT |
| Ø40mm | CPI-40MTC-B-HT |
| Ø50mm | CPI-50MTC-B-HT |
| Ø60mm | CPI-60MTC-B-HT |

HOT FORMING VACUUM CUPS

Vacuum Products | Dimensions | Ordering Information

MFF Oval Flat



Specifications:

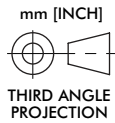
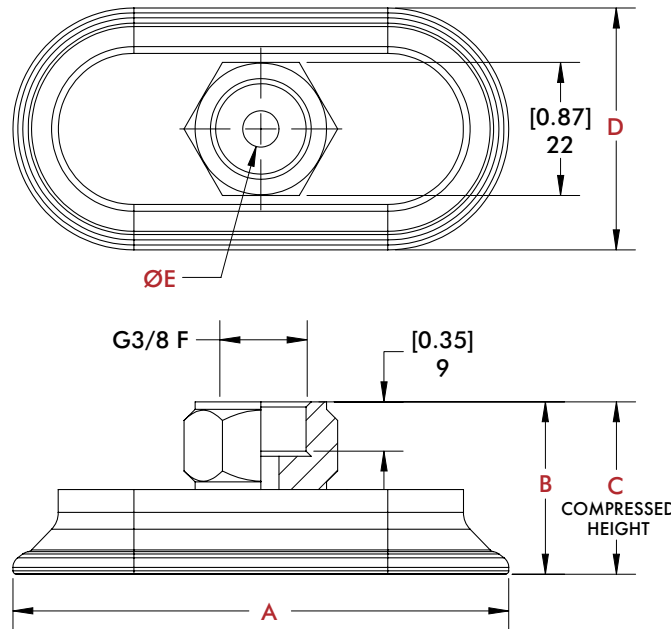
Temperature:

Resistant up to 250° C [482° F]
(sheet metal temperature)

Material: Silicone free HT2

Chemical Resistance:

Oil, water, grease, hydraulic fluid, alcohol



MFF Dimensions

| Model | A | B | C | D | E | Weight |
|-----------------|---------------|--------------|--------------|--------------|-------------|----------------------|
| 6023MFF | [2.52] 64 | [1.02] 26 | [0.91] 23 | [0.98] 25 | [0.24] 6 | [1.57 oz] 44.6 g |
| 9030MFF | [3.70] 94 | [1.06] 27 | [0.94] 24 | [1.34] 34 | [0.24] 6 | [2.42 oz] 68.5 g |
| 8040MFF | [3.35] 85 | [1.10] 28 | [0.94] 24 | [1.69] 43 | [0.24] 6 | [2.30 oz] 65.1 g |
| 10050MFF | [4.17] 106 | [1.22] 31 | [1.02] 26 | [2.13] 54 | [0.31] 8 | [3.68 oz] 104.2 g |

Dimensions shown "mm [inch]"

MFF Holding Capacity @ -0.6 bar vacuum

| Appl. | Vert. Lift | Horz. Dry | Horz. Wet |
|-----------------|---------------|---------------|---------------|
| 6023MFF | [12.8] 57 | [8.3] 37 | [7.4] 33 |
| 9030MFF | [27.4] 122 | [21.6] 96 | [14.4] 64 |
| 8040MFF | [31.5] 140 | [24.7] 110 | [22.5] 100 |
| 10050MFF | [48.8] 217 | [40.7] 181 | [27.2] 121 |

Holding capacities shown "N [lbf]"

MFF Oval Flat Ordering Information

Metric

- Ø60x23mm CPI-**6023MFF**-B-HT
- Ø90x30mm CPI-**9030MFF**-B-HT
- Ø80x40mm CPI-**8040MFF**-B-HT
- Ø100x50mm CPI-**10050MFF**-B-HT

HOT FORMING VACUUM CUPS

Vacuum Products | Dimensions | Ordering Information

MAC Oval Bellows

Specifications:

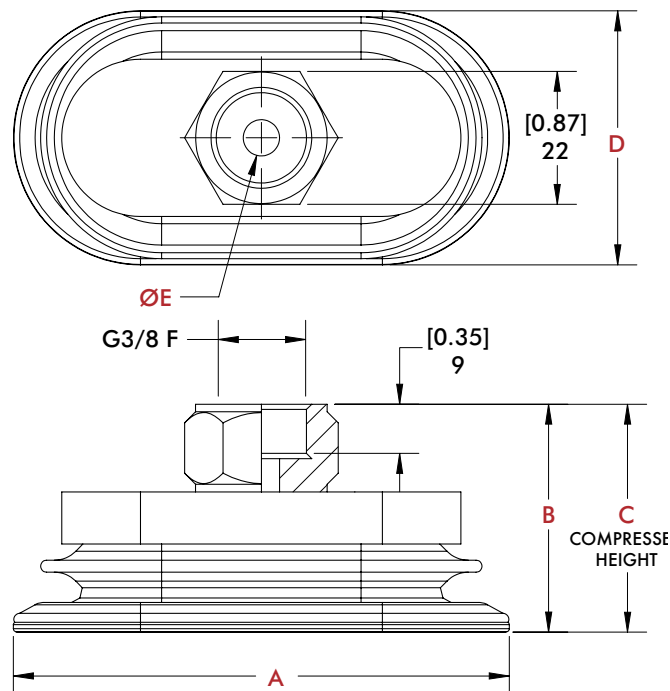
Temperature:

Resistant up to 250° C [482° F]
(sheet metal temperature)

Material: Silicone free HT2

Chemical Resistance:

Oil, water, grease, hydraulic fluid, alcohol



MAC Dimensions

| Model | A | B | C | D | E | Weight |
|---------|--------|--------|--------|--------|--------|-----------|
| 6030MAC | [2.48] | [1.38] | [1.10] | [1.30] | [0.24] | [2.32 oz] |
| | 63 | 35 | 28 | 33 | 6 | 65.9 g |
| 8040MAC | [3.27] | [1.48] | [1.13] | [1.69] | [0.24] | [2.78 oz] |
| | 83 | 37.7 | 28.7 | 43 | 6 | 78.7 g |

Dimensions shown "mm [inch]"

MAC Holding Capacity @ -0.6 bar vacuum

| Model | Vert. Lift | Horz. Dry | Horz. Wet |
|---------|------------|-----------|-----------|
| 6030MAC | [8.5] | [12.8] | [11.7] |
| | 38 | 57 | 52 |
| 8040MAC | [14.6] | [22.5] | [21.3] |
| | 65 | 100 | 95 |

Holding capacities shown "N [lbf]"

MAC Oval Bellows Ordering Information

Metric

Ø60x30mm CPI-6030MAC-B-HT

Ø80x40mm CPI-8040MAC-B-HT

MICRO SERIES VACUUM CUPS

Vacuum Products | Dimensions | Ordering Information

VC-F Round Flat



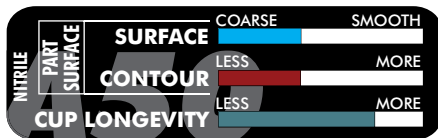
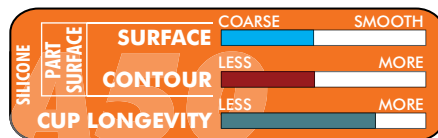
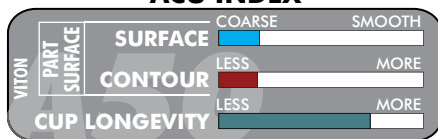
Applications:

- Relatively flat surfaces.
- Dry to moderate oily/slippery surfaces.
- Low Compression distances.
- Higher precision applications.

Specifications:

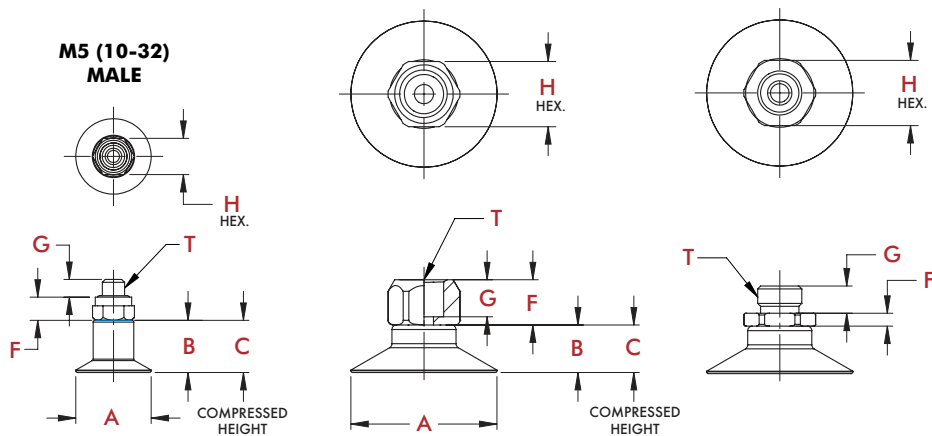
Material Operating Temperature:
Viton: -40° to 450° F
 [-40° to 232° C]
Silicone: -100° to 400° F
 [-73° to 204.4° C]
Nitrile: -40° to 275° F
 [-40° to 135° C]
Durometer: A50

ACU INDEX



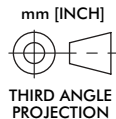
G1/8 FEMALE

G1/8 MALE



(DR) = Durometer/Material

- V** Viton Hi-Temp Applications where silicon is not allowed
- S** **Silicon** Extremely hot or cold environments
- N** **Nitrile** General Purpose



VC-F Micro Fitting Threads

| Thread (T) | (F) | (G) | (H) |
|--------------------------|--------------|--------------|---------------|
| 10M (M5) (10-32 MALE) | 5.1 [.20] | 4.1 [.16] | 7.9 [.31] |
| 18M (G1/8) (MALE) | 2.8 [.11] | 5.8 [.23] | 14.2 [.56] |
| 18F (G1/8) (FEMALE) | 9.9 [.39] | 6.4 [.25] | 14.2 [.56] |

VC-F Dimensions

| Model | A | B | C | CUP WT | LOAD |
|--------|----------------|---------------|---------------|--------------------|----------------------|
| VC-F15 | 16.5 [.65] | 11.4 [.45] | 10.4 [.41] | 3.4 g [.11 oz] | .85 kg [1.88 lb] |
| VC-F20 | 22.1 [.87] | 8.6 [.34] | 7.1 [.28] | 7.8 g [.25 oz] | 1.47 kg [3.25 lb] |
| VC-F30 | 32.0 [1.26] | 10.4 [.41] | 8.1 [.32] | 6.2 g [.20 oz] | 2.55 kg [5.63 lb] |
| VC-F40 | 42.2 [1.66] | 14.0 [.55] | 11.4 [.45] | 11.8 g [.38 oz] | 4.08 kg [9.00 lb] |
| VC-F50 | 53.1 [2.08] | 17.5 [.69] | 14.5 [.57] | 19.6 g [.63 oz] | 7.54 kg [16.6 lb] |

VC-F Round Flange Ordering Information

- Ø15mm..... VC-F15(**DR**)-(M)
 - Ø20mm..... VC-F20(**DR**)-(M)
 - Ø30mm..... VC-F30(**DR**)-(M)
 - Ø40mm..... VC-F40(**DR**)-(M)
 - Ø50mm..... VC-F50(**DR**)-(M)
- (**DR**) = Durometer/Material (M) = Mounts Available
- V** **S** **N** **10M** **18M** **18F**

Not Available in Ø15 and Ø20mm

Only Available in Ø15 and Ø20mm

MICRO SERIES VACUUM CUPS

Vacuum Products | Dimensions | Ordering Information

VC-B Micro Series Round Bellows

Applications:

- Moderately flat surfaces.
- Best performance on dry surfaces.
- Moderate compression distance.
- Bellows allows for minor misalignments.

Specifications:

Material Operating Temperature:

Viton: -40° to 450° F

[-40° to 232° C]

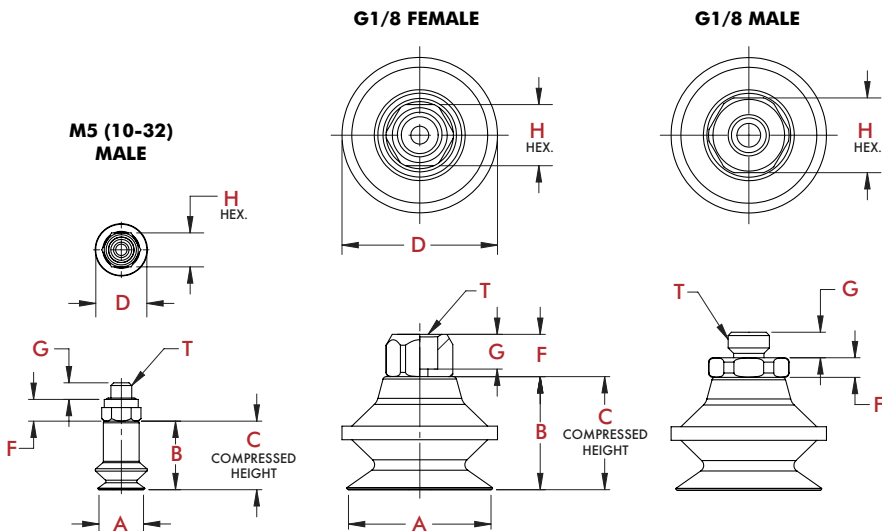
Silicone: -100° to 400° F

[-73° to 204.4° C]

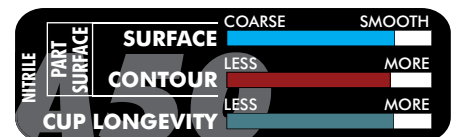
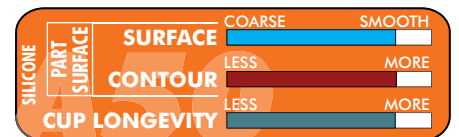
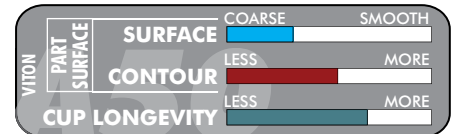
Nitrile: -40° to 275° F

[-40° to 135° C]

Durometer: A50



ACU INDEX



VC-B Micro Fitting Threads

| Thread (T) | (F) | (G) | (H) |
|--------------------------|--------------|--------------|---------------|
| 10M (M5) (10-32 MALE) | 5.1 [.20] | 4.1 [.16] | 7.9 [.31] |
| 18M (G1/8) (MALE) | 2.8 [.11] | 5.8 [.23] | 14.2 [.56] |
| 18F (G1/8) (FEMALE) | 9.9 [.39] | 6.4 [.25] | 14.2 [.56] |

VC-B Dimensions

| Model | A | B | C | D | Cup Wt | Load |
|--------|----------------|----------------|---------------|----------------|--------------------|----------------------|
| VC-B05 | 5.6 [.22] | 9.1 [.36] | 7.6 [.30] | 6.1 [.24] | 5.8 g [.09 oz] | .04 kg [.10 lb] |
| VC-B10 | 10.9 [.43] | 16.0 [.63] | 11.4 [.45] | 12.2 [.48] | 3.4 g [.11 oz] | .39 kg [.87 lb] |
| VC-B15 | 16.0 [.63] | 19.8 [.78] | 13.2 [.52] | 17.5 [.69] | 3.7 g [.12 oz] | .57 kg [1.25 lb] |
| VC-B20 | 22.4 [.88] | 17.5 [.69] | 7.6 [.30] | 23.9 [.94] | 6.2 g [.20 oz] | 1.02 kg [2.25 lb] |
| VC-B30 | 34.0 [1.34] | 26.4 [1.04] | 11.4 [.45] | 36.3 [1.43] | 11.5 g [.37 oz] | 2.21 kg [4.88 lb] |
| VC-B40 | 42.9 [1.69] | 27.4 [1.08] | 12.4 [.49] | 46.2 [1.82] | 18.7 g [.60 oz] | 3.97 kg [8.75 lb] |
| VC-B50 | 52.8 [2.08] | 34.5 [1.36] | 14.5 [.57] | 59.4 [2.34] | 30.5 g [.98 oz] | 6.63 kg [14.6 lb] |

VC-B Micro Series Round Multi-Bellows Ordering Information

- Ø05mm..... VC-B05(DR)-(M)
- Ø10mm..... VC-B10(DR)-(M)
- Ø15mm..... VC-B15(DR)-(M)
- Ø20mm..... VC-B20(DR)-(M)
- Ø30mm..... VC-B30(DR)-(M)
- Ø40mm..... VC-B40(DR)-(M)
- Ø50mm..... VC-B50(DR)-(M)

(DR) = Durometer/Material

(M) = Mounts Available

V S N

10M 18M 18F

Only Available in Ø5, Ø10, Ø15, Ø20mm

(DR) = Durometer/Material

V Viton Hi-Temp Applications where silicon is not allowed

S Silicon Extremely hot or cold environments

N Nitrile General Purpose

MICRO SERIES VACUUM CUPS

Vacuum Products | Dimensions | Ordering Information

VC-BM Micro Series Round Multi-Bellows



Applications:

- Angled/curved/bumpy surfaces.
- Best performance on dry surfaces.
- Higher compression distance. (Reach in Box)
- Bellows allow for minor
- Provides Partial extraction.

Specifications:

Material Operating Temperature:

Viton: -40° to 450° F

[-40° to 232° C]

Silicone: -100° to 400° F

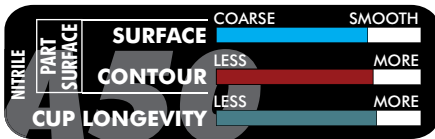
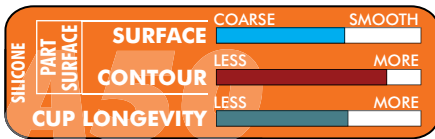
[-73° to 204.4° C]

Nitrile: -40° to 275° F

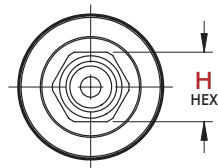
[-40° to 135° C]

Durometer: A50

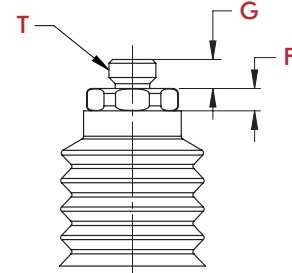
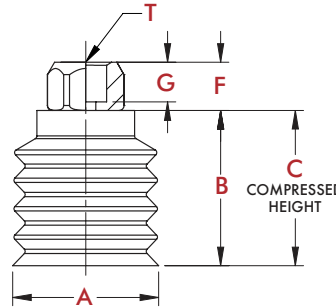
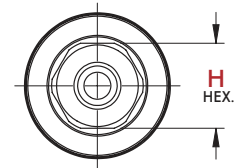
ACU INDEX



G1/8 FEMALE



G1/8 MALE



(DR) = Durometer/Material

S Silicon Extremely hot or cold environments

N Nitrile General Purpose

VC-BM Micro Fitting Threads

| Thread (T) | (F) | (G) | (H) |
|--------------------------|--------------|--------------|---------------|
| 10M (M5) (10-32 MALE) | 5.1 [.20] | 4.1 [.16] | 7.9 [.31] |
| 18M (G1/8) (MALE) | 2.8 [.11] | 5.8 [.23] | 14.2 [.56] |
| 18F (G1/8) (FEMALE) | 9.9 [.39] | 6.4 [.25] | 14.2 [.56] |

VC-BM Dimensions

| Model | A | B | C | Cup Wt | Load |
|---------|----------------|----------------|---------------|---------------------|----------------------|
| VC-BM20 | 20.1 [.79] | 21.9 [.86] | 8.9 [.35] | 5.3 g [17 oz] | .68 kg [1.50 lb] |
| VC-BM30 | 30.0 [1.18] | 30.7 [1.21] | 10.7 [.42] | 10.3 g [.33 oz] | 1.64 kg [3.63 lb] |
| VC-BM40 | 39.8 [1.57] | 40.9 [1.61] | 12.9 [.51] | 19.6 g [.63 oz] | 2.21 kg [4.88 lb] |
| VC-BM50 | 50.0 [1.97] | 51.1 [2.01] | 23.1 [.91] | 32.7 g [1.05 oz] | 4.37 kg [9.63 lb] |

VC-BM Micro Series Round Multi-Bellows Ordering Information

Ø20mm..... VC-BM20(DR)-(M)

Ø30mm..... VC-BM30(DR)-(M)

Ø40mm..... VC-BM40(DR)-(M)

Ø50mm..... VC-BM50(DR)-(M)

(DR) = Durometer/Material

(M) = Mounts Available

~~X~~ **S** **N**

10M **18M** **18F**

Only Available in Ø20mm

TPLP Mag-Lift Part Lifting Magnets

Features:

- Provides instantaneous pick up and release without electricity.
- Maintains positive hold, even if air pressure is lost.
- Supplied with urethane pad which softens the impact of the magnet and avoids marring or damage to delicate surfaces.

Benefits:

- NPT mount allows retrofit to existing assemblies.

Specifications:

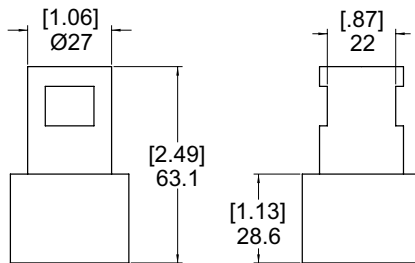
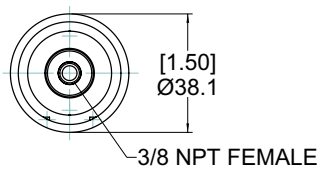
Recommended Operating Pressure:

2.4 bar [35 psi]

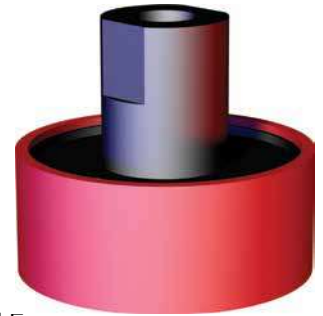
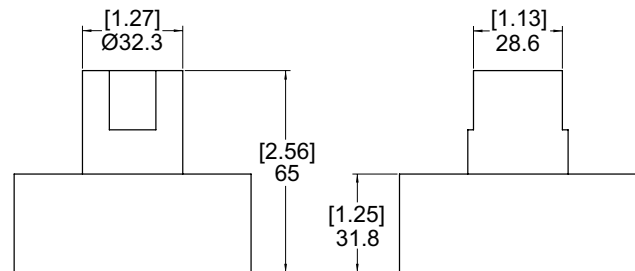
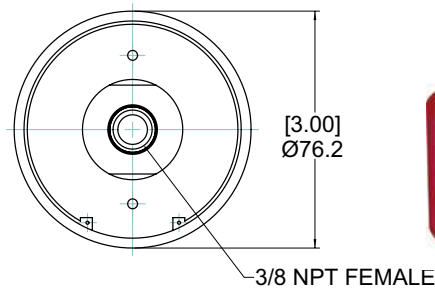
Port: 3/8" NPT Compressed Air Port

Material: Machined, Anodized Aluminum, Urethane Pad (50 durometer - low skid)

1.50" Diameter Mag-Lift Magnet



3.00" Diameter Mag-Lift Magnet



| Model | Pad Only |
|--------------|----------|
| CPI-TPLP15RB | RB15-CPI |

| Model | Pad Only |
|---------------|----------|
| CPI-TPLP50373 | RB30-CPI |

Note: The minimum air pressure required for the Mag-Lift to release parts is 25 psi. The suggested air pressure for normal operation is 35 psi. If part do not release immediately, increase the air pressure in 5 psi increments until the part releases. Do not exceed 60 psi. Air pressure should be measured at the inlet of the Mag-Lift to ensure effective operation.

TPLP 1.50" Diameter Mag-Lift Magnet - CPI-TPLP15RB - Capacities

| Gage Of Steel (Ferrous Only) | 26 GA (0.018") | 22 GA (0.030") | 16 GA (0.050") | 12 GA (0.100") | 3/16" (0.187") | Weight |
|------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------|
| With Pad | 3.18 kg [7.0 lb] | 4.08 kg [9.0 lb] | 4.54 kg [10.0 lb] | 4.54 kg [10.0 lb] | 4.54 kg [10.0 lb] | 136g [5 oz] |
| Without Pad | 4.54 kg [10.0 lb] | 6.35 kg [14.0 lb] | 7.26 kg [16.0 lb] | [7.71 kg] 17.0 lb | 7.71 kg [17.0 lb] | 136g [5 oz] |

TPLP 3.00" Diameter Mag-Lift Magnet - CPI-TPLP50373 - Capacities

| Gage Of Steel (Ferrous Only) | 26 GA (0.018") | 22 GA (0.030") | 16 GA (0.050") | 12 GA (0.100") | 3/16" (0.187") | Weight |
|------------------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------|
| With Pad | 8.62 kg [19.0 lb] | 13.61 kg [30.0 lb] | 19.96 kg [44.0 lb] | 19.96 kg [44.0 lb] | 20.87 kg [46.0 lb] | 363g [13 oz] |
| Without Pad | 9.53 kg [21.0 lb] | 14.97 kg [33.0 lb] | 26.76 kg [59.0 lb] | 27.22 kg [60.0 lb] | 29.03 kg [64.0 lb] | 363g [13 oz] |

Note: Capacity values are stated at approximately 30% of the maximum holding value. Use this value for determining the quantity of Mag-Lift magnets required for an application.

ECOCUP SERIES

Vacuum Products | Product Overview | Technical Specifications | Dimensions

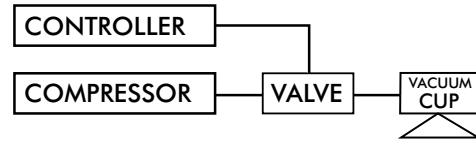
EcoCup™ creates vacuum without AIR!

Great for pick-and-place applications of flat, rigid, non-porous parts including: plastic, glass, solar panels, and electronics, as well as other consumer goods with smooth, flat surfaces.

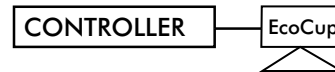
The EcoCup™ features:

- Light-switch operation
- Ultra-fast actuation
- Noise-free operation
- Easy installation and setup
- Reduced maintenance costs
- Easy optional mounting to Scara robots
- Eliminated risk of air-borne contaminants

The **OLD** way
with a Typical Pneumatic Setup



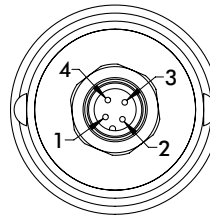
The **NEW** way
Using the new EcoCup™
No fittings, no valves, no hoses, no compressor, and absolutely no AIR!



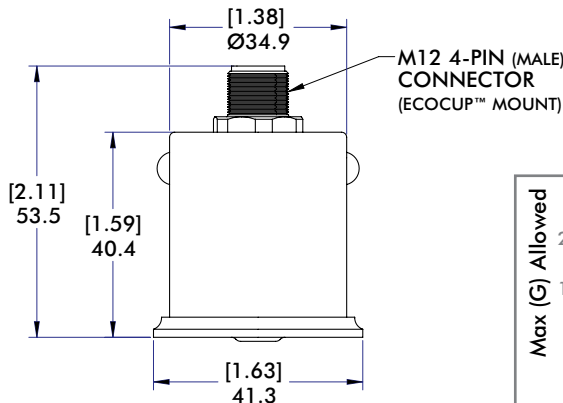
EcoCup™ EC40 Electric Vacuum Cup Assembly



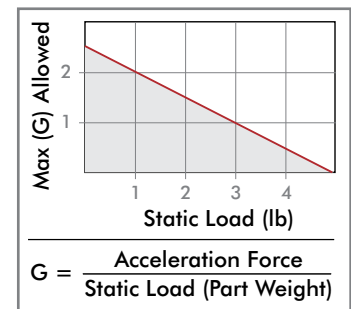
Patent Pending



M12 4-PIN (MALE)
CONNECTOR FACE VIEW
1: NOT USED
2: NOT USED
3: -0 VDC
4: +24 VDC



| Specifications | VC-EC40-45N |
|-------------------|-------------------------|
| Actuation Time | 25 ms |
| Temperature Range | 5° ~ 60°C [41° ~ 140°F] |
| Duty Cycle | 50% (½ On, ½ Off) |
| Voltage | 24 VDC |
| Current | 0.5 Amp |
| Weight | 0.12 kg [0.25 lb] |
| Cup Material | 45 Durometer Nitrile |



EcoCup™ EC40 Electric Vacuum Cup - Operation

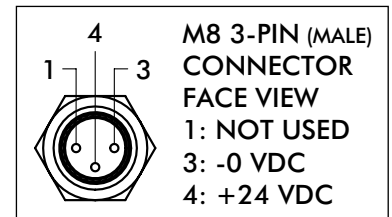
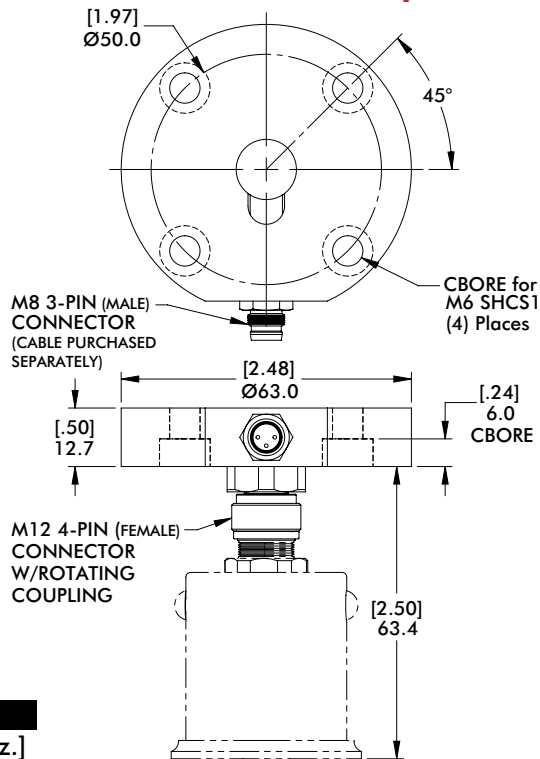
| Holding Capacity | VC-EC40-45N |
|------------------|------------------|
| Recommended Load | <0.45kg [1.0 lb] |

Loads from 0.45kg [1.0 lb] up to 1.81kg [4.0 lb] max. may be used with longer movement times. (See chart in drawing area for greater detail).

Operating Instructions:

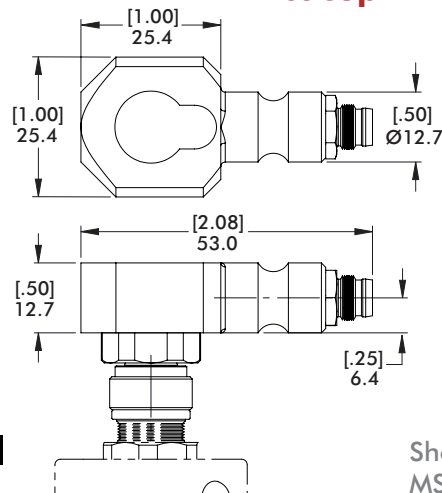
1. Set cup on smooth, flat surface of part.
2. Apply 24VDC to Pins 3 and 4 on M12 connector. (Center of cup lifts, creating vacuum)
3. Release voltage and part is released.

EcoCup™ EC40 Electric Vacuum Cup Assembly



| Model | Weight |
|---------------|----------------|
| VC-EC40-SRM50 | 111g [3.9 oz.] |

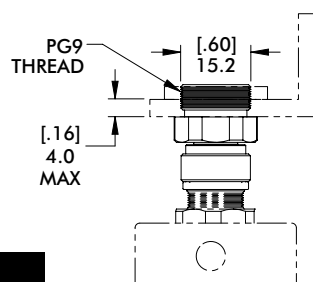
EcoCup™ EC40 Optional Apple Core Mounting



| Model | Weight |
|---------------|---------------|
| VC-EC40-ACM50 | 40g [1.4 oz.] |

Shown with DESTACO MSA Series Swivel Arm

EcoCup™ EC40 M12 4-Pin Connector with Rotating Coupling (Contact DESTACO for Custom Solutions)



| Model | Weight |
|--------------------|---------------|
| Turck #FKM 4.4-0.5 | 14g [0.5 oz.] |

Shown with custom plate for array mounting



ARV AND VSA SERIES VENTURIES

Vacuum Products | Features and Specifications

ARV® Series Auto-Release Venturi Cup Mount

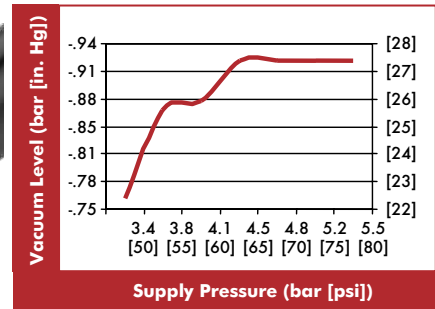
Requiring (1) air line, (1) valve:

Offers integrated automatic quick panel release and exhaust silencer in one part. Mounting options include right or left hand apple core mounting or no apple core mount for use with DESTACO's spring cup mounts.

The ARV® Series is also available in a block style for remote mounting and each mount can be ordered with Imperial or Metric ports.



ARV® Performance:



Specifications @ 4 bar [60psi]:

Speed to Vacuum: 0.2-0.3 seconds

Speed to Release: 0.02 seconds

Air Consumption:

Vacuum: 40 l/m [1.4 scfm]

Blow-off: 0

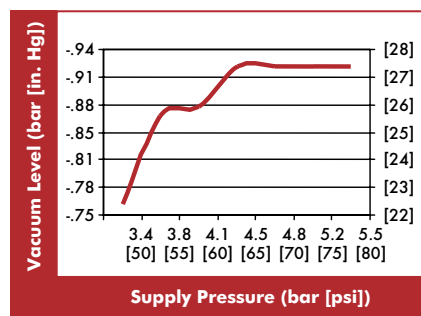
Noise Level (at one meter): 68dBA

Material: Aluminum

VSA Series Venturi Cup Mount



VSA Performance:



Specifications @ 4 bar [60psi]:

Speed to Vacuum: .36 seconds

Speed to Release: 0.08 seconds

Air Consumption:

Vacuum: 40 l/m [1.4 scfm]

Blow-off: 2.6 liters [0.09 ft³]

(156 l/m [5.5scfm] @ 1 sec. duration)

Noise Level (At one meter):

Inline to exhaust: 76dBA

Inline to exhaust with Silencer: 68dBA

Material: Aluminum

Blow-off typically requires two air lines and multiple valves. The VSA series offers a low-profile version as shown. Additional options include silencer and sensor port options. Mounting threads can also be ordered in Imperial or Metric ports.

We also offers PA Series cup mounts.

ARV SERIES VENTURIES

Vacuum Products | Dimensions | Ordering Information



Left Hand Apple Core
CPI-VSA-ARVL-750-(X)
114g [0.25lb]



Right Hand Apple Core
CPI-VSA-ARVR-750-(X)
114g [0.25lb]



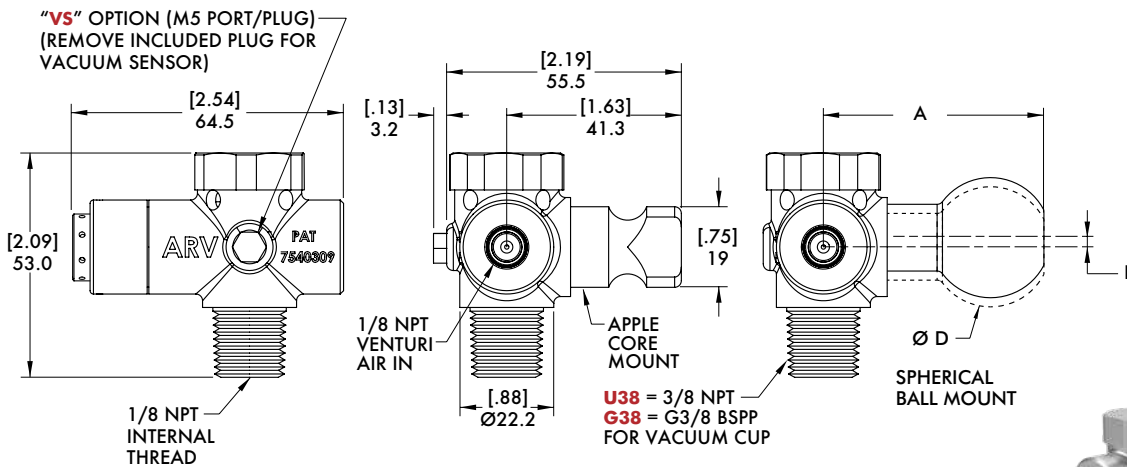
Without Apple Core
CPI-VSA-ARV-000-(X)
86g [0.19lb]



RH/LH Spherical Ball
CPI-VSA-ARV(R/L)-B112-(X)
CPI-VSA-ARV(R/L)-B32-(X)



(X)
Mounting
Thread
U38 = 3/8"
NPT Male
G38 = 3/8"
G Male



Vacuum Sensor
Option
Add "-VS" to
end of "ARV"
order code

US PAT No: 7,540,309 - 7,681,603 - 7,950,422

| Model Number | A | B | ØD | Weight |
|---------------------------|----------------|---------------|----------------|-------------------|
| CPI-VSA-ARV(R/L)-B112-(X) | [1.85] 47.1 | 0 | [1.13] 28.5 | [0.28 lb] 126g |
| CPI-VSA-ARV(R/L)-B32-(X) | [1.93] 49 | [0.12] 3.2 | [1.26] 32 | [0.30 lb] 134g |



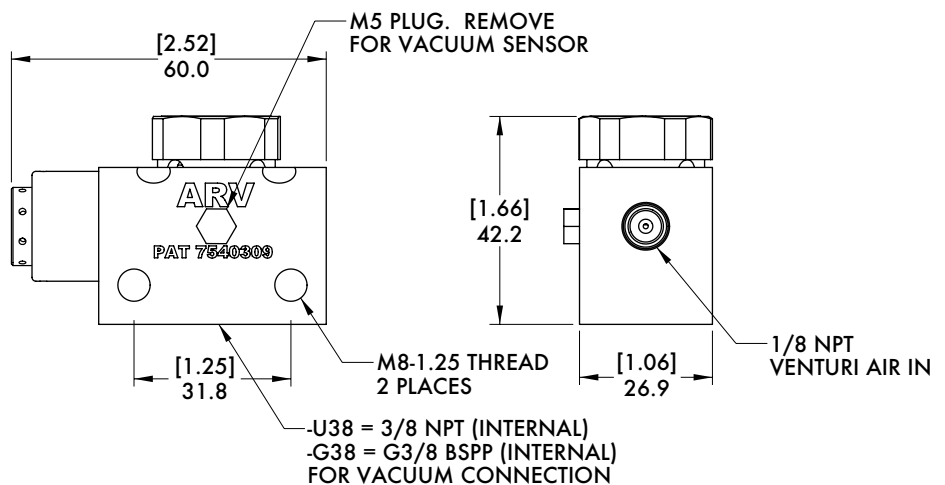
B112-01
28.58mm ball only
B112-32-01
32mm ball only

Venturi Style Vacuum Generator Cup Mounts ARV® Block Style Dimensions and Ordering Information



Block Style
CPI-VSA-ARVR-312-(X)
(X) = Vacuum Port Thread
U38 = 3/8" NPT Female
G38 = 3/8" G Female

Weight
104g [0.23lb]



MICRO TOOLING VENTURI

Vacuum Products | Dimensions | Technical Specifications

VSA 500 Series MicroTool Apple Core

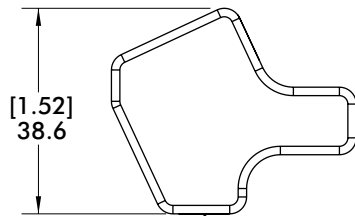
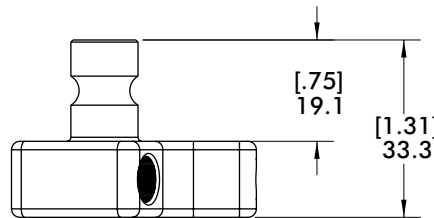


Features:

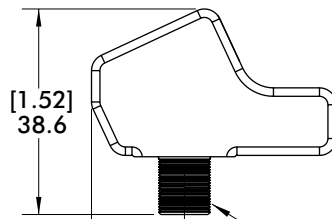
- MicroTool sized venturi.
- 1/8 NPT, 1/8 G Ports.

Benefits:

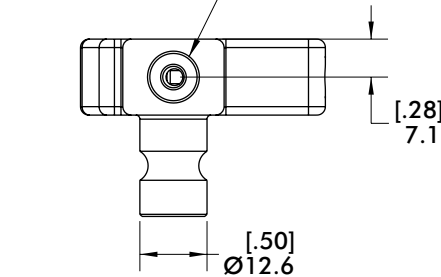
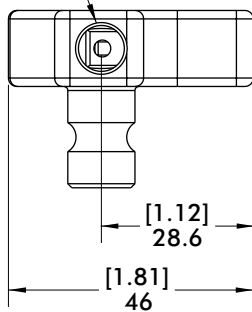
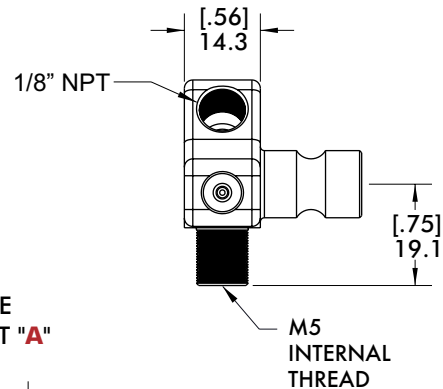
- Small and lightweight.
- Convenient mounts for most small vacuum cups.



FEMALE PORT "A"



MALE PORT "A"



Weight
57g [2 oz.]

500 Series Venturi MicroTool - CPI-VSA-500-"A"

| Description | Port A |
|------------------------------------|------------|
| Female 1/8" NPT to Female 1/8" NPT | F18 |
| Female 1/8" NPT to Male 1/8" NPT | M18 |

US PAT No: 7,540,309 - 7,681,603 - 7,950,422

VSA SERIES VENTURIES

Vacuum Products | Dimensions | Technical Specifications

VSA Low-Profile 750/19 Series Apple-Core with Blow-Off

Features:

- Low profile construction.
- Integrated blow-off.
- Optional vacuum sensing port.
- Optional exhaust silencer.
- Imperial or Metric ports.

Benefits:

- Lower tool profile to fit in smaller spaces.
- Quick release of panels.
- Vacuum level or part present sensing.
- Quiet operation.



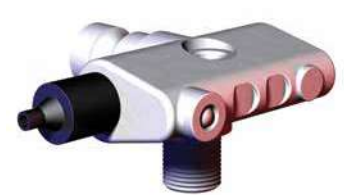
Low-Profile 750/19 w/
Blow Off No Options
CPI-VSA-(X)-BO-LP



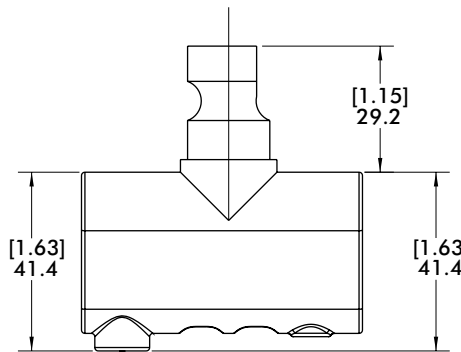
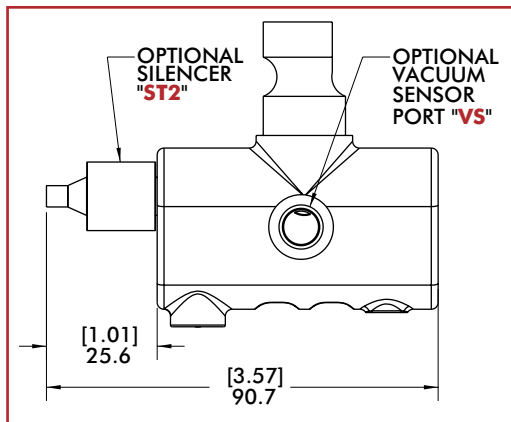
Low-Profile 750/19 with
Blow Off with Detector Option
CPI-VSA-(X)-BO-LP-DET



Low-Profile 750/19 with
Blow Off with "VS" Option
CPI-VSA-(X)-BO-LP-VS



For Silencer Option;
add "ST2" to the end
of order code (as shown).
CPI-VSA-(X)-BO-LP-VS-ST2

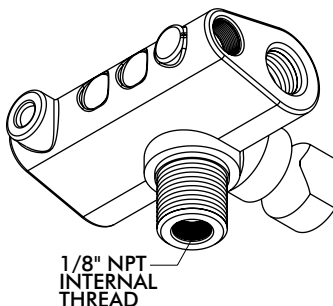


VS/DET Thread

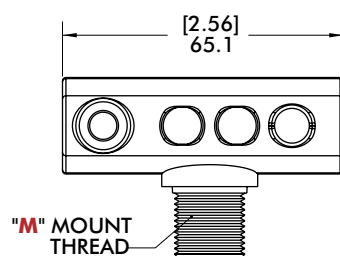
DET = M5
VS = 1/8 NPT

Weight

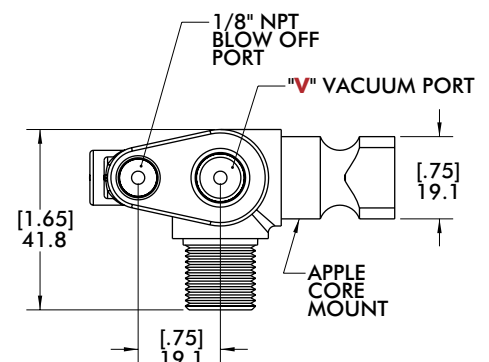
170g [6 oz.]



1/8" NPT
INTERNAL
THREAD



"M" MOUNT
THREAD



Low Profile 750/19 Series w/blow-off - CPI-VSA-(X)-BO-LP

| Version | Mount Thread "M" | Vacuum Port "V" | (X) |
|----------|------------------|-----------------|-----|
| Metric | 3/8" G Male | 1/4" G | 19 |
| Imperial | 3/8" NPT Male | 1/4" NPT | 750 |

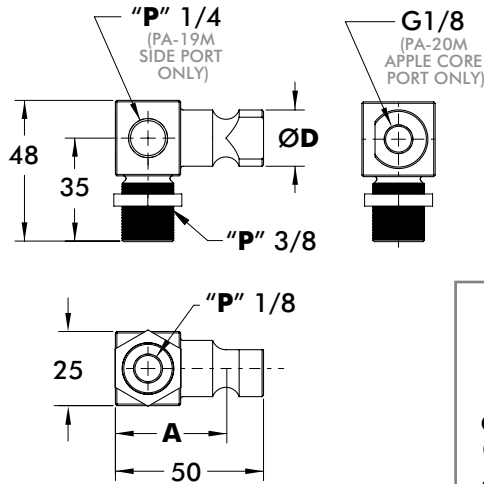
ACCELERATE® PORT ONLY ADAPTORS

Vacuum Products | Dimensions | Technical Specifications



PA Series

Apple Core Mount



PA-19M



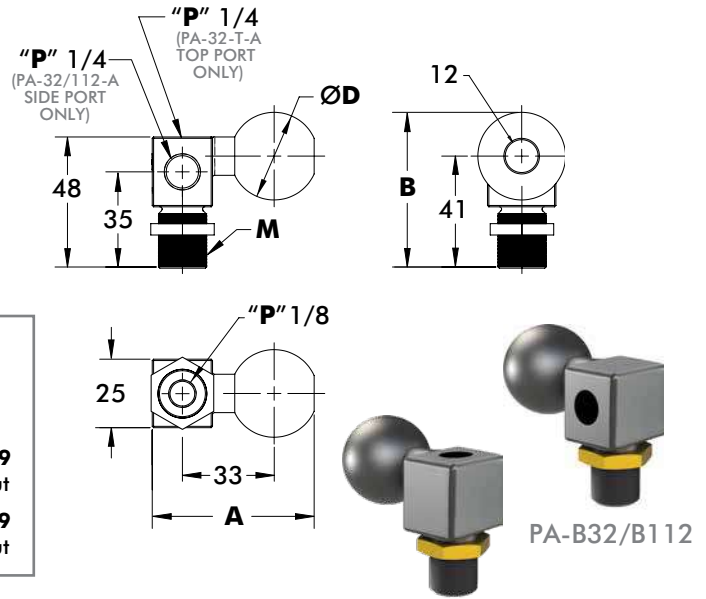
PA-20M

Material: Aluminum
Load: 150Nm

Weight includes locking nut* and plug (not shown)
*Except U38 models

| Model Number | A | ØD | P | Weight |
|-----------------|-----------|-----------|-----|---------------|
| PA-19M-G38-A | [1.46] 37 | [0.75] 19 | G | [0.17 lb] 77g |
| PA-19M-U38-A | | | NPT | [0.15 lb] 68g |
| PA-20M-G38-AC-A | [1.34] 34 | [0.79] 20 | G | [0.16 lb] 71g |

Ball Mount



PA-B32-G38-T-A

Material: Aluminum
Load: 150Nm

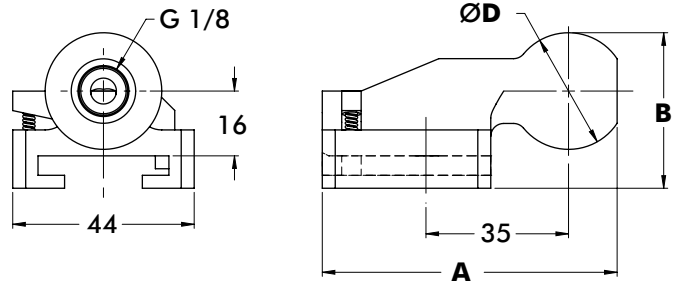
Weight includes locking nut* and plug (not shown) *Except U38 models

| Model Number | A | B | ØD | M | P | Weight |
|----------------|-----------|-----------|-----------|---------|-----|----------------|
| PA-B32-G38-A | | | | G3/8 | G | [0.23 lb] 103g |
| PA-B32-G38-T-A | [2.32] 59 | [2.24] 57 | [1.26] 32 | | G | [0.21 lb] 96g |
| PA-B32-U38-A | | | | 3/8 NPT | NPT | [0.21 lb] 94g |
| PA-B32-G14-A | | | | G1/4 | G | [0.21 lb] 95g |
| PA-B112-G38-A | [2.24] 57 | [2.17] 55 | [1.12] 28 | G3/8 | G | [0.20 lb] 89g |
| PA-B112-U38-A | | | | 3/8 NPT | NPT | [0.18 lb] 80g |

PA 28mm - 32mm Ball for C-Mount



Material: Aluminum
Load: 150Nm

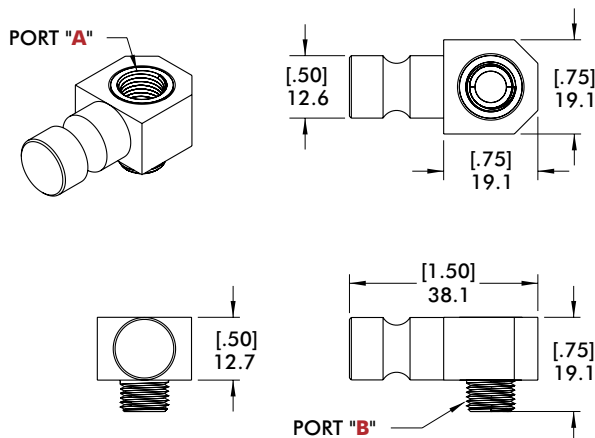


| Model Number | A | B | ØD | Weight |
|----------------|-------------|-------------|-------------|----------------|
| CPI-PA-B112-CM | [2.84] 72.1 | [1.50] 38.1 | [1.13] 28.5 | [0.23 lb] 106g |
| CPI-PA-B32-CM | [2.98] 75.7 | [1.69] 42.9 | [1.26] 32 | [0.27 lb] 122g |

MICRO TOOLING PORT ONLY ADAPTER

Vacuum Products | Dimensions | Technical Specifications

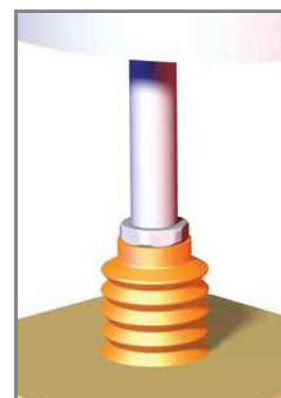
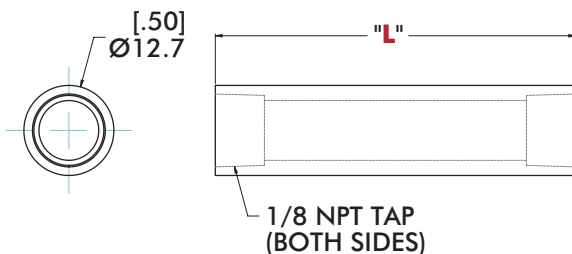
PA 500 Series



CPI-PA-500-"A"- "B" Ordering Information

| Description | | A | B | Weight |
|-------------|---------------------------------|-------------|-------------|------------------|
| | Female 1/8" NPT/Female 1/8" NPT | F18 | F18 | 23g [0.8 oz.] |
| | Female 1/8" G/Female 1/8" G | FG18 | FG18 | |
| | Female M5/Female M5 | FM5 | FM5 | |
| | Female 1/8" NPT/Male 1/8" NPT | F18 | M18 | |
| | Female 1/8" G/Male 1/8" G | FG18 | MG18 | |
| | Female M5/Male M5 | FM5 | MM5 | |

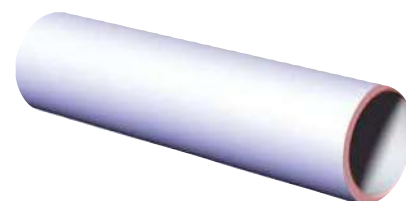
PAT 1/8 NPT Vacuum Extension



"L"

Standard Lengths

- 02** = 2.00"
- 03** = 3.00"
- 04** = 4.00"
- 05** = 5.00"
- 06** = 6.00"



| Model Number | Weight |
|---------------------|------------------------|
| CPI-PAT-50T-"L"-U18 | [0.13 lb/ft] 193.0 g/m |

SPRING-LOADED CUP MOUNTS

Vacuum Products | Dimensions | Technical Specifications

LC Bulk Head Style Micro Series Level Compensators



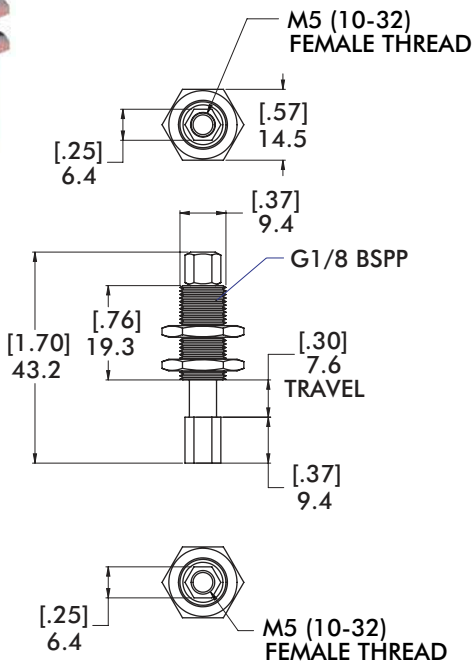
Specifications:
Material: Aluminum

Features:

- M5 or G mounting threads and vacuum ports.



0.30" TRAVEL
ORDERING INFORMATION
CPI-LC10

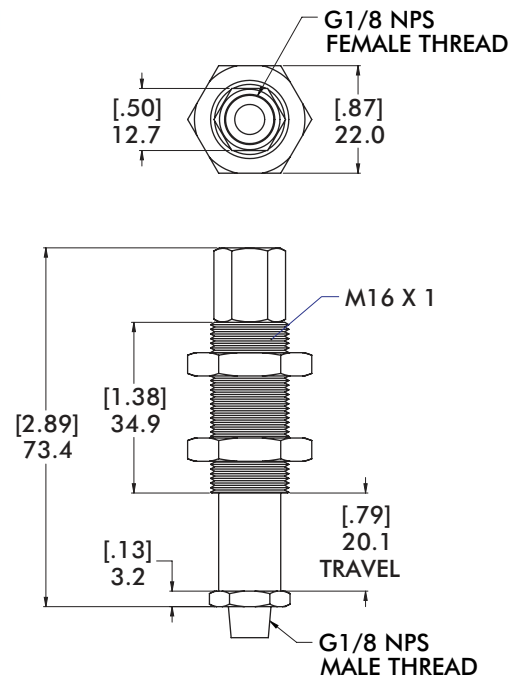


Weight

5.7 g [0.2 oz.]



0.75" TRAVEL
ORDERING INFORMATION
CPI-LC18



Weight

28.3 g [1.0 oz.]

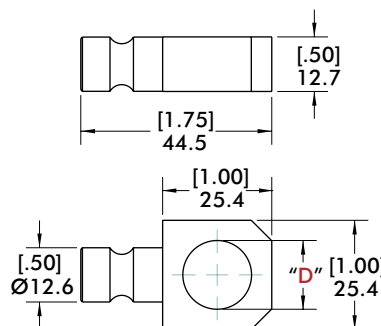
LCM Series Mount



CPI-LCM-10-"D"

Weight

23 g [0.8 oz.]



"D" = (Ø) Diameter
16 = Ø16mm [.63"]
10 = Ø10mm [.39"]

SPRING-LOADED CUP MOUNTS

Vacuum Products | Dimensions | Technical Specifications

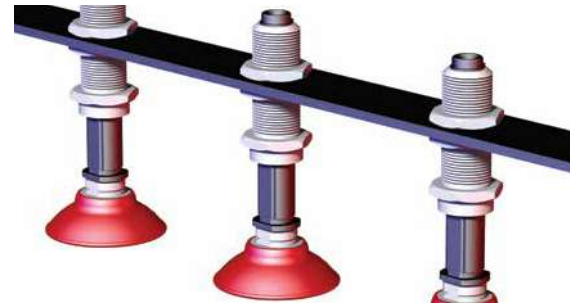
Features:

- Available in three different travel lengths.
- NPT or G mounting threads and vacuum ports.

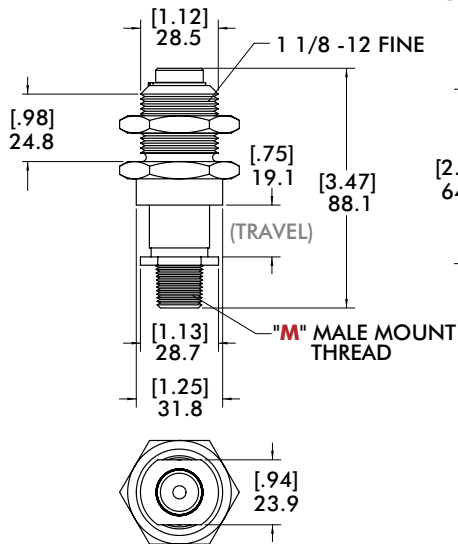
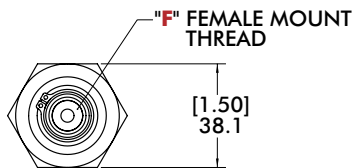
Specifications:

Material: Aluminum

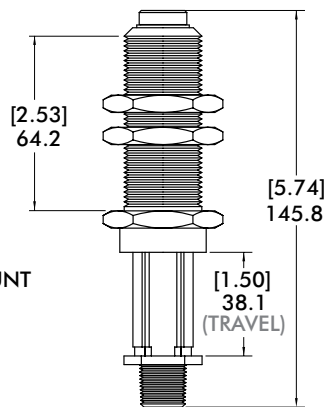
RCM Bulkhead Style Standard Travel



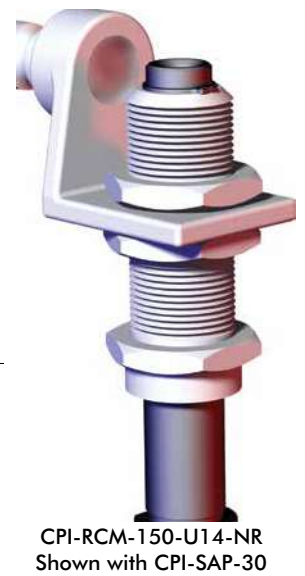
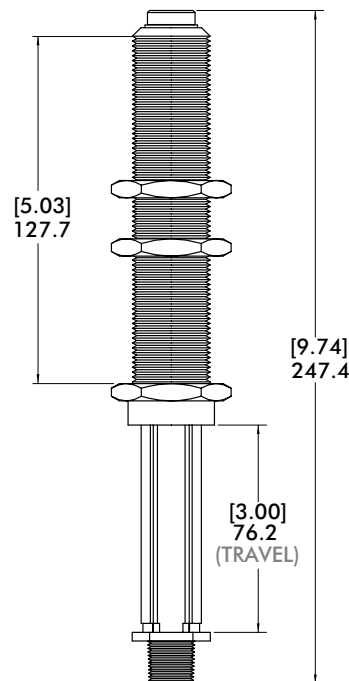
0.75" TRAVEL ORDERING INFORMATION CPI-RCM-30



1.50" TRAVEL ORDERING INFORMATION CPI-RCM-150-U14-NR



3.00" TRAVEL ORDERING INFORMATION CPI-RCM-300-U14-NR



Bulkhead Mount - CPI-RCM-XXX

| Version | Mount Thread M | Vacuum Port F |
|----------|----------------|---------------|
| Imperial | 3/8" NPT Male | 1/4" NPT |

| Weight |
|-----------------------------|
| .75" Travel = 142g [5 oz] |
| 1.50" Travel = 227g [8 oz] |
| 3.00" Travel = 340g [12 oz] |

SPRING-LOADED CUP MOUNTS

Vacuum Products | Dimensions | Technical Specifications | Ordering Information

SCM Apple-Core Style

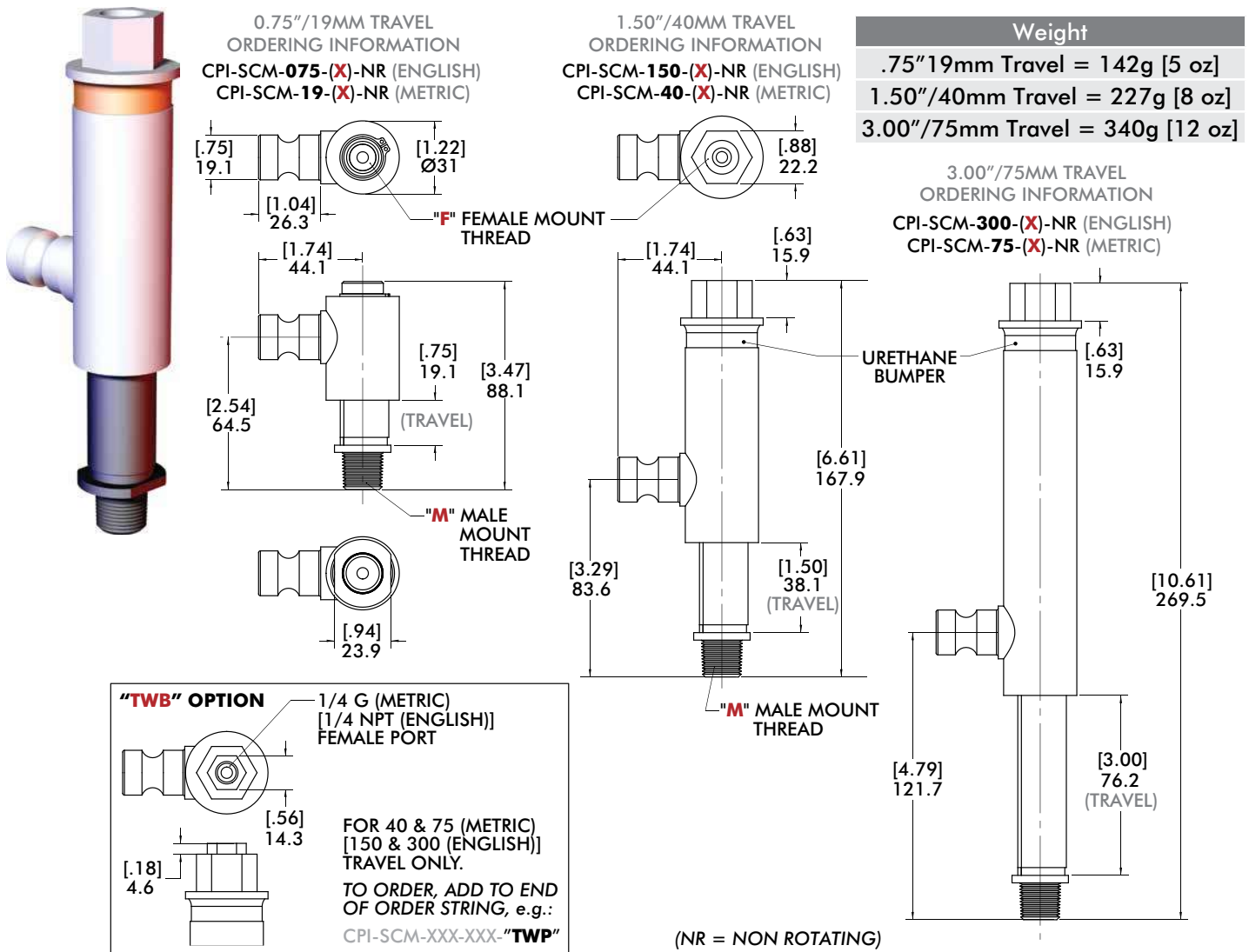


Specifications:

Material: Aluminum used on 1.50"/40mm and 3.00"/75mm travel.

Features:

- Available in three different travel lengths.
- Apple core .75" [19mm] mounting for adjustment along on axis.
- NPT or G mounting threads and vacuum ports.



| Weight |
|----------------------------------|
| .75" 19mm Travel = 142g [5 oz] |
| 1.50"/40mm Travel = 227g [8 oz] |
| 3.00"/75mm Travel = 340g [12 oz] |

CPI-SCM-(19/075)-(X)-NR Ports

| Version | M | F | (X) |
|----------|----------|----------|-----|
| Metric | 3/8" G | 1/4" G | G14 |
| Imperial | 3/8" NPT | 1/4" NPT | U14 |

CPI-SCM-(40/150 & 75/300)-(X)-NR Ports

| Version | M | F | (X) |
|----------|----------|----------|-----|
| Metric | 3/8" G | 3/8" G | G14 |
| Imperial | 3/8" NPT | 3/8" NPT | U14 |

SPRING-LOADED CUP MOUNTS

Vacuum Products | Features and Options

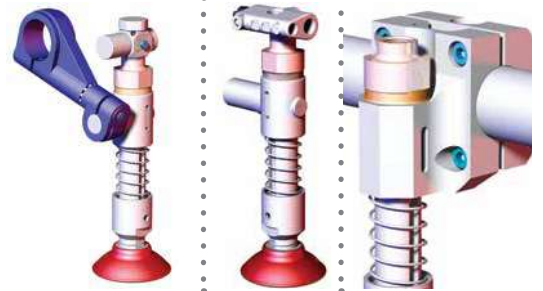
Features:

- Four mounting options.
- Three travel lengths.
- NPT or G mounting threads and vacuum ports.
- Urethane shock absorber.
- Teflon coated shaft.
- Fully modular construction.

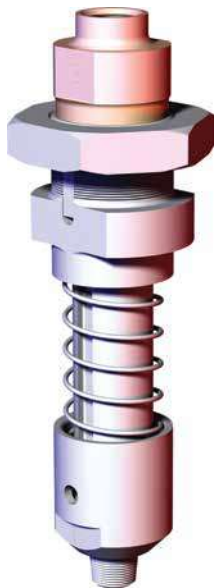
Benefits:

- Urethane shock absorber reduces "pick-up" shock.
- Extensive use of polymers reduce weight and cost.
- Extended travel cup mounts can be reconfigured or rebuilt.
- Smooth operation, reduced wear.

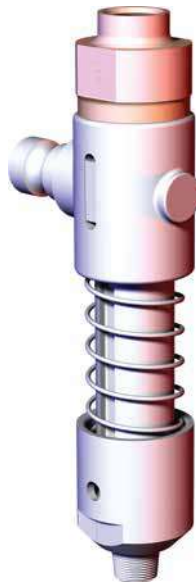
TCL T-Clamp Ø1.00" (in)



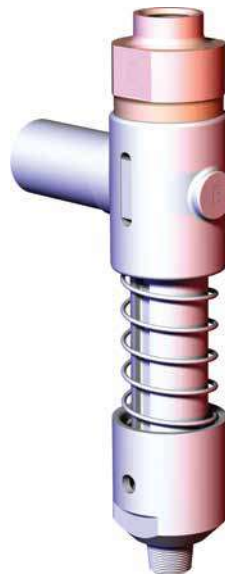
Ø1.25" Bulkhead Style
CPI-SCM(B)-"T"



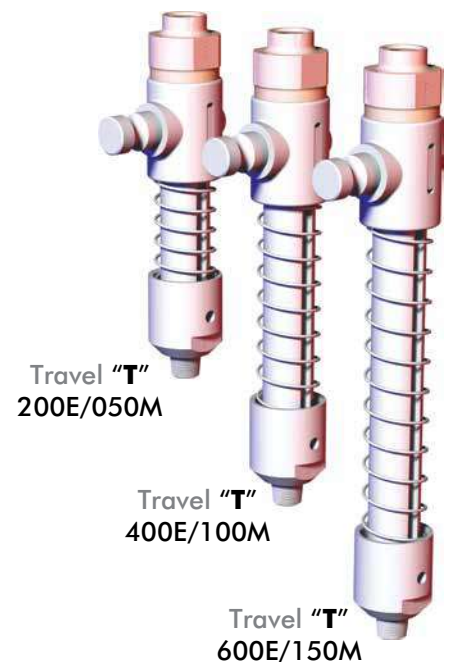
Ø0.75" Apple Core Style
CPI-SCM(A)-"T"



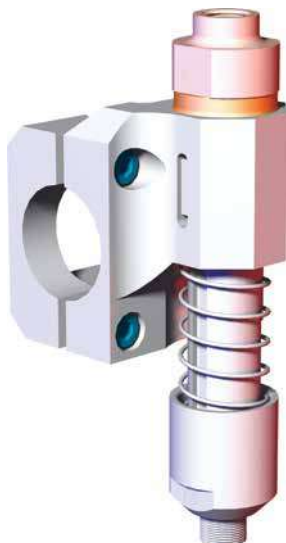
Ø1.00"/25MM
Extension Style
CPI-SCM(10/25)-"T"



Travel Length CPI-SCM(X)-"T"



Ø1.50"/40MM
Tube Mount
CPI-SCM(C)-"D"- "T"- "O"



Ø1.50"/40MM
Single Strap Tube Mount
CPI-SCM(S)-"D"- "T"- "O"



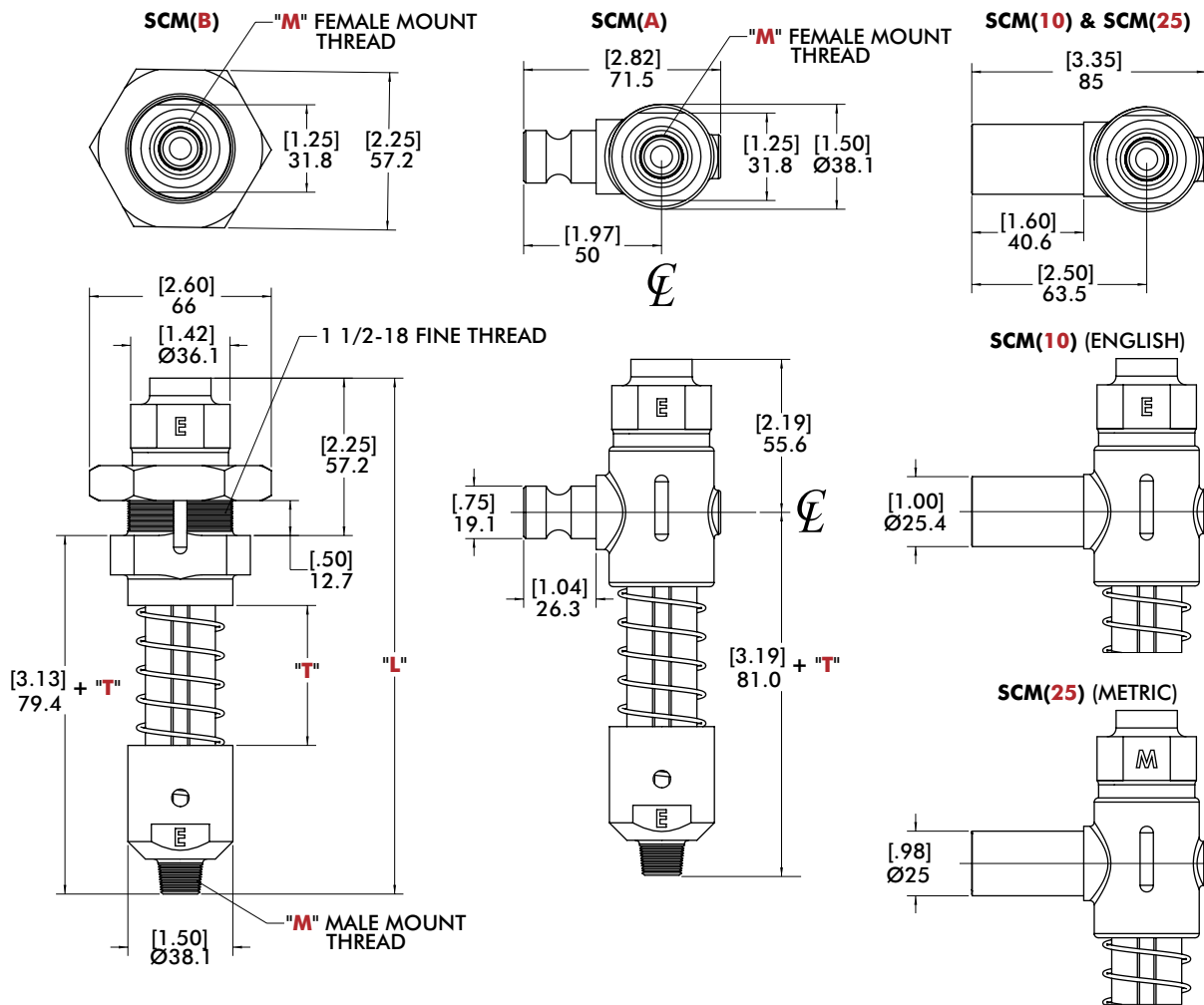
Ø1.50"/45MM
Single Strap Tube Mount
CPI-SCMS-45B-"T"



SPRING LOADED VACUUM CUP MOUNTS

Vacuum Products | Extended Travel Dimensions

SCM Bulkhead/Apple Core/Extension Style



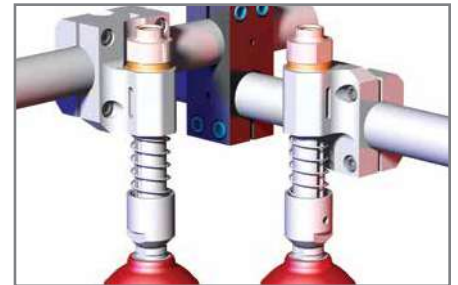
SCM Travel and Length - CPI-SCM(X)-"T"

| Version | Travel "T" | L | M | Weight |
|----------|-------------------------------------|---------------|----------|-----------------|
| Imperial | 200E (2.00" Vertical Travel) | 187.3 [7.38] | 3/8" NPT | .48kg [1.06 lb] |
| | 400E (4.00" Vertical Travel) | 238.2 [9.38] | 3/8" NPT | .53kg [1.16 lb] |
| | 600E (6.00" Vertical Travel) | 288.9 [11.38] | 3/8" NPT | .58kg [1.27 lb] |
| Metric | 050M (50mm Vertical Travel) | 187.3 [7.38] | 3/8" G | .48kg [1.06 lb] |
| | 100M (100mm Vertical Travel) | 238.2 [9.38] | 3/8" G | .53kg [1.16 lb] |
| | 150M (150mm Vertical Travel) | 288.9 [11.38] | 3/8" G | .58kg [1.27 lb] |

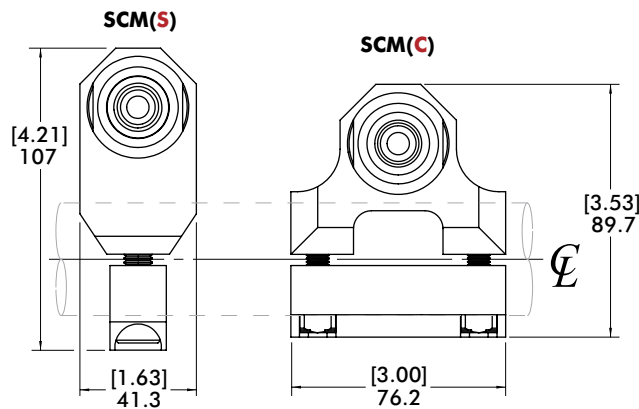
SPRING-LOADED CUP MOUNTS

Vacuum Products | Extended Travel Dimensions

SCM Tube Mounted

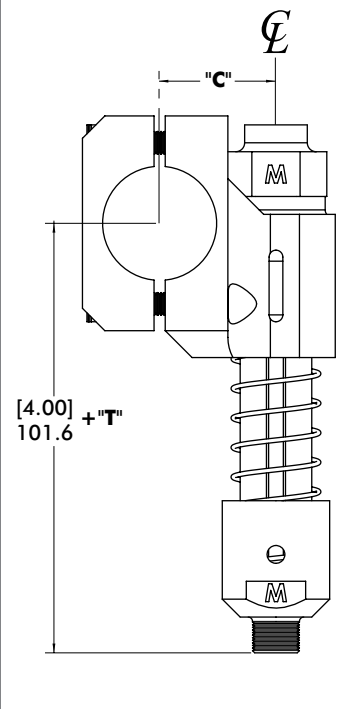
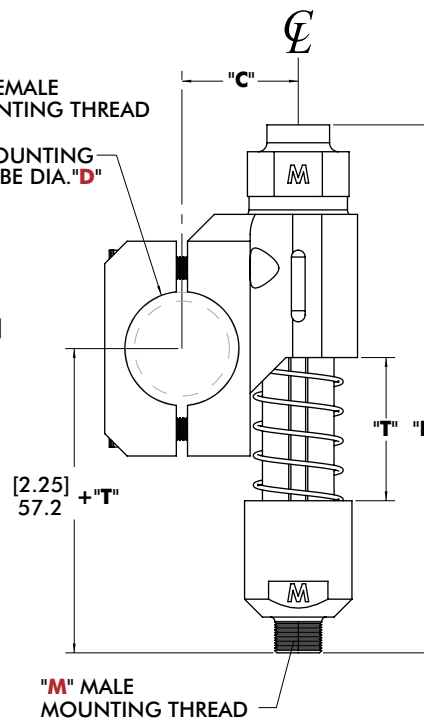
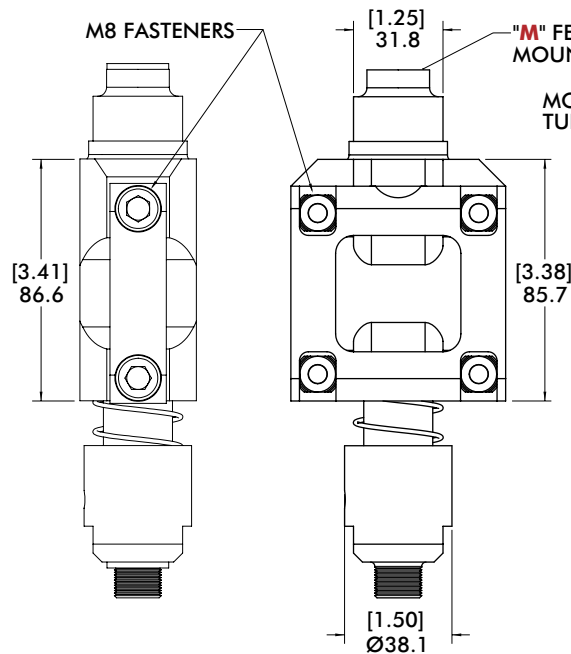


Patent Pending



SCM(S/C)
MOUNTING
ORIENTATION (SHOWN)
"O" = A (RAISED POSITION)

SCM(S/C)
MOUNTING
ORIENTATION (SHOWN)
"O" = B (LOWERED POSITION)



| Model | C |
|----------|-------------|
| CPI-SCMC | 41.3 [1.63] |
| CPI-SCMS | 54.1 [2.13] |

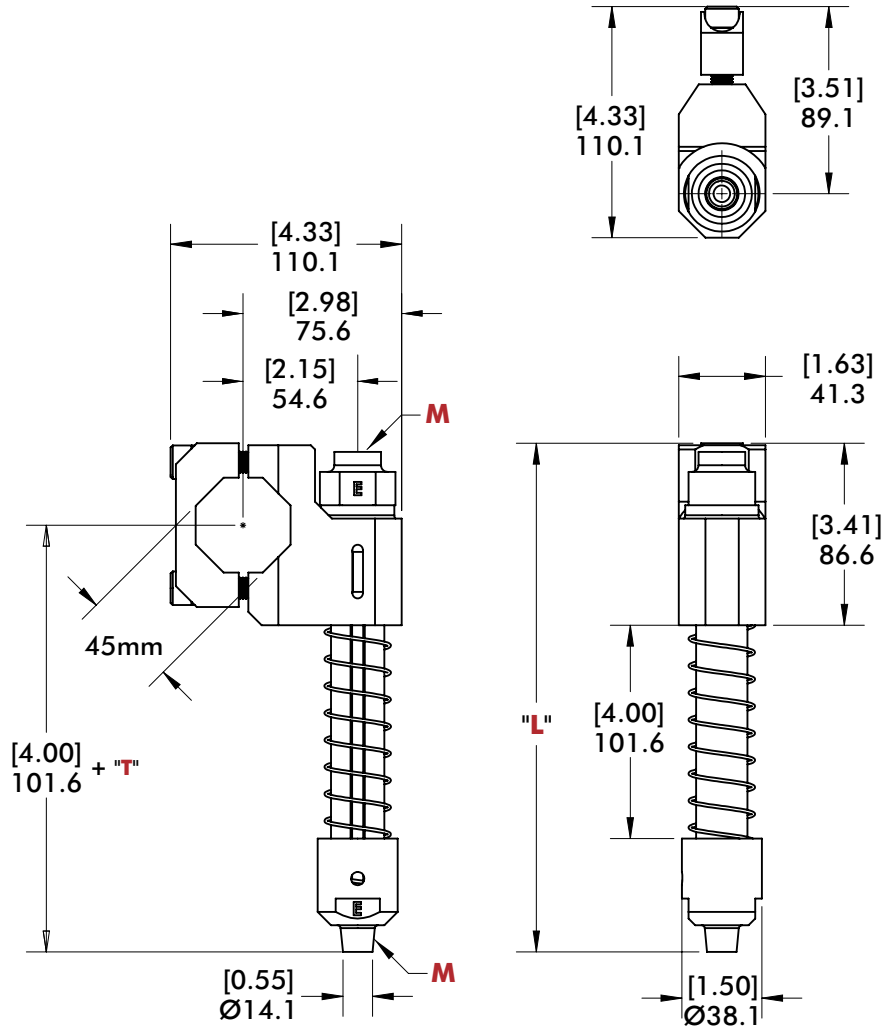
SCM Travel and Length - CPI-SCM(X)-"D"- "T"- "O"

| Version | Travel "T" | L | M | D | Weight |
|----------|------------------------------|---------------|----------|--------------|-----------------|
| Imperial | 200E (2.00" Vertical Travel) | 187.3 [7.38] | 3/8" NPT | 150 (Ø1.50") | .85kg [1.87 lb] |
| | 400E (4.00" Vertical Travel) | 238.2 [9.38] | 3/8" NPT | 150 (Ø1.50") | .90kg [1.97 lb] |
| | 600E (6.00" Vertical Travel) | 288.9 [11.38] | 3/8" NPT | 150 (Ø1.50") | .94kg [2.08 lb] |
| Metric | 050M (50mm Vertical Travel) | 187.3 [7.38] | 3/8" G | 40M (Ø40mm) | .85kg [1.87 lb] |
| | 100M (100mm Vertical Travel) | 238.2 [9.38] | 3/8" G | 40M (Ø40mm) | .90kg [1.97 lb] |
| | 150M (150mm Vertical Travel) | 288.9 [11.38] | 3/8" G | 40M (Ø40mm) | .94kg [2.08 lb] |

BODY BUILDER SPRING LOADED VACUUM CUP MOUNTS

Vacuum Products | Extended Travel Dimensions

SCM BodyBuilder Mounted



SCM Travel and Length - CPI-SCMS-45B-"T"

| Version | Travel "T" | L | M | Weight |
|----------|------------------------------|---------------|----------|----------------|
| Imperial | 200E (2.00" Vertical Travel) | 191.5 [7.54] | 3/8" NPT | .77kg [1.7 lb] |
| | 400E (4.00" Vertical Travel) | 242.2 [9.54] | 3/8" NPT | .82kg [1.8 lb] |
| | 600E (6.00" Vertical Travel) | 293.1 [11.54] | 3/8" NPT | .87kg [1.9 lb] |
| Metric | 050M (50mm Vertical Travel) | 191.5 [7.54] | 3/8" G | .77kg [1.7 lb] |
| | 100M (100mm Vertical Travel) | 242.2 [9.54] | 3/8" G | .82kg [1.8 lb] |
| | 150M (150mm Vertical Travel) | 293.1 [11.54] | 3/8" G | .87kg [1.9 lb] |

SPRING LOADED VACUUM CUP MOUNT ACCESSORIES

Vacuum Products | Dimensions | Technical Specifications

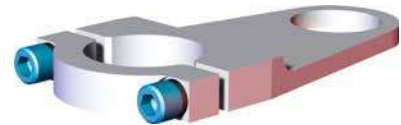
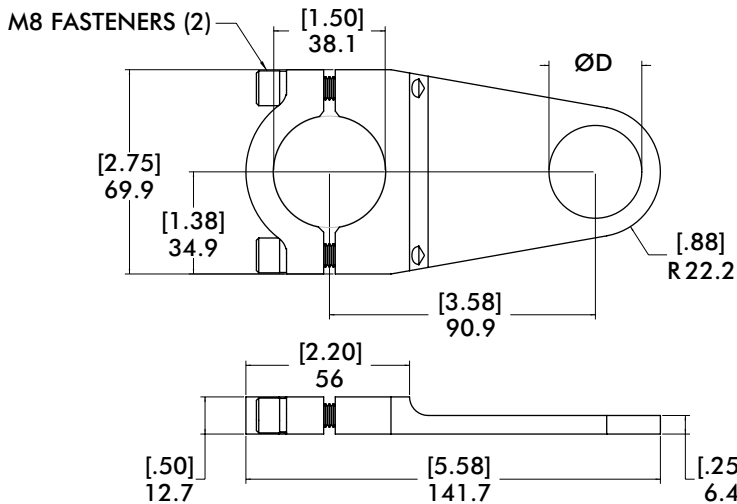
SAP Extended Travel Proximity Switch Mounts

Specifications:
Material: Aluminum

- Features:**
- Mounts 30mm barrel style and square style proximity switches to the extended travel spring-loaded cup mounts.

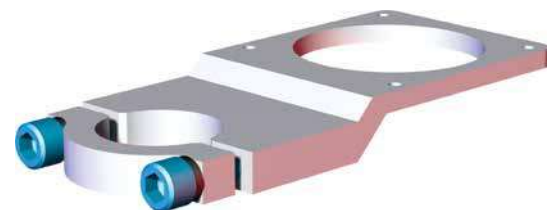
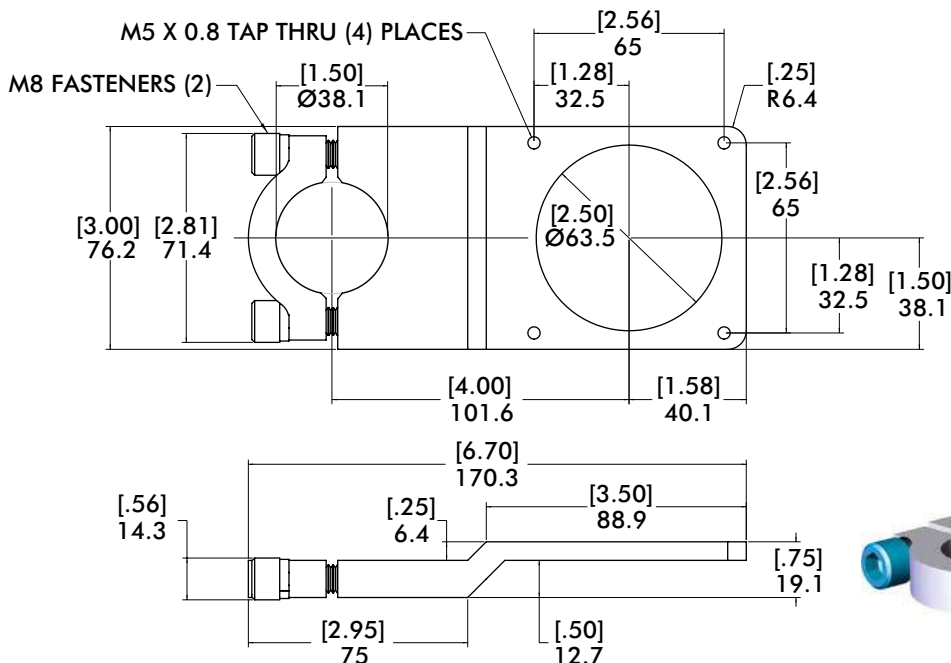


SAP 30mm Barrel Style



| Model | ØD | Weight |
|-------------------|----------------|-----------------|
| CPI-SAP-30-PM-150 | [1.25] 31.8 | .13 kg [.29 lb] |
| CPI-SAP-18-PM-150 | [.75] 19 | .17 kg [.38 lb] |

SAP 50mm Square Style

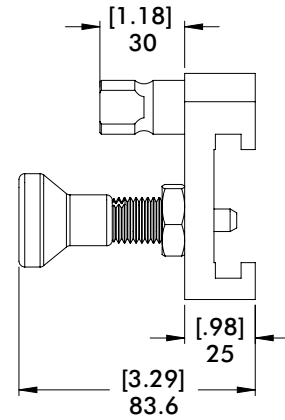
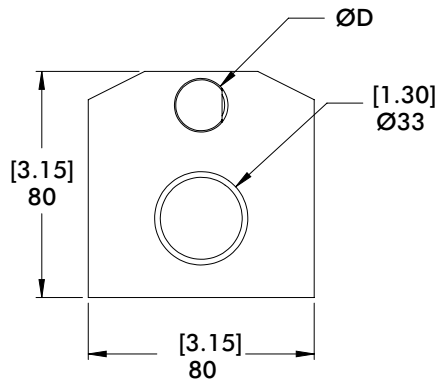
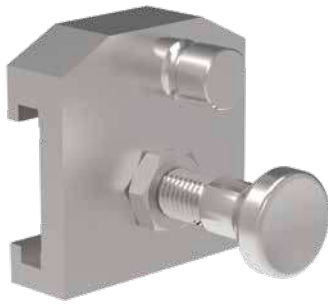


| Model | Weight |
|---------------------|-----------------|
| CPI-SAP-NI50-PM-150 | .23 kg [.56 lb] |

DOUBLE BLANK DETECTOR QUICK-CHANGE MOUNT

Vacuum Products | Dimensions | Technical Specifications

DBD Quick-Change Mount



| Model | ØD | Weight |
|-------------|------|----------------|
| DBD-19-QC-A | 19mm | 522g [1.15 lb] |
| DBD-20-QC-A | 20mm | 527g [1.16 lb] |

DESTACKER DOUBLE BLANK DETECTOR SPRING MOUNTS

Vacuum Products | Features and Options | Ordering Information

DBD Series

Features:

- Orbital design allows compliance to blanks within +/- 15° without having to make any automation, tooling or robot adjustments. [US Patent No. 4,662,668]
- Elimination of compression springs results in long-lasting, reliable performance
- **HD** Version provides added stability for heavy-duty applications

Specifications:

Operating Pressure: 4 bar [60psi]
Electric: Sensor supplied by customer

CPI-DBD-(X)-SCMB-(T)

Ø1.25" Thru Hole
Bulkhead Mount



CPI-DBD-(X)-SCM10/25-(T)

Ø1.00"/25mm
Extension Mount



CPI-DBD-(X)-SCMB-(T)-HD

Ø1.00"/25mm Tube Mount
Heavy-duty (Double Pogo)



Base Model

DBD
Double Blank
Detector

Sensor Size

42 Ø42mm
54 Ø54mm
(Sensors not
Included)

Mounting Style

SCM10 Ø1.00" Extension Mount
SCM25 Ø25mm Extension Mount
SCMB Bulkhead Mount

Vertical Travel (T) (See pages 46-47)

200E 2.00 in. with NPT Vacuum Port (Except -HD)
400E 4.00 in. with NPT Vacuum Port
600E 6.00 in. with NPT Vacuum Port
800E 8.00 in. with NPT Vacuum Port (-HD only)
050M 50mm with G Vacuum Port (Except -HD)
100M 100mm with G Vacuum Port
150M 150mm with G Vacuum Port
200M 200mm with G Vacuum Port (-HD only)

US/INTL Patents: 6,988,696 / 7,281,739 / 1,921,031

CPI-DBD-(X)-(T)-SCMC

Ø1.25"/40mm
Tube Mount



X=Sensor Size

42 Ø42mm
54 Ø54mm
(Sensors not Included)

T=Vertical Travel

200E 2.00 in. with NPT Vacuum Port
400E 4.00 in. with NPT Vacuum Port
600E 6.00 in. with NPT Vacuum Port
050M 50mm with G Vacuum Port
100M 100mm with G Vacuum Port
150M 150mm with G Vacuum Port

(See page 48)

CPI-DBD-42-200E-SCMS

Ø1.25"/40mm
BodyBuilder Mount

(See page 49)



DESTACKER DOUBLE BLANK DETECTOR SPRING MOUNTS

Vacuum Products | Dimensions | Technical Specifications

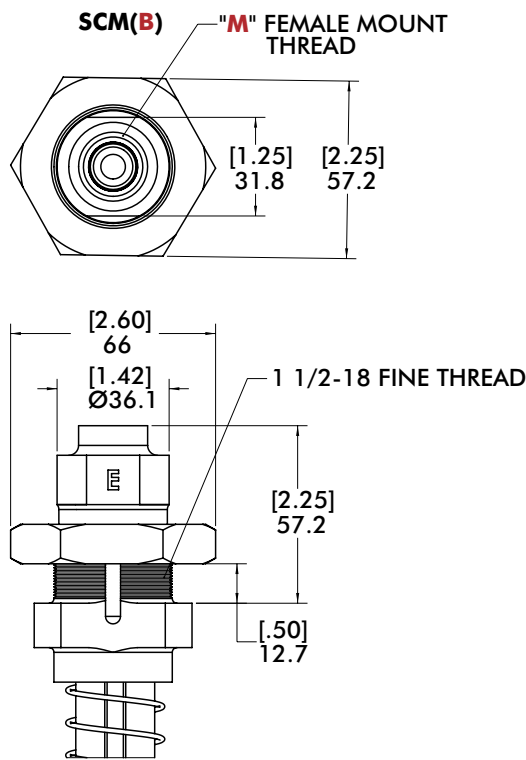
DBD Bulkhead/Extension Style Dimensions



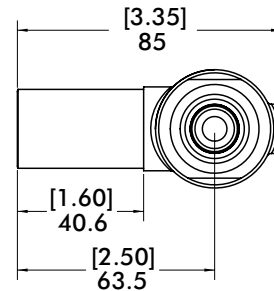
SCMB
Ø1.25" Thru Hole
Bulkhead Mount



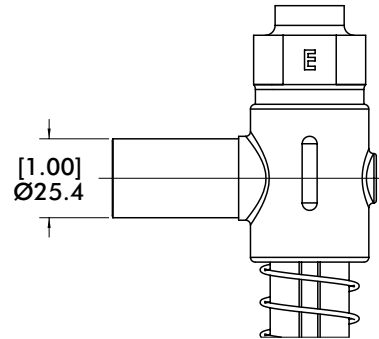
SCM10/25
Ø1.00"/25mm
Extension Mount



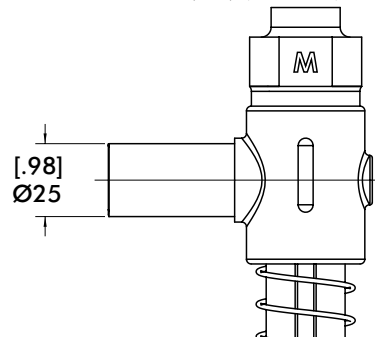
SCM(10) & SCM(25)



SCM(10) (ENGLISH)



SCM(25) (METRIC)

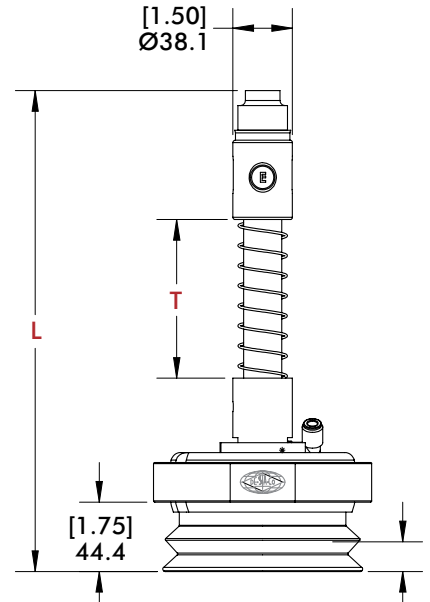
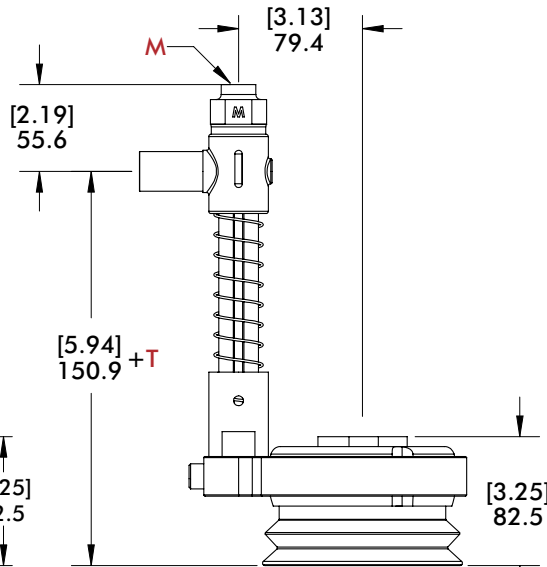
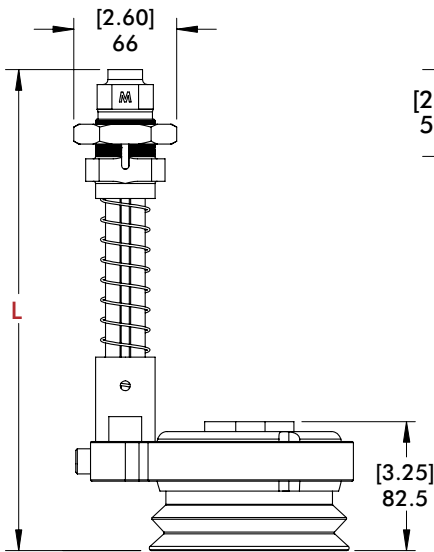
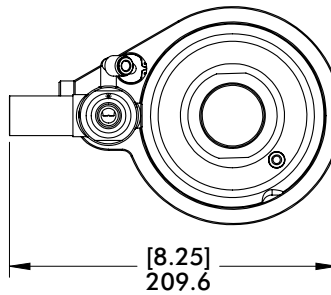
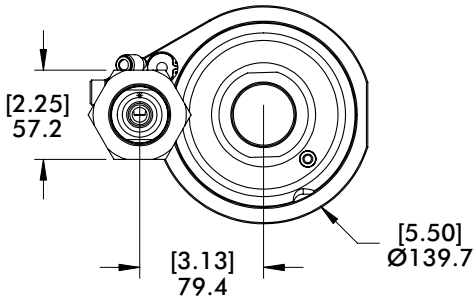
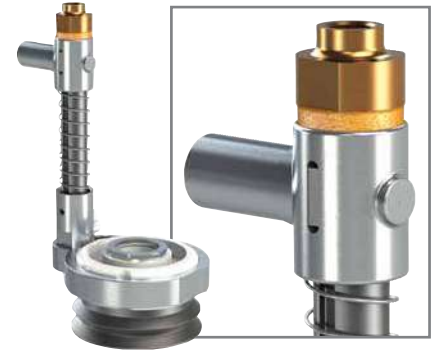


| Version | (M) |
|----------|----------|
| Imperial | 3/8" NPT |
| Metric | 3/8" G |

DESTACKER DOUBLE BLANK DETECTOR SPRING MOUNTS

Vacuum Products | Dimensions | Technical Specifications

DBD Bulkhead/Extension Style



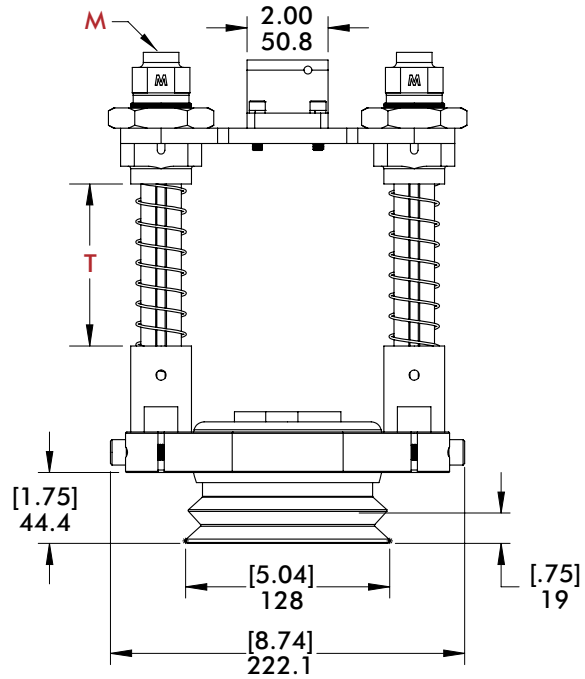
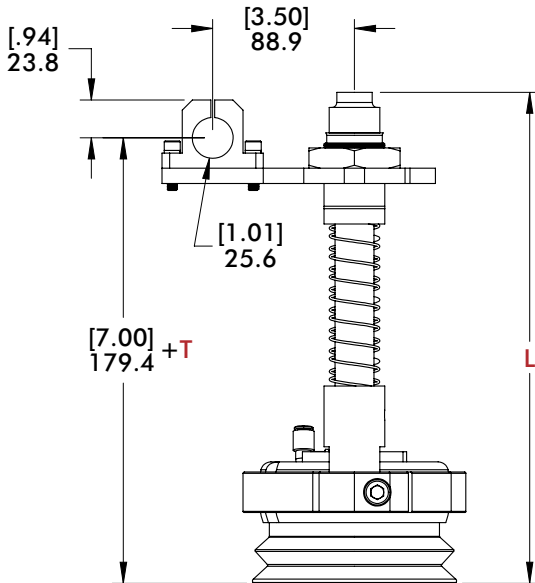
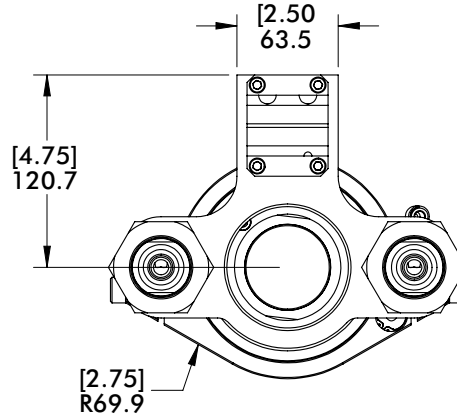
DBD Travel and Length - CPI-DBD-(X)-SCM(X)-(T)

| Version | Vertical Travel (T) | (L) | (M) | Weight |
|----------|---------------------|---------------|----------|-----------------|
| Imperial | 200E (2.00") | 257.1 [10.12] | 3/8" NPT | .85kg [1.87 lb] |
| | 400E (4.00") | 307.9 [12.12] | | .90kg [1.97 lb] |
| | 600E (6.00") | 358.7 [14.12] | | .94kg [2.08 lb] |
| Metric | 050M (50mm) | 257.1 [10.12] | 3/8" G | .85kg [1.87 lb] |
| | 100M (100mm) | 307.9 [12.12] | | .90kg [1.97 lb] |
| | 150M (150mm) | 358.7 [14.12] | | .94kg [2.08 lb] |



DESTACKER DOUBLE BLANK DETECTOR SPRING MOUNTS

Vacuum Products | Dimensions | Technical Specifications

DBD Heavy Duty (Double Pogo)



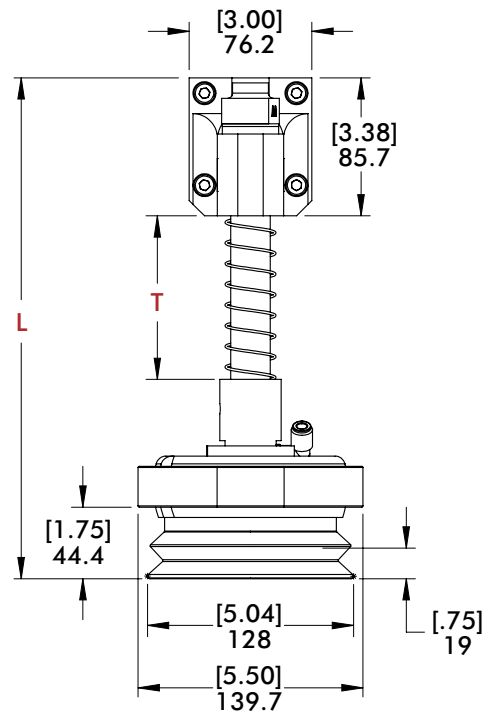
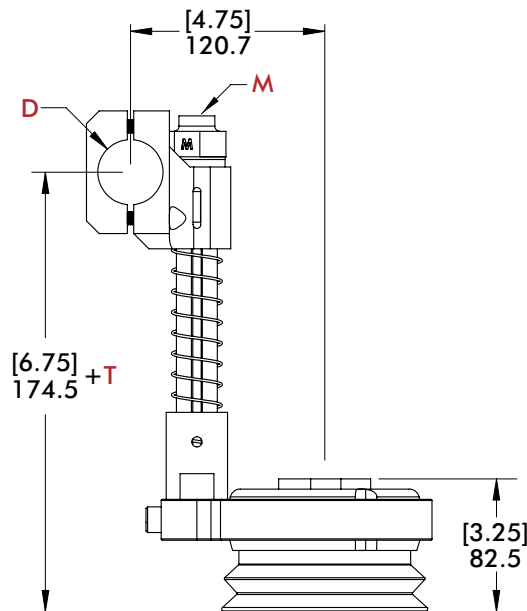
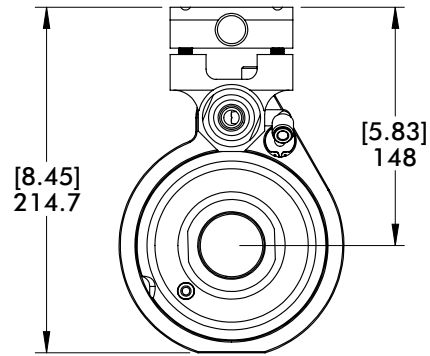
DBD Travel and Length - CPI-DBD-(X)-SCMB-(T)-HD

| Version | Vertical Travel (T) | (L) | (M) | Weight |
|--|---------------------|---------------|----------|------------------|
|  Imperial | 400E (4.00") | 307.9 [12.12] | 3/8" NPT | 3.06kg [6.75 lb] |
| | 600E (6.00") | 357.9 [14.09] | | 3.16kg [6.97 lb] |
| | 800E (8.00") | 405.9 [15.98] | | 3.23kg [7.12 lb] |
|  Metric | 100M (100mm) | 307.9 [12.12] | 3/8" G | 3.06kg [6.75 lb] |
| | 150M (150mm) | 357.9 [14.09] | | 3.16kg [6.97 lb] |
| | 200M (200mm) | 405.9 [15.98] | | 3.23kg [7.12 lb] |

BODYBUILDER™ DOUBLE BLANK DETECTOR SPRING MOUNTS

Vacuum Products | Dimensions | Technical Specifications

DBD Ø1.25"/40mm Tube Mount





X=Sensor Size

42 Ø42mm

54 Ø54mm

(Sensors not Included)

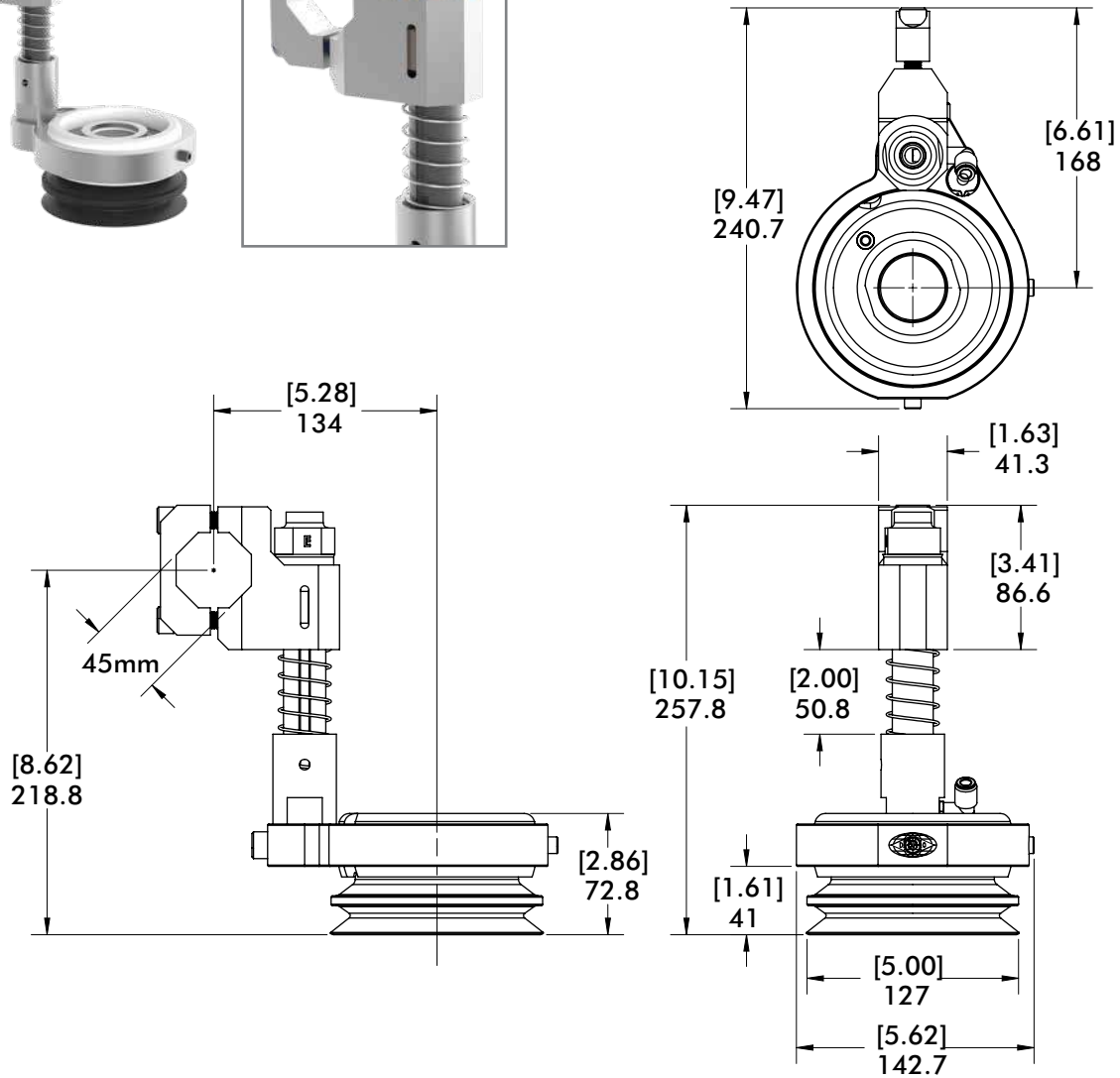
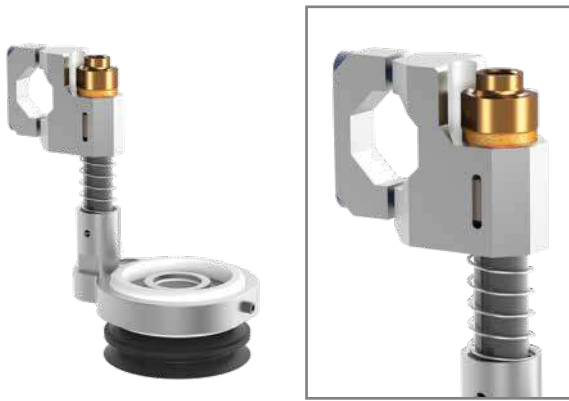
DBD Travel and Length - CPI-DBD-(X)-(T)-SCMC

| Version | Vertical Travel (T) | (L) | (M) | (D) | Weight |
|---|---------------------|---------------|----------|--------------|-----------------|
|  Imperial | 200E (2.00") | 261.1 [10.28] | 3/8" NPT | 150 (Ø1.50") | .85kg [1.87 lb] |
| | 400E (4.00") | 311.1 [12.25] | | | .90kg [1.97 lb] |
| | 600E (6.00") | 369.9 [14.21] | | | .94kg [2.08 lb] |
|  Metric | 050M (50mm) | 261.1 [10.28] | 3/8" G | 40M (Ø40mm) | .85kg [1.87 lb] |
| | 100M (100mm) | 311.1 [12.25] | | | .90kg [1.97 lb] |
| | 150M (150mm) | 369.9 [14.21] | | | .94kg [2.08 lb] |

DESTACKER DOUBLE BLANK DETECTOR SPRING MOUNTS

Vacuum Products | Dimensions | Technical Specifications

DBD Ø1.25"/40mm BodyBuilder Mount



CPI-DBD-42-200E-SCMS-45B

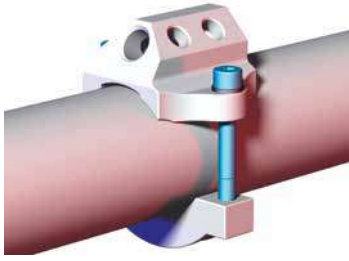
| Version | Thread | Weight |
|----------|----------|----------------|
| Imperial | 3/8" NPT | 1.8kg [3.9 lb] |



MANIFOLDS

Vacuum Products | Dimensions | Technical Specifications

MBC/MLK Boom Mounted Single 4-Port - 30° Angled Input Port

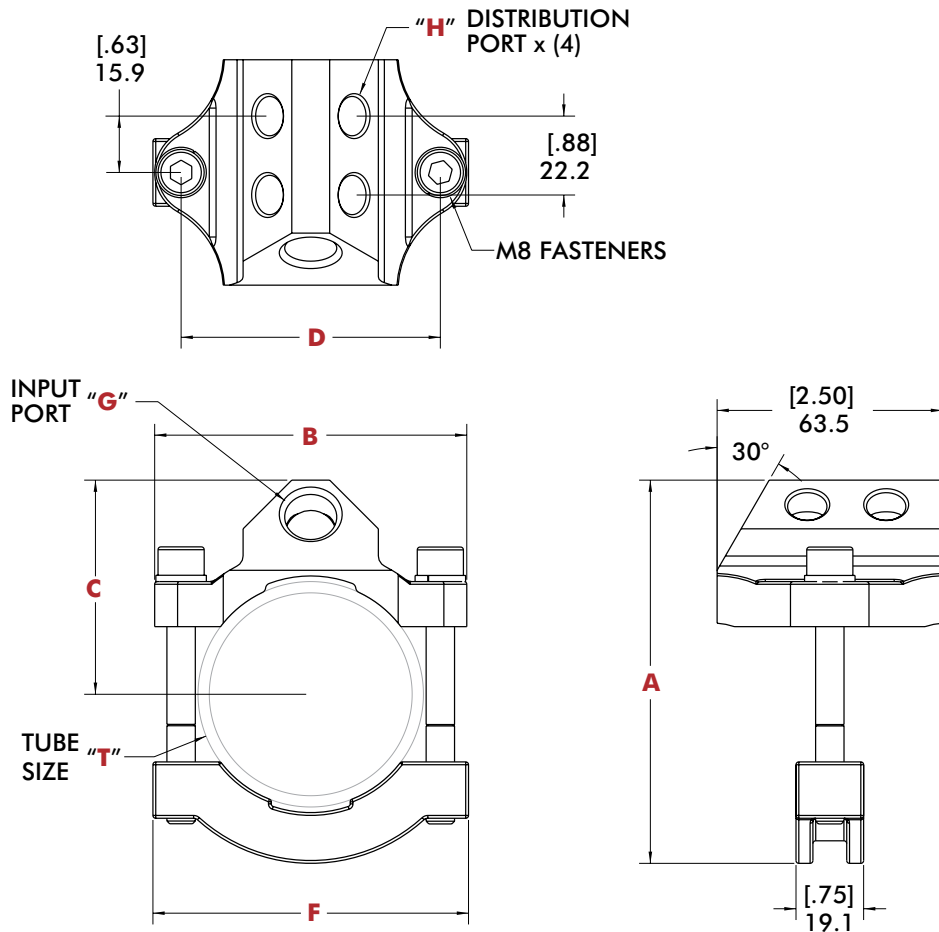
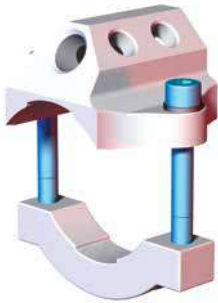


Features:

- 30° Angled input port.
- Provides a 4-port air distribution system mount on the boom.

Specifications:

Material: Aluminum



MBC/MLK Dimensions

| Model | A | B | C | D | F | G | H | T | Weight |
|----------------------|--------|--------|--------|--------|--------|-----------|-----------|----------|---------|
| CPI-MLK-60-G44-30 | 108.0 | 87.9 | 60.3 | 73 | 88.9 | 3/8 G | 1/4 G | Ø60MM | 340g |
| [CPI-MBC-250-4-4-30] | [4.25] | [3.46] | [2.38] | [2.88] | [3.50] | [3/8 NPT] | [1/4 NPT] | [Ø2.50"] | [12 oz] |



EE-VAC-53

Dimensions and technical information are subject to change without notice

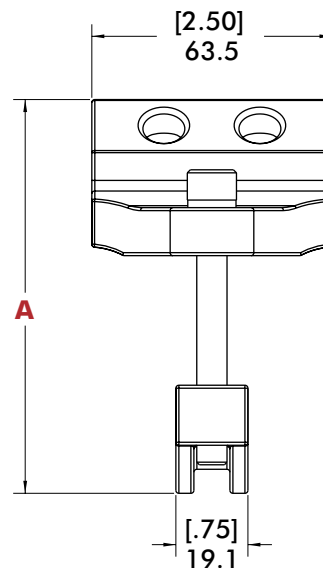
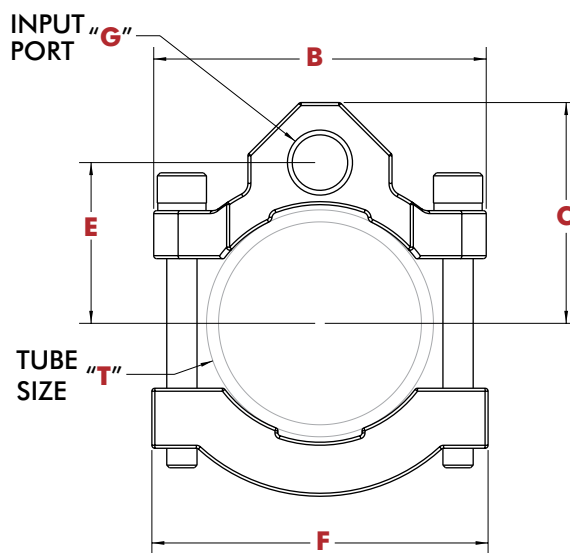
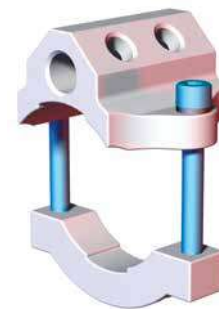
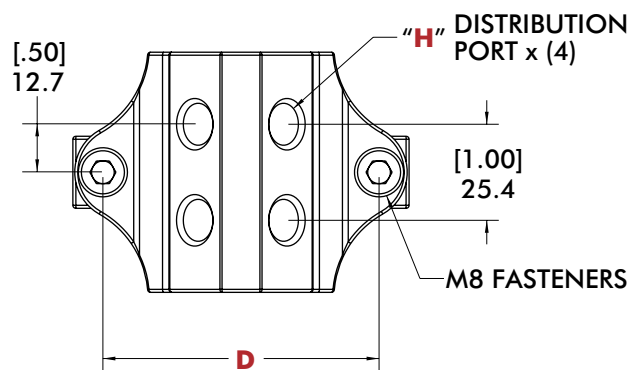
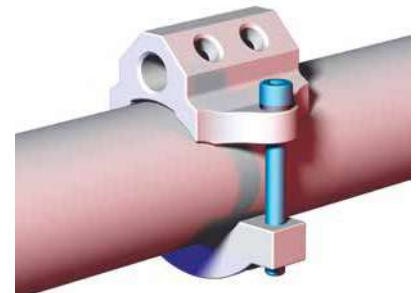
MBC/MLK Boom Mounted Single 4-Port

Specifications:

Material: Aluminum

Features:

- Provides a 4-port air distribution system mount on the boom.
- Available in two sizes to allow clamping to Ø40mm [Ø1.50"] and Ø60mm [Ø2.50"] materials.



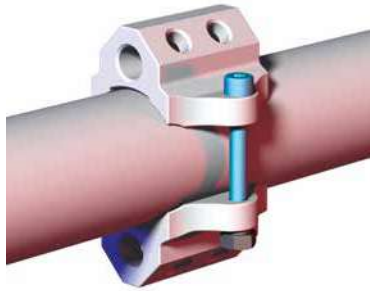
MBC/MLK Dimensions

| Model | A | B | C | D | E | F | G | H | T | Weight |
|-------------------|--------|--------|--------|--------|--------|--------|--------|--------|----------|---------|
| CPI-MLK-40-G44 | 88.9 | 64.3 | 52.5 | 48.5 | 36.7 | 64.3 | 12.9 | 114.5 | Ø40MM | 283g |
| [CPI-MBC-150-4-4] | [3.50] | [2.53] | [2.07] | [1.91] | [1.44] | [2.53] | [.51] | [4.51] | [Ø1.50"] | [10 oz] |
| CPI-MLK-60-G44 | 104.1 | 87.9 | 58.4 | 73 | 42.5 | 88.9 | 39.7 | 118.4 | Ø60MM | 340g |
| [CPI-MBC-250-4-4] | [4.10] | [3.46] | [2.30] | [2.88] | [1.67] | [3.50] | [1.56] | [4.65] | [Ø2.50"] | [12 oz] |

MANIFOLDS

Vacuum Products | Dimensions | Technical Specifications

MBC/MLK Boom Mounted Double 8-Port

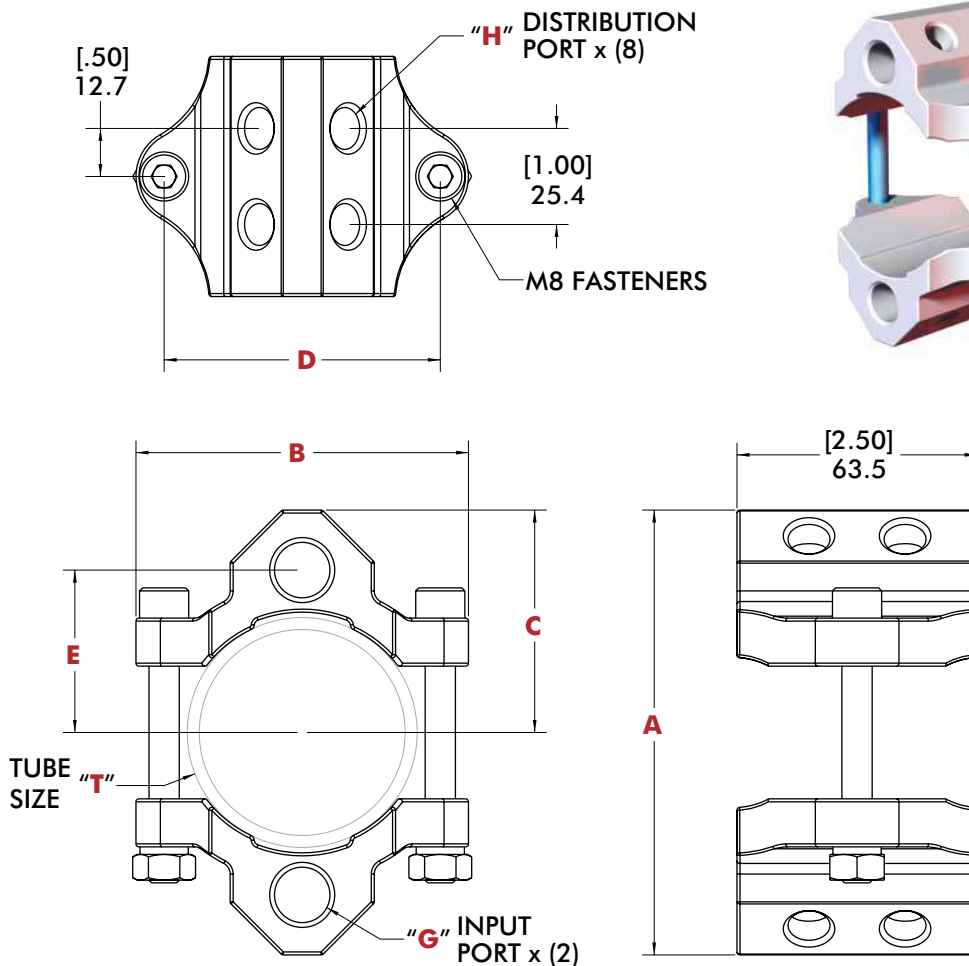


Features:

- Provides an 8-port (4 ports on top and bottom) air distribution system mount on the boom.
- Available in two sizes to allow clamping to Ø40mm [Ø1.50"] and Ø60mm [Ø2.50"] materials.

Specifications:

Material: Aluminum



MBC/MLK Dimensions

| Model | A | B | C | D | E | G | H | T | Weight |
|-------------------------------------|-----------------|----------------|----------------|----------------|----------------|--------------------|--------------------|-------------------|-----------------|
| CPI-MLK-40-G88 [CPI-MBC-150-8-8] | 105.1 [4.14] | 64.3 [2.53] | 52.5 [2.07] | 48.5 [1.91] | 36.8 [1.45] | 3/8 G [3/8 NPT] | 1/4 G [1/4 NPT] | Ø40MM [Ø1.50"] | 425g [16 oz] |
| CPI-MLK-60-G88 [CPI-MBC-250-8-8] | 117.6 [4.63] | 87.9 [3.46] | 58.8 [2.32] | 73.0 [2.88] | 42.9 [1.69] | 3/8 G [3/8 NPT] | 1/4 G [1/4 NPT] | Ø60MM [Ø2.50"] | 510g [18 oz] |

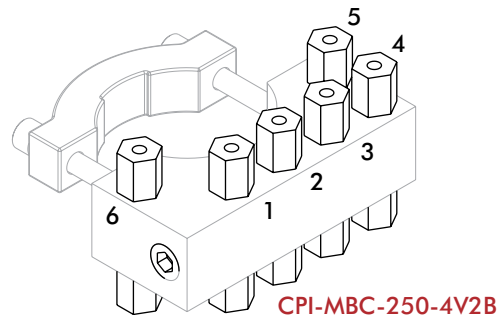
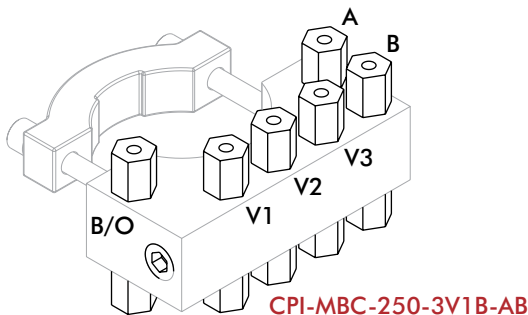
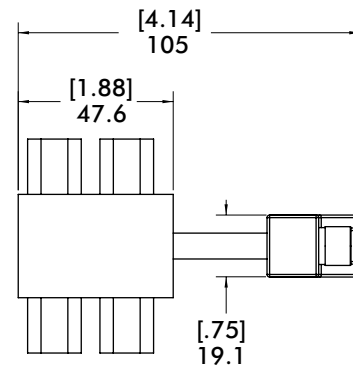
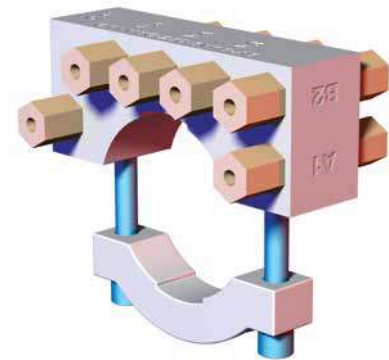
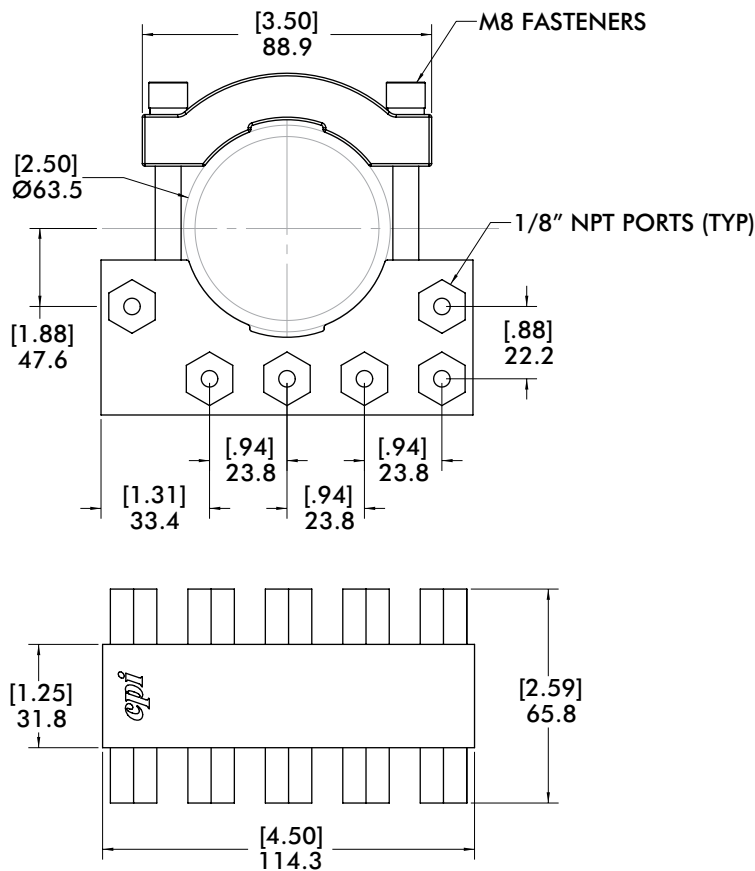
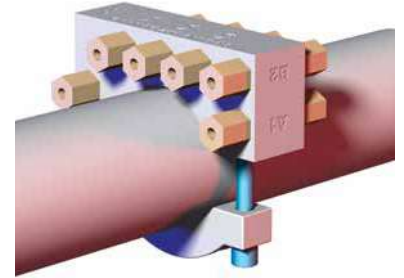
MBC Boom Mounted Single 6-Port

Specifications:

Material: Aluminum

Features:

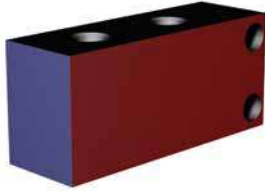
- Provides a 6-port air distribution system mounted on the boom.
- Easy access.



MANIFOLDS

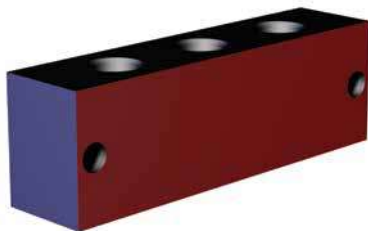
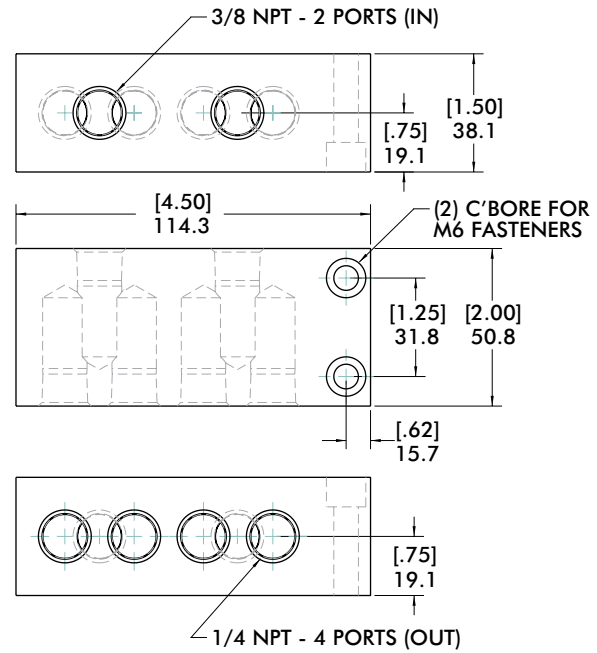
Vacuum Products | Dimensions | Technical Specifications

GDA/MBB Block Style for Remote Mounting



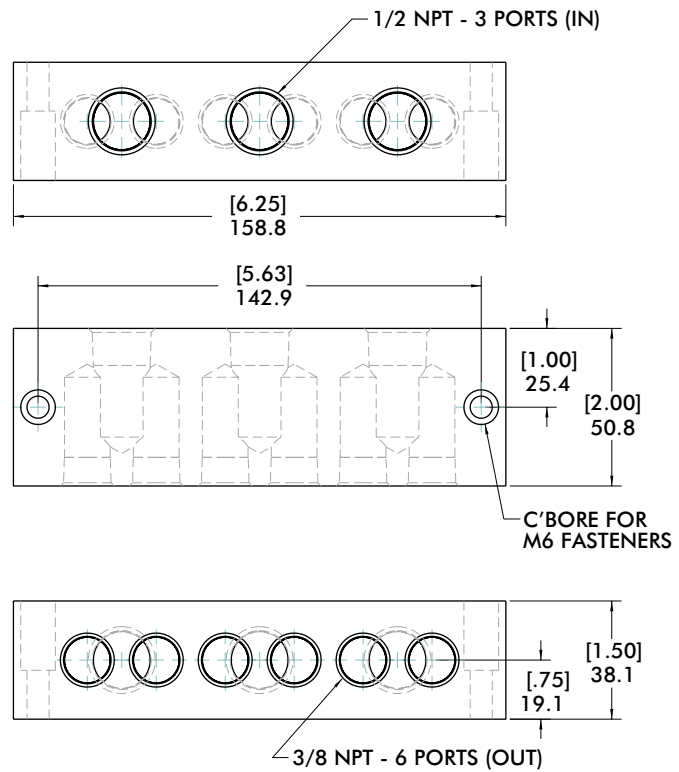
Material: Aluminum

| Model | Weight |
|-------------------|-----------------|
| CPI-GDA-M24-37327 | .23 kg [.56 lb] |

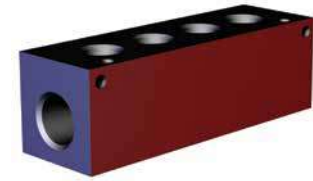
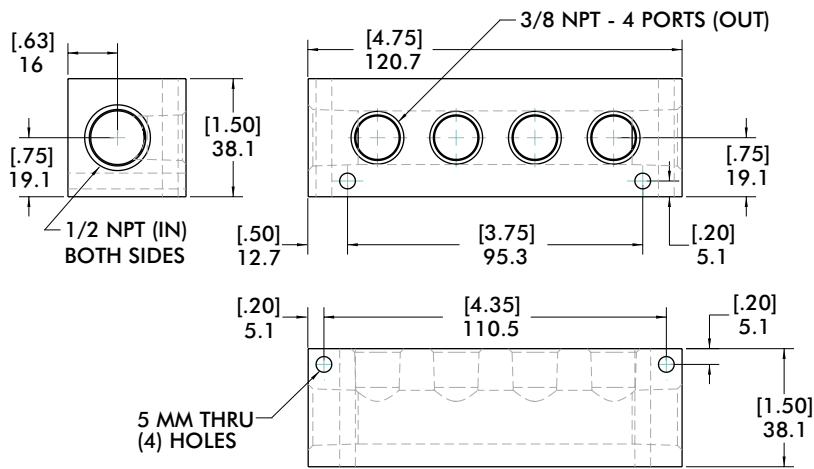


Material: Aluminum

| Model | Weight |
|-----------------|-----------------|
| CPI-MMB-4V2B-LG | .23 kg [.56 lb] |



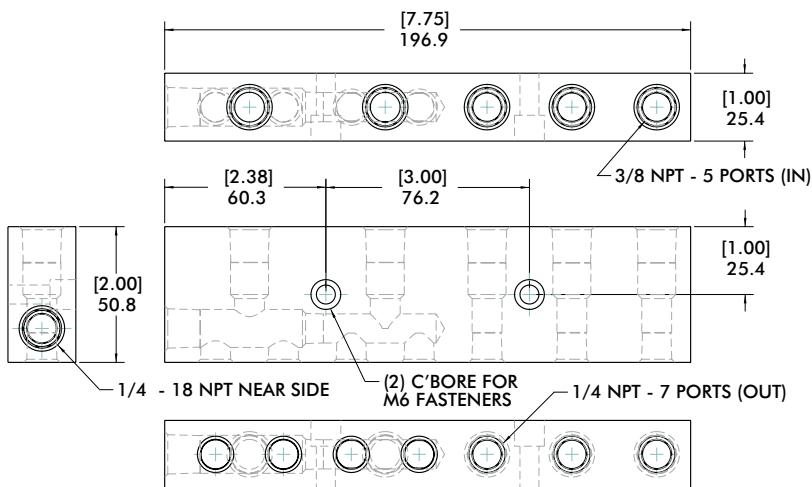
MMB Block Style or Remote Mounting



Material: Aluminum

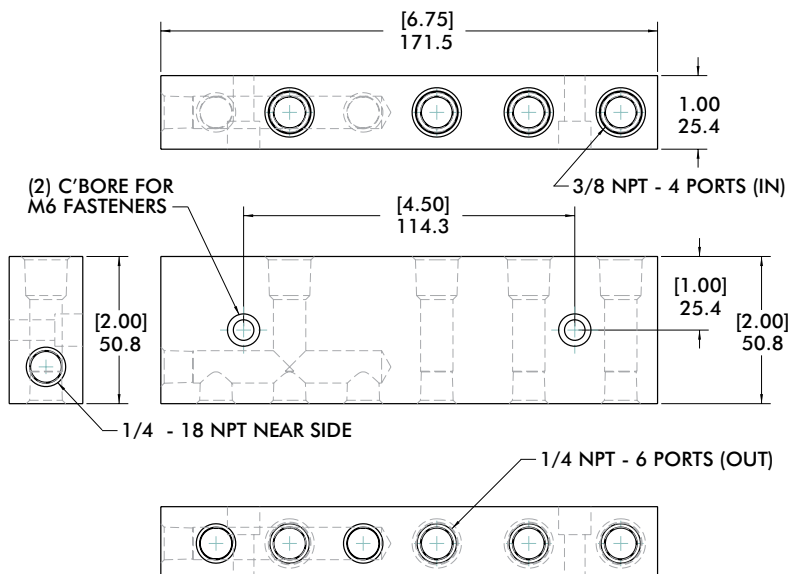
| Model | Weight |
|------------|-----------------|
| CPI-MMB-4P | .23 kg [.56 lb] |

MMB Block Style or Remote Mounting



Material: Aluminum

| Model | Weight |
|-----------------|-----------------|
| CPI-MMB-4VSP-AB | .23 kg [.56 lb] |



Material: Aluminum

| Model | Weight |
|-----------------|-----------------|
| CPI-MMB-3V1B-AB | .23 kg [.56 lb] |

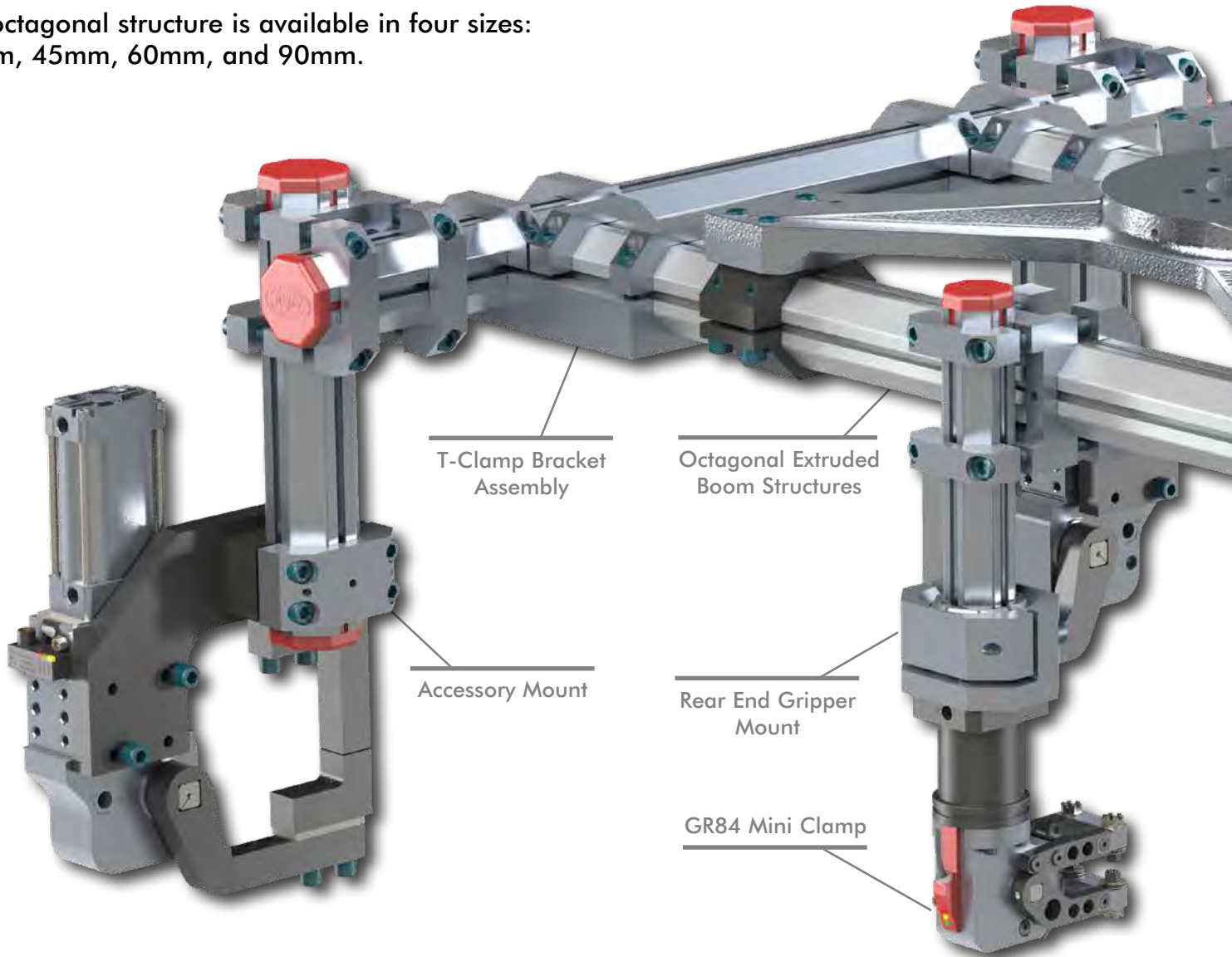
BODYBUILDER™ END EFFECTOR SYSTEM



Product Overview

BodyBuilder™ is designed to maximize productivity, both before and after installation. The flexibility of the system allows modifications to the end effector in minutes, greatly reducing start up time to launch.

The octagonal structure is available in four sizes: 30mm, 45mm, 60mm, and 90mm.



The patented BodyBuilder™ Alignment System allows the modular components to be replaced individually and easily returned to their original positions.

Alignment nut(s) are included with every Bodybuilder™ modular component, utilizing the patented alignment system.

