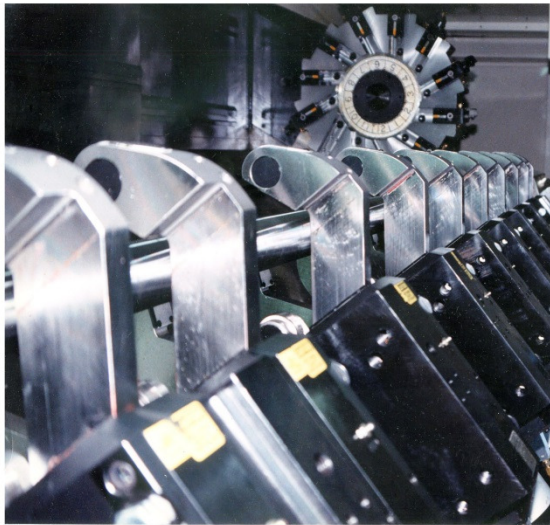


WORLD LEADER IN STEADY REST TECHNOLOGY

www.arobotech.com

About us

Arobotech Systems, Inc. was founded in response to the need for improvement in workholding technology. From the beginning we have been dedicated to supplying simple, precise true-centering devices. The products we've developed have been awarded a number of patents with others applied for and pending. Our dedication to research and development results in continuous product improvement and innovative new technology.



Arobotech Systems Turning AUTO REST® offers a unique solution to positioning cylindrical parts for turning. The sliding wedge design gives Turning AUTO REST® strength and rigidity for extraordinary accuracy and repeatability.

Turning AUTO REST® are equally at home in production environments or on prototype machines. The rugged construction stands up to years of use in a high volume production environment. Ease of installation and alignment make changeover fast and painless.

Quality is our highest priority. All components are designed, manufactured and assembled in our facility using state of the art equipment.

100% of our the components that make up Turning AUTO REST® are subject to detailed inspection before assembly. All critical sizes and features are measured and confirmed against engineering drawings and customer specifications. Performance is also tested and certified to ensure each steady rest meets our exacting standards before it reaches your machine.



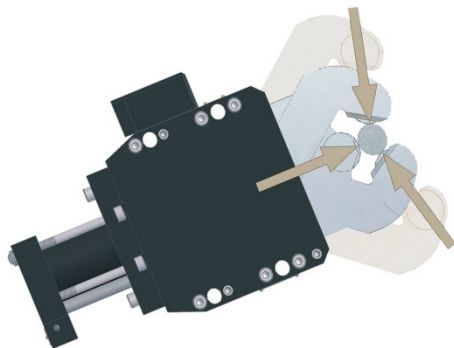
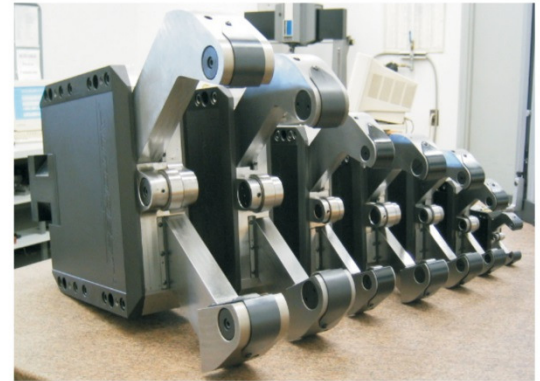
Turning AUTO REST[®]

Turning AUTO REST[®] three-roller contact and patented sliding wedge design assures prolonged operational accuracy and repeatability. This simplified design eliminates cams, bearings, gears, springs and pivot pins.

The roller/cam operating mechanism common to other steady rests is replaced by the sliding wedge. Machining forces are distributed over large hardened and ground surfaces instead of merely a line contact. As a result, wear is minimized, maintaining original accuracies and extending service life.

After initial set up Turning AUTO REST[®] automatically and accurately positions each subsequent part. Adjustment and set up time for individual parts is virtually eliminated. Part quality and machine productivity are significantly improved. Higher operating speeds and heavier cuts are possible resulting in reduced production cycle time.

There are a number of standard Turning AUTO REST[®] models available to choose from. Each model has a large clamping range to handle a wide range of parts. If one of our standard models doesn't offer the solution you need we offer many custom models or can have our full time engineering staff design a Turning AUTO REST[®] to fit your specific needs.

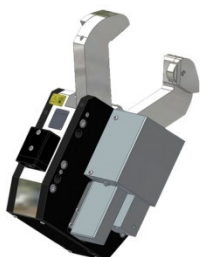


Part centering

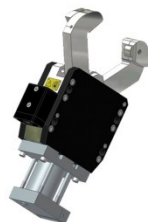
The Turning AUTO REST begins its cycle in the open position. This provides clearance for part loading. Arobotech's patented sliding wedge design converts straight-line cylinder stroke into a clamping motion. The result is the three rollers closing on the part with equal speed, pressure and travel. This true-centering feature allows all diameters within any given model's clamping range to be accurately centered.

Cylinder options

Turning AUTO RESTs can have the cylinder mounted on the back to keep the body narrow or on the side to reduce overall length

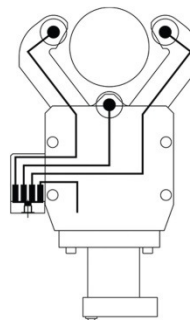


Side mount cylinder

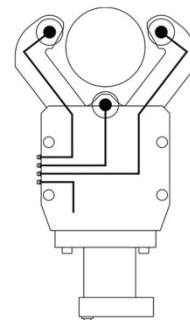


Rear mount cylinder

Central oil lube



Manual grease lube



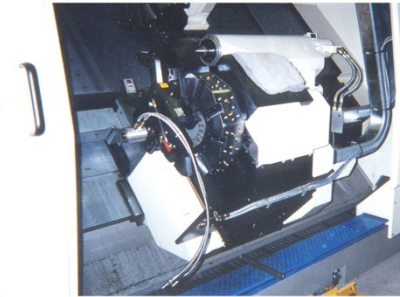
Lube options

Turning AUTO RESTs are available with central oil or manual grease lubrication. Central oil lubrication features internal dosage cartridges that measure and distribute the oil. Central oil lubrication is intended for use with an automatic oil lubrication system.

Rugged construction, reliability, and long service life make Turning AUTO REST® the ideal support system for a variety of applications

Turret mount

Turning AUTO REST® when used with a rotating coupling provide a turret mounted steady rest that still allows the turret to rotate.



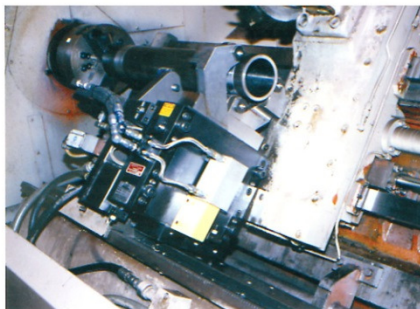
Custom designs

We offer many custom designs to fit manufacturing processes in need of support. Below is a custom crankshaft Turning AUTO REST® (shown on a master bar).



End work and I.D. turning

Integrated check valve provides a margin of safety when doing end work or I.D. turning. A loss of hydraulic power will not cause the unit to open.



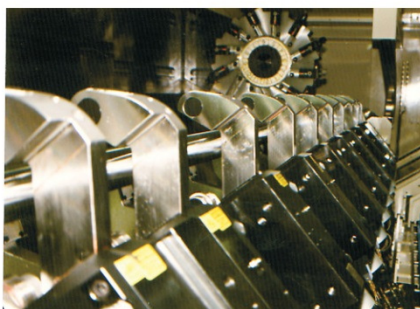
Custom mounting

In cases where traditional Turning AUTO REST® mounting interferes with part loading or machine guards, our engineers can design unique mounting solutions.



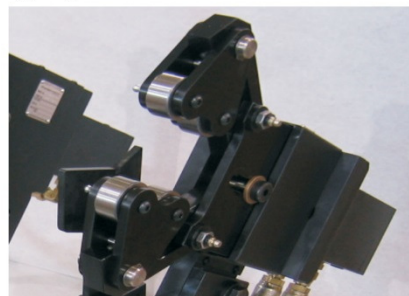
Multiple steady rests

The use of multiple Turning AUTO REST®s provides maximum support for long parts to optimize cycle time and part quality.



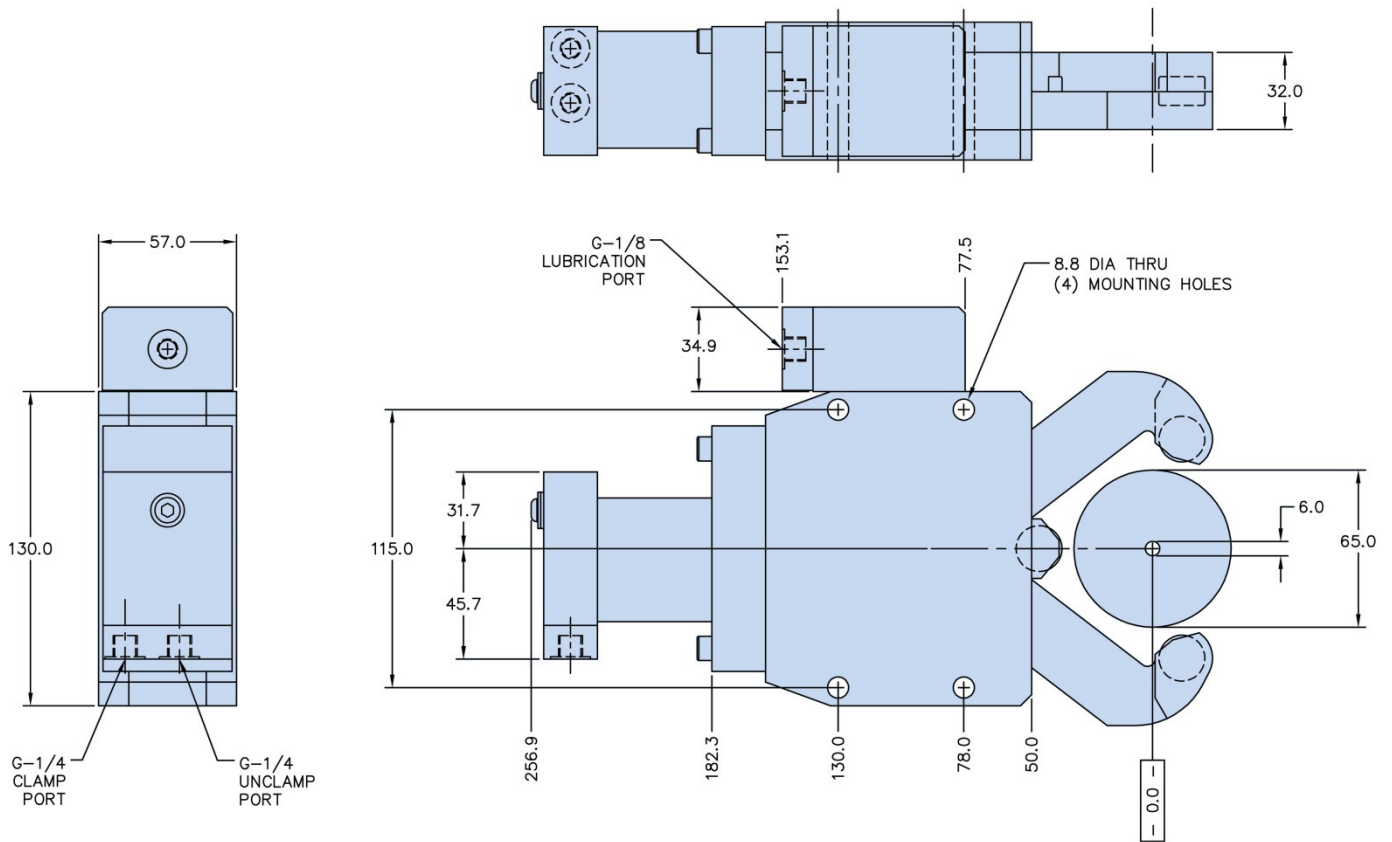
Part dampener

Parts with excessive runout can not be supported with a rigid steady rest. Our part dampener helps control vibration while not fighting the runout.

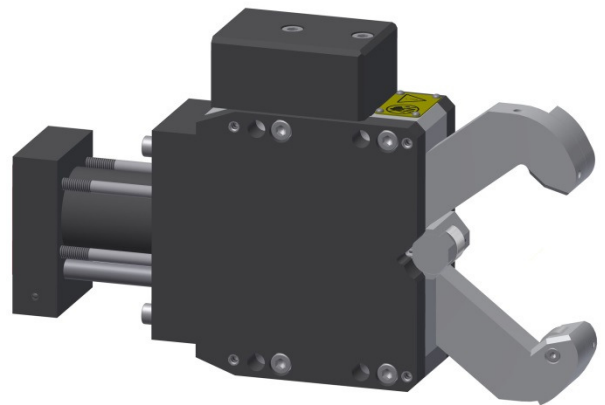


A-065

Turning AUTO REST®

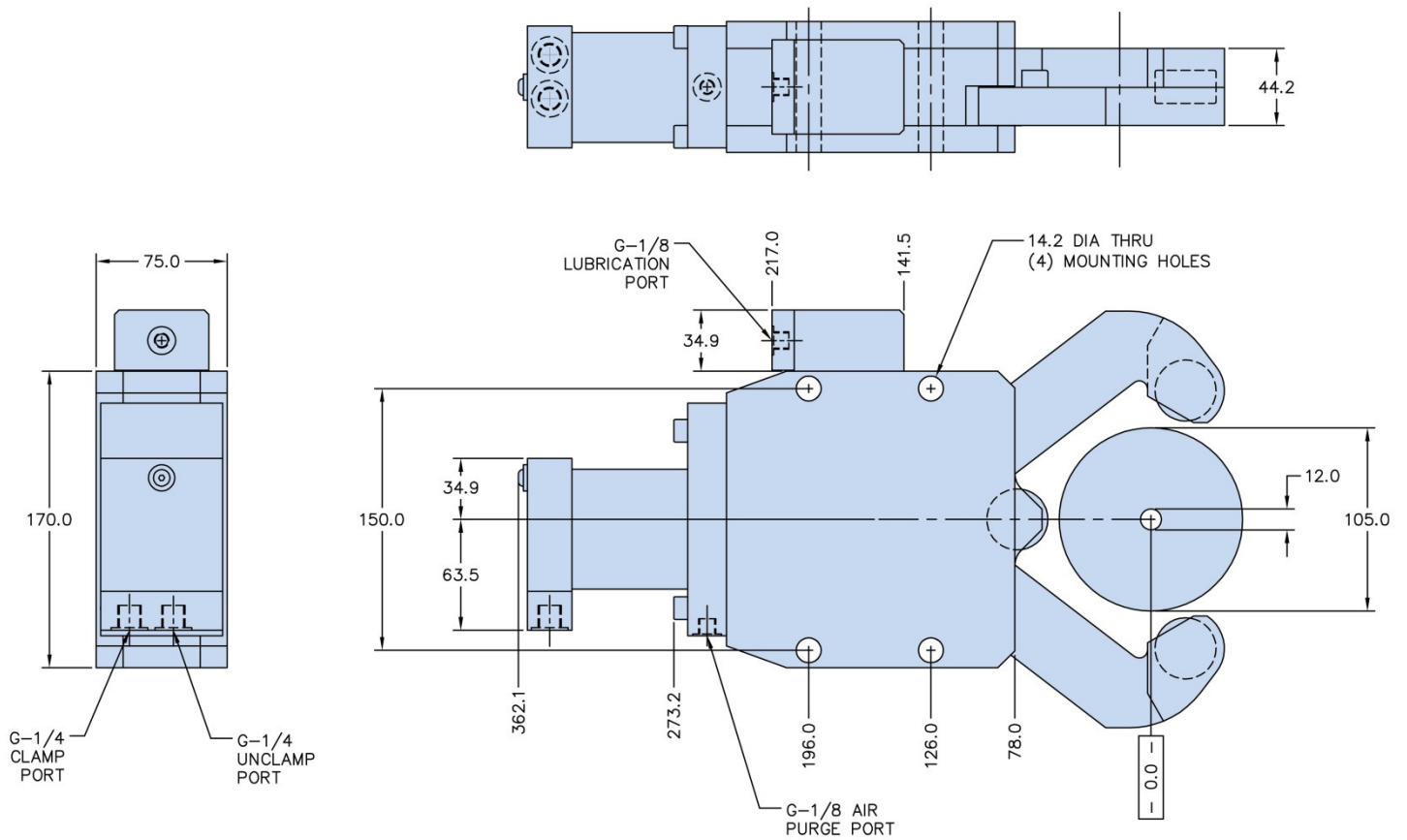


Maximum Clamp Size	mm	65
Minimum Clamp Size	mm	6
Max Workpiece Speed	Meters per Min	535
Max Lifting Capacity	kg	38
Piston Area	cm ²	9.7
Cylinder Stroke	mm	35
Operating Pressure	bar	7 - 28
Maximum Pressure	bar	28
Air Purge Pressure	bar	N/A
Lubrication Frequency		Working Cycle (or every 6 minutes)
Repeatability	mm	±0.005
Centering Accuracy	mm	±0.020
Mass	Kg	8.6

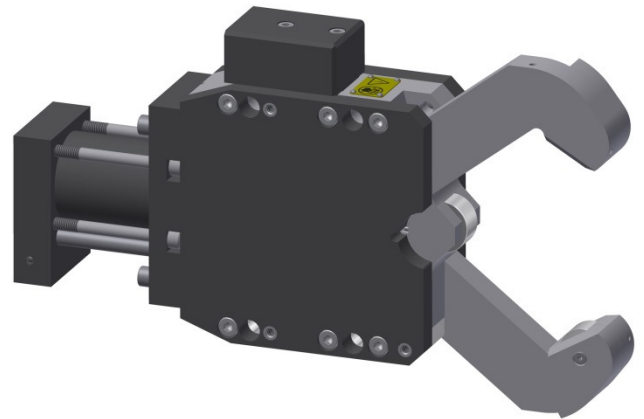


Included Features:
 * Hydraulic Operation
 * Integrated Pilot Operated Safety Check Valve
 * Oil Lubrication

Options:
 * Manual Grease Lubrication



Maximum Clamp Size	mm	105
Minimum Clamp Size	mm	12
Max Workpiece Speed	Meters per Min	640
Max Lifting Capacity	kg	190
Piston Area	cm ²	20.3
Cylinder Stroke	mm	54
Operating Pressure	bar	7 - 40
Maximum Pressure	bar	40
Air Purge Pressure	bar	0.3 - 0.5
Lubrication Frequency		Working Cycle (or every 6 minutes)
Repeatability	mm	±0.005
Centering Accuracy	mm	±0.020
Mass	Kg	20.4



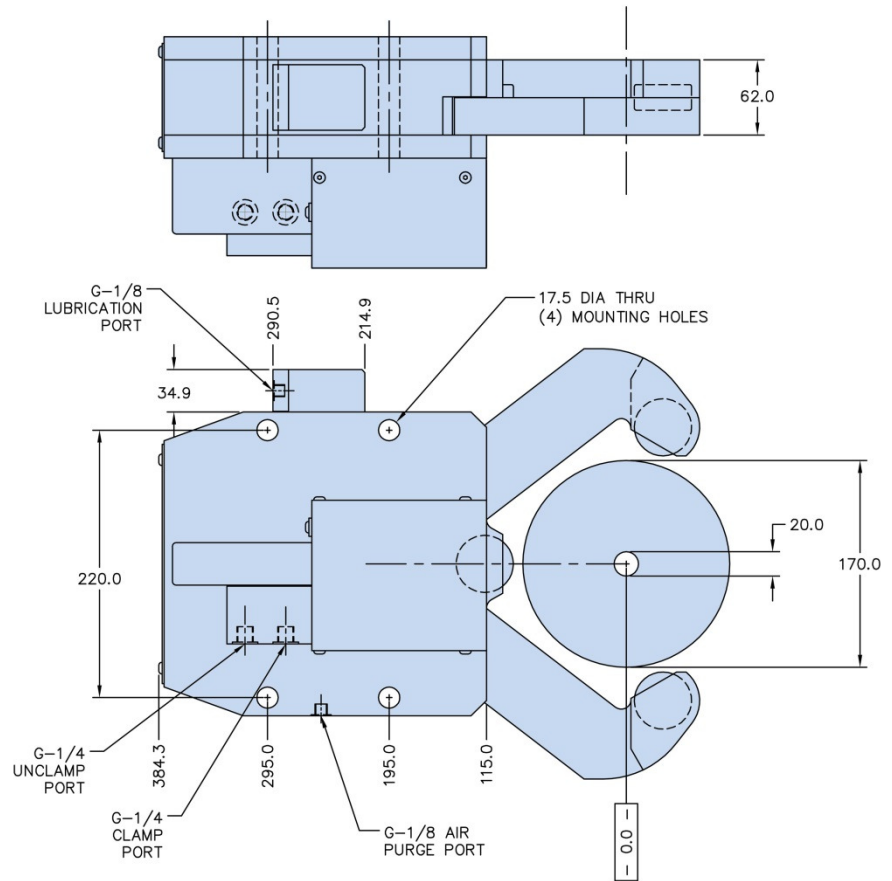
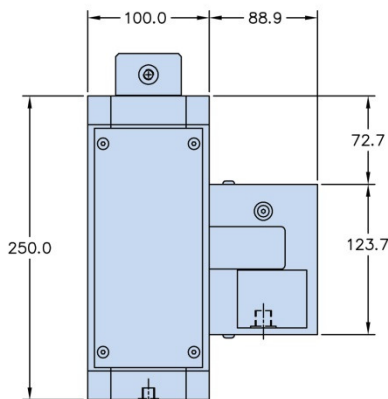
- Included Features:
- * Hydraulic Operation
 - * Integrated Pilot Operated Safety Check Valve
 - * Oil Lubrication
 - * Air Purge

- Options:
- * Manual Grease Lubrication

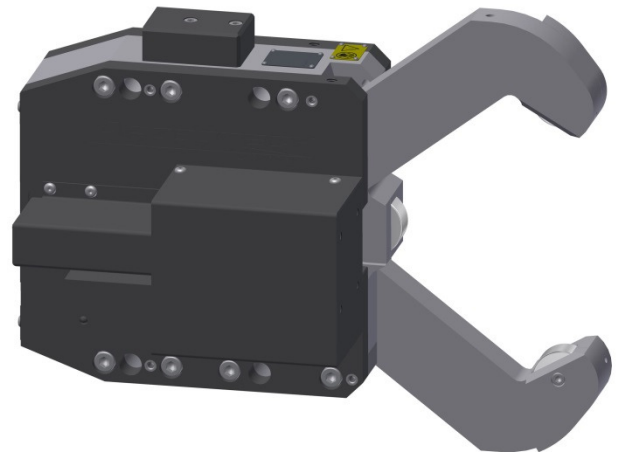
A-170

Turning AUTO REST®

**** Model A-170 can be ordered with LH or RH Side Mount Cylinder**



Maximum Clamp Size	mm	170
Minimum Clamp Size	mm	20
Max Workpiece Speed	Meters per Min	730
Max Lifting Capacity	kg	250
Piston Area	cm ²	26.5
Cylinder Stroke	mm	84
Operating Pressure	bar	7 - 40
Maximum Pressure	bar	40
Air Purge Pressure	bar	0.3 - 0.5
Lubrication Frequency		Working Cycle (or every 6 minutes)
Repeatability	mm	±0.007
Centering Accuracy	mm	±0.040
Mass	Kg	60



Included Features:

- * Hydraulic Operation
- * Integrated Pilot Operated Safety Check Valve
- * Side Mount Cylinder
- * Oil Lubrication
- * Air Purge

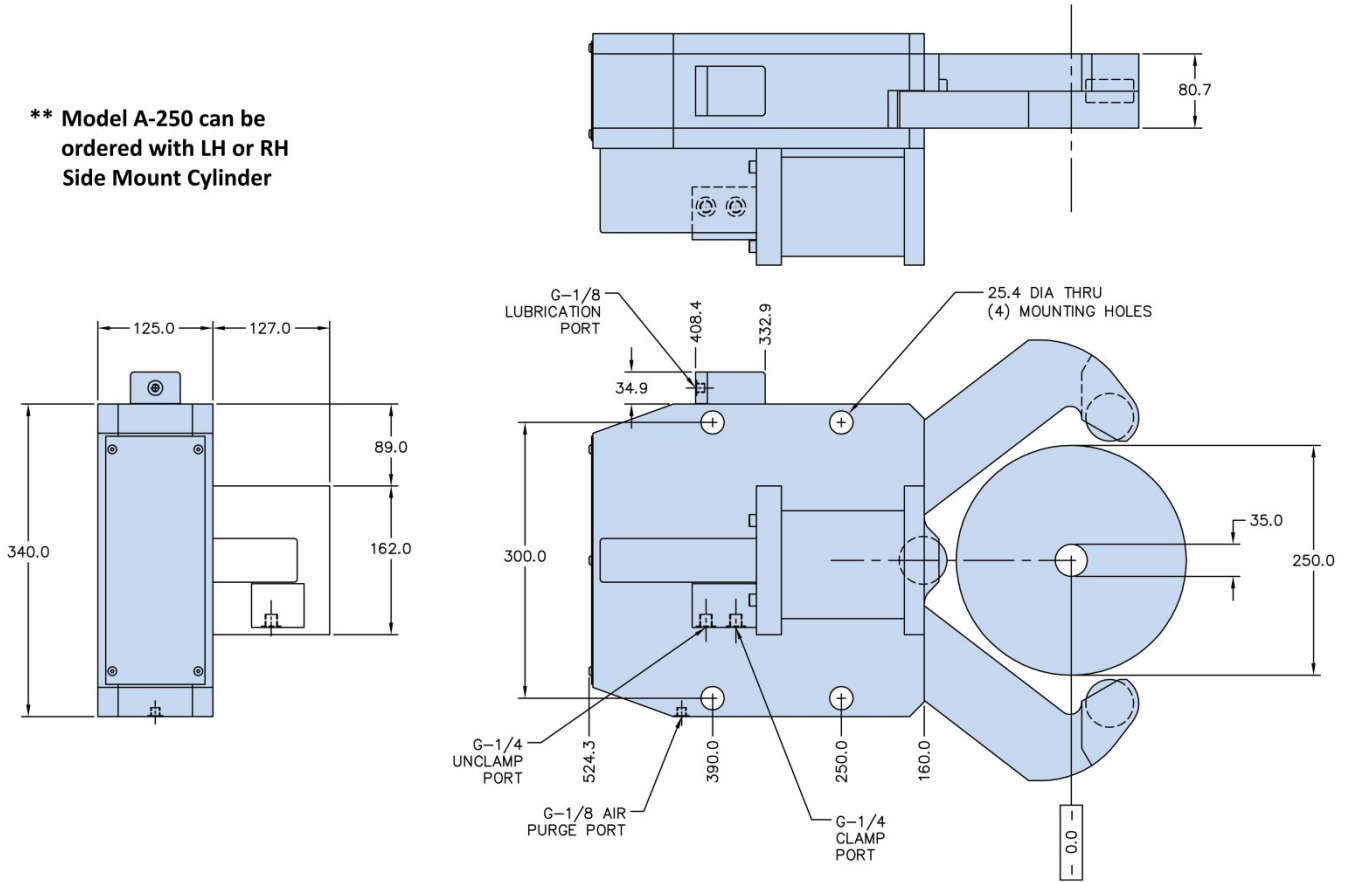
Options:

- * Manual Grease Lubrication
- * Rear Mount Cylinder

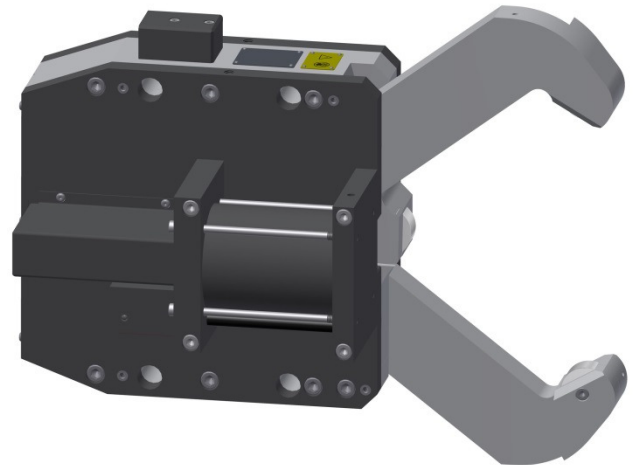
Turning AUTO REST®

A-250

**** Model A-250 can be ordered with LH or RH Side Mount Cylinder**



Maximum Clamp Size	mm	250
Minimum Clamp Size	mm	35
Max Workpiece Speed	Meters per Min	615
Max Lifting Capacity	kg	650
Piston Area	cm ²	69.7
Cylinder Stroke	mm	119
Operating Pressure	bar	10 - 40
Maximum Pressure	bar	40
Air Purge Pressure	bar	0.3 – 0.5
Lubrication Frequency		Working Cycle (or every 6 minutes)
Repeatability	mm	±0.007
Centering Accuracy	mm	±0.050
Mass	Kg	132



Included Features:

- * Hydraulic Operation
- * Integrated Pilot Operated Safety Check Valve
- * Side Mount Cylinder
- * Oil Lubrication
- * Air Purge

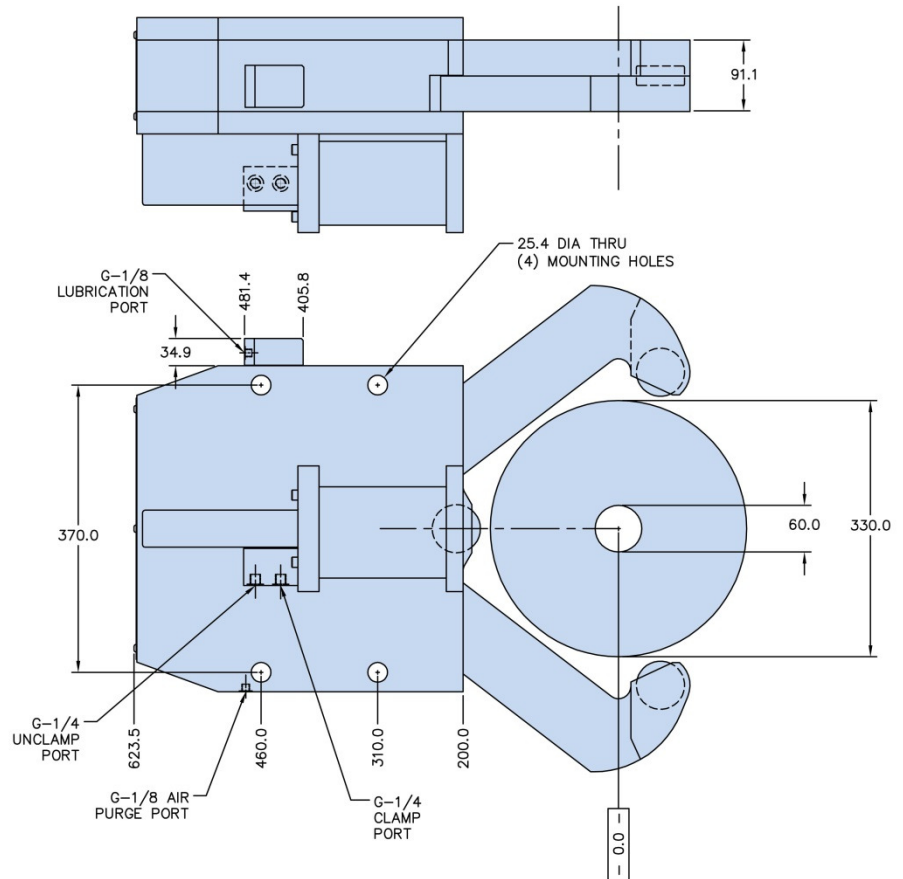
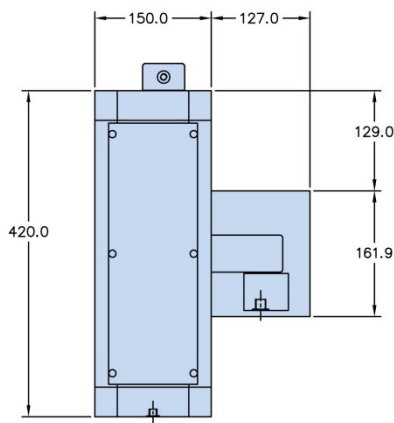
Options:

- * Manual Grease Lubrication
- * Rear Mount Cylinder

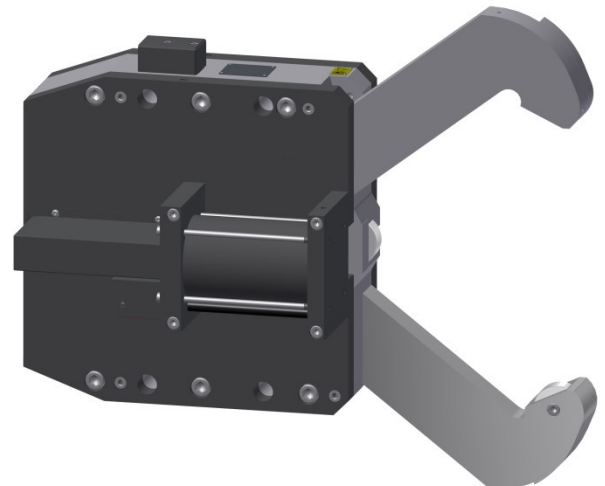
A-330

Turning AUTO REST®

**** Model A-330 can be ordered with LH or RH Side Mount Cylinder**



Maximum Clamp Size	mm	330
Minimum Clamp Size	mm	60
Max Workpiece Speed	Meters per Min	595
Max Lifting Capacity	kg	650
Piston Area	cm ²	69.7
Cylinder Stroke	mm	149
Operating Pressure	bar	10 - 40
Maximum Pressure	bar	40
Air Purge Pressure	bar	0.3 – 0.5
Lubrication Frequency		Working Cycle (or every 6 minutes)
Repeatability	mm	±0.010
Centering Accuracy	mm	±0.060
Mass	Kg	214



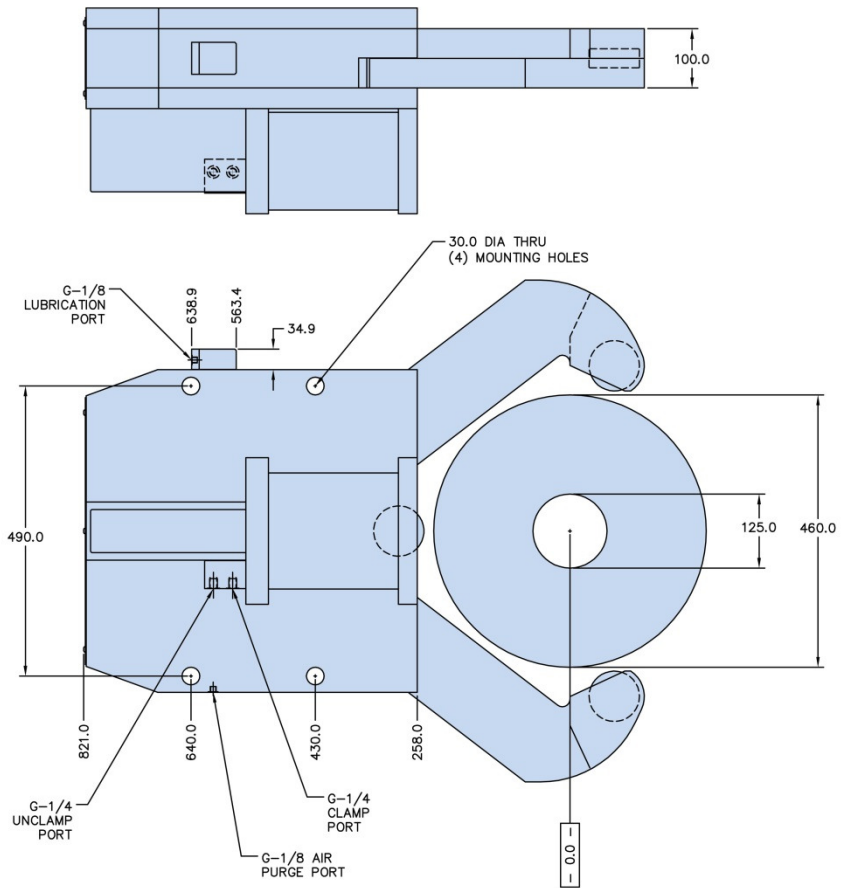
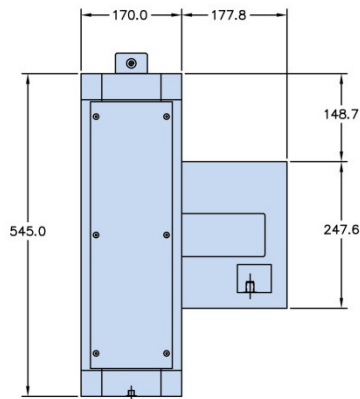
- Included Features:**
- * Hydraulic Operation
 - * Integrated Pilot Operated Safety Check Valve
 - * Side Mount Cylinder
 - * Oil Lubrication
 - * Air Purge

- Options:**
- * Manual Grease Lubrication
 - * Rear Mount Cylinder

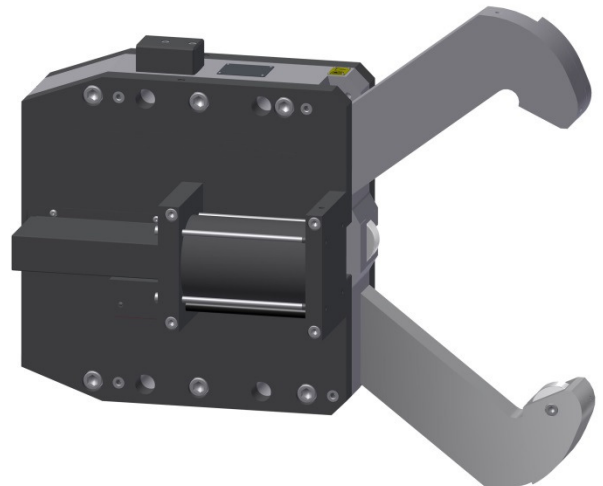
Turning AUTO REST®

A-460

**** Model A-460 can be ordered with LH or RH Side Mount Cylinder**



Maximum Clamp Size	mm	460
Minimum Clamp Size	mm	125
Max Workpiece Speed	Meters per Min	335
Max Lifting Capacity	kg	1,180
Piston Area	cm ²	150
Cylinder Stroke	mm	187
Operating Pressure	bar	10 - 35
Maximum Pressure	bar	35
Air Purge Pressure	bar	0.3 - 0.5
Lubrication Frequency		Working Cycle (or every 6 minutes)
Repeatability	mm	±0.010
Centering Accuracy	mm	±0.060
Mass	Kg	476

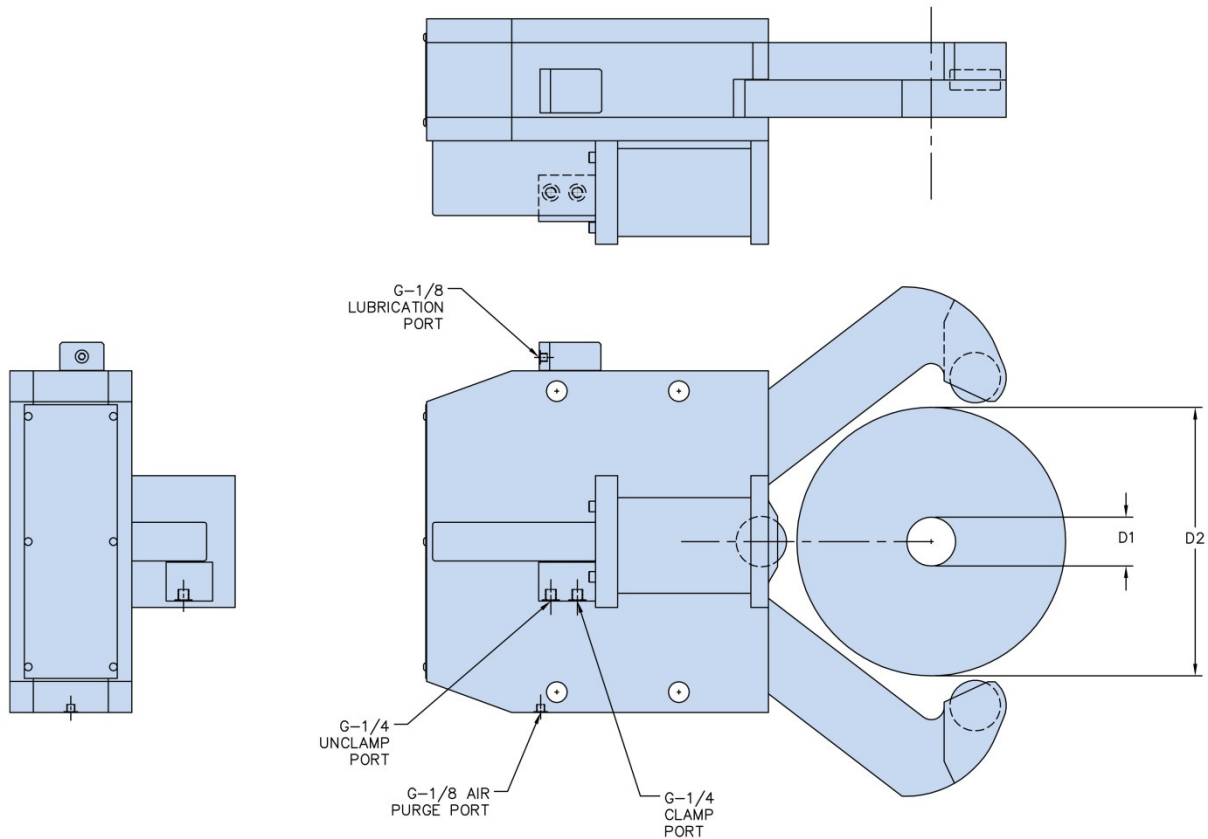


- Included Features:
- * Hydraulic Operation
 - * Integrated Pilot Operated Safety Check Valve
 - * Side Mount Cylinder
 - * Oil Lubrication
 - * Air Purge

- Options:
- * Manual Grease Lubrication
 - * Rear Mount Cylinder

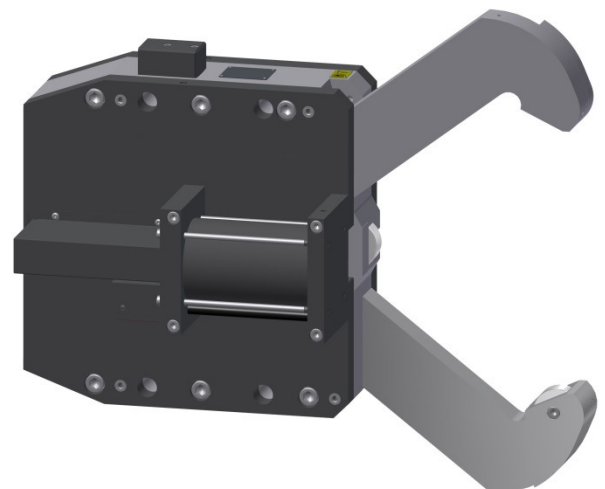
Special Models

Turning AUTO REST®



Arobotech offers options if you don't see a suitable Turning AUTO REST® among our standard models. We have a large library of special designs and engineers available to investigate new solutions to meet your exact needs.

Contact sales@arobotech.com for more information



Standard Features:

- * Hydraulic Operation
- * Integrated Pilot Operated Safety Check Valve
- * Side Mount Cylinder
- * Oil Lubrication
- * Air Purge

Options:

- * Manual Grease Lubrication
- * Rear Mount Cylinder

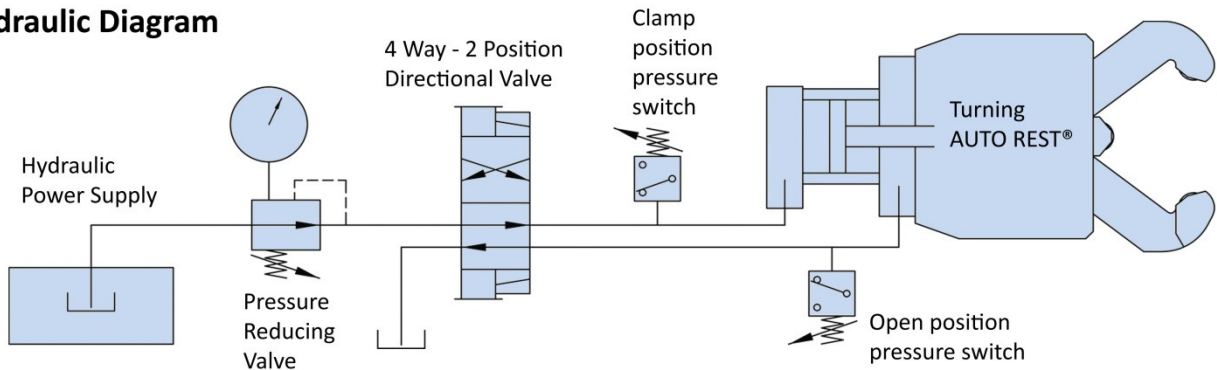


Warning! Turning AUTO REST®s are hydraulically operated. Care must be taken at all times to avoid injury or damage to equipment



Under no circumstances will this document take precedent over the machine builder operating and safety guidelines

Hydraulic Diagram



Machine Preparation

Hydraulic

Turning AUTO REST® uses a single hydraulic cylinder to extend and clamp on the part. The same cylinder is then used to open and retract the arms. The basic hydraulic recommendation:

- Recommended Hydraulic Power Supply = 3GPM (11 LPM) @ 500 psi (34 bar) minimum. See operator's manual for specific model recommended operating pressure.
- 4 way – 2 position solenoid valve with a pressure reducing valve for each Grinding AUTO REST®.
- 6mm (.25") minimum hydraulic line size.

Electrical

Machine control interface

Interface to machine control must be supplied by the machine builder. Arobotech Systems does not supply a machine control interface.

Position sensors

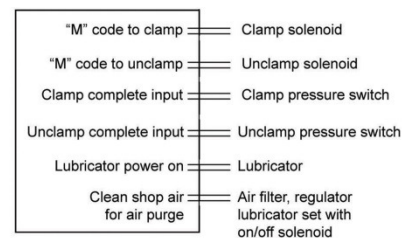
Arobotech recommends using pressure switches on the cylinder ports for position feedback.

Machine door

Prepare the machine so that the Grinding AUTO REST® can be operated in manual mode with the door open. Always follow valid safety regulations.

Machine control

The machine controller must be capable of clamping and unclamping the Turning AUTO REST and receiving feedback confirming clamped and unclamped position. It is strongly recommended that the machine controller also power on / off the lubricator and air purge.



Lubrication

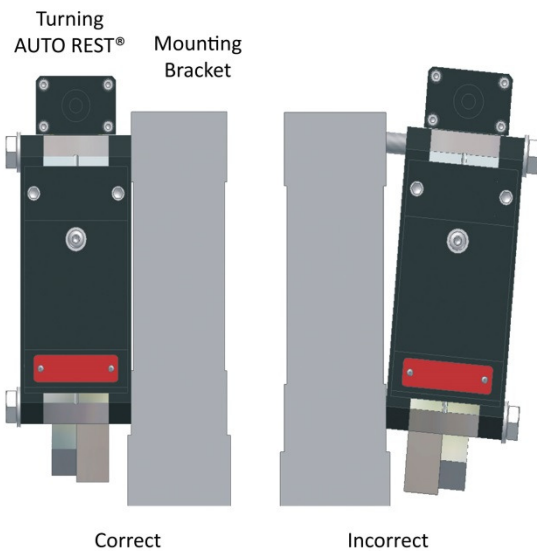
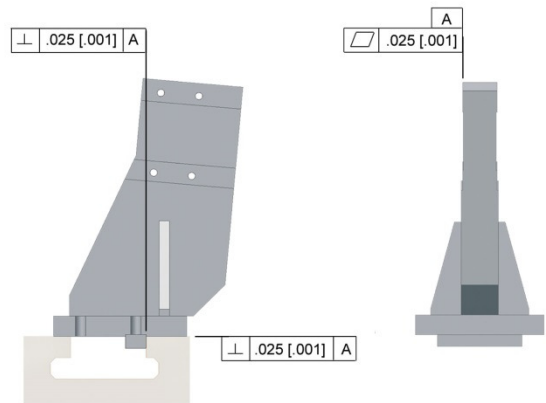
Lubrication requirement of Turning AUTO REST® varies significantly depending on the application. Contact Arobotech for details.

Mounting Bracket Squareness

Arobotech recommends customers supplying their own mounting brackets follow these specifications:

Mounting bracket must be flat and square as shown. It is very important that mounting surfaces be free of any burrs or raised surfaces. The Turning AUTO REST mounting surface must be finished to 32 RMS maximum.

The Turning AUTO REST mounting surface should be used as the datum with the machine table mount and heel surfaces square within .025mm [.001"] as shown



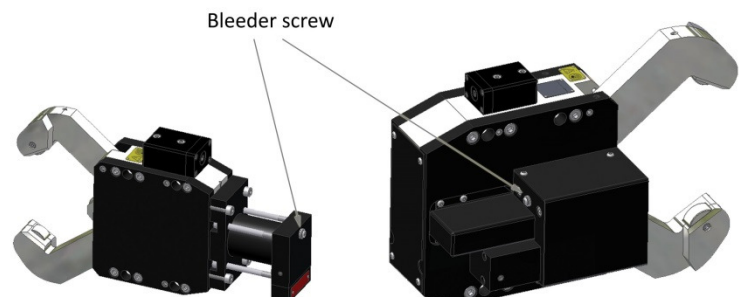
Turning AUTO REST® Mounting

Mount bracket to machine table as shown on assembly and installation drawings. Carefully clean and deburr bracket and Turning AUTO REST mounting surfaces.

Tighten mounting and back off just enough to allow free movement of the Turning AUTO REST by hand. If alignment screws are used be sure they do not restrict movement of the Turning AUTO REST. Do not allow Turning AUTO REST to separate from mounting bracket (see illustration)

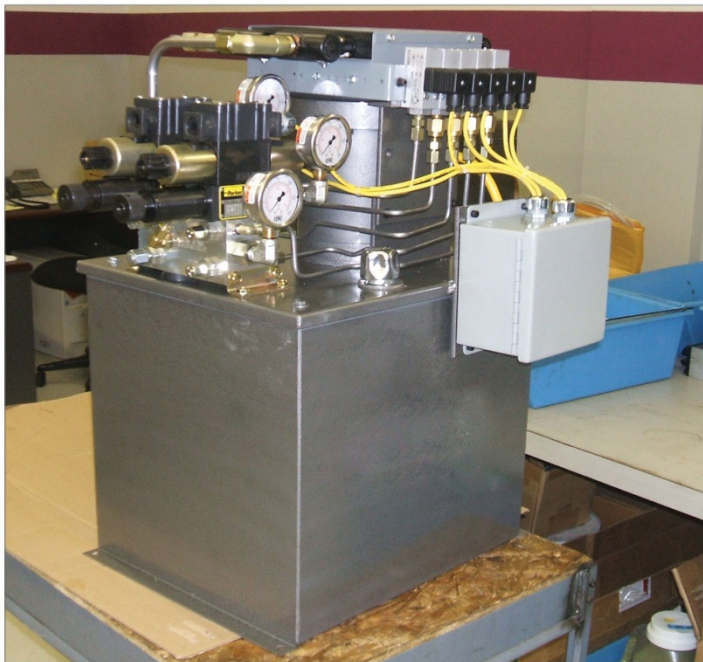
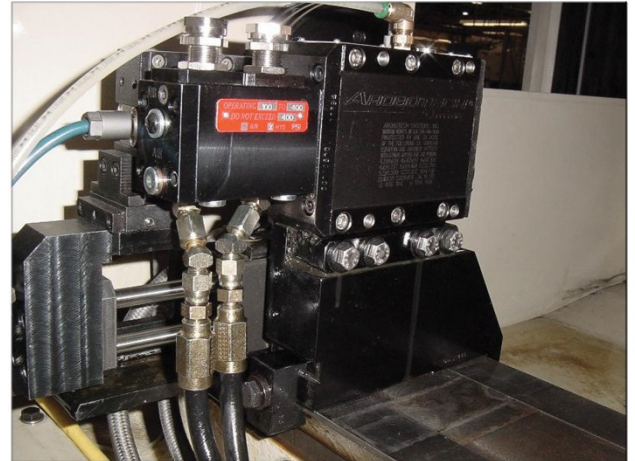
Bleed air from the hydraulics

Turning AUTO REST cylinders have a bleeder screw to facilitate removing air from the hydraulic system. The illustrations below show the common locations of the bleeder screw. Due to the small displacement of most Turning AUTO REST cylinders it may be necessary to bleed the cylinder several times before all the air is removed.



Arobotech offers a full compliment of accessories for use with our Turning AUTO REST® products

- Mounting Bracket
- Hydraulic Power Supply
- Lubricator
- Valve Package
- Pre-Position Vee Cradles
- Specialty Tooling

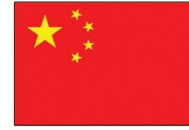




Arobotech Systems, Inc.
World Headquarters
1524 E. Avis Drive
Madison Heights, MI 48071 USA
+001 (248) 588-9080
+001 (248) 588-9370 (fax)
Sales@arobotech.com
Service@arobotech.com



GSN Schleiftechnik GmbH
Im Moosfeld 5
73495 Stöttlen
Germany
+49 (0)7964 – 33111 790
Info@arobotech.de



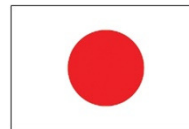
AMT Shanghai Technology
and Service Center (AMT STC)
No.8 Building, No.81 MeiYue Road
China (Shanghai) Pilot F.T.Z.
Shanghai, 200131, P.R. China
+86 21 5868 2809 - 109
+86 21 5868 2803 (fax)
Info@arobotech.cn



P R Sales Corporation Pvt. Ltd.
Flat 3, Kedar Apartments
Plot 48, Mayur Colony, Kothrud
Pune, Maharashtra 411038
India
Tel. +91-20-25437591
Fax +91-20-25445255
info@prsales.in



Seong Eun Tech.
294-1, Sangbuk-ro,
Sangbuk-myeon, Ulju-gun,
Ulsan 689-821 Korea
+82 052 256 5758
+82 052 256 5760 (fax)
Info@arobotech.co.kr



Mitsubishi Corporation Technos
Dai Nagoya Building, 3-28-12,
Meieki Nakamura-ku
Nagoya City, Aichi Prefecture
450-6418 Japan
+81-52-565-2641
+81-52-565-1989 (fax)
e100_arobotech@mmts.co.jp

WORLD LEADER IN STEADY REST TECHNOLOGY

www.arobotech.com