

TOOL GRINDING



WORLD LEADER IN STEADY REST TECHNOLOGY

www.arobotech.com



About us

Arobotech Systems is the world leader in providing steady rests for use on grinding machines. Grinding AUTO REST[®] is recognized as the industry standard.

Sales and service are provided from our World Headquarters in Madison Heights, Michigan with additional sales and/or service locations in Germany, Japan, China, India and Korea.



How it works

Accuracy

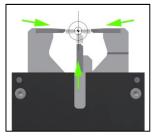
Arobotech Systems offers the original sliding wedge design with unsurpassed clamping accuracy. Each Grinding AUTO REST[®] must repeat within .001mm during testing to pass our rigorous certification criteria.

Self-Centering

The straight-line motion produced by the sliding wedge design gives Grinding AUTO REST[®] its unique self-centering capability. This feature automatically centers any size within each model's clamping range.

Follow Down Operation

Models with this feature allow the Grinding AUTO REST[®] to support the part at the point of grind. The dynamic self-centering ability compensates for the changing part size to keep the workpiece on center throughout the grind cycle.





Benefits of use

Quality improvements

- Improve drill point accuracy
- Improve flute depth and position
- Improve consistency

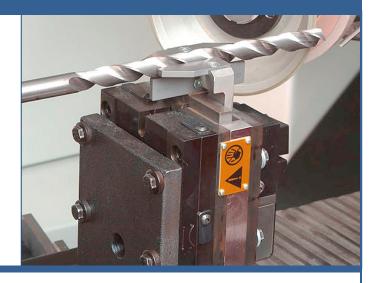
Other benefits

- Reduce scrap by reliably holding the workpiece accurately in place every time
- Improve cycle time with more aggressive grinding
- Accurately support workpiece without using a tailstock
- Models available for most machines
- Quick change-over



Content

Product Overview	Page 3
Tool Grinding Models	Page 4 - 17
AUTO POINT	Page 18 - 19
Machine Prep	Page 20
Mounting Bracket	Page 21
Accessories	Page 22
Service	Page 23
Repair	Page 24



Tooling

Each Grinding AUTO REST[®] must be fitted with wear pads suitable to the tools being ground. Data sheets show sizes available for each model.

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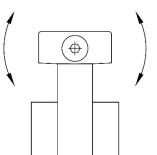




Wear Pad Selection

Recommended

pad width is 3 to 4.5 flutes Wear pads can be aligned to match cylindricity or back taper



Never allow pads to span straight and back tapered sections at the same time. This will result in damage to the workpiece, tooling and the Grinding AUTO REST®



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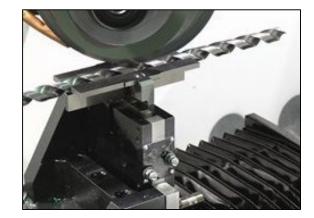


Product Overview – Tool Grinding Models

Grinding AUTO REST[®] is an automatic, self-centering, three-point steady rest used to support and stabilize tools during manufacturing. Low profile over-center wear pads hold the part securely while providing wheel clearance for flute grinding. Automatic arm retraction draws the arms into the body when opened for easy part loading.

Tool grinding models are offered with a variety of features to ease installation / alignment and improve performance. Available Features include:

- * .001mm Repeatability
- * Arm Retraction for Part Loading
- * 2-Axis Centerline Adjustment
- * Position Feedback Sensors
- * Clamp Size Down to 1mm
- * Side Mount Cylinder
- * Hydraulic Operation
- * Pneumatic Operation



Many models are for specific machine manufacturers. Contact sales@arobotech.com for assistance identifying the correct model.

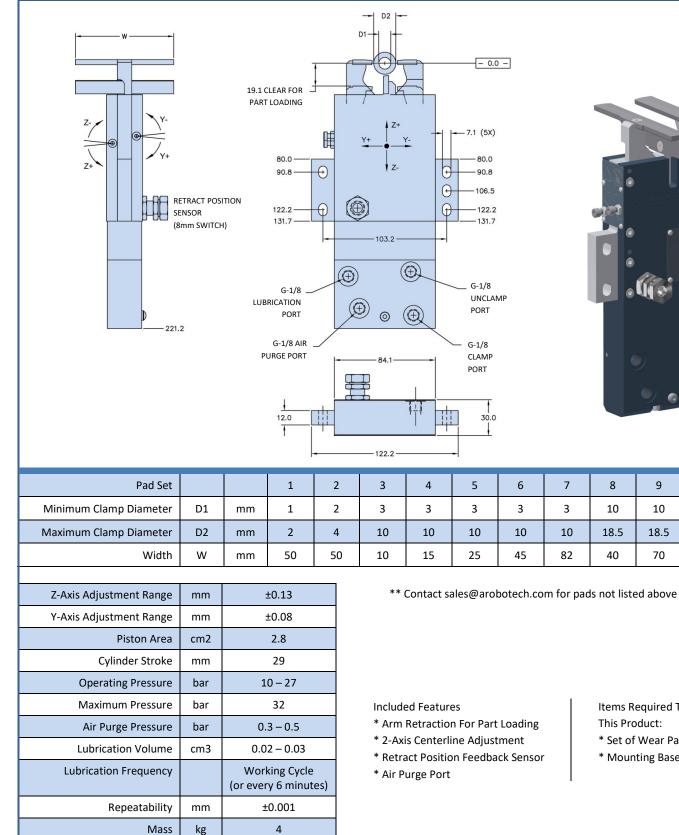
We also offer free technical support for all products. Contact sales@arobotech.com for free assistance with:

- * Model Selection
- * Modifications
- * 3D Models
- * Accessories

- * Machine integration
- * Special models
- * Mounting Bases
- ----
- * Spare Parts

GC32907A

Grinding AUTO REST®



Items Required To Use This Product:

- * Set of Wear Pads
- * Mounting Base

8

10

18.5

40

9

10

18.5

70

10

10

18.5

108

11

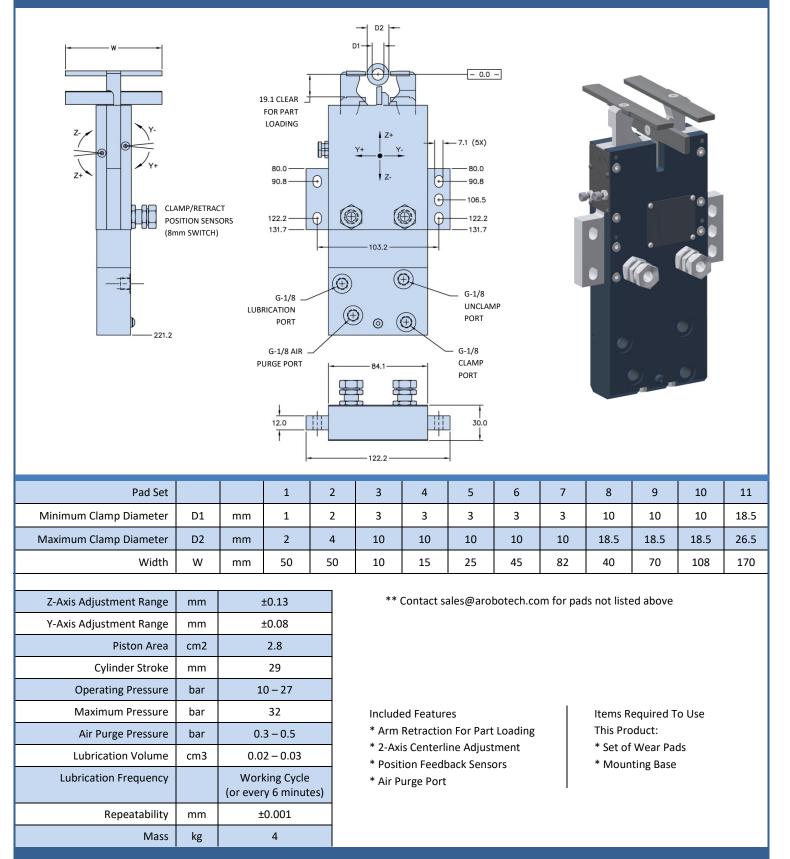
18.5

26.5

170

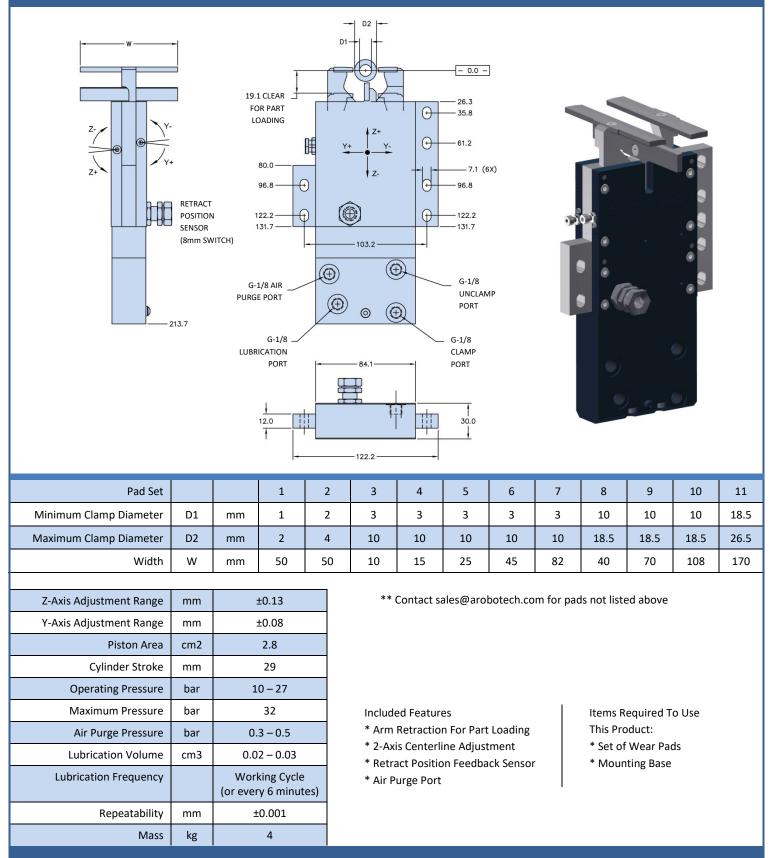
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GC32907C

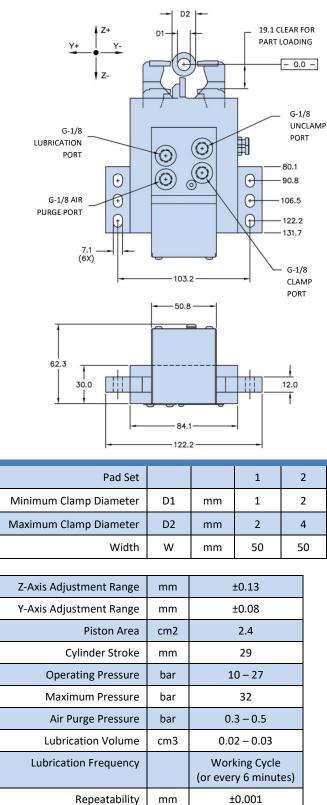


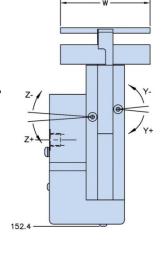
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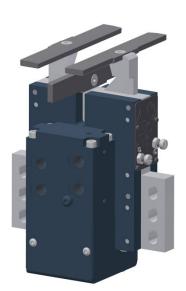
Grinding AUTO REST®



GC021042A







Pad Set			1	2	3	4	5	6	7	8	9	10	11
Minimum Clamp Diameter	D1	mm	1	2	3	3	3	3	3	10	10	10	18.5
Maximum Clamp Diameter	D2	mm	2	4	10	10	10	10	10	18.5	18.5	18.5	26.5
Width	W	mm	50	50	10	15	25	45	82	40	70	108	170

** Contact sales@arobotech.com for pads not listed above

Included Features

- * Arm Retraction For Part Loading
- * 2-Axis Centerline Adjustment
- * Air Purge Port
- * Side Mount Cylinder

Items Required To Use This Product:

- * Set of Wear Pads
- * Mounting Base

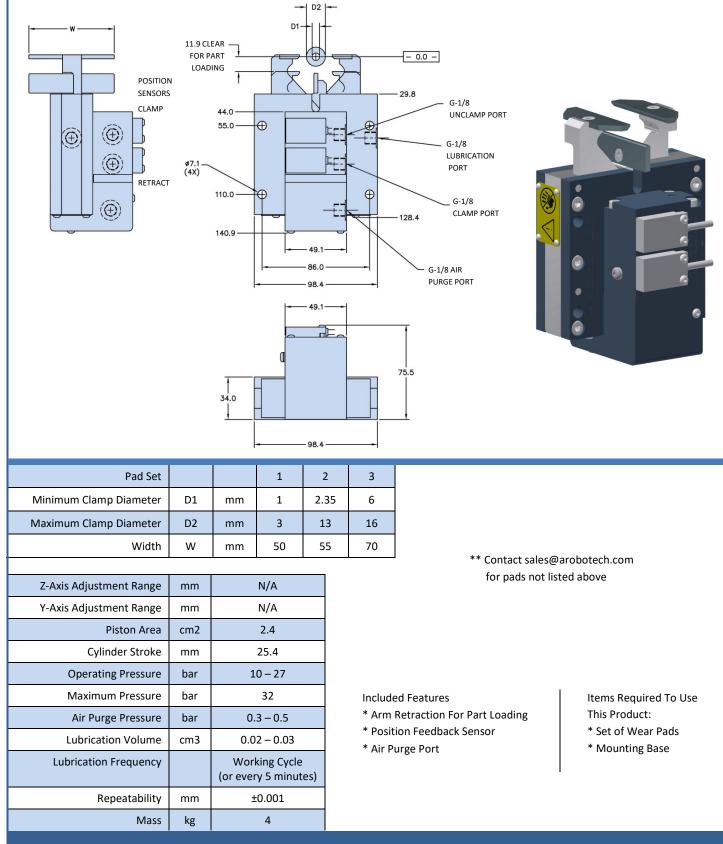
4

Mass

kg

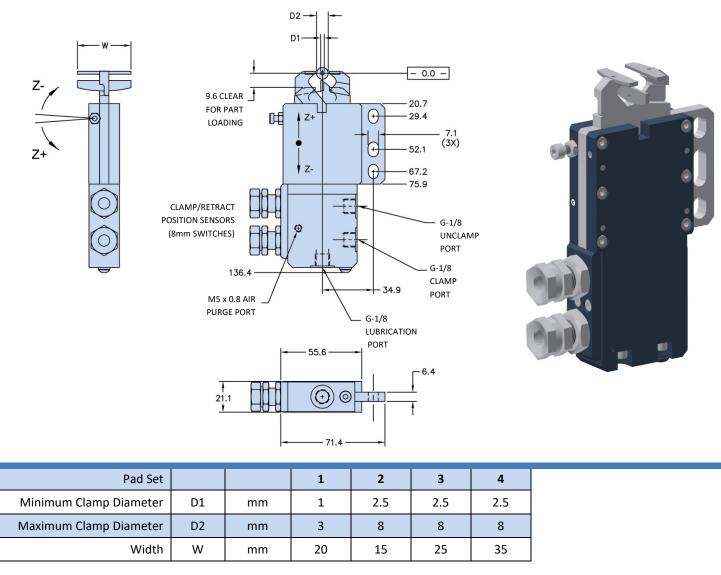
GC32790A

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GR-081



Z-Axis Adjustment Range	mm	±0.06
Y-Axis Adjustment Range	mm	N/A
Piston Area	cm2	1.9
Cylinder Stroke	mm	15
Operating Pressure	bar	10 – 27
Maximum Pressure	bar	32
Air Purge Pressure	bar	0.3 – 0.5
Lubrication Volume	cm3	0.02 - 0.03
Lubrication Frequency		Working Cycle (or every 6 minutes)
Repeatability	mm	±0.001
Mass	kg	1

** Contact sales@arobotech.com	n for pads not listed above
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Included Features

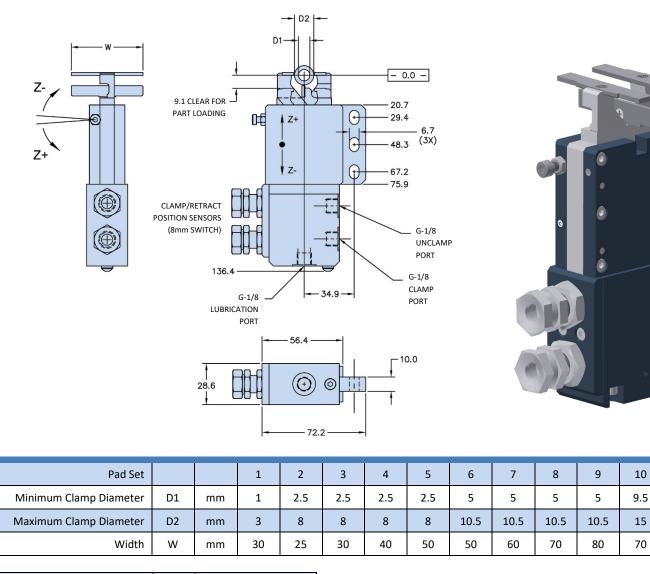
- * Arm Retraction For Part Loading
- * Single Axis Centerline Adjustment
- * Position Feedback Sensors
- * Air Purge Port

Items Required To Use This Product: * Set of Wear Pads

* Mounting Base

GC28601A

Grinding AUTO REST®



Z-Axis Adjustment Range	mm	±0.056
Y-Axis Adjustment Range	mm	N/A
Piston Area	cm2	2.8
Cylinder Stroke	mm	15
Operating Pressure	bar	10-27
Maximum Pressure	bar	32
Air Purge Pressure	bar	N/A
Lubrication Volume	cm3	0.02 - 0.03
Lubrication Frequency		Working Cycle (or every 6 minutes)
Repeatability	mm	±0.001
Mass	kg	1.5

Included Features

- * Arm Retraction For Part Loading
- * Z-Axis Centerline Adjustment
- * Position Feedback Sensors

Items Required To Use This Product:

11

10.5

16

80

12

10.5

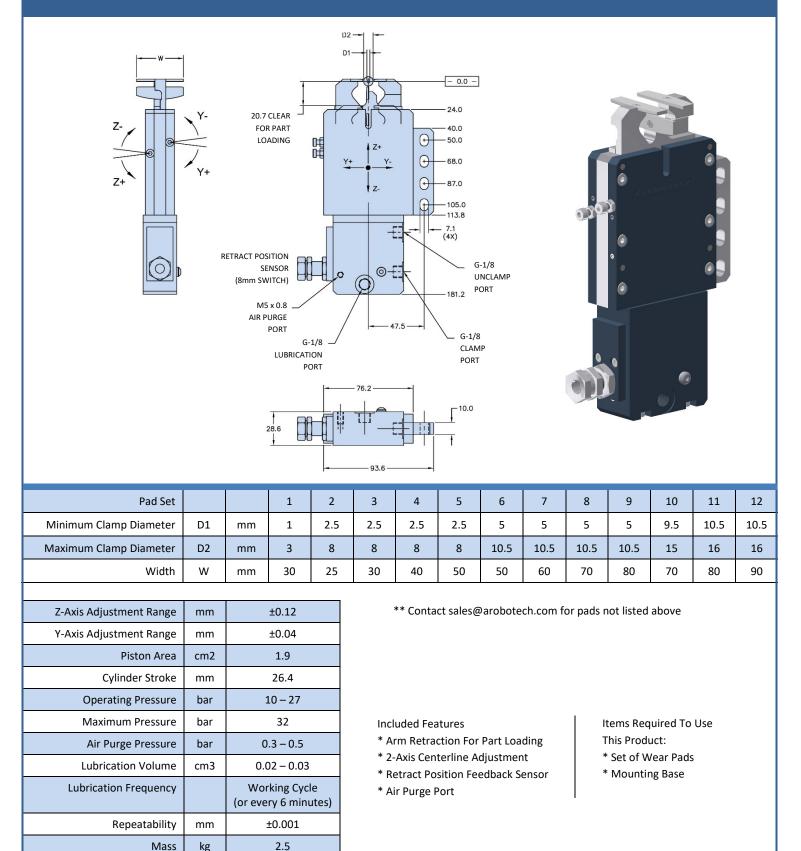
16

90

- * Set of Wear Pads
- * Mounting Base

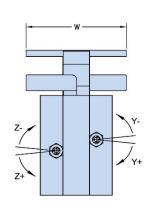
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Grinding AUTO REST®



GC19722A

Grinding AUTO REST®



Z-Axis Adjustment Range

Y-Axis Adjustment Range

Piston Area

Cylinder Stroke

Operating Pressure

Maximum Pressure

Air Purge Pressure

Lubrication Volume

Repeatability

Mass

Lubrication Frequency

mm

mm

cm2

mm

bar

bar

bar

cm3

mm

kg

±0.13

±0.08

N/A

N/A

N/A

N/A

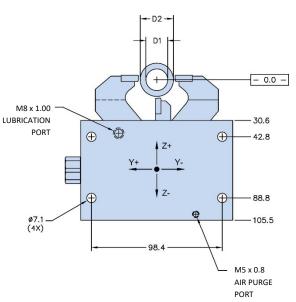
0.3 – 0.5

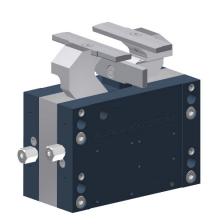
0.02 - 0.03

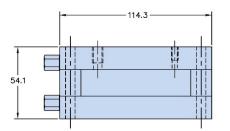
Working Cycle (or every 6 minutes)

±0.001

4.6







Pad Set			1	2	3	4	5	6	7	8	9	10	11
Minimum Clamp Diameter	D1	mm	1	2	3	3	3	3	3	10	10	10	18.5
Maximum Clamp Diameter	D2	mm	2	4	10	10	10	10	10	18.5	18.5	18.5	26.5
Width	W	mm	50	50	10	15	25	45	82	40	70	108	170

Included Features

- * 2-Axis Centerline Adjustment
- * Air Purge Port

Items Required To Use This Product:

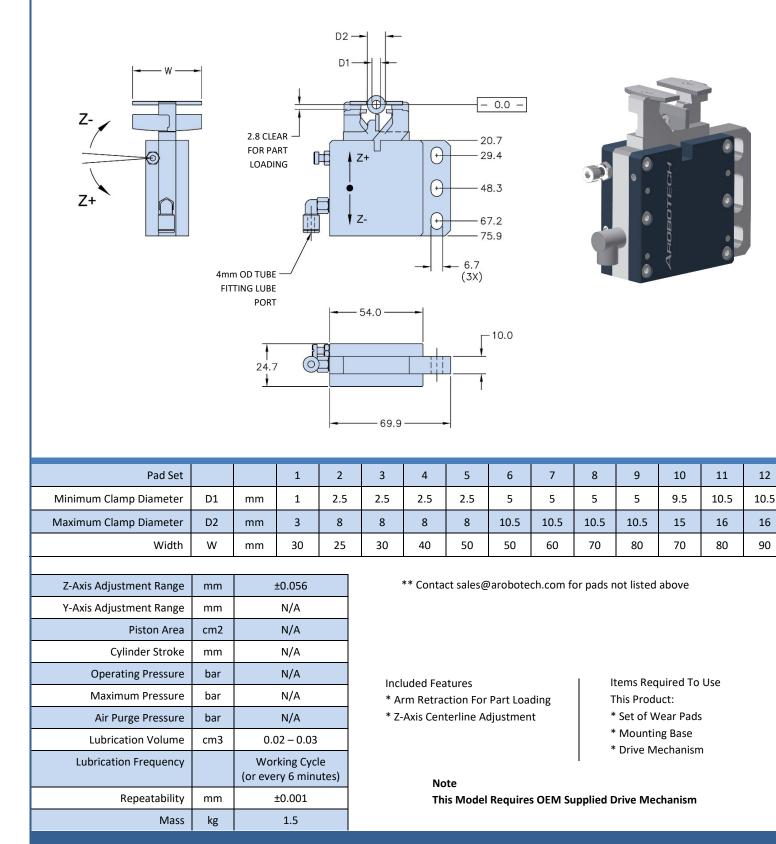
- * Set of Wear Pads
- * Mounting Base
- * Drive Mechanism

Note

This Model Requires OEM Supplied Drive Mechanism

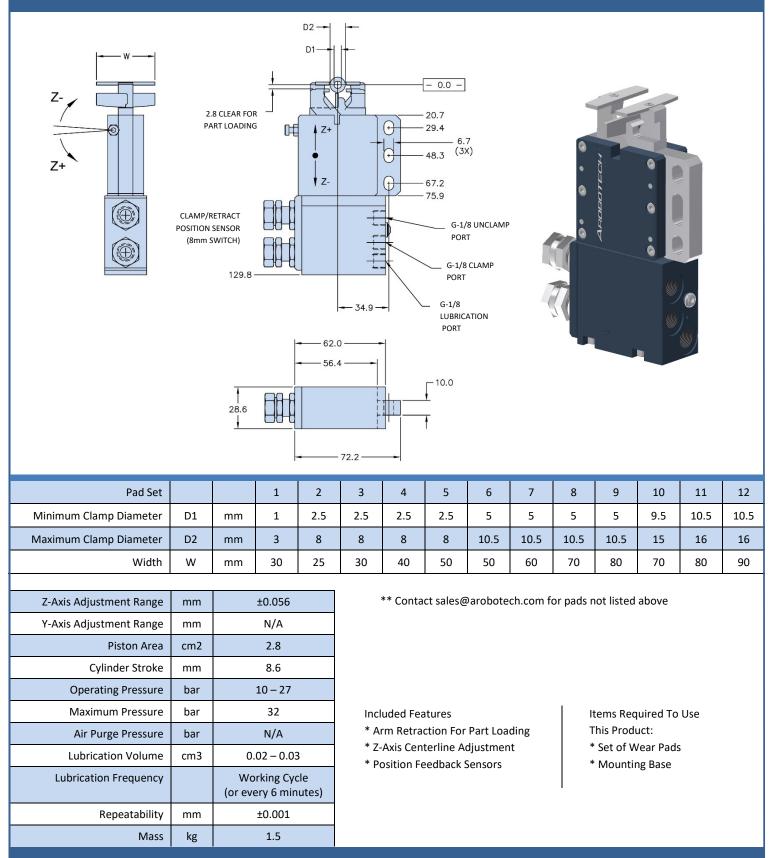
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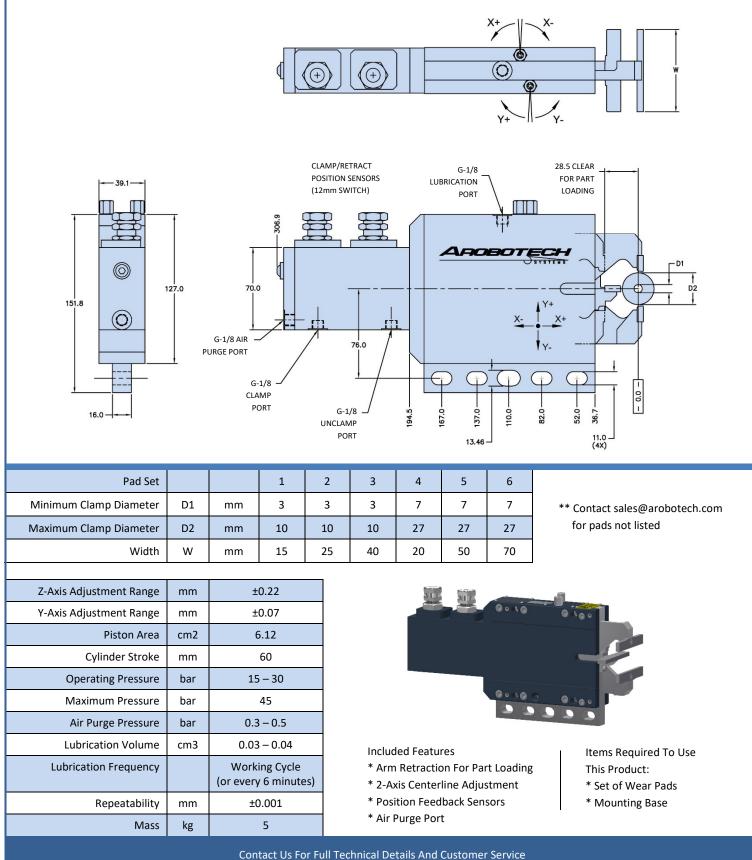


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Grinding AUTO REST®



| GC292222Y-MOD



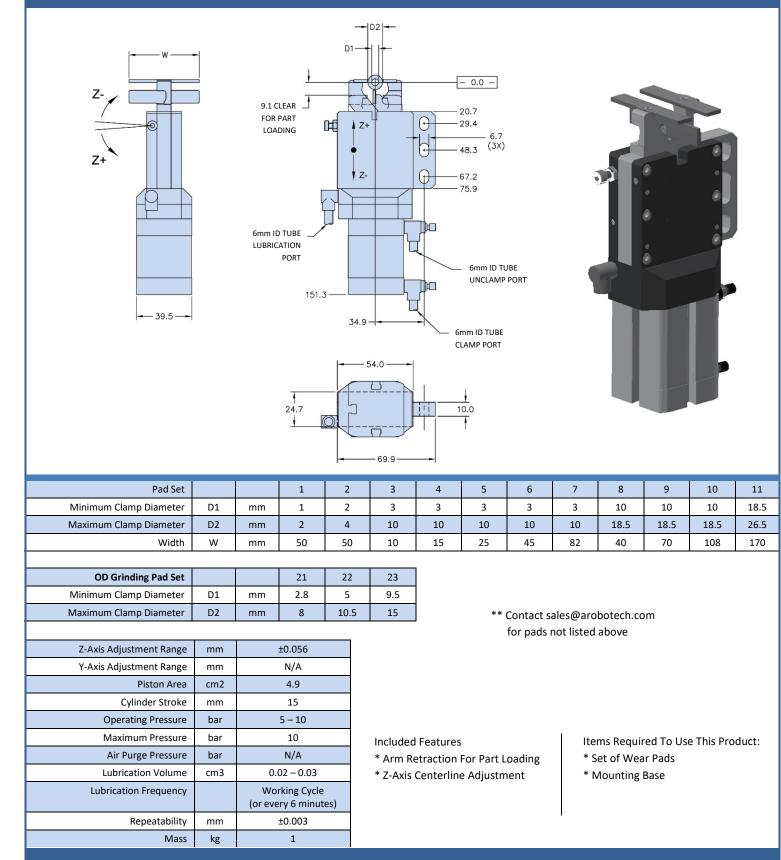
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GC03972A

Grinding AUTO REST®

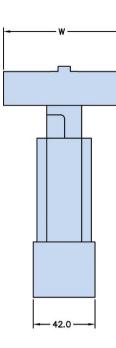
G-1/8 LUBRICATION PORT CLAMPED / RETRACTED POSITION FEEDBACK - MAGNETIC PISTON SENSORS 7.1 (6X) 7.1 (6X)	PART LOADING 6-1/8 UURCLAMPE / RETRACTED PORT												
Tool Grinding Pad Set	<u> </u>		1	2	3	4	5	6	7	8	9	10	11
Minimum Clamp Diameter Maximum Clamp Diameter	D1 D2	mm mm	1	2	3 10	3 10	3 10	3 10	3 10	10 18.5	10 18.5	10 18.5	18.5 26.5
Width	W	mm	50	50	10	15	25	45	82	40	70	10.5	170
			I					I					
OD Grinding Pad Set			21	22	23	24							
Minimum Clamp Diameter	D1	mm	2	3	10	18.5							
Maximum Clamp Diameter	D2	mm	4	10	18.5	26.5				es@arobo		า	
Z-Axis Adjustment Range	mm		±0.13					fo	r pads no	t listed at	oove		
Y-Axis Adjustment Range	mm		±0.08										
Piston Area	cm2		2.8										
Cylinder Stroke	mm		29										
Operating Pressure	bar		10 – 27										
Maximum Pressure	bar		32		Includ	led Featu	res		I	Items	Required	To Use	
Air Purge Pressure	bar	().3 – 0.5					rt Loading			roduct:		
Lubrication Volume	cm3	0.	02 – 0.03			kis Center		-			of Wear P	ads	
Lubrication Frequency			rking Cycle				-	ack Senso	or	* Mou	inting Bas	e	
Doposts billite .	m		ery 6 minut ±0.003	es)	* Air F	Purge Por	t						
Repeatability Mass	mm kg		±0.003 4										
Wiass	<u>~5</u>				chnical Da			• • •					

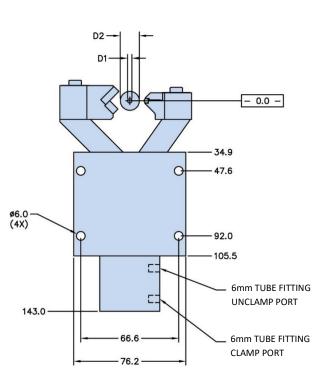
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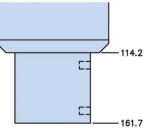
DP-090

AUTO POINT™









MAGNETIC PISTON FOR POSITION FEEDBACK SENSORS

Pad Set			1	2	3	4
Minimum Clamp Diameter	D1	mm	3	3	3	3
Maximum Clamp Diameter	D2	mm	13	13	13	13
Width	W	mm	25	33	63.5	82.6

Z-Axis Adjustment Range	mm	N/A
Y-Axis Adjustment Range	mm	N/A
Piston Area	cm2	4.8
Cylinder Stroke	mm	12.7
Operating Pressure (Air)	bar	4 - 8
Maximum Pressure (Air)	bar	8
Air Purge Pressure	bar	N/A
Lubrication Volume	cm3	N/A
Lubrication Frequency		N/A
Repeatability	mm	±0.003
Mass	kg	2

** Contact sales@arobotech.com for pads not listed above

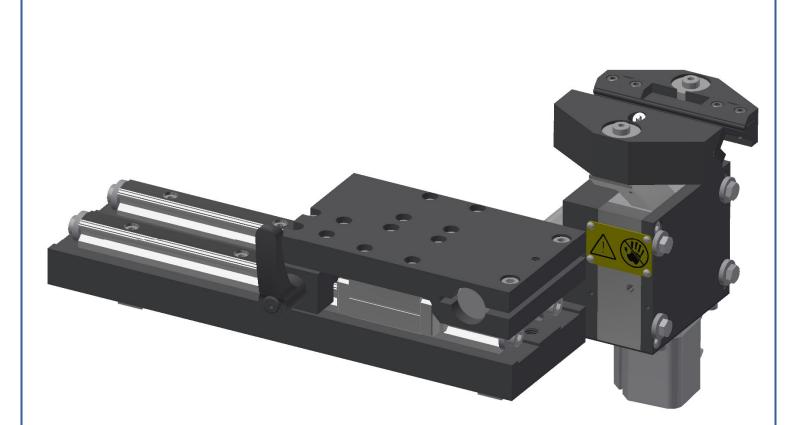
Included Features:

- * Automatic Centering
- * Pivoting Tooling for Back Taper Alignment
- * Renewable Wear Pads for Long Service Life
- * Lubricated With Ambient Oil
- (no separate lubrication required)
- * Air Operated

Note

This product typically used with Arobotech Quick-Change base for fastest change-over time. Contact us with machine information for details.

AUTO POINT[™] | DP-090 Mounting



Model DP-090 is offered with a Quick-Change mounting base for fast change-over

Our Quick-Change mounting base features 2 linear guideways aligned to wheelhead axial movement. This allows lateral re-positioning of the DP-090 without re-alignment. The manual locking handle allows DP-090 to be firmly locked in place after each move.

The Quick-Change mounting base can be adapted to most machine tables. Contact sales@arobotech.com with your machine details for more information.

Machine Prep

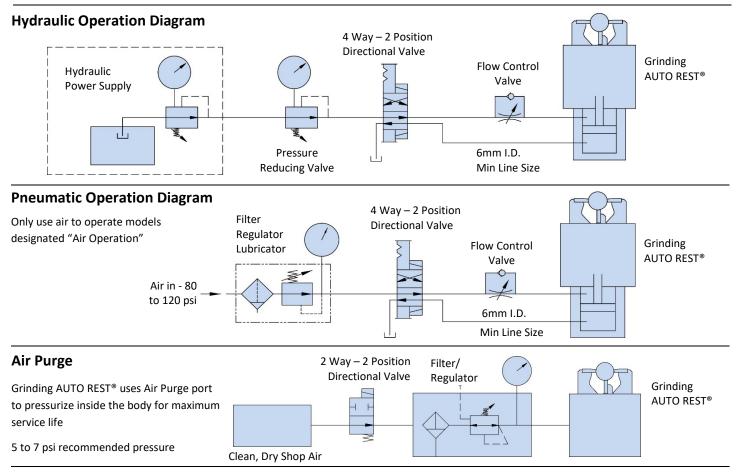
Grinding AUTO REST®



Warning! Grinding 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 Operation

- Recommended Hydraulic Power Supply = 3GPM (11 LPM) @ 500 psi (34 bar) minimum. See operator's manual for specific model recommended operating pressure. Hydraulic pump must maintain pressure to the rest when clamped and unclamped
- 4 way 2 position solenoid valve with a pressure reducing valve.
- Flow control valve 1 second minimum recommended clamping time.
- 6mm (.25") minimum hydraulic line size.

Air Operation

- Recommended Air Pressure = 6 to 8.3 Bar (90 to 120 psi). Pressure should be isolated and remain constant to avoid changes in clamping pressure.
- 4 way 2 position solenoid valve with a pressure reducing valve.
- Flow control valve 1 second minimum recommended clamping time.
- 6mm (.25") minimum hydraulic line size.

Electrical

- Interface to machine control is the customer's responsibility. Arobotech does not supply a machine control interfaces
- Position sensors are available for most models see engineering files for specific sensor type and size
- Machine door should be prepared so that the steady rest can be operated in manual model with the door open. Always follow valid safety regulations.

Lubrication

Machine must be capable of delivering lubrication oil to each Grinding AUTO REST[®] every 6 minutes or each working cycle (whichever is more frequent. See engineering files for specific model volume recommendations.

Mounting

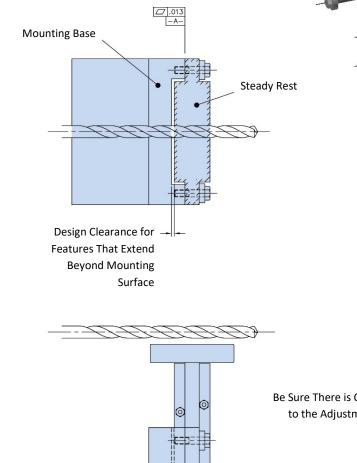
Take care to keep mounting surfaces flat and square as shown for best performance

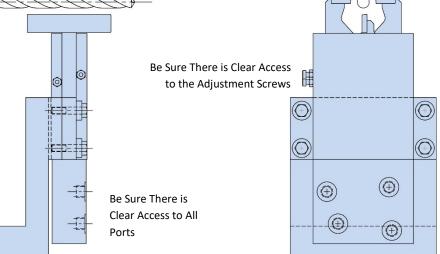
See data sheet or engineering files for mounting dimensions of each model

____.025 A

Machine Table or Carriage

1





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ACCESSORIES

Grinding AUTO REST®

Arobotech offers a full complement of accessories for use with our Grinding AUTO REST[®] products

- Mounting Bracket
- Hydraulic Power Supply
- Lubricator
- Valve Package
- Pre-Position Vee Cradles
- Master Set Up Bar
- Alignment Gage
- Specialty Tooling











SERVICE

Our commitment

Arobotech Systems is a full service company. Our relationship with the customer does not end at the point of sale and delivery. When you purchase an Arobotech product you gain not only a superior workholding device, but also many years of experience with workholding solutions.

Arobotech offers full support of all of our products for their entire service life.



Available Services

Installation

Arobotech has experienced personnel to assist with Grinding AUTO REST® and accessories

Training

Our staff offers experienced on-site training for your engineering and production staff

Troubleshooting

We bring many years of experience to troubleshooting your Grinding AUTO REST[®] and grinding process. Contact service@arobotech.com for support. On site troubleshooting is available.

Repair and Reconditioning

service@arobotech.com

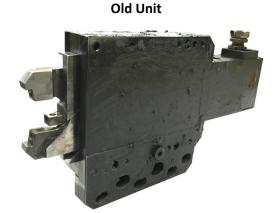
Contact Us For Full Technical Details And Customer Service sales@arobotech.com www.arobotech.com

REPAIR

Grinding AUTO REST®

Repair and Reconditioning Service

Arobotech offers complete repair and reconditioning service. Damaged or worn units can be returned for a free-of-charge performance / condition evaluation



Repaired / Reconditioned Unit



Return for Evaluation

All Returns Require an RMA Number

Contact us at to request an RMA number www.arobotech.com/service/ +001 248-588-9080 service@arobotech.com

Authorized products may be returned to Arobotech for a performance / condition evaluation at no charge with the following conditions:

- Include RMA number on outside of the shipping container and all shipping documents
- Label "Return for Evaluation"
- Include a description of the symptom or failure that prompted the return (as described on the RMA)
- Include contact information (as listed on the RMA)
- Packaging should be sufficient to prevent damage during transit
- Customer is responsible for all shipping charges

Ship subject unit(s) to:	Shipments from outside the United	Shipping terms must be DDP
Arobotech Systems	states also must have noted on all	
1524 E. Avis Drive	paperwork: "These goods were	Contact us with any questions:
Madison Heights, MI 48071	manufactured in the United States	+001 248-588-9080
USA	and are being returned for repair"	sales@arobotech.com

Notify us at sales@arobotech.com when shipment is made so we can track and prepare our evaluation team

Evaluation Report

Our team will perform a full evaluation and issue a report (including cost to repair / recondition). Please allow 2 weeks for the evaluation report after receipt at our facility.

Once the evaluation report is complete, we require one of the following actions within the 90 day evaluation period:

- Purchase order to begin repairs
- Return unit as is with no repair
- Scrap at our facility (written direction required)



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Seong Eun Tech.



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

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