



SilentFlo™ Hydraulic Power Units

Quiet, reliable and efficient power generation

be certain.

RELIABLE POWER FROM A PROVEN SOURCE. TRUST ONE OF THE
WORLD'S LEADING PROVIDERS OF SERVOHYDRAULIC TEST SYSTEMS
TO CREATE OPERATIONALLY EFFICIENT AND SAFETY-ENGINEERED
HYDRAULIC POWER GENERATION. MTS HYDRAULIC POWER UNITS
SET THE STANDARD FOR QUIET AND EFFICIENT OPERATION AND
ENHANCED TEST SYSTEM PERFORMANCE.



Known for their unmatched quiet and clean operation, MTS SilentFlo™ hydraulic power units (HPUs) help you power your test systems with superior flexibility and cost-efficiency. SilentFlo HPUs are specifically designed to handle the rigors of extreme, continuous-duty servohydraulic applications, and they perform reliably, year after year.

FEATURES

- » Intuitive interface
- » TÜV certified*
- » Energy efficient
- » Advanced filtration
- » Integrated cooling options
- » Remote monitoring capability

*The SilentFlo product family is certified by TÜV Rheinland, a Nationally Recognized Testing Laboratory (NRTL). The "cTUVus mark" accredited test mark is proof of compliance with U.S. National and Canadian National standards in accordance with Occupational Safety and Health Administration (OSHA) and the Standards Council of Canada (SCC).

Quiet, clean and compact

Depending on the model, SilentFlo HPUs run at 58 – 72 dB(A)—that's up to 30 dB(A) quieter than conventional HPUs—and are designed for extremely clean operation. SilentFlo HPUs require minimal floor space and are small enough to fit through standard doorways. With their quiet, clean and compact design, MTS SilentFlo HPUs can be placed directly on the test lab floor, eliminating the expenses associated with managing a separate pump room and transporting hydraulic fluid across the test facility.

Remote monitoring capability

Networkable HMIs (human-machine interfaces) are standard on all units enabling the option for remote monitoring. The programmable logic controls (PLC) with ethernet connectivity provide real-time status information regarding pressure, temperature and fluid level to anywhere within your network. They allow you to monitor your HPU's operational status from the control room or your office.

Designed for safety

Automatic interlocks protect against inadvertent damage due to high temperatures or low fluid levels. The thermo-insulated enclosure keeps SilentFlo HPUs completely cool to the touch on the outside, even after hours of operation. This design helps prevent injury, while eliminating the need for costly ventilation systems.

Energy efficient

SilentFlo HPUs conserve valuable resources. Variable-displacement piston pumps ensure maximum electrical efficiency, even during times of reduced flow demand. And an innovative water-cooling system maintains the proper hydraulic fluid operating temperature. These pumps also include water-saver and water-shutoff valves to minimize water consumption.



Intuitive interface

Integrated controls and indicators provide clear, logical functionality, and an eight-language touchscreen HMI ensures ease of operation.

| 故障 | | | |
|----|-------------------|----------|-----|
| 运行 | 泵运行 时间 (小时) | 15,495.2 | 主菜单 |
| 高压 | 油压 | 3007.PSI | 状态 |
| | 油温 | 108.7 F | |
| 遥控 | 油位 | | 设定 |

| PREPARADO | | | |
|---------------------|-------------------------|-----------|-----------|
| STOP | HORAS DE BOMBA | 15,495.2 | PRINCIPAL |
| HIGH PRESSURE | PRESION DE ACEITE | 20.80 MPa | ESTADO |
| | TEMP. DE ACEITE | 42.6 C | |
| OPERACIÓN REMOTA | NIVEL DE ACEITE | 0.125 | CONFIG |

Smaller SilentFlo HPU's

Model 505.07 – 505.30 Specifications

Operating pressure: 210 bar (3,000 psi)
 Pump type: Variable displacement pumps
 Filtration: 3 micron on the return side
 Maximum ambient operating temperature: 40° C (104° F)
 Minimum ambient operating temperature: 5° C (40° F)

| | Model 505.07 | Model 505.11 | Model 505.20 | Model 505.30 |
|-------------------------------|--|-----------------------------|--|-------------------------|
| Flow rates (for 60 Hz models) | 26.5 lpm (7 gpm) | 41.6 lpm (11 gpm) | 75.7 lpm (20 gpm) | 113.5 lpm (30 gpm) |
| Flow rates (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 (42 in) | 107 cm (42 in) | 142.9 cm (56.25 in) | 142.9 cm (56.25 in) |
| Length | 99 cm (39 in) | 99 cm (39 in) | 157.5 cm (62 in) | 157.5 cm (62 in) |
| Weight with maximum oil | 450 kg (922 lb) | 473 kg (1,042 lb) | 819 kg (1,806 lb) | 860 kg (1,897 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 [dbA] 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.

Model 505.07 – 505.30 Options

ELECTRICAL PACKAGE (FACTORY INSTALLED ONLY)

SilentFlo HPU's support your electrical requirements. Standard voltages from 200 – 575 V AC and frequencies of 50 or 60 Hz may be selected as a factory option (please specify at time of initial order).

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.

ACCUMULATORS

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

AIR COOLING (FACTORY INSTALLED ONLY)

While water cooling is the standard method for maintaining proper hydraulic fluid operating temperature, an environmentally friendly air cooling option is also available.

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.

TRANSPORT

For applications where mobility is especially important, a convenient transport kit is available. The transport kit may be installed on your new unit at the factory or added later at your site should your needs change.

NETWORKABLE HMI MONITORING

With this affordable option, you can monitor your HPU's human-machine interface (HMI) from anywhere within your network. It allows you to bring pump room status into the control room or anywhere within your networked facility.

Model 505.07 – 505.30 Order Guide

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

Model 505.07 – 505.30 SilentFlo HPU

| | |
|--|---|
| Hydraulic Power Unit | 60 Hz/50 Hz Flow Rating @ 3000 psi <input type="checkbox"/> 505.07 26.5/22.7 lpm (7/6 gpm) <input type="checkbox"/> 505.11 41.6/41.6 lpm (11/11 gpm) <input type="checkbox"/> 505.20 76/62.5 lpm (20/16.5 gpm) <input type="checkbox"/> 505.30 113.5/100 lpm (30/26.6 gpm) |
| Supply Voltage | (Voltage-phase-frequency) <input type="checkbox"/> 200-3-50 <input type="checkbox"/> 400-3-50 <input type="checkbox"/> 200-3-60 <input type="checkbox"/> 400-3-60 <input type="checkbox"/> 220-3-50 <input type="checkbox"/> 415-3-50 <input type="checkbox"/> 208-3-60 <input type="checkbox"/> 440-3-60 <input type="checkbox"/> 230-3-50 <input type="checkbox"/> 440-3-50 <input type="checkbox"/> 220-3-60 <input type="checkbox"/> 460-3-60 <input type="checkbox"/> 380-3-50 <input type="checkbox"/> 230-3-60 <input type="checkbox"/> 480-3-60 <input type="checkbox"/> 240-3-60 <input type="checkbox"/> 575-3-60 <input type="checkbox"/> 380-3-60 |
| Operating Pressure | <input type="checkbox"/> 21 Mpa (3000 psi) <input type="checkbox"/> 28 Mpa (4000 psi) (available on 505.20 & 505.30 only) <input type="checkbox"/> 5000 psi/344.7 Bar (available on 505.30 only) |
| High Pressure Filter (Optional) | <input type="checkbox"/> High pressure 3-micron filter on the outlet |
| Accumulator (Optional – Available on 505.20 & 30 models only) | <input type="checkbox"/> US accumulator only <input type="checkbox"/> CE accumulator only <input type="checkbox"/> Japanese accumulator |
| Copper/Nickel Heat Exchanger (Optional – Available on 505.20 & 30 models only) | <input type="checkbox"/> Copper/nickel heat exchanger for 505.20 or 505.30 <input type="checkbox"/> Water strainer <input type="checkbox"/> Air cooled |
| Transport Kit (Optional) | <input type="checkbox"/> Transport kit |
| Commoning Kit (Optional – Available on 505.20 & 30 models only) | <input type="checkbox"/> Commoning ready kit for 505.20 or 505.30 |
| Monitoring Options | <input type="checkbox"/> Ethernet-capable PLC (for multi-HPU control schema) <input type="checkbox"/> Remote monitoring kit (for networkable HMI) <input type="checkbox"/> Analog sensors (pressure, level, flow) |

Larger SilentFlo HPUs

Model 505.60 – 505.180 Specifications

Operating pressure: 210 bar (3,000 psi)
 Pump type: Variable displacement pumps
 Filtration: 3 micron on the return side
 Maximum ambient operating temperature: 40° C (104° F)
 Minimum ambient operating temperature: 5° C (40°F)

| | Model 505.60 | Model 505.90 | Model 505.120 | Model 505.150 | Model 505.180 |
|-------------------------------|--|--------------------------------|--|--------------------------------|--------------------------------|
| Flow rates (for 60 Hz models) | 227 lpm (60 gpm) | 340 lpm (90 gpm) | 454 lpm (120 gpm) | 567 lpm (150 gpm) | 681 lpm (180 gpm) |
| Flow rates (for 50 Hz models) | 200 lpm (53.2 gpm) | 300 lpm (80 gpm) | 400 lpm (106.4 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) | 947 L (250 gal) | 947 L (250 gal) | 1,893 L (500 gal) | 1,893 L (500 gal) | 1,893 L (500 gal) |
| Width | 104 cm (41 in) | 104 cm (41 in) | 104 cm (41 in) | 104 cm (41 in) | 104 cm (41 in) |
| Height | 199.5 cm (78.5 in) | 199.5 cm (78.5 in) | 199.5 cm (78.5 in) | 199.5 cm (78.5 in) | 199.5 cm (78.5 in) |
| Length | 287 cm (113 in) | 287 cm (113 in) | 427 cm (168 in) | 427 cm (168 in) | 427 cm (168 in) |
| Weight with maximum oil | 2,615 kg (5,766 lb) | 3,051 kg (6,726 lb) | 4,561 kg (10,056 lb) | 4,979 kg (10,977 lb) | 5,397 kg (11,898 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 exchanger | Stainless steel plate style | Stainless steel plate style | Stainless steel plate style | Stainless steel plate style | Stainless steel plate style |
| Hydraulic connections | Pressure & Return: SAE 2 inch C61 Flange Drain: JIC -16 | | Pressure & Return: SAE 2 inch C61 Flange Drain: JIC -16 | | |
| Cooling water connection | 3.8 cm (1.5 in) | 3.8 cm (1.5 in) | 5.1 cm (2.0 in) | 5.1 cm (2.0 in) | 3.8 cm (1.5 in) |

* Sound levels [dbA] 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.

Model 505.60 – 505.180 Options

ELECTRICAL PACKAGE (FACTORY INSTALLED ONLY)

SilentFlo HPUs support your electrical requirements. Standard voltages from 380 – 575 V AC and frequencies of 50 or 60 Hz may be selected as a factory option (please specify at time of initial order).

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.

AIR COOLING (FACTORY INSTALLED ONLY)

While water cooling is the standard method for maintaining proper hydraulic fluid operating temperature, an environmentally friendly air cooling option is also available.

COMMONING

The larger SilentFlo models can be installed with multiple power units (up to 16) 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 piping between the two HPUs.

RUN ON DEMAND (ROD)

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

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.

NETWORKABLE HMI MONITORING

With this affordable option, you can monitor your HPU's human-machine interface (HMI) from anywhere within your network. It allows you to bring pump room status into the control room or anywhere within your networked facility.

Model 505.60 – 505.180 Order Guide

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

Model 505.60 – 505.180 SilentFlo HPU

| | |
|--|--|
| Hydraulic Power Unit | 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"/> 400-3-60 <input type="checkbox"/> 415-3-50 <input type="checkbox"/> 440-3-60 <input type="checkbox"/> 440-3-50 <input type="checkbox"/> 460-3-60 <input type="checkbox"/> 480-3-60 <input type="checkbox"/> 575-3-60 <input type="checkbox"/> German Grounding |
| Operating Pressure | <input type="checkbox"/> 21 Mpa (3000 psi) <input type="checkbox"/> 28 Mpa (4000 psi) <input type="checkbox"/> 5000 psi/344.7 Bar |
| High Pressure Filter (Optional) | <input type="checkbox"/> High pressure 10-micron filter on the outlet |
| Accumulator (Optional) | <input type="checkbox"/> 0.95 liter pressure accumulator <input type="checkbox"/> 3.78 liter pressure accumulator <input type="checkbox"/> TÜV approved 3.78 liter pressure accumulator <input type="checkbox"/> Air cooled |
| Transport Kit (Optional) | <input type="checkbox"/> Caster kit (505.60/90 only) |
| Heat Exchanger (Optional) | <input type="checkbox"/> Stainless steel plate style <input type="checkbox"/> Water strainer |
| Commoning Kit (Optional) | <input type="checkbox"/> Commoning ready kit <input type="checkbox"/> Check valves |
| Run-On-Demand (Optional) | <input type="checkbox"/> Run-On-Demand |
| Mirror Image (Optional) | <input type="checkbox"/> Electrical panel and hydraulic connections on right hand side |
| Port Kits | <input type="checkbox"/> -24 JIC <input type="checkbox"/> Dual -20 JIC <input type="checkbox"/> 1.5 inch code 61 |
| Monitoring Options | <input type="checkbox"/> Remote monitoring kit (for networkable HMI) <input type="checkbox"/> Analog sensors (pressure, level, flow) |

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