

# 505 SilentFlo™ Power Units

The MTS SilentFlo hydraulic power units are so quiet and clean you can put them right in your laboratory or shop where you need it. The amazingly low sound levels were achieved by mounting key hydraulic components and special liquid cooled motors in the oil reservoir. The power units also have a carefully designed enclosure with sound absorbing materials. Most important of all, the SilentFlo provide the quality and performance you would expect from all MTS products.



## Typical Applications

- Hydraulic supply for servohydraulic testing systems.
- Power supply for other hydraulically operated machinery, presses, or test systems.

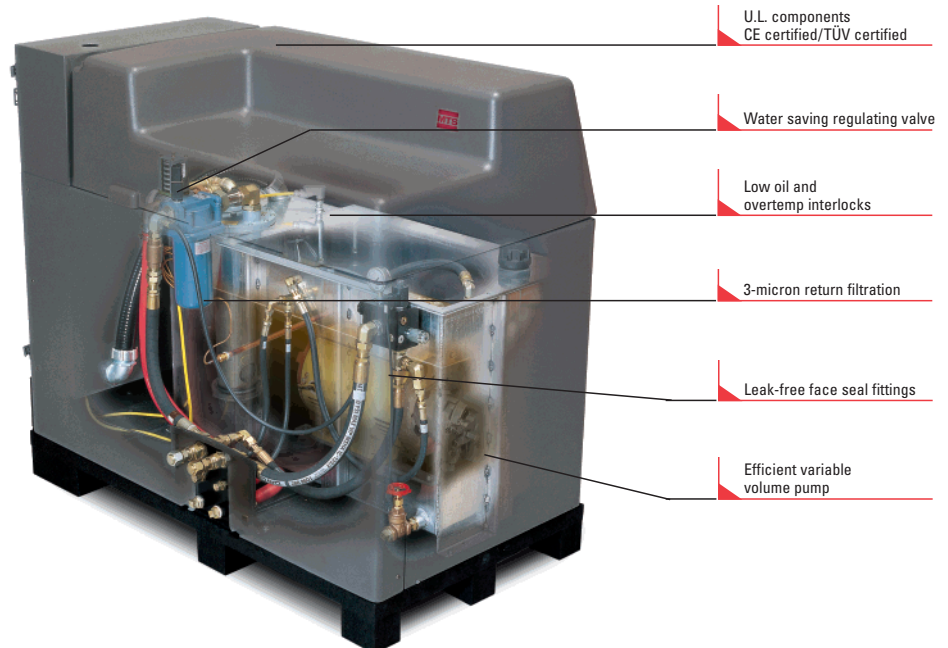
## Standard Features & Benefits

- Turnkey package with electrical starter, control components, and water cooling system makes it easy to install.
- Quiet operating sound levels (58 to 72 dbA) allows the pump to be located in a convenient location eliminating the need for an expensive pump room. Strategically located power units may also reduce hardline and other distribution costs.
- Reservoir mounted components, face seal fittings, and well designed enclosure reduce the potential for messy leaks.
- The liquid cooled motors and the insulated enclosure eliminate ventilation costs by directing heat loss to the cooling water system.
- SilentFlo units can be placed close to a wall, minimizing the valuable space required for a hydraulic power unit.

- High efficiency motors and variable volume pumps reduce operating costs.
- Adjustable operating pressure up to 21 MPa (3000 Psi).
- A 3 micron return line filter to keep the oil clean.
- Electrical disconnect switch activated when the control panel door is opened interrupts electrical power for operator safety. This feature also provides lockout capability to prevent tampering.
- Designed to be easily moved and to fit through most doorways.

The SilentFlo product line consists of four different platform. The 505.07/11 and 505.20/30 platforms are designed with a single pump/motor module while the 505.60/90 and 505.120/150/180 platforms are configured with multiple 113 lpm (30 gpm) pump/motor modules in a single reservoir. The multiple pump/motor design in the larger units provides many advantages such as:

- Low in-rush currents during start up. This is accomplished by programming a short delay between the starts of the individual pump/motor modules.



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- Expandability within a platform. If your flow requirements increase in the future, you can expand a 505.60 to a 505.90 by adding a pump/motor module. The 505.120 and 505.150 models can also be expanded in 113 lpm (30 gpm) increments up to 681 lpm (180 gpm).
- Serviceability without completely shutting your power unit down. If

an individual pump/motor assembly needs servicing, this module can be shut off while the other modules continue to operate.

## SilentFlo Options

**Electrical Power** – The SilentFlow is available in many supply voltages from 200-575 VAC, 50 or 60 Hz for the smaller units and from 380-575 VAC, 50 or 60 Hz for the larger units. The flow output for most models is reduced with 50 Hz power.

**High Pressure Filtration** – A high pressure filter can be added for additional system filtration at the outlet of the pump. This filter option is 3 micron on the smaller units and 10 micron on the larger units.

**28 Mpa (4000 Psi) Pressure** – 505.20 through the 505.180 models are available with a higher operating pressure of 28 Mpa (4000 Psi) at a reduced flow output.

**Power Unit Commoning** – The larger 505 SilentFlow models can be installed



505.60 & 505.90

with two power units supplying oil to the same hydraulic circuit. The commoning option includes a short extension pipe and valve allowing the reservoirs to be connected together so the fluid levels in the two units stay the same. This option is required for both units and does not include the



505.120, 505.150, & 505.180

## 505.07-505.30 SilentFlo Specifications

Operating pressure: 210 bar (3,000 psi)  
 Pump type: Variable displacement pumps  
 Filtration: 3 micron on the return side

Max. ambient operating temperature: 40° C (104° F)  
 Min. ambient operating temperature: 5° C (40° F)

	505.07	505.11	505.20	505.30
Flow rate (for 60 Hz models)	26.5 lpm (7 gpm)	41.6 lpm (11 gpm)	76 lpm (20 gpm)	113.5 lpm (30 gpm)
Flow rate (for 50 Hz models)	22.7 lpm (6 gpm)	41.6 lpm (11 gpm)	62.5 lpm (16.5 gpm)	100.7 lpm (26.6 gpm)
Noise level*	58 dB(A)	60 dB(A)	63 dB(A)	63 dB(A)
Reservoir capacity (maximum)	174 L (46 gal)	174 L (46 gal)	341 L (90 gal)	341 L (90 gal)
Width	71 cm (28 in)	71 cm (28 in)	86.4 cm (34 in)	86.4 cm (34 in)
Height	107 cm (43 in)	107 cm (43 in)	142.9 cm (54 in)	142.9 cm (54 in)
Length	99 cm (39 in)	99 cm (39 in)	157.5 cm (62 in)	157.5 cm (62 in)
Weight with maximum oil	451 kg (992 lb)	474 kg (1042 lb)	817 kg (1800 lb)	863 kg (1900 lb)
Motor starter configuration	Line voltage	Wye-Delta	Wye-Delta	Wye-Delta
Motor size	11 kW (15 hp)	18.5 kW (25 hp)	30 kW (40 hp)	45 kW (60 hp)
Heat exchanger	Stainless steel plate style	Stainless steel plate style	Copper (optional Cu/Ni)	Copper (optional Cu/Ni)
Hydraulic Connections	Pressure & Return: -12 ORFS Drain: -8 & -6 ORFS		Pressure & Return: -16 ORFS Drain: -8 & -6 ORFS	
Cooling water connection	2 cm (0.75 in)	2 cm (0.75 in)	2.5 cm (1 in)	2.5 cm (1 in)

\* Sound levels [dB(A)] are expressed as a free field value. Readings may vary with acoustic environment. Specifications subject to change without notice. Please contact MTS for specifications critical to your application.

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pipng between the two HPUs.

**Transport Kit** – For applications where mobility is important, a convenient platform with wheels can be added.

**Accumulators** – High pressure accumulators are available to help manage surges in flow demand.

**Mirror Image** – The larger SilentFlo power units can be configured with the control panel and hydraulic connections positioned either on the left

(standard) or right hand sides to fit your facility.

**Run on Demand (ROD)** – The 505.60-505.180 models may be ordered with MTS's run on demand (ROD) option which reduces electrical power and cooling water consumption when the system is not running at full capacity. The R-O-D automatically starts and stops individual pump/motor modules based on system flow requirements.

**Copper/Nickel Heat Exchanger** – The 505.20 and 505.30 are available with a copper/nickel heat exchanger for installations where the cooling water may be corrosive. All other 505 models are designed with stainless steel heat exchangers and do not require this option for corrosion protection.

## 505.07-505.30 SilentFlo Order Information

You can order a 505 SilentFlo by selecting the flow rating, supply voltage, operating pressure and the desired options. Note that some options are not available on all models.

See MTS Model 505 SilentFlo Product Specification number 100-029-636 for more information.

### 505.07-505.30 SilentFlo

<b>SilentFlo</b>	60 Hz/50 Hz Flow Rating @ 3000 psi
<input type="checkbox"/>	<b>505.07</b> 26.5/22.7 lpm (7/6 gpm)
<input type="checkbox"/>	<b>505.11</b> 41.6/41.6 lpm (11/11 gpm)
<input type="checkbox"/>	<b>505.20</b> 76/62.5 lpm (20/16.5 gpm)
<input type="checkbox"/>	<b>505.30</b> 113.5/100 lpm (30/26.6 gpm)

<b>Supply Voltage</b> (voltage-phase-frequency)	
<input type="checkbox"/>	200-3-50
<input type="checkbox"/>	220-3-50
<input type="checkbox"/>	380-3-50
<input type="checkbox"/>	400-3-50
<input type="checkbox"/>	415-3-50
<input type="checkbox"/>	200-3-60
<input type="checkbox"/>	220-3-60
<input type="checkbox"/>	380-3-60
<input type="checkbox"/>	-440-3-60
<input type="checkbox"/>	460-3-60
<input type="checkbox"/>	-575-3-60

<b>Operating Pressure</b>	
<input type="checkbox"/>	21 Mpa (3000 Psi)
<input type="checkbox"/>	28 Mpa (4000 Psi) (available on 505.20 & 505.30 only)

<b>High Pressure Filter (Optional)</b>	
<input type="checkbox"/>	High pressure 3 micron filter on the outlet

<b>Accumulator (Optional – Available on 505.20 &amp; 30 models only)</b>	
<input type="checkbox"/>	1.89 liter pressure accumulator
<input type="checkbox"/>	TUV approved 2 liter pressure accumulator

<b>Copper/Nickel Heat Exchanger (Optional – Available on 505.20 &amp; 30 models only)</b>	
<input type="checkbox"/>	Copper/nickel heat exchanger for 505.20 or 505.30

<b>Transport Kit (Optional)</b>	
<input type="checkbox"/>	Transport kit

<b>Commoning Kit (Optional – Available on 505.20 &amp; 30 models only)</b>	
<input type="checkbox"/>	Commoning ready kit for 505.20 or 505.30

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## 505.60-505.180 SilentFlo Specifications

Operating pressure: 210 bar (3,000 psi)

Filtration: 3 micron on the return side

Min. ambient operating temperature: 5° C (40° F)

Pump type: Variable displacement pumps

Max. ambient operating temperature: 40° C (104° F)

	505.60	505.90	505.120	505.150	505.180
Flow rates for 60 Hz models	227 lpm (60 gpm)	340 lpm (90 gpm)	454 lpm (120 gpm)	568 lpm (150 gpm)	681 lpm (180 gpm)
Flow rates for 50 Hz models	200 lpm (53 gpm)	300 lpm (80 gpm)	400 lpm(106 gpm)	500 lpm (133 gpm)	600 lpm(160 gpm)
Noise level*	68 dB(A)	68 dB(A)	70 dB(A)	71 dB(A)	72 dB(A)
Reservoir capacity (maximum)	950 L (250 gal)	950 L (250 gal)	1,893 L (500 gal)	1,893 L (500 gal)	1,893 L (500 gal)
Width	100 cm (39 in)	100 cm (39 in)	100 cm (39 in)	100 cm (39 in)	100 cm (39 in)
Height	200 cm (79 in)	200 cm (79 in)	200 cm (79 in)	200 cm (79 in)	200 cm (79 in)
Length	287 cm (113 in)	287 cm (113 in)	457 cm (180 in)	457 cm (180 in)	457 cm (180 in)
Weight with maximum oil	1,907 kg (4,200 lb)	2,134 kg (4,700 lb)	2,338 kg (5,150 lb)	2,542 kg (5,600 lb)	2,747 kg (6,050 lb)
Motor starter configuration	Wye-delta	Wye-delta	Wye-delta	Wye-delta	Wye-delta
Motor size	45 KW (60 Hp)	45 KW (60 Hp)	45 KW (60 Hp)	45 KW (60 Hp)	45 KW (60 Hp)
Number of Motor/pump units	2	3	4	5	6
Heat Exchange	Stainless Steel Plate Sytle	Stainless Steel Plate Sytle	Stainless Steel Plate Sytle	Stainless Steel Plate Sytle	Stainless Steel Plate Sytle
Hydraulic Connections	Pressure & Return: SAE 2 inch C61 Flange				
	Drain: JIC -16	Drain: JIC -16	Drain: JIC -16	Drain: JIC -16	Drain: JIC -16
Cooling water connection	3.8 cm (1.5 in)	3.8 cm (1.5 in)	3.8 cm (1.5 in)	3.8 cm (1.5 in)	3.8 cm (1.5 in)

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## 505.60-505.180 SilentFlo Order Information

You can order a 505 SilentFlo by selecting the flow rating, supply voltage, operating pressure and the desired options. Note that some options are not available on all models.

See MTS Model 505 SilentFlo Product Specification number 100-029-636 for more information.

### 505.60-505.180 SilentFlo

SilentFlo	60 Hz (50 Hz)	Flow Rating @ 3000 psi
<input type="checkbox"/> 505.60		227/200 lpm (60/53 gpm)
<input type="checkbox"/> 505.90		340/300 lpm (90/80 gpm)
<input type="checkbox"/> 505.120		454/400 lpm (120/106 gpm)
<input type="checkbox"/> 505.150		568/500 lpm (150/133 gpm)
<input type="checkbox"/> 505.180		681/600 lpm (180/160 gpm)

### Supply Voltage

- |                                   |                                   |
|-----------------------------------|-----------------------------------|
| <input type="checkbox"/> 380-3-50 | <input type="checkbox"/> 380-3-60 |
| <input type="checkbox"/> 400-3-50 | <input type="checkbox"/> 440-3-60 |
| <input type="checkbox"/> 415-3-50 | <input type="checkbox"/> 460-3-60 |
|                                   | <input type="checkbox"/> 575-3-60 |

### Operating Pressure

- 21 Mpa (3000 Psi)
- 28 Mpa (4000 Psi)

### High Pressure Filter (Optional)

- High pressure 10 micron filter on the outlet

### Accumulator (Optional)

- 0.95 liter pressure accumulator
- 3.78 liter pressure accumulator
- TUV approved 3.78 liter pressure accumulator

### Commoning Kit (Optional)

- Commoning ready kit

### Run-On-Demand (Optional)

- Run-On-Demand

### Mirror Image (Optional)

- Electrical panel and hydraulic connections on right hand side.