

## Powerful, rigid design with easy set up and handling.

### Powerful

- Wide working range: nominal diameter of 1.5 - 48 inches (40 -1200 mm).
- Submersion depth up to 55 inches (1400 mm).
- Heavy duty drive chains provide minimum of 10,000 hours of service.

### Versatile

- 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.
- The adhesive on the media discs is specifically formulated to provide a firm hold while in use, but are easy to remove after use.
- High quality abrasives can help reduce grinding time by up to 50%.



### Rigid

- Rigid Planet Arms eliminate machine chatter and ensure a uniform finish.
- Planet Arm bearings are sealed, preloaded and preset to be within .000079 inches (.002 mm) of each other.

### Quick and Easy Setup

- Quickly change between electric and pneumatic by simply loosening a single clamping bolt.
- Quickly change from grinding to lapping operations by simply changing the discs.
- Factory sealed bearings for fast, easy grinding head change out.
- Planet Arms feature fast, one screw adjustment of diameter size.

# SPECIFICATIONS

|                          |                                      | US                     | Metric             |
|--------------------------|--------------------------------------|------------------------|--------------------|
| <b>Operating Ranges:</b> |                                      |                        |                    |
| Working range diameter   | Minimum                              | 8 inches               | 200 mm             |
|                          | Maximum (VM1700)                     | 28 inches              | 700 mm             |
|                          | Maximum (VM1700)<br>(with extension) | 36 inches              | 900 mm             |
|                          | Maximum (VM1900)<br>(with extension) | 40 inches<br>48 inches | 1000 mm<br>1200 mm |
| Submerging Depth         | Maximum (VM1700)                     | 40 inches              | 1000 mm            |
|                          | Maximum (VM1900)                     | 55 inches              | 1400 mm            |
| Power                    | Electric                             | 1.3 Hp                 | 1.0 kW             |
|                          | Pneumatic                            | 0.75 Hp                | 0.55 kW            |
| Variable spindle speed   | Electric                             | 20 - 370 rpm           | 20 - 370 rpm       |
|                          | Pneumatic                            | 20 - 270 rpm           | 20 - 270 rpm       |
| Spindle Torque           | Permanent                            | 28 ft-lbs              | 40 N•m             |
|                          | Max                                  | 117 ft-lbs             | 160 N•m            |

## Weight

### Model VM1700


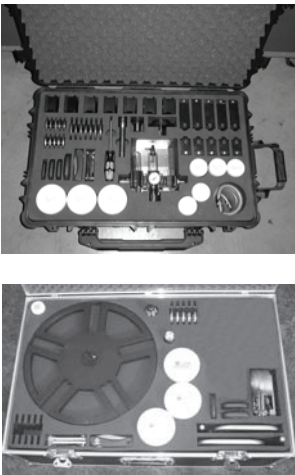
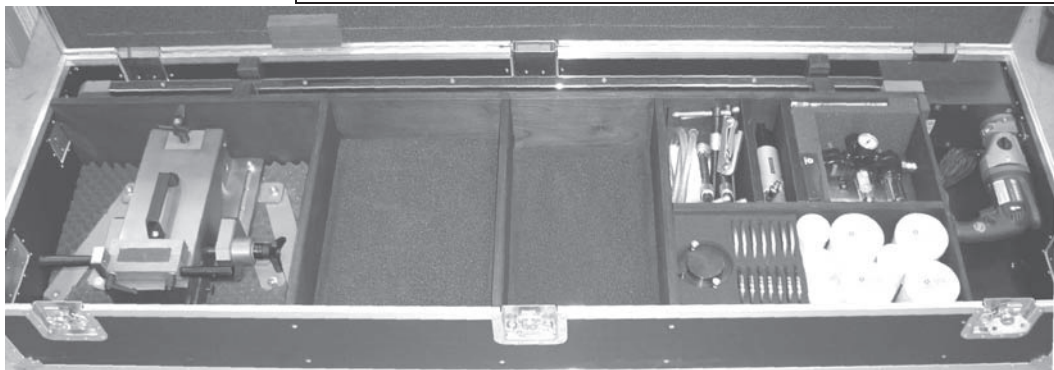
|                               |         |        |
|-------------------------------|---------|--------|
| Basic machine without tooling | 62 lbs  | 28 kg  |
| Shipping Weight               | 330 lbs | 160 kg |

### Model VM1900

|                               |         |        |
|-------------------------------|---------|--------|
| Basic machine without tooling | 68 lbs  | 31 kg  |
| Shipping Weight               | 507 lbs | 230 kg |



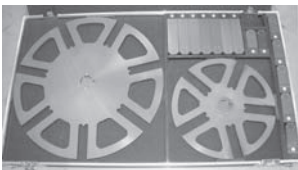
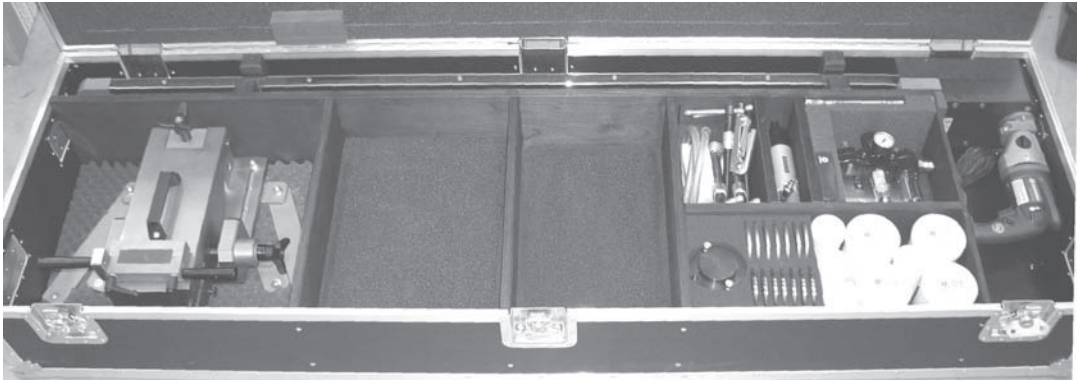
All dimensions should be considered reference. Contact your Climax Representative for precision dimensions. Specifications are subject to change without notice. There are no systems or components on this machine that are capable of producing hazardous EMC, UV or other radiation hazards. The machine does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

# TOOL CONFIGURATIONS

| <b>Model VM1700 (8 - 28" (200 - 700 mm) diameter range)</b>                          |   |
|--|---|
| <b>P/N</b>   | <b>Description</b>  |
|     | <p><b>Gate Valve Grinder VM1700S</b><br/>Nominal working dia 8" to 28" (200 mm to 700 mm)<br/>Submerging depth 40"(1000 mm).<br/>Included Components:</p> <ul style="list-style-type: none"> <li>• 3 sets (5 arms/set) of planet arms 2.4" (60 mm), 4.5" (115 mm), 6.3" (160 mm) in length.</li> <li>• Set of 3 planet wheels 8.7" (220 mm), 15.0" (380 mm), 21.3" (540 mm) in diameter.</li> <li>• 2 sets (5 discs/set) of grinding discs 2.0" (50 mm) &amp; 3.2" (80 mm) in diameter.</li> <li>• 1 set of clamping equipment for mounting the machine on valves with and without top flange.</li> <li>• Start up set of abrasives grain 100 and 500.</li> <li>• 1 set (5) of CBN grinding disks 2.0"(50 mm) diameter</li> <li>• 1 set of tooling.</li> <li>• Carrying cases with foam inlet for the machine and the accessories.</li> </ul> |
|  | <b>470-00S-S12 VM1700S with electric motor 230 V / 50 Hz</b>  |
|  | <b>470-00S-S13 VM1700S with pneumatic motor</b>   |
|  | <b>470-00S-S14 VM1700S with electric motor 230V / 50 Hz and pneumatic motor</b>   |
|  | <b>470-00S-S15 VM1700S with electric motor 115 V / 60 Hz</b>  |
|  | <b>470-00S-S16 VM1700S with electric motor 115V / 60 Hz and pneumatic motor</b>   |
|    | <p><b>Gate Valve Grinding and Lapping machine VM1700</b><br/>Machine like VM1700S but with additional lapping equipment:</p> <ul style="list-style-type: none"> <li>• 2 sets (5 discs/set) of lapping disks 2.0"(50 mm) &amp; 3.2"(80 mm) in diameter.</li> <li>• Lapping paste 10 and 30 µm.</li> </ul>  |
|  | <b>470-00S-S02 VM1700 with electric motor 230 V / 50 Hz</b>   |
|  | <b>470-00S-S03 VM1700 with pneumatic motor</b>  |
|  | <b>470-00S-S04 VM1700 with electric motor 230V / 50 Hz and pneumatic motor</b>  |
|  | <b>470-00S-S05 VM1700 with electric motor 115 V / 60 Hz</b>   |
|  | <b>470-00S-S06 VM1700 with electric motor 115V / 60 Hz and pneumatic motor</b>  |
|  |   |

Pneumatically driven machines also require the accessory pneumatic motor maintenance kit

# TOOL CONFIGURATIONS


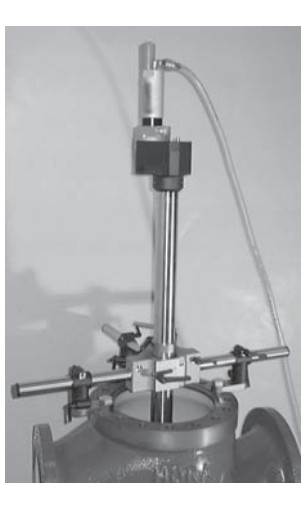

| <b>Model VM1900 (8 - 40" (200 - 1000 mm) diameter range)</b>  |                    |   |
|---|--------------------|---|
|   | <b>P/N</b>         | <b>Description</b>  |
|    |                    | <p><b>Gate Valve Grinder VM1900S</b><br/>Nominal working diameter 8" to 28" (200 mm to 1000 mm)<br/>Submerging depth 55"(1400 mm).<br/>Included Components:</p> <ul style="list-style-type: none"> <li>• 3 sets (7 arms/set) of planet arms 2.4" (60 mm), 4.5" (115 mm), 6.3" (160 mm) in length.</li> <li>• Set of 4 planet wheels 8.7" (220 mm), 15.0" (380 mm), 21.3" (540 mm), 32.3"(820 mm) in diameter.</li> <li>• 2 sets (7 discs/set) of grinding discs 2.0" (50 mm) &amp; 3.2" (80 mm) in diameter.</li> <li>• 1 set of clamping equipment for mounting the machine on valves with and without top flange .</li> <li>• Start up set of abrasives grain 100 and 500.</li> <li>• 1 set (7) of CBN grinding disks 2.0"(50 mm) diameter</li> <li>• 1 set of tooling.</li> <li>• Carrying cases with foam inlet for the machine and the accessories.</li> </ul> |
|   | <b>470-00S-S32</b> | <b>VM1900S with electric motor 230 V / 50 Hz</b>  |
|   | <b>470-00S-S33</b> | <b>VM1900S with pneumatic motor</b>   |
|   | <b>470-00S-S34</b> | <b>VM1900S with electric motor 230V / 50 Hz and pneumatic motor</b>   |
|   | <b>470-00S-S35</b> | <b>VM1900S with electric motor 115 V / 60 Hz</b>  |
|   | <b>470-00S-S36</b> | <b>VM1900S with electric motor 115V / 60 Hz and pneumatic motor</b>   |
| <br> |                    | <p><b>Gate Valve Grinding and Lapping machine VM1900</b><br/>Machine like VM1900S but with <b>additional lapping equipment</b>:</p> <ul style="list-style-type: none"> <li>• 2 sets (7 discs/set) of lapping disks 2.0"(50 mm) &amp; 3.2"(80 mm) in diameter.</li> <li>• Lapping paste 10 and 30 µm.</li> </ul>   |
|   | <b>470-00S-S22</b> | <b>VM1900 with electric motor 230 V / 50 Hz</b>   |
|   | <b>470-00S-S23</b> | <b>VM1900 with pneumatic motor</b>  |
|   | <b>470-00S-S24</b> | <b>VM1900 with electric motor 230V / 50 Hz and pneumatic motor</b>  |
|   | <b>470-00S-S25</b> | <b>VM1900 with electric motor 115 V / 60 Hz</b>   |
|   | <b>470-00S-S26</b> | <b>VM1900 with electric motor 115V / 60 Hz and pneumatic motor</b>  |
|   |                    |   |
|   |                    |   |

Pneumatically driven machines also require the accessory pneumatic motor maintenance kit

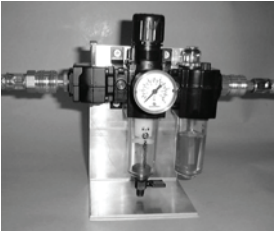

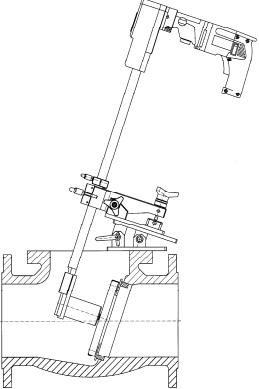








# TOOL CONFIGURATIONS

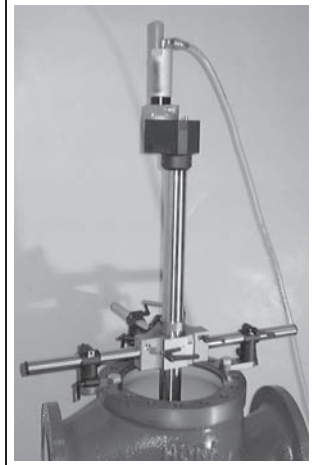

## **TWIN Machines for Gate and Globe Valves (8 - 48" (200 - 1200 mm) diameter range)**

|   | P/N         | Description  |
|---|-------------|--|
|    |             | <b>Gate Valve Grinder VM1700ST</b> <ul style="list-style-type: none"> <li>Includes The VM1700S and the Globe valve conversion</li> </ul>                   |
|   | 470-00S-T12 | VM1700ST with electric motor 230 V / 50 Hz   |
|   | 470-00S-T13 | VM1700ST with pneumatic motor  |
|   | 470-00S-T14 | VM1700ST with electric motor 230 V / 50 Hz and pneumatic motor   |
|   | 470-00S-T15 | VM1700ST with electric motor 115 V / 60 Hz   |
|   | 470-00S-T16 | VM1700ST with electric motor 115 V / 60 Hz and pneumatic motor   |
|   |             | <b>Gate Valve Grinding an Lapping machine VM1700T</b> <ul style="list-style-type: none"> <li>Includes The VM1700 and the Globe valve conversion</li> </ul> |
|   | 470-00S-T02 | VM1700T with electric motor 230 V / 50 Hz  |
|   | 470-00S-T03 | VM1700T with pneumatic motor   |
|   | 470-00S-T04 | VM1700T with electric motor 230 V / 50 Hz and pneumatic motor  |
|   | 470-00S-T05 | VM1700T with electric motor 115 V / 60 Hz  |
|   | 470-00S-T06 | VM1700T with electric motor 115 V / 60 Hz and pneumatic motor  |
|  |             | <b>Gate Valve Grinder VM1900ST</b> <ul style="list-style-type: none"> <li>Includes The VM1900S and the Globe valve conversion</li> </ul>                   |
|   | 470-00S-T32 | VM1900ST with electric motor 230 V / 50 Hz   |
|   | 470-00S-T33 | VM1900ST with pneumatic motor  |
|   | 470-00S-T34 | VM1900ST with electric motor 230 V / 50 Hz and pneumatic motor   |
|   | 470-00S-T35 | VM1900ST with electric motor 115 V / 60 Hz   |
|   | 470-00S-T36 | VM1900ST with electric motor 115 V / 60 Hz and pneumatic motor   |
|  |             | <b>Gate Valve Grinding an Lapping machine VM1900T</b> <ul style="list-style-type: none"> <li>Includes The VM1900 and the Globe valve conversion</li> </ul> |
|   | 470-00S-T22 | VM1900T with electric motor 230 V / 50 Hz  |
|   | 470-00S-T23 | VM1900T with pneumatic motor   |
|   | 470-00S-T24 | VM1900T with electric motor 230 V / 50 Hz and pneumatic motor  |
|   | 470-00S-T25 | VM1900T with electric motor 115 V / 60 Hz  |
|   | 470-00S-T26 | VM1900T with electric motor 115 V / 60 Hz and pneumatic motor  |

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

| <b>Accessories</b>  |                    |  |
|---|--------------------|--|
|   | <b>P/N</b>         | <b>Description</b>   |
|    | <b>240-13K-001</b> | <p><b>Maintenance unit for pneumatic motor</b><br/> <b>Required for machines with pneumatic motor.</b><br/>           The maintenance unit is <b>not</b> included in the standard scope of supply with pneumatic driven machines.<br/>           Includes:</p> <ul style="list-style-type: none"> <li>• filter</li> <li>• oiler</li> <li>• pressure gauge</li> <li>• speed controller</li> </ul> |
| <br><br> | <b>470-00S-L03</b> | <p><b>Swing Check accessories</b><br/>           For grinding of swing check valves.<br/>           Includes:</p> <ul style="list-style-type: none"> <li>• swivel adapter for adaption of the machine on the valve</li> <li>• spindle extension for reaching the seat with the planet wheels.</li> </ul>   |
|    | <b>120-22S-N01</b> | <p><b>Planet arm 10.8" (275 mm) long (each)</b><br/> <b>(A total of 5 are required for VM1700)</b><br/> <b>(A total of 7 are required for VM1900)</b><br/>           To extend the working diameter of the:</p> <ul style="list-style-type: none"> <li>• <b>VM1700</b> from 28" to 36"(700 mm to 900 mm)</li> <li>• <b>VM1900</b> from 40" to 48"(1000 mm to 1200 mm)</li> </ul>                 |
|    | <b>110-33S-N01</b> | <p><b>CBN grinding disks 2" (50 mm) diameter. (each)</b><br/> <b>(A total of 5 are required for VM1700)</b><br/> <b>(A total of 7 are required for VM1900)</b><br/>           Required for rough grinding of heavily damaged seats<br/> <b>(1 set is included in each component package).</b></p>  |
|    | <b>110-34S-N01</b> | <p><b>CBN grinding disks 3.2" (80 mm) diameter. (each)</b><br/> <b>(A total of 5 are required for VM1700)</b><br/> <b>(A total of 7 are required for VM1900)</b><br/>           Required for rough grinding of heavily damaged seats.</p>  |
|    | <b>110-41S-N01</b> | <p><b>Lapping disks 1.2" (30 mm) diameter (each)</b><br/> <b>(A total of 5 are required for VM1700)</b><br/> <b>(A total of 7 are required for VM1900)</b></p>   |
|    | <b>110-42S-N01</b> | <p><b>Lapping disks 2" (50 mm) diameter (each)</b><br/> <b>(A total of 5 are required for VM1700)</b><br/> <b>(A total of 7 are required for VM1900)</b></p>   |
|    | <b>110-43S-N01</b> | <p><b>Lapping disks 3.2" (80 mm) diameter (each)</b><br/> <b>(A total of 5 are required for VM1700)</b><br/> <b>(A total of 7 are required for VM1900)</b></p>   |

## Accessories

|  | P/N | Description  |
|--|-----|--|
|   |     | <p><b>Globe Valve Conversion Kit</b></p> <p>The conversion kit comes with a complete machine arm (submerging depth 40" (1000 mm)) and mounting equipment. It uses the motor and the tooling of the VM1700/1900.</p> <p>Scope of supply:</p> <ul style="list-style-type: none"> <li>• One pieces of ball joint coupling size 15 and 25 each.</li> <li>• Integrated grinding pressure detection with a scale.</li> <li>• Mounting column with mounting plate for valves with and without flange.</li> <li>• Carrying case with foam inlet for the accessories. The machine arm is included in the case of the VM1700</li> </ul> <p><b>270-00S-L12</b> <b>Globe Valve Conversion with electric motor 230 V / 50 Hz</b></p> <p><b>270-00S-L13</b> <b>Globe Valve Conversion with pneumatic motor</b></p> <p><b>270-00S-L15</b> <b>Globe Valve Conversion with electric motor 115 V / 60 Hz</b></p> |
|  |     |  |

# CLIMAX TRAINING AND SUPPORT

CLIMAX has been teaching the fundamentals and fine points of portable machine tool operation for practically as long as we've been inventing and building the tools.

We offer several training facilities across the United States - the Global Learning Center, situated in our corporate headquarters near Portland, Oregon and Houston, Texas Training Facility. All facilities offer training for machine tool operators on safety and machine setup and operation. Trainees also receive technical tips and tools to improve operational efficiencies, with the vast majority of every program devoted to hands-on activities and skill development.

The CLIMAX instructional team includes specialists in shipbuilding, power generation, civil engineering, bridge re-building, petrochemical and other industries.

Whether it's a regularly scheduled course at one of our training facilities, or custom curriculum conducted at your facility, your machinists will benefit from courses developed by some of the most respected authorities in the business.

Call us today to register for a regularly scheduled class, or talk to us about how we can customize a training program for your specialized application.



## Call CLIMAX for:

### Rentals

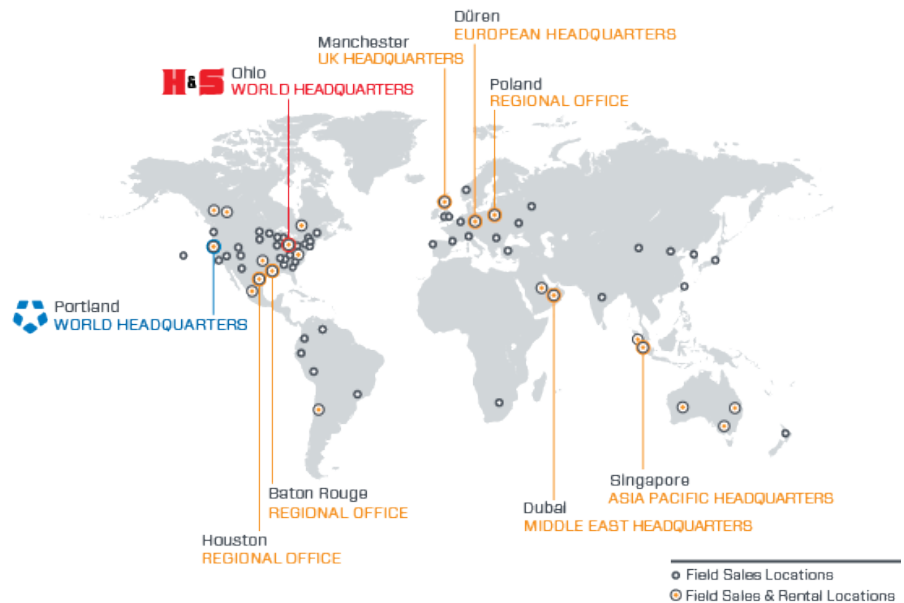
With worldwide rental depot locations, you are never far away from a CLIMAX tool.

### On-site Training

Need some refresher courses in setting up and operating your CLIMAX machine tool?

### Custom Projects

CLIMAX has been solving complicated machining, welding and valve testing problems for our customers since 1966



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