

Hydraulic supply and flushing system (for Boeing 787)

>HSFS787<

Hydraulic Power Unit (HPU)



Flushing Unit (FU)



Cable Trolley (CAT)



Human Machine Interface (HMI)



The test rig is developed for flushing, filling, testing and monitoring the contamination level of the BOEING 787 hydraulic system.

It can be adapted for other aircraft types.

- > Mobile Hydraulic Power Unit (HPU) for low and high pressure supply with integrated water separation system, electrostatic separator and particle measurement system
- > Mobile Flushing Unit (FU) to flush the hydraulic system including jumper valves for installation in the hydraulic system
- > Human Machine Interface (HMI) with integrated touchpanel to operate the unit
- > Cable Trolley (CAT) with pneumatically driven hose reel to transport the electric power supply cable

HYDRAULIC POWER UNIT (HPU)

- > Particle measurement system to measure oil condition parameters. ①
- > Water Separation System removes water from the test medium. ②
- > The electrostatic separator draws oil fumes off the main tank. ③
- > An internal gear pump and a high pressure pump are fitted for generating the required pressure. ④
- > Filter with electric contamination indicator provides purity of the test medium. ⑤
- > The main tank offers a capacity of about 900l (240gal). ⑥
- > A gear pump is fitted for filling and emptying the main tank. ⑦
- > Filter- and cooling circuits are fitted to clean and cool the test medium.
- > Oil-air coolers and a cooling top cover enable cooling without cooling water supply. ⑧
- > The touchpanel enables operating without the Human Machine Interface (HMI).
- > The chassis is equipped with axle steering, solid rubber tires and one parking brake.
- > Doors and removable cover for easy access to the hydraulic system for maintenance.
- > The collecting tray with level monitoring collects escaping medium during maintenance or occurring leakage
- > Sections enable transport by forklift trucks, eye bolts and lashing points enable transport by crane.

FLUSHING UNIT (FU)

- > Jumper valves for connection to hydraulic system components
- > Compressed air filter to clean the compressed air
- > Hose reels for transportation of the hoses
- > Collecting tray to collect escaping medium during maintenance or occurring leakage
- > Equipped with openings for forklift transport and eye bolts and lashing points for crane transport
- > Door for easy access to hydraulic system during maintenance
- > Chassis with axle steering, solid rubber tires and parking brake



Jumper valves

HUMAN MACHINE INTERFACE (HMI)

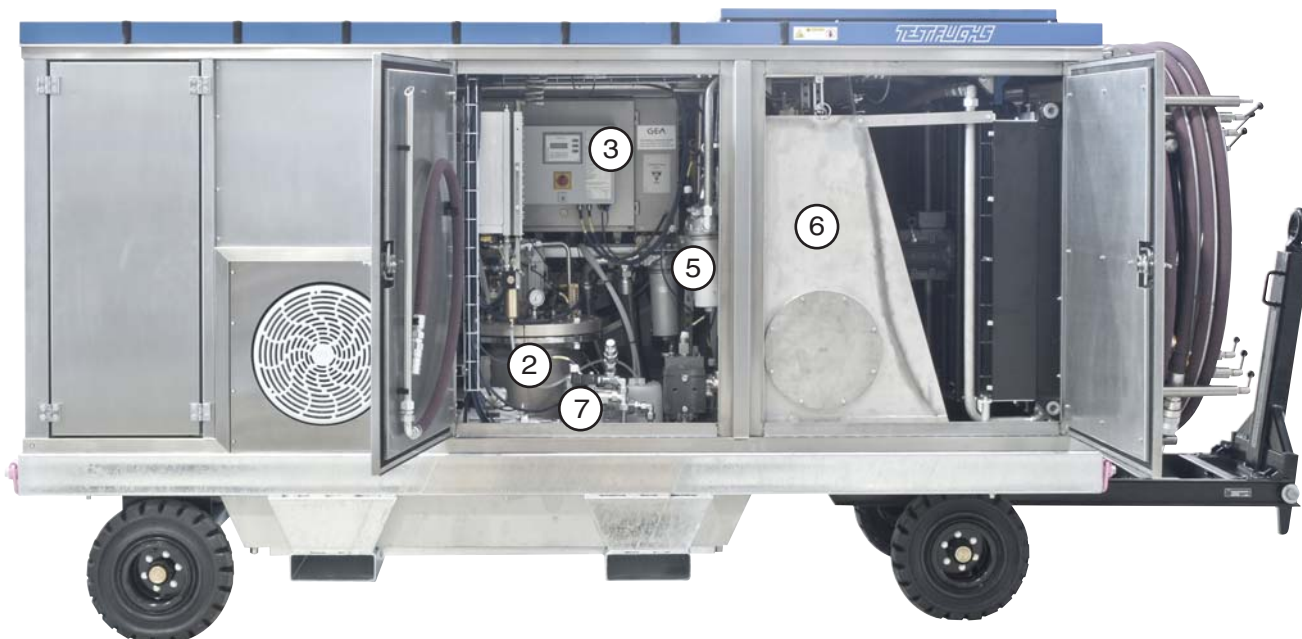
- > Wheels with brakes for transport
- > 19" touch panel and control elements for operation of the unit



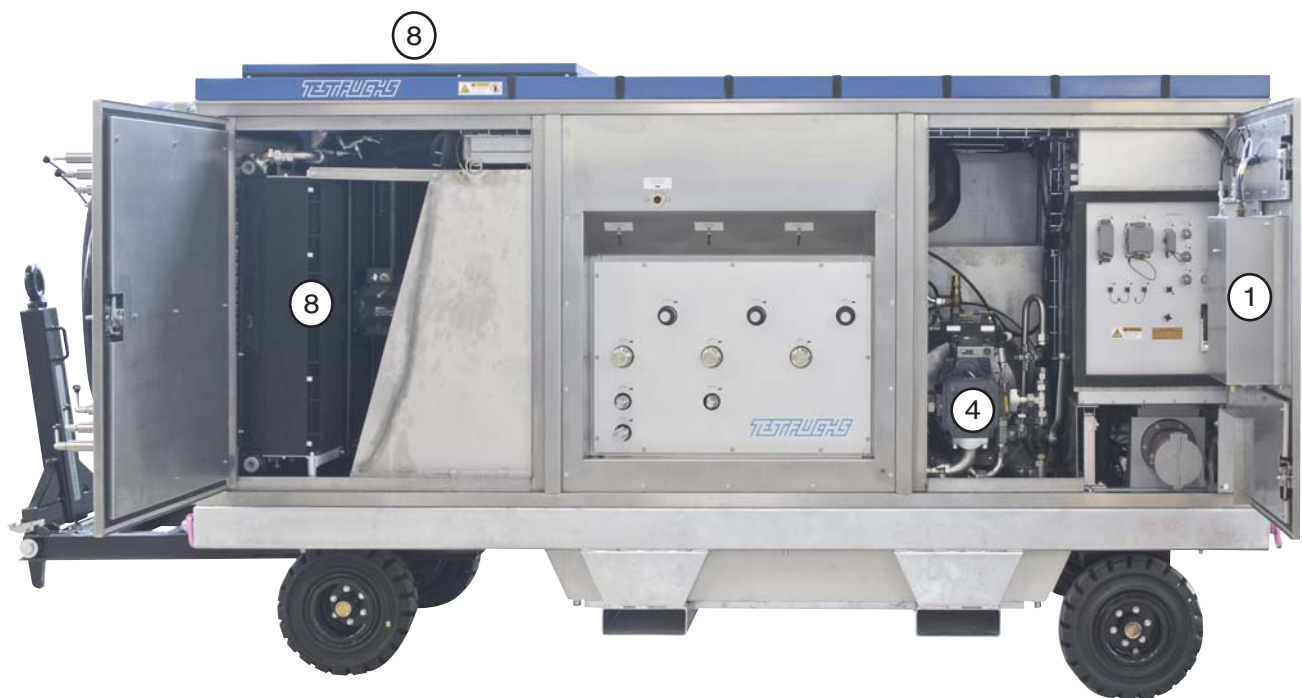
Touch panel

CABLE TROLLEY (CAT)

- > Single axle with air-filled rubber tire and support wheel
- > Pneumatically driven hose reel with brake for winding and unwinding of the electrical power supply cable



Hydraulic Power Unit (HPU)



Hydraulic Power Unit (HPU)

TECHNICAL DATA

<p>> Electrical supply (requirements):</p> <p>Mains supply: 3/PE AC 60Hz 480Y / 277V Nominal current: max. 320A Power: max. 229kVA</p>	<p>> Measurements:</p> <p><u>Pressure:</u> (4-off) 0 to 10bar (150psi), Cl. 0.6 EN837 (4-off) 0 to 35bar (500psi), ±0.25% of f.s. (4-off) 0 to 250bar (3,600psi), ±0.25% of f.s. (7-off) 0 to 400bar (5,800psi), ±0.25% of f.s. (4-off) 0 to 420bar (6,000psi), ±0.25% of f.s.</p> <p><u>Flow:</u> (2-off) 0.4 to 80lpm (0 to 50USgpm), ±0.5% of f.s.</p> <p><u>Temperature:</u> (2-off) 0 to 80°C, ±1°C (30 to 170°F, ±2°F)</p> <p><u>Concentration:</u> (1-off) 10 to 20,000ppm</p> <p>of f.s. ... tolerance in % of final scale abs. ... absolute tolerance</p>
<p>> Pneumatic supply (requirements):</p> <p>Compressed air: 6 to 8bar (87 to 116psi) HeliOx: max. 35bar (500psi)</p>	
<p>> Cooling water supply (requirements):</p> <p>Flow: 150lpm (40USgpm) Temperature: max. 12°C (54°F)</p>	
<p>> Operating conditions:</p> <p>Operating temperature: 5 to 38°C (41 to 100.4°F) Storage temperature: 0 to 60°C (32 to 140°F) Altitude: max. 1,000m above MSL (3,280ft) Relative humidity: 5 to 95% (non-condensing)</p>	
<p>> Medium:</p> <p>Skydrol LD4 (BMS 3-11)</p>	
<p>> Hydraulical parameters:</p> <p><u>High pressure supply:</u> 227lpm at 345bar, max. 420bar (60USgpm at 5,000psi, max. 6,000psi)</p> <p><u>Return:</u> 350lpm at 7bar, max. 7bar (92USgpm at 100psi, max. 100psi)</p>	
	<p>> Dimensions and weight:</p> <p><u>HPU (LxWxH):</u> approx. 4,900 x 2,200 x 2,200mm (approx. 192.91 x 39.37 x 39.37in) approx. 6,500kg (14,330lb)</p> <p><u>FU (LxWxH):</u> approx. 4,110 x 1,386 x 1,650mm (approx. 161.83 x 54.59 x 64.96in) approx. 1,600kg (3,527lb)</p> <p><u>HMI (LxWxH):</u> approx. 600 x 600 x 1,085mm (approx. 23.62 x 23.62 x 42.71in) approx. 70kg (155lb)</p> <p><u>CAT (LxWxH):</u> approx. 3,300 x 1,700 x 2,400mm (approx. 129.9 x 66.9 x 94.5in) approx. 1,300kg (2,866lb)</p>

Particle measurement system:



Technical data are subject to change!

OPTIONS

A wide range of options is available to fulfil our customers' requirements.
 e.g.: Adaption to other aircraft types, etc.