

# BIG KAISER



## UNILOCK MODULAR WORKHOLDING SYSTEM

VOL. 2

# unilock

## clamping system

### ZERO-POINT CLAMPING SYSTEM

Meeting the challenge to set up every process as efficiently as possible with a simple clamping concept.

In a competitive environment, all production cells need efficient workpiece handling solutions.

Production diversity should not be a barrier. Let Unilock's zero-point clamping system lead the way with efficient part loading solutions for low and high volume production runs.

Unilock virtually eliminates all setup time and replaces it with production time.

If your company needs to increase its agility, Unilock will allow you to run any job on any available manufacturing cell. You can interrupt jobs without incurring setup time and then switch back as needed.

When all of your manufacturing cells have Unilock, work can quickly flow to any available resource.

Get lean and agile on your shop floor with a comprehensive positioning and clamping system that can be applied to almost anything you manufacture or assemble.



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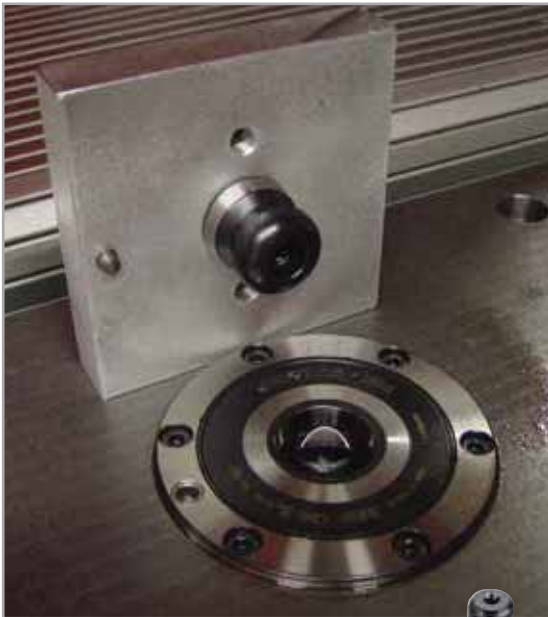
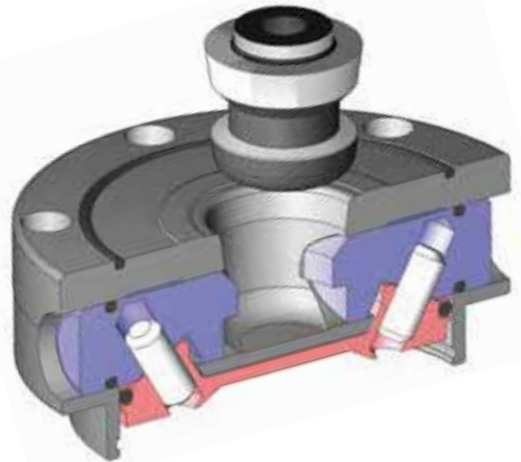
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## How it Works

Unilock utilizes spring pressure to drive multiple clamping pins against a tapered clamping knob. Air pressure is used to compress the springs to back the clamping pins off of the clamping knob. This clamping process is achieved by bleeding the air pressure out of the chuck. To facilitate palletization, the clamping knob is attached to a base plate, fixture or directly to a workpiece. The result is quick and repeatable clamping. A hand locking version (no air required) is also available.

## Features:

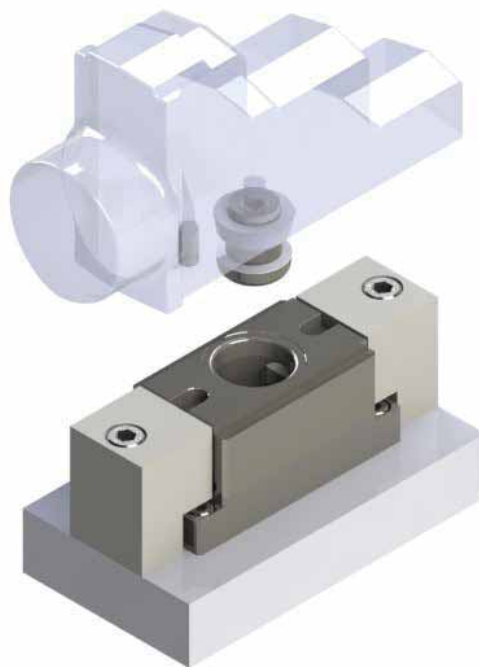
- Clamping Mechanism: Heavy-duty die springs
- Chuck Opening: Air pressure to compress springs
- Clamping Stability: Low profile with matching taper wedges
- Positional Accuracy: Adaptable to workpiece conformation
- Unlocking Air Pressure: 75 PSI
- Turbo Assist Clamping



## Single Chuck Applications

The Unilock clamping knob mates with the central taper in the chuck to establish the centerline location (XY reference in a Cartesian coordinate system). A timing pin or key locates in a notch or bushing to orient the coordinate system relative to XY and to restrict rotation. The Z reference in this same coordinate system is established by the bottom of the fixture or workpiece contacting the top ground surfaces of the chuck. These same mating surfaces (bottom of the fixture and top of the chuck) will control axial alignment.

The clamping knob can be used for locking down a workpiece without influencing location if external features are used for positioning.





**Multiple Chuck Applications**

Unilock is not restricted to one clamping knob. When the fixture or workpiece exceeds the work range of a single Unilock chuck, additional clamping knobs and chucks can be used to provide the necessary support and stability required for the process. There are only a few limiting factors as to the size of an array of chucks or in the weight of a workpiece. Undersized knobs provide clearances for large parts or out of position locations.



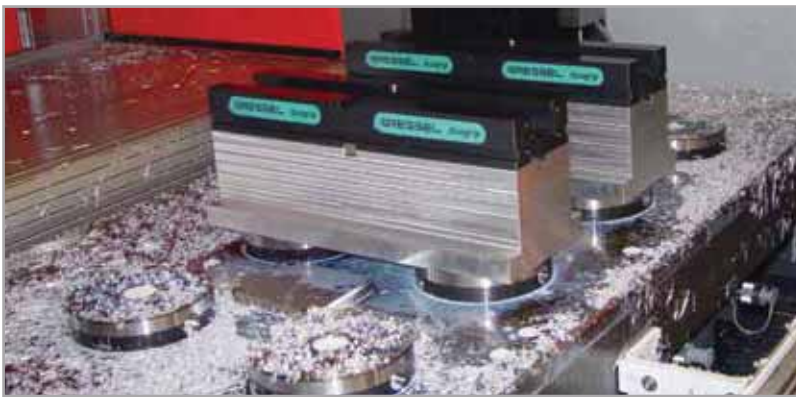
**SBC Knob Diametral Clearances**

Type	Metric	Inch
SBC	.1mm	.004
SBCC	.3mm	.012
SBCC	.6mm	.024

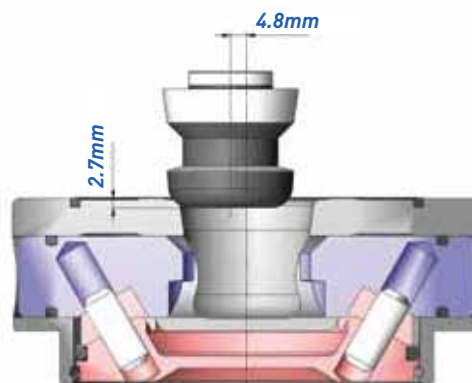
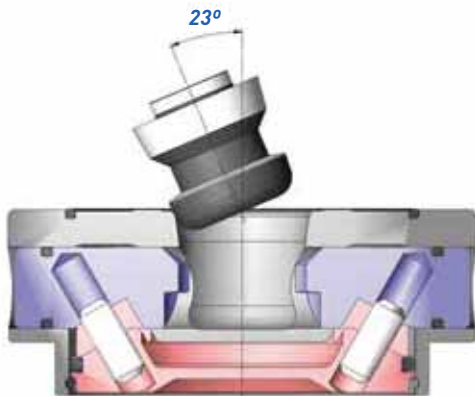
- SBA = Establishes centerline
- SBB = Orients about centerline
- SBC = Clamp only, no positioning

**Designed for Manufacturing**

During day-to-day use, chucks can be cleaned with compressed air. The fit between the clamping rams and the chuck body will not allow air pressure to push chips inside of the chuck. If you get chips in the clamping pocket, simply blow them out with an air gun. When open, the wedges completely retract. The one-to-one length-to-diameter ratio of the pocket is easily cleaned. There is no need for a vacuum. The 40mm tall by 40mm diameter clamping knob is extremely stable and can double as a foot when moving fixtures and workpieces around the shop. You will not need protective sleeves or special shelving when storing or transporting Unilock palletized fixtures or workpieces. Male and female threads are available in multiple sizes.



**Self-Guiding Design**



Unilock is designed to accept warped workpieces and fixtures. The shallow clamping pocket will allow a clamping knob to enter the chuck at an angle of up to 23 degrees. Undersized clamping knobs are also available. Standard and special Unilock clamping knobs will accommodate your out of position datums.

The radius on the smaller bottom diameter of the clamping knob addresses out of position loading conditions. When working with large workpieces that can warp, expand or contract, the knob can be used to help guide the clamping knobs to the center of the chuck.

## Process Your Way to Savings

Fixtures and workpieces are easily adapted to Unilock clamping knobs. Tremendous savings are available if the fixture or workpiece can be reoriented or transferred to machine additional features while remaining attached to the Unilock clamping components. On horizontal machines with columns, fixtures can be rotated 90 degrees or moved to the top. Transferring fixtured parts through as many operations as possible eliminates additional fixtures and clamping/unclamping time. Less clamping and unclamping of parts also reduces scrap and improves feature-to-feature accuracies.

## Transfer Workpieces Between Processes

- Vertical Machining Cells
- Horizontal Machining Cells
- High Speed Drilling and Tapping Centers
- Surface and Cylindrical Grinding Cells
- Horizontal and Vertical Lathes
- Coordinate Measuring Cells
- Welding, Plasma and Laser Cells



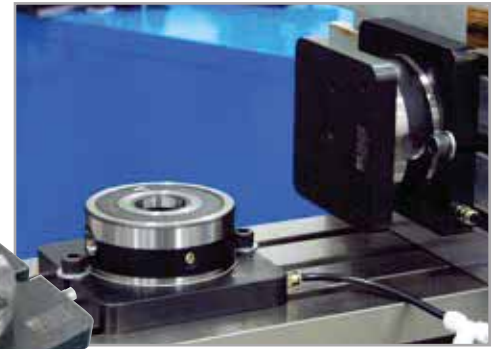
Once you grab the part, use Unilock to send it to as many operations as possible without removing the part from the fixture. Unilock positions and clamps from one face, leaving the other faces available for machining. Rotary tables, angle/sine plates and multi-sided tombstones facilitate part reorientation for subsequent operations.



The user can expand the operational envelope of any Unilock chuck by adding external timing features and support for the portion of the workpiece or pallet that falls outside of the top of the chuck.

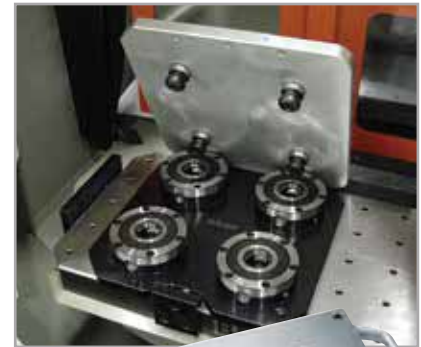
## It's Easy to Get Started

Starter Kits help save time between part changes. Chucks are pre-mounted to a base plate which functions as a reference edge. With a single part number you get all the required components to be up and running immediately.



## Working Solutions in Minutes

Table chucks are mounted to base plates and are ready to be clamped to your workstation. These chucks are supported by pre-assembled pallets. Shown below are the Mono, Duo and Quad table chucks, along with their pallets. Pneumatic kits are also available so you can install a working solution in minutes.



## Build Your Own Custom Solutions

Unilock components can be purchased individually for incorporation into your own custom designs.

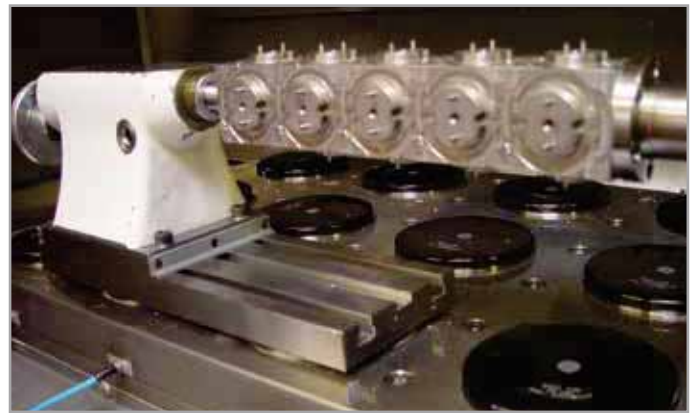
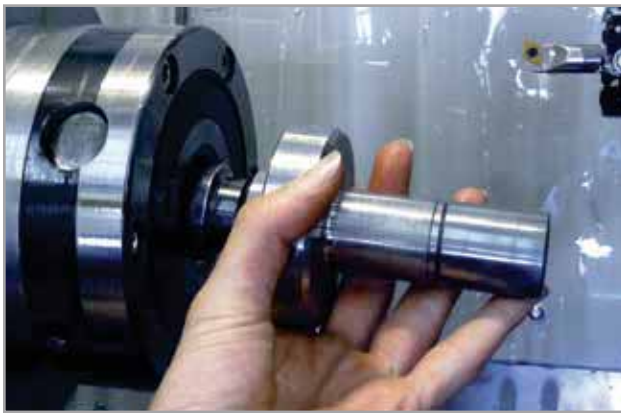




### *A Clamping System Flexible Enough to Change the Entire Table or Workpieces and Fixtures*

Unilock establishes predefined datums on all of your machines. When you load, lock and hit cycle start, there is no wasted time. A setup should always take the same amount of time.

Unilock delivers scheduling flexibility and setup versatility. By using more than one chuck on a machine, you will be able to switch between multiple small parts or fewer large parts. Our predefined datums allow you to quickly and accurately convert your machining center from a headstock and tailstock setup to fixtures on the table.



### *Applications Are Endless – Limited Only by Your Imagination*

You can align all of your rotary table fixtures in seconds. As you move away from the spindle nose, Unilock's heavy duty chucks will absorb the additional leverage and torque. Since individual Unilock components are sold separately, you can build specific solutions in-house, contact your tool and fixture provider or purchase them from one of our workholding associates.

Unilock can be used in any configuration and in almost any process. A heavy cut requiring six chucks to stabilize the part for machining can be accurately positioned on a coordinate measuring machine with two small chucks or a single chuck and a timing feature.





### Large Parts

*Even Your Largest Machines Can Save Money Starting With Your Next Job*

Unilock provides undersized clamping knobs so you do not have to hold .0004" on fixture locations when your production tolerance is .005". These undersized knobs are a necessity if you want to mount knobs directly to warped or loosely toleranced workpieces. If you do not need to, or cannot hold a tight tolerance, simply select the appropriate undersized clamping knobs to accommodate your workpiece or fixture. Unilock's heavy-duty clamping knobs are a necessity when you are using a hoist to load and unload your machine. With a length-to-diameter ratio of 1-to-1, Unilock's 40mm clamping knob can be left on fixtures and workpieces without worry of damage during loading and unloading, storage or transfer.



### SBC Knob Diametral Clearances

Type	Metric	Inch
SBC	.1mm	.004
SBCC	.3mm	.012
SBCC	.6mm	.024



### Small Parts

*Remove Process Time – Save More Than Just Setup Time*

Before Unilock, three subsequent machining processes required the operator to clamp and unclamp the part three times. Now the same part is only clamped and unclamped once over these same three processes.

Even when the time spent clamping and unclamping the part is minimal, it creates unnecessary labor and a chance for errors. Use Unilock so you can immediately increase your spindle uptime and decrease scrap due to part positioning and clamping errors.

If a part has to be clamped and unclamped in a different fixture for each operation, considerable process time and money can be saved by leaving the part in the same fixture for as many operations as possible. The more expensive fixtures which hold machined parts for subsequent operations would also be eliminated.



Operation	Before Unilock		After Unilock		
	Set Up	Production	Set Up	Production	Savings
Op-10 Lathe	3 hours	4 hours	1 hour	4 hours	2 hours
Op-20 Lathe	2 hours	10 hours	1 hour	2 hours	9 hours
Op-30 Mill	4 hours	11 hours	1 hour	8 hours	6 hours
Total	10 hours	25 hours	3 hours	14 hours	17 hours





The round Unilock chucks come in diameters from  $\varnothing 90\text{mm}$  to  $\varnothing 196\text{mm}$  ( $\varnothing 3.543''$  to  $\varnothing 7.716''$ ) and body styles to fit a wide variety of applications. Chucks can be supplied with single notches, multiple notches or bushing holes for timing. Most body forms allow the use of turbo assisted clamping for higher retention forces.



**ESM 138** ..... Pg. 12-13



**NEW!**

**ESM 138 Turbo** ..... Pg. 14-15



**NEW!**

**ERGO 138** ..... Pg. 16-17



**EFM 138** ..... Pg. 18-19



**ASM 90** ..... Pg. 20-21



**ASM 120** ..... Pg. 22-23



**NEW!**

**ASH 120** ..... Pg. 24-25



**ISM 160** ..... Pg. 26-27



**MSM 170** ..... Pg. 28-29



**ESM 176 TURBO** ..... Pg. 30-31



**HSM 196** ..... Pg. 32-33



**Our Most Popular Chuck**

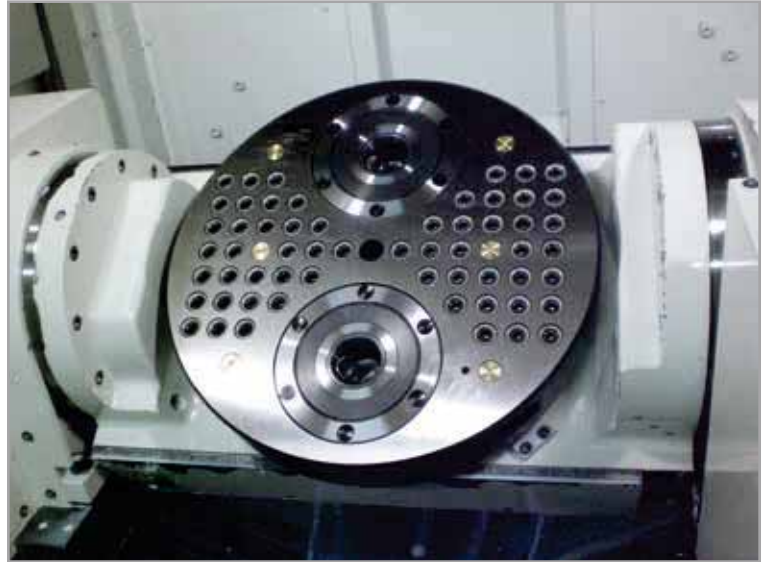
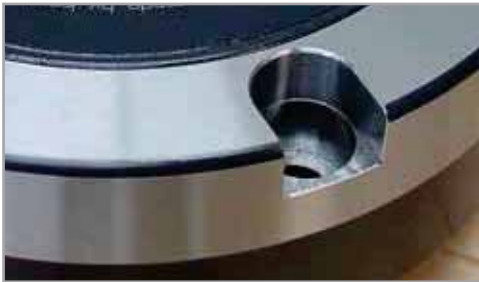
The ESM 138 Unilock chuck is easily mounted in custom fixture designs, and its versatility makes it our best seller.

**Features:**

- Mid-sized diameter fits most applications
- Top side mounting for ease of integration
- Choose from air connections at bottom or side
- Optional timing notch in face of chuck
- Stainless steel body option (ESM 138-SS)



**Available with Notches**



Chuck Model	Catalog Number	Notch (Width x Qty)	Recommended Bolt Sizes					Clamping Force (lbs)		Weight (lbs)	Air Connection	
			M10	M12	M16	M20†	M24†	Spring Only	Turbo Assist		Port Size	Flange
ESM 138	15.270.100	—						990-1,320	3,300-3,520*	9.9	1/8	✓
	15.270.107	14 H7 x 1	✓	✓	✓	✓	✓					
ESM 138-SS	15.276.100	—										

- Screws, screw covers and o-ring included
- \* Sealed pocket required for turbo assist
- † Optional

**AIR FITTINGS**



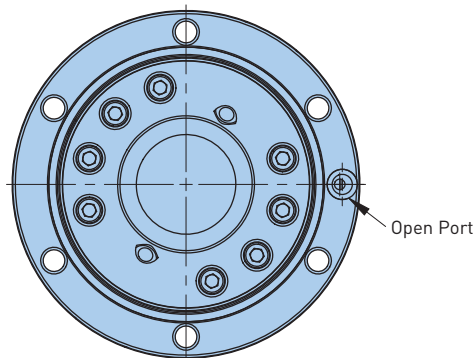
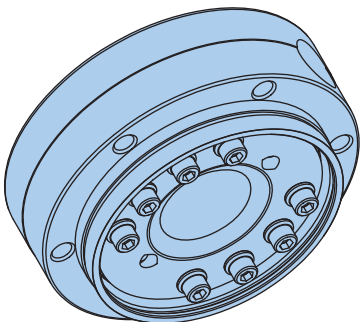
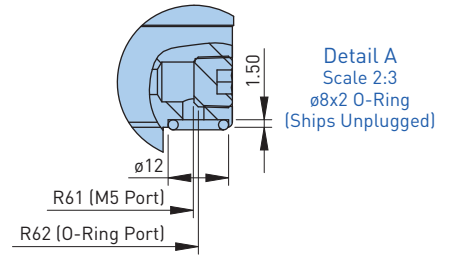
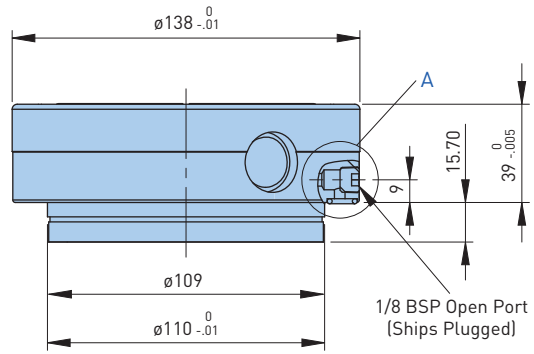
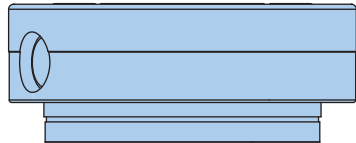
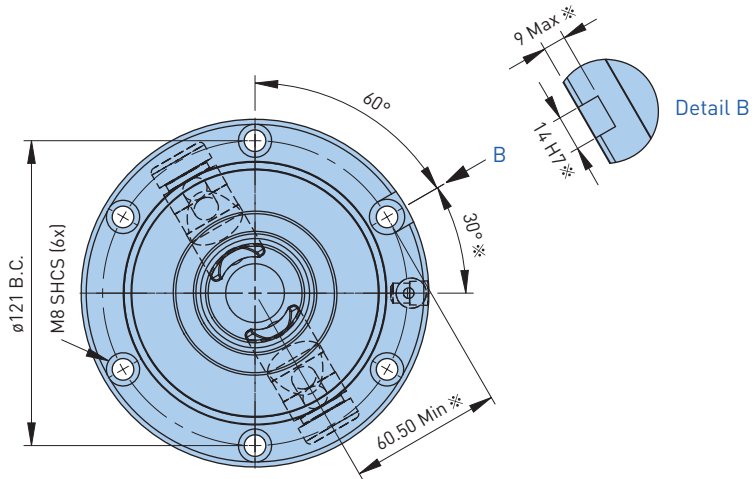
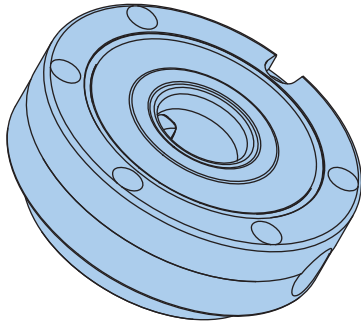
**ACCESSORIES**



**REPAIR COMPONENTS**







- All dimensions are in millimeters
- Dimensions marked  $\ast$  are for notch option

**NEW!**

**Our Most Popular Chuck Has Been Improved**

The ESM 138 Turbo Unilock chuck comes with an air assisted clamping turbo function. This is accomplished by covering the piston with a sealed cover plate. It also has improved retention force with a new slide wedge actuation.

**Features:**

- Mid-sized diameter fits most applications
- Top side mounting for ease of integration
- Choose from air connections at bottom or side
- Optional timing notch in face of chuck
- Same body and locating diameters
- Same mounting bolt hole pattern
- Same flange air port location
- Same timing notch



Available with Notches



Chuck Model	Catalog Number	Notch (Width x Qty)	Recommended Bolt Sizes					Clamping Force (lbs)		Weight (lbs)	Air Connection	
			M10	M12	M16	M20†	M24†	Spring Only	Turbo Assist		Port Size	Flange
ESM 138 TURBO	15.270.140	—						990-1,320	3,300-3,520	9.9	1/8	✓
	15.270.147	14 H7 x 1	✓	✓	✓	✓	✓					

• Screws, screw covers and o-ring included  
 † Optional

**AIR FITTINGS**

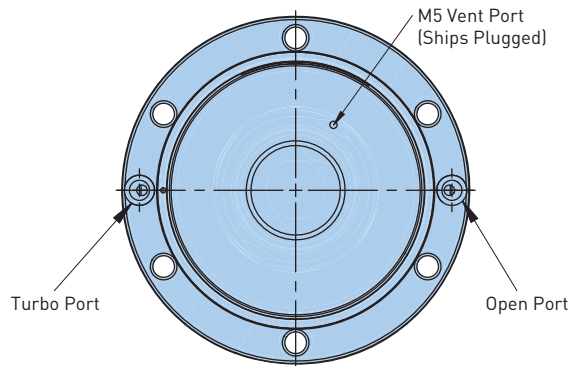
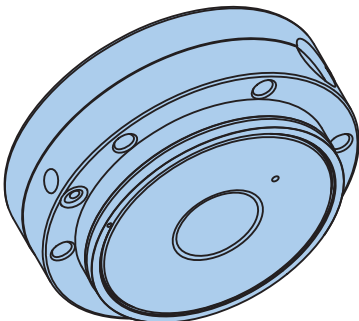
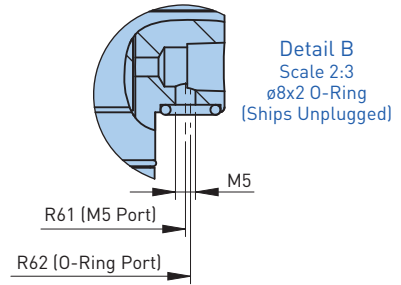
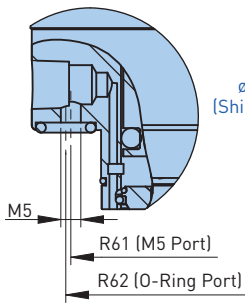
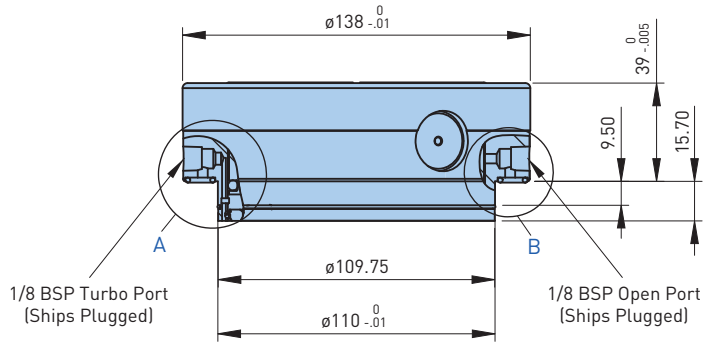
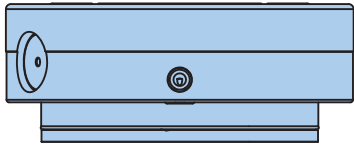
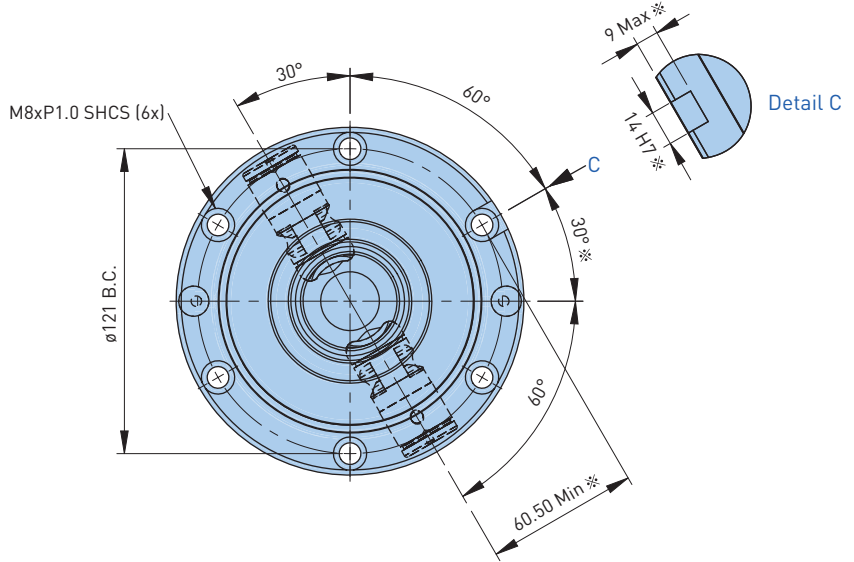
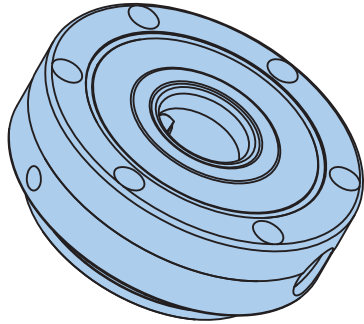


**ACCESSORIES**



**REPAIR COMPONENTS**





- All dimensions are in millimeters
- Dimensions marked ※ are for notch option

**Space Saving Chuck**

The 138 family of chucks has a new member with the all new ERGO 138 Unilock chuck. It has many new features, but the primary difference is its space saving height of 28mm. A savings of 11mm over the ESM 138 model.

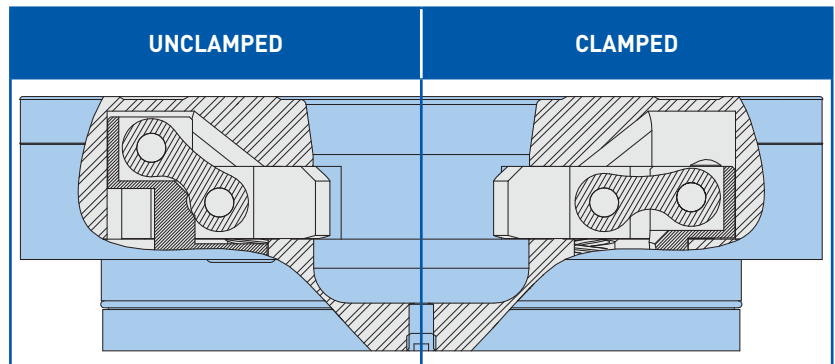
**Features:**

- Mid-sized diameter fits most applications
- Top side mounting for ease of integration
- Choose from air connections at bottom or side
- Optional timing notch in face of chuck
- Same body and location diameters
- Same mounting bolt hole pattern
- Same flange air port location
- Increased inner support ring diameter
- Knee locking mechanism

**NEW!**



**Available with Notches**



Chuck Model	Catalog Number	Notch (Width x Qty)	Recommended Bolt Sizes					Clamping Force (lbs)		Weight (lbs)	Air Connection	
			M10	M12	M16	M20+	M24+	Spring Only	Turbo Assist		Port Size	Flange
ERGO 138	15.270.110	—	✓	✓	✓	✓	✓	990-1,320	3,300-3,520	9.9	1/8	✓
	15.270.117	14 H7 x 1										

• Screws, screw covers and o-ring included  
 † Optional

**AIR FITTINGS**



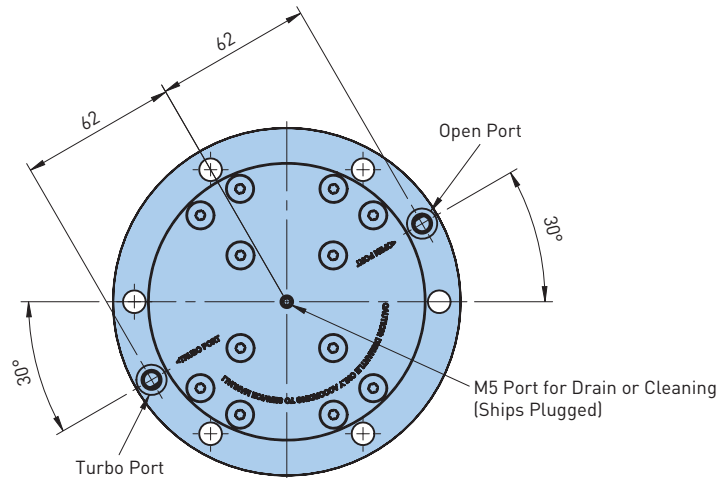
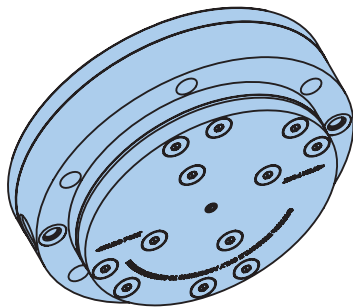
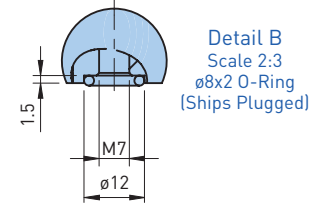
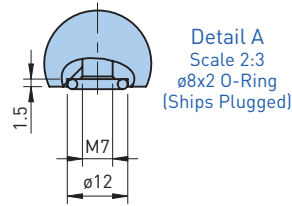
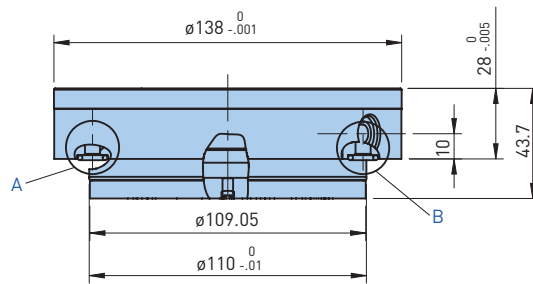
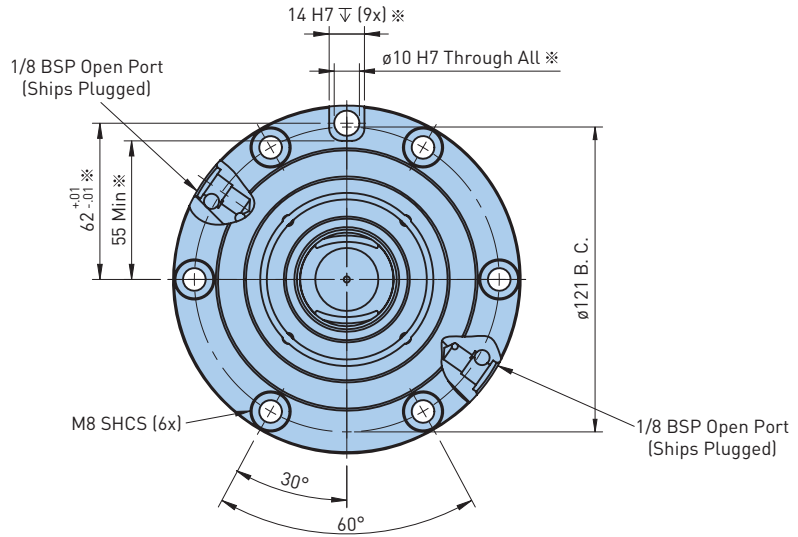
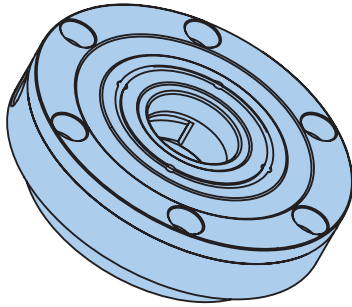
**ACCESSORIES**



**REPAIR COMPONENTS**







- All dimensions are in millimeters
- Dimensions marked ※ are for notch option

**The Tombstone Specialist**

The EFM 138 Unilock flange mount chuck is easily mounted in custom fixture designs due to the reduced projection height. Especially suited for thinner walled tombstones.

**Features:**

- Mid-sized diameter fits most applications
- Top side mounting for ease of integration
- Reduced projection height by mounting in fixtures
- Optional timing notch in face of chuck
- Stainless steel body option (EFM 138-SS)



Available with Notches



Chuck Model	Catalog Number	Notch (Width x Qty)	Recommended Bolt Sizes					Clamping Force (lbs)		Weight (lbs)	Air Connection	
			M10	M12	M16	M20+	M24+	Spring Only	Turbo Assist		Port Size	Flange
EFM 138	15.263.100	—						990-1,350	3,300-3,520	8	—	✓
	15.263.107	14 H7 x 1	✓	✓	✓	✓	✓					
EFM 138-SS	15.276.107											

• Screws, screw covers and o-rings included  
 † Optional

**AIR FITTINGS**

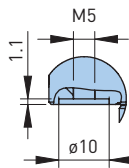
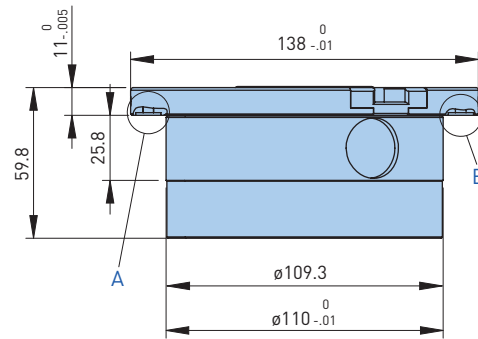
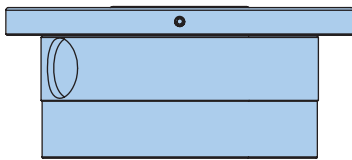
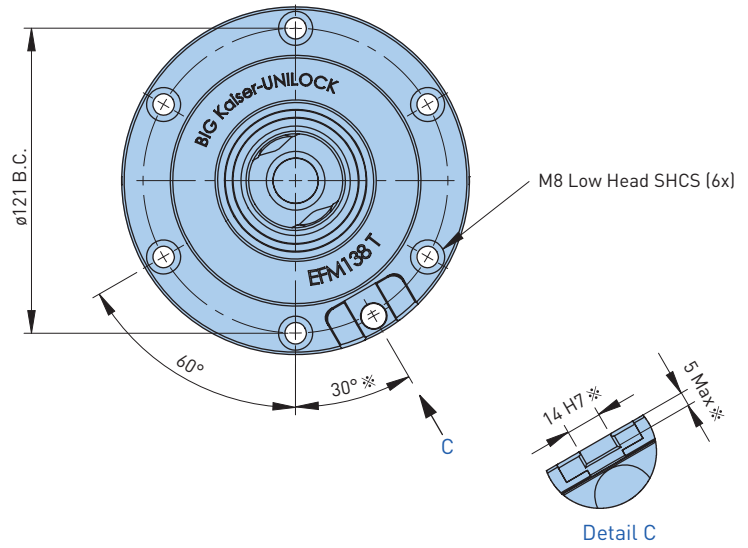
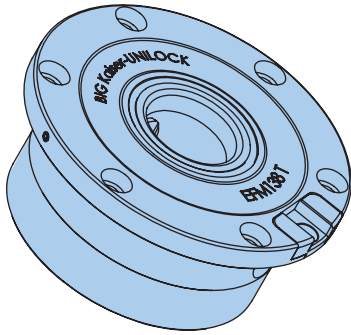


**ACCESSORIES**

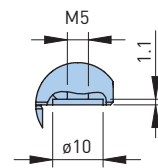


**REPAIR COMPONENTS**

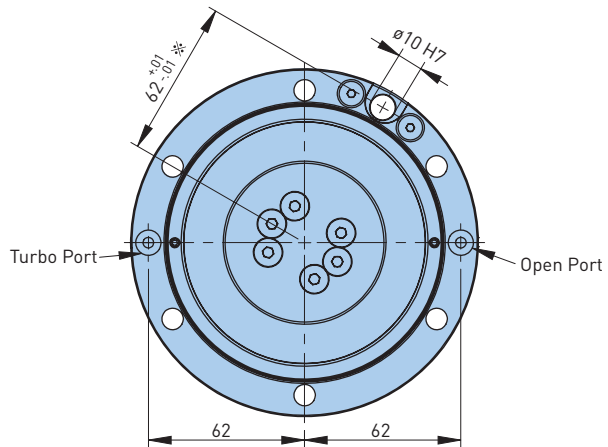
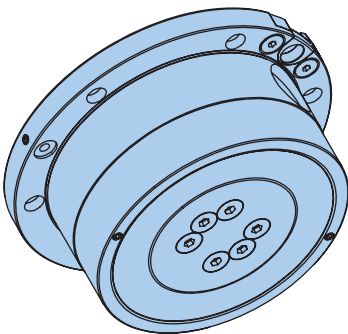




Detail A  
Scale 2:3  
ø7x1.5 O-Ring  
[Ships Unplugged]



Detail B  
Scale 2:3  
ø7x1.5 O-Ring  
[Ships Unplugged]



- All dimensions are in millimeters
- Dimensions marked \* are for notch option



**Smaller Application Chucks**

As one of the smallest chucks in the Unilock family, the ASM 90 specialized in small jobs without creating obstructions

**Features:**

- Reduced diameter for small work or tight spaces
- Integrated toe clamp lip
- Turbo option for increasing holding power
- Air supply from bottom or side of chuck
- Optional reference notch in face of chuck



**Optional Through Hole**



Chuck Model	Catalog Number	Notch (Width x Qty)	Recommended Bolt Sizes					Clamping Force (lbs)		Weight (lbs)	Air Connection	
			M10	M12	M16	M20†	M24†	Spring Only	Turbo Assist		Port Size	Flange
ASM 90	15.240.090	—	✓	✓	—	—	—	550-660	1,540-1,760	5.1	1/8	✓
	15.240.091	12 H7 x 1										

• O-rings included  
† Optional

**AIR FITTINGS**

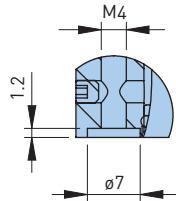
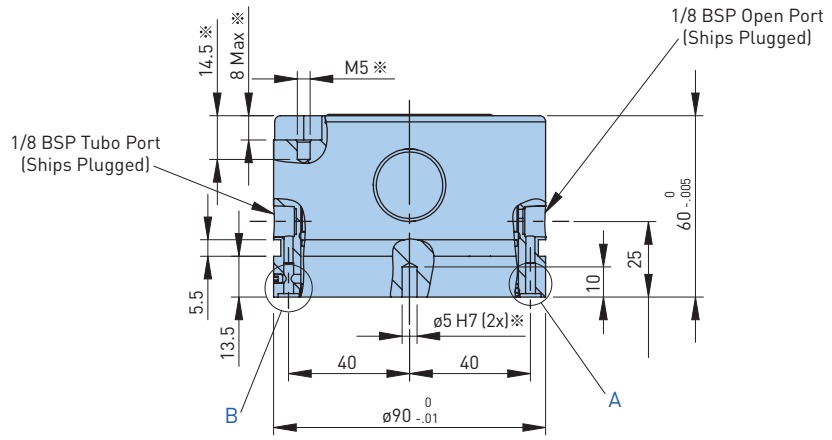
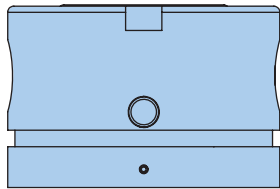
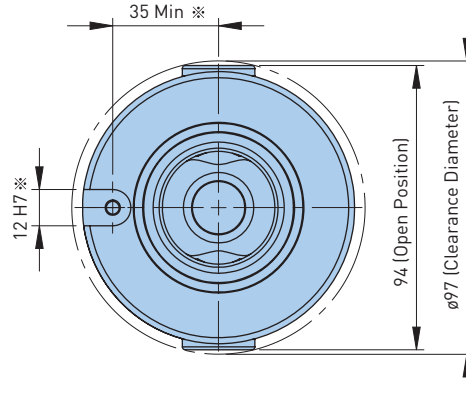
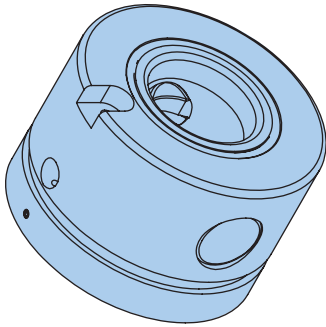


**ACCESSORIES**

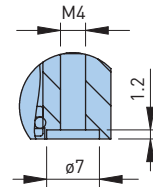


**REPAIR COMPONENTS**

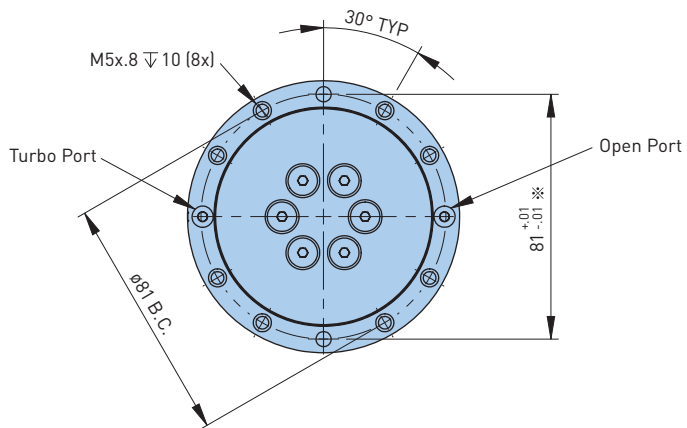
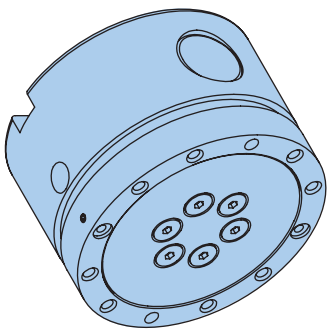




Detail B  
Scale 1:1  
ø4x1.5 O-Ring  
(Ships Unplugged)



Detail A  
Scale 1:1  
ø4x1.5 O-Ring  
(Ships Unplugged)



- All dimensions are in millimeters
- Dimensions marked ※ are for notch option

**A Grid Plate's Best Friend**

Changing positions and jobs is no problem for this plate-friendly smaller, yet robust chuck with multiple positioning and securing options.

**Features:**

- Integrated toe clamp lip
- Reduced diameter for small work or tight spaces
- Jig ground reference pin location on bottom of chuck
- Air supply from bottom or side of chuck
- Optional timing pin hole in face of chuck
- Non-air mechanical version available

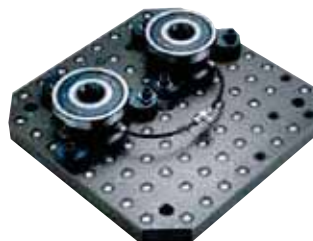


The manual version comes with a wrench for easy opening and closing.



The Model 120 chuck has a reference hole on center (shown here with a step pin). Threaded holes are also provided for mounting the chuck to a baseplate.

**Optional Timing Pin Feature**



Toe clamps can also be used to clamp the chuck in place.

Chuck Model	Catalog Number	Notch (Width x Qty)	Recommended Bolt Sizes					Clamping Force (lbs)		Weight (lbs)	Air Connection	
			M10	M12	M16	M20+	M24+	Spring Only	Turbo Assist		Port Size	Flange
ASM 120	15.270.150	—	P	P	—	—	—	770-990	2,860-3,300*	8.8	1/8	P
	15.270.155	8 H7 x 1										
ASM 120-SS	15.270.161	—										
	15.270.160	8 H7 x 1										
ASM 120M	15.270.180	—	—	—	—	—	1,760-2,200	—	—	—		
	15.270.185	8 H7 x 1										

• O-rings included  
 \* Sealed pocket required for Turbo Assist  
 † Optional

**AIR FITTINGS**



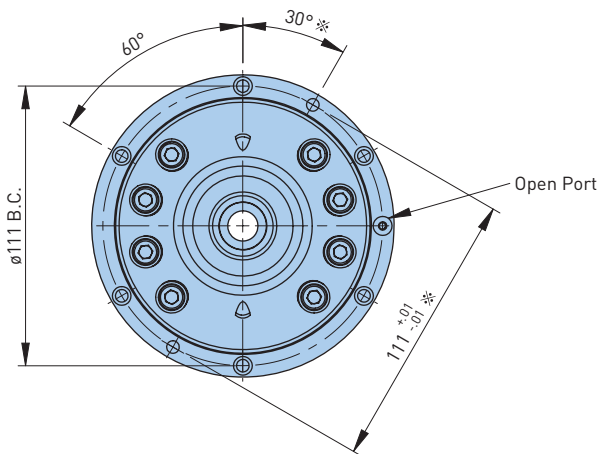
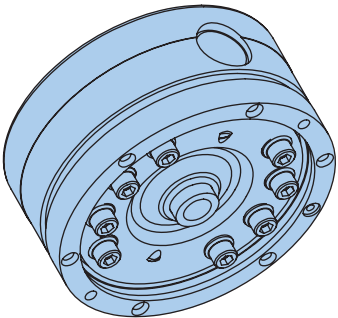
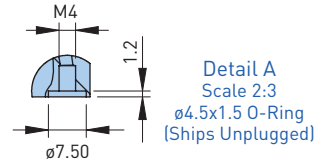
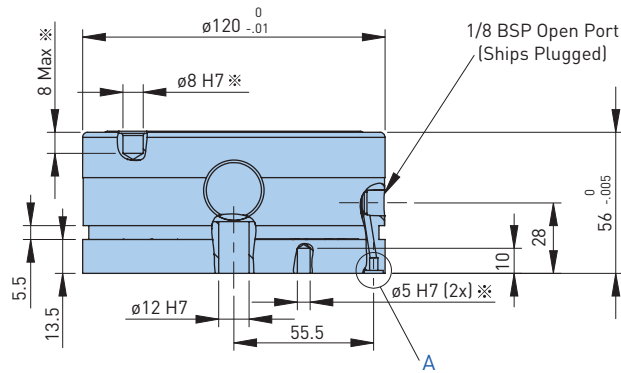
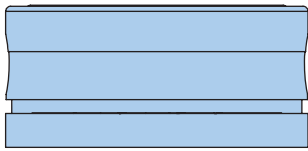
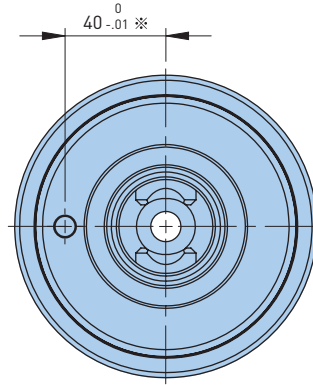
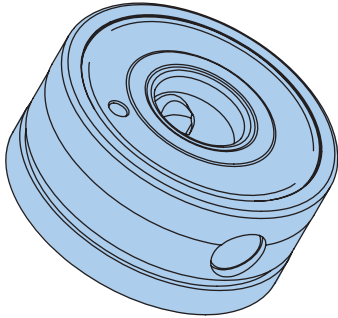
**ACCESSORIES**



**REPAIR COMPONENTS**







- All dimensions are in millimeters
- Dimensions marked ※ are for notch option

**NEW!**

**A New Member of the 120 Family**

The 120 family has a new manual version. The ASH 120 is the same diameter and height as its original ASM 120 version but now has a new clamping actuation system. Rather than the handle rotating 180° about the axis of the pin, the wrench swings 90° about the axis of the chuck.



The ASH 120 comes with a wrench for easy opening and closing. The wrench swings 90° about the axis of the chuck.

Chuck Model	Catalog Number	Notch (Width x Qty)	Recommended Bolt Sizes					Clamping Force (lbs) Manual Only	Weight (lbs)
			M10	M12	M16	M20†	M24†		
ASH 120	15.270.170	14 H7 x 1	✓	✓	—	—	—	1,760-2,200	8.8

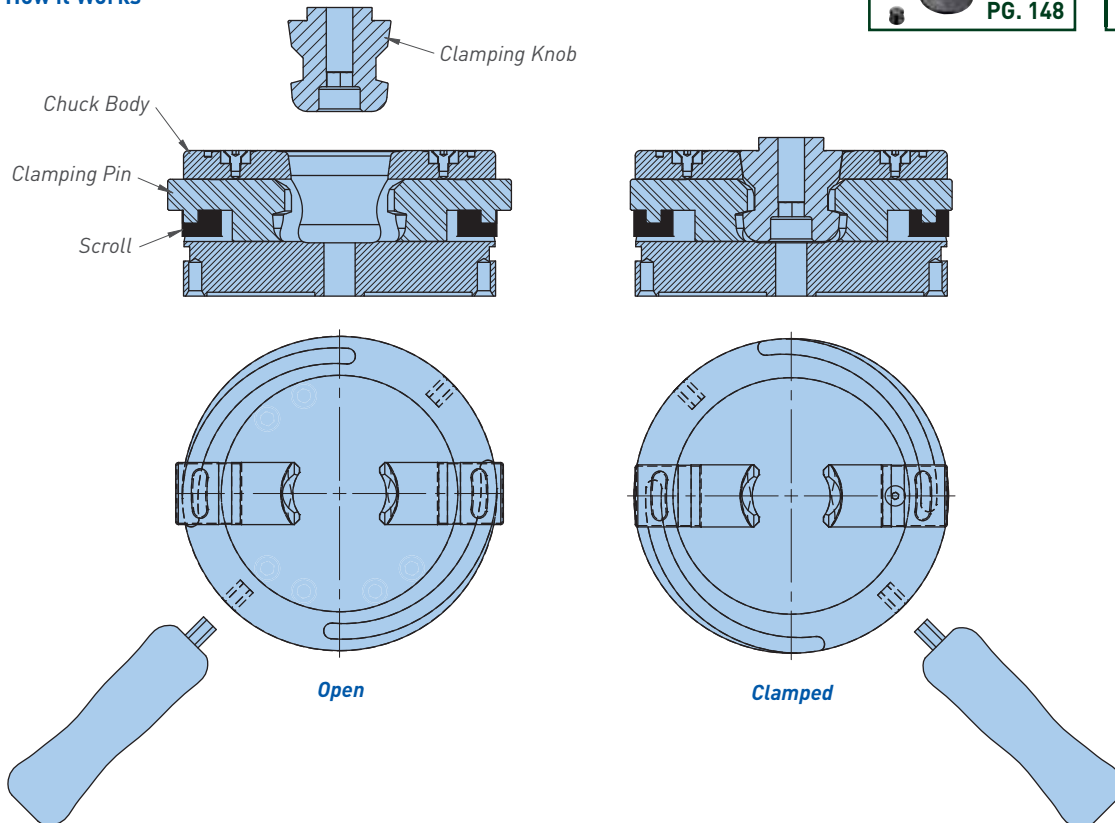
**ACCESSORIES**

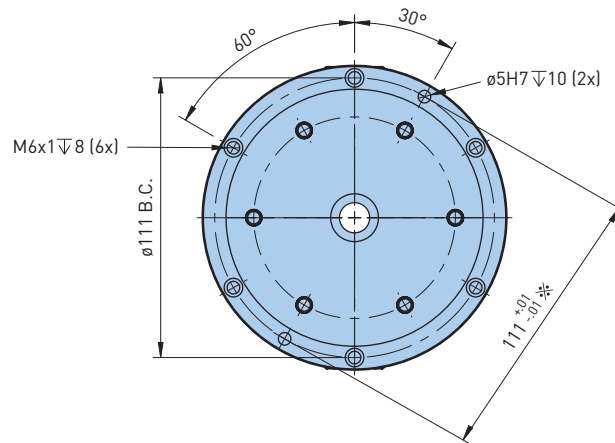
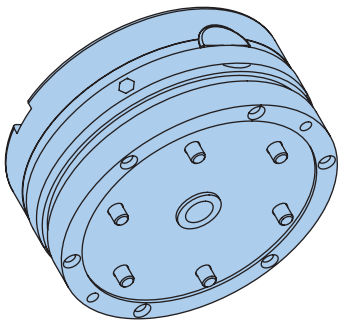
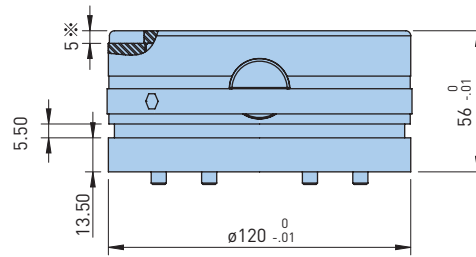
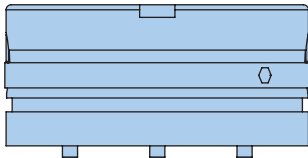
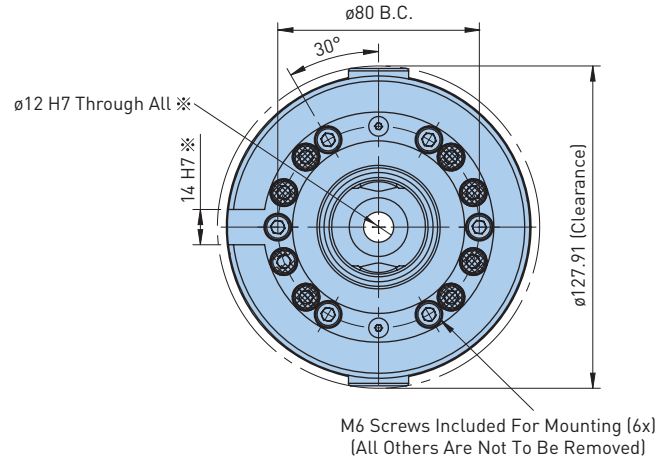
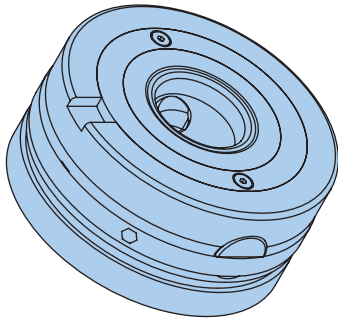


**REPAIR COMPONENTS**



**How it Works**





• All dimensions are in millimeters



**The Rotary Expert**

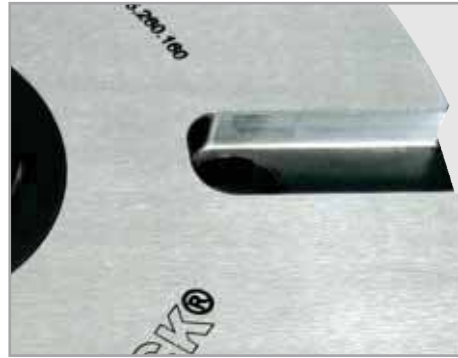
The ISM 160 chuck is a single chuck solution for the face of 4th and 5th axis rotary tables. Exterior timing features are comparable with MCM 150 & MSM 170 chucks. Timing pin slot allows timing pin to match non-standard pallet sizes.

**Features:**

- Simple surface mount design
- Now available with A2-6 mounting
- Dowel pins into location
- Supports 60° and 90° t-slots
- Air assisted clamping option
- Low profile 46mm (1.811")
- Through-hole eases cleaning
- Multiple indexing options



Slot Allows for Variations in Radial Pin Location



**AIR FITTINGS**



**ACCESSORIES**



**REPAIR COMPONENTS**



Chuck Model	Catalog Number	Notch (Width x Qty)	Recommended Bolt Sizes					Clamping Force (lbs)		Weight (lbs)	Air Connection	
			M10	M12	M16	M20†	M24†	Spring Only	Turbo Assist		Port Size	Flange
ISM 160	15.260.160	14 H7 x 1				—	—	1,100-1,540	3,300-3,740	12.1	1/8	✓
		12 H7 x 4	✓	✓	✓	—	—					
ISM 160 (A2-6)	15.300.008	10 H7 x 2										

- No hardware included
- † Optional

**Adapter Plate for ISM 160 to HAAS 160 Size Indexers and Trunnions**

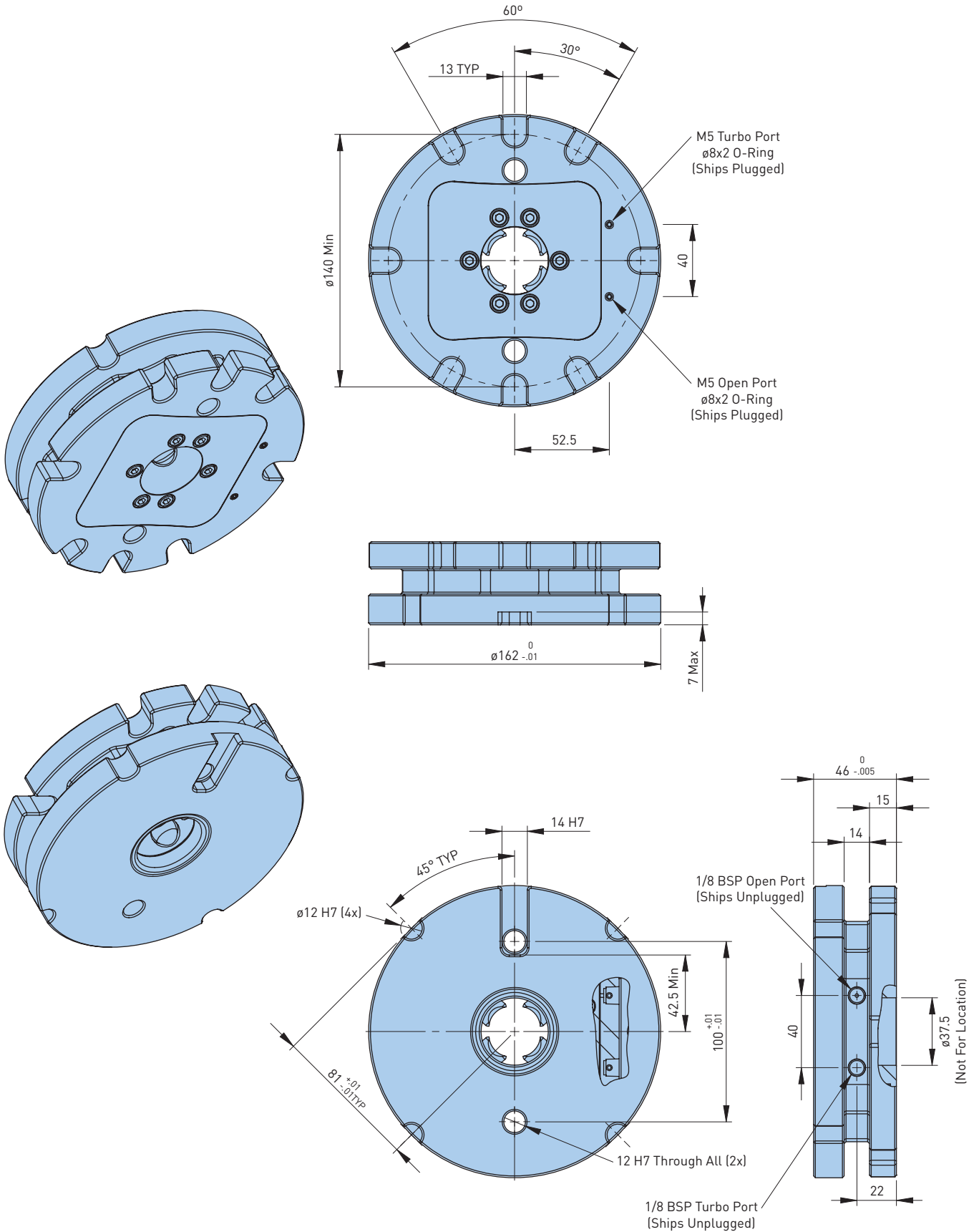
**Features:**

- Replaces t-slot platter
- Allows for both open and turbo
- Low 20mm height

Chuck Model	Indexer Model	Catalog Number
ISM 160	HAAS 160	15.260.164

- Other sizes available upon request
- Please contact BIG KAISER Engineering Dept. for additional information





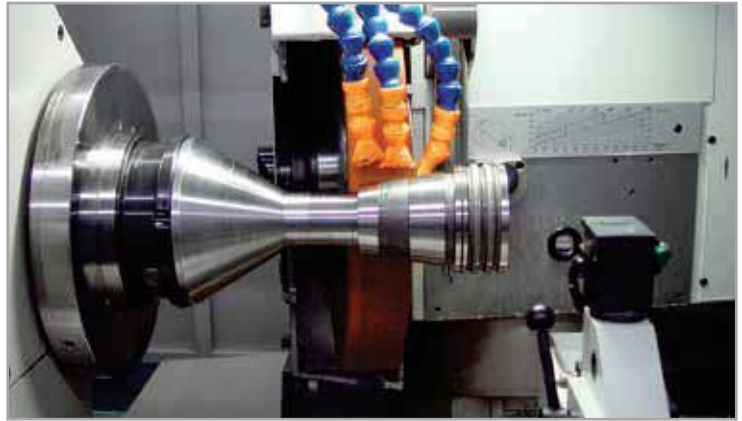
• All dimensions are in millimeters

**Larger More Robust Chucks**

The rigidity of the MSM 170 design allows for use in the highest precision operations in all types of applications and environments.

**Features:**

- Large diameter, heavy duty mechanical clamping
- Clamping lip for top side table clamping
- Threaded holes for bottom side clamping to plates
- Integrated timing pin locations every 90 degrees
- Air supply from bottom or side of chuck



Chuck Model	Catalog Number	Notch (Width x Qty)	Recommended Bolt Sizes					Clamping Force (lbs)		Weight (lbs)	Air Connection	
			M10	M12	M16	M20†	M24†	Spring Only	Turbo Assist		Port Size	Flange
MSM 170	15.260.100	12 H7 x 4	✓	✓	✓	✓	✓	1,650-1,980	3,520-4,400	16.5	1/8	✓

- O-ring included
- † Optional

**Optional Mounting Ring**

Catalog Number
15.260.200



- Other sizes available upon request
- Please contact BIG KAISER Engineering Dept. for additional information

**AIR FITTINGS**



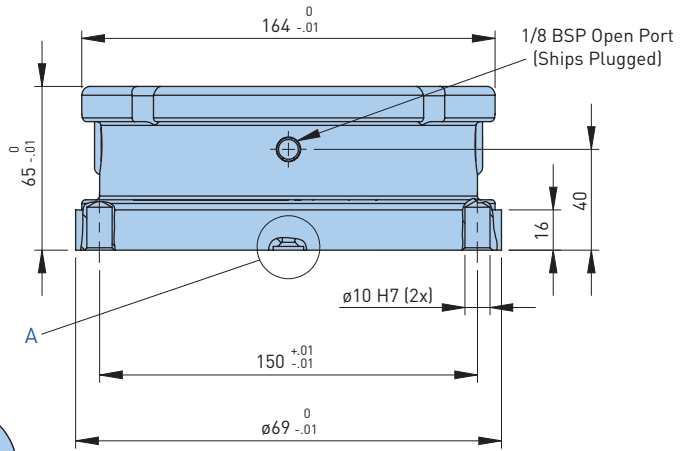
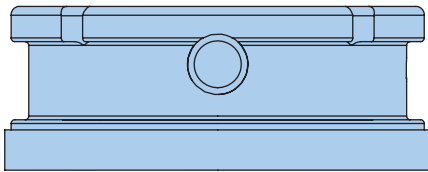
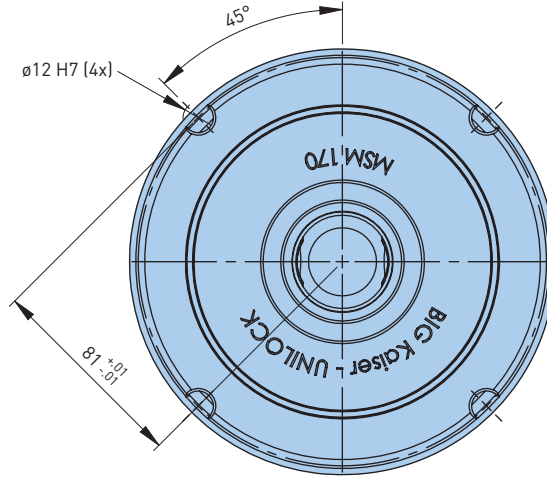
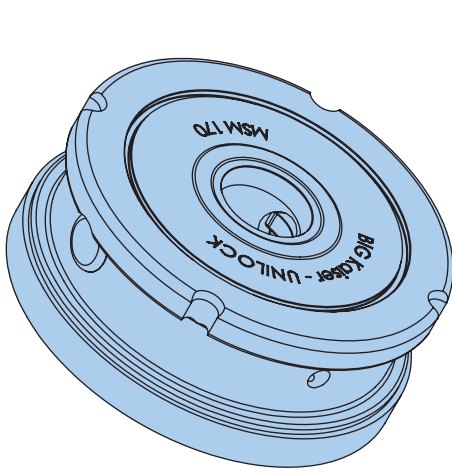
**ACCESSORIES**



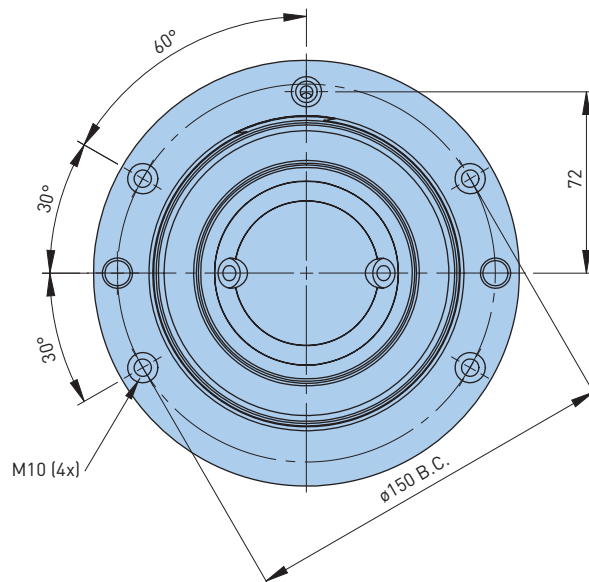
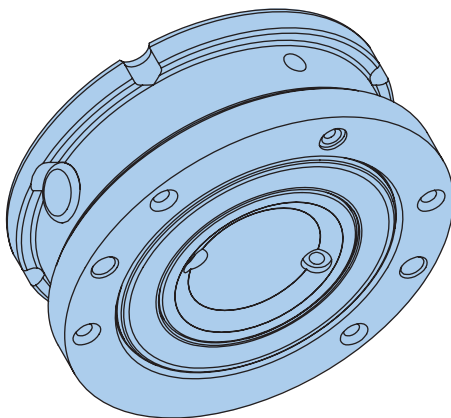
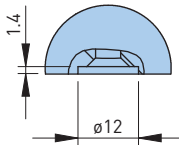
**REPAIR COMPONENTS**







Detail A  
Scale 2:3  
 $\phi 8 \times 2$  O-Ring  
(Ships Unplugged)



• All dimensions are in millimeters

**The Heavyweight Champion**

Due to its size and shoulder screw mounting, the ESM 176 Unilock chuck excels in handling heavyweight fixtures.

**Features:**

- Flange design for top side mounting
- Large diameter with turbo clamping for more rigidity
- Air supply from bottom or side of chuck
- Optional reference notch in face of chuck



**Available with Notches**



Chuck Model	Catalog Number	Notch (Width x Qty)	Recommended Bolt Sizes					Clamping Force (lbs)		Weight (lbs)	Air Connection	
			M10	M12	M16	M20†	M24†	Spring Only	Turbo Assist		Port Size	Flange
ESM 176 Turbo	15.272.170	—	✓	✓	✓	✓	✓	1,540-1,760	4,180-4,840	17.5	1/8	✓
	15.272.171	25 H6 x 1										

- Screws, screw covers and o-rings included
- Notched version comes with timing bushing and all hardware listed above
- † Optional

**AIR FITTINGS**

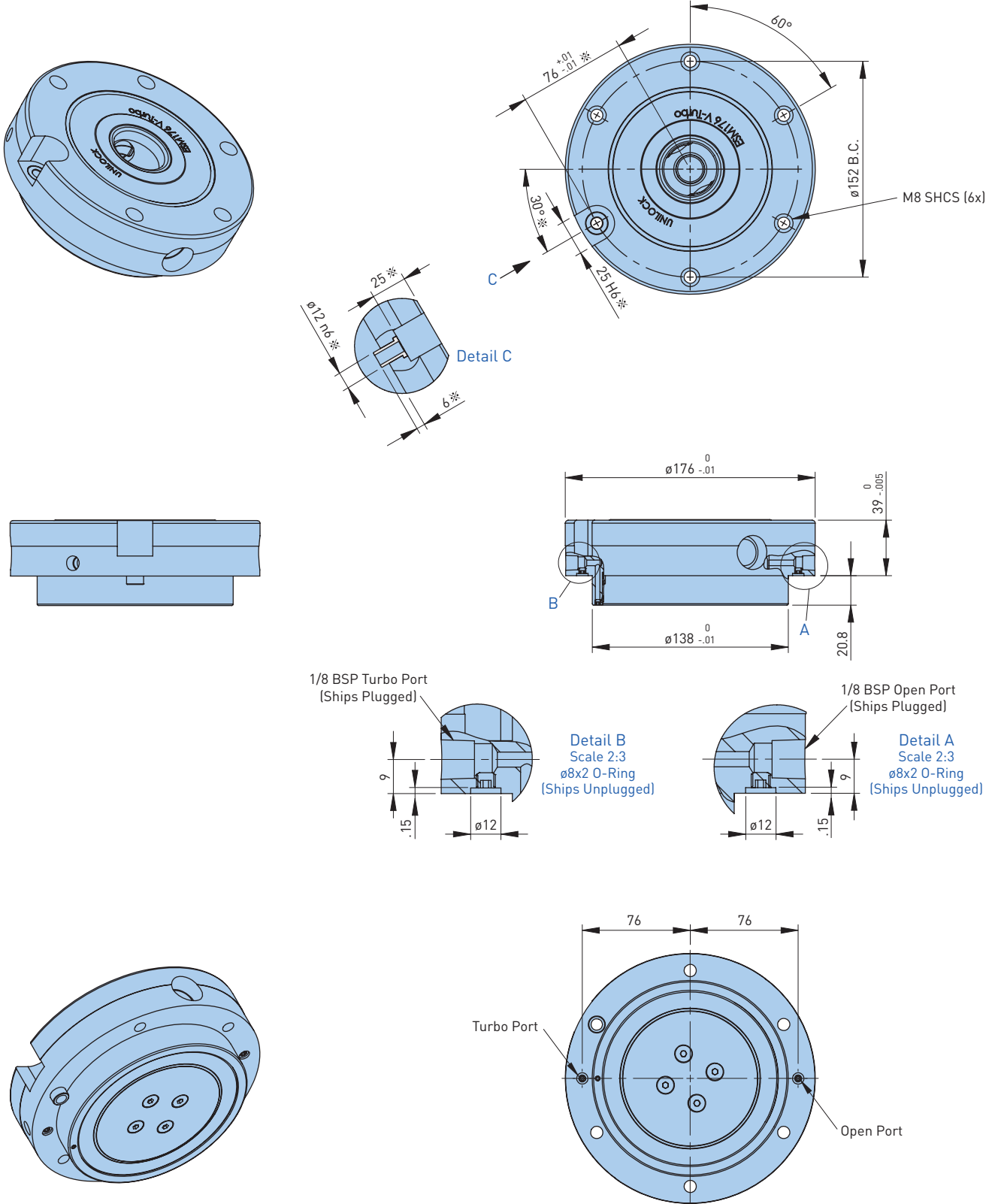


**ACCESSORIES**



**REPAIR COMPONENTS**





- All dimensions are in millimeters
- Dimensions marked ※ are for notch option



**The Vacant Rotator**

The HSM 196 chuck can be used on the face of 4th and 5th axis rotary tables, lathes or mills where the center of rotation provides a through-hole to bury the workpiece.

**Features:**

- 61mm (2.4") through capacity
- Work can pass through chuck
- Rotational limit = 3,000 RPM
- Air assisted clamping option
- Three clamping wedges for added stability
- Bolts into place from top side



**Available with Notches**



Chuck Model	Catalog Number	Notch (Width x Qty)	Recommended Bolt Sizes					Clamping Force (lbs)		Weight (lbs)	Air Connection	
			M10	M12	M16	M20+	M24+	Spring Only	Turbo Assist		Port Size	Flange
HSM 196	<b>15.274.407</b>	25 H6 x 1	—	—	—	—	✓	1,980-2,200	4,400-5,060	19.3	1/8	✓

- Screws, screw covers, o-rings and timing bushing included
- M74 option (See Pg. 68)
- † Optional

**AIR FITTINGS**

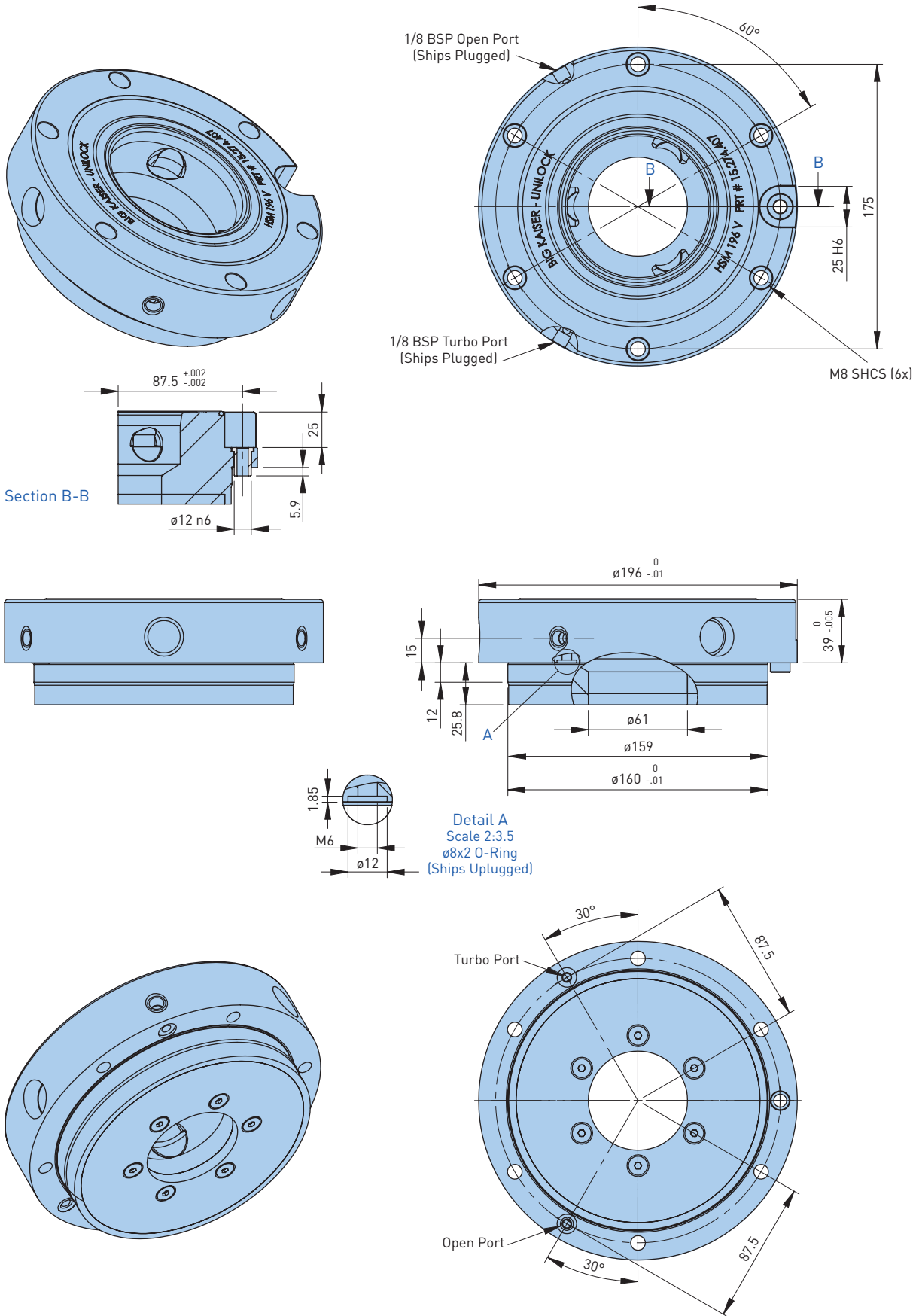


**ACCESSORIES**



**REPAIR COMPONENTS**





• All dimensions are in millimeters



## Rectangular Chucks

Unilock rectangular chucks are well suited for mono-chuck applications. They are available in several sizes, and when matched to the footprint of the workpiece, they provide maximum access from the remaining five sides.

The EDM 100/150 has the lowest profile of all Unilock chucks, and the new AFM 146 is not far behind. The AFM 105/65 and the ESM 100/75 are the two narrowest chucks in the Unilock family and can be placed very close to the edge of a fixture or workpiece. For extremely large and heavy parts, the new ESM 180/150 with a new robust knob series is your answer.



**ESM 100/75** ..... Pg. 36-37



**AFM 105/65** ..... Pg. 38-39



**EDM 100/150** ..... Pg. 40-41



**AFM 146** ..... Pg. 42-43

**NEW!**



**ESM 180/150** ..... Pg. 44-45



*Perfect for Small Spaces*

The ESM 100/75 can be assembled directly to machine tables as well as installation into angle plates, tombstones or pallets.

**Features:**

- Flange mounting design
- Reduced size for small work or tight spaces
- High clamping force in a small package
- Edge of chuck can be used as a timing surface
- Turbo option for increased holding power



Chuck Model	Catalog Number	Notch (Width x Qty)	Recommended Bolt Sizes					Clamping Force (lbs)		Weight (lbs)	Air Connection	
			M10	M12	M16	M20+	M24+	Spring Only	Turbo Assist		Port Size	Flange
ESM 100/75	<b>15.272.175</b>	—	✓	✓	—	—	—	440-660	3,300-3,520	4.5	1/8	✓

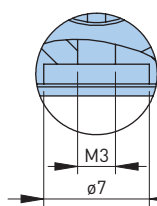
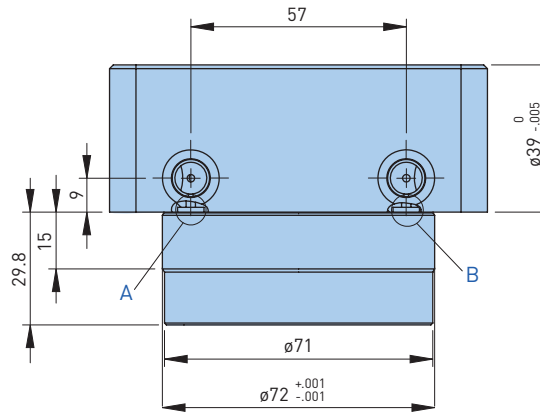
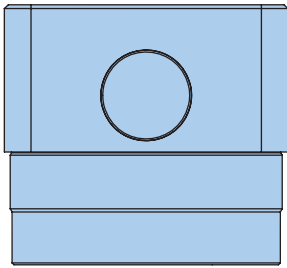
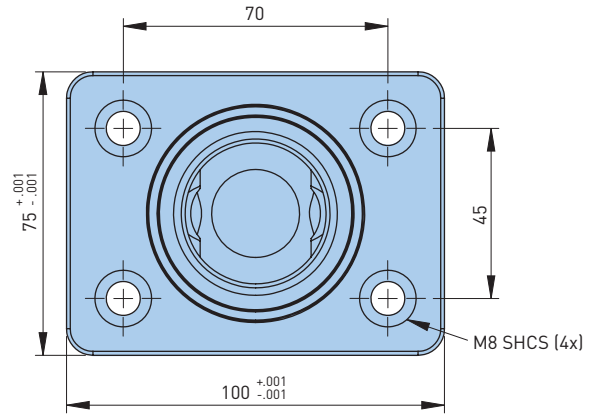
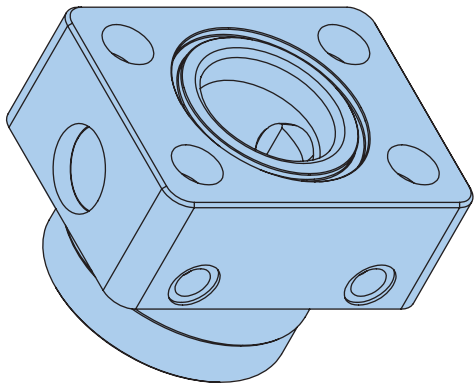
• Screws, screw covers and o-rings included  
 † Optional

**AIR FITTINGS**

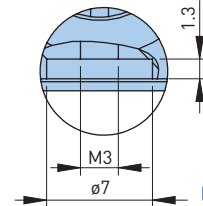


**REPAIR COMPONENTS**

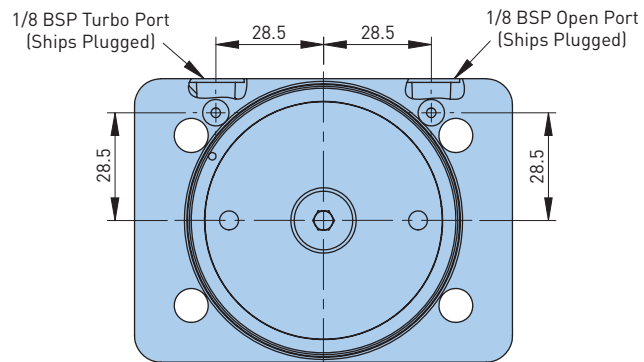
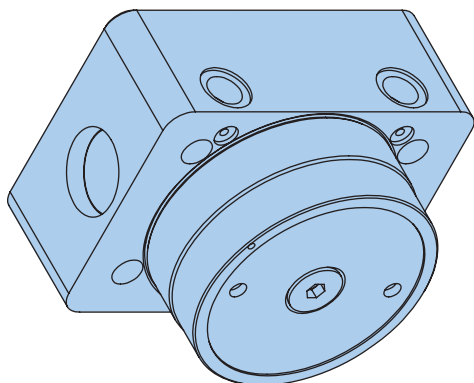




Detail A  
Scale 2:1  
ø4x1.5 O-Ring  
(Ships Unplugged)



Detail B  
Scale 2:1  
ø4x1.5 O-Ring  
(Ships Unplugged)



• All dimensions are in millimeters

### The Small Footprint Expert

The AFM 105/65 chuck is an excellent choice for single chuck applications on multi-axis machines and work cells where clearance is needed to access all available sides of the part.

#### Features:

- Simple surface mount design
- Dowel pins into location
- Bolt through or toe clamp
- Ground edges for orientation
- Air assisted clamping option
- Turbo option for increased holding power
- Optional robot gripper version
- Supports 90 degree (4x) indexing
- Elevated for 5-axis accessibility



Chuck Model	Catalog Number	Notch (Width x Qty)	Recommended Bolt Sizes					Clamping Force (lbs)		Weight (lbs)	Air Connection	
			M10	M12	M16	M20+	M24+	Spring Only	Turbo Assist		Port Size	Flange
AFM 105/65	15.272.165	—	✓	✓	—	—	—	660-880	1,980-2,200	6.3	1/8	✓
	15.272.166	12 H6 x 2										

- No hardware included
- † Optional

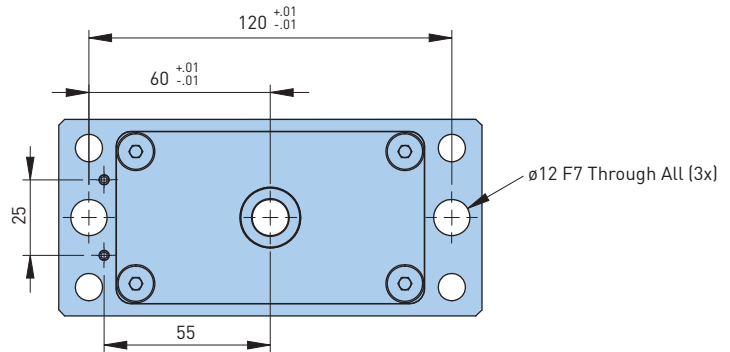
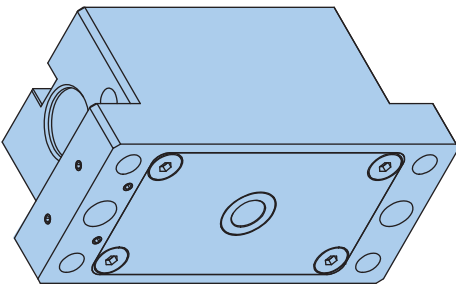
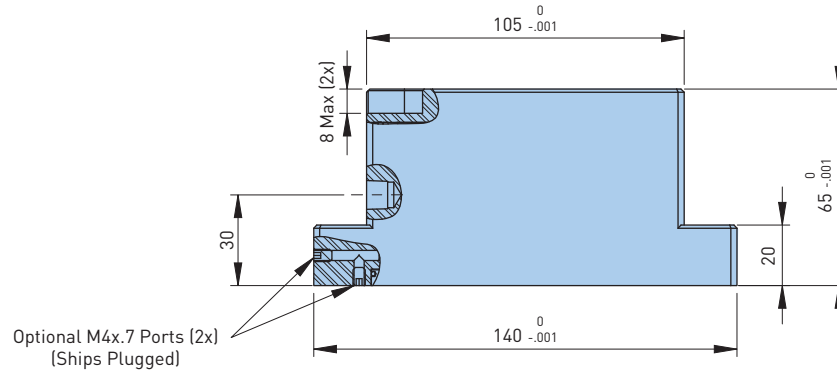
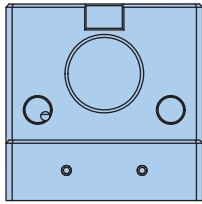
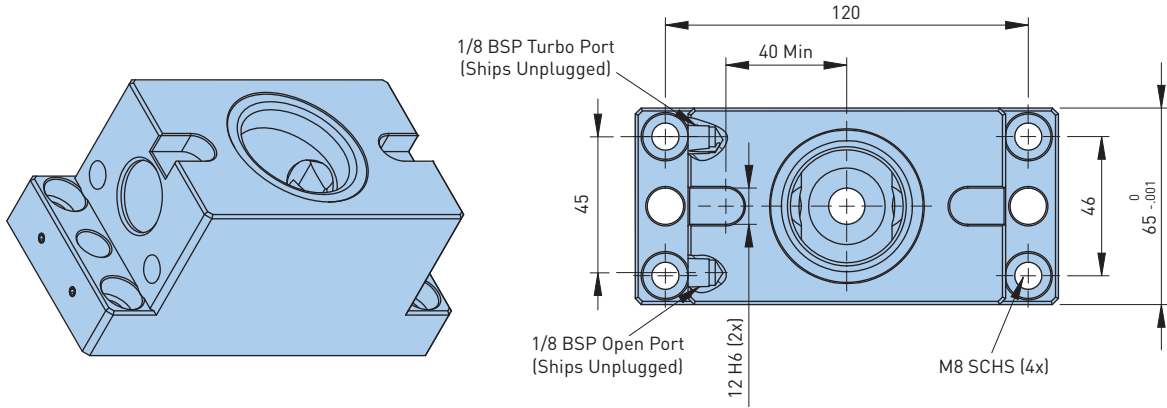
#### AIR FITTINGS



#### ACCESSORIES



Available as Robot Gripper Option  
(See Pg. 140)



• All dimensions are in millimeters

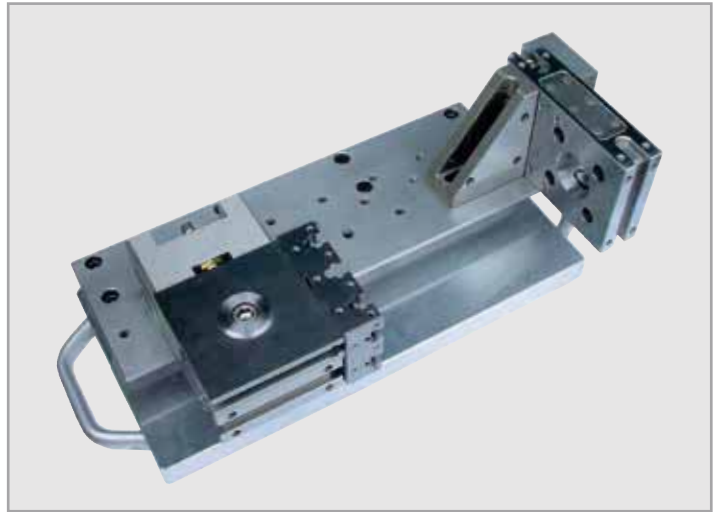
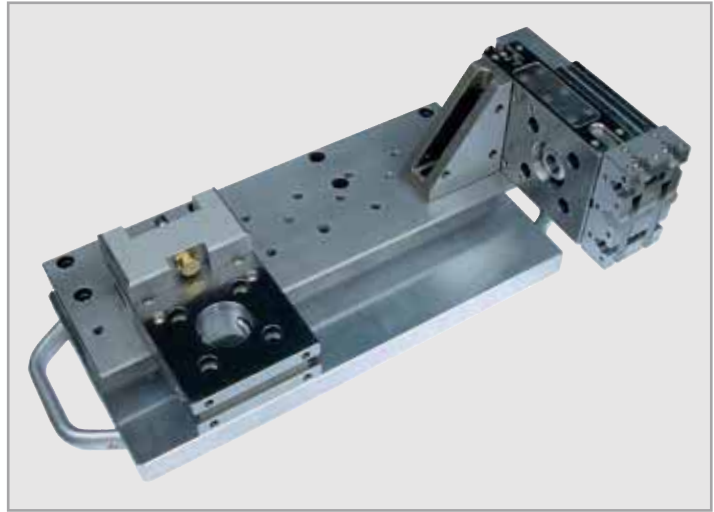


**The EDM Specialist**

The EDM 100/150 chuck is designed to operate in submerged environments. Completely sealed and produced from stainless steel, this chuck can be used in Wire EDM and Water Jet machines. This chuck provides an open interface and clamping knobs can be loaded from the top or bottom side. This chuck is compatible with the entire Unilock product range as it uses the standard sized System 40 clamping knob. With a total height of 39mm (1.535"), this chuck delivers the lowest stack height in the Unilock family.

**Features:**

- Turbo option for increased holding power
- Weight: 3.35 kg (7.3 lbs)
- Knob can be retained from both sides
- Chuck can be mounted on any face



Chuck Model	Catalog Number	Notch (Width x Qty)	Recommended Bolt Sizes					Clamping Force (lbs)		Weight (lbs)	Air Connection	
			M10	M12	M16	M20†	M24†	Spring Only	Turbo Assist		Port Size	Flange
EDM 100/150	<b>15.272.150</b>	—	✓	✓	—	—	—	440-550	1,100-1,350	7.3	1/8	—

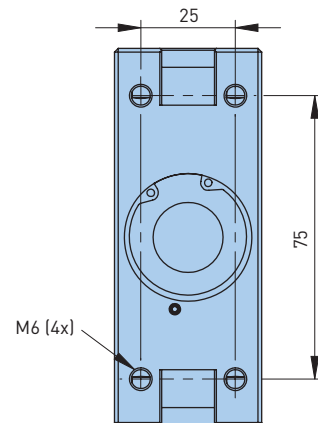
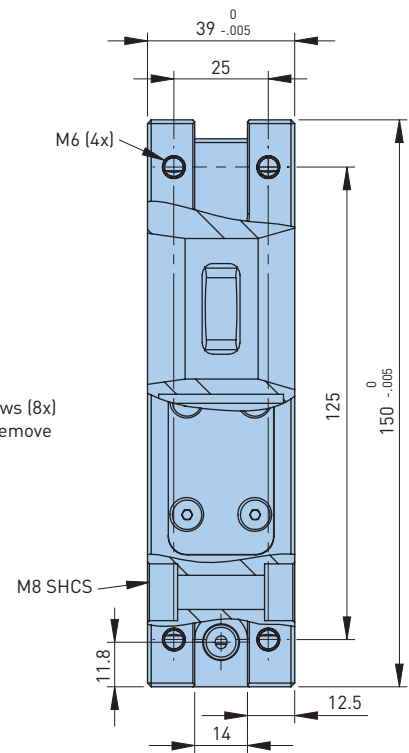
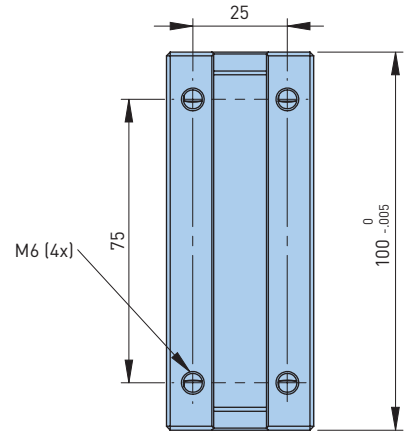
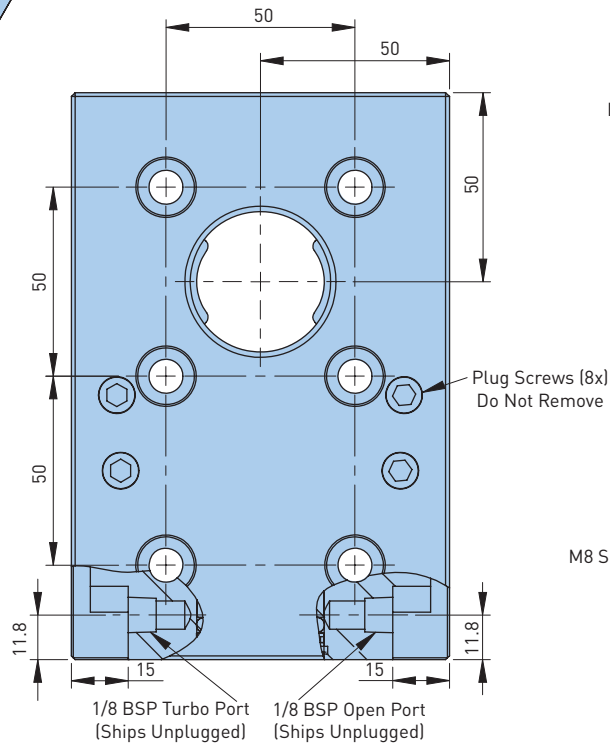
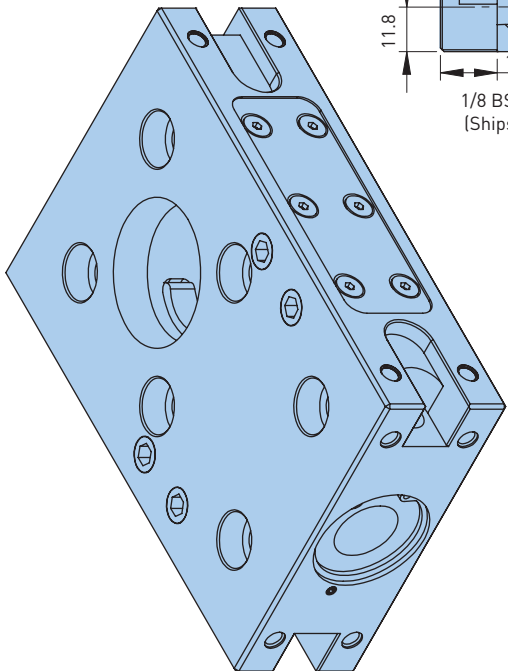
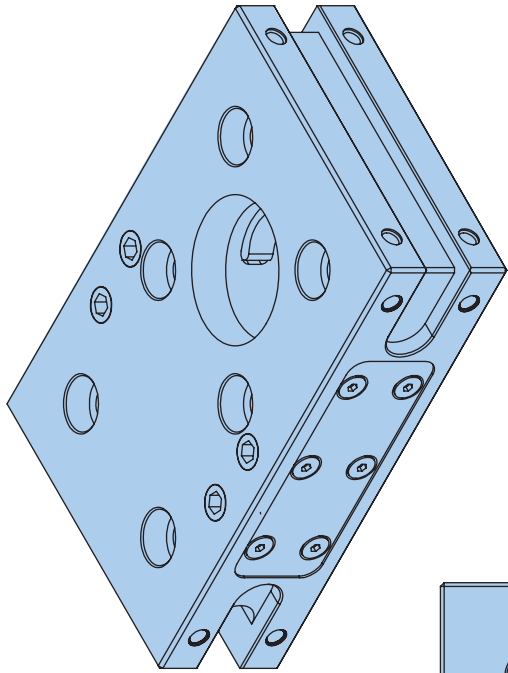
• No hardware included  
 † Optional

**AIR FITTINGS**



**REPAIR COMPONENTS**



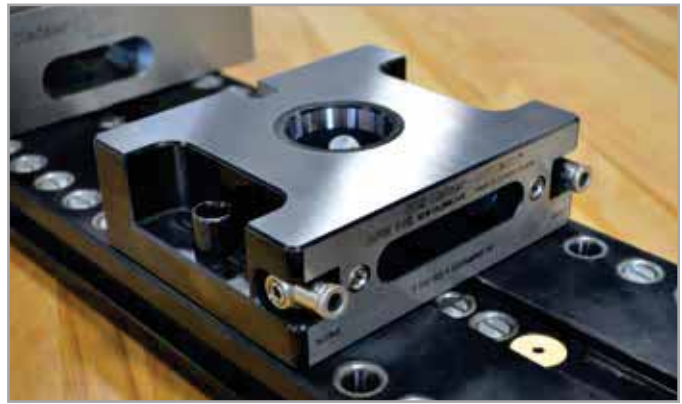


*The Instant Out of the Box Solution*

The AFM 146 chuck is an excellent choice for multiple chuck applications on multi-axis machine tables and other work cells where a low stack height is important. Can instantly mount directly to your machine table right out of the box.

**Features:**

- Simple surface mount design
- Dowel pins into location
- Bolt through or toe clamp
- Ground edges for orientation
- Air assisted clamping option
- Turbo option for increased holding power
- Low profile 46mm (1.811")
- Through-hole eases cleaning



Chuck Model	Catalog Number	Notch (Width x Qty)	Recommended Bolt Sizes					Clamping Force (lbs)		Weight (lbs)	Air Connection	
			M10	M12	M16	M20+	M24+	Spring Only	Turbo Assist		Port Size	Flange
AFM 146	15.260.146	14 H7 x 1	✓	✓	✓	—	—	1,100-1,540	3,300-3,740	9.2	1/8	✓

- No hardware included
- † Optional

**AIR FITTINGS**

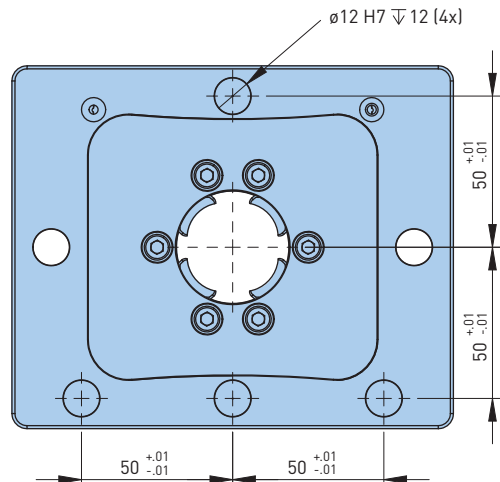
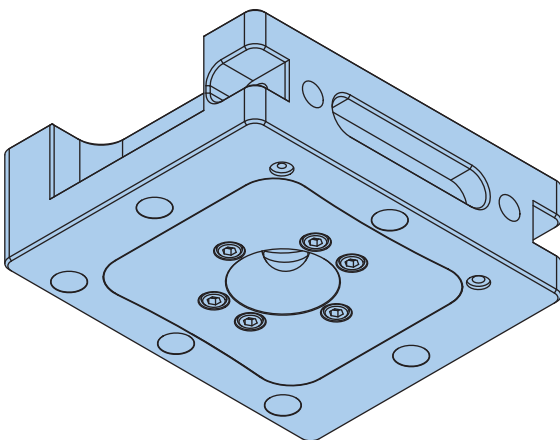
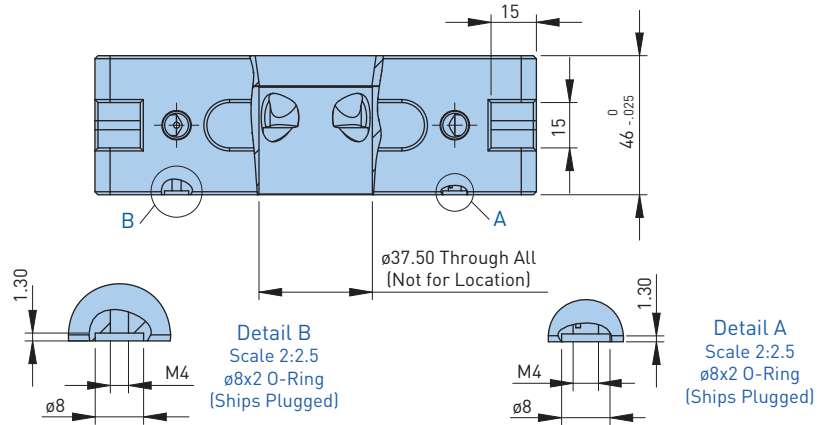
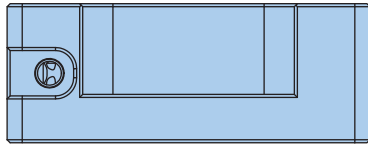
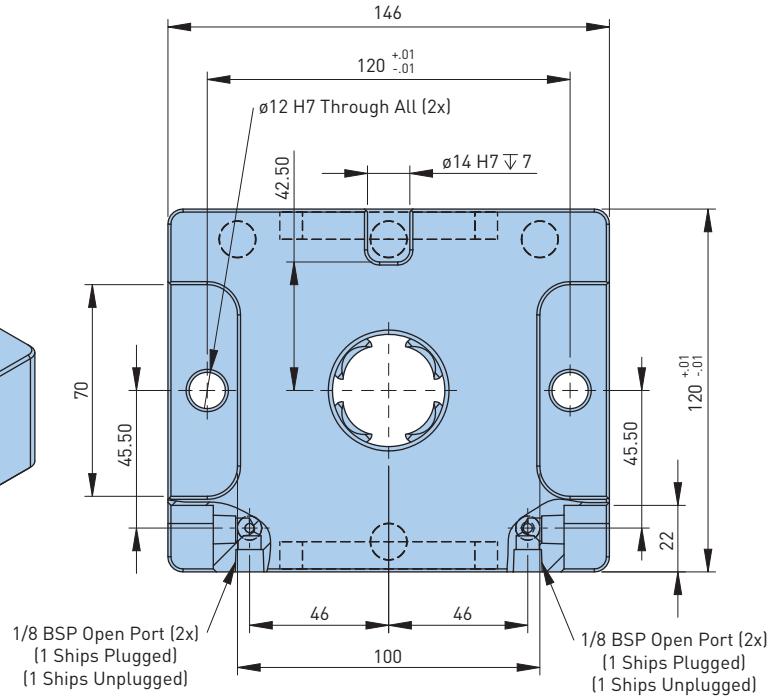
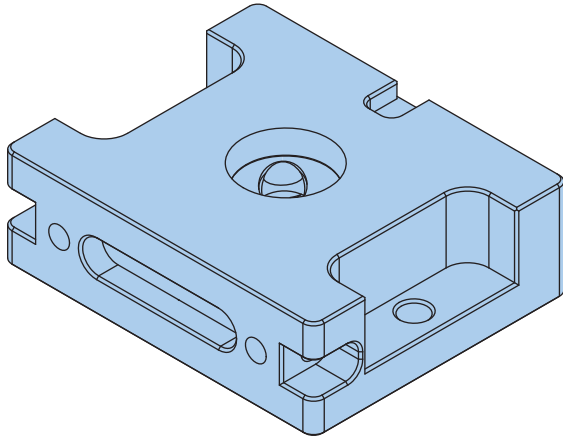


**ACCESSORIES**



**REPAIR COMPONENTS**





• All dimensions are in millimeters



**A Leap Forward in Heavy Part Workholding**

The ESM 180/150 uses the System 68 knob which allows for the use of larger fasteners. By having the highest retention forces available, it can be used in many industries that specialize in large part manufacturing such as Energy, Aerospace, Agriculture and Construction.

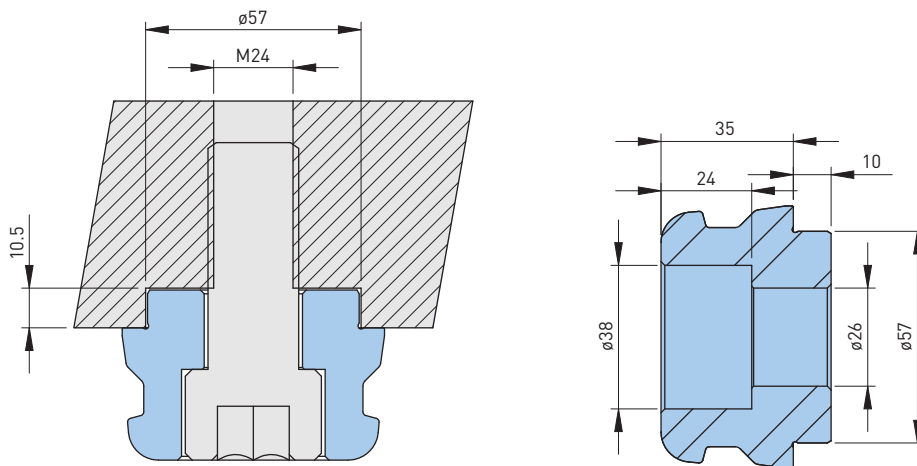
**Features:**

- Highest retention forces
- Large surface area
- Turbo option for increased holding power
- Edge of chuck can be used as a timing surface



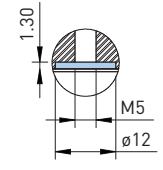
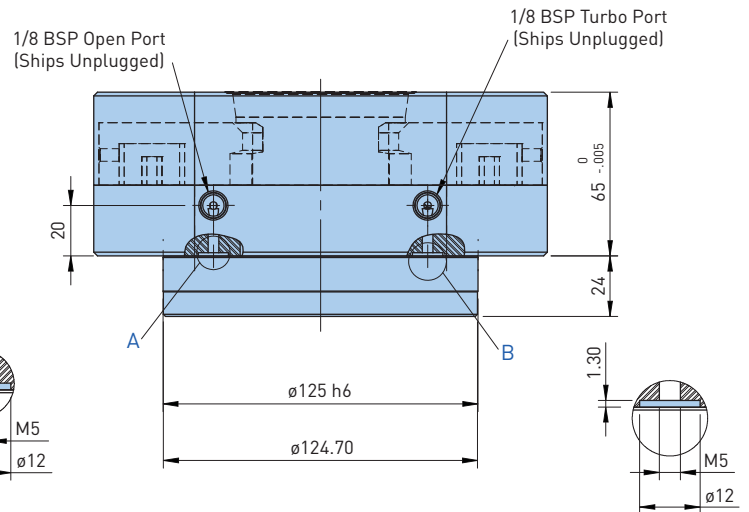
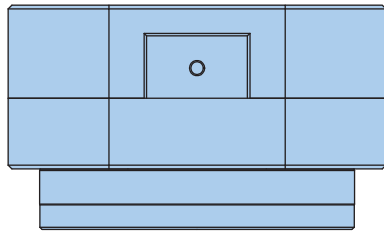
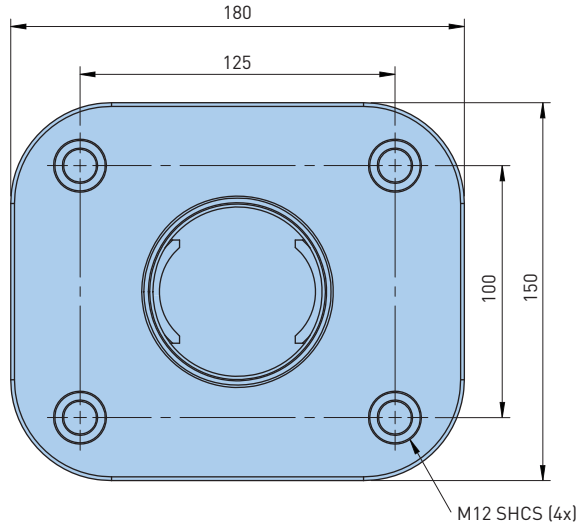
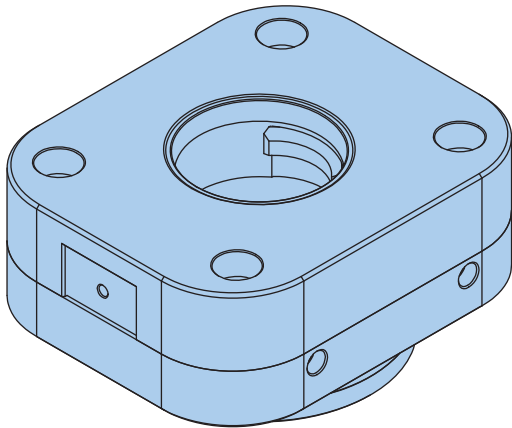
Chuck Model	Catalog Number	Notch (Width x Qty)	Recommended Bolt Size					Clamping Force (lbs)		Weight (lbs)	Air Connection	
			M10	M12	M16	M20	M24	Spring Only	Turbo Assist		Port Size	Flange
ESM 180/150	<b>15.500.590</b>	—	—	—	—	—	✓	9,000-10,000	13,000-15,000	26.5	1/8	✓

**AIR FITTINGS**

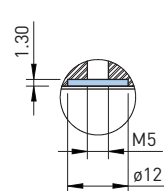


• All dimensions are in millimeters

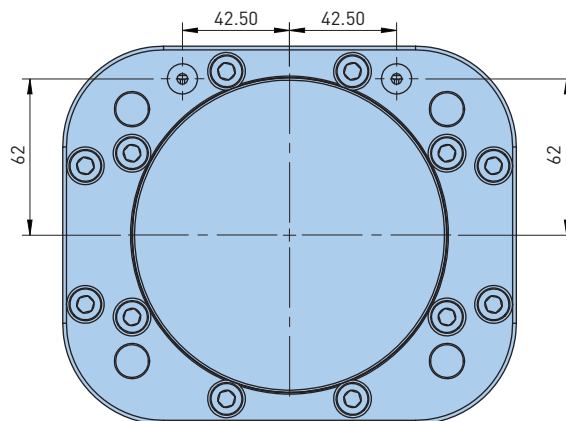
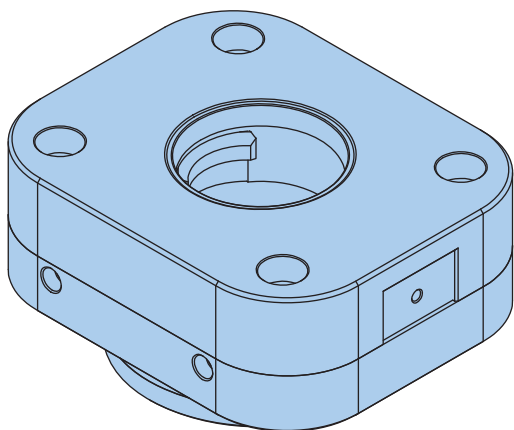
Knob Type	Catalog Number	Description	Undersize	Internal Thread	Pass-Through Bolt Size	Hex
A	<b>15.500.593</b>	SBA Clamping Knob Absolute Position SYS 68 (SHCS M24)	.0004	—	M24	—
B	<b>15.500.594</b>	SBB Clamping Knob Orientation SYS 68 (SHCS M24)				
C	<b>15.500.595</b>	SBC Clamping Knob Retention Only SYS 68 (SHCS M24)	.0040			



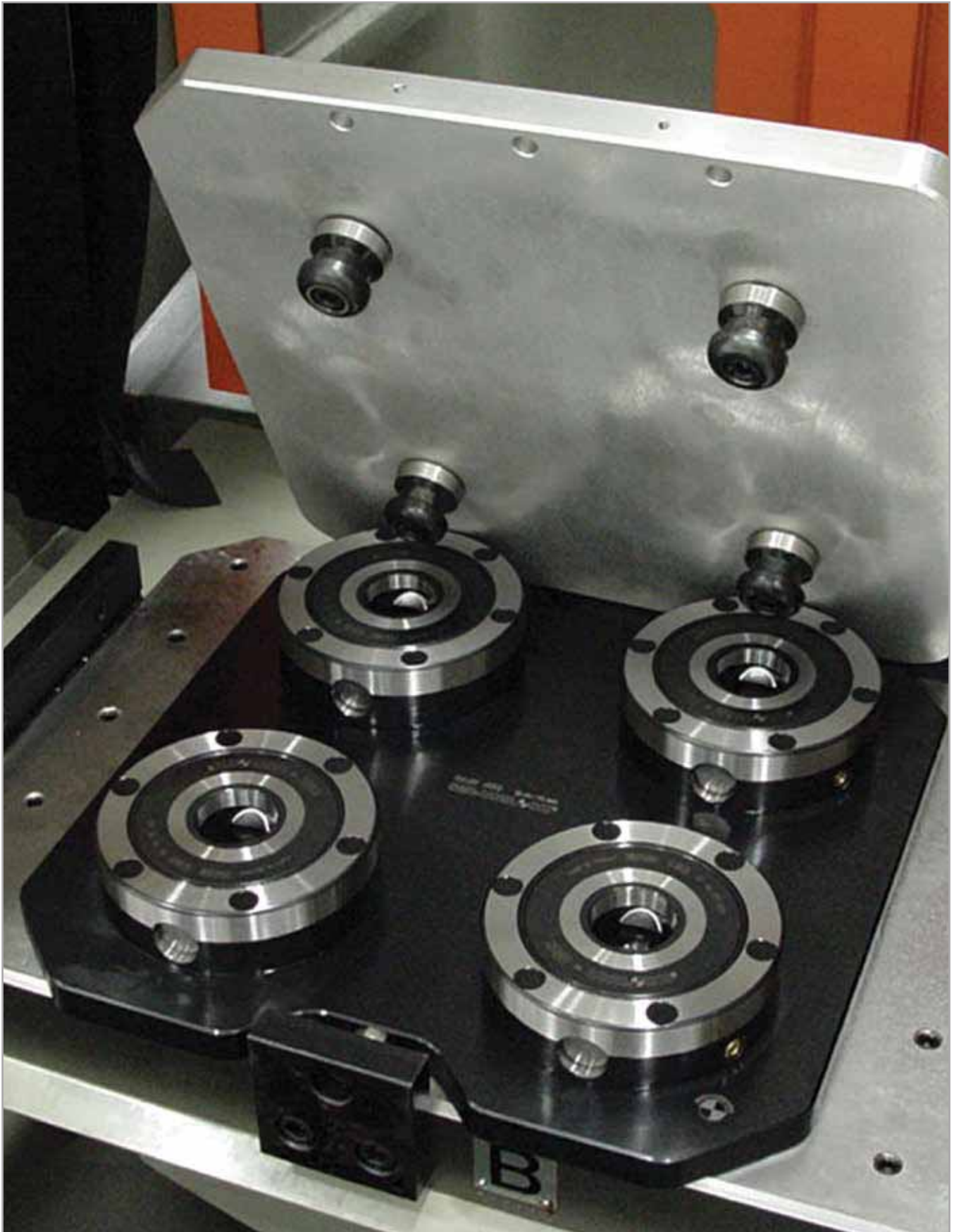
Detail A  
Scale 2:3  
 $\phi 12 \times 2$  O-Ring  
(Ships Unplugged)



Detail B  
Scale 2:3  
 $\phi 12 \times 2$  O-Ring  
(Ships Unplugged)



• All dimensions are in millimeters



Just as the name implies, these chucks are sold mounted to a base plate. The base plate provides easy mounting of the chucks to the machine table as well as a pre-plumbed air supply. All bases provide either notches or a ground edge to square the chucks to the machine table.



**MLM 150** ..... Pg. 48-49



**MCM 150** .....Pg. 50-51



**DLM 200** ..... Pg. 52-53



**DCM 200** .....Pg. 54-55



**QC 400** ..... Pg. 56-57



**ERGO Base Stations** .....Pg. 58-59



**Starter Kits** ..... Pg. 60-61



**Pre-Assembled Single Table Chucks**

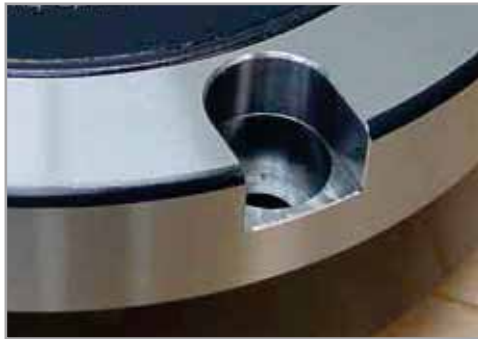
Four adjustment slots allow for quick positioning on t-slot tables. Additional clamping chucks be used to create an array and provide orientation.

**Features:**

- Base plate for mounting on machine tables
- Air supply from side of base plate
- Optional timing notch in face of chuck
- Keyways on bottom for positioning on work table
- Utilizes ESM 138 Unilock chuck



**Available with Notches**



Chuck Model	Catalog Number	Notch (Width x Qty)	Recommended Bolt Sizes					Clamping Force (lbs)		Weight (lbs)	Air Connection	
			M10	M12	M16	M20+	M24+	Spring Only	Turbo Assist		Port Size	Flange
MLM 150	15.270.350	—	✓	✓	✓	✓	✓	990-1,320	—	15.4	1/8	—
	15.270.355	12 H6 x 1										

• No hardware included  
† Optional

**AIR FITTINGS**

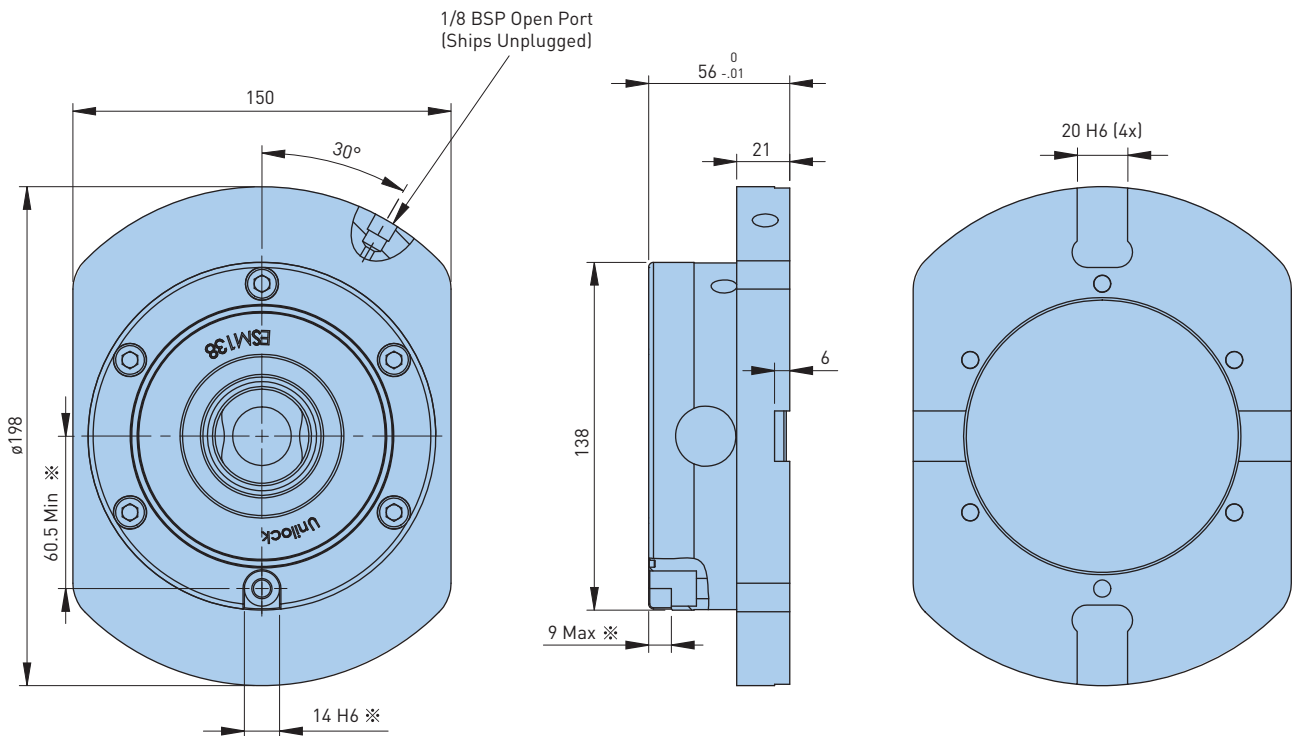
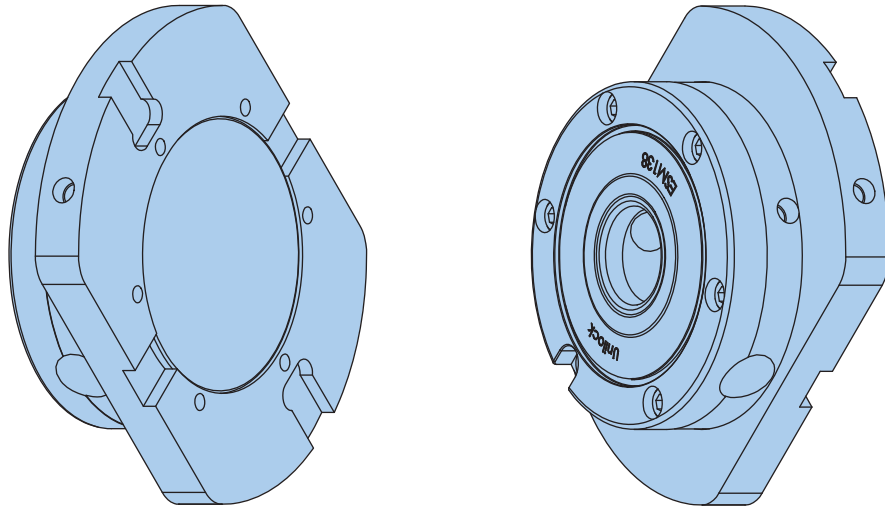


**ACCESSORIES**



**REPAIR COMPONENTS**





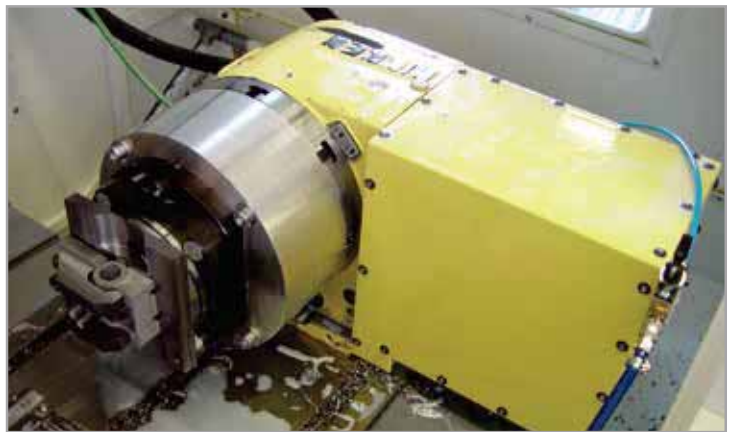
- All dimensions are in millimeters
- Dimensions marked ※ are for notch option

**Pre-Assembled Single Table Chucks**

The MCM 150 is prepared to accept four hardened 12mm index bushings, one every 90 degrees. Order one index bushing to orient a pallet with a single knob. If you need to execute multiple 90 degree indexes, additional bushings can be installed.

**Features:**

- Base plate for mounting on machine tables
- Air supply from side of base plate
- 90 degree (4x) indexing
- Optional timing notch in face of chuck
- Keyways on bottom for positioning on work table
- Utilizes ESM 138 Unilock chuck



Chuck Model	Catalog Number	Notch (Width x Qty)	Recommended Bolt Sizes					Clamping Force (lbs)		Weight (lbs)	Air Connection	
			M10	M12	M16	M20+	M24+	Spring Only	Turbo Assist		Port Size	Flange
MCM 150	15.270.250	12 H6 x 4†	✓	✓	✓	✓	✓	999-1,320	—	17.8	1/8	—

- No hardware included
- † Optional

**AIR FITTINGS**



**ACCESSORIES**



**REPAIR COMPONENTS**

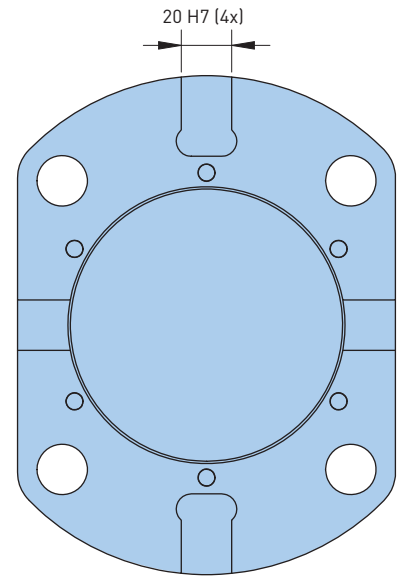
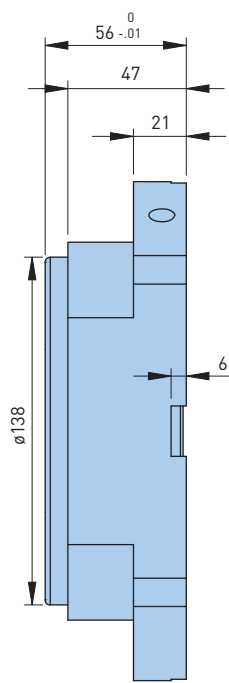
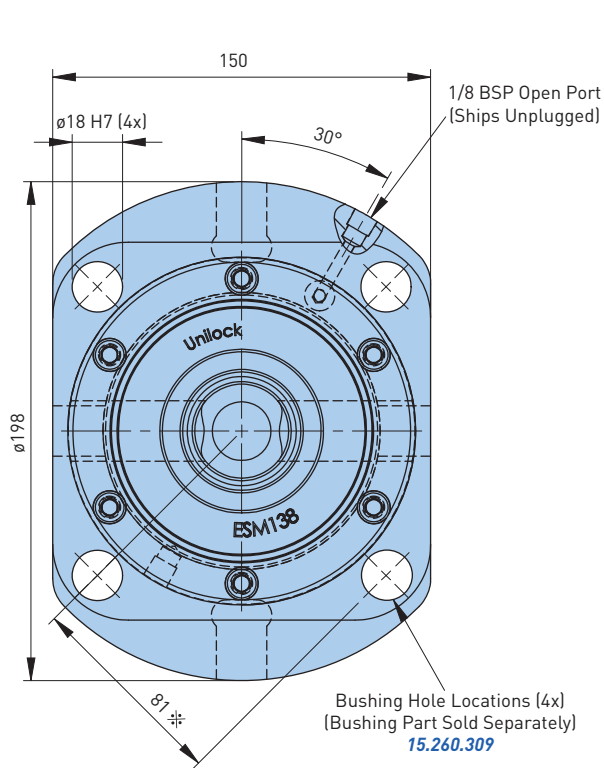
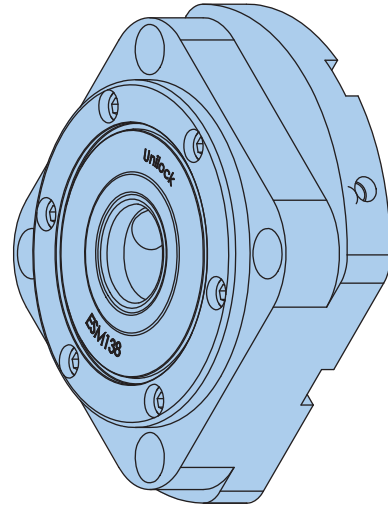
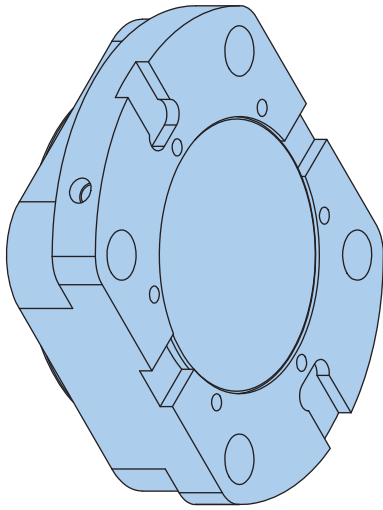


**Optional Air Pass-Through**

Catalog Number
15.260.725



- Other sizes available upon request
- Please contact BIG KAISER Engineering Dept. for additional information



- All dimensions are in millimeters
- Dimensions marked ※ are for notch option



**Pre-Assembled Double Table Chucks**

Designed to accept a large single pallet or two smaller pallets. A single external air connection operates both chucks simultaneously.

**Features:**

- Base plate for mounting on machine tables
- Air supply from side of base plate
- Optional timing notch in face of DLM chuck
- Keyways on bottom for positioning on work table
- Utilizes ESM 138 Unilock chucks



The DLM 200 chuck does not have timing pin bushing locations. If you want to orient a double pallet with this chuck, add one timing pin notch. If you need to run two single pallets, add a timing notch for each chuck.

Chuck Model	Catalog Number	Notch (Width x Qty)	Recommended Bolt Sizes					Clamping Force (lbs)		Weight (lbs)	Air Connection	
			M10	M12	M16	M20†	M24†	Spring Only	Turbo Assist		Port Size	Flange
DLM 200	15.270.300	—	✓	✓	✓	✓	✓	1,980-2,640*	—	37.4	1/8	—
	15.270.307	14 H7 x 1										

- No hardware included
- † Optional
- \* Combined value of two chucks

**AIR FITTINGS**

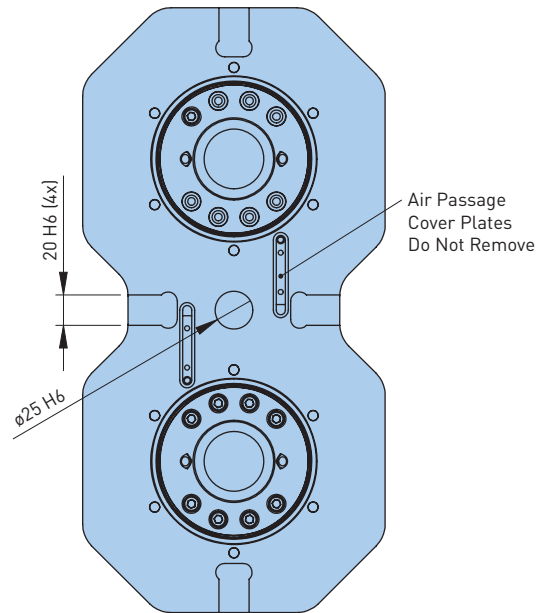
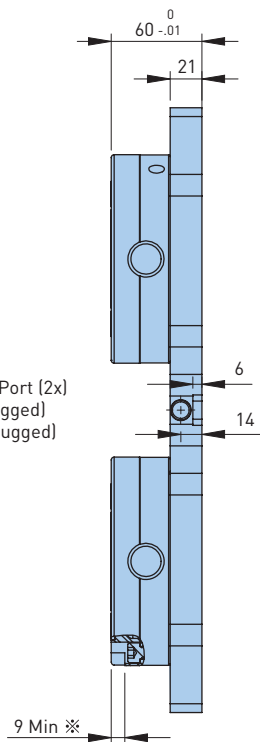
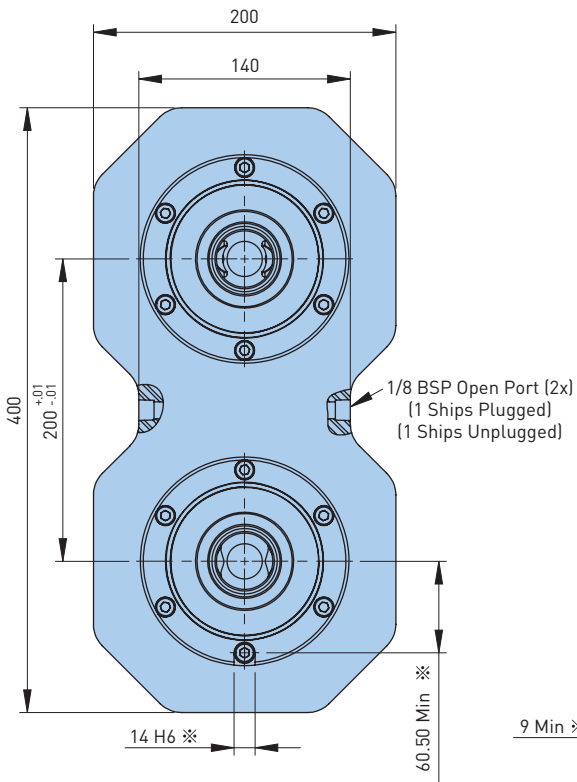
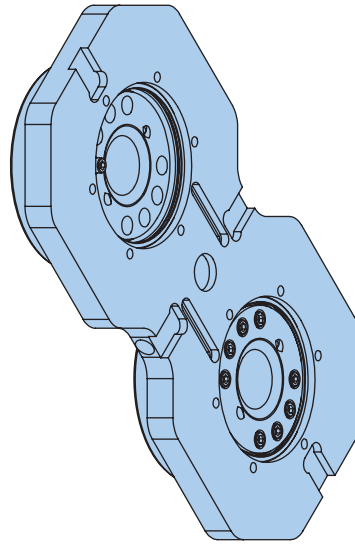
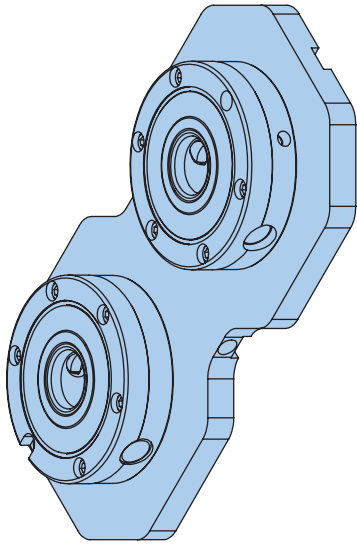


**ACCESSORIES**



**REPAIR COMPONENTS**





- All dimensions are in millimeters
- Dimensions marked \* are for notch option

**Pre-Assembled Double Table Chucks**

The DCM 200 chuck is designed to process two single pallets or one double pallet. Each chuck has a position for a timing pin bushing every 90 degrees.

**Features:**

- Base plate for mounting on machine tables
- Air supply from side of base plate
- 90 degree (4x) indexing
- Keyways on bottom for positioning on work table
- ø25mm locating hole
- Single chuck operation capability
- Utilizes ESM 138 Unilock chucks



Chuck Model	Catalog Number	Notch (Width x Qty)	Recommended Bolt Sizes					Clamping Force (lbs)		Weight (lbs)	Air Connection	
			M10	M12	M16	M20+	M24+	Spring Only	Turbo Assist		Port Size	Flange
DCM 200	15.270.200	12 H6 x 8	✓	✓	✓	✓	✓	1,980-2,640*	—	46.2	1/4	—

- No hardware included
- † Optional
- \* Combined value of two chucks

**AIR FITTINGS**

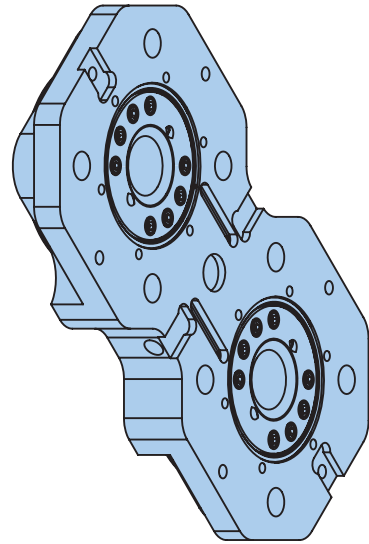
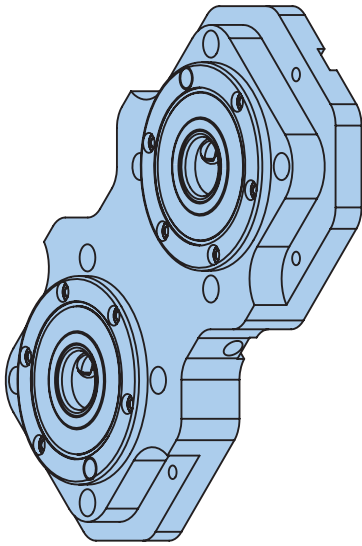


**ACCESSORIES**

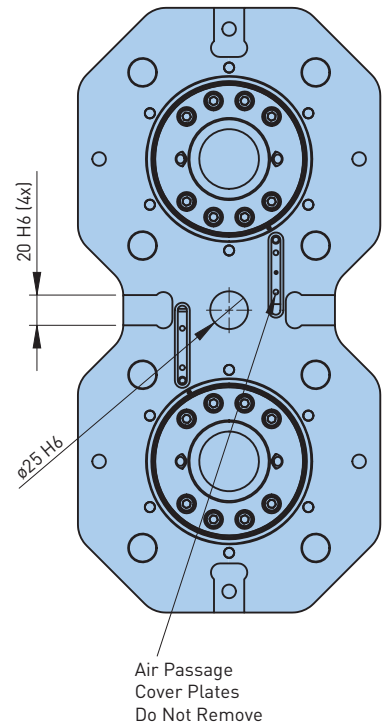
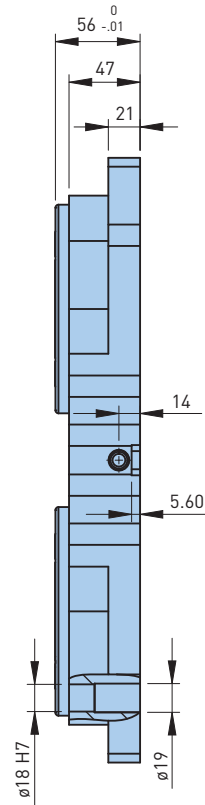
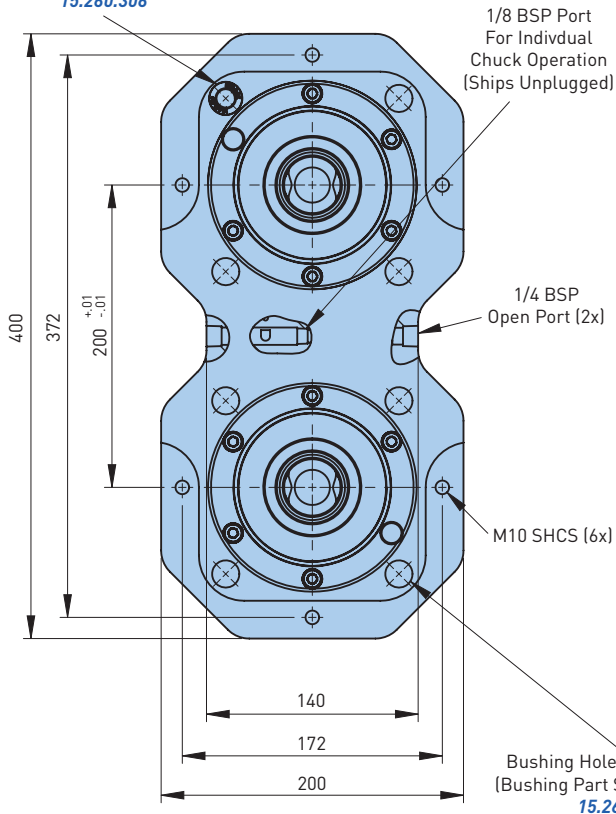


**REPAIR COMPONENTS**





Optional Timing Bushing  
15.260.306



• All dimensions are in millimeters

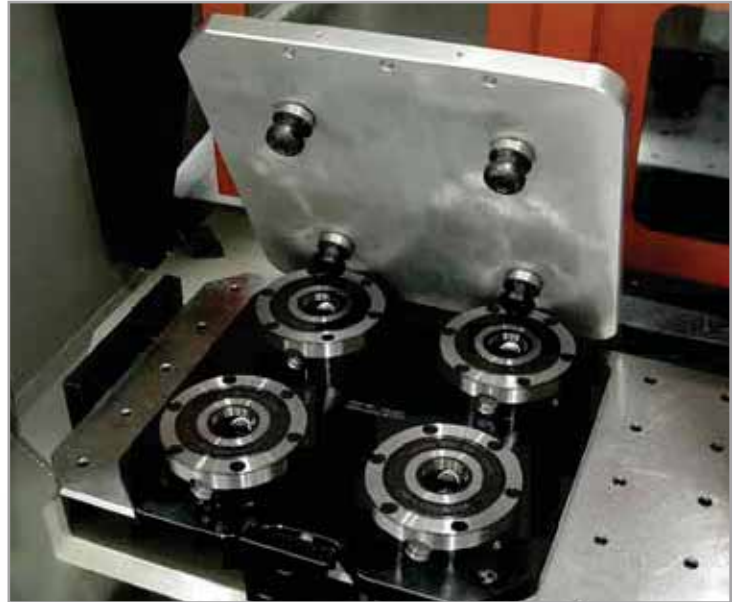


**Pre-Assembled Quad Table Chucks**

The Quatro Clamping Station light base has four ESM 138 chucks fed with a single air connection from the side. The steel plate includes two G 1/4" air connections on the front edge and on the back edge. One of the air connection points is plugged and the other is left open for the air connection.

**Features:**

- Repeatability: .0001"-.0002"
- Air Connection (2x): G 1/4"
- Weight: 35.50 kg (78.3 lbs)
- Can be operated as duo and quad
- Utilizes ESM 138 Unilock chucks



Chuck Model	Catalog Number	Notch (Width x Qty)	Recommended Bolt Sizes					Clamping Force (lbs)		Weight (lbs)	Air Connection	
			M10	M12	M16	M20†	M24†	Spring Only	Turbo Assist		Port Size	Flange
QC 400	15.270.340	—	✓	✓	✓	✓	✓	3,960-5,280*	—	78.3	1/4	—

- No hardware included
- † Optional
- \* Combined value of four chucks

**AIR FITTINGS**

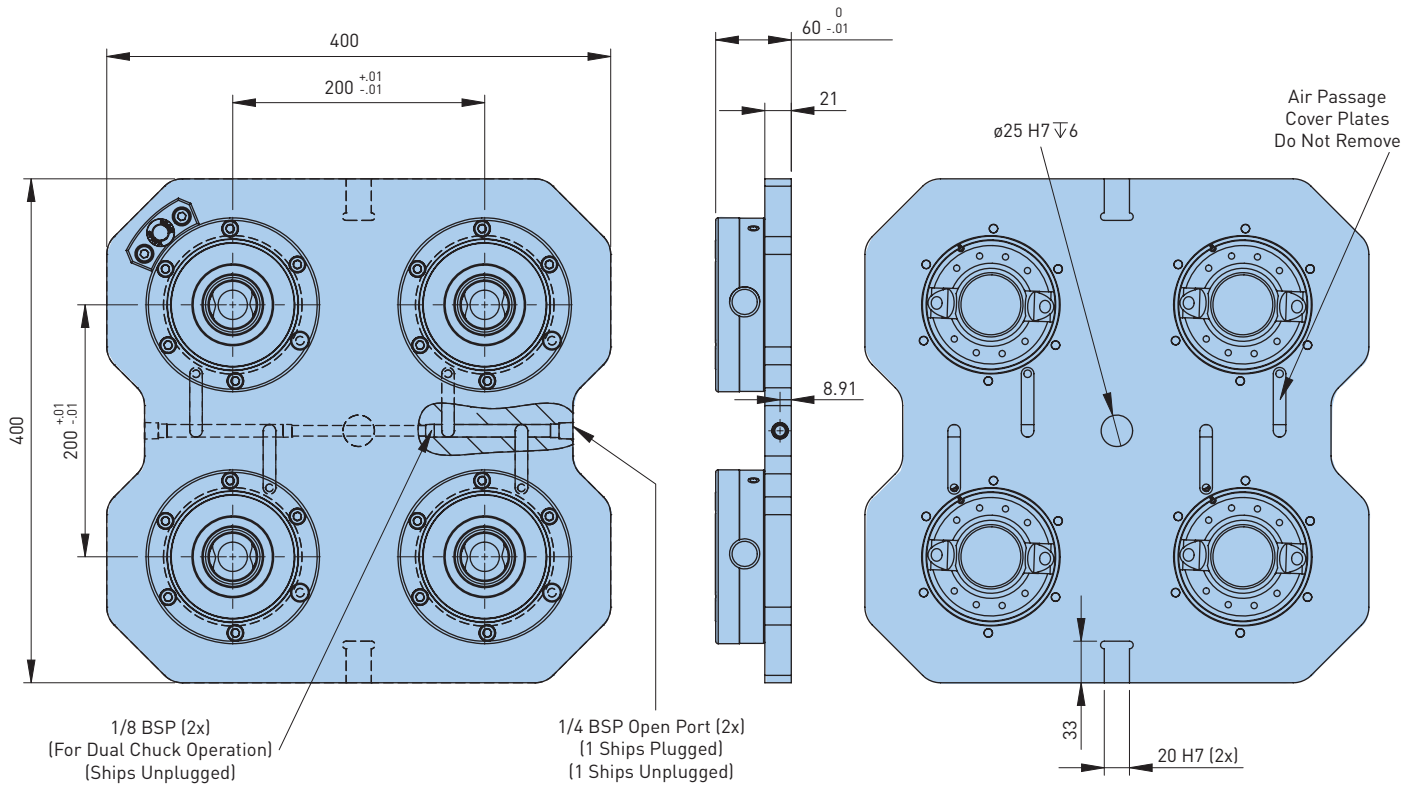
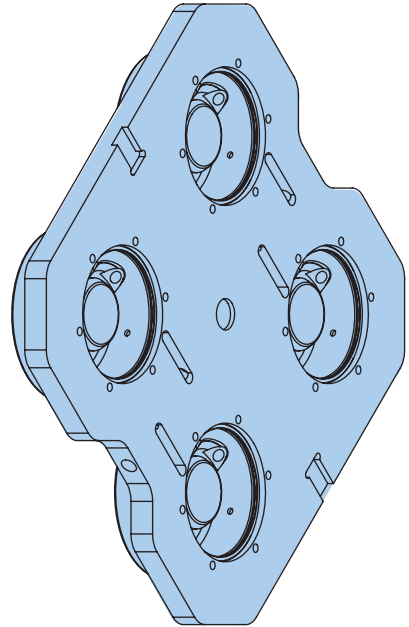
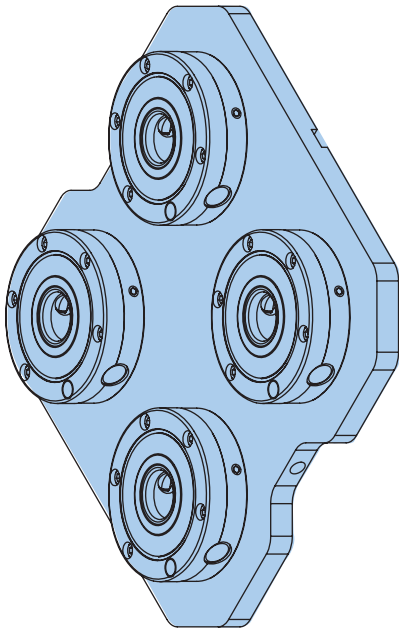


**ACCESSORIES**



**REPAIR COMPONENTS**





• All dimensions are in millimeters

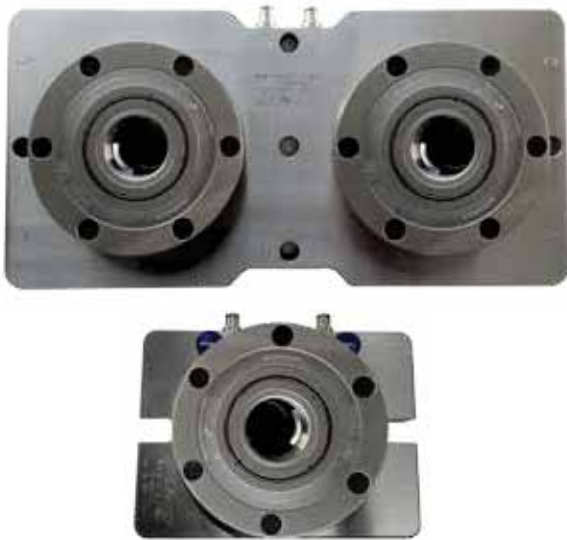
**NEW!**

### Pre-Assembled Double Table Chucks

Base stations with the new ERGO 138 chuck rather than the ESM 138, saving 11mm of height. Available with turbo out of the box.

#### Features:

- Mid-sized diameter chuck fits most operations
- Finish ground steel baseplate
- Pre-designed solutions for up to 10 chucks
- Optional timing notch in face of ERGO 138 chucks



Catalog Number	Fig.	Metric			Inch			Number of Chucks
		Length	Width	Height	Length	Width	Height	
15.270.370	1	196mm	196mm	50mm	7.717	7.717	1.969	1
15.270.371	2	396mm			15.591			2
15.270.372	3	596mm	23.465		3			
15.270.373	4	369mm	14.528		15.591	4		
15.270.374	5	596mm	23.465			6		
15.270.375	6	796mm	31.339			8		
15.270.376	7	996mm	39.213			10		

- No hardware included
- See Pg. 16 for ERGO 138 chuck specifics

#### AIR FITTINGS



#### ACCESSORIES



#### REPAIR COMPONENTS



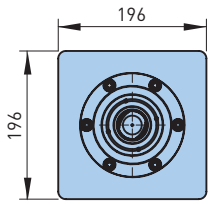


Fig. 1

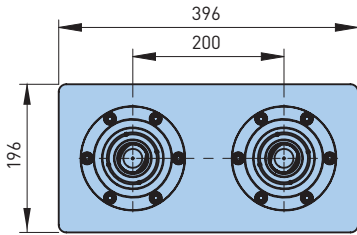


Fig. 2

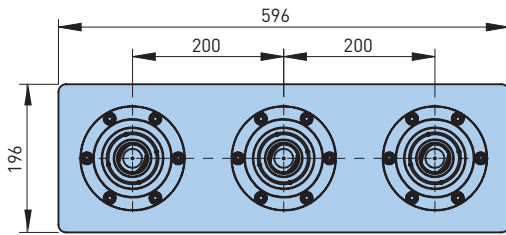


Fig. 3

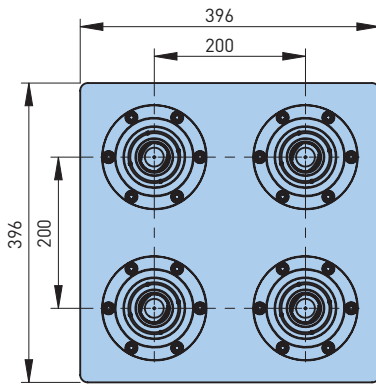


Fig. 4

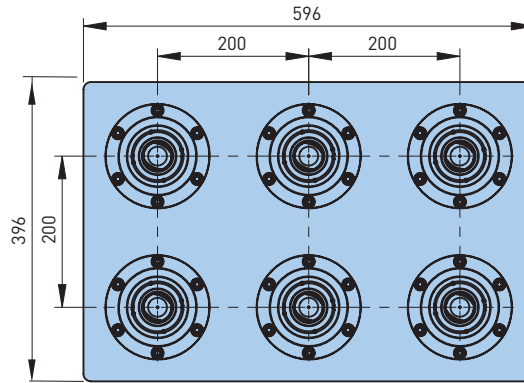


Fig. 5

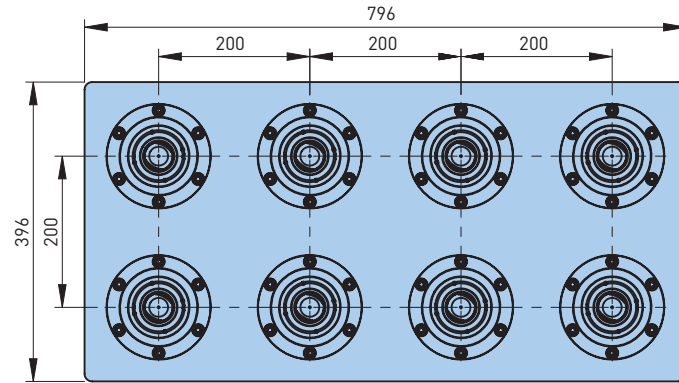


Fig. 6

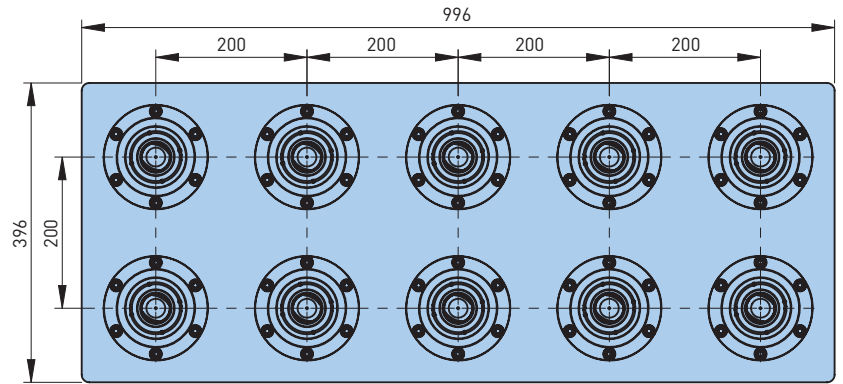
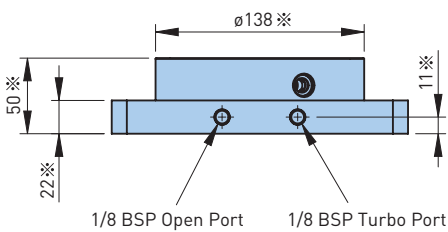


Fig. 7



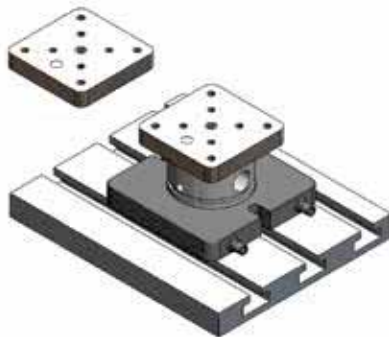
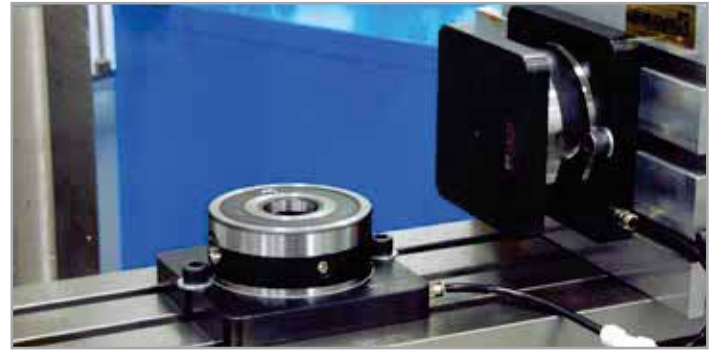
- All dimensions are in millimeters
- Dimensions marked ※ are typical



## Setup & Process Reduction Kits

### Features:

- Chucks are mounted to universal base plates
- Reduced chuck diameters support tight work envelopes
- Base plate functions as a reference edge
- Air supply is through the base plate
- Pallet timing pin feature is integrated into chuck face
- 120mm chuck also has a manual option



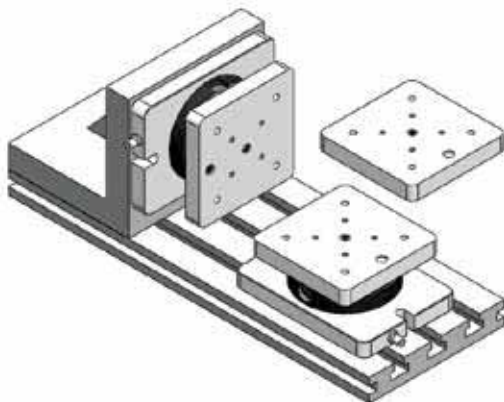
### Setup Reduction Kits

Setup Reduction Kits allow users to prep one job while another is running. These kits come with one chuck for the work cell and two pallets. One pallet can be loaded into the cell while the other is available for loading and unloading of fixtures or workpieces. When the job is completed simply change pallets and hit Cycle Start.

Catalog Number	Description
15.280.110	ASM 90 one-chuck two-pallet kit with air
15.280.210	ASM 120 one-chuck two-pallet kit with air
15.280.310	ASM 120 manual one-chuck two-pallet kit
15.280.410	ESM 138 one-chuck two-pallet kit with air

### Process Reduction Kits

Process Reduction Kits allow users to transfer parts between operations without unclamping the parts. A single pallet moves through multiple orientations while others follow as each operation is completed. Additional pallets are prepared while others are being processed.



Catalog Number	Description
15.280.112	ASM 90 two-chuck three-pallet kit with air
15.280.212	ASM 120 two-chuck three-pallet kit with air
15.280.312	ASM 120 manual two-chuck three-pallet kit
15.280.412	ESM 138 two-chuck three-pallet kit with air

### AIR FITTINGS



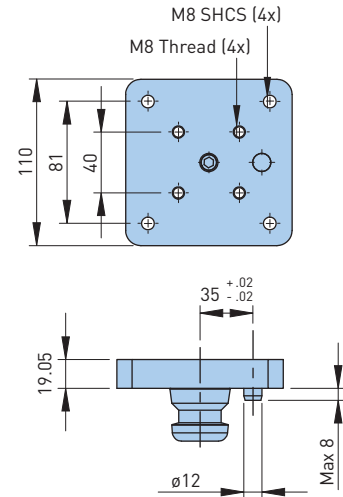
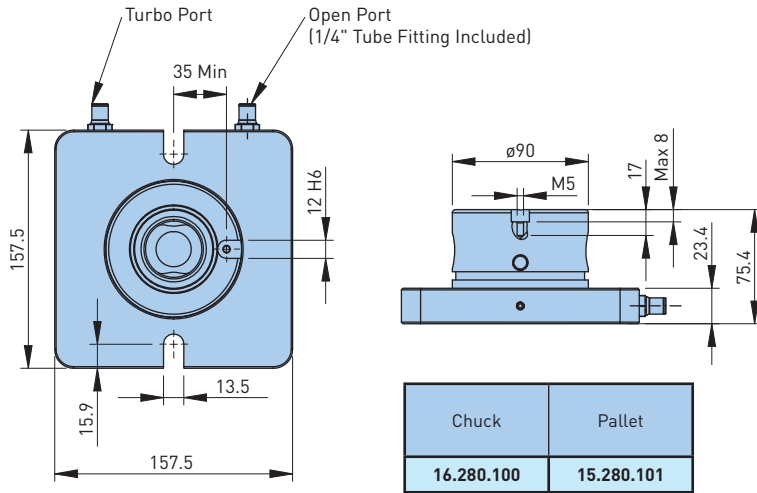
### ACCESSORIES



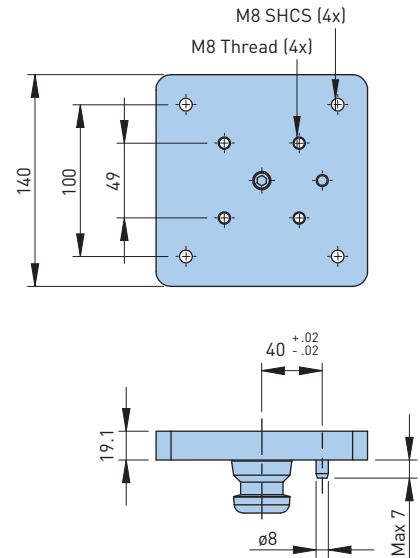
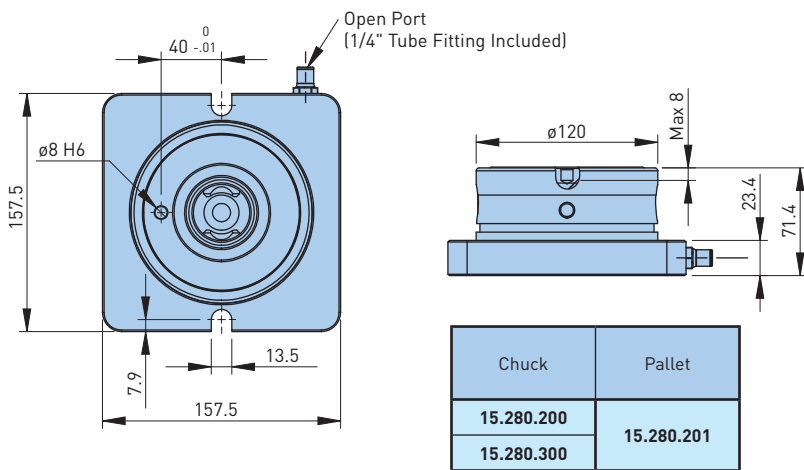
### REPAIR COMPONENTS



ASM 90

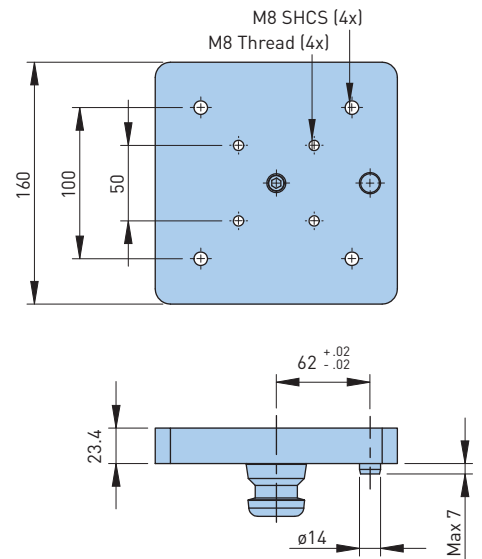
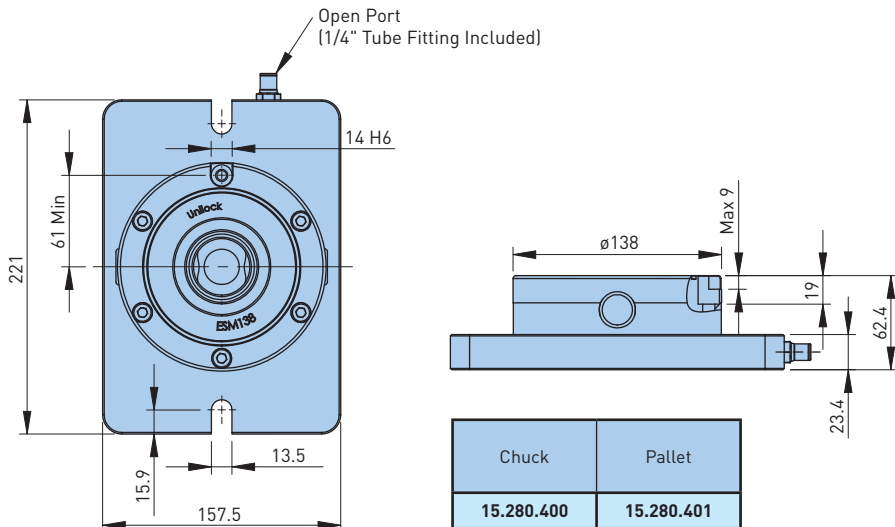


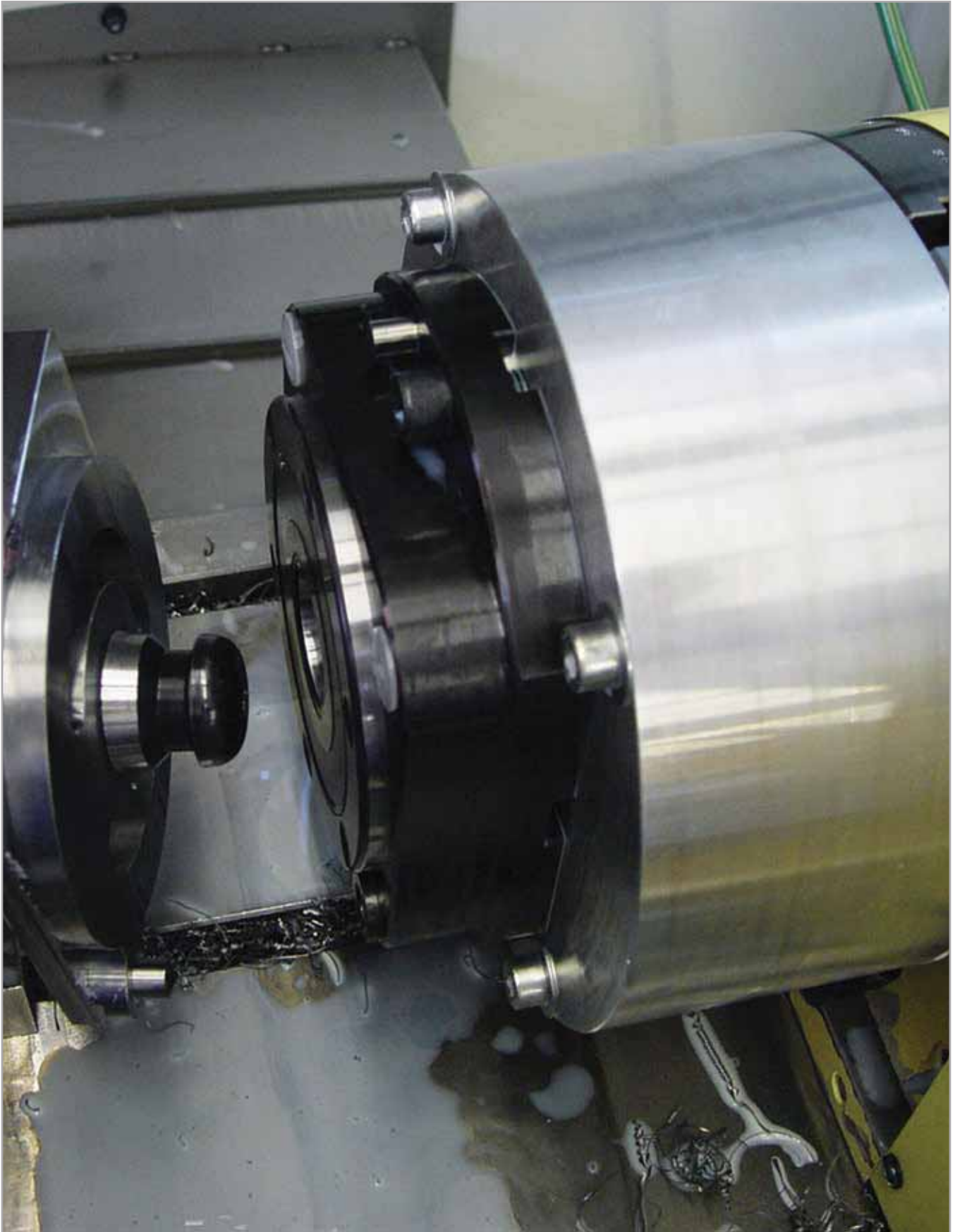
ASM 120



† Manual chuck, no air needed

ESM 138





The Unilock retention knob is the heart of the system. It provides high accuracy location while also retaining the fixture. The knob comes in three forms for proper location of large fixtures with metric or inch fastening options. The fastening screw can be captivated within the knob protecting it from rough or improper handling.

Pallets are provided fully assembled with their required quantity of Unilock knobs and lifting handles, and are available in either steel or aluminum.



**Clamping Knobs** ..... Pg. 64-68



**System 40 Pallets** ..... Pg. 70-71



Unilock clamping knobs can be attached to fixtures or directly to workpieces. Our standard knobs can be mounted in a blind hole from the bottom or pulled up from the top. Standard clamping knobs accept the following:

**Option 1** – Pass-Through Bolt – The bolt is inserted past the clamping knob and threads into the workpiece or fixture.

**Option 2** – Captive Set Screw – The set screw is captivated between the knob and the workpiece or fixture.  
 (Note: This option is not recommended for “B” type knobs as there is no timing control)

**Option 3** – Retain From Top – The bolt passes through the workpiece or fixture and pulls the knob into position.



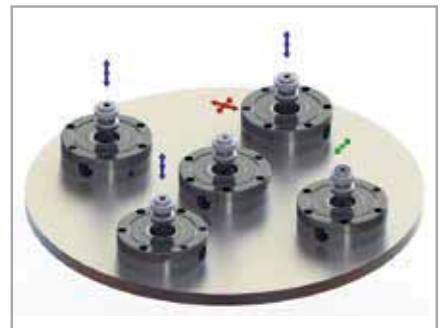
• Option 2 not recommended for B Type

Standard clamping knobs have a metric positioning boss which is  $\varnothing 25\text{mm}$  and ground to a fit of h6. This boss is 5mm tall. The overall measurements of the clamping knob is  $\varnothing 40\text{mm}$  by 40mm tall.

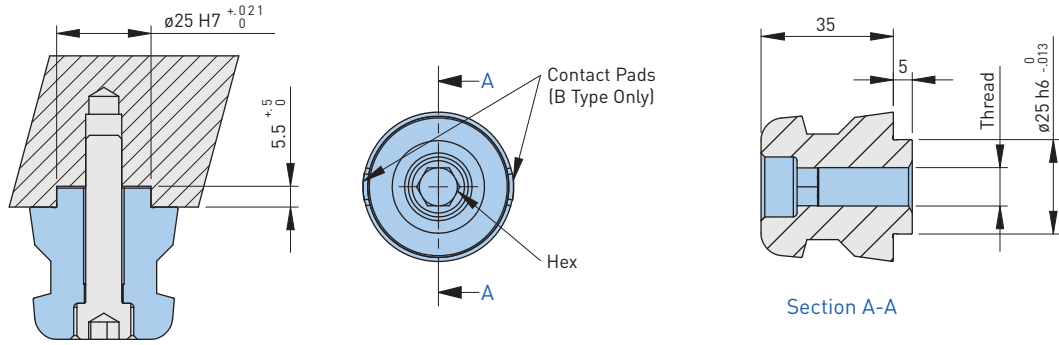
The SBA Knob is ground to fit with the center ground taper of the chuck. This fit establishes centerline location. This location will repeat to better than  $\pm 0.0002$ ".

The SBB Knob is ground like a diamond pin and orients your work relative to the centerline of the SBA Knob.

The SBC Knob is ground undersize. It will bring the bottom of the workpiece or fixture down on the top of the Unilock chuck.



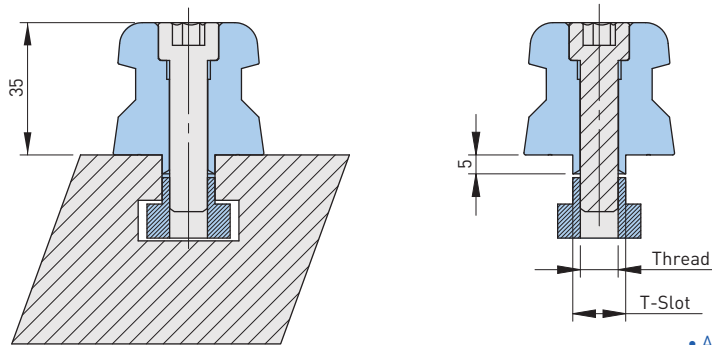
## System 40 Knobs



• All dimensions are in millimeters

Knob Type	Catalog Number	Description	Undersize	Internal Thread	Pass-Through Bolt Size	Hex
A	15.260.300	SBA Clamping Knob Absolute Position	.0002	M12	M10	10mm
B	15.260.301	SBB Clamping Knob Orientation	.0002	M12	M10	10mm
C	15.260.302	SBC Clamping Knob Undersized .1mm - Downward Clamping Only	.0040	M12	M10	10mm
CC	15.260.303	SBCC Clamping Knob Undersized .3mm - Downward Clamping Only	.0120	M12	M10	10mm
CC	15.260.304	SBCC Clamping Knob Undersized .6mm - Downward Clamping Only	.0240	M12	M10	10mm
A	15.260.305	SBA Clamping Knob 3/4"-10 Thread	.0002	3/4"-10	—	—
C	15.260.306	SBC Clamping Knob 3/4"-10 Thread	.0002	3/4"-10	—	—
A	15.260.313	SBA Clamping Knob 1/2"-13 Thread	.0002	1/2"-13	3/8"-16	3/8"
B	15.260.314	SBB Clamping Knob 1/2"-13 Thread	.0002	1/2"-13	3/8"-16	3/8"
C	15.260.315	SBC Clamping Knob 1/2"-13 Thread	.0040	1/2"-13	3/8"-16	3/8"
A	15.260.400	SBA Clamping Knob M16	.0002	M16	M12	17mm
B	15.260.401	SBB Clamping Knob M16	.0002	M16	M12	17mm
C	15.260.402	SBC Clamping Knob M16	.0040	M16	M12	17mm
—	16.260.310	Chip Guard Knob	—	M8	—	—

## System 40 T-Slot Knobs

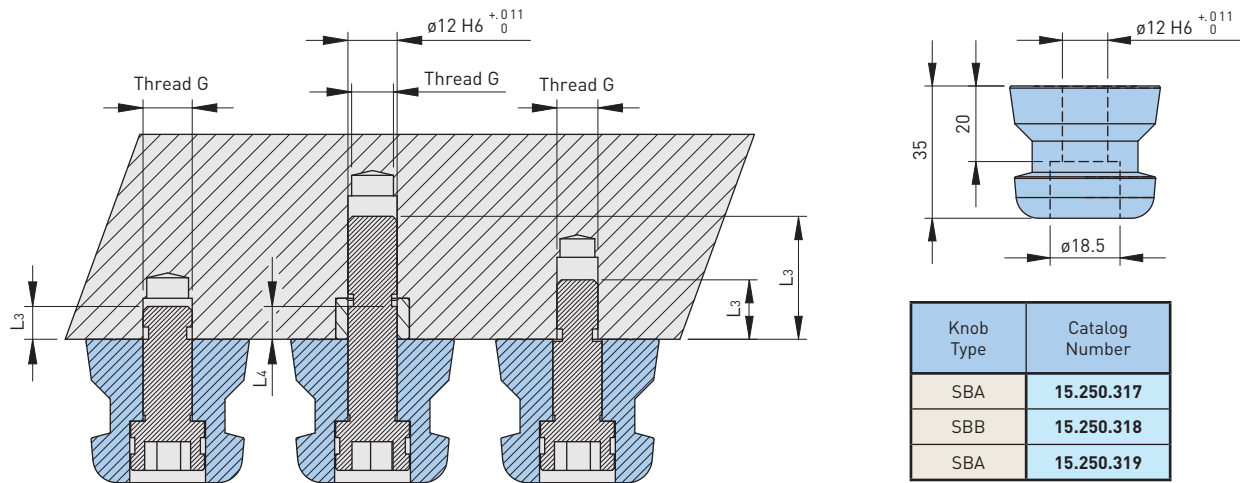


• All dimensions are in millimeters

Knob Type	Catalog Number	Description	Undersize	Thread	T-Slot
A	15.250.360	SBA Clamping Knob Absolute Position 14mm T-Slot	.0002	M10xP1.5	14mm
C	15.250.361	SBC Clamping Knob Undersized 0.3mm 14mm T-Slot	.0040	M10xP1.5	14mm
A	15.250.366	SBA Clamping Knob Absolute Position 16mm T-Slot	.0002	M12xP1.75	16mm
C	15.250.367	SBC Clamping Knob Undersized 0.3mm 16mm T-Slot	.0004	M12xP1.75	16mm
A	15.250.362	SBA Clamping Knob Absolute Position 18mm T-Slot	.0002	M12xP1.75	18mm
C	15.250.363	SBC Clamping Knob Undersized 0.3mm 18mm T-Slot	.0040	M12xP1.75	18mm
A	15.250.364	SBA Clamping Knob Absolute Position 22mm T-Slot	.0002	M12xP1.75	22mm
C	15.250.365	SBC Clamping Knob Undersized 0.3mm 20mm T-Slot	.0040	M12xP1.75	20mm

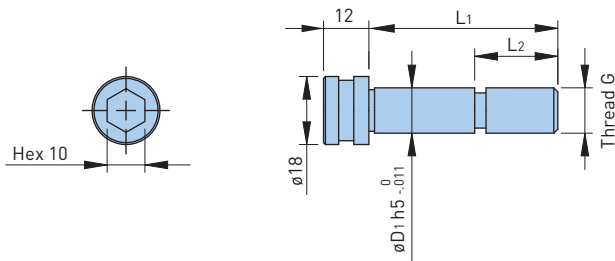
- T-nuts and fasteners not included
- Inch t-slot versions available upon request

## System 40 Pass-Through $\phi 12$ mm Knobs



• All dimensions are in millimeters

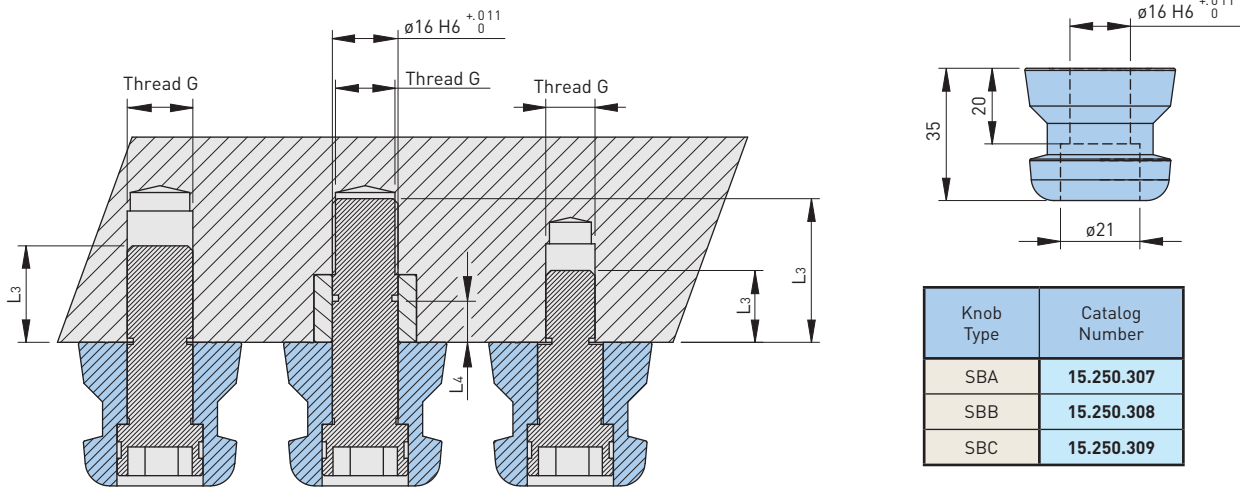
## System 40 Pass-Through $\phi 12$ mm Knob Screws



• All dimensions are in millimeters

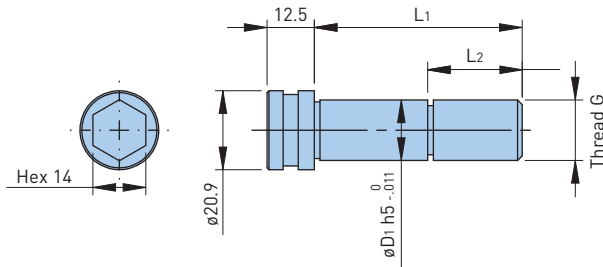
Catalog Number	Description	$\phi D_1$	Thread (G)	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>
15.250.540	Shoulder Screw $\phi 12 \times M12 \times P1.75 \times L50$	12	M12xP1.75	50.0	22.0	30.0	8.0
15.250.541	Shoulder Screw $\phi 12 \times M12 \times P1.75 \times L55$	12	M12xP1.75	55.0	22.0	35.0	13.0
15.250.542	Shoulder Screw $\phi 12 \times M12 \times P1.75 \times L28$	12	M12xP1.75	28.0	—	8.0	—
15.250.543	Shoulder Screw $\phi 12 \times M12 \times P1.5 \times L28$	12	M12xP1.5	28.0	—	8.0	—
15.250.544	Shoulder Screw $\phi 12 \times M12 \times P1.25 \times L28$	12	M12xP1.25	28.0	—	8.0	—
15.250.545	Shoulder Screw $\phi 12 \times M12 \times P1.5 \times L34.5$	12	M10xP1.5	24.5	15.0	14.5	—
15.250.546	Shoulder Screw $\phi 12 \times M12 \times P1.5 \times L28$	12	M10xP1.5	28.0	—	8.0	—
15.250.547	Shoulder Screw $\phi 12 \times M12 \times P1.25 \times L28$	12	M10xP1.25	28.0	—	8.0	—

## System 40 Pass-Through $\phi 16$ mm Knobs



• All dimensions are in millimeters

## System 40 Pass-Through $\phi 16$ mm Knob Screws

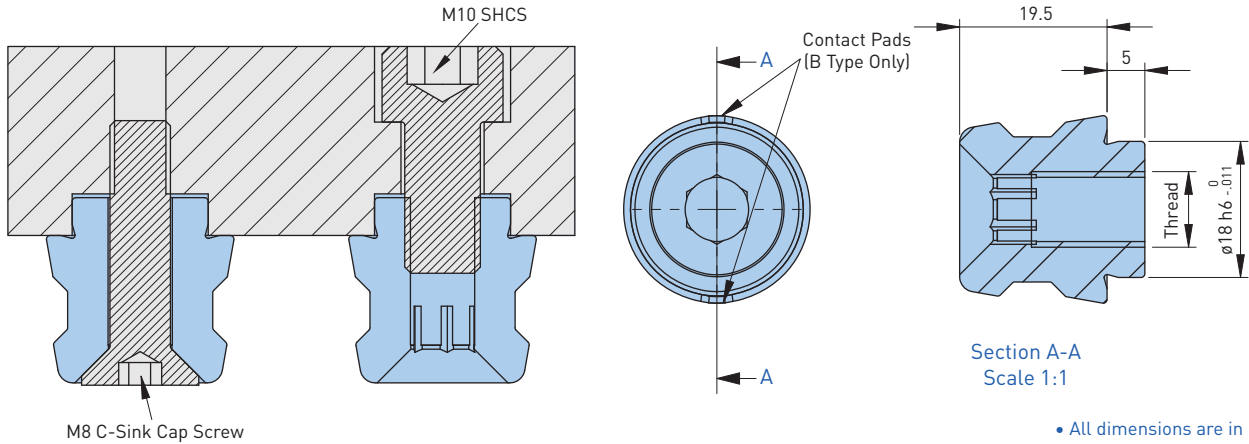


• All dimensions are in millimeters

Catalog Number	Description	$\phi D1$	Thread (G)	L1	L2	L3	L4
15.250.520	Shoulder Screw $\phi 16 \times M12 \times P2 \times L55$	16	M16xP2	55.0	25.0	35.0	10.0
15.250.521	Shoulder Screw $\phi 16 \times M12 \times P2 \times L43.5$	16	M16xP2	43.5	24.0	23.5	—
15.250.522	Shoulder Screw $\phi 16 \times M12 \times P2 \times L28$	16	M16xP2	28.0	—	8.0	—
15.250.523	Shoulder Screw $\phi 16 \times M16 \times P1.5 \times L28$	16	M16xP1.5	28.0	—	8.0	—
15.250.524	Shoulder Screw $\phi 16 \times M16 \times P1.25 \times L28$	16	M16xP1.25	28.0	—	8.0	—
15.250.525	Shoulder Screw $\phi 16 \times M14 \times P2 \times L40.5$	16	M14xP2	40.5	21.0	20.5	—
15.250.526	Shoulder Screw $\phi 16 \times M14 \times P2 \times L28$	16	M14xP2	28.0	—	8.0	—
15.250.527	Shoulder Screw $\phi 16 \times M14 \times P1.5 \times L28$	16	M14xP1.5	28.0	—	8.0	—
15.250.528	Shoulder Screw $\phi 16 \times M14 \times P1.25 \times L28$	16	M14xP1.25	28.0	—	8.0	—
15.250.529	Shoulder Screw $\phi 16 \times M12 \times P1.75 \times L37.5$	16	M12xP1.75	37.5	18.0	17.5	—
15.250.530	Shoulder Screw $\phi 16 \times M12 \times P1.75 \times L28$	16	M12xP1.75	28.0	—	8.0	—
15.250.531	Shoulder Screw $\phi 16 \times M12 \times P1.5 \times L28$	16	M12xP1.5	28.0	—	8.0	—
15.250.532	Shoulder Screw $\phi 16 \times M12 \times P1.25 \times L28$	16	M12xP1.25	28.0	—	8.0	—
15.250.533	Shoulder Screw $\phi 16 \times M10 \times P1.5 \times L28$	16	M10xP1.5	28.0	—	8.0	—
15.250.534	Shoulder Screw $\phi 16 \times M10 \times P1.25 \times L28$	16	M10xP1.25	28.0	—	8.0	—



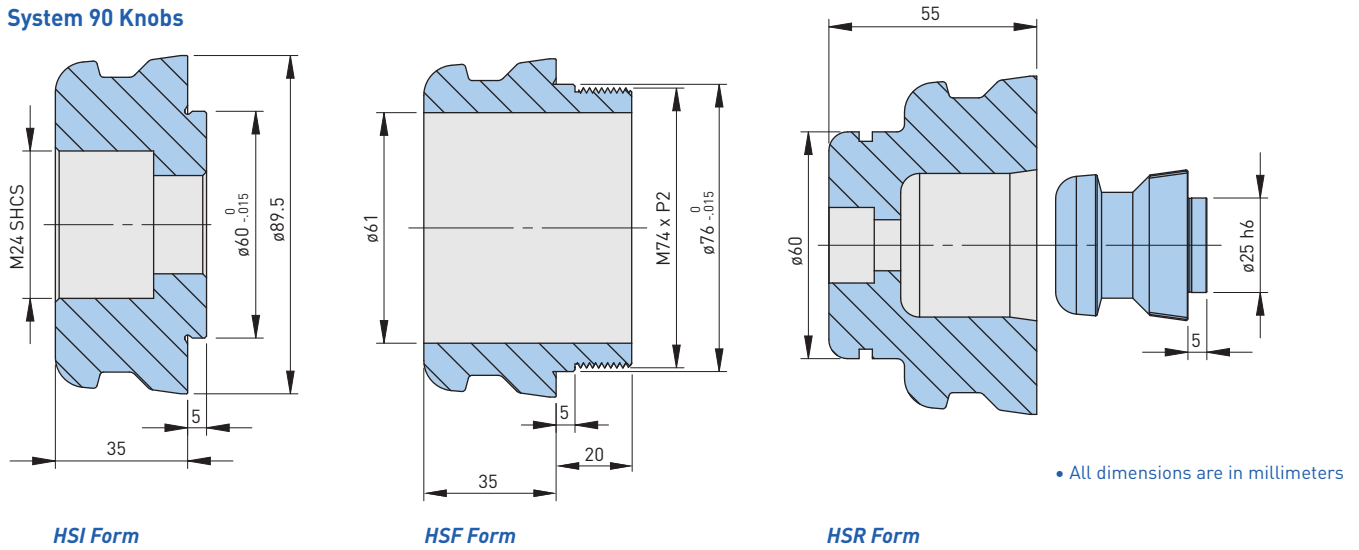
## System 25 Knobs



Knob Type	Catalog Number	Description	Undersize	Internal Thread	Pass-Through Bolt Size	Hex
A	15.255.400	SBA Clamping Knob Absolute Position	.0002	M10	M8	8mm
B	15.255.401	SBB Clamping Knob Orientation	.0002	M10	M8	8mm
C	15.255.402	SBC Clamping Knob Undersized .1mm - Downward Clamping Only	.0040	M10	M8	8mm

• See Pg. 122 for compatible chucks

## System 90 Knobs



Knob Part	Catalog Number	Description	Undersize
A	15.274.300	HSI 90 Clamping Knob – SBA	.0002
B	15.274.303	HSI 90 Clamping Knob – SBB	.0002
A	15.274.301	HSF 90 Clamping Knob – SBA	.0002
A	15.274.303	HSR 90 Clamping Knob – SBA	.0002

• See Pg. 32 for HSM 196 chuck



### Mono Pallet

Pallet is shown with a  $\varnothing 12$ mm timing pin for use with MCM 150, MSM 170, ISM 160 and DC 200 chucks. The model ESM 138 chuck accepts a 14mm key or pin. The ESM 176 chuck accepts a 25mm key or pin.

#### Can be Configured for the Following Chucks:

- ESM/EFM/ERGO 138
- MLM/MCM 150
- ISM 160
- MSM 170
- ESM 176 Turbo
- DLM/DCM 200



### Duo & Quad Pallet

Duo and Quad pallets with load on the model QC 400 or any set of chucks on 200mm spacing.

#### Can be Configured for the Following Chucks:

- DLM 200
- DCM 200
- QC 400
- ERGO Base Stations

While loading and unloading work into the fixture, the holes in the bottom of the pallet mate to setup plates that stabilize the pallet for safe operation outside of a Unilock chuck.

Pallet Type	Pallet Name	Catalog Number	Material	Weight (lbs)	Thickness	Length	Width	Length w/ Handles	Timing Pin T	Pin Dia. $\varnothing P$
Mono	AP 200	15.260.640	Aluminum	6.6	25mm	199mm	199mm	266mm	81mm	12mm
Mono	SP 200	15.260.540	Steel	15.4	20mm	199mm	199mm	266mm	81mm	12mm
Mono	AP 200-138	15.260.647	Aluminum	6.6	25mm	199mm	199mm	266mm	61mm	14mm
Mono	AP 200-176	15.260.645	Aluminum	6.6	25mm	199mm	199mm	266mm	76mm	25mm
Duo	AP 400	15.270.640	Aluminum	13.2	25mm	399mm	199mm	470mm	—	—
Duo	SP 400	15.270.540	Steel	30.8	20mm	399mm	199mm	470mm	—	—
Quad	AP 400 x 400	15.270.644	Aluminum	26.4	25mm	399mm	399mm	470mm	—	—

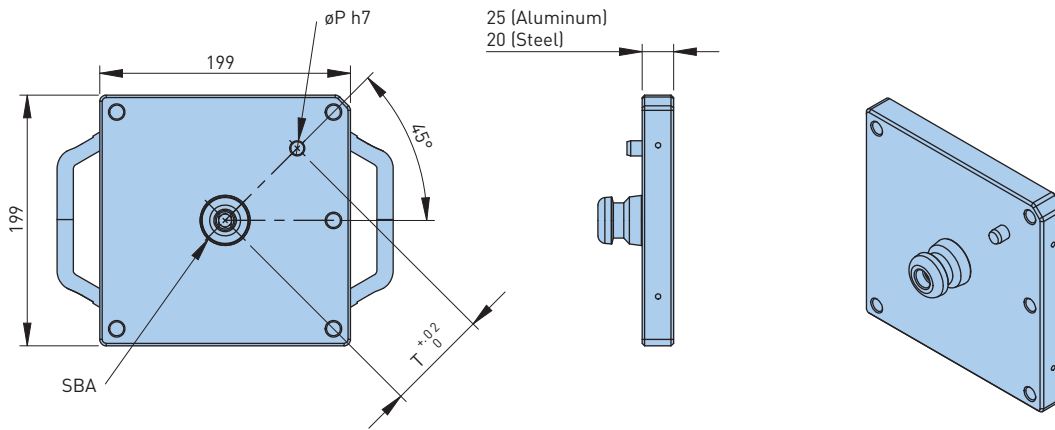
### Pallet Stand

Used to stabilize a pallet while it is being worked on outside of the machine.

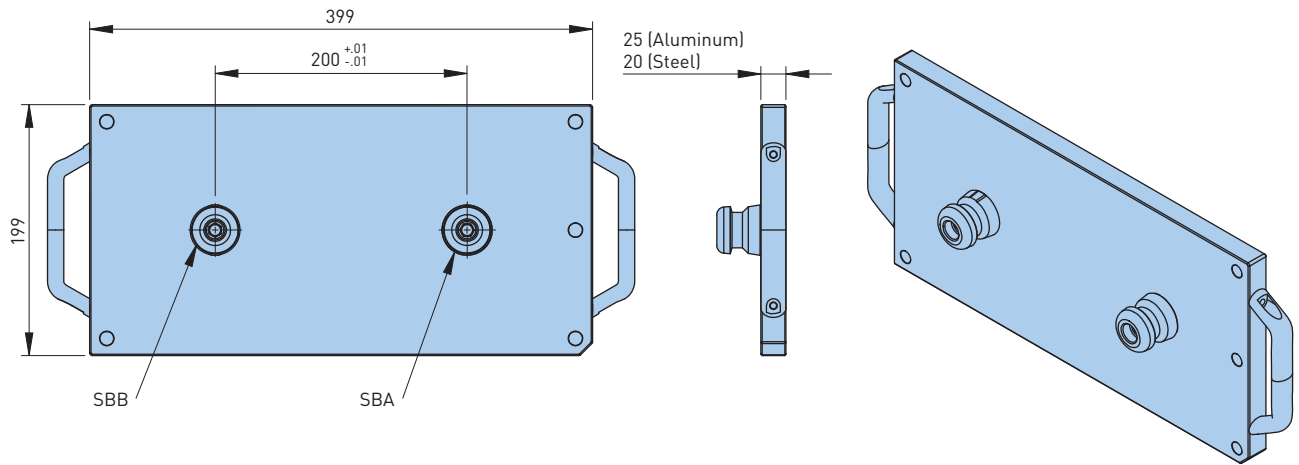


Stand Type	Catalog Number
Mono	15.260.800
Duo	15.270.800
Quad	

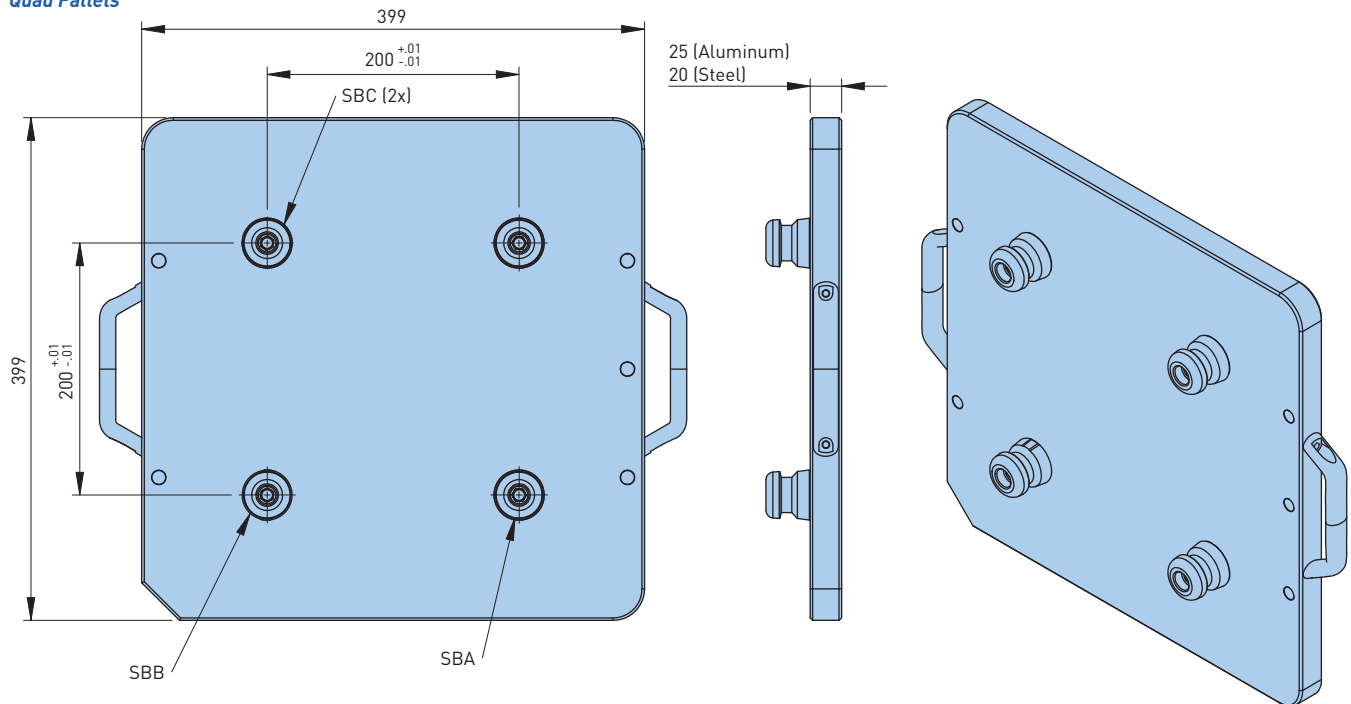
## Mono Pallets



## Duo Pallets



## Quad Pallets



• All dimensions are in millimeters





Unilock automation chucks are expanding the role of air pressure beyond that of holding the chuck open during changeovers or assisting the springs in the clamping process. Automation chucks can confirm the presence of a clamping ring/fixture via air pressure monitoring. Air is also used to help clean the locating surfaces.



**NEW!**

**ESA 120/70** ..... Pg. 76-77



**ESA 110** ..... Pg. 78-79



**NSA 125** ..... Pg. 80-81



**ESA 185** ..... Pg. 82-83



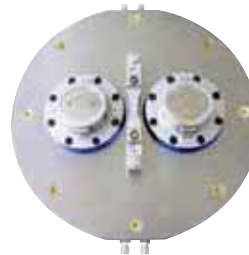
**ASSF 170** ..... Pg. 84-85



**ASSF 250** ..... Pg. 86-87

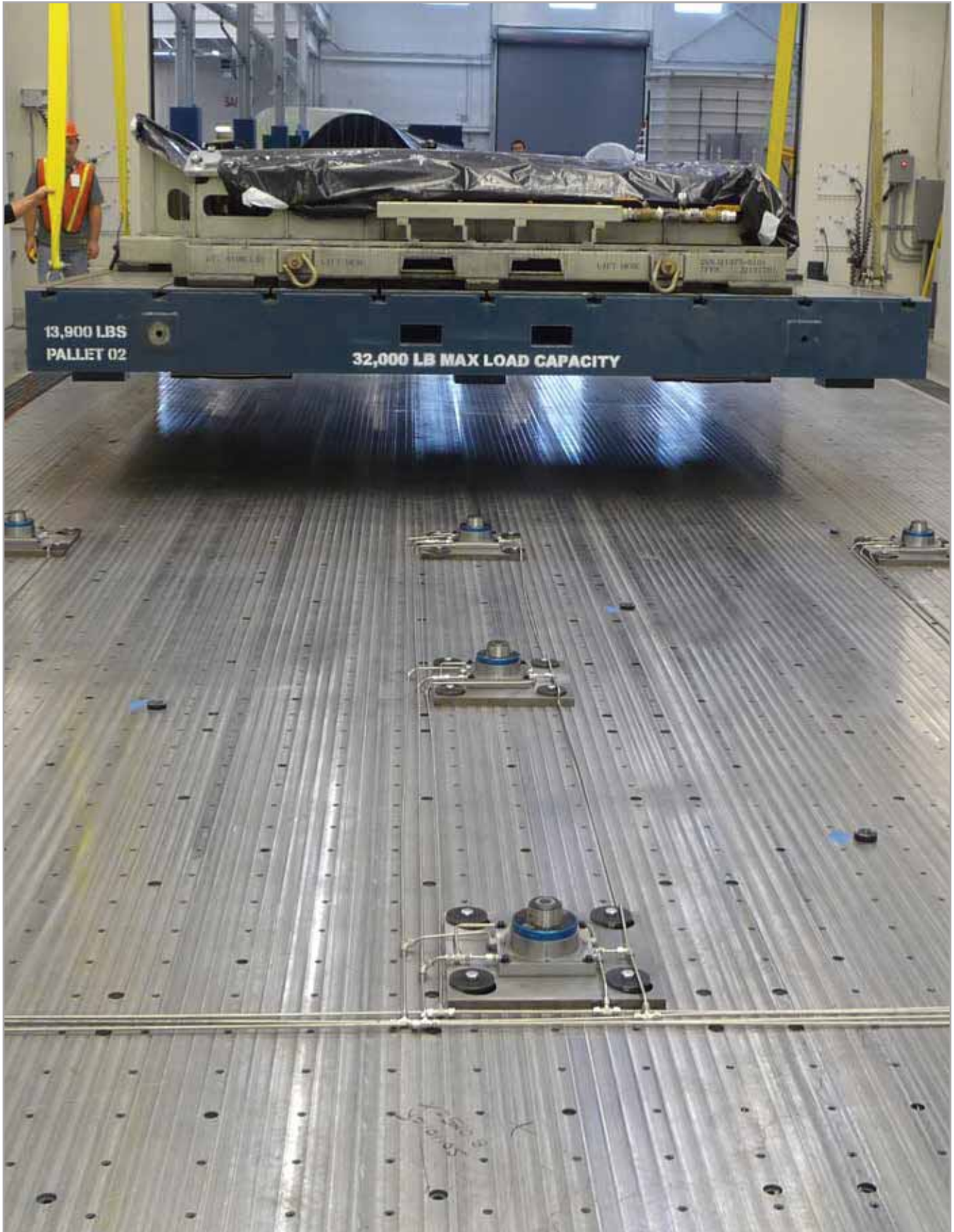


**Accessories** ..... Pg. 88-89



**Pallets** ..... Pg. 90





### Minimizes or Eliminates Flats and Recesses on the Mating Surfaces Where Chips Can Collect and Interfere with the Positioning and Clamping Process

The clamping chuck has a ground cone projecting out of its base that is used to establish centerline. Chips and debris will tend to slide off of this surface. Elevation is controlled with small raised pads surrounding the cone. They reduce the surface area on which debris and chips can contaminate the positioning and clamping process.

The clamping ring resides on the bottom of the pallet, a location that is not prone to collecting contamination when it is being stored in the robot or locked in a Unilock chuck.

### Assists in the Cleaning Process so the Chuck Can be Safely Installed in an Automated Cell

When the chuck is in an open position (Fig. 1), an upward air blast is activated. These air passages project onto the bottom of the clamping ring to assist in the cleaning process. As the pallet nears its final position, the restriction of the upward air flow is redirected onto the contact surface (Fig. 2).

### Provides Feedback to the Cell Controller on Clamping Status

The air passages are restricted once the pallet is clamped. This restriction can be measured and used to verify pallet presence.

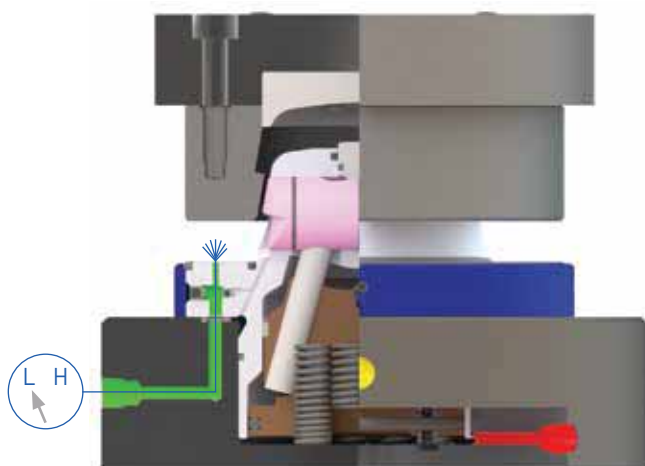
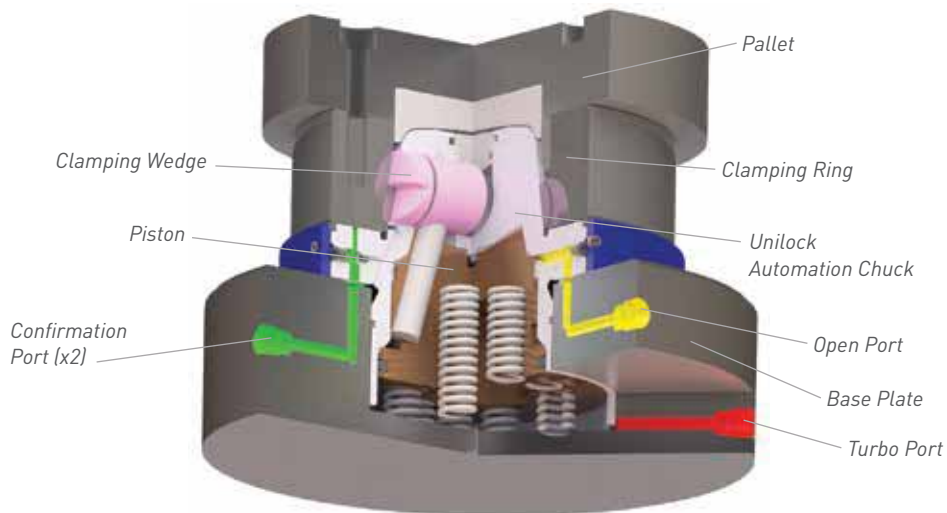


Figure 1

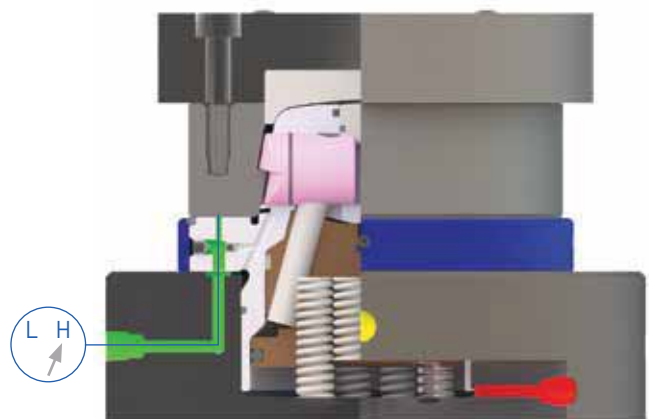


Figure 2



The ESA 120/70 automation chuck has it all! Open and turbo functions from the original system and all of the properties from the automation series allow it to be monitored by a control. With the original System 40 knobs, it is a more economical option for automatic pallet loading of pre-existing fixtures.

**Features:**

- Uses standard knobs
- Integrated coolant output
- Reduced ring support with sealing air
- Turbo assist for increased holding power



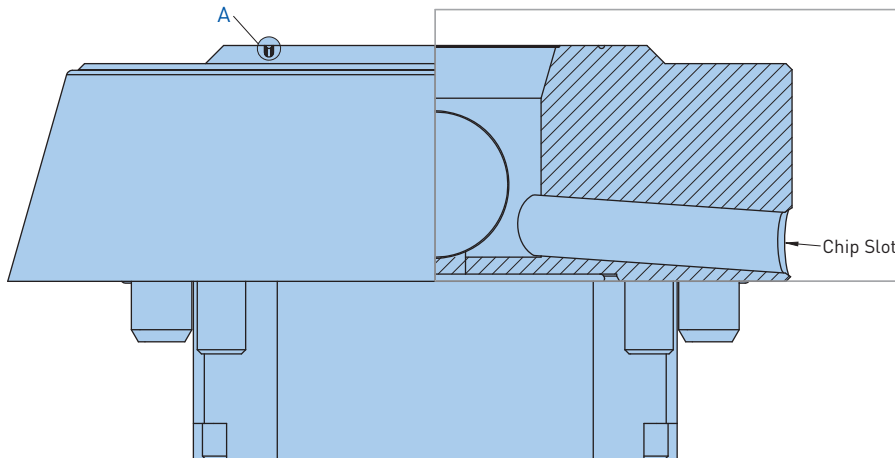
Chuck Model	Catalog Number	Notch (Width x Qty)	Recommended Bolt Sizes					Clamping Force (lbs)		Weight (lbs)	Air Connection	
			M10	M12	M16	M20+	M24+	Spring Only	Turbo Assist		Port Size	Flange
ESA 120/70	15.277.200	—	✓	✓	—	—	—	660-880	1,980-2,200	6.3	—	✓

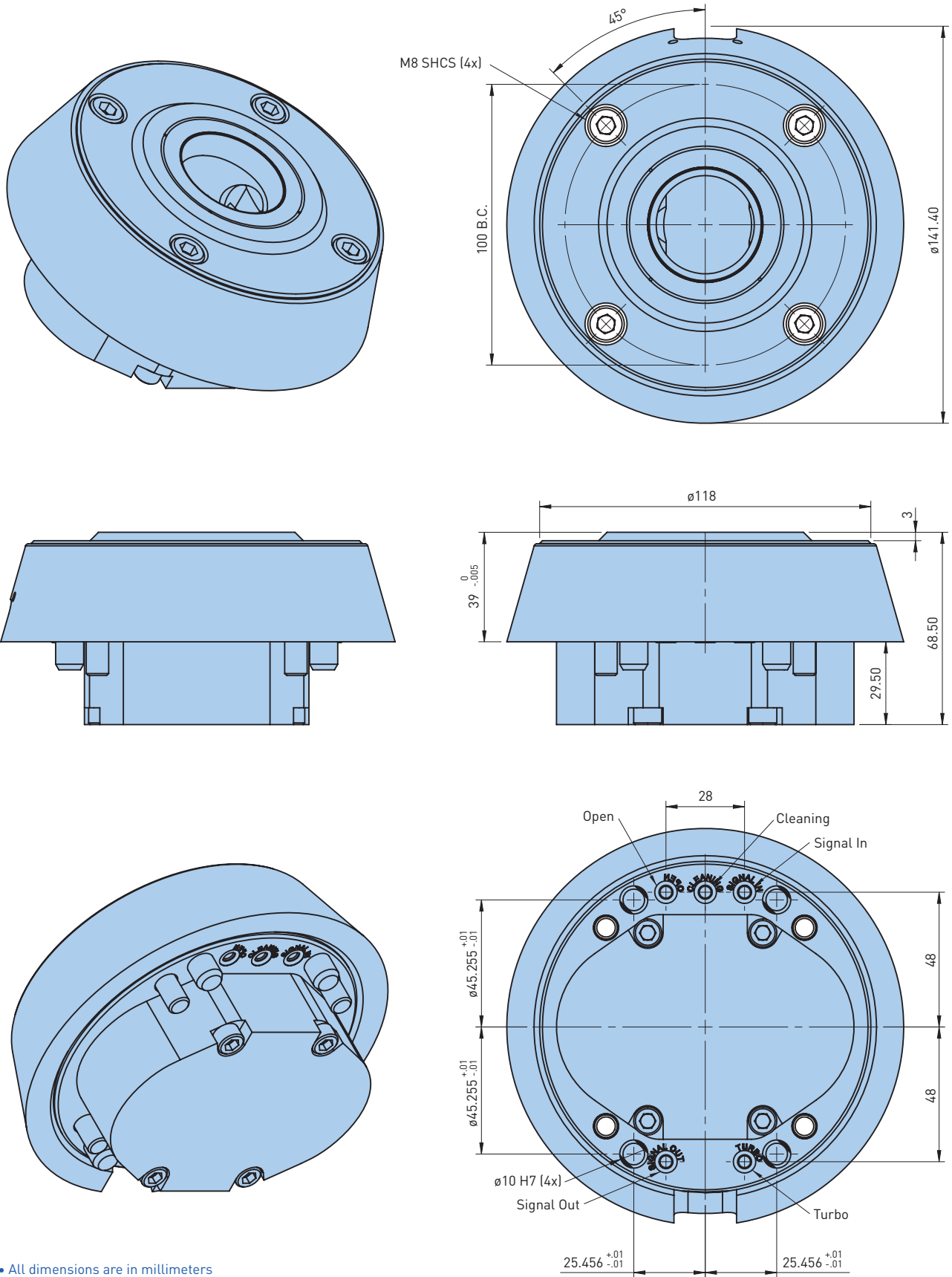
† Optional

**AIR FITTINGS**



Detail A  
Scale 4:1





- All dimensions are in millimeters
- Please consult with BIG KAISER Engineering Dept. for detailed mounting instructions

The ESA 110 automation chuck can be used as a single or multiple chuck solution. Pallets seal off air passages allowing for the verification of a pallet through back pressure monitoring.

**Features:**

- Tapered chuck eases cleaning
- Turbo assist clamping option
- Air blast cleaning passages
- Air verification of pallet presence
- Four elevated support pads



**AIR FITTINGS**



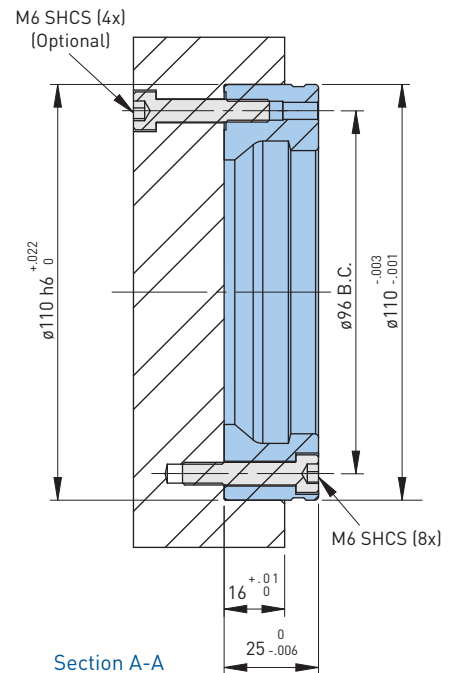
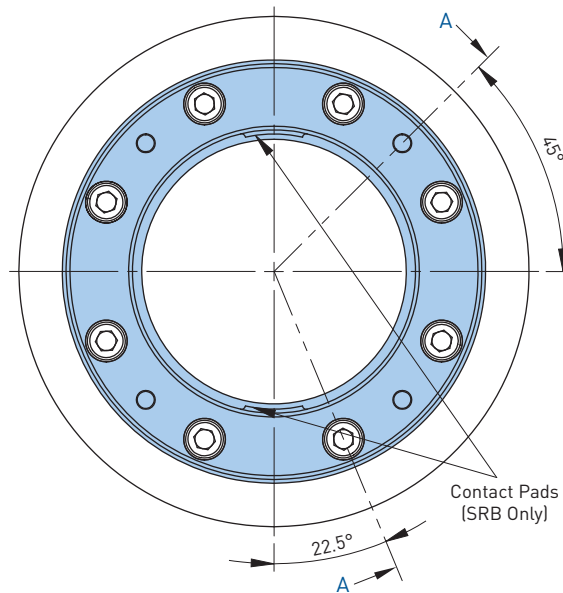
Chuck Model	Catalog Number	Clamping Force (lbs)		Weight (lbs)	Air Connection	
		Spring Only	Turbo Assist*		Port Size	Flange
ESA 110	<b>15.277.300</b>	660-880	3,080-3,300	4.8	—	✓

- Screws, screw covers and o-rings included
- \* Sealed pocket required for Turbo Assist

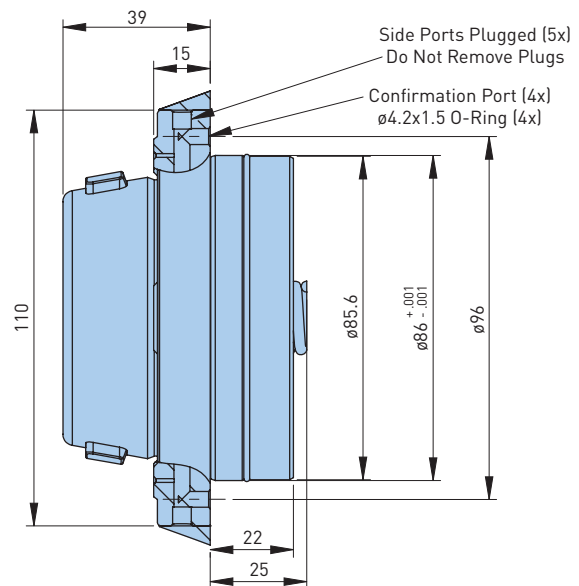
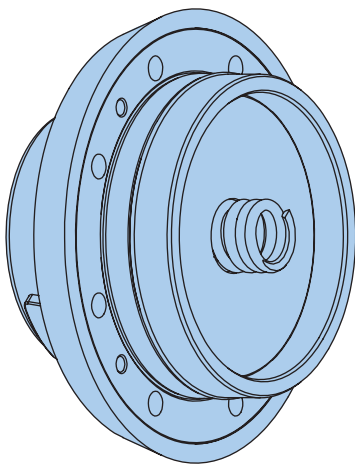
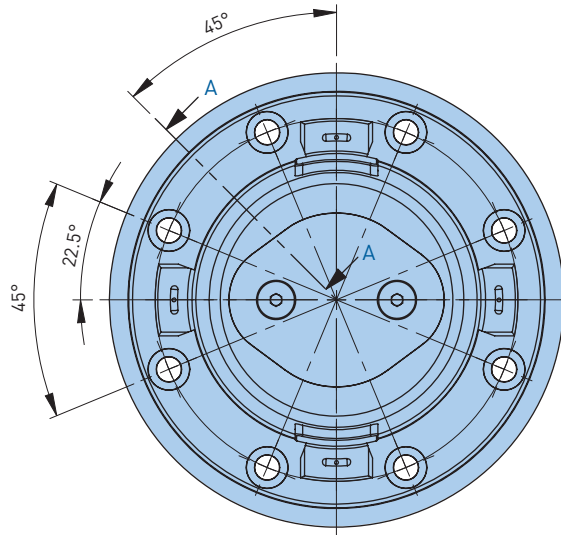
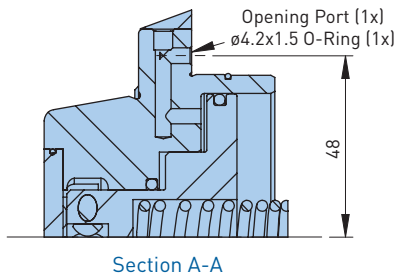
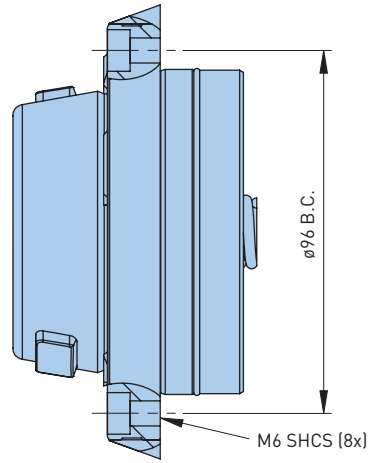
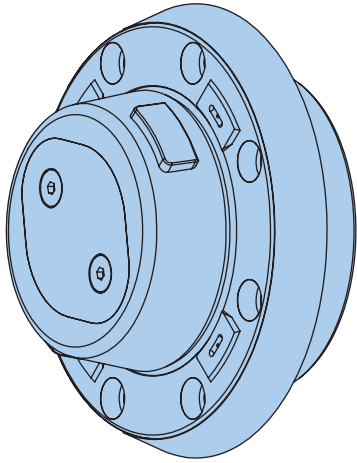
**Clamping Ring**

Ring Type	Catalog Number
SRA 110	<b>15.277.030</b>
SRB 110	<b>15.277.031</b>
SRC 110	<b>15.277.032</b>

- Screws included



- All dimensions are in millimeters



- All dimensions are in millimeters
- Please consult with BIG KAISER Engineering Dept. for detailed mounting instructions

The NSA 125 automation chuck can be used as a single or multiple chuck solution. Pallets seal off air passages allowing for the verification of a pallet through back pressure monitoring.

**Features:**

- Tapered chuck eases cleaning
- Turbo assist clamping option
- Air blast cleaning passages
- Air verification of pallet presence
- Two elevated support pads



Chuck Model	Catalog Number	Clamping Force (lbs)		Weight (lbs)	Air Connection	
		Spring Only	Turbo Assist*		Port Size	Flange
NSA 125	15.277.125	1,100-1,350	3,300-3,740	7.9	—	✓

- Screws, screw covers and o-rings included
- \* Sealed pocket required for Turbo Assist

**AIR FITTINGS**



**REPAIR COMPONENTS**



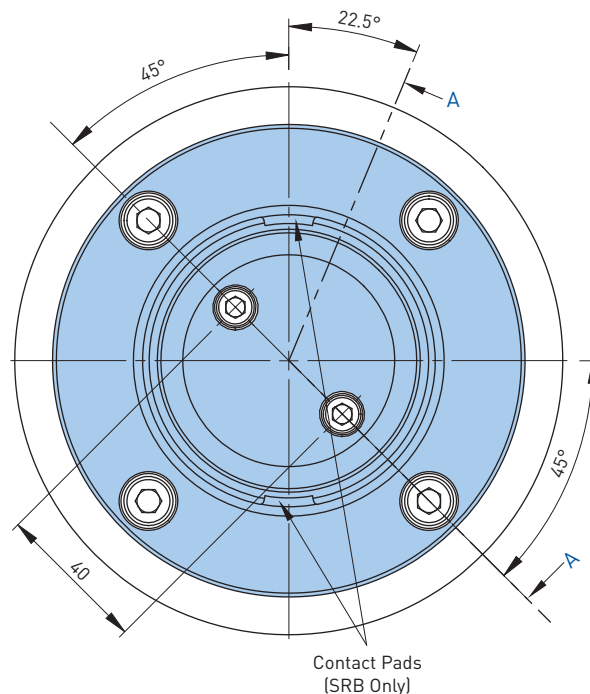
**Clamping Ring**

Ring Type	Catalog Number
SRA 125	15.277.001
SRB 125	15.277.002
SRC 125	15.277.003

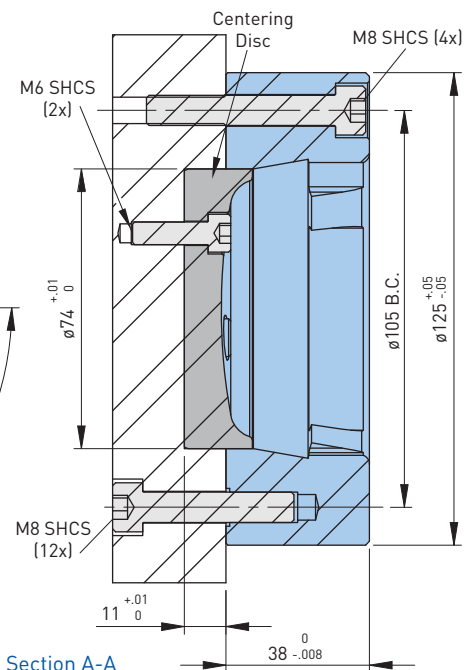
- Screws included



- All dimensions are in millimeters

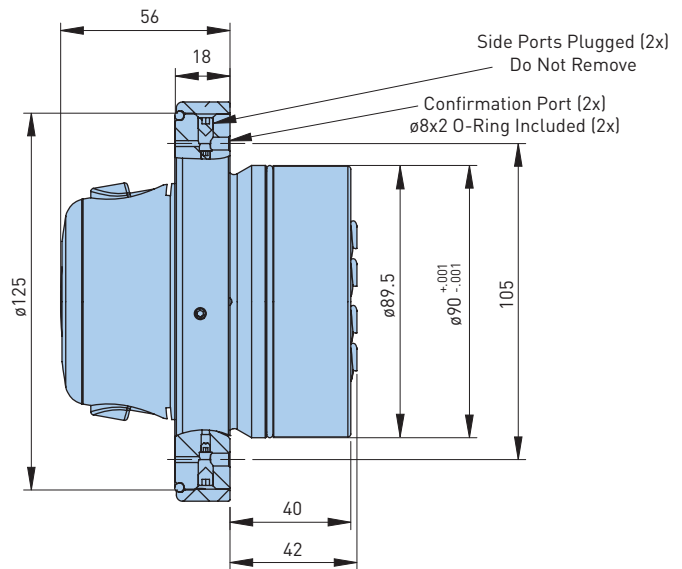
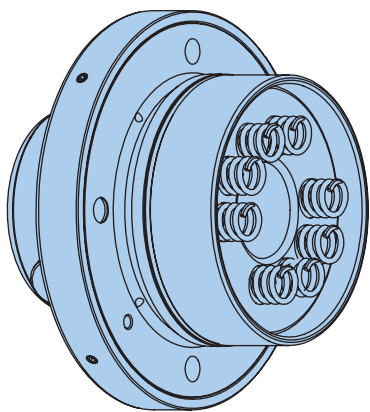
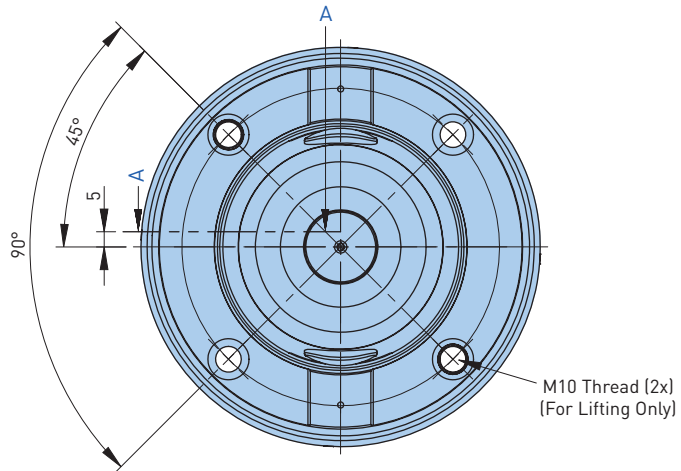
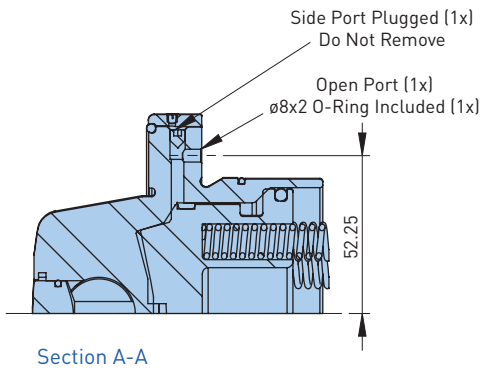
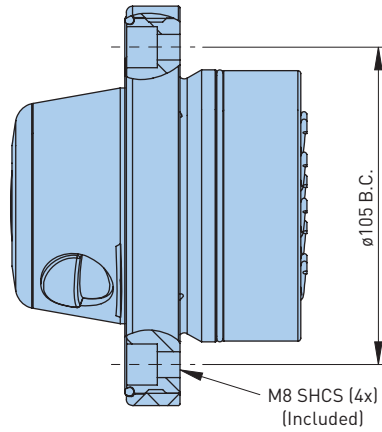
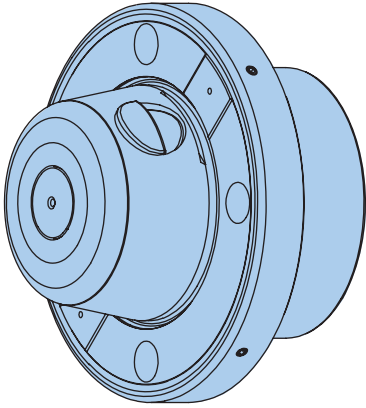


Contact Pads (SRB Only)



Section A-A





- All dimensions are in millimeters
- Please consult with BIG KAISER Engineering Dept. for detailed mounting instructions

The ESA 185 chuck is the largest self cleaning Unilock clamping chuck. It is especially well suited for the use in heavy machining. Supporting pallets up to 1,000mm x 1,000mm with weight in excess of 10 tons, this chuck offers rigid clamping for turning and milling. After the blow-off function cleans the chuck during a load cycle, it can be used to monitor pallet presence.

**Features:**

- Tapered chuck eases cleaning
- Turbo assist clamping option
- Air blast cleaning passages
- Air verification of pallet presence
- Two elevated support pads



**AIR FITTINGS**



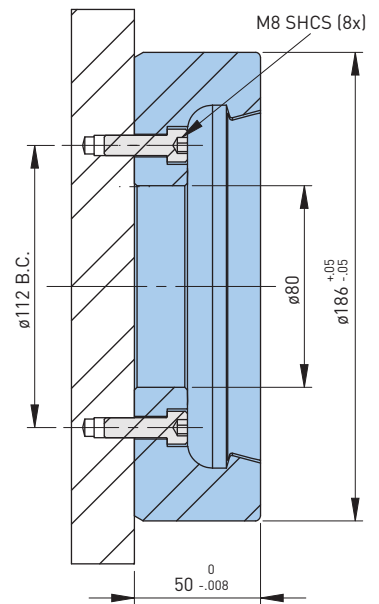
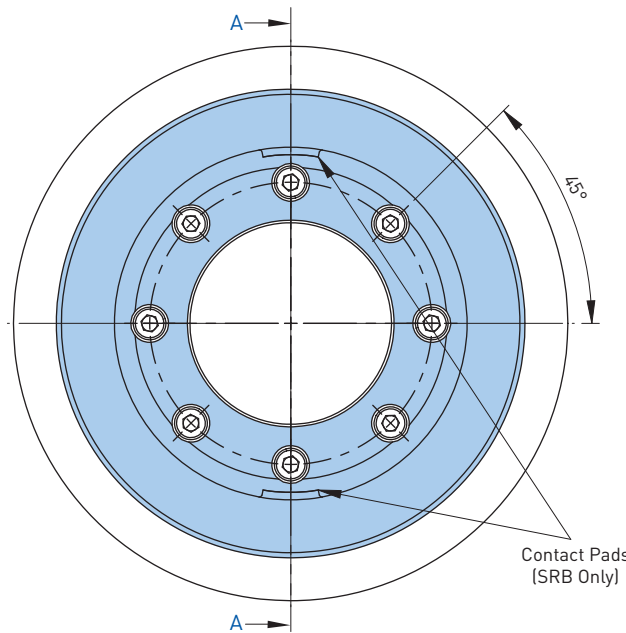
Chuck Model	Catalog Number	Clamping Force (lbs)		Weight (lbs)	Air Connection	
		Spring Only	Turbo Assist*		Port Size	Flange
ESA 185	<b>15.277.185</b>	2,850-3,300	660-8,800	21.4	—	✓

- Screws, screw covers and o-rings included
- \* Sealed pocket required for Turbo Assist

**Clamping Ring**

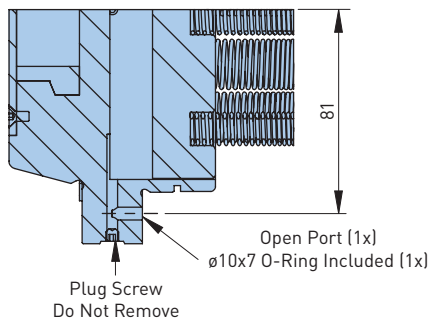
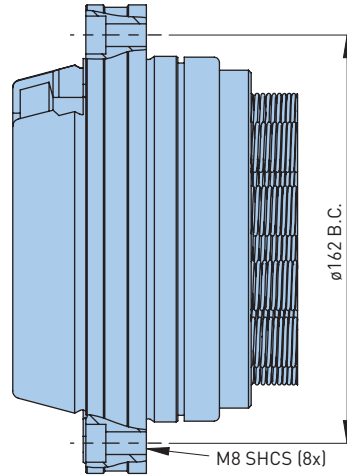
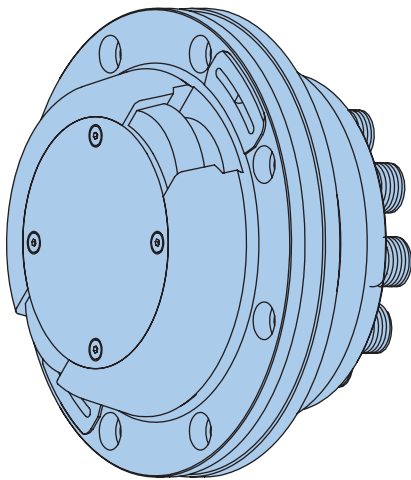
Ring Type	Catalog Number
SRA 185	<b>15.277.040</b>
SRB 185	<b>15.277.041</b>
SRC 185	<b>15.277.043</b>

- Screws included

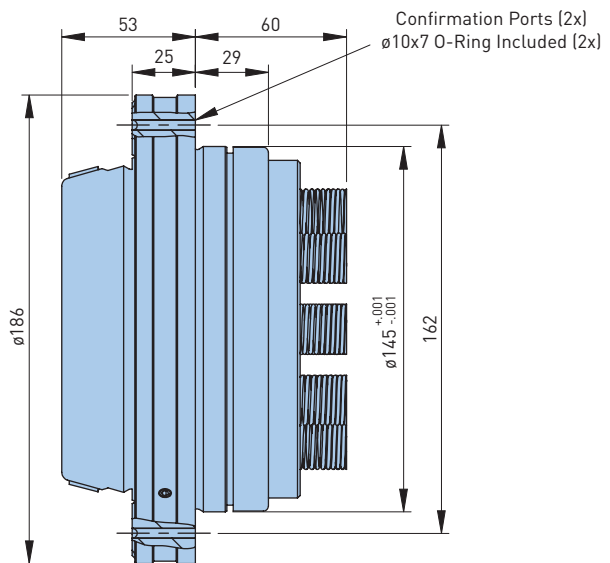
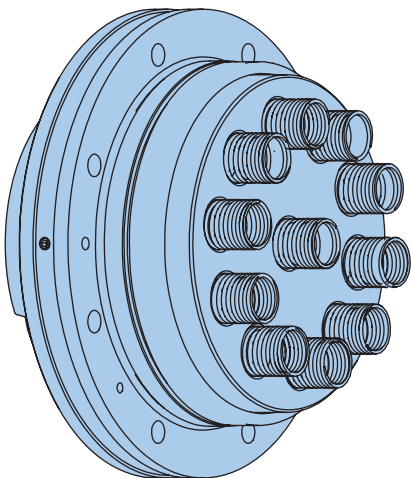
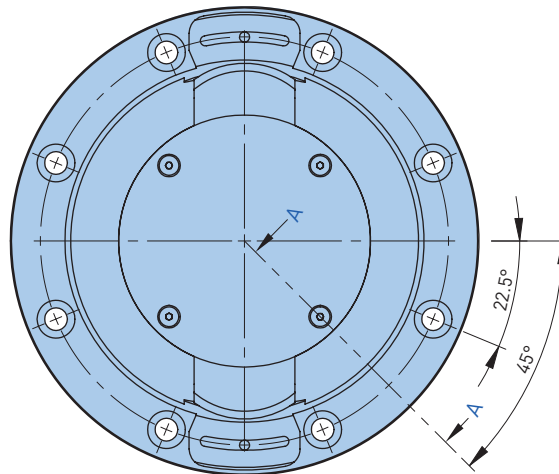


Section A-A

- All dimensions are in millimeters



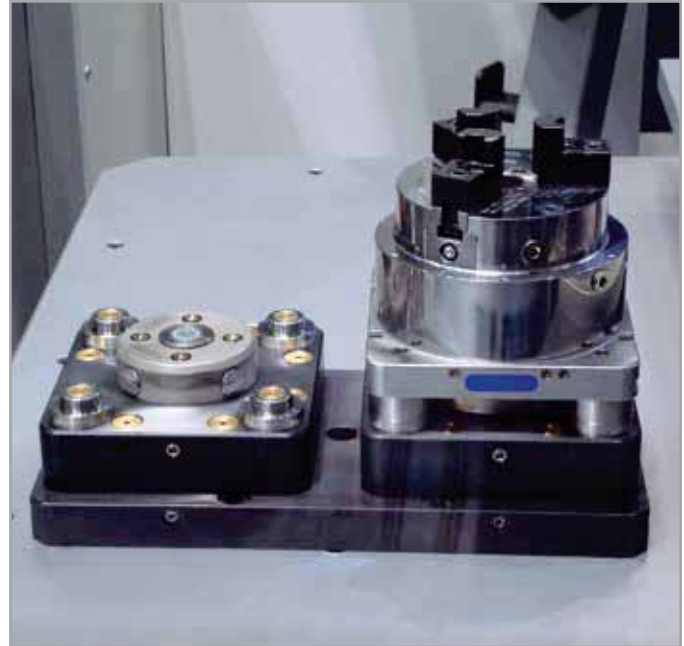
Section A-A



- All dimensions are in millimeters
- Please consult with BIG KAISER Engineering Dept. for detailed mounting instructions

**Pre-Assembled Automation Solutions**

This automation chuck is produced from a steel body with dimensions of 170mm x 170mm. It is designed to accept a single clamping ring at the centerline of the pallet. A stable platform is provided for all machining applications through the use of four clamping wedges and four supporting orientation pads.



Chuck Model	Catalog Number	Clamping Force (lbs)		Weight (lbs)	Air Connection	
		Spring Only	Turbo Assist*		Port Size	Flange
ASSF 170	15.279.170	1,100-1,350	2,860-3,300	20.1	—	✓

- No hardware included
- \* Sealed pocket required for Turbo Assist

**PALLET DRAWINGS**



**AIR FITTINGS**



**REPAIR COMPONENTS**



**Clamping Ring**

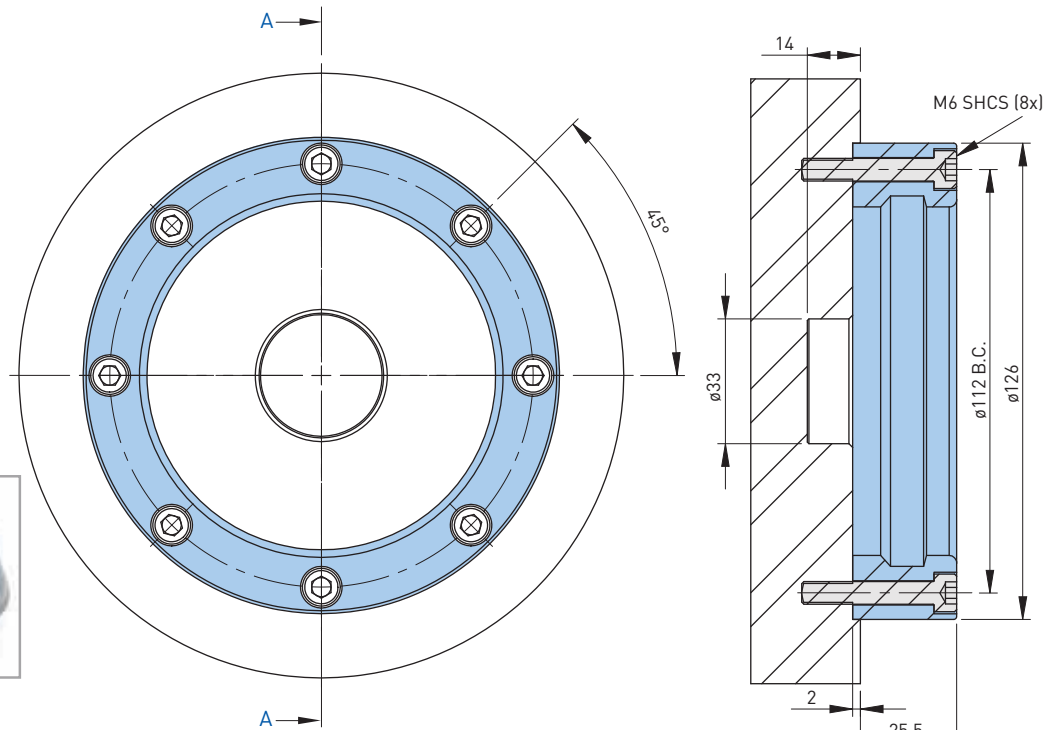
Ring Type	Catalog Number
SRA 170	15.279.120

- Screws included



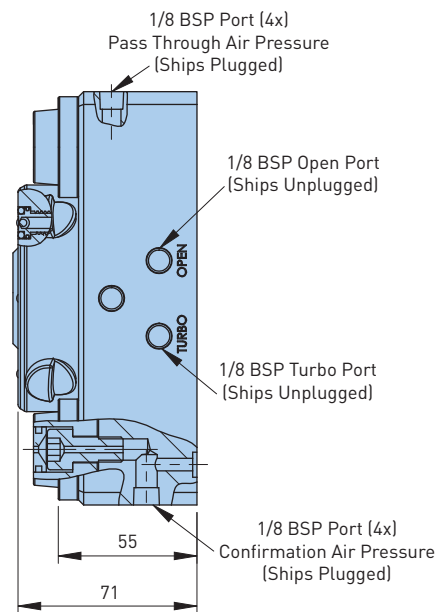
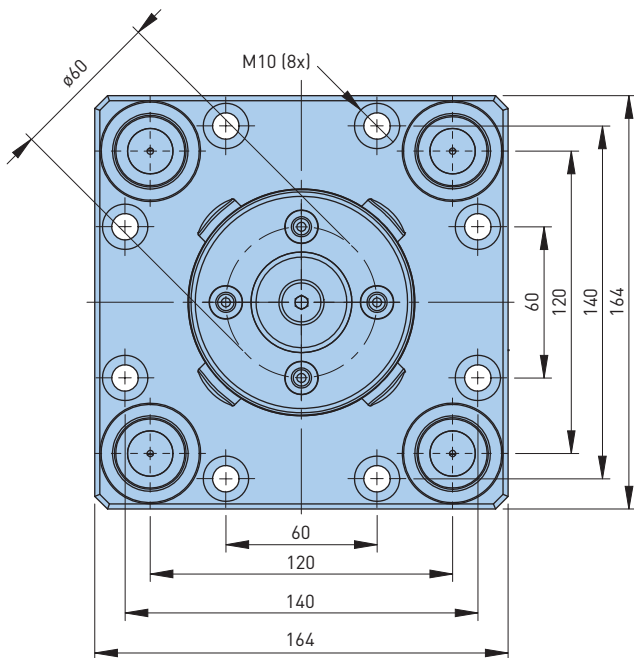
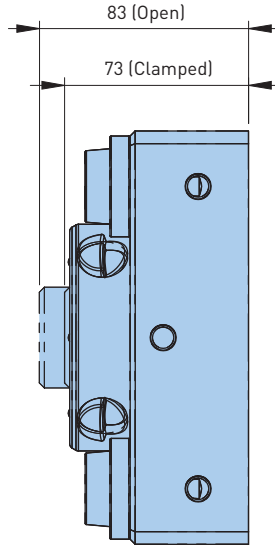
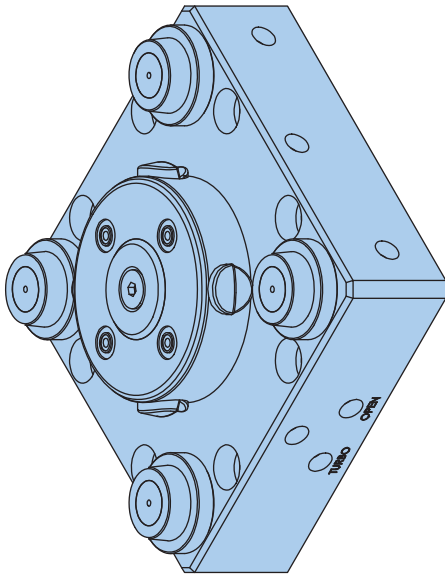
Ring shown on pallet

- All dimensions are in millimeters



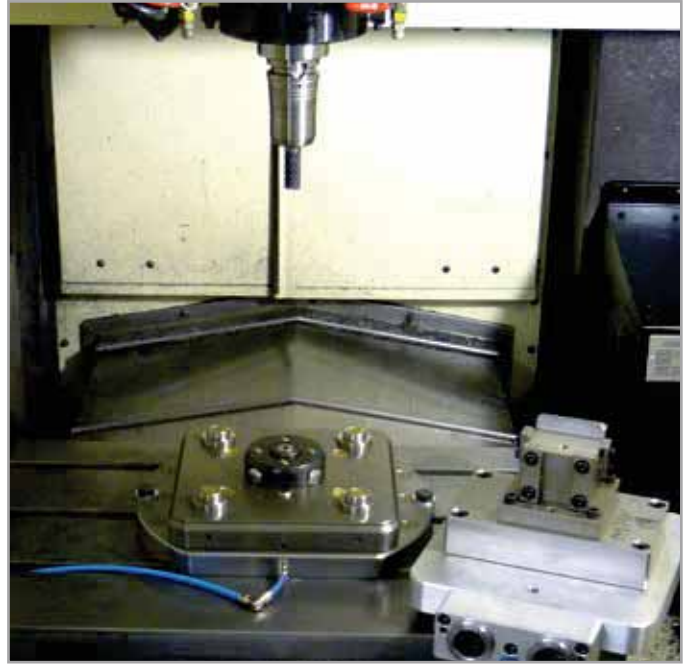
Section A-A





- All dimensions are in millimeters
- Pallet drawing see Pg. 89

This automation chuck is produced from a steel body with dimensions of 250mm x 250mm. It is designed to accept a single clamping ring at centerline of the pallet. A stable platform is provided for all machining applications through the use of four clamping wedges and four supporting orientation pads. This chuck supports a passage for delivering compressed air to the top side of the fixture plate.



Chuck Model	Catalog Number	Clamping Force (lbs)		Weight (lbs)	Air Connection	
		Spring Only	Turbo Assist*		Port Size	Flange
ASSF 250	<b>15.279.250</b>	1,100-1,350	2,860-3,300	71.2	1/8 (2x)	✓

- No hardware included
- \* Sealed pocket required for Turbo Assist

**PALLET DRAWINGS**



**AIR FITTINGS**



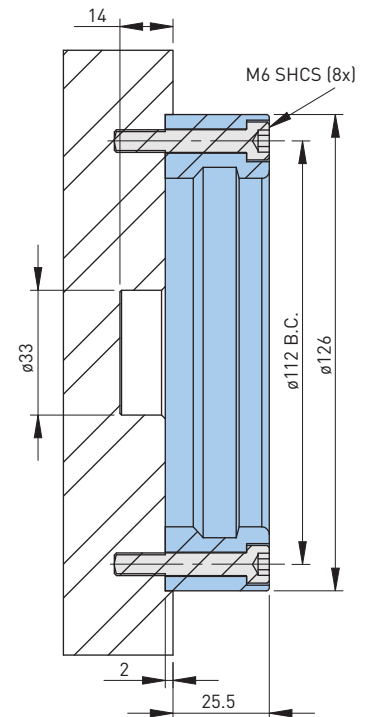
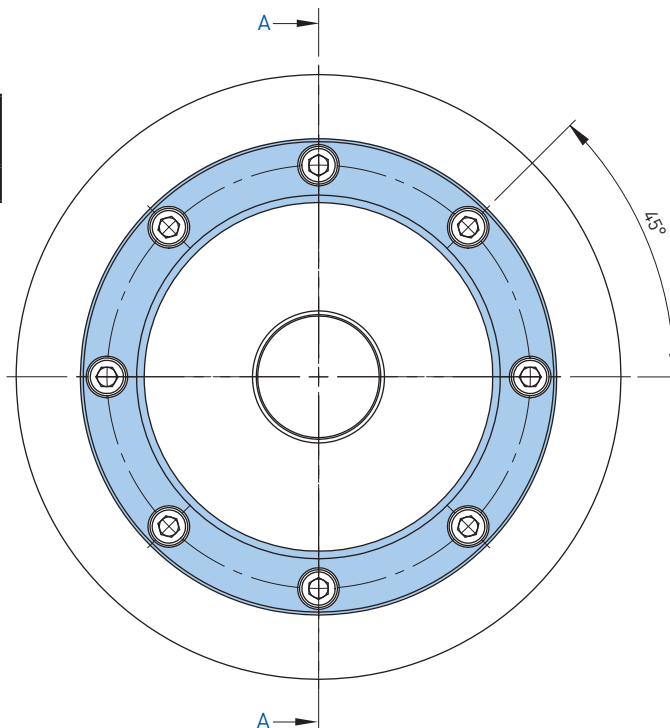
**REPAIR COMPONENTS**



**Clamping Ring**

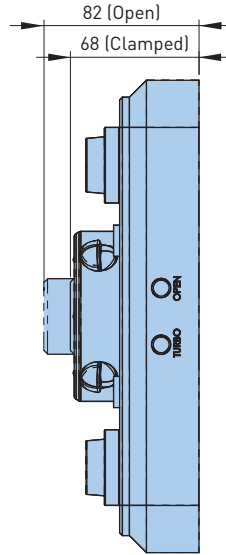
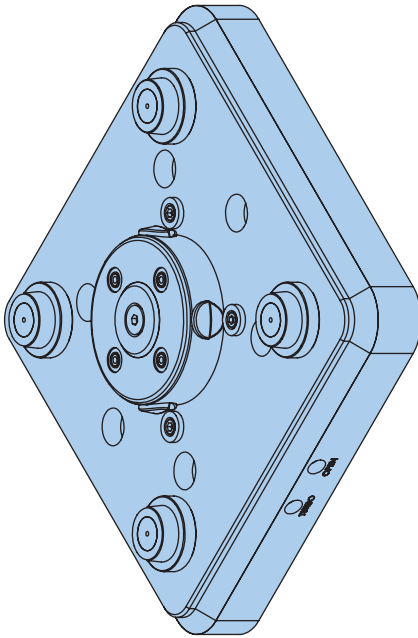
Ring Type	Catalog Number
SRA 170	<b>15.279.120</b>

- Screws included

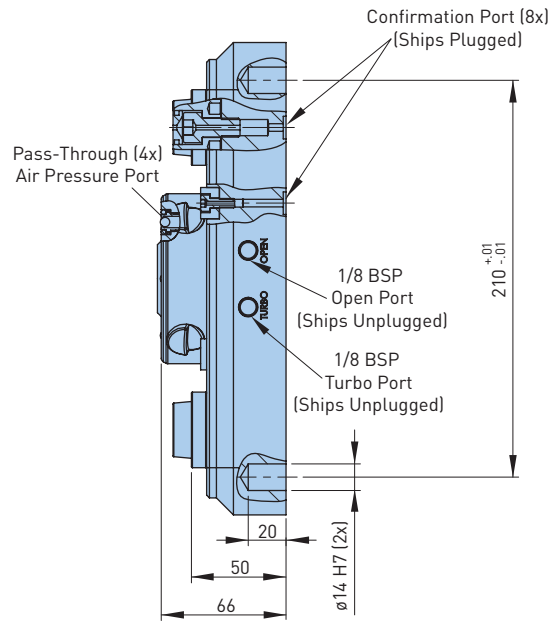
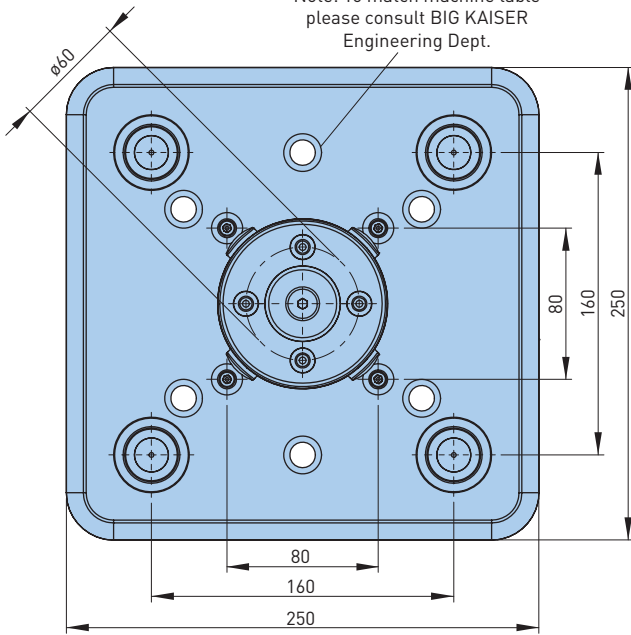


Section A-A

• All dimensions are in millimeters

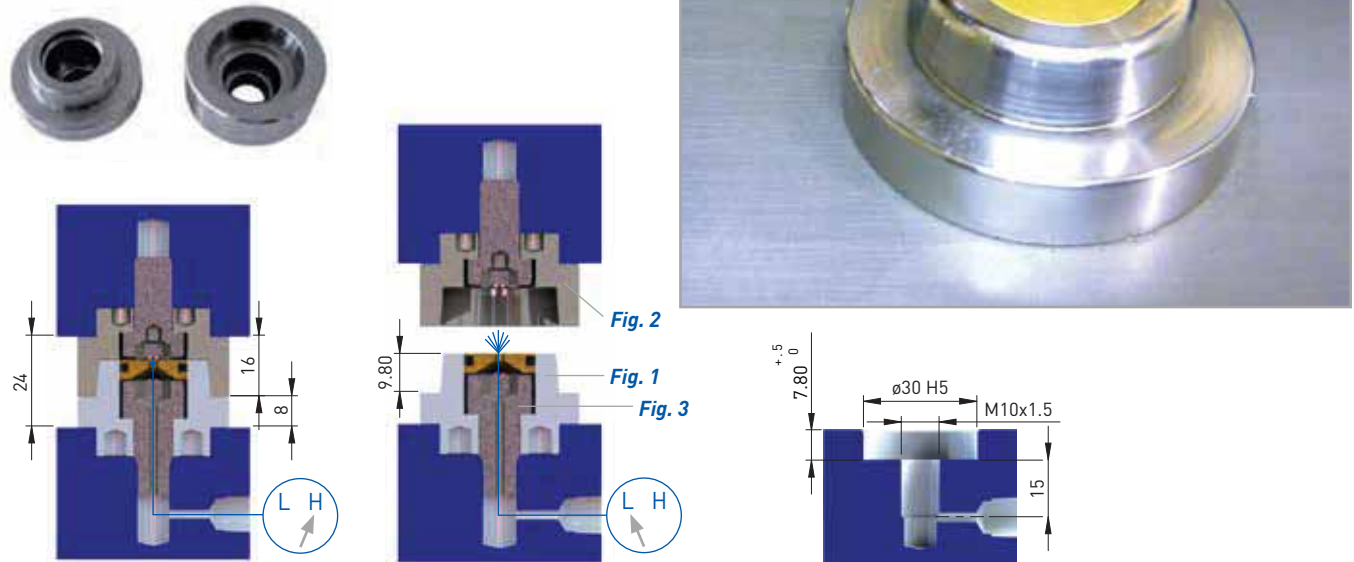


M12 Bolting Pattern  
 Note: To match machine table  
 please consult BIG KAISER  
 Engineering Dept.



- All dimensions are in millimeters
- Pallet drawing see Pg. 89

When automation pallets need additional support or orientation, a mating cup bushing and taper cone are used. Their tight fit delivers stability and accurate orientation for large pallets.

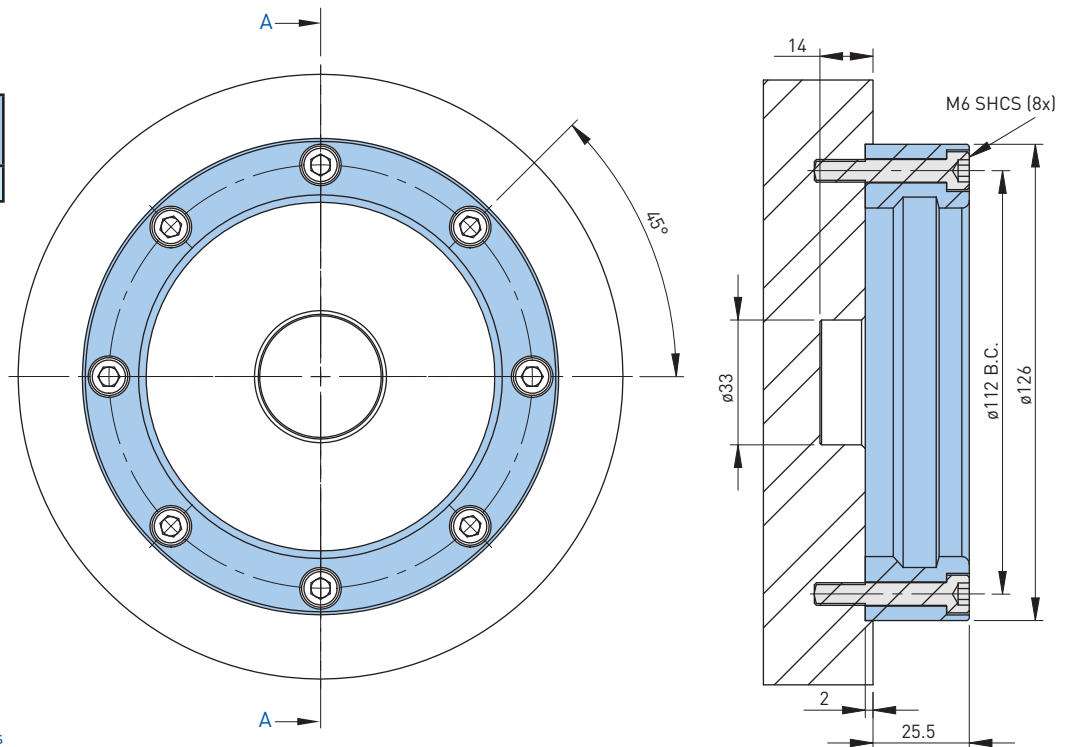


Catalog Number	Description	Fig.
15.279.055	Centering Bushing Male Taper	1
15.279.056	Centering Bushing Female Taper	2
15.279.057	SHCS M10 x L20 w/ Air Passage	3

**Clamping Ring**

Ring Type	Catalog Number
SRA 170	15.279.120

• Screws included



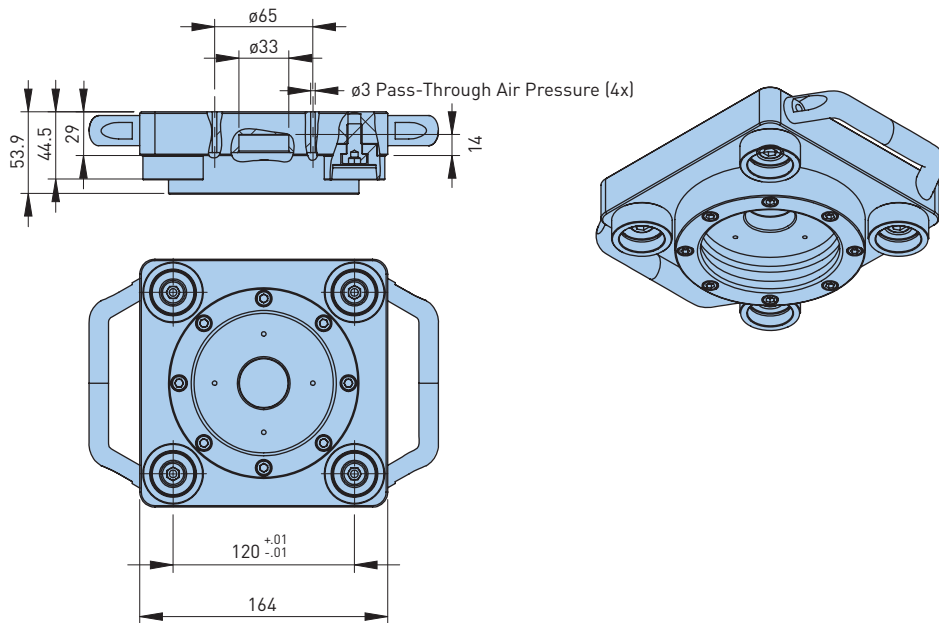
Section A-A

• All dimensions are in millimeters

## BALSF 170 Pallet

Catalog Number
15.279.175

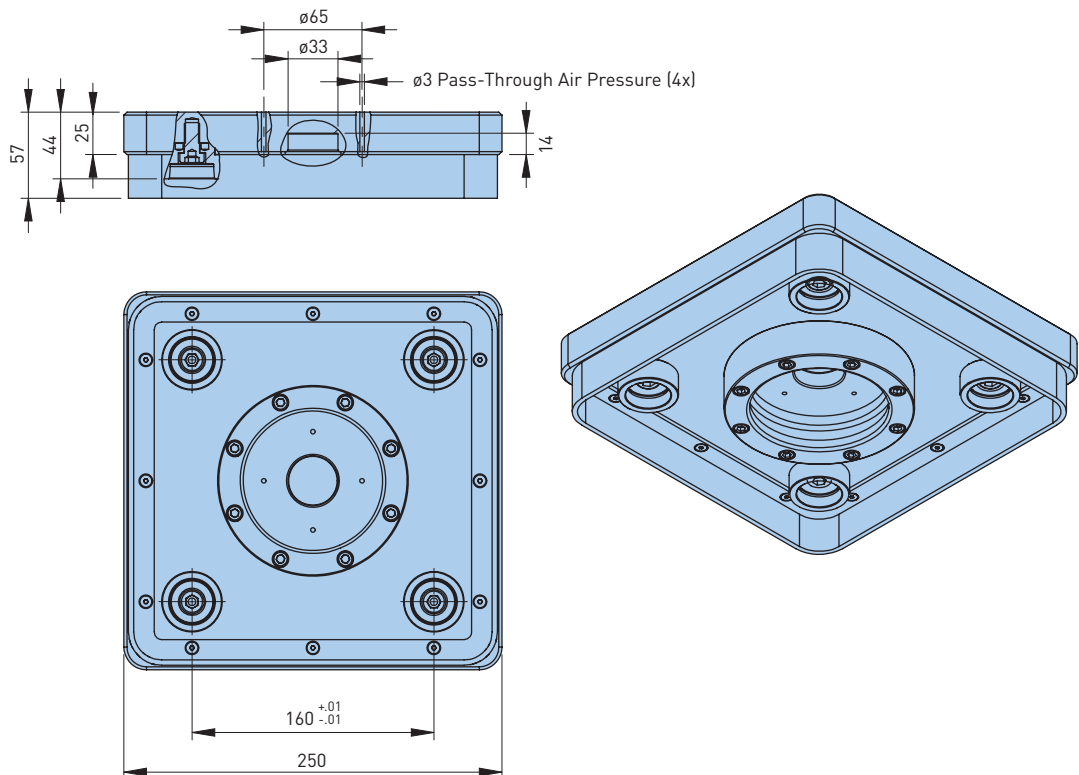
- Handles included



## BALSF 250 Pallet

Catalog Number
15.279.255

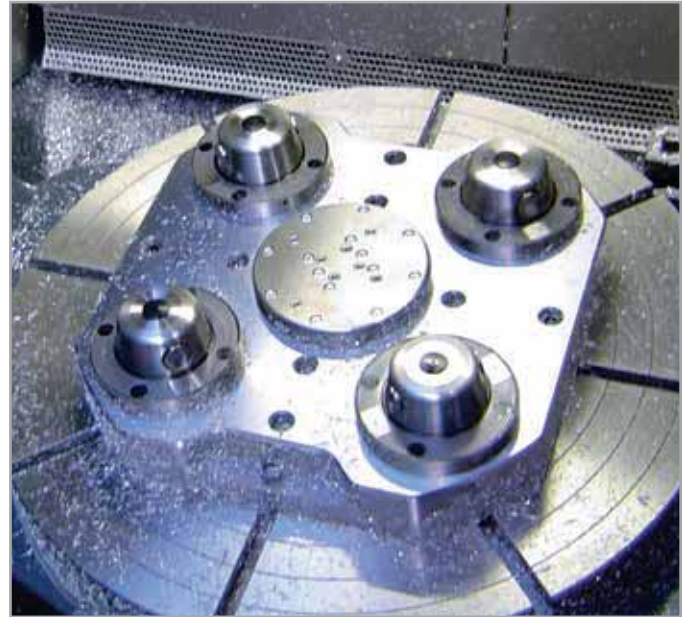
- Handles included but not shown on drawing



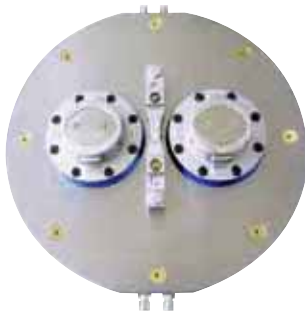
• All dimensions are in millimeters



Complete pallet assemblies are available for use in Mono, Duo and Quad configurations. For companies opting to produce their own pallets, all components can be purchased individually. The robot gripper couplings are also available.



## Dual Clamping Stations



*DSA 110*



*DPA 110*

## Quad Clamping Stations



*QSA 110*



*QPA 110*

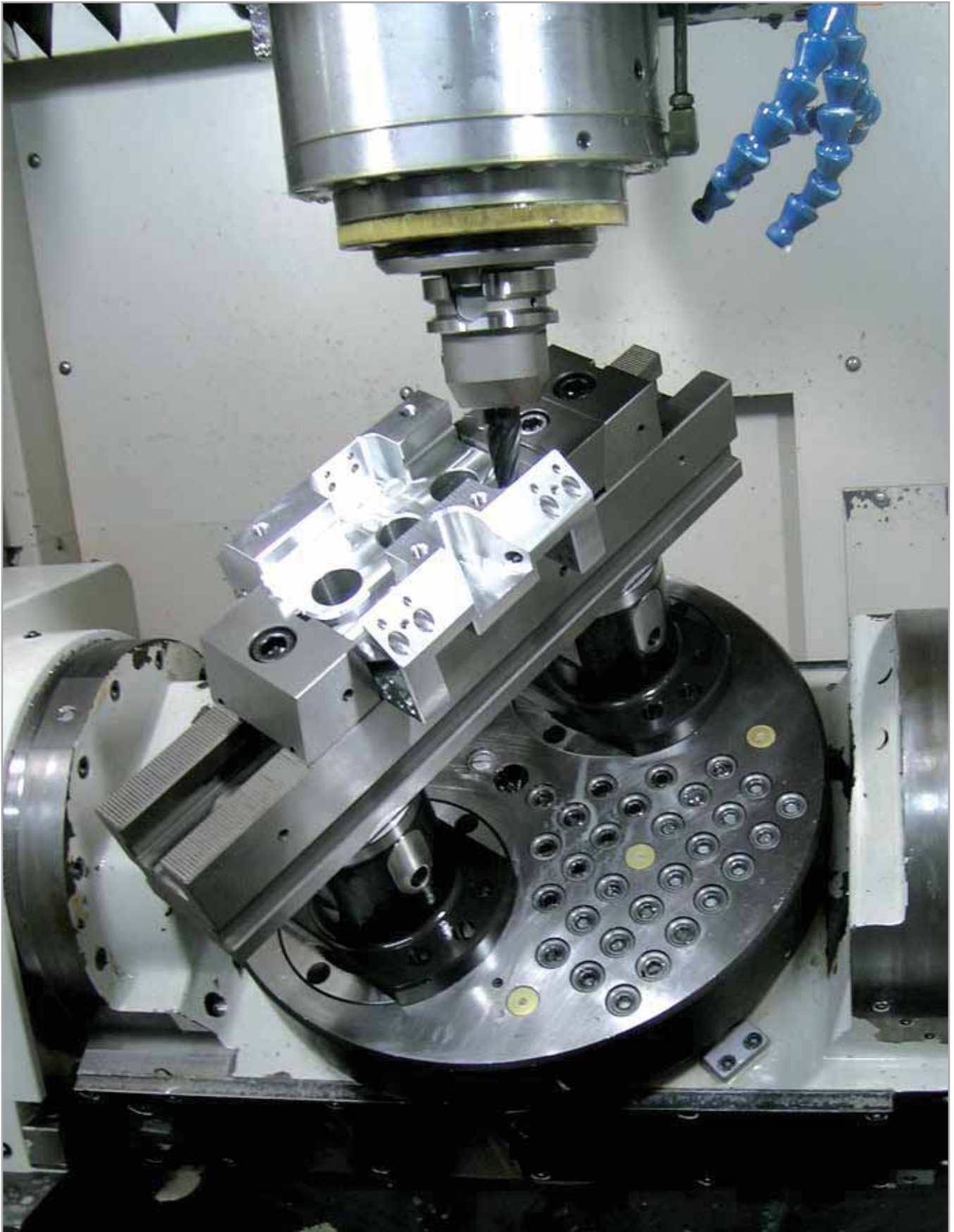


*QSA 125*



*QPA 125*

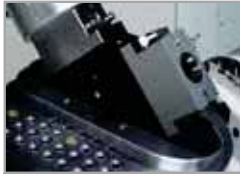






Our multi-axis workholding products are designed to provide flexibility and functionality for 5-axis machining and 5-sided machining via multiple part transfers. We also offer solutions for machines with retrofit 4th/5th axis tables. BIG KAISER can help you to maximize the benefits of your machine design through efficient workholding.

These multi-axis workholding solutions locate and stabilize the workpieces without obstructing access to the top and sides of the part. They also allow a clamped workpiece to be flipped into new orientations for subsequent machining operations without unclamping it from the workholding.



**5-Axis Duo Bridge** ..... Pg. 96-97



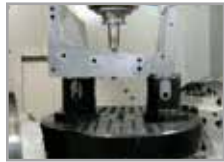
**First Grip** ..... Pg. 98-99



**NEW!**  
**5-Axis Univice Synchro** ... Pg. 100-101



**NEW!**  
**5-Axis Uniclamp** ..... Pg. 102-103



**NEW!**  
**5-Axis System 40 Overview** ... Pg. 104



**NEW!**  
**5-Axis Base** ..... Pg. 106-107



**NEW!**  
**5-Axis B Style Base** ..... Pg. 108-109



**NEW!**  
**5-Axis Double Base** ..... Pg. 110-111



**NEW!**  
**5-Axis Table Adapters** ..... Pg. 112-113



**NEW!**  
**5-Axis Air Chuck** ..... Pg. 114-115



**NEW!**  
**5-Axis Extensions** ..... Pg. 116-117



**NEW!**  
**5-Axis Reductions & Shims** ... Pg. 118-119



**NEW!**  
**5-Axis ER Collet Chucks & Serrated Adapters** ..... Pg. 120-121



**NEW!**  
**5-Axis System 25** ..... Pg. 122-123



**NEW!**  
**5-Axis Uniflex System** ..... Pg. 124-127

## When and Where You Need It

If your optimal work zone is directly over the center of the machine table, our low-profile grid plates with integrated Unilock zero-point clamping systems are available, out of the box, as turnkey solutions. By offering cap screw and dowel pin technology intermixed with zero-point Unilock chucks, our base plates allow you to quickly load virtually any workholding product, including 5-axis vises and dovetail clamping solutions.

If the workpiece needs to be elevated above the table and that feature is not built into the workholding component, Unilock can be used to raise the workholding or the workpiece. Unilock clamping knobs can also be attached directly to the bottom of the workpieces and within 25mm of the machining edge.

Unilock zero-point clamping chucks can also be surface mounted directly to the machine table. With an overall height of 46mm, the ASM 146 and ISM 160 chucks are excellent candidates when you need to quickly bolt on a quick-change Unilock receiver. Our 5-axis clamping products, Univice Synchro, Uniclamp and First Grip can also be directly affixed to a machine table, a grid plate or processed in Unilock chucks.



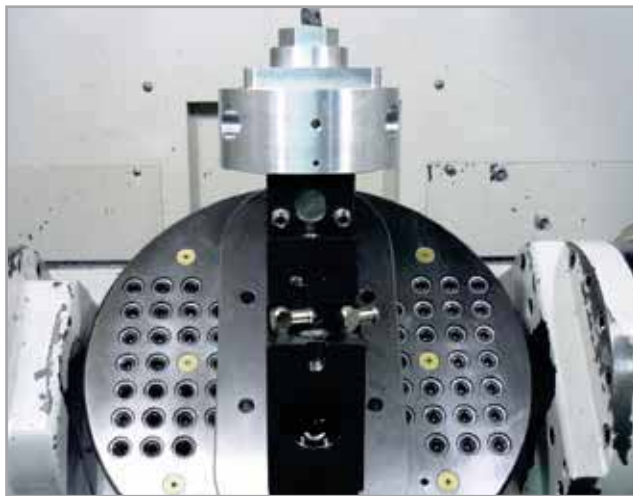
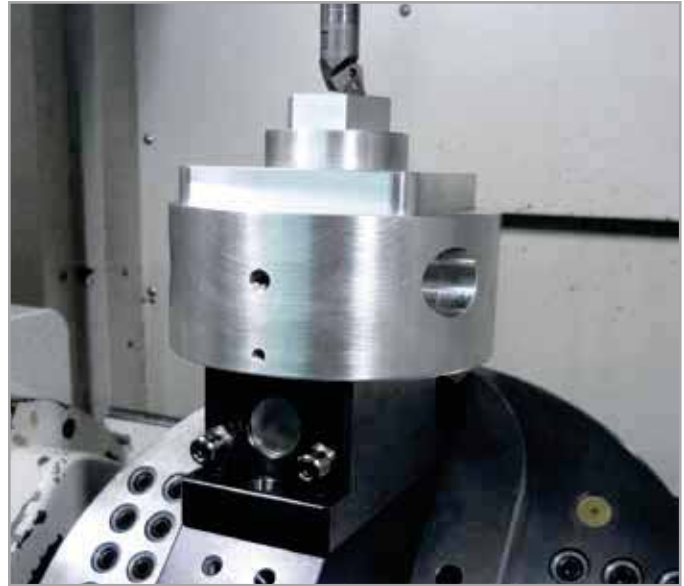




This base plate can be mounted directly to the top of a 5-axis table or loaded through a pair of Unilock zero-point chucks. Two elevated Unilock chucks are mounted at 90° to each other so one is out of the way while the other is being machined. Each cycle, two parts can be completed. Special base plates can be designed and manufactured, so there is no limit to the machine table configurations that can be supported by this solution.

**Features:**

- Dual 45° 105/65 base plates
- Process two workpieces at a time without interference
- Turbo option provides over 2,000 lbs of clamping force
- Two timing notches provide increased rigidity
- Timing pins can also locate off the sides of the chuck
- Plumbing is integrated into the bottom of the base plate

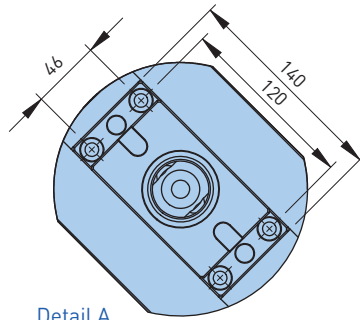
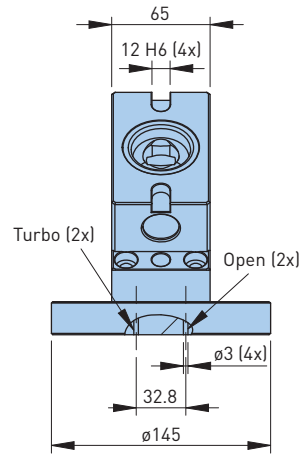
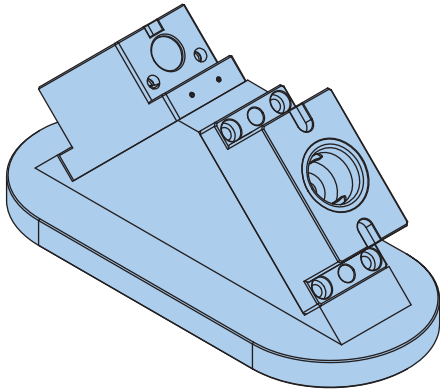


Catalog Number	Description	Chuck	Air Supply
15.270.365	DXB 200-45 5-Axis Duo Bridge	AFM 105/65 (2x)	Fittings or Through Base

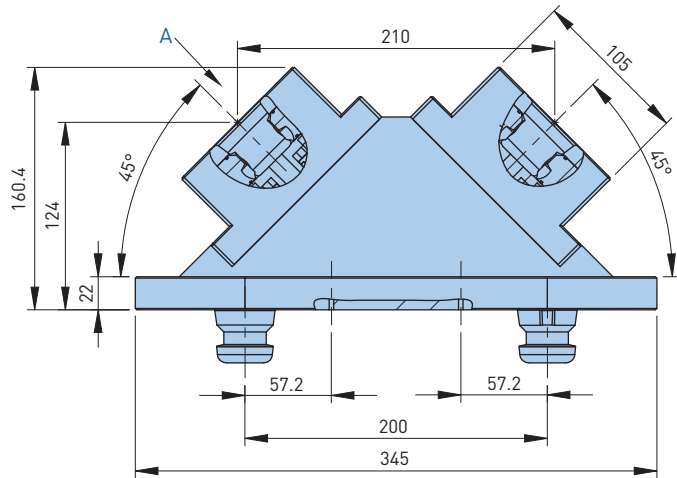
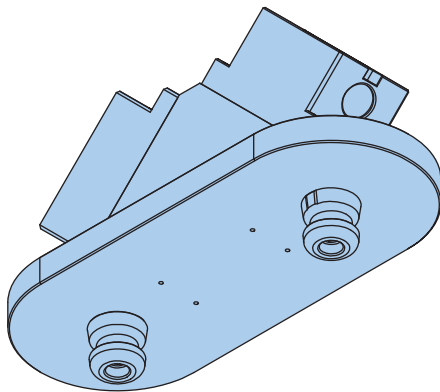
- Fixture includes (1) SBA Knob and (1) SBB Knob

**AIR FITTINGS**





Detail A

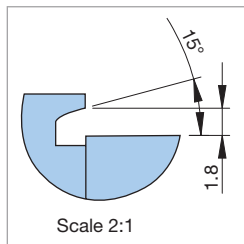


• All dimensions are in millimeters

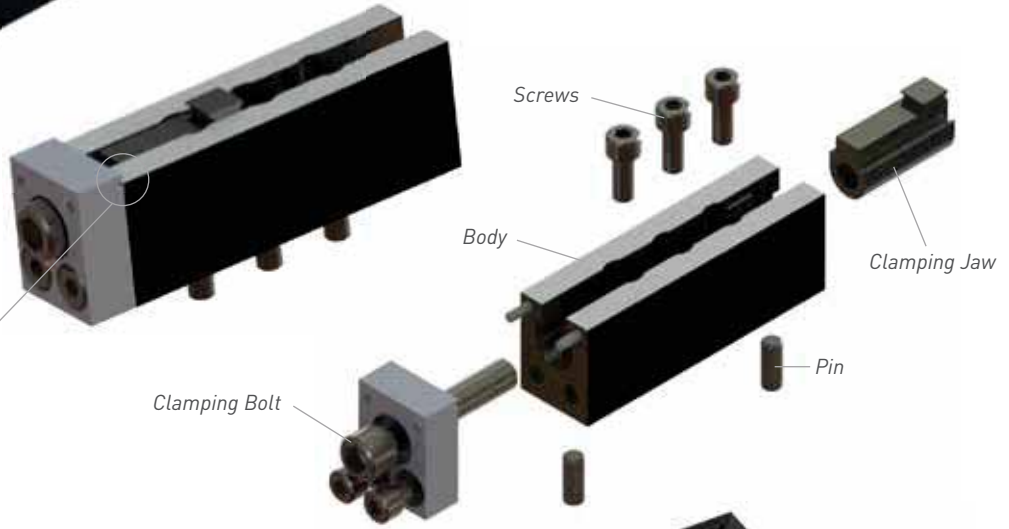
First Grip is a minimally intrusive clamping solution for 1st operations using raw bar or plate stock. Designed to bite into raw material, First Grip leaves an impression that in most cases will be machined away in a subsequent operation. First Grip can be used in a single jaw configuration or it can be used in series to hold larger workpieces. The fixed jaw can be removed allowing for unlimited workpiece sizes and shapes. For special fixture designs, dowel pin locations are provided to accurately position First Grip where you need it.

**Features:**

- No preparatory machining of workpieces is required
- Can be used in series for wide workpieces
- Available in two widths: 34mm and 50mm
- Unilock adapter plates are available



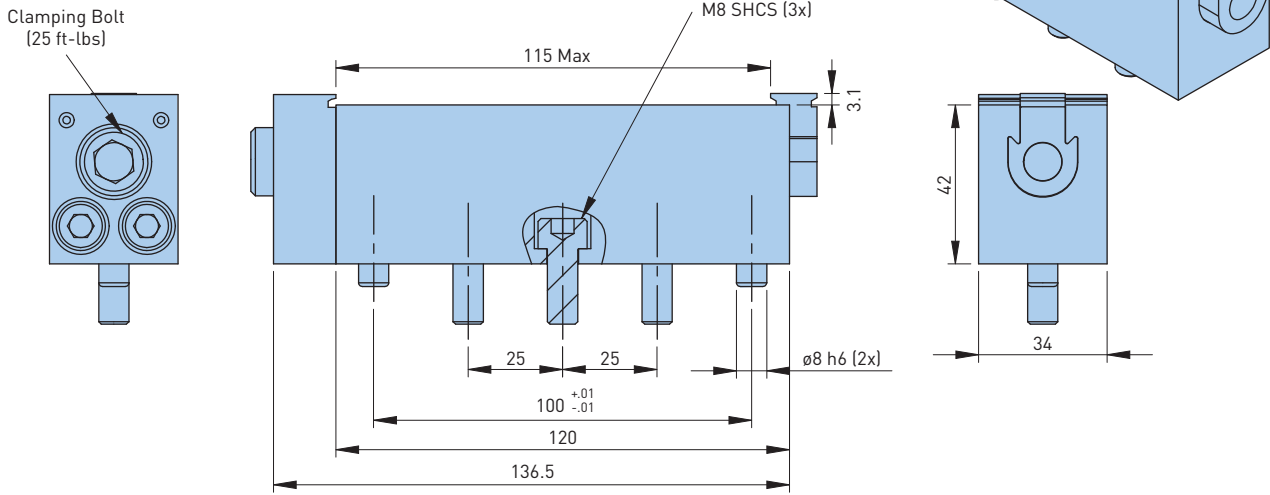
• All dimensions are in millimeters



First Grip 34

Catalog Number
15.282.120

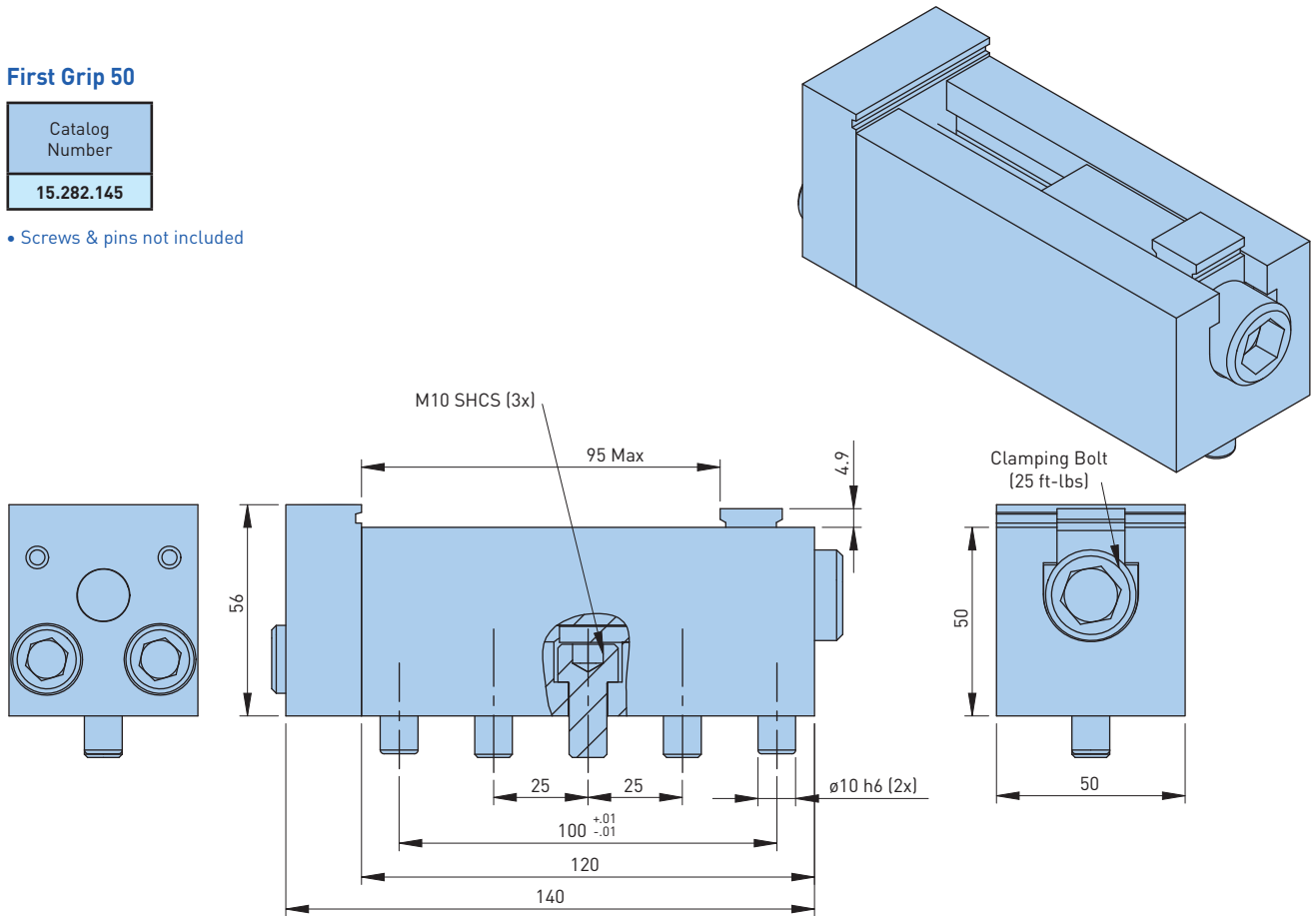
- Screws & pins not included



First Grip 50

Catalog Number
15.282.145

- Screws & pins not included



• All dimensions are in millimeters



The 5-Axis Univice Synchro vise is a self centering vise that will come with Unilock System 40 knobs, allowing it to be quickly installed on any 200mm pattern.

**Features:**

- Ductile iron base (GJS-600)
- SBA and SBB knobs installed
- Jaws can be reversed
- 30kn (6,700 lbs) clamping force
- Can be converted to fixed jaw
- Snap on parallels available



Item	Catalog Number	Height	Width
Vise	<b>15.400.014</b>	—	—
Conversion Kit	<b>15.400.017</b>	—	—
Parallel	<b>15.400.079</b>	15	100
Parallel	<b>15.400.080</b>	35	100
Replacement Handle	<b>15.400.034</b>	—	—

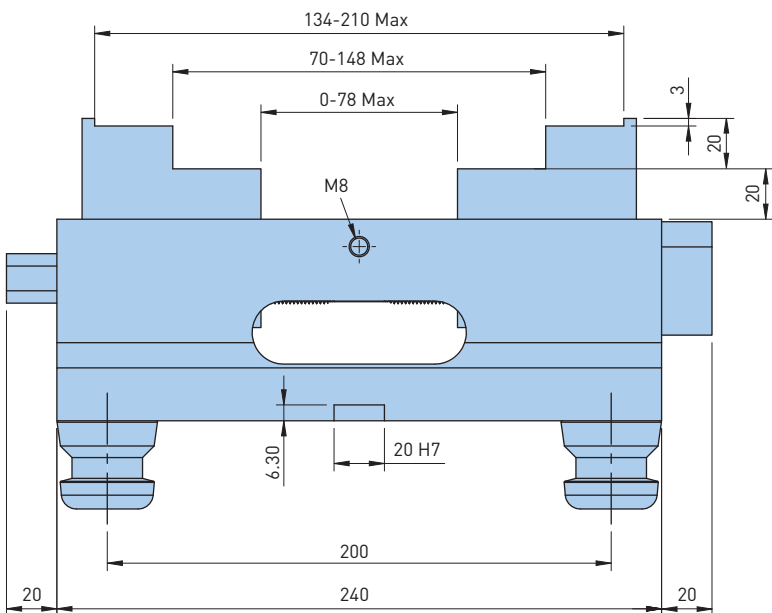
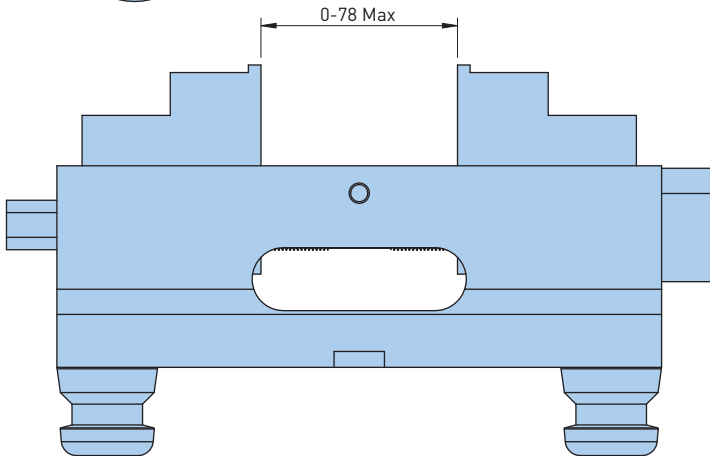
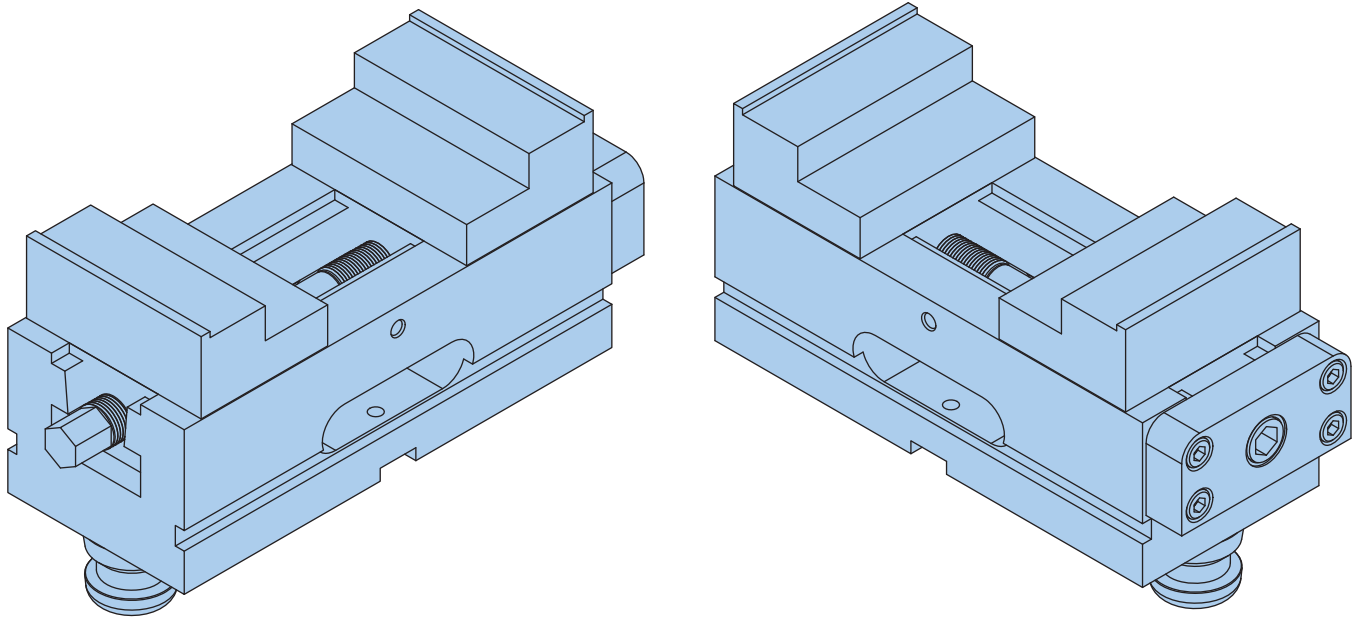
- All dimensions are in millimeters
- 12mm hex wrench not included



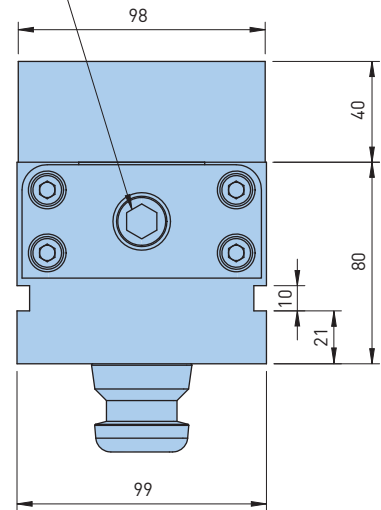
Reverse jaws for 5-Axis use



Use Conversion Kit **15.400.017** to change from a self-centering vise to a fixed jaw vise



12mm Hex  
(115 Nm Torque)



Weight: 33 lbs

• All dimensions are in millimeters

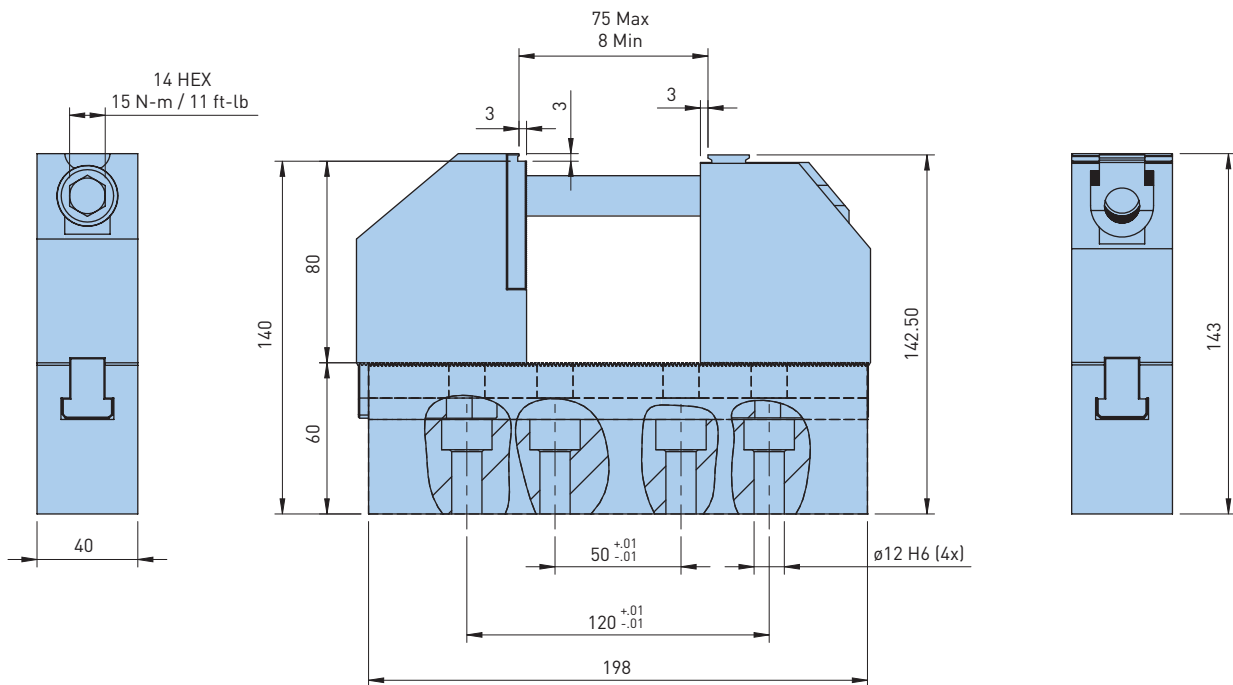
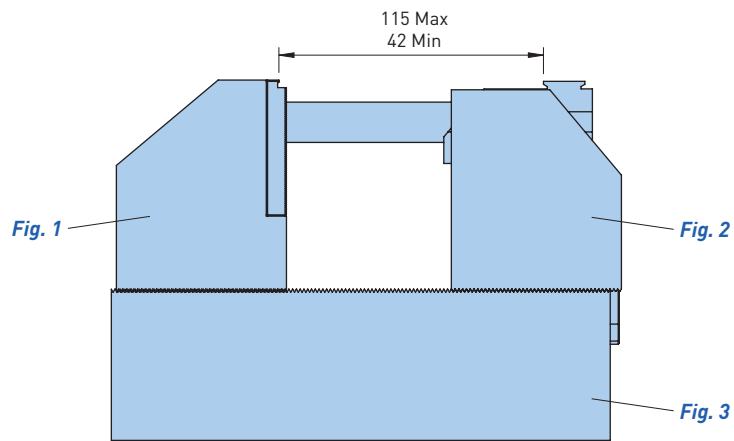
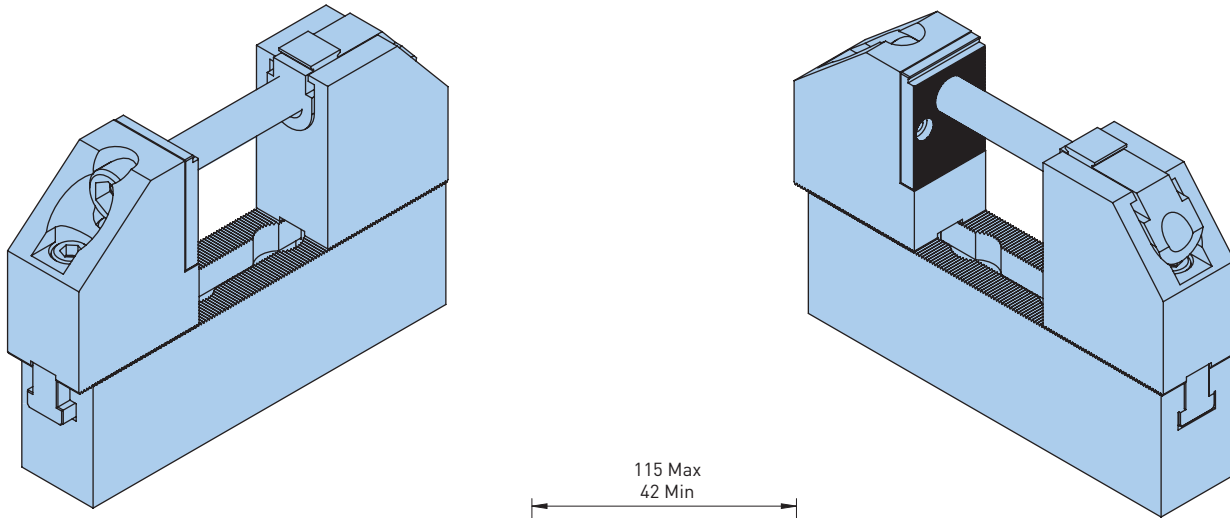
## 5-AXIS UNICLAMP

The new 5-Axis Uniclamp expands the First Grip part clamping system into a interface that is compatible with the Uniclamp serrated rail system.



Catalog Number	Description	Fig.	Length
15.282.110	Clamping Heads	1 & 2*	—
15.282.200	Base Rail	3*	198

- All dimensions are in millimeters
- 14mm hex wrench not included
- \* See Pg. 103



- All dimensions are in millimeters
- Other lengths available

## Unilock Riser Chucks, Extensions & Reductions

Unilock Riser Chucks have a working diameter of 80mm. They are available on base plates or as stacking modules in heights of 75mm and 100mm. Base Plate Chucks have  $\varnothing 12$ mm dowel pin holes that locate chucks on 40mm and 50mm grid patterns. Base Chucks can also have clamping knobs attached for use in other Unilock chucks, or the stacking version can be used for elevation and clearance. All chucks open and close quickly with a single hex key.

The chucks are all capable of clamping any Unilock System 40 (40mm) clamping knob. By using a riser assembly, workpieces can be clamped 40mm from their edge. Extensions allow the clamping knob to be anchored 25mm from the workpiece edge. Extensions reduce the working diameter from 80mm to 50mm and add an additional elevation of 25mm or 50mm.

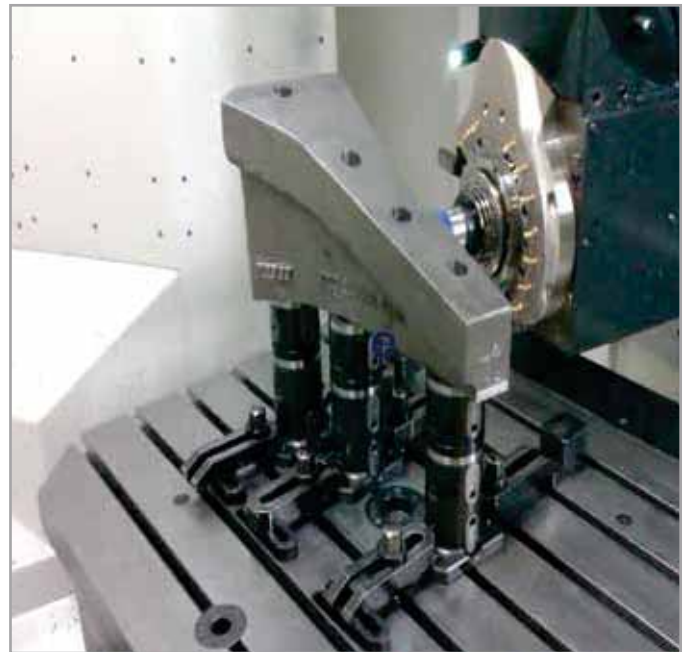






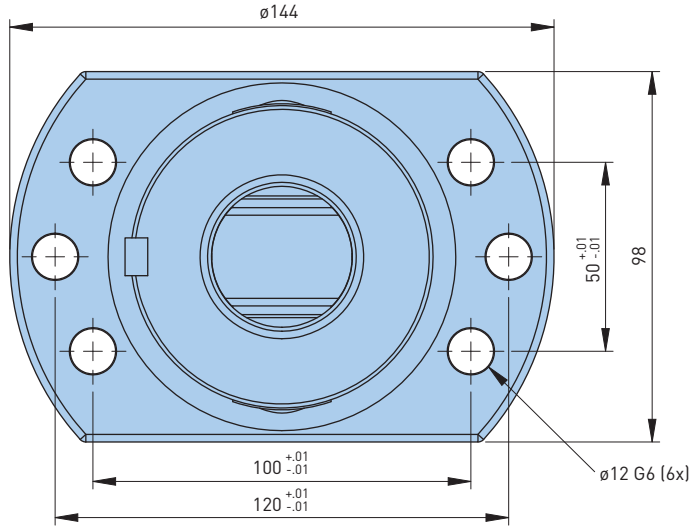
**NEW!**

The new 5-Axis Base Chucks are now offered with a timing key for single base applications. New table adapters are now also offered. These chucks can be mounted on 50/40/M12 grids as well as on Unilock clamping systems using Unilock clamping knobs.

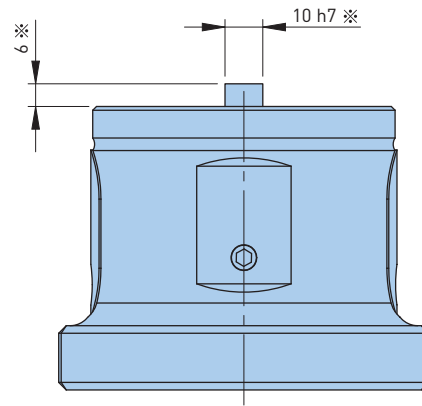
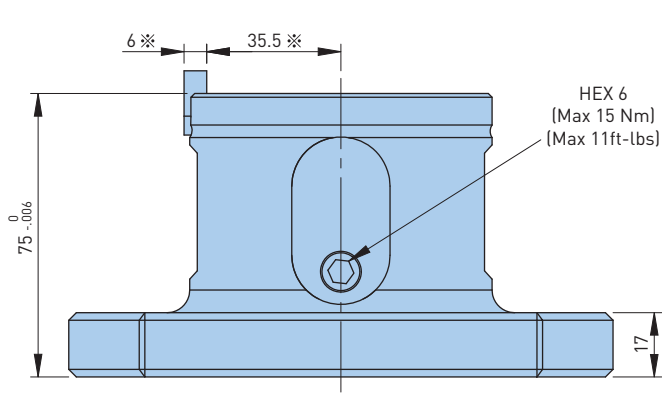


Catalog Number	Notch (Width x Qty)	Height	Clamping Force (lbs) (at 11 ft/lbs)	Weight (lbs)
15.250.101	—	75	2,200-2,500	8.1
15.250.103	10 H7 x 1			
15.250.102	—	100		9.8
15.250.104	10 H7 x 1			

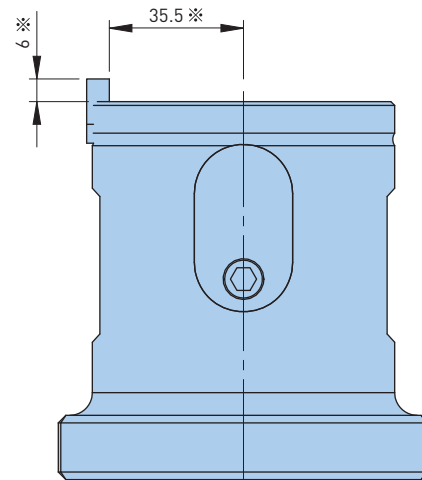
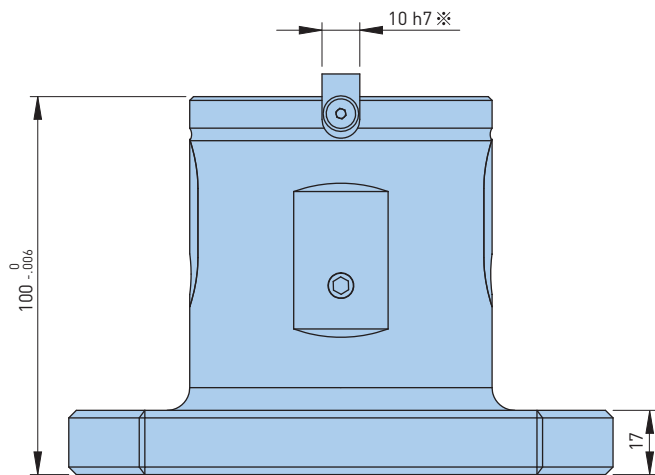
- All dimensions are in millimeters
- Manual actuation, 6mm hex wrench not included



15.250.101 & 15.250.103



15.250.102 & 15.250.104

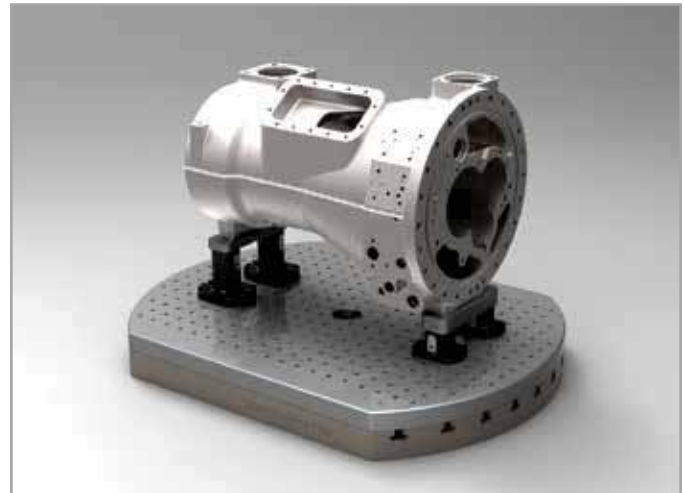


- All dimensions are in millimeters
- Dimensions marked \* are for notch option

## 5-AXIS B STYLE BASE

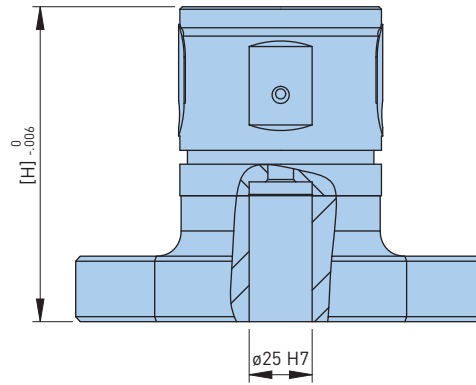
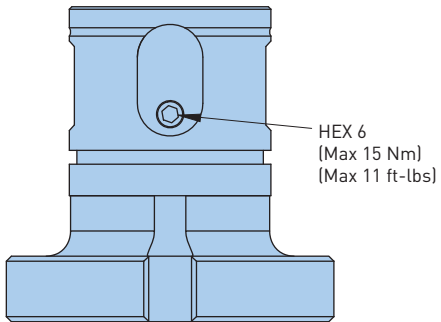
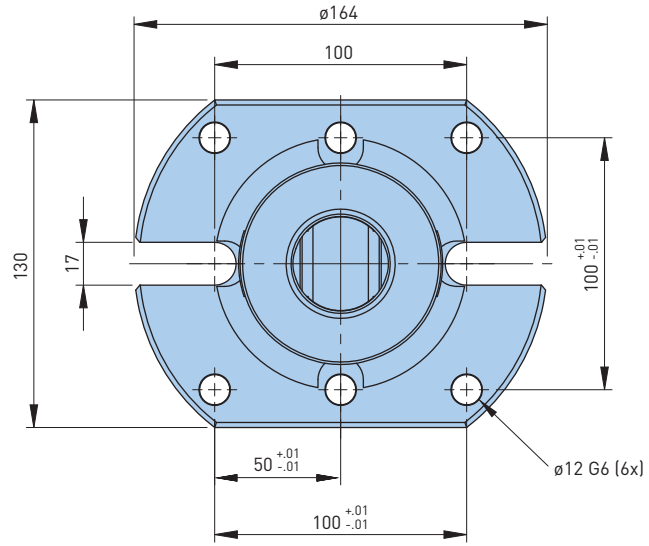
**NEW!**

The 5-Axis B Style Base Chucks allow for flexibility of the position of the base via the use of a slotted flange directly over t-slots. These chucks can be mounted on 50/40/M12 grids as well as on t-nut machine tables.



Catalog Number	Notch (Width x Qty)	Height	Clamping Force (lbs) (at 11 ft/lbs)	Weight (lbs)
15.250.111	—	125	2,200-2,500	14.7
15.250.113	10 H7 x 1			
15.250.112	—	150		16.8
15.250.114	10 H7 x 1			
15.250.115	—	175		18.6
15.250.116	10 H7 x 1			

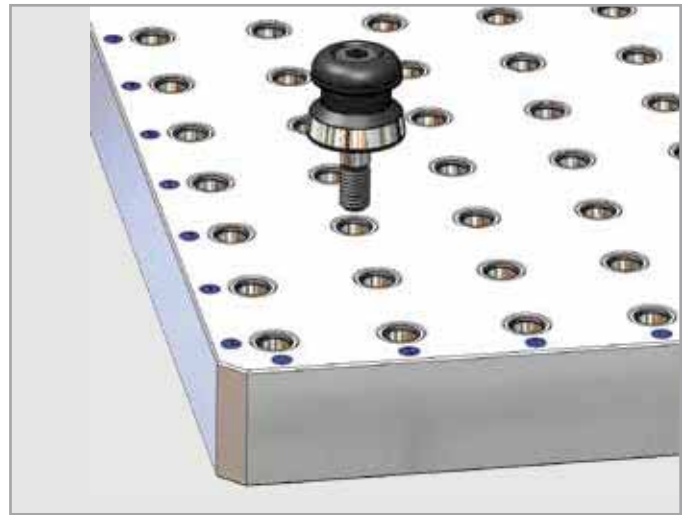
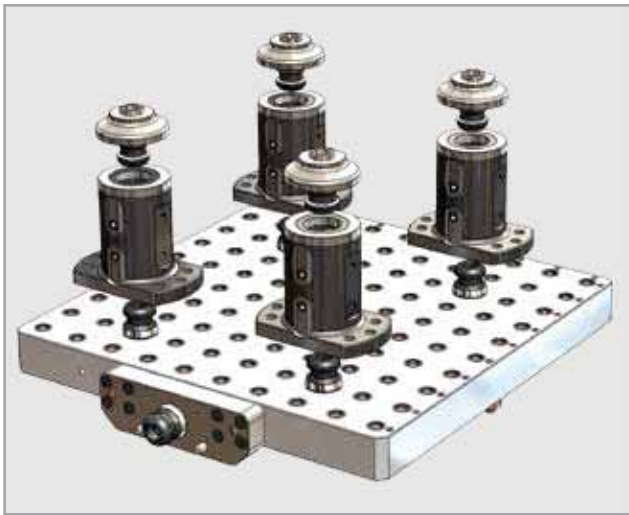
- All dimensions are in millimeters
- Manual actuation, 6mm hex wrench not included





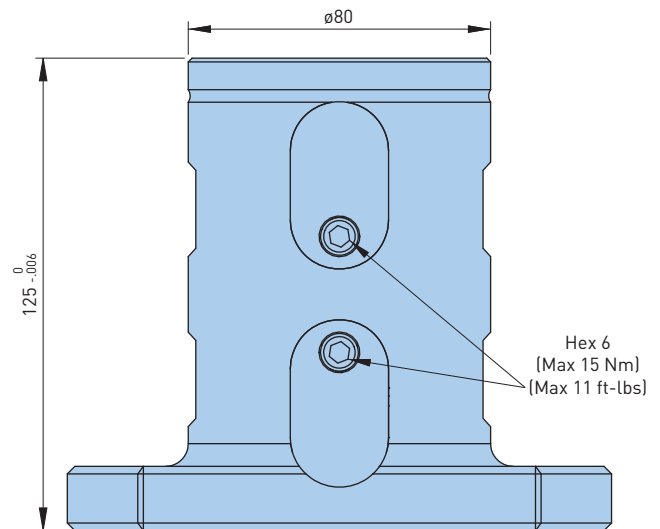
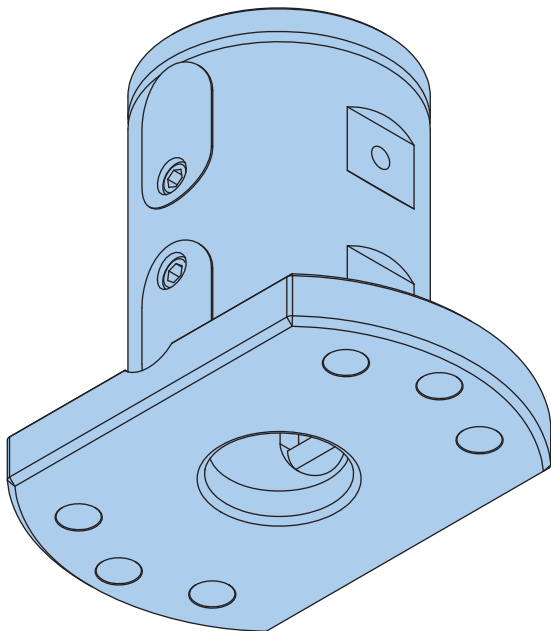
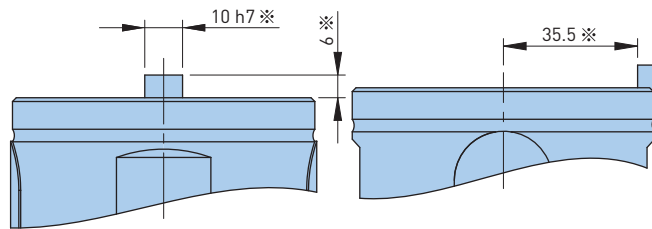
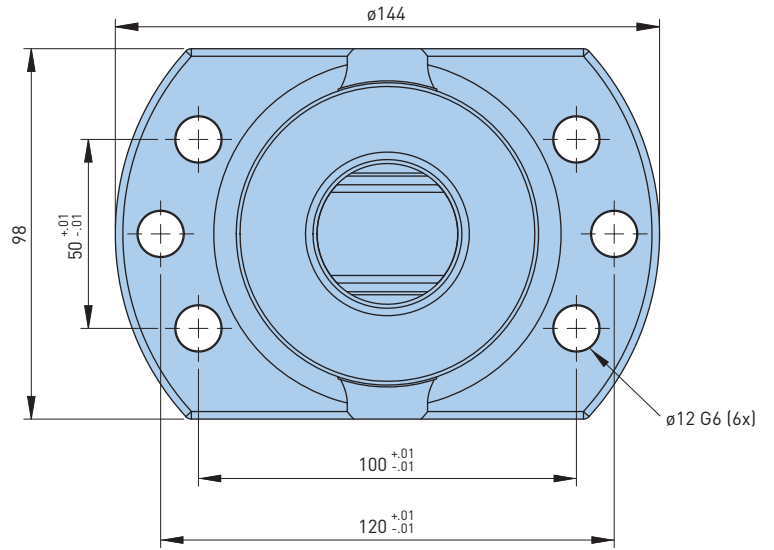
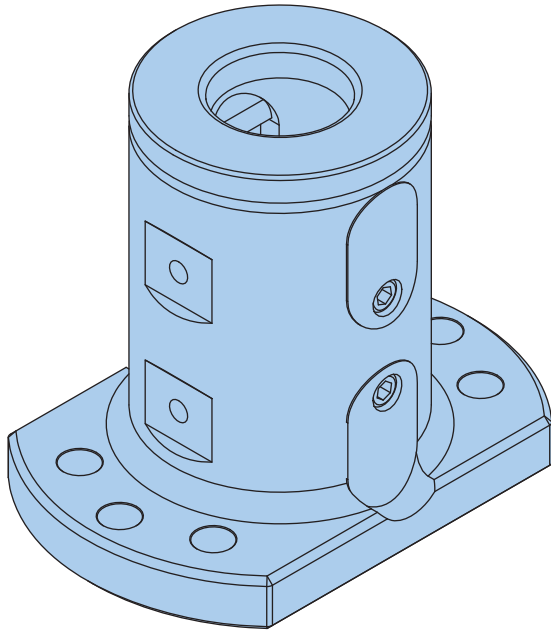
## 5-AXIS DOUBLE BASE

The new 5-Axis Double Ended Clamping Base allows for knobs to be used on grids and t-slot tables to affix the clamping base. This offers a universal interface between your machine table and workpiece.



Catalog Number	Notch (Width x Qty)	Height	Clamping Force (lbs) (at 11 ft/lbs)	Weight (lbs)
15.250.105	—	125	2,200-2,500	11
15.250.106	10 H7 x 1			

- All dimensions are in millimeters
- Manual actuation, 6mm hex wrench not included



- All dimensions are in millimeters
- Dimensions marked ※ are for notch option

5-Axis Table Adapters allow the 5-Axis Base Chucks to be mounted anywhere they are needed in order to access the table t-slots or grid holes, all the while providing a strong foundation.

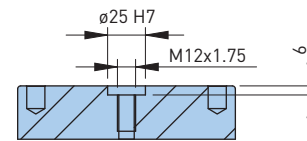
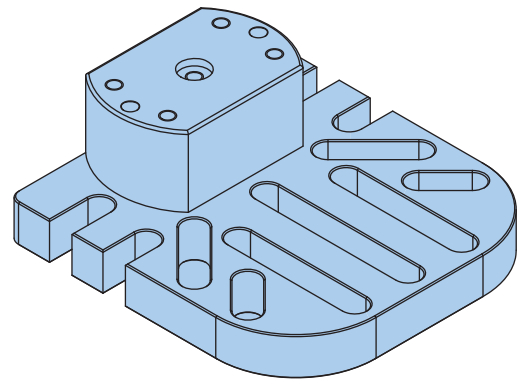
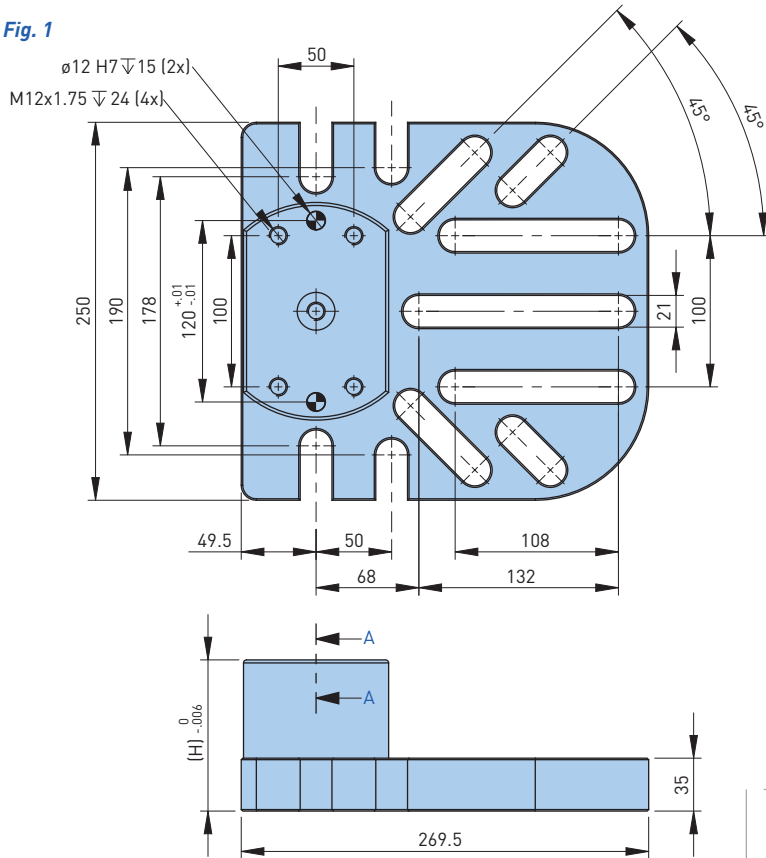
They come in three different styles with up to four different heights.



Catalog Number	Height	Fig.
15.250.175	50	1*
15.250.176	100	
15.250.177	150	
15.250.179	25	2*
15.250.120	100	3*

• All dimensions are in millimeters  
\* See Pg. 1113

Fig. 1



Section A-A

Fig. 2

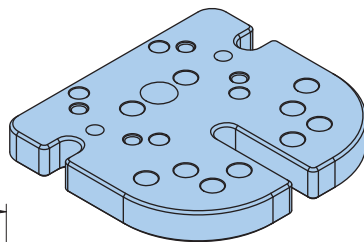
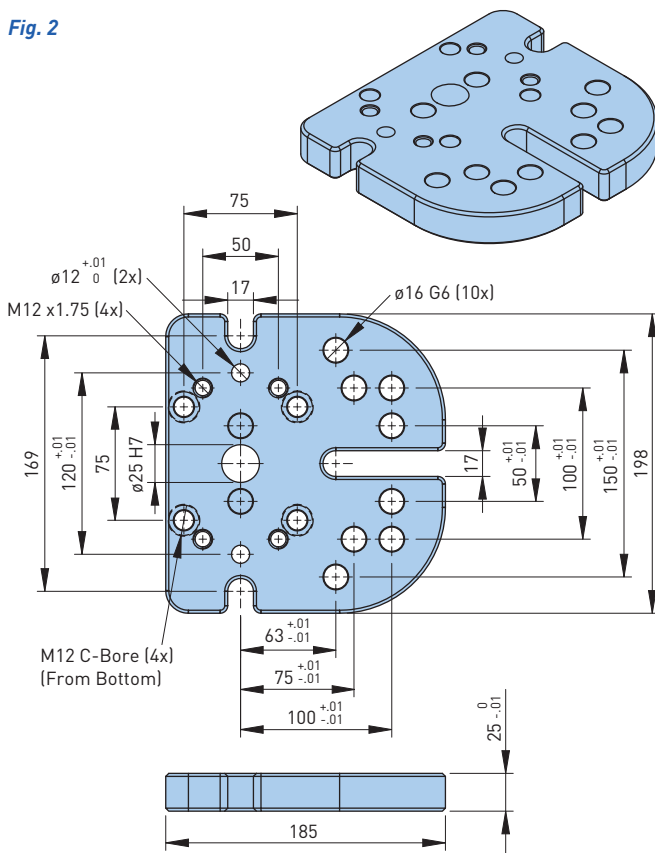
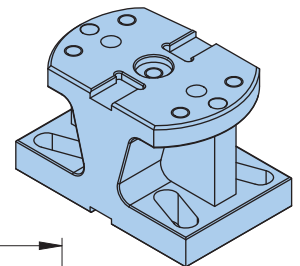
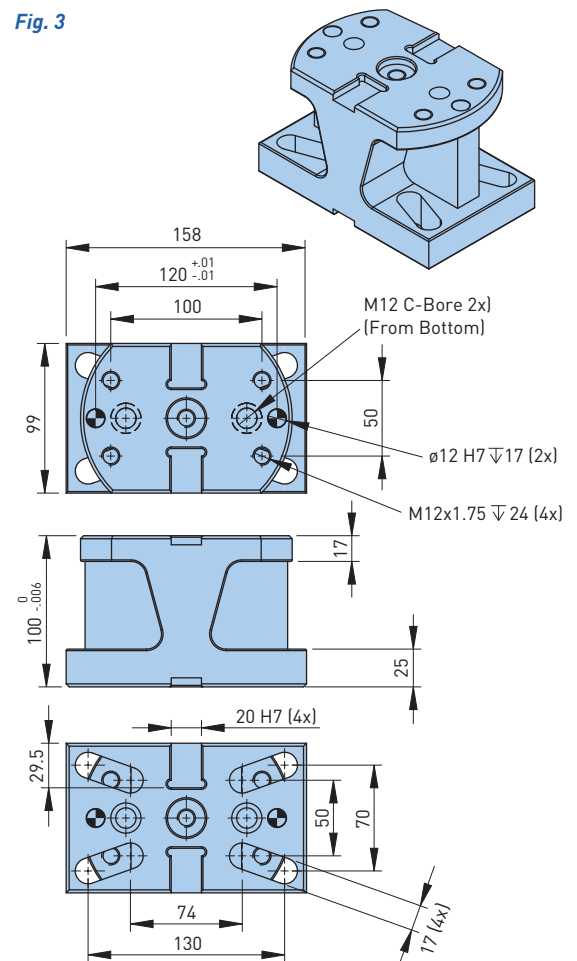


Fig. 3



• All dimensions are in millimeters

## 5-AXIS AIR CHUCK

**NEW!**

The new 5-Axis Air Chuck allows the use of air for open and turbo functions when using with 5-Axis Base Chucks or stacking risers. These chucks utilize the System 40 clamping knobs.



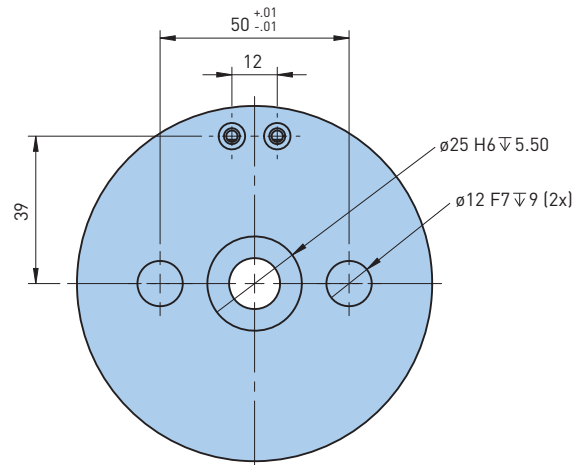
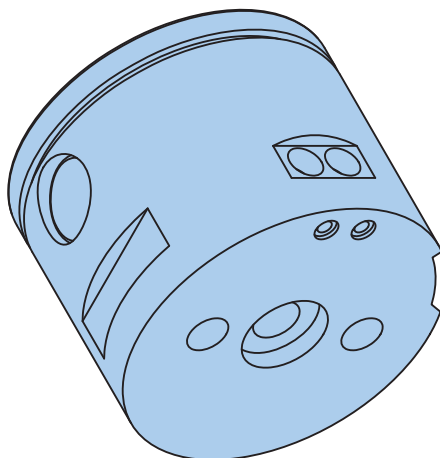
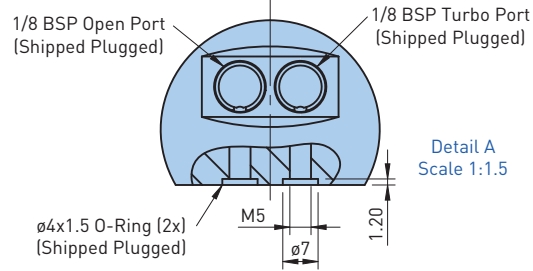
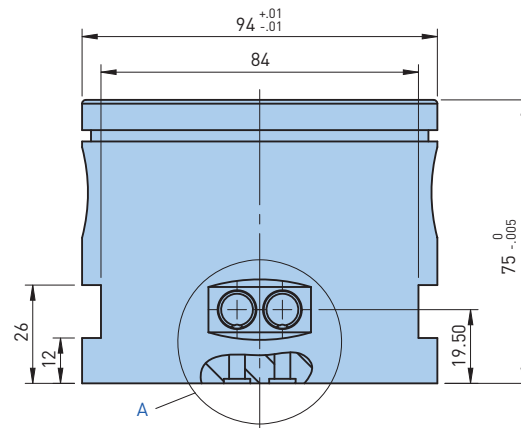
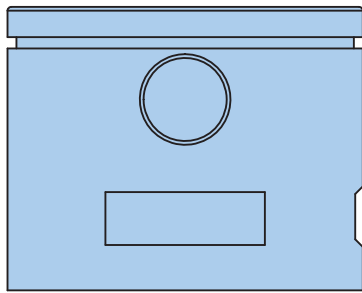
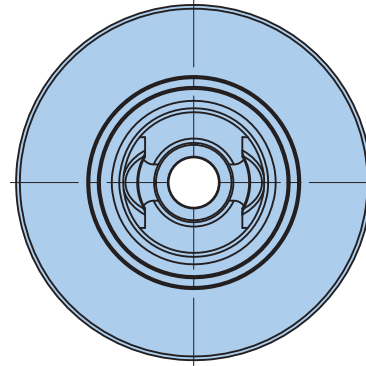
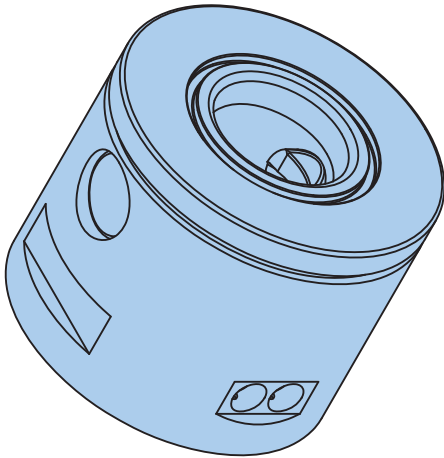
Chuck Model	Catalog Number	Recommended Bolt Sizes					Clamping Force (lbs)		Weight (lbs)	Air Connection	
		M10	M12	M16	M20†	M24†	Spring Only	Turbo Assist		Port Size	Flange
5-Axis Air Chuck	<b>15.250.205</b>	✓	✓	—	—	—	550-660	1,540-1,760	7.2	1/8	✓

† Optional

**AIR FITTINGS**







• All dimensions are in millimeters

5-Axis Extensions allow for additional height when paired with 5-Axis Bases. By building up different extensions, workpieces which are difficult to access or which have different heights are easy to clamp.

**NEW!**

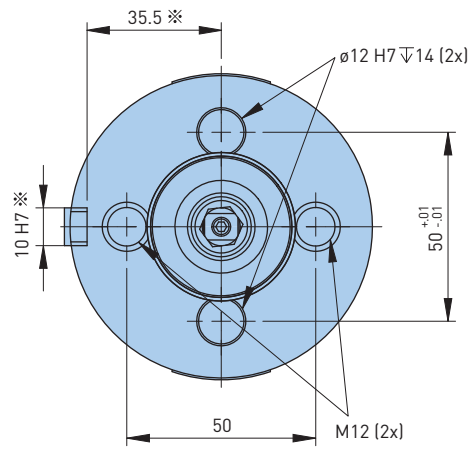
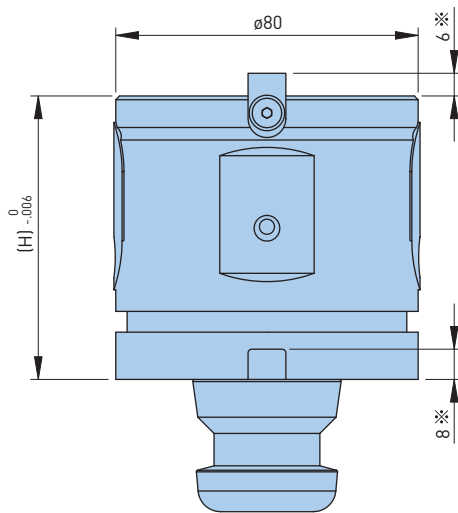
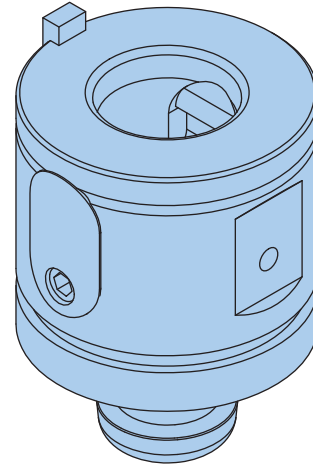
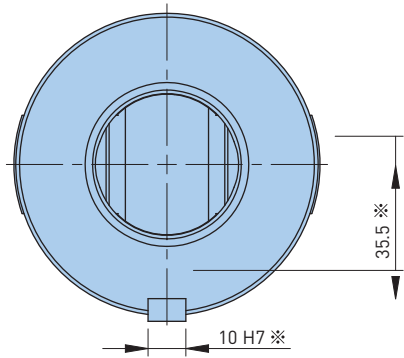


Available with Notches



Catalog Number	Notch (Width x Qty)	Height	Clamping Force (lbs) (at 11 ft/lbs)	Weight (lbs)
15.250.201	—	75	2,200-2,500	6.3
15.250.211	10 H7 x 1			
15.250.202	—	100		8
15.250.212	10 H7 x 1			
15.250.203	—	125		10.3
15.250.213	10 H7 x 1			

- All dimensions are in millimeters
- Manual actuation, 6mm hex wrench not included



- All dimensions are in millimeters
- Dimensions marked ※ are for notch option

5-Axis Reductions are used to reduce from  $\varnothing 80\text{mm}$  to  $\varnothing 50\text{mm}$  to clamp workpieces with limited supporting surfaces. They are also offered in 25, 50 & 75mm heights and two hardnesses if modification is needed. System 40 clamping knob and bolt are included.



### Reductions

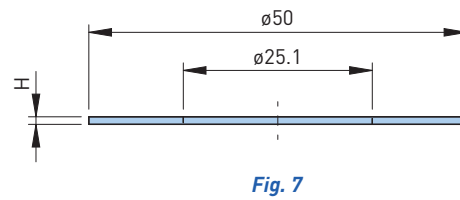
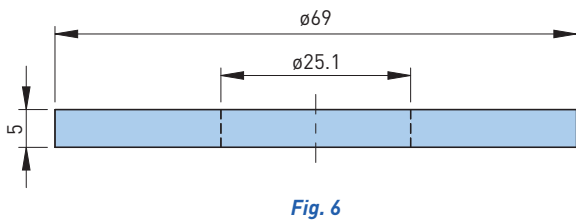
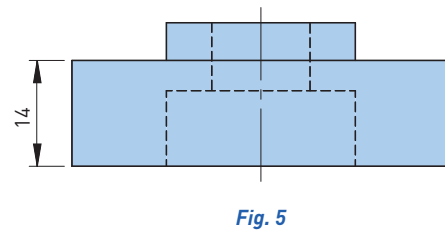
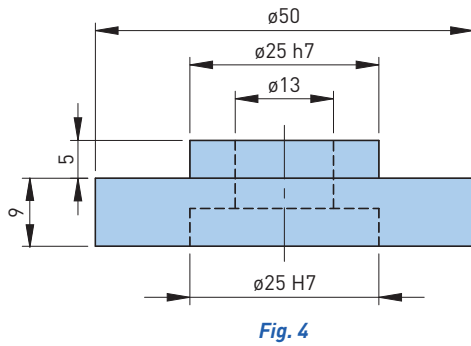
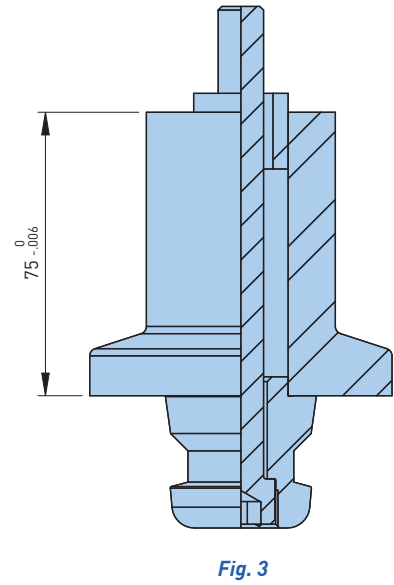
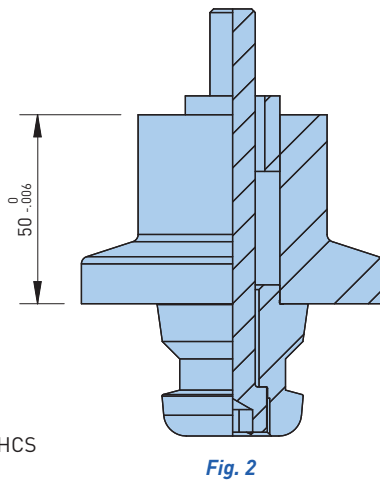
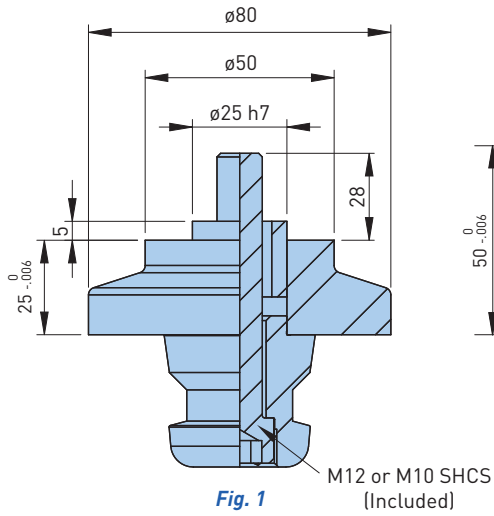
Catalog Number	Knob Type	Height	Thread Size	Material State	Fig.
15.250.304	SBA	25	M10	Hard	1*
15.250.334	SBB				
15.250.364	SBC				
15.250.303	SBA	50	M10	Hard	2*
15.250.333	SBB				
15.250.363	SBC				
15.250.302	SBA	25	M12	Hard	1*
15.250.332	SBB				
15.250.362	SBC				
15.250.301	SBA	50	M12	Hard	2*
15.250.331	SBB				
15.250.361	SBC				
15.250.329	SBA	75	M12	Hard	3*
15.250.349	SBB				
15.250.379	SBC				
15.250.344	SBA	25	M10	Soft	1*
15.250.341	SBB				
15.250.371	SBC				
15.250.310	SBA	50	M10	Soft	2*
15.250.340	SBB				
15.250.370	SBC				
15.250.343	SBA	25	M12	Soft	1*
15.250.339	SBB				
15.250.369	SBC				
15.250.342	SBA	50	M12	Soft	2*
15.250.338	SBB				
15.250.368	SBC				
15.250.320	SBA	75	M12	Soft	3*
15.250.350	SBB				
15.250.380	SBC				

### Shims

Catalog Number	Height	Fig.
15.250.405	9	4*
15.250.406	14	5*
15.250.407	5	6*
15.250.410	1	7*
15.250.411	1.1	
15.250.412	1.2	
15.250.413	1.3	
15.250.414	1.4	
15.250.415	1.5	
15.250.416	1.6	
15.250.417	1.7	
15.250.418	1.8	
15.250.419	1.9	

• All dimensions are in millimeters  
\* See Pg. 119

• All dimensions are in millimeters  
\* See Pg. 119



• All dimensions are in millimeters



**NEW!**

**ER Collet Chuck**

The Unilock 5-Axis ER Collet Chuck Adapter is the perfect solution for clamping shafts and other small round workpieces.

The collet chucks fit on to any 5-Axis Base Chuck or 5-Axis Extension with a timing key, and uses standard ER40 and ER50 collets.



Catalog Number	Collet Type	Notch (Width x Qty)	Fig.	Weight (lbs)
15.250.040	ER40	10 H7 x 1	1*	4.3
15.250.047	ER50	10 H7 x 1		4.4

- Includes (1) System 40 SBA Clamping Knob
- ER Collets are not included
- \* See Pg. 121

**Serrated Adapter**

The Unilock Serrated Adapter is used for small raw workpieces with the aid of an M10 mounting thread through the Unilock clamping knob. The workpiece is securely clamped thanks to the serrated contact surface. Fits on to any 5-Axis Base Extension with a timing key.



Catalog Number	Notch (Width x Qty)	Fig.	Weight (lbs)
15.250.041	10 H7 x 1	2*	2.9

- Includes (1) System 40 SBA Clamping Knob
- \* See Pg. 121

Fig. 1

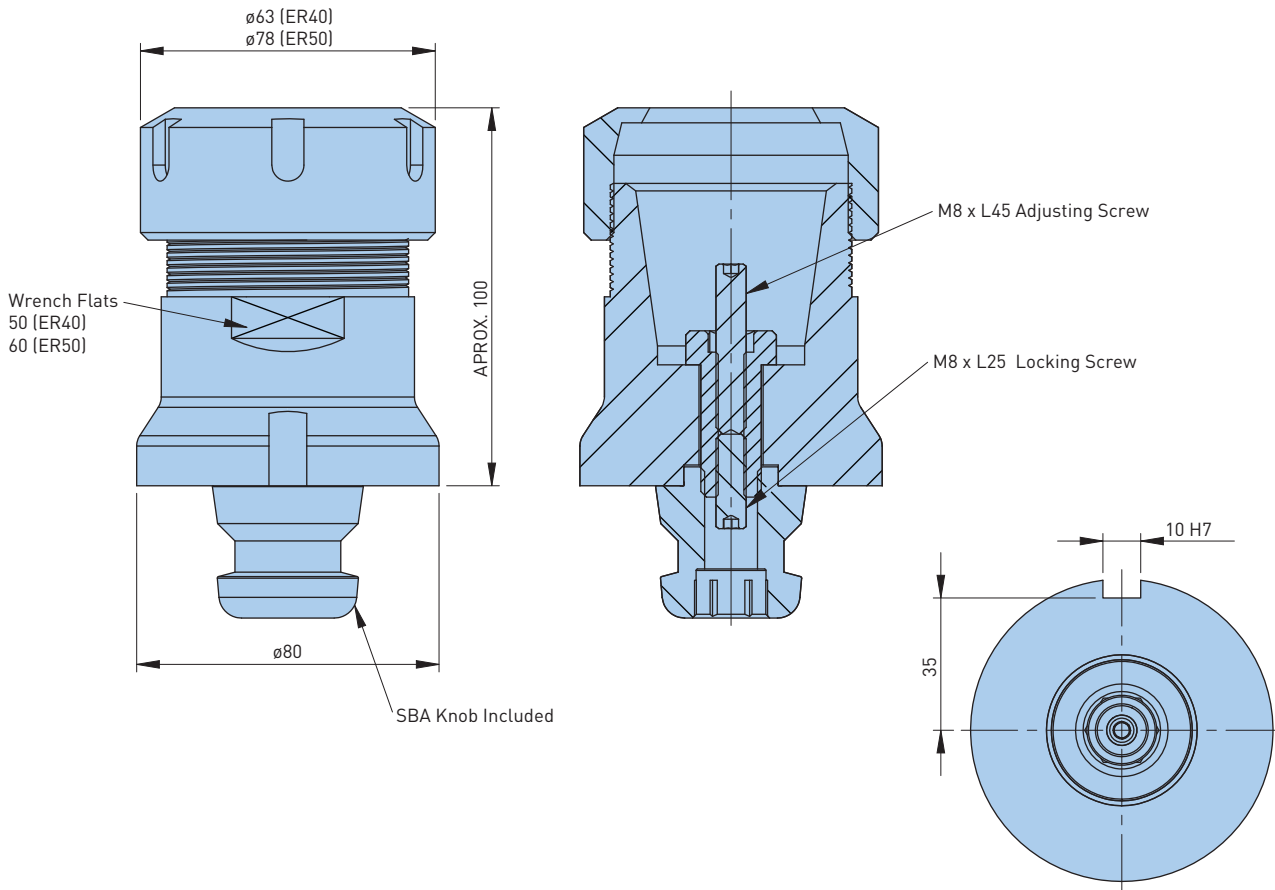
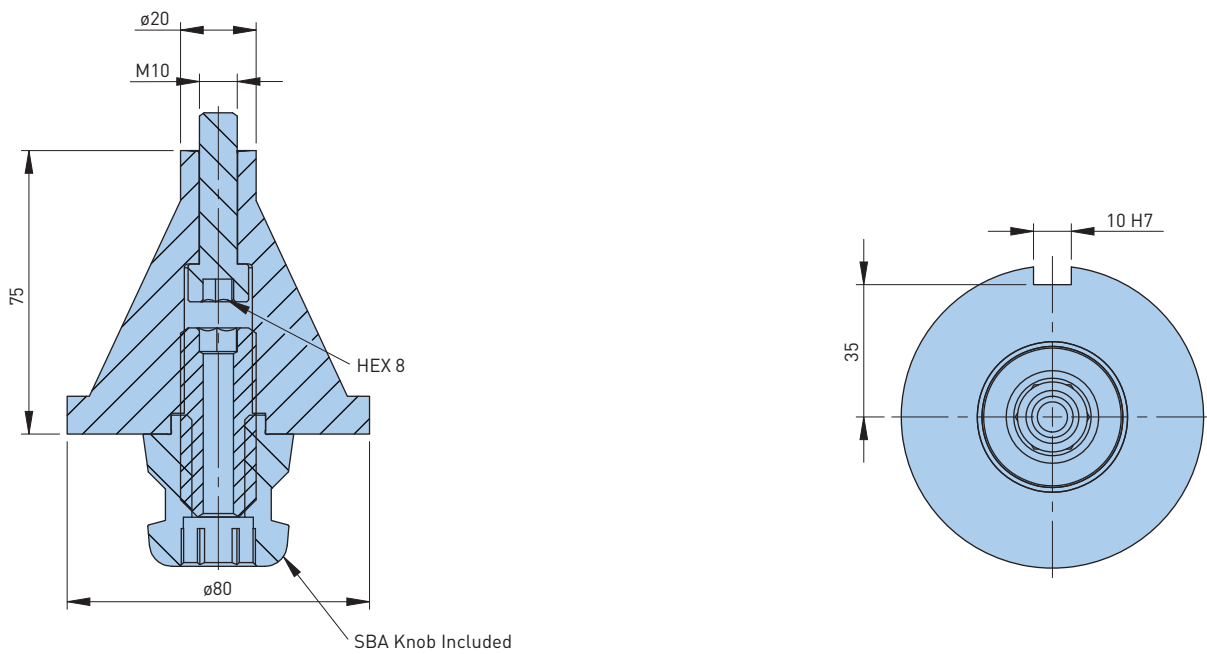


Fig. 2



**NEW!**

The 5-Axis system can now handle even smaller parts via the System 25 knob and chucks, designed for 5-sided machining of small workpieces, and based off of the proven System 40 knob design.

The system is composed of A, B & C clamping knobs, a base that is compatible with the System 40 knobs and chucks, an extension and a reduction.

The System 25 series is made entirely of stainless steel.



Catalog Number	Notch (Width x Qty)	Height	Weight (lbs)	Fig.
15.255.101	6 H7 x 1	45	2	1*
15.255.201	6 H7 x 1	50	1.5	2*
15.255.301	—	25	.5	3*

- All dimensions are in millimeters
- Manual actuation, 4mm hex wrench not included
- See Pg. 68 for System 25 Knobs
- \* See Pg. 123

Fig. 1

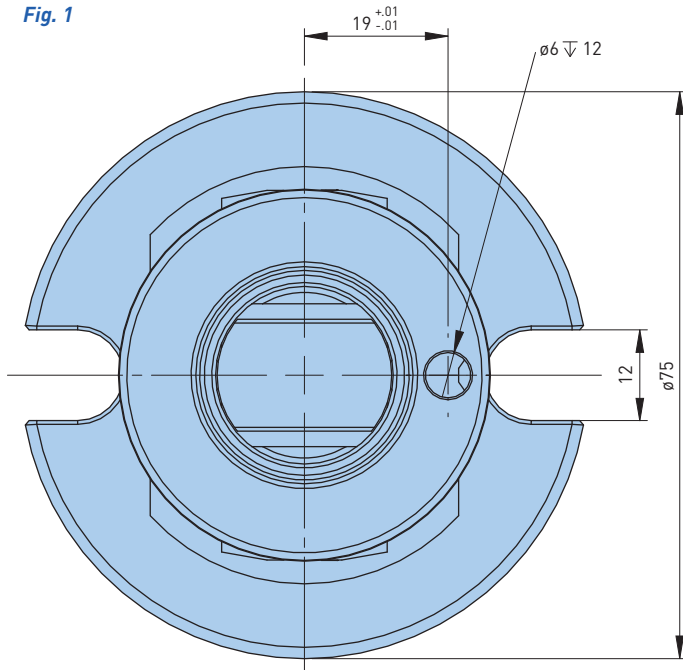


Fig. 2

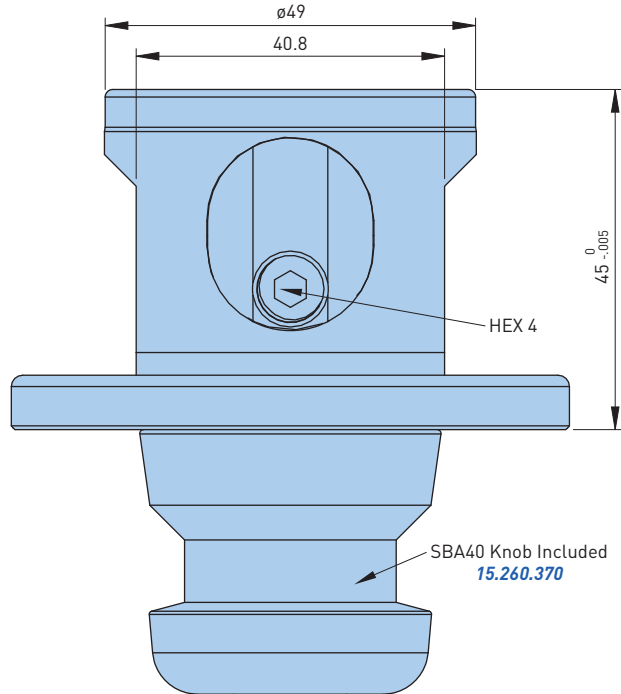
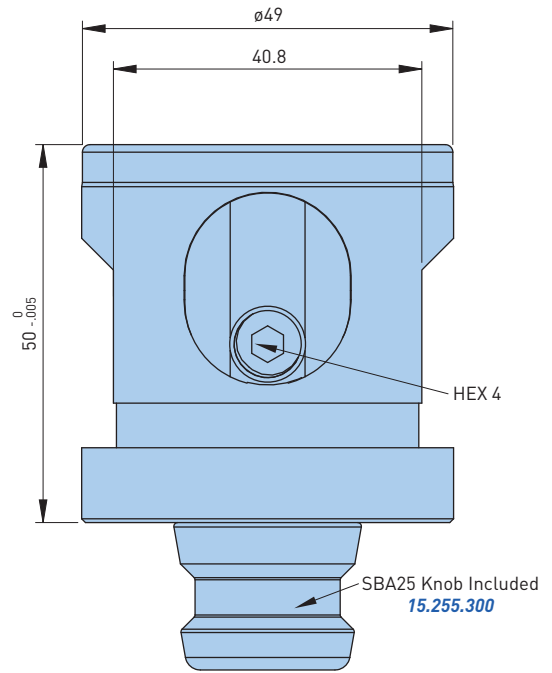
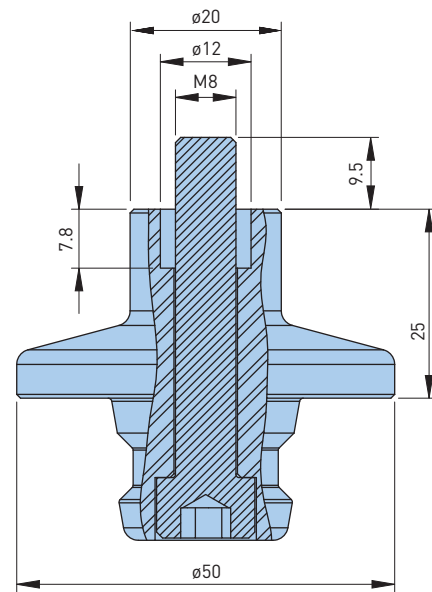


Fig. 3

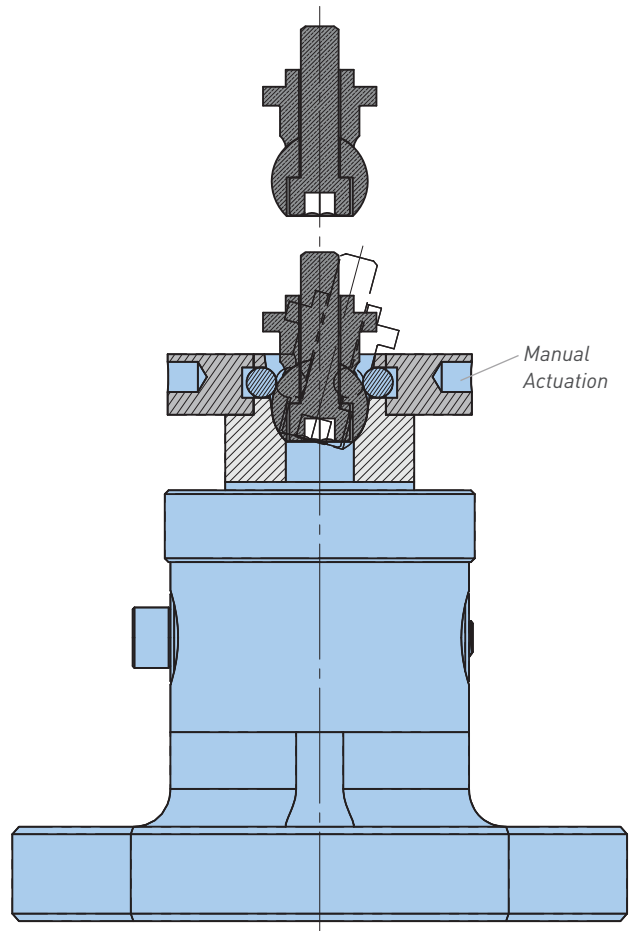
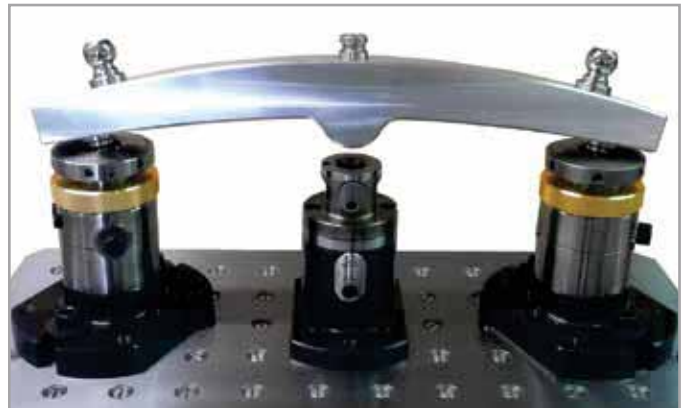
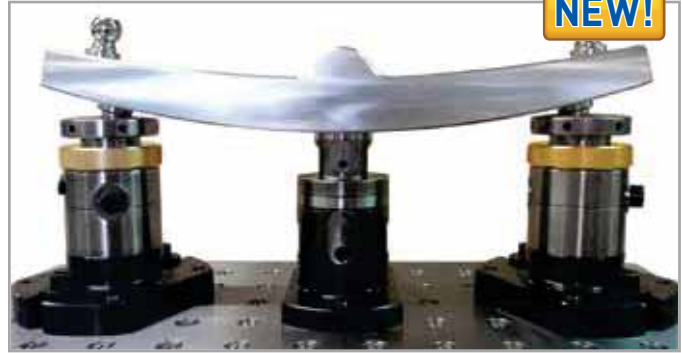


• All dimensions are in millimeters

The Uniflex system is composed of a clamping ball and collar that are attached to the underside of a part or fixture. The part and fixture are then lowered onto either a clamping base or a clamping extension. The clamping collar is then rotated to tighten the six bearing balls on to the main ball. If the part or fixture is warped or needs to be set at an angle, the clamping ball can pivot up to 15° in any direction.

The Uniflex Clamping Base allows for up to 20mm of height adjustment. The Clamping Extension is a fixed height of 65mm and can be combined with the all Unilock chucks and 5-Axis components.

**NEW!**





**Three Collar Options**

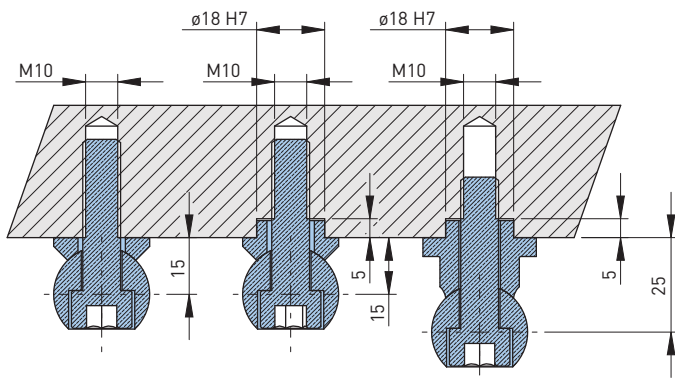
Each set will come with a ball, a collar and a M10 SHCS.



**Fig. 1** No location pilot

**Fig. 2**  $\varnothing 18$  H7 location pilot

**Fig. 3**  $\varnothing 18$  H7 location pilot and is 10mm taller



**Fig. 1**

**Fig. 2**

**Fig. 3**

Catalog Number	Fig.	Height	Location Bore	Weight (lbs)
15.251.280	1	15	—	.2
15.251.381	2	15	$\varnothing 18$ H7	.2
15.250.382	3	25	$\varnothing 18$ H7	.2

• All dimensions are in millimeters

## Uniflex Clamping Base

The Uniflex Base Chuck features  $\varnothing 16\text{mm}$  H7 grid holes and can be mounted on 50/100/M12 grids as well as on t-nuts. Height adjustment is possible for part feature compensation.



Catalog Number	Height	Fig.	Weight (lbs)
<b>15.251.361</b>	130-150	1*	18.7

- All dimensions are in millimeters
  - Includes mounting screws
  - Manual clamping, wrench not included
- \* See Pg. 127

## Uniflex Clamping Extension

Used as a heightening extension for Uniflex Bases or 5-Axis Bases, warped or difficult to access workpieces can be clamped perfectly. Comes standard with a System 40 SBA Clamping Knob for use with other Unilock System 40 standard or 5-axis chucks.



Catalog Number	Height	Fig.	Weight (lbs)
<b>15.251.360</b>	65	2*	4.2

- All dimensions are in millimeters
  - Includes System 40 SBA clamping knob
  - Manual clamping, wrench not included
- \* See Pg. 127

Fig. 1

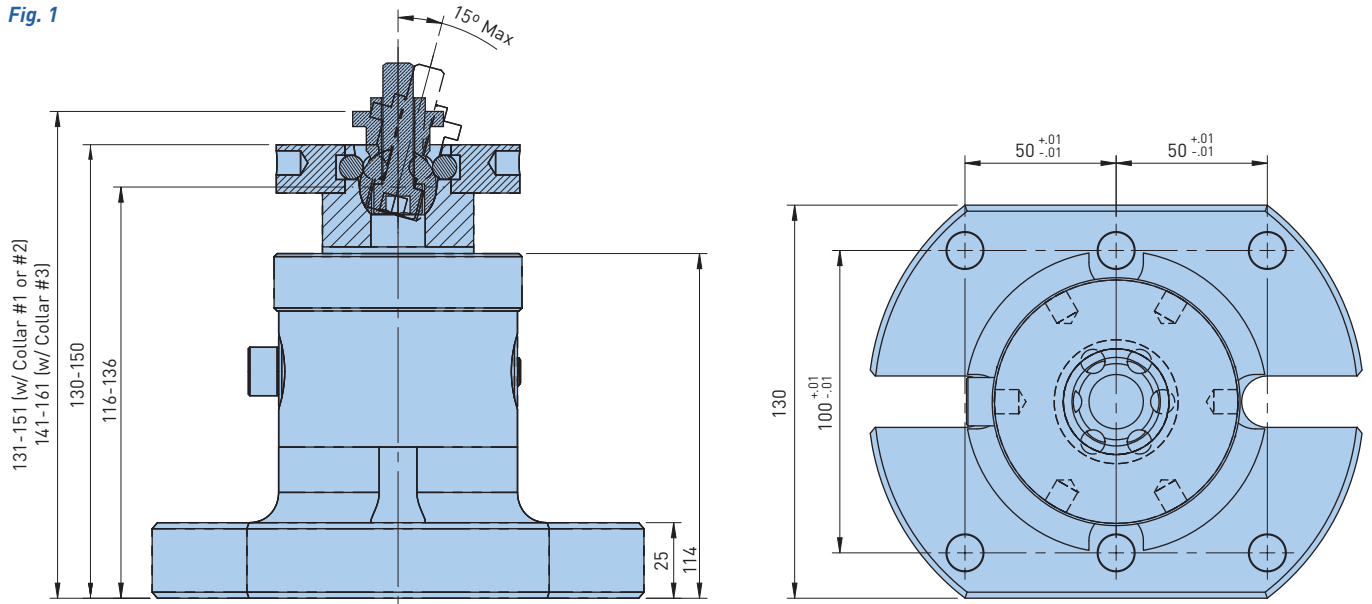
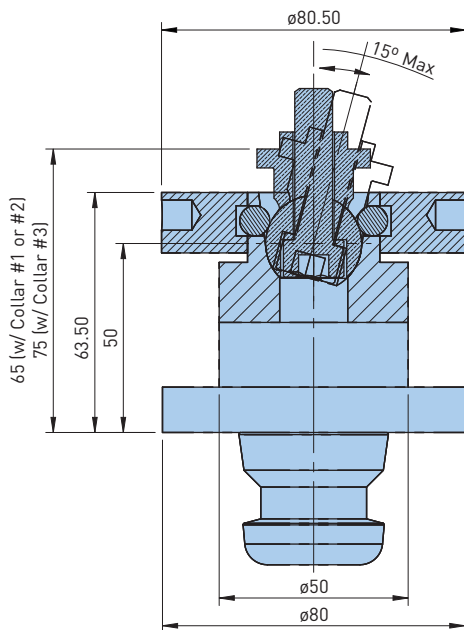
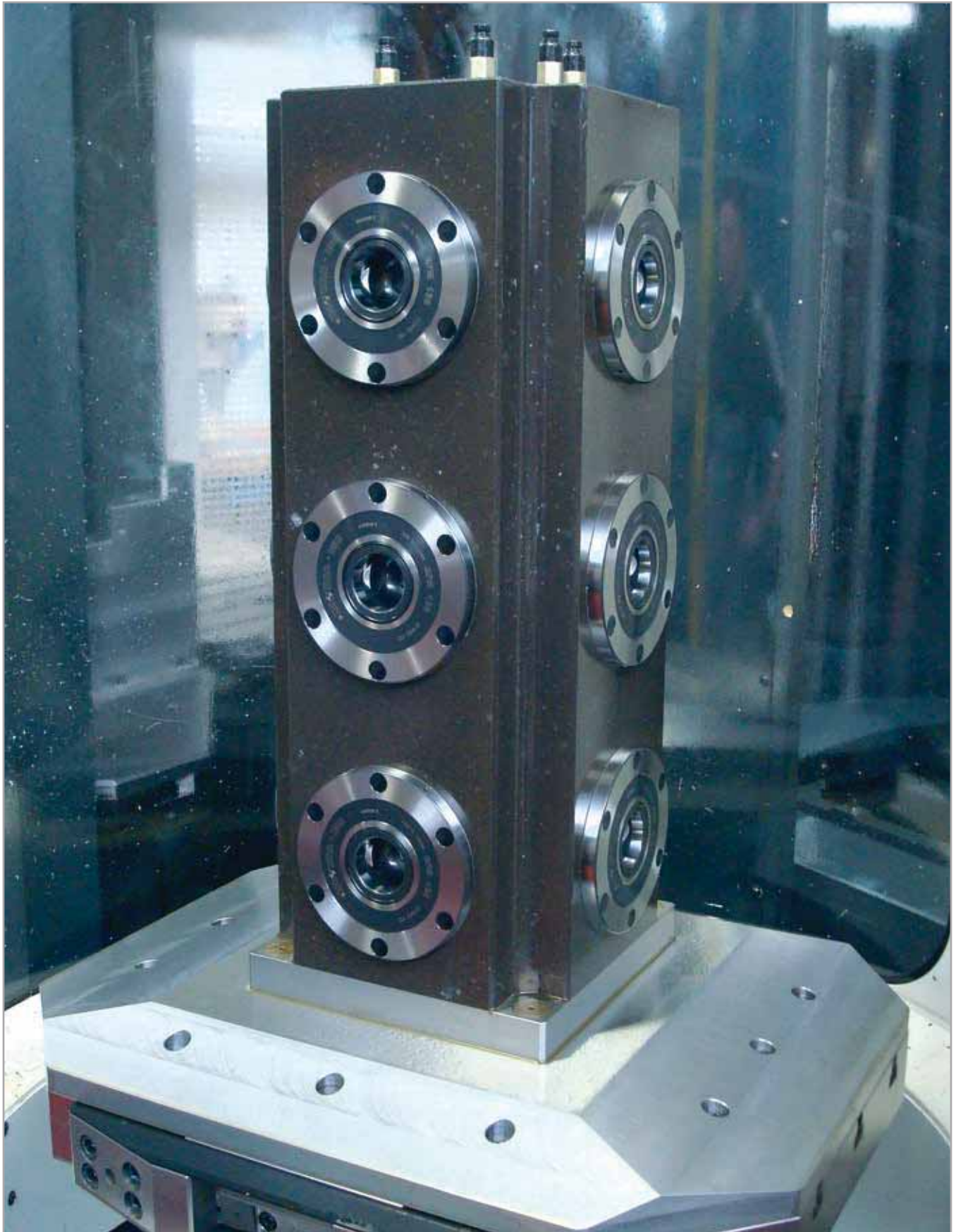


Fig. 2



• All dimensions are in millimeters



Mineral Cast Systems

ROC® mineral cast solutions increase capacity and throughput by reducing burden and transport weights. Much like a skyscraper, we produce a steel substructure for stability. Ours are precision machined and filled with ground positioning components and fasteners. We then fill or encapsulate the assembly with a composite structure of mineral particles and epoxy resin. The result is a working platform that is lightweight, stable and dampened.

Mineral particles make up about 90% of the added weight, with the remaining being resin and curing agents. The added composite structure has an excellent density-to-weight ratio of 2.3 kg/dm³. The finished composite structure is produced without heat to preserve the integrity of the precision machined surfaces and clamping components.

ROC® mineral cast has low thermal conductivity and excellent resistance to corrosion. As the mineral cast component has low tensile and impact strength, unintended impacts to the composite structure will not disturb the steel positioning and clamping components. With attenuation rates 6 to 10 times better than grey cast iron, ROC® mineral cast solutions can increase cell output.

ROC® mineral cast columns can be designed and built to customer specifications. We do offer standard columns for horizontal machining center applications with integrated Unilock zero-point chucks or grid patterns.

Ergonomics and machine capacity aspects of manufacturing get easier with ROC® mineral cast workholding solutions, many of which are 50% lighter than alternatives. As companies look to standardize their operator interfaces, they should also look to ROC® mineral cast solutions to package these standards.

Features:

- All critical metal surfaces are finish machined after molding
- Customer specific solutions are available upon request
- Weight reduced solutions do not induce vibration
- Hollow structures can be filled, solid structures can be encased
- Mineral cast surfaces are corrosion resistant



Columns ..... Pg. 130-131



Grid Columns ..... Pg. 132-133



Pallets, Riser Pads & Custom Solutions ..... Pg. 134-135





Catalog Number	Fig.	Shape	Steel Core	Steel Cover	Metric				Inch				Number of Chucks
					Length	Width	H1	H2	Length	Width	H1	H2	
15.100.000	1*	Cross	✓	—	270mm	270mm	450mm	—	10.630	10.630	17.717	—	8
15.100.001		Cross	✓	—			—	650mm			—	25.591	12
15.100.002	2*	Cross	—	✓	270mm	270mm	450mm	—	10.630	10.630	17.717	—	8
15.100.003		Cross	—	✓			—	650mm			—	25.591	12
15.100.004	3*	Cube	—	✓	238mm	238mm	450mm	—	9.370	9.370	17.717	—	8
15.100.005		Cube	—	✓			—	650mm			—	25.591	12
15.100.006	4*	Rectangle	—	✓	220mm	399mm	450mm	—	8.661	15.709	17.717	—	8
15.100.007		Rectangle	—	✓			—	650mm			—	25.591	12
15.100.008		Rectangle	—	✓		499mm	450mm	—		19.646	17.717	—	8
15.100.009		Rectangle	—	✓			—	650mm			—	25.591	12

• Base plate sold separately, please consult BIG KAISER Engineering Dept. for assistance  
 \* See Pg. 131

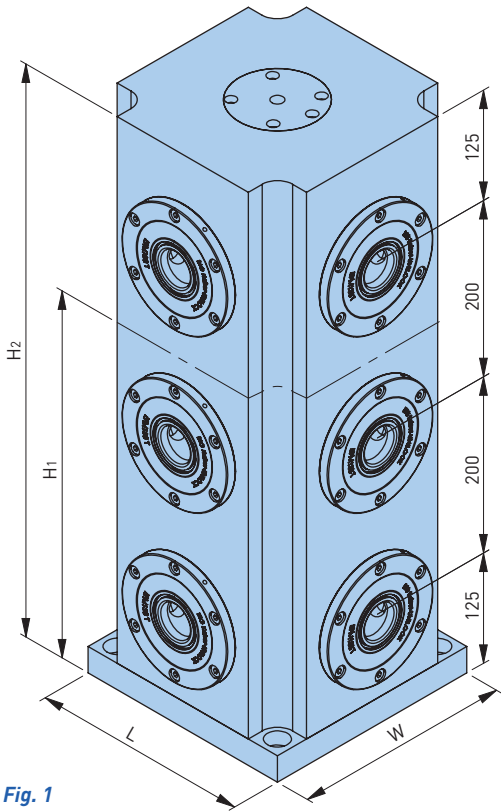


Fig. 1

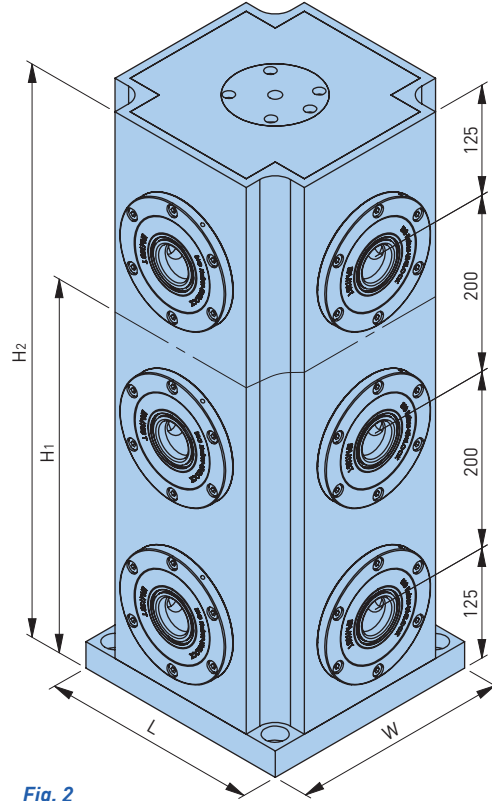


Fig. 2

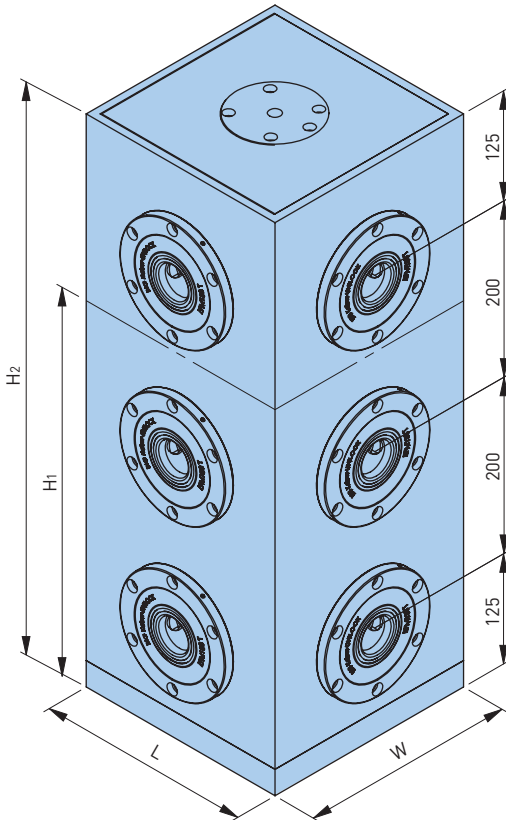


Fig. 3

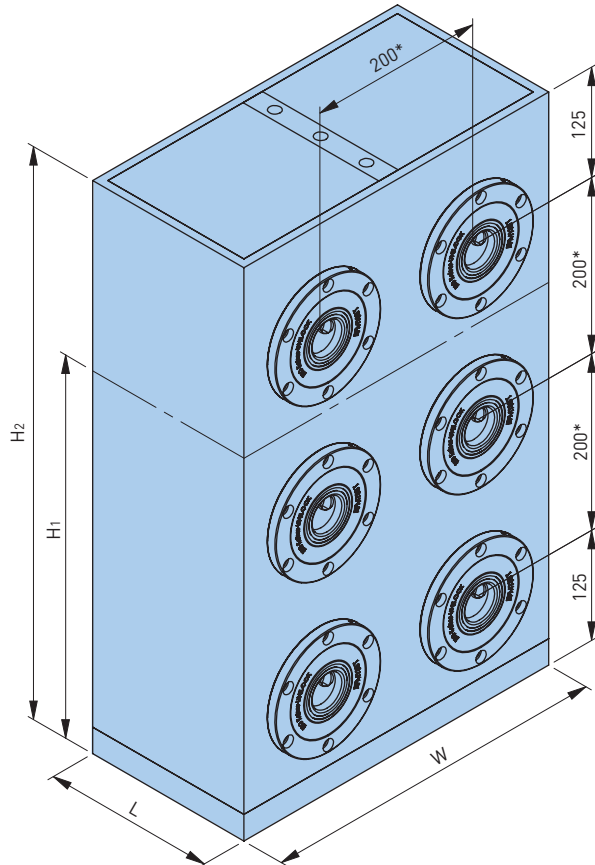
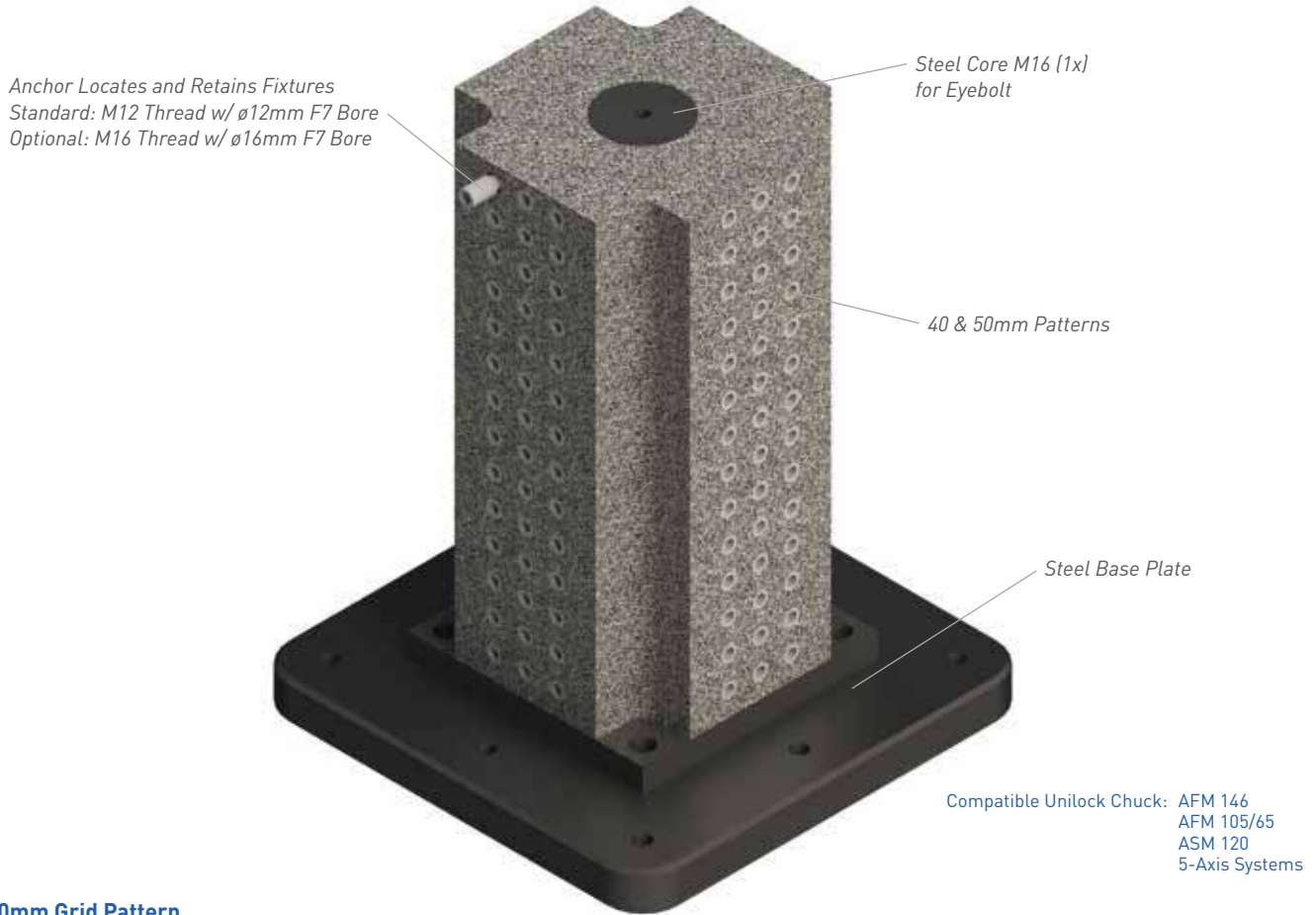


Fig. 4

• All dimensions are in millimeters  
 \* 250mm spacing also available



**40mm Grid Pattern**

Catalog Number	Fig.	Shape	Steel Core	Steel Cover	Metric			Inch		
					Length	Width	Height	Length	Width	Height
15.100.010	1*	Cross	✓	—	300mm	300mm	600mm	11.811	11.811	23.622
15.100.012		Cross	✓	—			750mm			29.528
15.100.014	2*	Cube	✓	✓	300mm	300mm	600mm	11.811	11.811	23.622
15.100.016		Cube	✓	✓			750mm			29.528
15.100.018	3*	Rectangle	✓	✓	400mm	200mm	600mm	15.748	7.874	23.622
15.100.020		Rectangle	✓	✓			750mm			29.528
15.100.022		Rectangle	✓	✓	500mm		750mm	19.685	7.874	29.528
15.100.024		Rectangle	✓	✓	630mm		800mm	24.803		31.496

**50mm Grid Pattern**

Catalog Number	Fig.	Shape	Steel Core	Steel Cover	Metric			Inch		
					Length	Width	Height	Length	Width	Height
15.100.011	4*	Cross	✓	—	300mm	300mm	600mm	11.811	11.811	23.622
15.100.013		Cross	✓	—			750mm			29.528
15.100.015	5*	Cube	✓	✓	300mm	300mm	600mm	11.811	11.811	23.622
15.100.017		Cube	✓	✓			750mm			29.528
15.100.019	6*	Rectangle	✓	✓	400mm	200mm	600mm	15.748	7.874	23.622
15.100.021		Rectangle	✓	✓			750mm			29.528
15.100.023		Rectangle	✓	✓	500mm		750mm	19.685	7.874	29.528
15.100.025		Rectangle	✓	✓	630mm		800mm	24.803		31.496

• Base plate sold separately, please consult BIG KAISER Engineering Dept. for assistance  
 \* See Pg. 133

40mm Grid Pattern

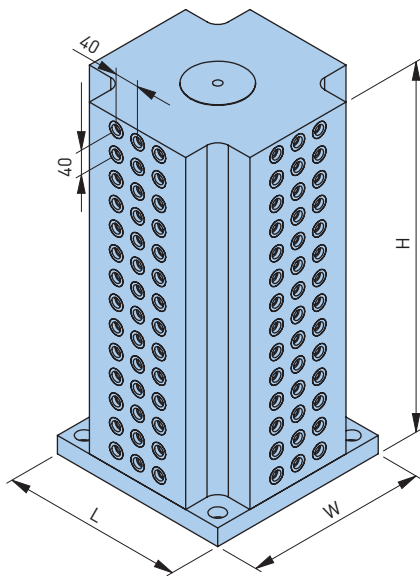


Fig. 1

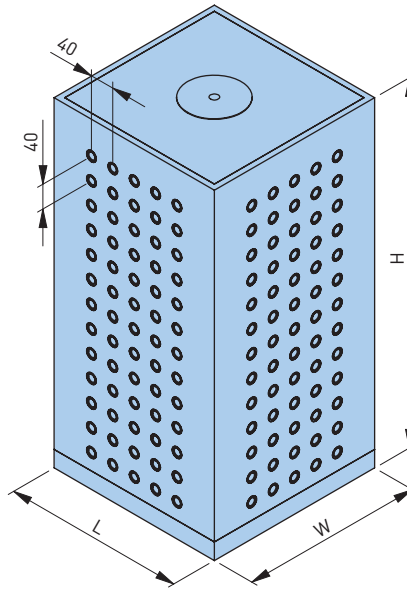


Fig. 2

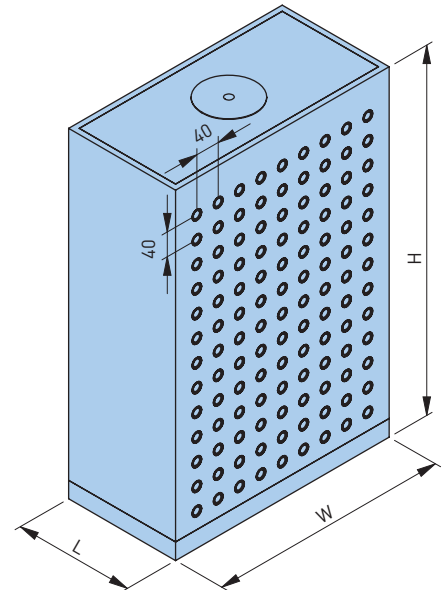


Fig. 3

50mm Grid Pattern

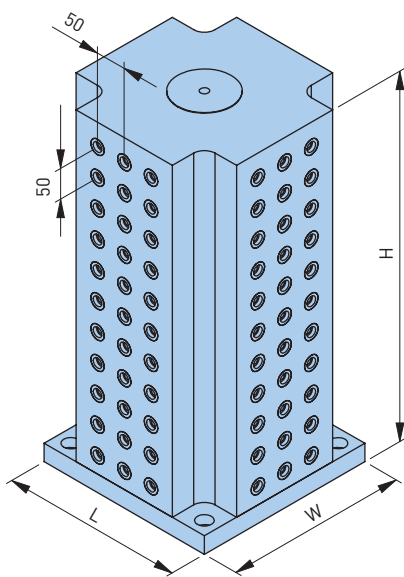


Fig. 4

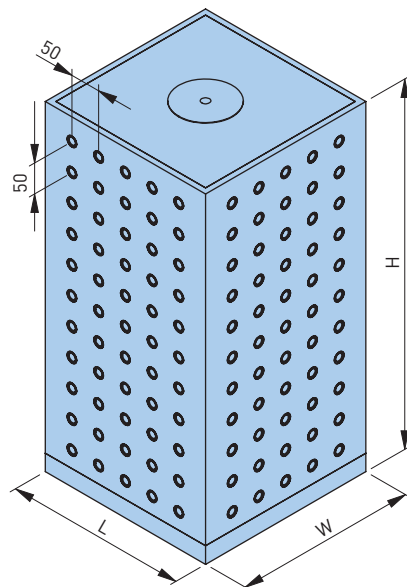


Fig. 5

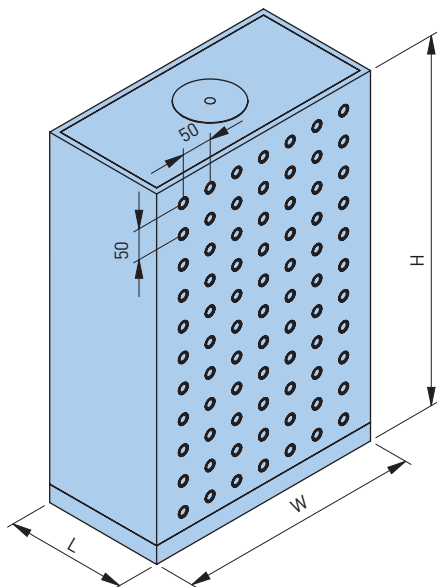


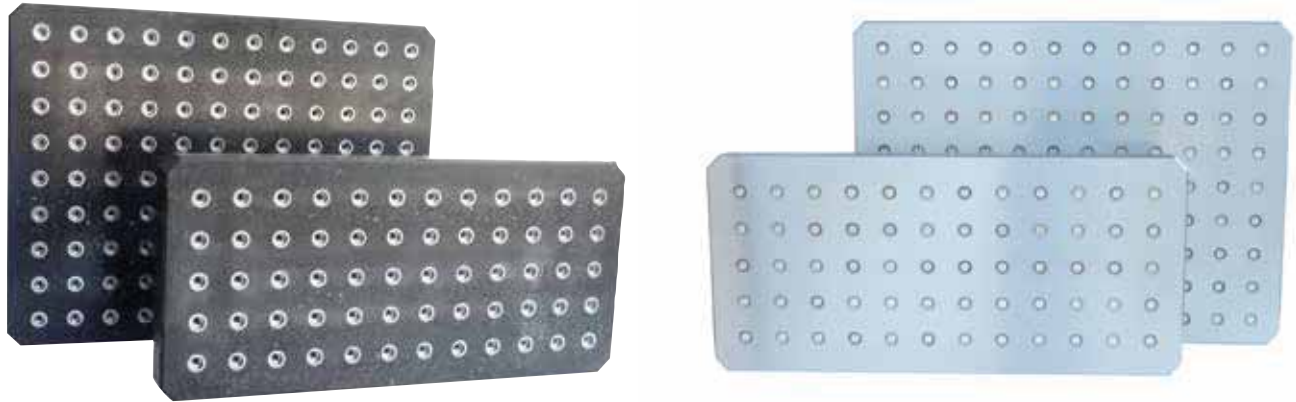
Fig. 6

• All dimensions are in millimeters



**Grid Clamping Pallets**

Specifically made for the requirements of new machining centers, we offer grid clamping pallets produced with the help of ROC® mineral casting, including a steel cover on the top of the pallet for optimal stability. Every pallet is about 50% lighter than a comparable all-steel version.



**Fillings**

All clamping pallets and devices can be manufactured as light as possible and filled up with ROC® mineral cast. Threaded inserts or other construction elements can be cast into the pallets. Pneumatic lines are encased in the casting and are completely air-tight.



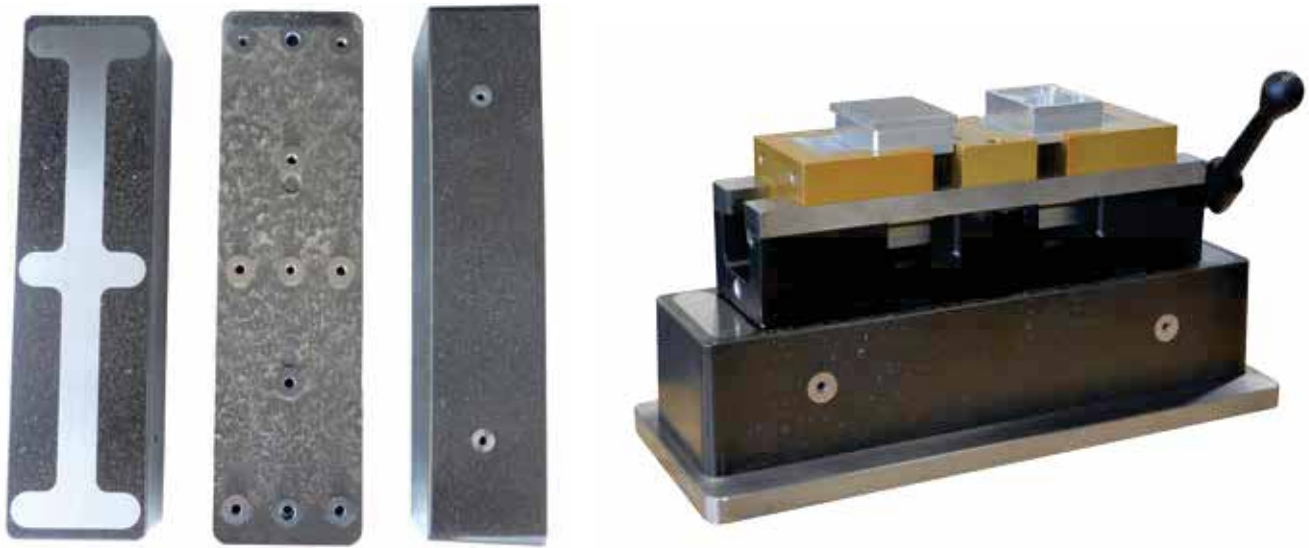


## Riser Pads

For a more flexible use of your vises, we offer riser pads for many popular vise brands. With a width up to 4.921", vises can be elevated on our ROC® vise pads according to their mounting requirements.

Brands with the following dimensions are mountable:

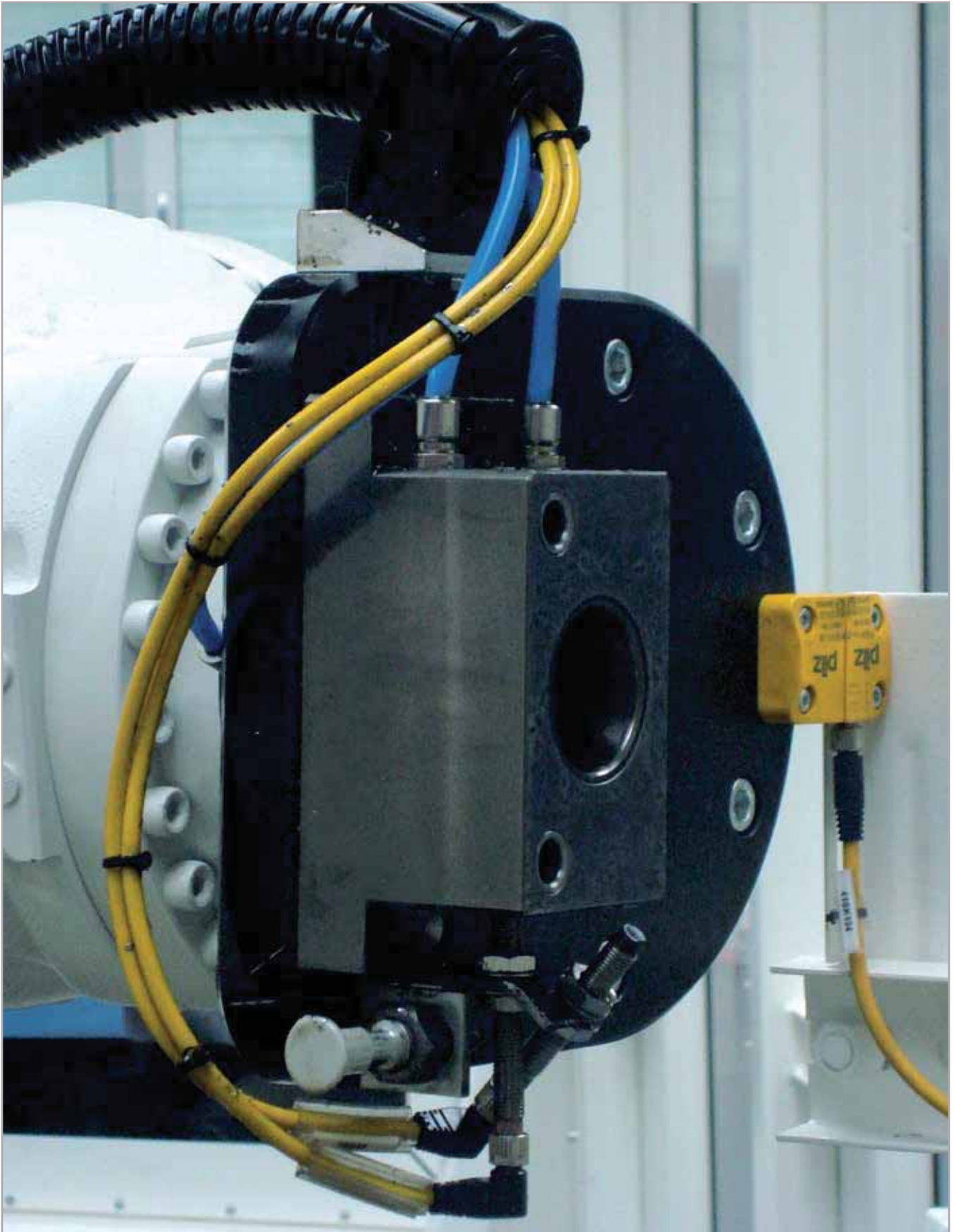
- 3.937 x 15.748 (w x l)
- 4.921 x 18.700 (w x l)



## Customized Items

ROC® mineral cast products can be customized to meet your specific needs. We gladly provide our know-how in this area for maximizing your designs. We look forward to giving you advice on the use of ROC® mineral cast technology for your own components and to show you possible cost-reducing potential. Designs are very flexible for customizable casting up to 39.37" x 39.37" and up to 1,100 lbs.





When using robots to pick and place fixtured workpieces into machine tools, Unilock can be used on the table to control workpiece placement and clamping. Unilock can also be used on the end of the robot arm as the pick interface.

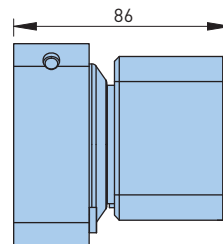
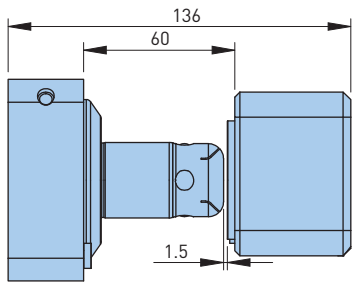


**Twin Pin Gripper** ..... Pg. 138-139

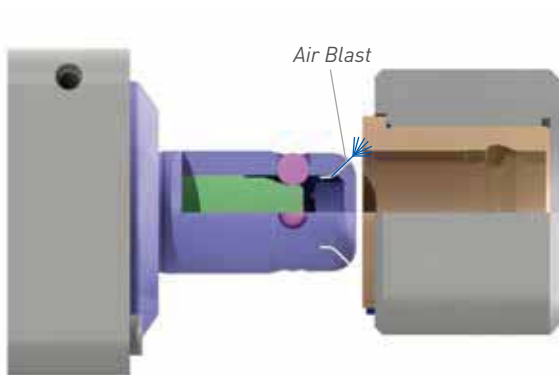


**Clamping Knob Gripper** ..... Pg. 140-141

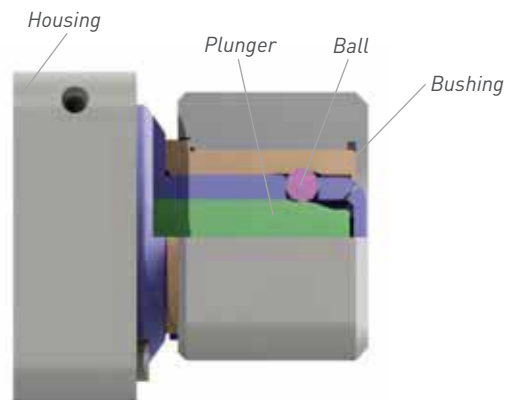
Sold as a complete assembly, the gripper is located on the robot arm or an adapter plate with two dowel pins. Four M8 threaded holes are used to secure it in place. The coupling is also oriented on the pallet with two dowel pins. Three M10 cap screws are used to attach the couplings to fixture plates.



• All dimensions are in millimeters



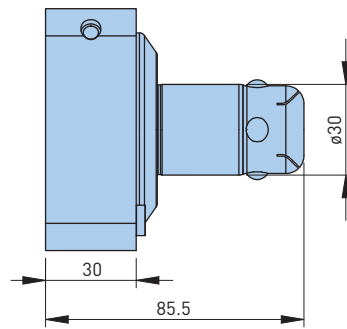
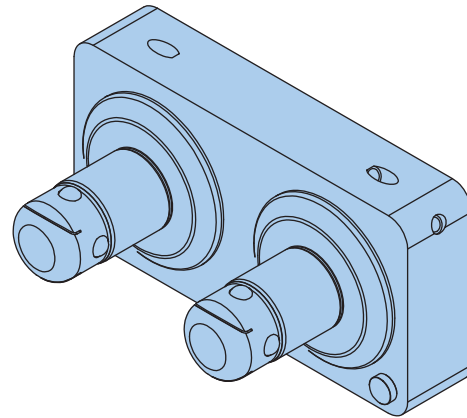
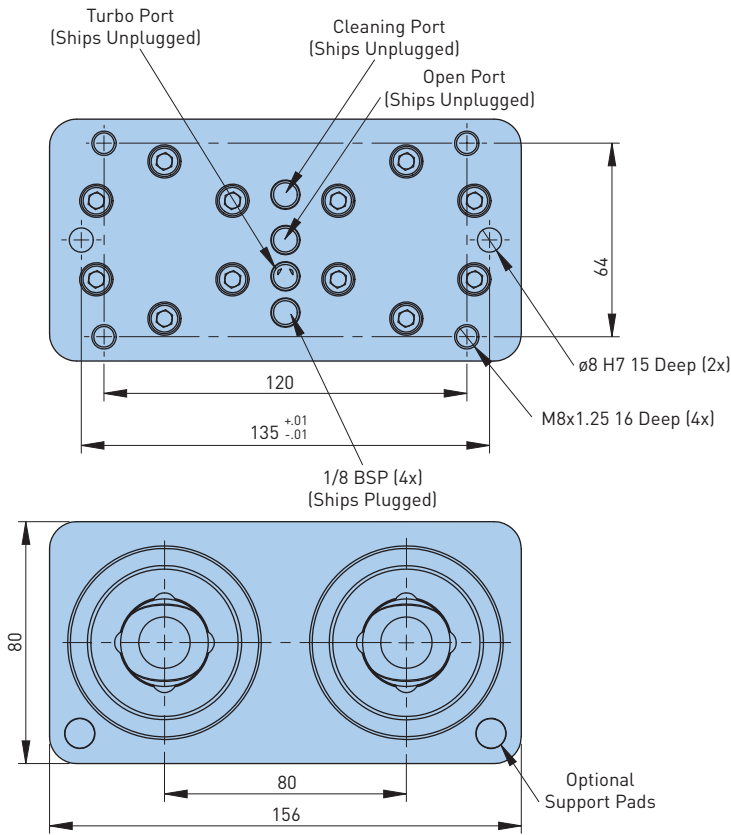
**Unclamped**



**Clamped**

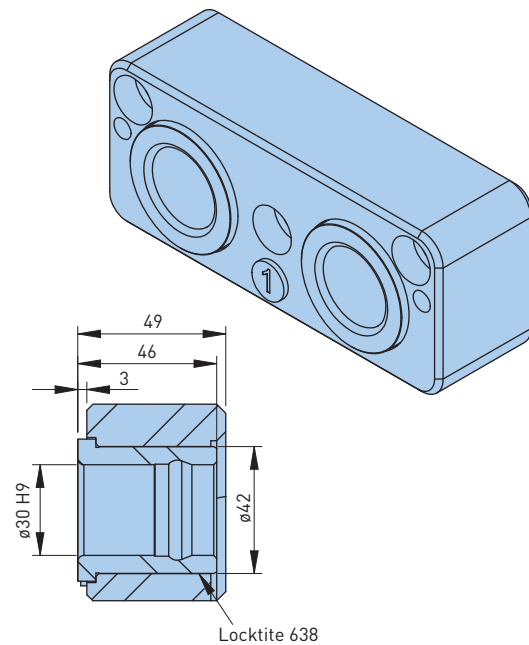
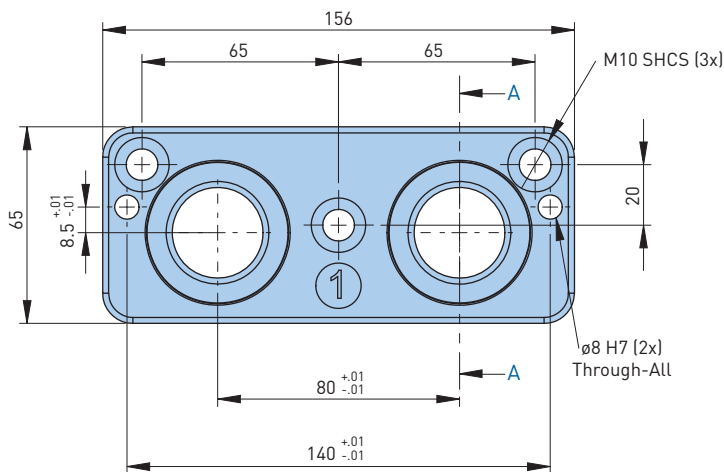
Robot Gripper RK1

Catalog Number
15.279.200



Robot Gripper Pallet Block PKV1

Catalog Number
15.279.210

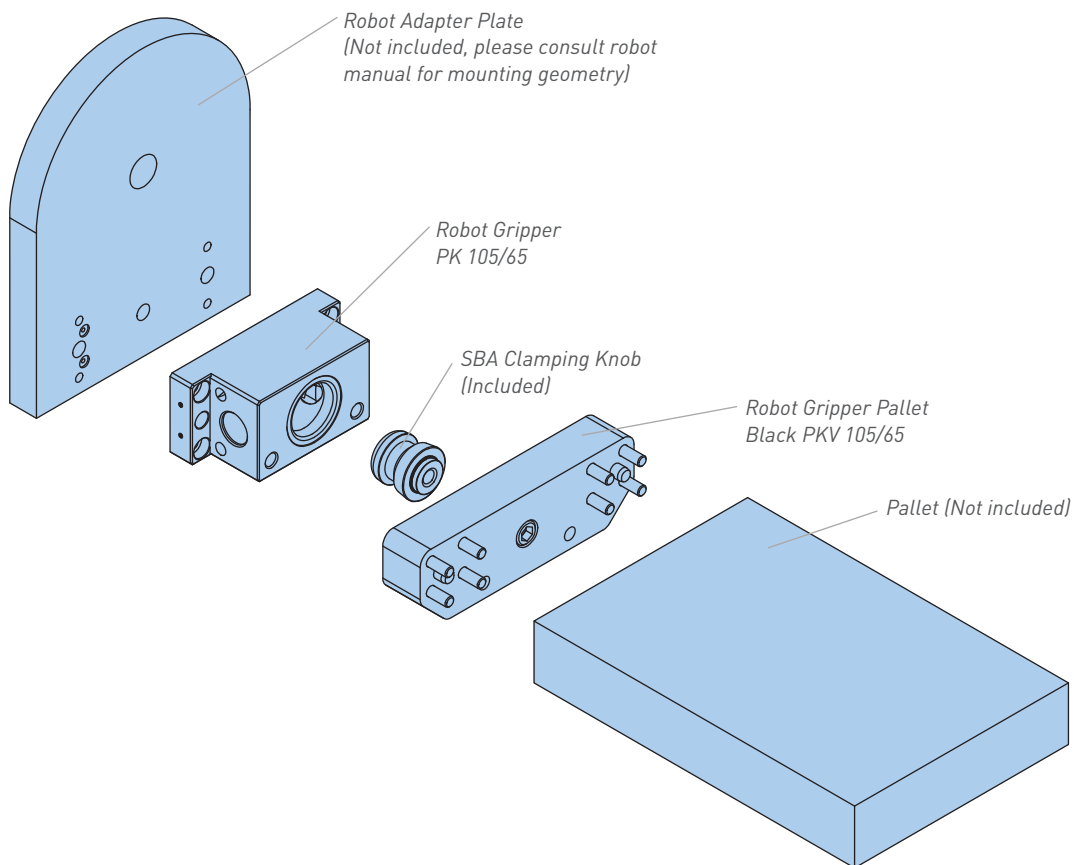


Section A-A

• All dimensions are in millimeters



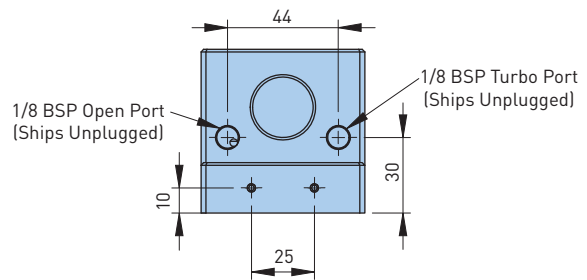
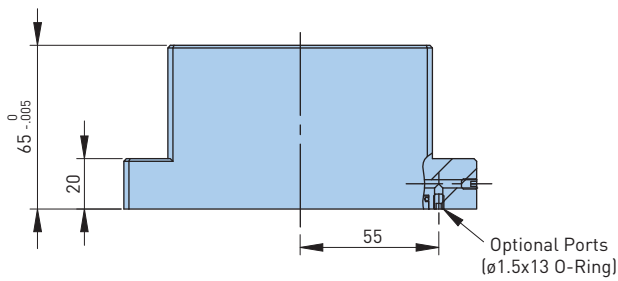
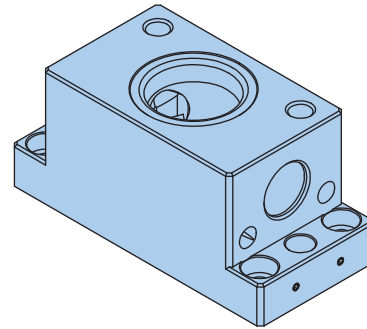
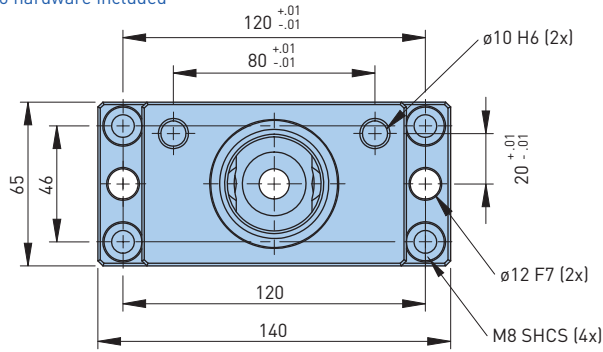
Any Unilock chuck and clamping knob combination can be used as a robot gripper and coupler. In order to keep the pallet coupling to a minimal thickness, we offer a version of our AFM 105/65 chuck that has two dowel pin holes in the face to help support the pallet. These couplings can be purchased as an assembly or the clamping knob and pins can be attached directly to the pallets.



## Robot Gripper PK 105/65

Catalog Number
<b>15.272.166</b>

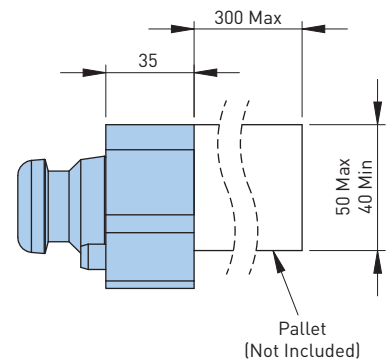
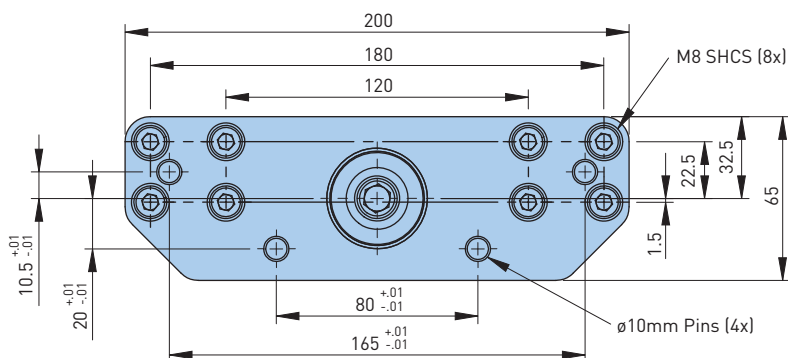
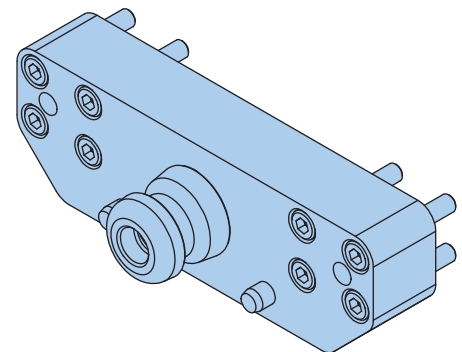
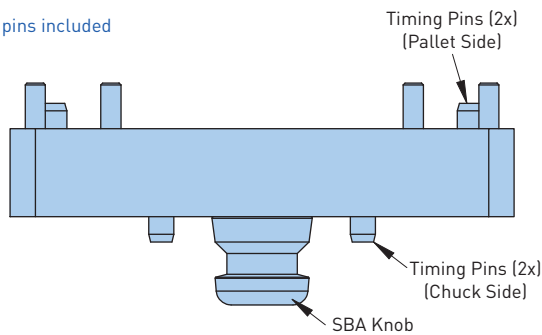
- No hardware included



## Robot Gripper Pallet Block PKV 105/65

Catalog Number
<b>15.279.215</b>

- Screws & pins included



- All dimensions are in millimeters



**Accessories**

For proper operation of the Unilock chucks, air fittings, valves and supply systems are required. Please consult with BIG KAISER Engineering Dept. for proper selection.

Other accessories help with the maintenance and use of the system for various functions. Please consult BIG KAISER Engineering Dept. for proper selection.



**Chuck Air Fittings** .....Pg. 144-146



**Subplate Air Fittings** .....Pg. 147



**Positioning Pins & Bushings** .....Pg. 148



**Dust Covers** .....Pg. 148



**Toe Clamps** .....Pg. 148



**Mounting Rings & Rotary Table Kits** .....Pg. 148



**Repair & Replacement Components** .....Pg. 149

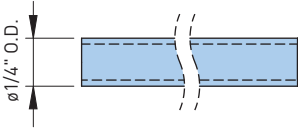
Air fittings and parts are sold separately or as a kit. Other valve options available upon request. Please consult BIG KAISER Engineering Dept.



Air Kit Catalog Number	Contents		
	Catalog Number	Description	Quantity
15.350.000	15.312.001	Filter Regulator Oiler Assembly	1
	15.350.009	Standard Hand Valve	1
	15.350.020	Uni Thread 1/4" Tube	1
	15.350.021	Uni Thread 1/8" Pipe x 1/4" Tube	1
	15.350.001	1/4" OD Tube	10 ft

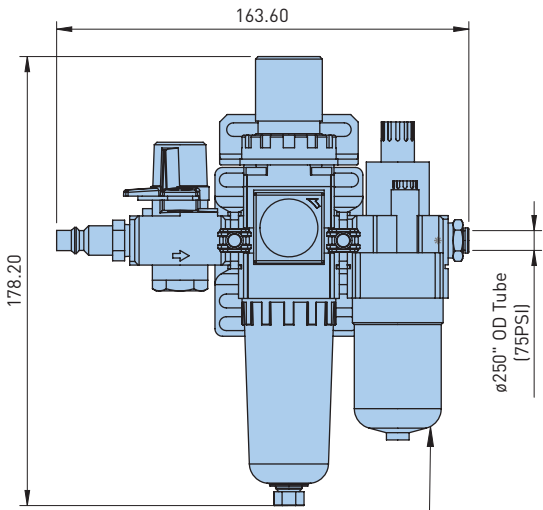
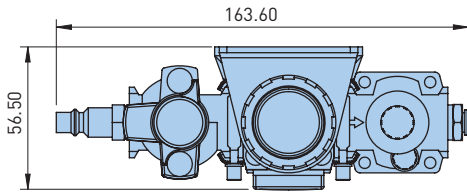


## 15.350.001

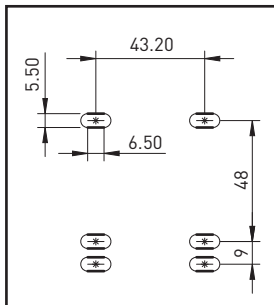


- Sold by the foot

## 15.312.001

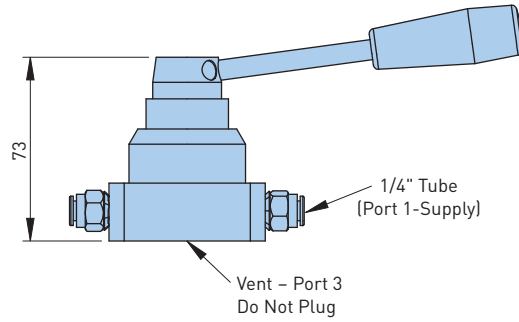
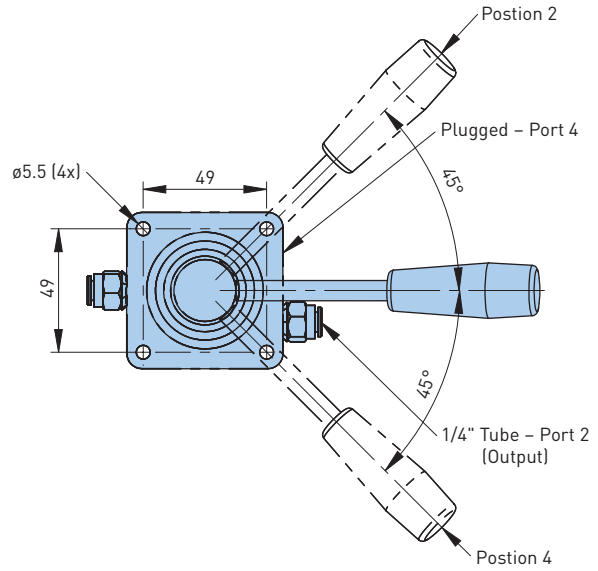


### Mounting Bracket Positions



- Fully assembled
- All dimensions are in millimeters

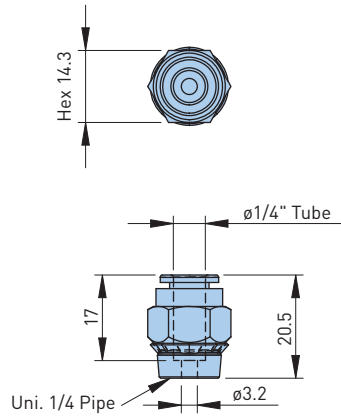
## 15.350.009



- Fully assembled
- Other options available
- All dimensions are in millimeters

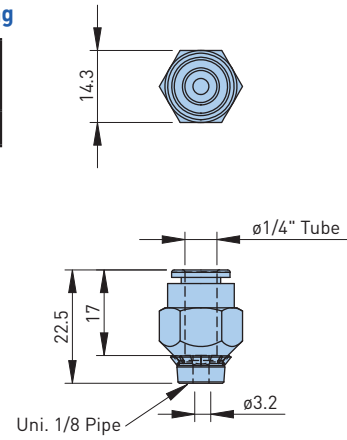
## 1/4 Pipe Fitting

Catalog Number
<b>15.350.020</b>



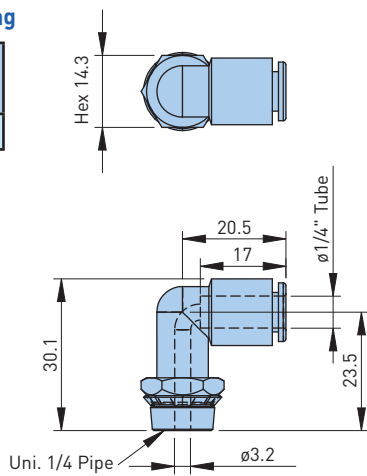
## 1/8 Pipe Fitting

Catalog Number
<b>15.350.021</b>



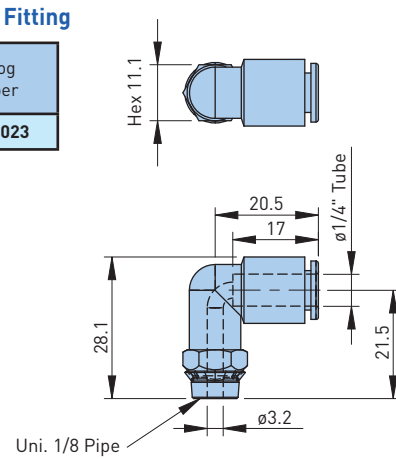
## 1/4 Pipe Fitting

Catalog Number
<b>15.350.022</b>



## 1/8 Pipe Fitting

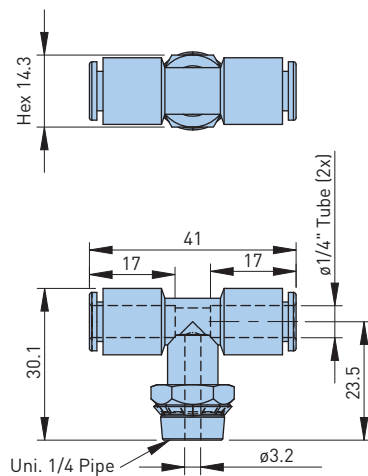
Catalog Number
<b>15.350.023</b>



## 1/4 Pipe Fitting

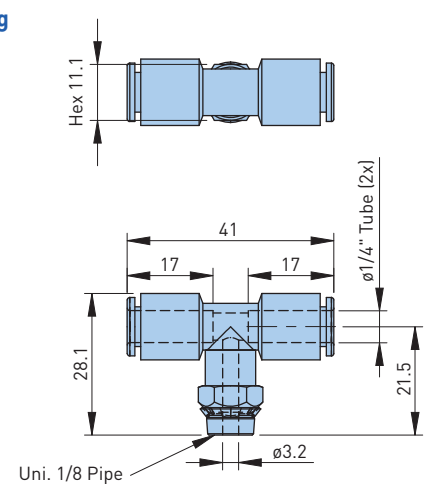
Catalog Number
<b>15.350.024</b>

- Compatible with Rc, GNDT & NDTF

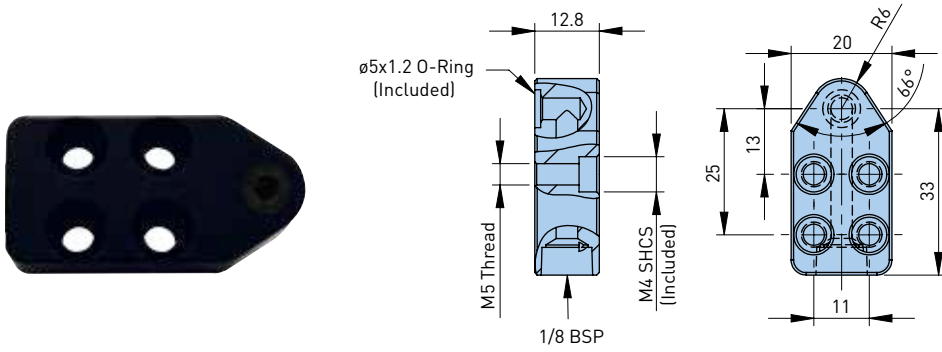


## 1/8 Pipe Fitting

Catalog Number
<b>15.350.025</b>



• All dimensions are in millimeters



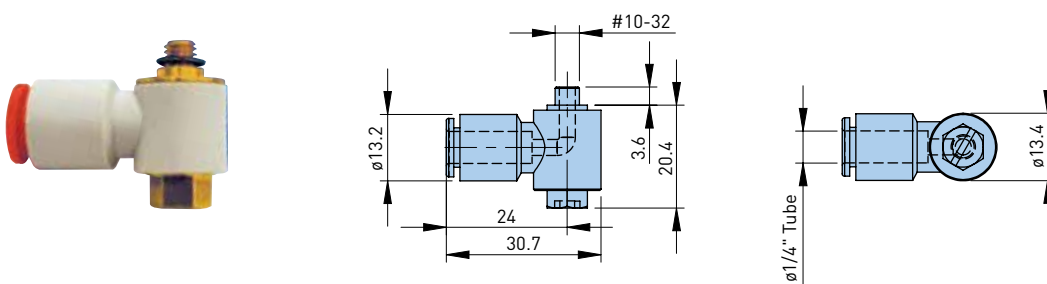
Catalog Number
15.260.727



Catalog Number
15.260.728



Catalog Number
15.260.729



Catalog Number
15.350.026

• All dimensions are in millimeters



**Positioning Pins & Bushings**

Catalog Number	Description
15.260.309	Positioning Bushing - Indexing
15.260.351	Positioning Pin 8mm Indexing
15.260.352	Positioning Pin 10mm Indexing
15.260.350	Positioning Pin 12mm Indexing
15.261.169	Positioning Pin 25mm Indexing
15.270.420	Positioning Pin - ASM 120 - 12/10
15.270.422	Positioning Pin - ASM 120 - 12/12
15.270.426	Positioning Pin - ASM 120 - 12/16
15.270.427	Indexing Pin $\phi$ 14mm
15.270.428	Indexing Step Pin $\phi$ 8mm/ $\phi$ 14mm
15.270.429	14mm Indexing Key



**Toe Clamps**

Catalog Number	Description
15.270.403	Adj. Toe Clamp - S30
15.270.404	Adj. Toe Clamp - S40
15.270.405	Adj. Toe Clamp - S50
15.270.450	Toe Clamp Blank
15.270.454	Toe Clamp Blank (Set of 4)



**Dust Covers**

Catalog Number	Description
15.270.090	Chip Guard 90
15.270.120	Chip Guard 120
15.270.130	Chip Guard 138
15.260.170	Chip Guard 170
15.260.310	Chip Guard Clamping Knob M8
15.260.790	M8 SHCS Cover (Pkg of 6)

- Clamping knobs included with dust covers



**Mounting Rings & Rotary Table Kits**

Catalog Number	Description
15.260.205	210mm Mounting Ring for MSM 170
15.260.200	217mm Mounting Ring for MSM 170
15.260.215	Ctr. Plug $\phi$ 2" for 210mm Ring
15.270.186	170mm Split Ring (ASM 120)

- Other sizes available upon request, please contact BIG KAISER Engineering Dept.



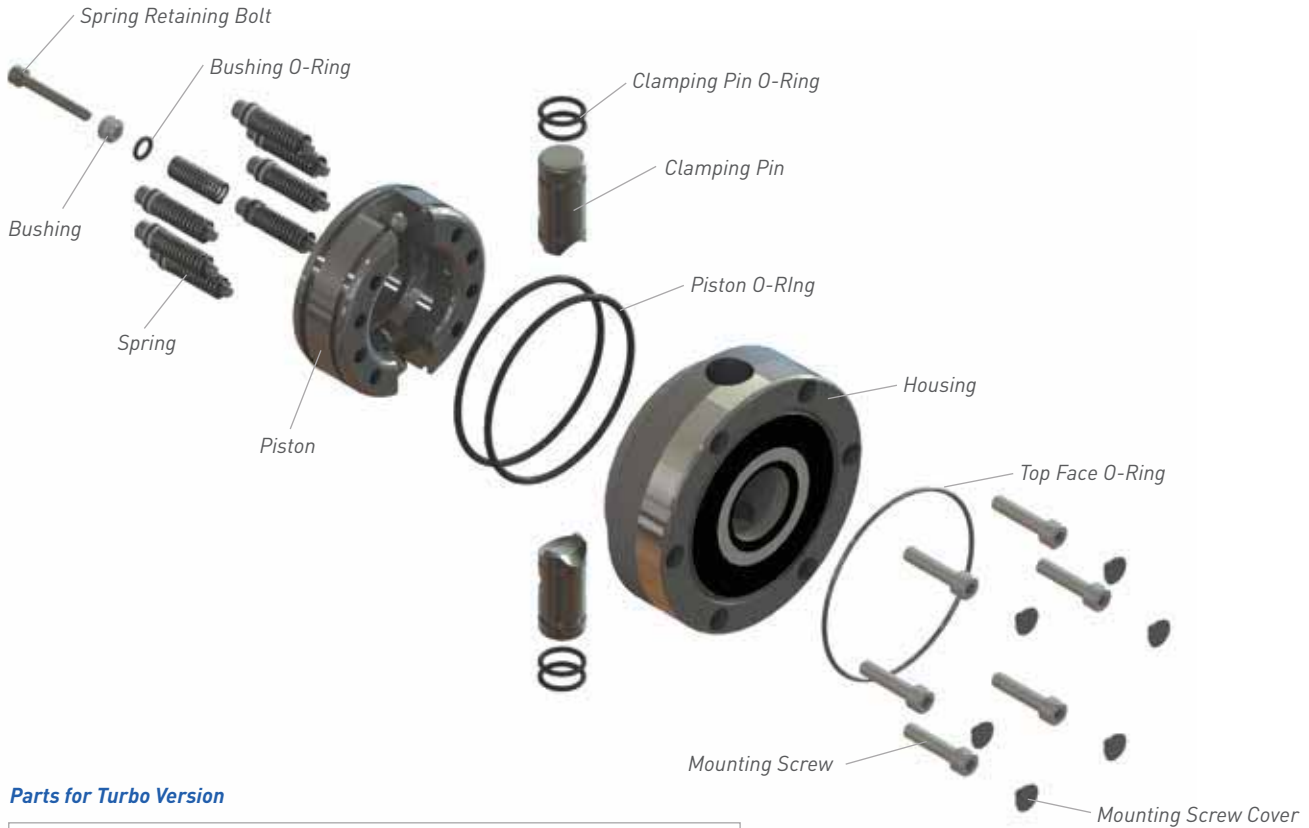
Repair & Replacement Components

Ref. Chuck Type	O-Ring Only Kits		Full Repair Kit		Ref. Chuck Catalog Number
	Catalog Number		Catalog Number		
	BUNA	VITON	BUNA	VITON	
5-Axis (Air)	—	—	—	—	—
5-Axis (Manual)	—	—	—	—	15.250.1XX/2XX
AFM 105/65	—	—	—	—	15.272.16X
AFM 146	15.269.285	—	15.269.029	—	15.260.146
ASH 120	—	—	—	—	15.270.170
ASM 120	15.270.198	15.270.199	15.269.007	—	15.270.15X
ASM 120-M	—	—	—	—	15.270.18X
ASM 120-SS	—	—	—	—	15.270.16X
ASM 90	—	—	15.269.004	—	15.240.09X
ASSF 170	—	—	15.269.028	—	15.279.170
ASSF 250	—	—	—	—	15.279.250
EDM 100/150	—	—	15.269.027	—	15.272.150
EFM 138	—	15.270.195	15.269.013	15.269.014	15.263.10X
EFM 138 SS	—	—	—	—	15.276.10X
ERGO 138	15.269.035	—	15.269.036	—	15.270.11X
ESA 110	—	—	—	—	15.277.300
ESA 120/70	—	—	—	—	15.277.200
ESA 185	—	—	—	—	15.277.185
ESM 100/75	15.269.022	—	15.269.021	—	15.272.175/185
ESM 138	15.270.192	15.270.195	15.270.193	15.269.030	15.270.10X
ESM 138-SS	—	—	15.269.011	—	15.276.10X
ESM 138-V2	—	—	15.269.015	—	15.270.14X
ESM 176	—	15.272.190	15.269.019	—	15.272.17X
ESM 176-SS	—	—	—	—	15.260.11X
ESM 180/150	—	—	—	—	15.500.590
HSM 196	15.269.020	—	—	—	15.274.407
ISM 160	15.269.285	—	15.269.029	—	15.260.160
MSM 170	15.260.190	15.260.192	15.269.017	—	15.260.100
NSA 125	—	—	15.269.023	—	15.277.125

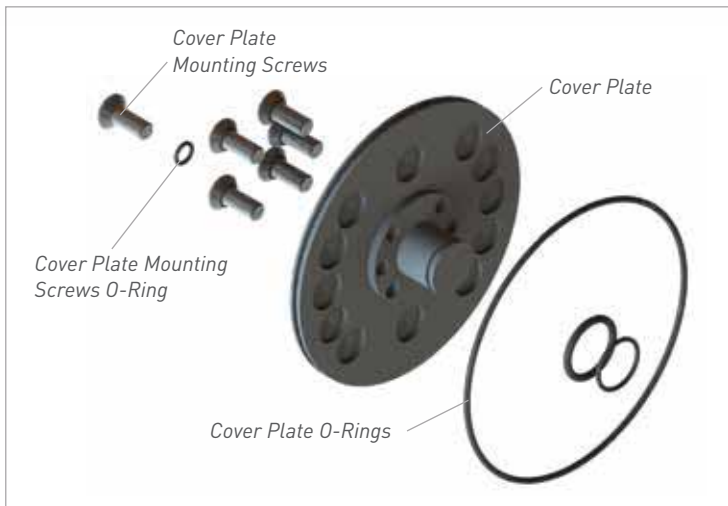








**Parts for Turbo Version**



- Min. operating air pressure: 75 PSI
- Min. recommended air line:  $\varnothing.250$ " O.D.
- Air must be filtered to a maximum particle size of 10 $\mu$ m, dried and lubricated
- Use of dust covers is recommended for chucks that are not in use
- Close all air connections when chuck is not in use
- For vertical wall mounting, chuck orientation should be such that the clamping pins are horizontal
- For long term storage, spray rust preventative into air ports and cycle the chuck 4-5 times
- For more in-depth service instructions please consult BIG KAISER Engineering Dept.

Visit [www.us.BIGKAISER.com](http://www.us.BIGKAISER.com) for Additional Instructions

**BIG KAISER Precision Tooling Inc.**

A Member of the BIG DAISHOWA Group

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