Hydraulic Test Stand for Motors and Pumps

SERIES >HPM-S/M-MP<

HPM-S/M-MP-60-50

The test stand is developed to test hydraulic pumps, hydraulic motors and power transfer units for 3000 and 5000psi systems.

It tests pressure, flow, temperature, leakage rate, time, rotational speed, torque, etc.

It is possible to adapt this test stand for various rotating components.

- The test stand can be supplied for use with “Skydrol“ or mineral oil components.
- Options are available to enable the test stand to be optimized for particular components.
- A standard test stand is offered but the size etc. can be changed in accordance with the customer’s wishes.
- The test stand can be supplied with further options to test different PTUs and motors.

RANGE OF APPLICATION

> The Skydrol version (identified with the suffix "S") can be used for the following aircraft types:

AIRBUS	BOEING	BOMBARDIER	ANTONOV
A300	B737	CRJ Series	AN-148
A319	B747		
A320	B757	EMBRAER	SUKHOI
A330/340	B767	ERJ135/145	SSJ-100
A380	B777	E-Jets	
A400M	B787		

> The mineral oil version (identified with the suffix "M") can be used for the following aircraft types:

Eurofighter	Tornado	F-18	F-16	F-15	F-4	AN-124

5000PSI HYDRAULIC TEST STAND

> suitable for aircraft types equipped with a 3000psi and 5000psi system, e.g.: A380

Type	Flow HP circuit [US gpm]	Flow HP circuit [l/min]	Flow LP circuit [US gpm]	Flow LP circuit [l/min]
HPM-S/M-MP-60-50	60	227	62	235

GENERAL INFORMATION

- The equipment can be easily serviced and transported due to its modular design.
- Two monitors (19" TFT) with touch screen and keyboard with trackball (option) control the equipment. They are arranged vertically on a telescope swivel arm.
- The frame of the test stand is fitted with a drip tray to collect leaked oil during changing of the UUT's or maintenance operations in order to prevent impact on the environment.
- The electrical operating elements incorporated in system blocks are situated inside the equipment and controlled by the computer.
- A drain pan with oil sump is located underneath the test bed to collect leakage during the change of UUT's. One return pump is fitted to transfer oil from the drip tray to the main tank of the hydraulic power unit.
- The use of stainless steel where required and suitably protected aluminium control panels, covers and housings ensure corrosion resistance (for the Skydrol version).
- Filters are fitted to supply and return lines to ensure cleanliness of the system.
- An option for sound insulation is provided to reduce noise emission.

OPTIONS

> The wide range of different options available due to the modular design of the equipment.
e.g.: different control consoles, touch screen, pillar jib crane, integral gearbox, etc.

TECHNICAL DATA

> Electrical parameters (max.):

Mains connection:	3/N/PE AC 50Hz 400V
Nominal current:	361A / 400AgL
Power:	250kVA

> Hydraulic supplies (requirements):

Low pressure:

Flow:	235l/min	(62USgpm)
Pressure:	max. 15bar	(218psi)

High pressure:

Flow:	230l/min	(60USgpm)
Pressure:	max. 350bar	(5,076psi)

High pressure:

Flow:	40l/min	(10.6USgpm)
Pressure:	max. 550bar	(7,977psi)

Actuating pressure:

Flow:	22l/min	(5.8USgpm)
Pressure:	max. 385bar	(5,594psi)

Return

> Pneumatic supplies (requirements):

Nitrogen supply:	max. 210bar (3,045psi)

> Drive unit for pump tests:

Power:	132kW
Rotational speed:	max. 11,000rpm

further performance categories are available upon request
(e.g.: 176kW, 262kW, max. 11,000rpm)

> Medium:

Letter “S“:
Skydrol IV, Skydrol V
HyJet IV, HyJet V

Letter “M“:

Hydraulic oils i.a.w.:	MIL-H-5606
	MIL-H-83282
	MIL-H-87257

> Operating conditions:

Ambient temperature:	+5 to +45°C (+41 to +113°F)
Storage temperature:	0 to +60°C (+32 to +140°F)
Height:	max. 3,000m above SL (max. 9,840ft)
Humidity:	10 to 95%

> Dimensions and weight:

Basic module:

Length:	3,450mm	(11.3ft)
Width:	1,600mm	(5.2ft)
Height:	2,500mm	(8.2ft)
Weight:	approx. 4,000kg	(8,820lb)

TECHNICAL DATA (Continuation)

> **Measurement range:**

Temperature sensor:

(7-off)	0 to +100°C (+32 to +212°F)	±1K

Pressure sensor:

(4-off)	0 to 16bar (0 to 232psi)	±0.5% meas. r.
(4-off)	0 to 60bar (0 to 870psi)	±0.5% meas. r.
(3-off)	0 to 400bar (0 to 5,801psi)	±0.5% meas. r.
(1-off)	0 to 1,000bar (0 to 14,503psi)	±0.5% meas. r.

Pressure sensor (external):

(1-off)	4 to 20mA	±0.5% o.f.s.

Current:

(1-off)	0 to 2A	±0.5% o.f.s.
(1-off)	0 to 20A	±0.5% o.f.s.
(3-off)	0 to 100A	±0.5% o.f.s.

Voltage:

(1-off)	0 to 40VDC	±0.5% o.f.s.
(3-off)	0 to 150V	±0.5% o.f.s.
(3-off)	0 to 250V	±0.5% o.f.s.

Frequency:

(1-off)	280 to 420Hz	±0,5% o.f.s.

Apparent power:

(3-off)	0 to 12kVA	±0.5% o.f.s.

True power:

(3-off)	0 to 12kW	±0.5% o.f.s.

Flowmeter:

(2-off)	0 to 80lpm (0 to 21.1USgpm)	±0.5% o.f.s.
(2-off)	0 to 250lpm (0 to 66USgpm)	±0.5% o.f.s.

Rotational speed:

(1-off)	0 to 11,000rpm	±3rpm

Rotational speed (external):

(1-off)	0 to 10,000Hz	±3Hz

Torque:

(1-off)	-500 to +500Nm	±0.5% meas. r.

Rear side of the hydraulic test stand

Technical data are subject to change!