

VERSATILE AND RELIABLE PERFORMANCE

OSHA & CE Compliant Hydraulic Power Units designed specifically for use with portable machine tools.



QUALITY AND VERSATILITY

Heavy-duty frame built with 6 inch (152.4 mm) urethane casters and robust hydraulic components, for reliable operation in the field.

Available in a wide variety of mains voltages (208 - 230, 380 - 415, 460, and 575), with 10 or 25 HP ratings.

Remote pendant provides easy operation in tight, cramped spaces.

3 Axis pendant control comes standard for use with linear milling machines.

Quick disconnect couplings make connecting to the HPU and flow reversal processes quick and easy, with no need for any tools. Two types of couplings are available, standard Parker 60 series, or ISO 16028 compatible flat face non-spill couplings

Manual dump valve releases the trapped pressure to enable quick and easy connection of the hoses

RELIABLE PERFORMANCE

Variable displacement pump provides improved power, performance, and precise speed control, providing full torque over the full speed range.

Counter balance valve comes standard with the HP1000 and HP2500 units, ensuring steady and smooth operation during interrupted cuts and up/down strokes, which allows improved performance, especially with large boring machines.

Fan cooled heat exchanger helps prevent oil overheating, and resulting loss of power.

Built-in filter gauge provides an easy visual indication to change filter element, maintaining peak performance and eliminating the possibility of filter rupture.

BUILT-IN SAFETY FEATURES

Hydraulic lock on the HP1000 and HP2500 unit prevents the tool connected to the machine from drifting or sagging. The lock

automatically releases when the operator presses the start button on the pendant.

Lock-out disconnect switch on main power for added safety as required by OSHA.

Main circuit breaker protects the branch circuit as required by NEC regulations.

Built-in system relief valve and system pressure gauge for added operator safety.

Phase sequence monitor protects the hydraulic pump from reverse rotation and protects against single phasing and significant voltage imbalance.

CE certified, OSHA, NFPA70, and NFPA79 compliant and available worldwide! All HPU units are available for sale worldwide, including in the European Union and other locations where CE, OSHA, or NFPA certification is required.



SPECIFICATIONS

	4 FUNCTION HPU	HP1000	HP2500
Horsepower	10 HP	10 HP	25 HP
GPM Flow / Hz	10 gpm @ 60 Hz 8.36 gpm @ 50 Hz	10 gpm @ 60 Hz 8.36 gpm @ 50 Hz	20gpm @ 60 Hz 16.6 gpm @ 50 Hz
General Guideline	1 HP (746 watts) = 1 gpm @ 1500 psi (103 bar)		
Actual Formula	1 HP = psi x gpm / 1714		
Example	1500 psi (103 bar) x 1 gpm / 1714 = 0.875 HP		
Weights and Dimensions	For a typical 10 or 25 HP Hydraulic Power Unit package, including container and all hoses		
Dimensions	24 W x 42.5 L x 30.5 H inches (609.6 W x 1079.5 L x 774.7 H)	24 W x 42.5 L x 30.5 H inches (609.6 W x 1079.5 L x 774.7 H)	28 W x 60 L x 43 H inches (711.2 W x 1524 L x 1092.2 H)
Shipping Dimensions	31 W x 50 L x 41 H inches (787.4 W x 1270 L x 1041.4 H)	31 W x 50 L x 41 H inches (787.4 W x 1270 L x 1041.4 H)	35 W x 69 L x 56 H inches (889 W x 787.4 L x 1422.4 H)
Shipping weight	695 lbs (315.2 kg)	695 lbs (315.2 kg)	1540 lbs (698.5 kg)

Speed		
<i>Example:</i>	1 gallon = 231 cubic in (US)	1 Liter = 1000 cm3 (Metric)
If a hydraulic motor has a displacement of	9.7 cubic in/rev	158.95 cm3/rev
and a flow of	1 gpm	3.79 L/min
RPM calculation is:	1 gpm x 231 cubic in / 9.7cubic in/rev = 24 rpm	3.79 L/min x 1000 cm3 / 158.95 cm3/rev = 24 rpm
To calculate how fast it will turn at	5 gpm	18.93 L/min
Calculation is:	5 gpm x 231 cubic in / 9.7 cubic in/rev = 119 rpm	8.93 L/min x 1000 cm3 / 158.95 cm3/rev = 119 rpm
A hydraulic motor may slip 5 - 10% of its full rated flow, and not turn at the full expected RPM under a load. If a given speed is important, always be sure to have extra pump capacity. The Char-Lynn or Parker motors CLIMAX provides as standard equipment with our portable machine tools are rated for 15 gpm (56.7 L/min) max continuous use, 20 gpm (75.7 L/min) max intermittent use. Intermittent is defined as 10% of each minute.		

Running the HPU from a Generator							
When using a generator to run a Hydraulic Power Unit, the Horsepower rating of the generator should be at least 5 times the Horsepower rating of the Hydraulic Power Unit. To be safe, always check with the generator manufacturer before attempting to operate a Hydraulic Power Unit from a generator.							
Motor HP	Mains Voltage	Full Load Amps	NEMA Locked Rotor Code Letter	KVA/HP	Motor Locked Rotor KVA	Motor Locked Rotor kW	Minimum Generator Rated kW Required to Start Motor
10	230	24	H	7.09	71	57	38
10	460	12	H	7.09	71	57	38
25	230	62	F	5.59	140	112	95
25	460	31	F	5.59	140	112	95

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.

Oil & Temperature Specifications

- The hydraulic hoses supplied with your CLIMAX Hydraulic Power Unit are rated for operation down to -40°F (-40°C).
- The seals in the pump and motor are rated for operation down to -10°F (-23°C). Below that temperature, the seal material loses elasticity and will wear rapidly, causing premature seal failure.
- Both the Oilgear pump and the Char-Lynn motors are rated to operate at no more than 200°F (93°C) with a minimum oil viscosity of 70 SUS.
- Allowable oil viscosity range on Oilgear pumps and Char-Lynn motors is 65-2000 SUS.
- In order to stay within the required viscosity range, use the recommended grade of hydraulic oil listed in the chart below:

OIL	Minimum Oil Temp	Maximum Oil Temp
SAE-10W	30°F (-1°C)	150°F (66°C)
AW-22 DTE-22	14°F (-10°C)	132°F (56°C)
AW-32 (CLIMAX recommended standard) DTE-24	27°F (-3°C)	155°F (68°C)
AW-46 DTE-25	39°F (-4°C)	172°F (78°C)
AW-68 DTE-26	50°F (10°C)	190°F (88°C)
AW-100 DTE-HEAVY	60°F (16°C)	190°F (88°C)

- If a Hydraulic Power Unit is to be operated at ambient temperatures lower than the minimum allowable oil temperature, it will be necessary to provide a tank heater to ensure the oil stays warm.
- Under continuous operation at moderate to high loads, it can be anticipated that the hydraulic oil temperature will rise between 80 - 90°F (27 - 32°C) above ambient temperature. This should be taken into consideration when selecting the grade of oil to be used in your HPU, and oil temperature should be monitored carefully if it is likely to approach the maximum allowable temperature.
- Under normal conditions, all Hydraulic Power Units ship from CLIMAX with no oil in the reservoir. Upon special request, some Hydraulic Power Units are shipped with oil. Those CLIMAX Hydraulic Power Units which are supplied with hydraulic oil in the reservoir will be supplied with AW32 oil unless specified otherwise. **Gallons of oil required:**
 - 10 HP = 10 gallons
 - 25 HP = 20 gallons
- Mains voltage options:
 - 208-230 Volts = 50/60HZ
 - 380-415 Volts = 50/60HZ
 - 460 Volts = 50/60HZ
 - 575 Volts = 50/60HZ
- Converting an HPU from one voltage to another:
 - 208-230V HPU's can be converted to 380V, 415V, or 460V. **But not the other way around.**
 - HPU's with mill control require a special transformer for 380/415V.
 - HPU's with servo control for CM6200 cannot be converted from one voltage to another.
 - 575V HPU's require dedicated voltage drive motor and cannot be converted to or from different voltage.

Control Functions

- 4 Function – start, e-stop, jog, remote speed control (push button).
- HP1000 – system start, e-stop, jog, and remote speed dial control.
- HP2500 – system start, e-stop, jog, and remote speed dial control.
- The standard CLIMAX heavy-duty electric power feed motors are compatible with the linear mill Hydraulic Power Unit power feed controls.
- Hydraulic Power Units with mill control provide control of up to 3 axis of power feed with the following functions: start, stop, variable speed, high-speed traverse, X, Y, Z axis feed.

TOOL CONFIGURATIONS

To order your **Hydraulic Power Unit**, simply select from the options below.

- | | |
|-----------------------------------|---|
| OPTION 1 4 FUNCTION, 10 HP | An affordable option for use on small and lightweight machine. |
| OPTION 2 HP1000, 10 HP | For use on larger machines where controlled acceleration and deceleration are required. |
| OPTION 3 HP2500, 25 HP | Use on heavy larger machines where controlled acceleration and deceleration are required. |

OPTION 1 4 FUNCTION, 10 HP HPU

4 Function HPUs are good for use on small and lightweight machines (BB4500 Line Boring Machine, BB5000 Line Boring Machine, PM4200 Milling Machine, FF6300 Flange Facer, and all H&S TOOL Flange Facers) which do not require controlled acceleration and deceleration, and where load holding when stopped is not required. This hydraulic power unit puts out 10 GPM at 1500 psi (103 bar) continuous, 2200 psi (152 bar) peak pressure. Quick couplers are

4 Function, 208 - 230 Volts				
Cordset/hose length		Quick Connect Style, ½ in.		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		55285
50	15	✓		51517
100	30	✓		94009
20	6		✓	93894
50	15		✓	94010
100	30		✓	94011
4 Function, 380 - 415 Volts				
Cordset/hose length		Quick Connect Style, ½ in.		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		55279
50	15	✓		55856
100	30	✓		80909
20	6		✓	93927
50	15		✓	94012
100	30		✓	94013
4 Function, 460 Volts (440 - 480 volts)				
Cordset/hose length		Quick Connect Style, ½ in.		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		51130
50	15	✓		55645
100	30	✓		56658
20	6		✓	94015
50	15		✓	94016
100	30		✓	94017

4 Function, 575 Volts				
Cordset/hose length		Quick Connect Style, ½ in.		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		51133
50	15	✓		51138
100	30	✓		81396
20	6		✓	94018
50	15		✓	94019
100	30		✓	94020



4 Function Pendant with replaceable cordset

TOOL CONFIGURATIONS

OPTION 2 HP1000, 10 HP HPU

The HP1000 has built-in ramping (soft start / soft stop) and load holding capability when the machine is stopped. This hydraulic power unit is typically used with our larger machines (BB6100 Line Boring Machine, BB7100 Line Boring Machine, LM5200 Linear/Gantry Mill, FF7200 Flange Facer, and the FF8200 Flange Facer) and puts out 10 GPM at 1500 psi (103 bar) continuous, 2200 psi (152 bar) peak pressure.

HP1000, 208 - 230 Volts				
Cordset/hose length		Quick Connect Style, ½ in.		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		93687
50	15	✓		93724
100	30	✓		94021
20	6		✓	94022
50	15		✓	94023
100	30		✓	93980
HP1000, 380 - 415 Volts				
Cordset/hose length		Quick Connect Style, ½ in.		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		94024
50	15	✓		93725
100	30	✓		94025
20	6		✓	94026
50	15		✓	94027
100	30		✓	94028

HP1000, 460 Volts (440 - 480 volts)				
Cordset/hose length		Quick Connect Style, ½ in.		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		94029
50	15	✓		93770
100	30	✓		94030
20	6		✓	94031
50	15		✓	94032
100	30		✓	94033
HP1000, 575 Volts				
Cordset/hose length		Quick Connect Style, ½ in.		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		94034
50	15	✓		93744
100	30	✓		94035
20	6		✓	94036
50	15		✓	93745
100	30		✓	94037

OPTION 3 HP2500, 25 HP HPU

The HP2500 has built-in ramping (soft start / soft stop) and load holding capability when the machine is stopped. This hydraulic power unit is typically used with our heavy larger machines (BB8100 Line Boring Machine, LM6200 Linear/Gantry Mill, and the CM6200 Circular Mill) and puts out 20 GPM at 1500 psi (103 bar) continuous, 2200 psi (152 bar) peak pressure.

HP2500, 208 - 230 Volts				
Cordset/hose length		Quick Connect Style, ¾ in.		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		93743
50	15	✓		93748
100	30	✓		94039
20	6		✓	93897
50	15		✓	94040
100	30		✓	94041
HP2500, 380 - 415 Volts				
Cordset/hose length		Quick Connect Style, ¾ in.		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		93810
50	15	✓		93811
100	30	✓		94042
20	6		✓	94043
50	15		✓	93719
100	30		✓	94044

HP2500, 460 Volts (440 - 480 volts)				
Cordset/hose length		Quick Connect Style, ¾ in.		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		94045
50	15	✓		93761
100	30	✓		94046
20	6		✓	94047
50	15		✓	94048
100	30		✓	94049
HP2500, 575 Volts				
Cordset/hose length		Quick Connect Style, ¾ in.		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		94050
50	15	✓		94051
100	30	✓		94052
20	6		✓	94053
50	15		✓	94054
100	30		✓	93696

TOOL CONFIGURATIONS

OPTION 3 HP2500, 25 HP HPU, Continued

HP2500, Dual Pump, 208 - 230 Volts				
Cordset/hose length		Quick Connect Style		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		90274
50	15	✓		90976
100	30	✓		90977
20	6		✓	90987
50	15		✓	90988
100	30		✓	90989

HP2500, Dual Pump, 380 - 415 Volts				
Cordset/hose length		Quick Connect Style		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		90978
50	15	✓		90979
100	30	✓		90980
20	6		✓	90990
50	15		✓	90991
100	30		✓	90992

HP2500, Dual Pump, 460 Volts (440 - 480 volts)				
Cordset/hose length		Quick Connect Style		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		90981
50	15	✓		90982
100	30	✓		90983
20	6		✓	90993
50	15		✓	90994
100	30		✓	90995

HP2500, Dual Pump, 575 Volts				
Cordset/hose length		Quick Connect Style		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		90984
50	15	✓		90985
100	30	✓		90986
20	6		✓	90996
50	15		✓	90997
100	30		✓	90998

ACCESSORIES

HP1000 AND HP2500 OPERATOR PENDANT

"Dial set" speed control allows the operator to set repeatable speed settings and easily make small speed adjustments when needed.

Soft start/stop control ensures smooth starting and stopping on large machines, preventing damage to the drive and feed.

Controlled deceleration prevents over-pressurization of the hydraulic system allowing the operator to decelerate the machine tool in a safe and controlled manner especially when the "Emergency Stop" is used.

Controlled motion of the machine tool minimizes sudden speed changes preventing rapid acceleration when a cutting on uneven surfaces, like bolt-hole patterns. It also provides uniform speeds when cutter hits hard spots like weld beads.

Replaceable cordset with quick connectors at both ends of the cable.

Magnetic back allows for convenient positioning of the pendant and prevents pendant from falling.

Ergonomic pistol grip for ease of use.



QUICK DISCONNECT COUPLINGS

There are 2 types of hydraulic Quick Couplings available

60 Series –Used mostly in North America, South America, Asia and the Middle East.

ISO 16028 – Used mostly in Europe and Australia



60 Series



ISO 16028

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.

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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



Typical Courses Include:

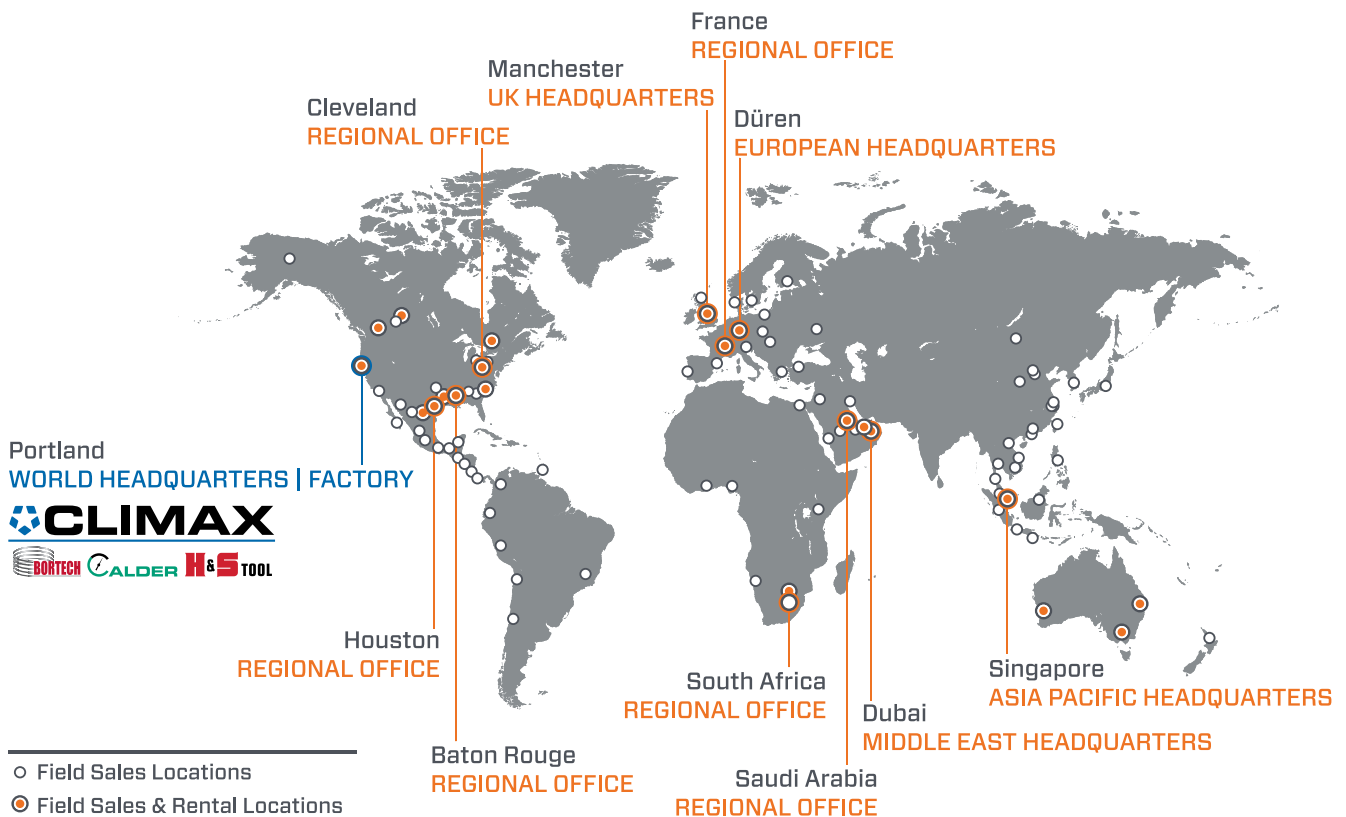
- ✓ Operator safety
- ✓ Tool component review and setup
- ✓ Standard operational techniques
- ✓ Overview of cutting tools and recommend usage
- ✓ Maintenance procedures
- ✓ A certificate of achievement - issued to each student immediately following course completion

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