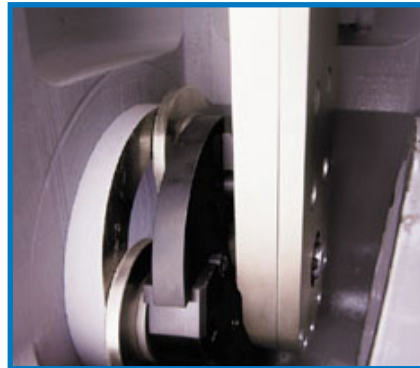
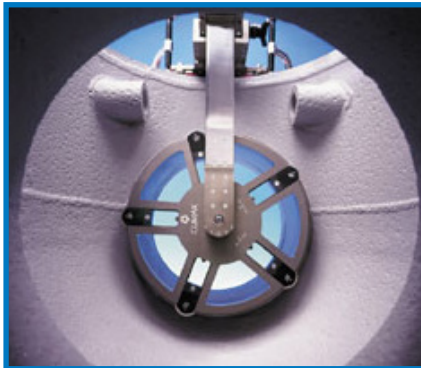
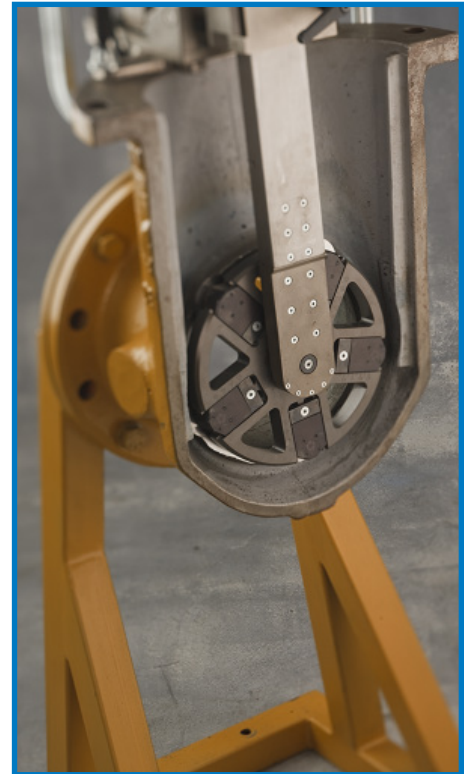


# VALVE GRINDING & LAPPING MACHINE

VM1000 SERIES 1.25 - 24 INCHES (32 - 600 MM)

04 | 2023  
VM1000

## Lightweight for easy handling and installation.



### POWERFUL PERFORMANCE

**Robust drive system** uses a drive chain up to three sizes larger than the competition with a Mean Time Between Failure (MTBF) of approximately 10,000 hours. This minimizes the risk of breakage and costly downtime on the job.

**Five Planet Arms** ensure no two discs are ever directly across from each other and carrying the entire work load. All of the discs are in contact with the work surface, eliminating development of high and low spots on valve seat.

**High-quality abrasives** can help reduce grinding time by up to 50%.

**Heavy-duty drive chains** provide a minimum of 10,000 hours of service.

### VERSATILITY

**Strong adhesive media discs** are specifically formulated to provide a firm hold while in use but are easy to remove after use

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

**Four configurations** with seat diameters ranging from 1.25 – 24 inches (32 – 600 mm).

**Submerging depth up to 39 inches (1000 mm).**

**Quickly change from grinding to lapping operations** by simply changing the discs.

### RELIABILITY

**Rigid planet arms** eliminate machine chatter and ensure a uniform finish.

**Sealed planet arm bearings** eliminate grinding and lapping grit, increasing the bearings' life.

**Planet arm is preloaded and preset to be within .000079 inches (.002 mm) of each other**, improving the finish flatness of the valve seat.

**Modular components** make setup quick and easy.

**Factory-sealed bearings** for fast, easy grinding head change out.

**Planet Arms features one screw adjustment** to quickly adjust the diameter size.

**CE Certified** for use in the European Union or any country where CE certification is required.



# SPECIFICATIONS

Model	VM1150	VM1350	VM1600
<b>Operating Ranges</b>			
Working range diameter:			
Minimum	1.25 in. (32 mm)	1.5 in. (40 mm)	1.5 (40 mm)
Maximum	6 in. (150 mm)	14 in. (350 mm)	24 in. (600 mm)
Submerging depth			
Minimum	16 in. (400 mm)	NA	
Maximum	18 in. (450 mm)	24 in. (600 mm)	39 in. (1000 mm)
Power:			
Electric	0.75 HP (0.55 kW)	1.3 HP (1.0 kW)	1.3 HP (1.0 kW)
Pneumatic	0.75 HP (0.55 kW)		
Variable spindle speed:			
Electric	100 - 550 rev/min	30 - 550 rpm	
Pneumatic	100 - 650 rev/min	30 - 400 rpm	
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)	79 ft-lbs (108 N•m)	
<b>Weight</b>			
Basic machine without tooling	11 lbs (5 kg)	22 lbs	33 lbs (15 kg)
Machine case	84 lbs (38 kg)	71 lbs	99 lbs (45 kg)
Accessory case	NA	46 lbs	71 lbs (32 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

1.25 - 8 INCHES (32 - 200 MM)

### On-site grinding and lapping of valves!

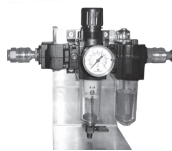
The basic machine package includes the machine, 7-piece solid grinding disk set 2 - 3.4 in. (50 - 85 mm) diameters, planet arms, planet wheels, grinding discs, 1 set of clamping equipment for mounting the machine on valves with and without top flange, startup set of abrasives grain 100 and 500, set of 3 solid lapping disks 2.2, 2.6, and 3.2 in. (55, 65, and 80 mm) diameters, lapping disks, lapping paste 10 and 30 µm, 1 set of tooling, and carrying case with foam inlet for the machine and accessories.



Part Number	Model	Working Diameter	Submerging Depth	Motor Option	Planet Arms (5 arm sets)	Planet Wheels	Grinding Disks (disc sets)	Lapping disks (5 disc sets)
<a href="#">420-00S-S02</a>	VM1150	1.25 - 6 in. (32 - 150 mm)	16 in. (400 mm)	Electric 230V / 50 Hz	1 set: 1.2 in. (30 mm) length	2 sets: 3.9 & 5.3 in. (100 & 135 mm) diameter	1 set: (5 pieces) 2 in. (50 mm) diameter	2 sets: 1.2 & 2 in. (30 & 50 mm)
<a href="#">420-00S-S05</a>				Electric 115V / 60 Hz				
<a href="#">420-00S-S03</a>				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

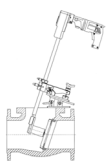
[91061](#)

**Fixture for gate wedges** - Used with the valve machine for grinding gate wedges onsite.

Fixture



[420-56S-N01](#)



**Swing check accessory** - For grinding swing check valves. Includes swivel adapter for adaption of the machine on the valve and spindle extension for reaching the seat with the planet wheels.

Swing check

[420-00S-L03](#)

**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](#)



**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](#)



**Planet arms 3-degree** - The spindles have a 3-degree offset for reworking 3-degree relief angles in gate valves

3-Degree planet arm set. Includes planet arm #II (5 pieces) and #III (5 pieces).

[110-50S-L01](#)

**Planet arms 5-degree** - The spindles have a 5-degree offset for reworking 5-degree relief angles in gate valves.

5-Degree planet arm #II, 2.4 in. (60 mm) length (includes 1 piece - 5 pieces required). Outside grinding diameter 6.3 - 13 in (160 - 330 mm), diameter depends on selected planet wheel.

[110-61S-N01](#)

5-Degree planet arm #III, 4.5 in. (115 mm) length (includes 1 piece - 5 pieces required). Outside grinding diameter 13 - 21.7 in (330 - 550 mm), diameter depends on selected planet wheel.

[110-62S-N01](#)

5-Degree planet arm set. Includes planet arm #II (5 pieces) and #III (5 pieces).

[110-60S-L01](#)



# TOOL CONFIGURATIONS

## VALVE GRINDING AND LAPPING MACHINE

1.5 - 24 INCHES (40 - 600 MM)

### On-site grinding and lapping of valves!

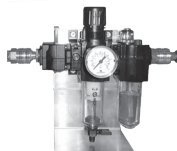
The basic machine package includes the machine, grinding discs, planet arms, planet wheels, 1 set of clamping equipment (for mounting the machine on valves with and without top flange), startup set of abrasives grain 100 and 500, 1 set of CBN grinding disks 2 in. (50 mm) diameter, 1 set of tooling, lapping disks, lapping paste 10 and 30  $\mu\text{m}$ , and carrying cases with foam inlet for the machine and accessories.



Part Number	Model	Working Diameter	Submerging Depth	Motor Option	Planet Arms (5 arm sets)	Planet Wheels	Grinding Disks (disc sets)	Lapping disks (5 disc sets)
440-00S-S02	VM1350	1.5 - 14in. (40 - 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: 2.5, 2.6, & 3.4 in. (55, 65, & 85 mm) diameter	2 sets: 1.2 & 2 in. (30 & 50 mm)
440-00S-S05				Electric 115V / 60 Hz				
420-00S-S03				Pneumatic				
440-00S-S42	VM1600	3 - 24 in. (80 - 600 mm)	40 in. (1000 mm)	Electric 230V / 50 Hz	4 sets: 1.2, 2.4, 4.5, & 7.3 in. (30, 60, 115, & 185 mm) length	4 sets: 3.9, 5.3, 8.7, & 15 in. (100, 135, 220, & 380 mm) diameter	2 set: 2 & 3.2 in. (50 & 80 mm) diameter	3 sets : 1.2, 2, & 3.2 in. (30, 50, & 80 mm)
440-00S-S45				Electric 115V / 60 Hz				
440-00S-S43				Pneumatic				

## ACCESSORIES

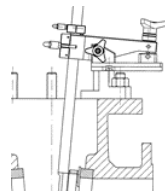
**Pneumatic conditioning unit** for pneumatic motor - includes filter, oiler, pressure gauge, and speed controller. (Required for machines with pneumatic motor. The maintenance unit is not included in the standard scope of supply with pneumatic driven machines).



Pneumatic conditioning unit

91061

**Setup adapter** - For flanges with threaded studs (2 pieces) Enables the machine's setup without removing the threaded studs of the flange. The setup adapters are used instead of clamping pads. The tilting adapter mounts 2.8 in. (70 mm) above the flange. The setup adapter can be screwed directly to the threaded stud (bore diameter 1.0 & 0.7 in. (25 & 17 mm) or clamped between the studs by the c-clamps that belong to the scope of supply of the machine.

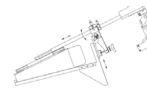


Setup adapter

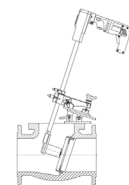
440-52T-008

**Fixture for gate wedges** - Used with the valve machine for grinding gate wedges onsite.

Fixture



440-56S-N01

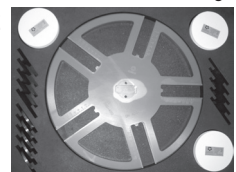


**Swing check accessory** - For grinding swing check valves. Includes swivel adapter for adaption of the machine on the valve and spindle extension for reaching the seat with the planet wheels.

Swing check

440-00S-L03

**Extension kit 20 in. (500 mm) for grinding.** To extend the working range of the VM1350 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.

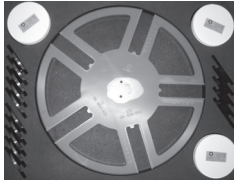


Extension kit 20 in. (500 mm) for grinding

240-66S-N01

# ACCESSORIES

**Extension kit 20 in. (500 mm) for grinding and lapping.** To extend the working range of the VM1350 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**

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

CBN grinding disks 2 in. (50 mm) diameter. 1 set is included in each component package **110-33S-N01**

CBN grinding disks 3.2 in. (80 mm) diameter. **110-34S-N01**



**Lapping disks** (A total of 5 required)

Lapping disks 1.2 in. (30 mm) diameter **110-41S-N01**

Lapping disks 2 in. (50 mm) diameter **110-42S-N01**

Lapping disks 3.2 in. (80 mm) diameter **110-43S-N01**



**Planet arms 3-degree** - The spindles have a 3-degree offset for reworking 3-degree relief angles in gate valves. Diameter depends on selected planet wheel.

3-Degree planet arm #II, 2.4 in. (60 mm) length (includes 1 piece - 5 pieces required). Outside grinding diameter\* 6.3 - 13 in (160 - 330 mm) **110-51S-N01**

3-Degree planet arm #III, 4.5 in. (115 mm) length (includes 1 piece - 5 pieces required). Outside grinding diameter\* 13 - 21.7 in (330 - 550 mm). **110-52S-N01**

3-Degree planet arm set. Includes planet arm #II (5 pieces) and #III (5 pieces). **110-50S-L01**

**Planet arms 5-degree** - The spindles have a 5-degree offset for reworking 5-degree relief angles in gate valves.

5-Degree planet arm #II, 2.4 in. (60 mm) length (includes 1 piece - 5 pieces required). Outside grinding diameter\* 6.3 - 13 in (160 - 330 mm). **110-61S-N01**

5-Degree planet arm #III, 4.5 in. (115 mm) length (includes 1 piece - 5 pieces required). Outside grinding diameter\* 13 - 21.7 in (330 - 550 mm). **110-62S-N01**

5-Degree planet arm set. Includes planet arm #II (5 pieces) and #III (5 pieces). **110-60S-L01**

\*Diameter depends on selected planet wheel.



CLIMAX is committed to product improvement.  
The machine you receive may vary slightly from what is shown.

# OEM 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. Part number 00042

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

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



## Call CLIMAX for:

### RENTALS

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

### OEM TRAINING

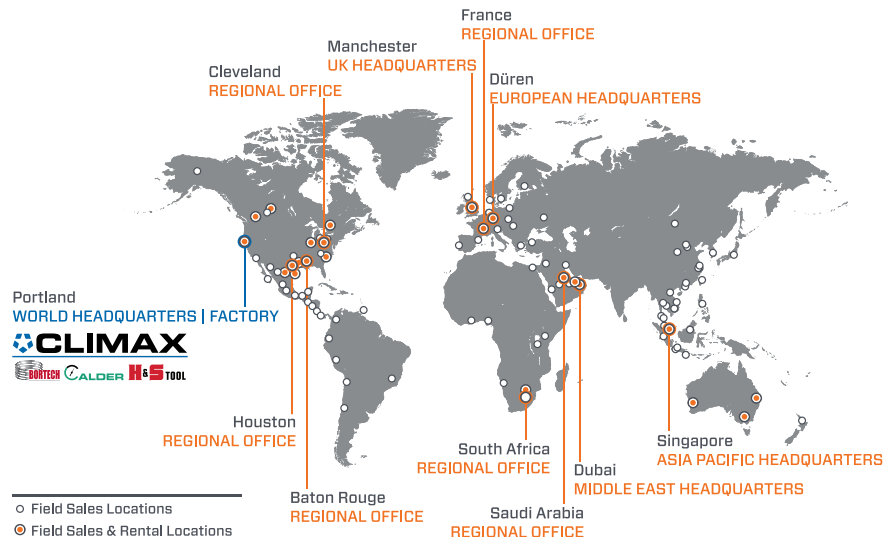
If you need training or on-site consultation, we're famous for it!

### 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: [f](#) [in](#) [ig](#)

### 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: C9, Phase 5, Light Industrial Units, DSO, Dubai, UAE  
Tel: +971 4 321 0328  
Email: ClimaxJAE@cpmt.com

### United Kingdom

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