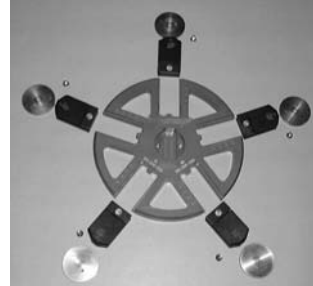


Climax
Gate Valve Grinding and Lapping Machines
Model Numbers: VM1350, VM1500, VM1600
Valve Seat Diameter Range: 1.5" - 24" (40 mm - 600 mm)



**"On Site" grinding and lapping of
gate valves**

Easy to set up and handle

Powerful

Rigid design

High performance



CLIMAX[®]
Portable Machine Tools, Inc.

Climax Portable Machine Tools

2712 E. Second St.

Newberg, OR 97132 USA

Telephone: 503-538-2185

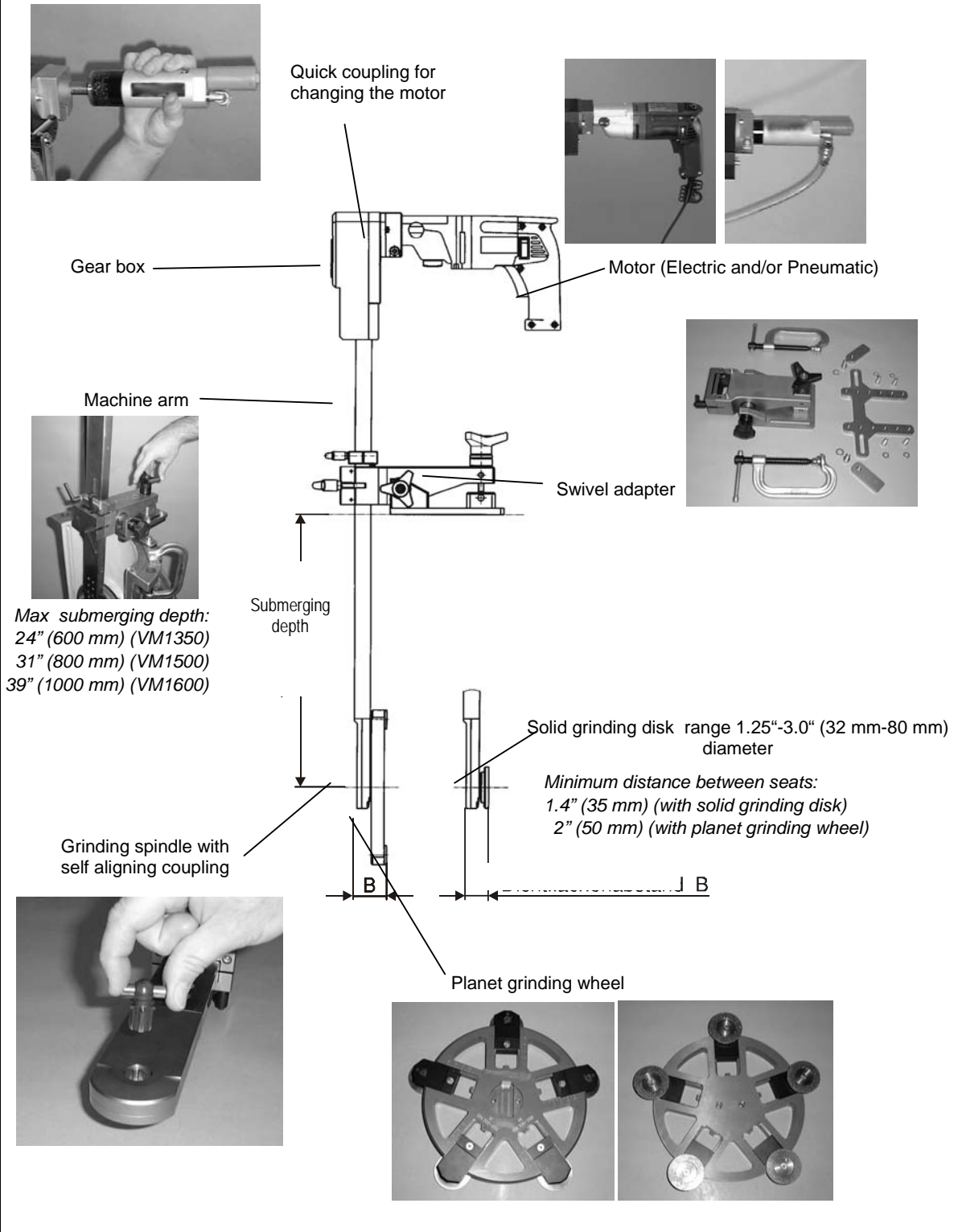
North America Toll-Free: 800-333-8311

E-Mail: info@cpmt.com

Internet: www.cpmt.com

Models VM1350, VM1500, VM1600 Overview

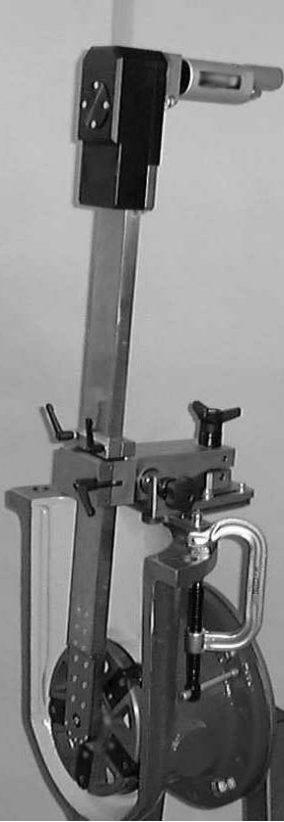

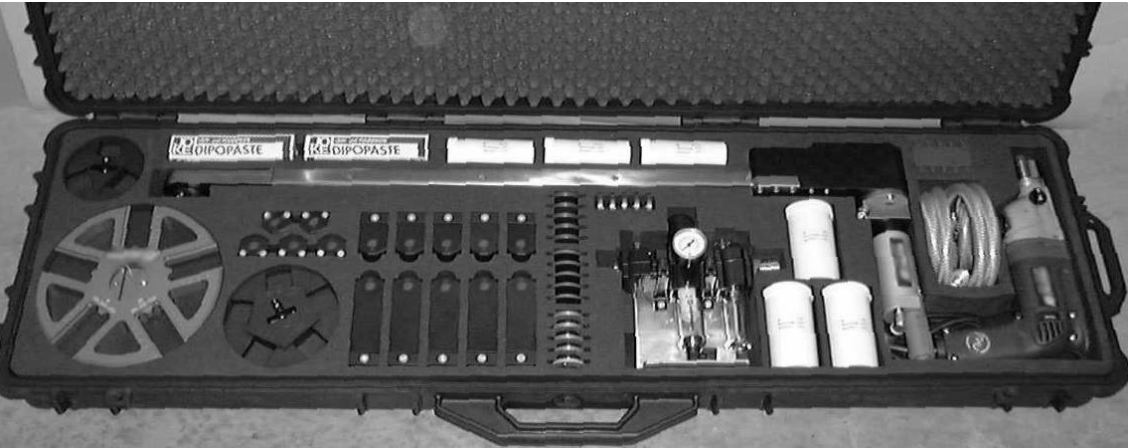
(Seat Ranges: 1.5"-24" (40 mm-600 mm))



Technical Data			
Working range-DN...	min	1.5''	40 mm
	max (VM1350)	14''	350 mm
	max (VM1500)	20''	500 mm
	max (VM1600)	24''	600 mm
Submerging Depth	max (VM1350)	24''	600 mm
	max (VM1500)	31''	800 mm
	max (VM1600)	39''	1000 mm
Power	electric	1.3 HP	1 kW
	pneumatic	0.75 HP	0.55 kW
Variable Spindle Speed	electric	30 ... 550 rpm	
	pneumatic	30 ... 400 rpm	
Spindle Torque	permanent	19 ft-lb	26 Nm
	max	79 ft-lb	108 Nm

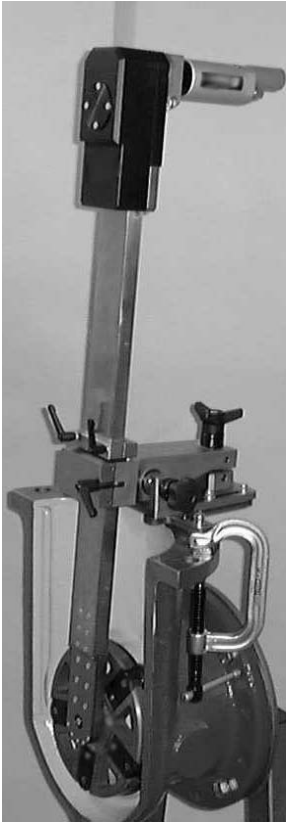
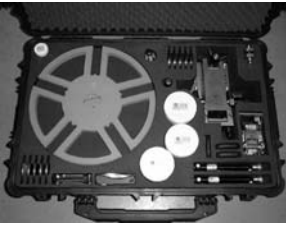
Weight		
Machine VM1350		
Basic machine without tooling	22 lb	10 kg
Machine Case	71 lb	32 kg
Accessory Case	46 lb	21 kg
Machine VM1500		
Basic machine without tooling	26,5 lb	12 kg
Machine Case	75 lb	34 kg
Accessory Case	71 lb	32 kg
Machine VM1600		
Basic machine without tooling	33 lb	15 kg
Machine Case	99 lb	45 kg
Accessory Case	71 lb	32 kg

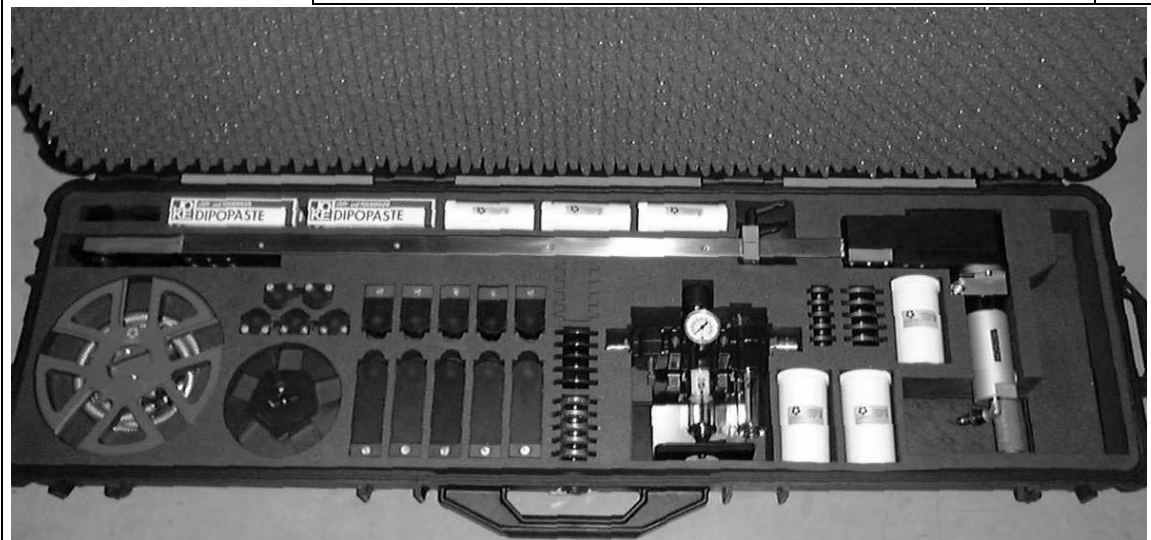
Model VM1350 (Range 1.5" -14" (40 mm-350 mm)Diameter)

	P/N	Description
		<p>Gate Valve Grinder VM1350S Nominal working dia 1.5" to 14" (40 mm to 350 mm) Submerging depth 24"(600 mm). Included Components:</p> <ul style="list-style-type: none"> • Set of 3 solid grinding disc s 2.2"(55 mm), 2.6"(65 mm), 3.4"(85 mm) diameters. • 3 sets (5 arms/set) of planet arms 1.2" (30 mm), 2.4" (60 mm), 4.5"(115 mm) in length. • A set of 3 planet wheels 3.9"(100 mm), 5.3"(135 mm), 8.7"(220 mm) in diameter. • 1 set (5) of grinding discs 2.0"(50 mm) in diameter. • 1 set of clamping equipment for mounting the machine on valves with and without top flange. • Start up set of abrasives grain 100 and 500. • 1 set (5) of CBN grinding disks 2.0" (50 mm) in diameter. • 1 set of tooling. • Carrying cases with foam inlet for the machine and the accessories.
	440-00S-S12	VM1350S with electric motor 230 V / 50 Hz
	440-00S-S13	VM1350S with pneumatic motor
	440-00S-S14	VM1350S with electric motor 230V / 50 Hz and pneumatic motor
	440-00S-S15	VM1350S with electric motor 115 V / 60 Hz
	440-00S-S16	VM1350S with electric motor 115V / 60 Hz and pneumatic motor
		<p>Gate Valve Grinding and Lapping machine VM1350 Machine like VM1350S but with additional lapping equipment:</p> <ul style="list-style-type: none"> • 2 sets (5 discs/set) of lapping disks 1.2" (30 mm), and 2.0"(50 mm) in diameter. • Lapping paste 10 and 30 µm.
	440-00S-S02	VM1350 with electric motor 230 V / 50 Hz
	440-00S-S03	VM1350 with pneumatic motor
	440-00S-S04	VM1350 with electric motor 230V / 50 Hz and pneumatic motor
	440-00S-S05	VM1350 with electric motor 115 V / 60 Hz
	440-00S-S06	VM1350 with electric motor 115V / 60 Hz and pneumatic motor
		

Pneumatically driven machines also require the accessory pneumatic motor maintenance kit

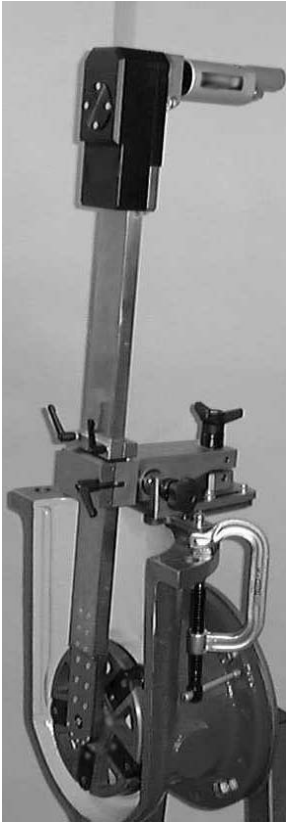
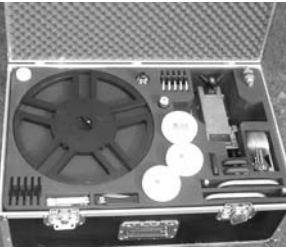
Model VM1500 (Range 3"-20" (80 mm-500 mm)Diameter)

P/N	Description
	<p>Gate Valve Grinder VM1500S Nominal working dia 3" to 20" (80 mm to 500 mm) Submerging depth 31"(800 mm). Included Components:</p> <ul style="list-style-type: none"> • 3 sets (5 arms/set) of planet arms 1.2" (30 mm), 2.4" (60 mm), 4.5" (115 mm) in length. • A set of 4 planet wheels 3.9"(100 mm), 5.3"(135 mm), 8.7"(220 mm) 15.0"(380 mm) in diameter. • 2 sets (5 discs/set) of grinding discs 2.0"(50 mm) & 3.2" (80 mm) in diameter. • 1 set of clamping equipment for mounting the machine on valves with and without top flange. • Start up set of abrasives grain 100 und 500. • 1 set (5) of CBN grinding disks 2.0"(50 mm) diameter. • 1 set of tooling. • Carrying cases with foam inlet for the machine and the accessories.
	440-00S-S32 VM1500S with electric motor 230 V / 50 Hz
	440-00S-S33 VM1500S with pneumatic motor
	440-00S-S34 VM1500S with electric 230V / 50 Hz and pneumatic motor
	440-00S-S35 VM1500S with electric motor 115 V / 60 Hz
	440-00S-S36 VM1500S with electric 115V / 60 Hz and pneumatic motor
	<p>Gate Valve Grinding and Lapping machine VM1500 Machine like VM1500S but with additional lapping equipment:</p> <ul style="list-style-type: none"> • 3 sets (5 discs/set) of lapping disks 1.2" (30 mm), 2.0"(50 mm) & 3.2"(80 mm) in diameter. • Lapping paste 10 and 30 µm.
	440-00S-S22 VM1500 with electric motor 230 V / 50 Hz
	440-00S-S23 VM1500 with pneumatic motor
	440-00S-S24 VM1500 with electric 230V / 50 Hz and pneumatic motor
	440-00S-S25 VM1500 with electric motor 115 V / 60 Hz
	440-00S-S26 VM1500 with electric 115V / 60 Hz and pneumatic motor



Pneumatically driven machines also require the accessory pneumatic motor maintenance kit

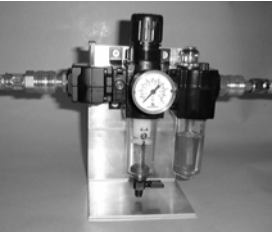
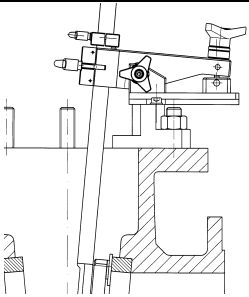
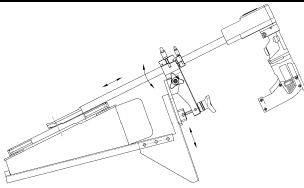
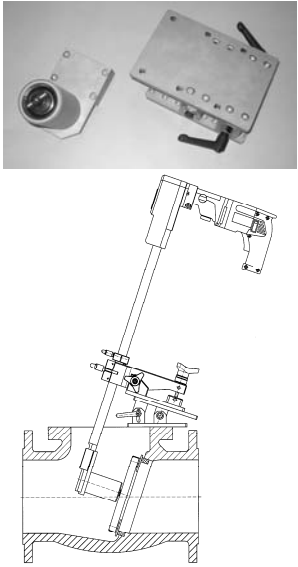
Model VM1600 (Range 3"-24" (80 mm-600 mm)Diameter)

P/N	Description
	<p>Gate Valve Grinder VM1600S Nominal working dia 3" to 24" (80 mm to 600 mm) Submerging depth 40"(1000 mm). Scope of supply:</p> <ul style="list-style-type: none"> • 4 sets (5 arms/set) of planet arms 1.2" (30 mm), 2.4" (60 mm), 4.5" (115 mm), 7.3"(185 mm) in length. • A set of 4 planet wheels 3.9"(100 mm), 5.3"(135 mm), 8.7"(220 mm) 15.0"(380 mm) in diameter. • 2 sets (5 discs/set) of grinding discs 2.0"(50 mm) & 3.2" (80 mm) in diameter. • 1 set of clamping equipment for mounting the machine on valves with and without top flange. • Start up set of abrasives grain 100 und 500. • 1 set (5) of CBN grinding disks 2.0"(50 mm) diameter • 1 set of tooling. • Carrying cases with foam inlet for the machine and the accessories.
	440-00S-S52 VM1600S with electric motor 230 V / 50 Hz
	440-00S-S53 VM1600S with pneumatic motor
	440-00S-S54 VM1600S with electric 230V / 50 Hz and pneumatic motor
	440-00S-S55 VM1600S with electric motor 115 V / 60 Hz
	440-00S-S56 VM1600S with electric 115V / 60 Hz and pneumatic motor
	<p>Gate Valve Grinding and Lapping machine VM1600 Machine like VM1600S but with additional lapping equipment:</p> <ul style="list-style-type: none"> • 3 sets (5 discs/set) of lapping disks 1.2" (30 mm), 2.0"(50 mm) & 3.2"(80 mm) in diameter. • Lapping paste 10 and 30 µm.
	440-00S-S42 VM1600 with electric motor 230 V / 50 Hz
	440-00S-S43 VM1600 with pneumatic motor
	440-00S-S44 VM1600 with electric 230V / 50 Hz and pneumatic motor
	440-00S-S45 VM1600 with electric motor 115 V / 60 Hz
	440-00S-S46 VM1600 with electric 115V / 60 Hz and pneumatic motor

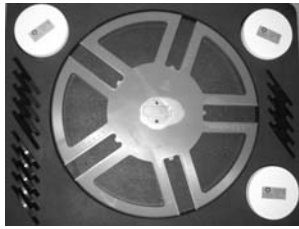
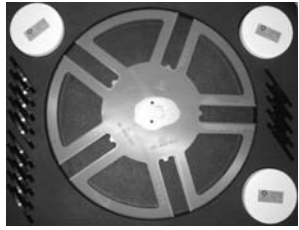



Pneumatically driven machines also require the accessory pneumatic motor maintenance kit







Accessories

Accessories	
P/N	Description
	<p>240-13K-001 Maintenance unit for pneumatic motor Required for machines with pneumatic motor. The maintenance unit is not included in the standard scope of supply with pneumatic driven machines. Includes:</p> <ul style="list-style-type: none"> • filter • oiler • pressure gauge • speed controller
	<p>440-52T-008 Setup adapter for flanges with threaded studs (2 pcs.)</p> <ul style="list-style-type: none"> • Enables the set up of the machine without removing the threaded studs of the flange. • Are used instead of the clamping pads. • The tilting adapter is mounted 2.8"(70 mm) above the flange. • The setup adapter can be screwed directly to the threaded stud (bore diameter 1.0"(25 mm) and 0.7"(17 mm)) or clamped between the studs by the c-clamps that belong to the scope of supply of the machine.
	<p>440-56S-N01 Fixture for gate wedges For grinding of gate wedges "on site" with the VM machines.</p>
	<p>440-00S-L03 Swing Check accessories For grinding of swing check valves. Includes:</p> <ul style="list-style-type: none"> • swivel adapter for adaption of the machine on the valve • spindle extension for reaching the seat with the planet wheels.



Accessories

Accessories	
P/N	Description
	<p>240-66S-N01 Extension Kit 20" (500 mm) for grinding</p> <p>To extend the working range of the VM1350 to 20" (500 mm).</p> <p>1 planet wheel 15.0" (380 mm) diameter. 1 set (5) grinding disk 3.2"(80 mm) diameter. 1 start up set abrasives 3.2"(80 mm) diameter: grain 100 and 500.</p>
	<p>240-67S-N01 Extension Kit 20" (500 mm) for grinding and lapping</p> <p>To extend the working range of the VM1350 to 20" (500 mm).</p> <p>1 planet wheel 15.0" (380 mm) diameter. 1 set (5) grinding disk 3.2"(80 mm) diameter. 1 set (5) lapping disks 3.2"(80 mm) diameter. 1 start up set abrasives 3.2"(80 mm) diameter: grain 100 and 500.</p>
	<p>110-24S-N01 Planet arm to extend seat range from 20" (500 mm) to 24" (600 mm) Each (A total of 5 are required)</p> <p>A planet arm (7.5" (190 mm)), that extends the grinding range of the 15" (380 mm) diameter planet wheel up to 24" (600 mm).</p>
	<p>Extension of submerging depth</p> <p>Extension of submerging depth without changing the max. grinding dia. (Must be ordered with the machine. Can not be ordered after delivery of the machine. e.g... 440-00S-S05-M01)</p>
-M01	<p>Extension of submerging depth from 24" to 31" (600 mm to 800 mm) (only VM1350(S))</p> <ul style="list-style-type: none"> • Extension of the machine arm. • Adaption of the machine case.
-M02	<p>Extension of submerging depth from 24" to 39" (600 mm to 1000 mm) (only VM1350(S))</p> <ul style="list-style-type: none"> • Extension of the machine arm. • Adaption of mounting accessories. • Adaption of the machine case.
-M03	<p>Extension of submerging depth from 31" to 39" (800 mm to 1000 mm) (only VM1500(S))</p> <ul style="list-style-type: none"> • Extension of the machine arm. • Adaption of mounting accessories. • Adaption of the machine case.

Accessories

	P/N	Description	
		<p>Grinding adapter For using the tooling of the VM1000 series on stationary drill presses. The grinding pressure is made by an application of springs.</p> <p>The scale for the grinding pressure is divided into two ranges: One for high rate of removal of material and the other for high precision surfaces.</p>	
	185-00S-S22	<p>Grinding adapter MT2 For using on stationary drill presses with morse taper #2.</p>	
	185-00S-S23	<p>Grinding adapter MT3 For using on stationary drill presses with morse taper #3.</p>	
	110-33S-N01	<p>CBN grinding disks 2" (50 mm) diameter. (each) (A total of 5 required) Required for rough grinding of heavily damaged seats (1 set is included in each component package).</p>	
	110-34S-N01	<p>CBN grinding disks 3.2" (80 mm) diameter. (each) (A total of 5 required) Required for rough grinding of heavily damaged seats.</p>	
	110-41S-N01	<p>Lapping disks 1.2" (30 mm) diameter (each) (A total of 5 required)</p>	
	110-42S-N01	<p>Lapping disks 2" (50 mm) diameter (each) (A total of 5 required)</p>	
	110-43S-N01	<p>Lapping disks 3.2" (80 mm) diameter (each) (A total of 5 required)</p>	

Accessories

	P/N	Description	
		<p>Planet Arms 3 degree The spindles of these arms are designed with a 3 degree offset. These arms are made to rework the 3 degree relief angle in gate valves</p>	
	110-51S-N01	<p>Planet arm #II 3 degrees (2.4"(60 mm) length) (each) (A total of five required) Outside grinding diameter 6.3"-13.0"(160-330 mm) (diameter depends on selected planet wheel)</p>	
	110-52S-N01	<p>Planet arm #III 3 degrees (4.5"(115 mm) length) (each) (A total of five required) Outside grinding diameter 13.0"-21.7"(330-550 mm) (diameter depends on selected planet wheel)</p>	
	110-50S-L01	<p>3 degree Planet Arm Set Includes :</p> <ul style="list-style-type: none"> • Planet arm #II 3 degree (5 pieces) • Planet arm #III 3 degree (5 pieces) 	
		<p>Planet Arms 5 degree The spindles of these arms are designed with a 5 degree offset. These arms are made to rework the 5 degree relief angle in gate valves</p>	
	110-61S-N01	<p>Planet arm #II 5 degrees (2.4"(60 mm) length) (each) (A total of five required) Outside grinding diameter 6.3"-13.0"(160-330 mm) (diameter depends on selected planet wheel)</p>	
	110-62S-N01	<p>Planet arm #III 5 degrees (4.5"(115 mm) length) (each) (A total of five required) Outside grinding diameter 13.0"-21.7"(330-550 mm) (diameter depends on selected planet wheel)</p>	
	110-60S-L01	<p>5 degree Planet Arm Set Includes :</p> <ul style="list-style-type: none"> • Planet arm #II 5 degree (5 pieces) • Planet arm #III 5 degree (5 pieces) 	

Because CLIMAX is committed to product improvement, the machine you receive may be slightly different to the pictures above.