

VALVE GRINDING & LAPPING MACHINE

VM2000 SERIES 0.4 - 24 INCHES (10 - 600 MM)

04 | 2023
VM2000

Powerful, rigid, high performance machine with easy setup and handling.



QUICK AND EASY SETUP

Quickly change over between electric and pneumatic by simply loosening a single clamping bolt.

Media discs with adhesive specifically formulated to provide a firm hold while in use but are easy to remove after use.

Three jaw chuck and adapters for mounting on the ID or OD of the valve body or studs.

RIGID

Thick planet wheels and webbed design provides increased rigidity, allowing con-

sistent flatness regardless of grinding pressure.

VERSATILE

Five valve grinding disks to ensure constant contact with the seat, which allows you to grind perfectly flat.

Planet arm bearings are sealed, pre-loaded and preset to be within 0.000079 inches (0.002mm) of each other on a flat plane.

Complete set of diameters and grit of abrasives (800 - 1200 pieces) are included with all valve machines.

Submerging depths up to 31-inches (800 mm) on the standard machines.

Seat diameter sizes 0.4 to 24 inches (10 - 600 mm).

SAFETY

CE certified and available worldwide! All valve grinding and lapping machines are available for sale worldwide, including in the European Union and other locations where CE certification is required.



SPECIFICATIONS

Model	VM2050C	VM2150C	VM2150	VM2350
Operating Ranges				
Working range diameter:				
Minimum	0.4 in. (10 mm)		0.38 in. (10 mm)	3 in. (80 mm)
Maximum	2 in. (50 mm)	6 in. (150 mm)	6 in. (150 mm)	14 in. (350 mm)
Submerging depth	10 in. (250 mm)	18 in. (450 mm)	20 in. (500 mm)	24 in. (600 mm)
Power:				
Electric	0.85 HP (0.65 kW)		0.75 HP (0.55 kW)	1.3 HP (1.0 kW)
Pneumatic	0.5 HP (0.40 kW)			0.7 HP (0.55 kW)
Variable spindle speed:				
Electric	100 - 450 rev/min		100 - 550 rpm	30 - 550 rev/min
Pneumatic	100 - 650 rev/min		100 - 640 rpm	30 - 400 rev/min
Spindle torque:				
Permanent	5.3 ft-lbs (7.2 N•m)			19 ft-lbs (26 N•m)
Max	29.5 ft-lbs (40.0 N•m)			80 ft-lbs (108 N•m)
Weight				
Basic machine without tooling	11 lbs (5 kg)		9 lbs (4kg)	29 lbs (13 kg)
Machine case	57 lbs (26 kg)		Electric: 40 lbs (18 kg) Pneumatic: 55 lbs (25 kg)	77 lbs (35 kg)
Accessory case	NA	71 lbs (32 kg)	37 lbs (17 kg)	42 lbs (19 kg)

All dimensions should be considered reference. Contact your CLIMAX Representative for precision dimensions. Specifications are subject to change without notice. There are no systems or components on this machine that are capable of producing hazardous EMC, UV or other radiation hazards. The machine does not use lasers nor does it create hazardous materials such as gasses or dust.

TOOL CONFIGURATIONS

VALVE GRINDING AND LAPPING MACHINE

0.4 - 6 INCHES (10 - 150 MM)

On-site grinding of valves with conical seats!

Basic machine package includes: the machine (with quick change coupling to accept the grinding spindle), grinding spindles, centering cones, set of tooling, and caring cases with foam insert for the machine and accessories.

The grinding cones and abrasives need to be purchased separately depending on the seat angles.

CLIMAX is committed to product improvement.

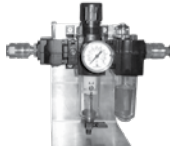
The machine you receive may vary slightly from what is shown.



Part Number	Model	Working Diameter	Submerging Depth	Motor Option	Grinding Spindles		Centering Cones
					Diameter	Submerging Depth	
320-00S-L02	VM2050C	0.4 - 2 inches (10 - 50 mm)	10 inches (250 mm)	Electric 230V / 50 Hz	0.6 inch (15 mm) 1 inch (25 mm)	6 inches (150 mm) 10 inches (250 mm)	(1) 0.6 inch (15 mm) (1) 1 inch (25 mm)
320-00S-L05				Electric 115V / 60 Hz			
320-00S-L03				Pneumatic			
320-00S-L22	VM2150C	0.4 - 6 inches (10 - 150 mm)	18 inches (450 mm)	Electric 230V / 50 Hz	0.6 inch (15 mm) 1 inch (25 mm) 1 inch (25 mm)	6 inches (150 mm) 10 inches (250 mm) 18 inches (450 mm)	(1) 0.6 inch (15 mm) (2) 1 inch (25 mm)
320-00S-L25				Electric 115V / 60 Hz			
320-00S-L23				Pneumatic			

ACCESSORIES

Pneumatic Conditioning Unit for pneumatic motor - includes filter, oiler, pressure gauge, and speed controller. (Required for machines with pneumatic motor. The maintenance unit is not included in the standard scope of supply with pneumatic driven machines).



Pneumatic conditioning unit

91061

Grinding Cones, 0.4 - 2 in. (10 - 50 mm) diameter seat - Includes 7 grinding cones, required number of securing nuts, abrasives for grain 120 and 500, 100 each for every dimension (total 1400 pieces).



Seat angle 15° (total 30°)

320-61S-L21

Seat angle 30° (total 60°)

320-63S-L21

Seat angle 37.5° (total 75°)

320-64S-L21

Seat angle 45° (total 90°)

320-65S-L21

Grinding cones, 2.5 - 4 in. (65 - 100 mm) diameter seat - Includes 1 grinding cone with securing nut for 2.5 in. (65.0 mm) diameter, 2 segment grinding cones for 3 and 4 in. (80 and 100 mm) diameters, abrasives for grain 120 and 500 (100 each for 2.5 in. (65 mm) diameter), rectangular abrasive pads for grain 120 and 500 (100 each for 3 in. (80 mm) and 4 in. (100 mm) diameters).



Seat angle 15° (total 30°)

320-61S-L22

Seat angle 30° (total 60°)

320-63S-L22

Seat angle 37.5° (total 75°)

320-64S-L22

Seat angle 45° (total 90°)

320-65S-L22

Grinding cones, 5 - 6 in. (125 - 150 mm) diameter seat - Includes 2 segment grinding cones for 5 and 6 in. (125 and 150 mm) diameters, rectangular abrasive pads for grain 125 and 500 (100 each for 5 in. (125 mm) and 6 in. (150 mm) diameters).



Seat angle 15° (total 30°)

320-61S-L23

Seat angle 30° (total 60°)

320-63S-L23

Seat angle 37.5° (total 75°)

320-64S-L23

Seat angle 45° (total 90°)

320-65S-L23

Grinding Spindle for submerging depth 18 in. (450 mm). To extend the submerging depth of the VM2050C or VM2100C to 18 in. (450 mm).



Grinding Spindle

320-23S-N01

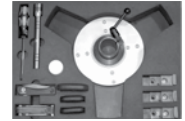
Centering cone to 8 in. (200 mm). To extend the centering diameter of the VM2050C or VM2100C to 8 in. (200 mm).



Centering cone to 8 in. (200 mm)

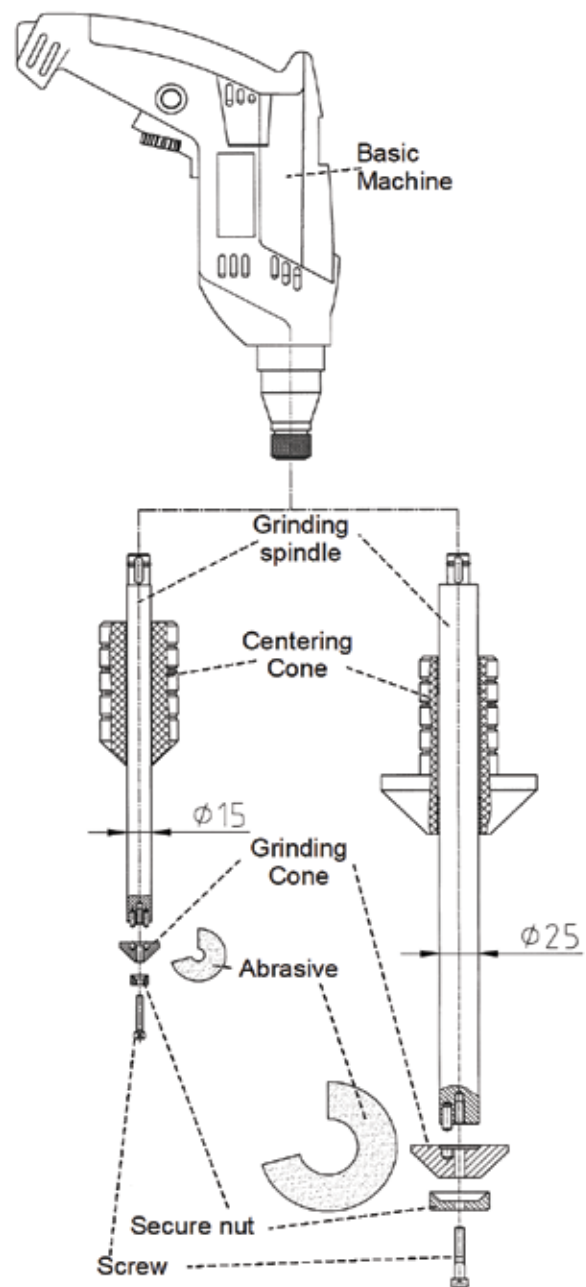
320-32S-L02

3-jaw centering chuck centering diameter 3.2 -16.9 in. (80 to 430 mm). Includes the complete chuck and a guiding bushing to accept the 1 in. (25 mm) grinding spindle, comes in a case with foam inlet.



3-jaw centering chuck

320-33S-N01



TOOL CONFIGURATIONS

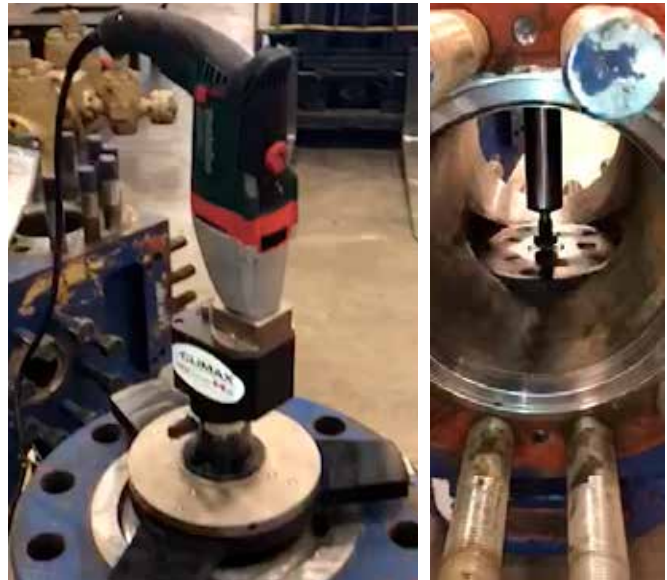
VALVE GRINDING AND LAPPING MACHINE

0.4 - 6 INCHES (10 - 150 MM)

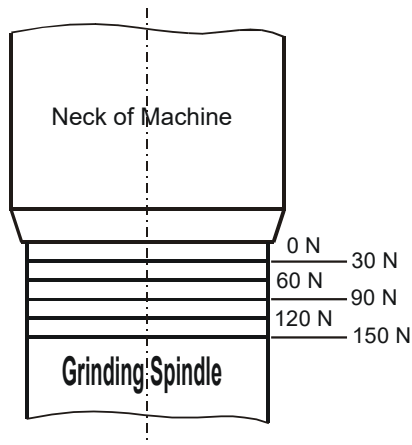
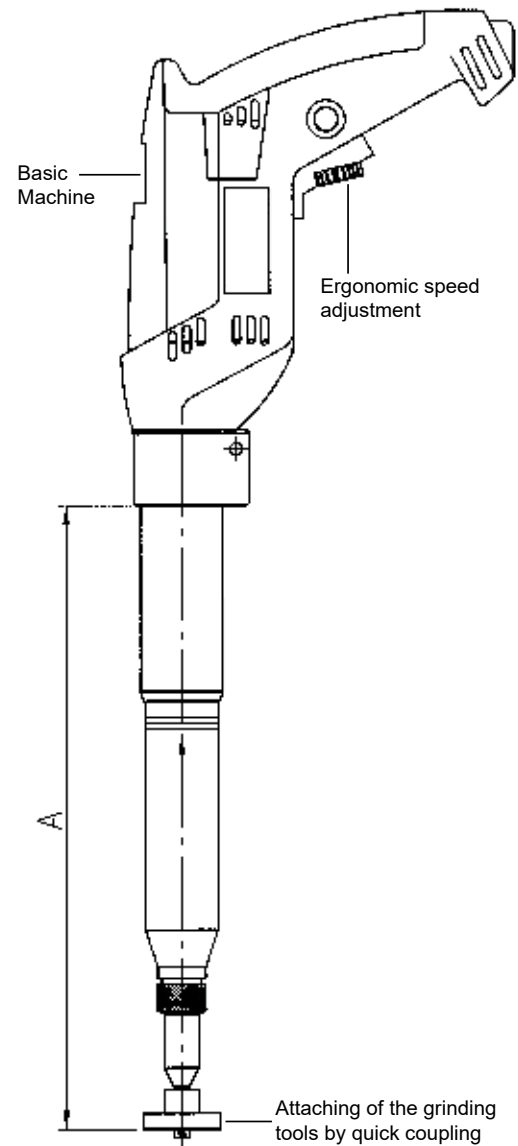
On-site grinding and lapping of valves!

Basic machine package includes the machine, 21 piece solid grinding disk set for 0.8 - 6.5 in. (20 - 165 mm) diameters, 8 piece guiding discs set for 0.7 - 3.9 in. (19 - 98 mm) diameters, 4 pieces of guiding rollers, 1 piece of ball joint coupling size 10 and 15 each, integrated grinding pressure detection with a scale, start up set of abrasives grain 100 and 500, 1 set of tooling, carrying case with foam inlet for the machine & accessories.

VM2150 also includes: 16 piece solid lapping disk set for 1.0 - 4.7 in. (25 - 120 mm) diameters, mounting column with mounting plate for valves with and without flange, and 2 tubes of lapping paste 10µm and 30 µm each. These components are not included with the VM2150SV.

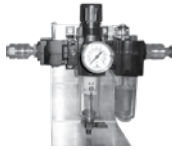


Part Number	Model	Nominal Working Diameter	Submerging Depth	Abrasive Grain	Motor Option
220-00S-S02	VM2150	DN3/8 - DN6 inches (DN10 - DN150 mm)	20 in. (500 mm)	100 / 500	Electric 230V / 50 Hz
220-00S-S05					Electric 115V / 60 Hz
220-00S-S03					Pneumatic



ACCESSORIES

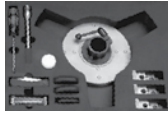
Pneumatic Conditioning Unit for pneumatic motor - includes filter, oiler, pressure guage, and speed controller. (Required for machines with pneumatic motor. The maintenance unit is not included in the standard scope of supply with pneumatic driven machines).



91061

Pneumatic conditioning unit

3 jaw centering chuck for 3.1 to 17 inches (80 - 430 mm) diameters.(includes: Guiding tube, spindle extension 18 inches (450 mm) long, and delivery in a carrying case with foam insert.



300-11S-N01

3 jaw centering chuck

Extension of submerging depth (includes adapter to extend the grinding spindle, adapted to the spindle by quick coupling, and tools are adapted to the extension also by quick coupling.

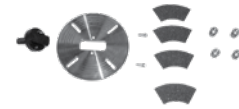


Extension of submerging depth 4 in. (100 mm) [220-35S-N01](#)

Extension of submerging depth 6 in. (150 mm) [220-34S-N01](#)

Extension of submerging depth 8 in. (200 mm) [220-33S-N01](#)

Solid Grinding and Lapping Discs, seat diameter range: 3.1 - 3.9 in. (80 - 100 mm), ball joint coupling 0.6 in. (15 mm)



Valve Seat Nominal Dia.	Dia. of Grinding and Lapping Disc	Dia. of Guiding Disc	Grinding Disc Part No.	Lapping Disc Part No.	Guiding Disc Part No.
3.1 in. (80 mm)	3.5 in. (90 mm)	3.1 in. (78 mm)	130-31T-001		130-33T-001
	3.9 in. (100 mm)		130-31T-002	130-32T-002	
	4.1 in. (105 mm)		130-31T-003		
3.9 in. (100 mm)	4.3 in. (110 mm)	3.9 in. (98 mm)	130-31T-004		130-33T-002
	4.7 in. (120 mm)		130-31T-005	130-32T-005	

Solid Grinding and Lapping Discs, seat diameter range: 0.4 - 2.6 in. (10 - 65 mm), ball joint coupling 0.4 in. (10 mm)

Valve Seat Nominal Dia.	Dia. of Grinding and Lapping Disc	Dia. of Guiding Disc	Grinding Disc Part No.	Lapping Disc Part No.	Guiding Disc Part No.
0.4 in. (10 mm)	0.8 in. (20 mm)	0.3 in. (9 mm) (screw head)	130-11T-001		
	1 in. (25 mm)		130-11T-002	130-12T-002	
0.8 in. (20 mm)	1.2 in. (30 mm)	0.7 in. (19 mm)	130-11T-003	130-12T-003	130-13T-001
1 in. (25 mm)	1.4 in. (35 mm)	0.9 in (23 mm)	130-11T-004	130-12T-004	130-13T-002
	1.6 in. (40 mm)		130-11T-005		
1.3 in. (32 mm)	1.8 in. (45 mm)	1.2 in. (31 mm)	130-11T-006	130-12T-006	130-13T-003
	2 in. (50 mm)		130-11T-007		
1.6 in. (40 mm)	2.2 in. (55 mm)	1.5 in. (39 mm)	130-11T-008	130-12T-008	130-13T-004
2 in. (50 mm)	2.4 in. (60 mm)	1.9 in. (48 mm)	130-11T-009		130-13T-005
	2.6 in. (65 mm)		130-11T-010	130-12T-010	
2.6 in. (65 mm)	2.9 in. (73 mm)	2.5 in. (65 mm)	130-11T-011		130-13T-006
	3.1 in. (80 mm)		130-11T-012	130-12T-012	
	3.3 in. (85 mm)		130-11T-013		

Solid Grinding Discs with adjustable bearings seat range 3.1 - 5.9 in. (80 - 150 mm) ball joint coupling 0.6 in. (15 mm)



Valve Seat Nominal Dia.	Dia of Grinding- resp. Lapping disc	Guiding Disc Part No.
3.1 in. (80 mm)	3.7 in. (95 mm)	130-41T-001
3.9 in. (100 mm)	4.5 in. (115 mm)	130-41T-002
4.9 in. (125 mm)	5.5 in. (140 mm)	130-41T-003
5.9 in. (150 mm)	6.5 in. (165 mm)	130-41T-004
Guide (1 piece) 4 pieces required		130-42S-N01

TOOL CONFIGURATIONS

VALVE GRINDING AND LAPPING MACHINE

3 - 24 INCHES (80 - 600 MM)

On-site grinding and lapping of valves!

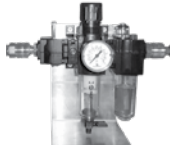
Basic machine package includes: the machine, integrated grinding pressure detection with a scale at the upper machine housing, 1 set of clamping equipment for mounting the machine on valves with and without top flange, startup set of abrasives grain 100 and 500, 1 set of 5 CBN grinding disks 2 inches (50 mm) in diameter, 1 set of tooling, carrying cases with foam inlet for the machine and the accessories, and lapping paste 10 and 30 μ m.



Part Number	Model	Working Diameter	Submerging Depth	Motor Option	Planet Arms (5 arm sets)	Planet Wheels	Grinding Disks (5 disc sets)	Lapping disks (5 disc sets)
240-00S-S02	VM2350	3 - 14 in. (80 - 350 mm)	24 in. (600 mm)	Electric 230V / 50 Hz	3 sets: 1.2, 2.4, & 4.5 in. (30, 60, & 115 mm) length	3 sets: 3.9, 5.3, & 8.7 in. (100, 135, & 220 mm) diameter	1 set: 2 in. (50 mm) diameter	2 sets: 1.2 & 2 in. (30 & 50 mm)
240-00S-S05				Electric 115V / 60 Hz				
240-00S-S03				Pneumatic				
240-00S-S04				Electric 230V / 50 Hz / Pneumatic				
240-00S-S06				Electric 115V / 60 Hz / Pneumatic				

ACCESSORIES

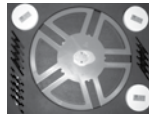
Pneumatic Conditioning Unit for pneumatic motor - includes filter, oiler, pressure gauge, and speed controller. (Required for machines with pneumatic motor. The maintenance unit is not included in the standard scope of supply with pneumatic driven machines).



Pneumatic conditioning unit

91061

Extension Kit 20 in. (500 mm) for grinding. To extend the working range of the VM2350(S) to 20 in. (500 mm). Kit includes: 1 planet wheel 15 (380 mm) diameter, 1 set (5) grinding discs 3.2 in. (80 mm) diameter, 1 start up set self-adhesive abrasive discs 3.2 in. (80 mm) diameter for grain 100 and 500.



Extension Kit 20 in. (500 mm) for grinding

240-66S-N01

Extension Kit 20 in. (500 mm) for grinding and lapping. To extend the working range of the VM2350 to 20 in. (500 mm). Kit includes: 1 planet wheel 15 in. (380 mm) diameter, 1 set (5) grinding discs 3.2 in. (80 mm) diameter, 1 set (5) lapping discs 3.2 in. (80 mm) diameter, 1 start up set self-adhesive abrasive discs 3.2 in. (80 mm) diameter for grain 100 and 500.



Extension Kit 20 in. (500 mm) for grinding & lapping

240-67S-N01

Planet arm to extend seat range from 20 to 24 in. (500 - 600 mm). Each (A total of 5 are required). One planet arm (7.5 in. (190 mm)) extends the grinding range of a 15 in. (380 mm) diameter planet wheel up to 24 in. (600 mm).



Planet arm to extend seat range from 20 to 24 in. (500 - 600 mm)

110-24S-N01

Extension of submerging depth. Allows you to extend the submerging depth without changing the maximum grinding diameter (Must be ordered with the machine. Can not be ordered after delivery of the machine. e.g... 240-00S-S05-M01)

Extension of submerging depth from 24 to 31 in. (600 to 800 mm). For use with VM2350 only

-M01

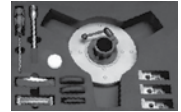
Extension of submerging depth from 24 to 39 in. (600 to 1000 mm). For use with VM2350 only

-M02

Extension of submerging depth from 31 to 39 in. (800 to 1000 mm) For use with VM2500 or VM2600 only

-M03

3 jaw centering chuck for 3.1 to 17 in. (80 - 430 mm) clamping diameter. Includes a carrying case with foam inlet



3 jaw centering chuck for 3 to 17 in. (80 - 430 mm)

300-10S-N01

3-jaw centering chuck without universal clamping device Extend the P/N by "M10": e.g. 240-00S-S05-M10

-M10

CBN grinding disks (A total of 5 required) Required for rough grinding of heavily damaged seats

CBN grinding disks 2 in. (50 mm) diameter (each). 1 set is included in each component package

110-33S-N01

CBN grinding disks 3.2 in. (80 mm) diameter (each).

110-34S-N01

Lapping disks (A total of 5 required)

Lapping disks 1.2 in. (30 mm) diameter (each)

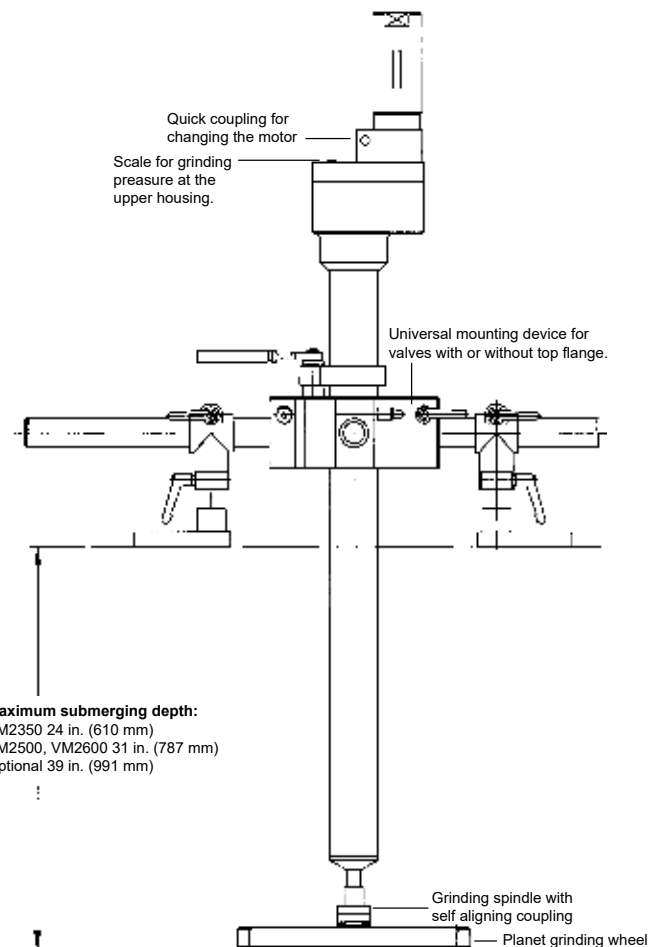
110-41S-N01

Lapping disks 2 in. (50 mm) diameter (each)

110-42S-N01

Lapping disks 3.2 in. (80 mm) diameter (each)

110-43S-N01



OEM PROFESSIONAL OPERATIONAL TRAINING



Backed by Over 50 Years of Experience

CLIMAX pioneered the concept of portable machine tools in 1964. Since that time, CLIMAX has grown to become the world's largest provider of innovative on-site machining solutions.

Professional, Experienced Instructors

All training programs are taught by experienced OEM CLIMAX trainers. Your instructor will provide valuable information on operator safety, tool set-up, mounting, and operation that will help you complete your on-site machining tasks quickly and to the highest quality standards.



Typical Courses Include:

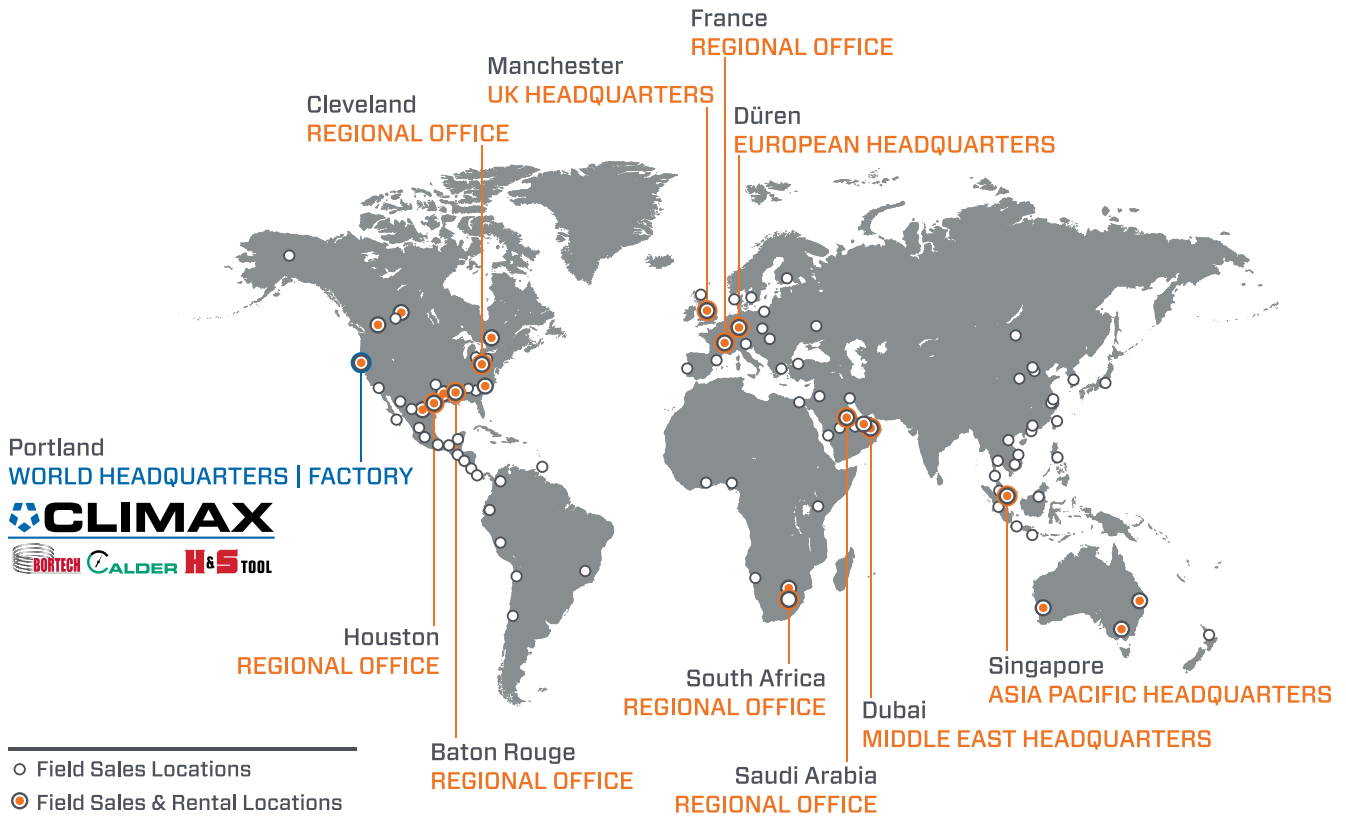
- ✓ Operator safety
- ✓ Tool component review and setup
- ✓ Standard operational techniques
- ✓ Overview of cutting tools and recommend usage
- ✓ Maintenance procedures
- ✓ A certificate of achievement - issued to each student immediately following course completion

Sign up today for training at one of our **seven** Global CLIMAX training centers.

- Portland, Oregon
- Houston, Texas
- Baton Rouge, Louisiana
- Cleveland, Ohio
- Manchester, United Kingdom
- Düren, Germany
- Dubai, United Arab Emirates



CLIMAX GLOBAL LOCATIONS



Call CLIMAX for:

RENTALS

On selected models. With 20+ worldwide rental depot locations, you are never far away from CLIMAX.

OEM TRAINING

If you need training or on-site consultation, we're famous for it!

SPARES, REPAIR & MAINTENANCE

Call us for anything you need to keep your system running in top condition.

CUSTOM PROJECTS

Custom turn-key system design services from the most experienced engineers in the business!

Follow us on:



World Headquarters

Address: 2712 E. 2nd St, Newberg, Oregon 97132
Tel: +1 503 538 2185
Fax: +1 503 538 7600
Email: info@cpmt.com

Asia Pacific

Address: 10, Raeburn Park, #02-08,
Singapore 088702
Tel: +65 6801 0662
Fax: +65 6801 0699
Email: ClimaxAsia@cpmt.com

European

Address: Am Langen Graben 8, 52353 Düren,
Germany
Tel: (+49) (0) 2421 9177 0
Fax: (+49) (0) 2421 9177 29
Email: ClimaxEurope@cpmt.com

Middle East

Address: Warehouse #5, Plot: 369 272, Um Sequim
Road, Dubai, UAE
Tel: +971 4 321 0328
Email: ClimaxUAE@cpmt.com

United Kingdom

Address: Unit 3, Martel Court, South Park Business
Park, Stockport, SK1 2AF
Tel: +44 (0) 161 406 1720
Email: ClimaxUK@cpmt.com

Copyright © 2023 CLIMAX Portable Machining & Welding Systems. All Rights Reserved. CLIMAX has taken reasonable measures to ensure the accuracy of the information contained in this document. However, CLIMAX makes no warranties or representations with respect to the information contained herein; and CLIMAX shall not be held liable for damages resulting from any errors or omissions herein, or from the use of the information contained in this document.

