Hydraulic Ground Power Unit Mainline Aircraft 3000psi and 5000psi

>HGPU<

AIRBUS CERTIFIED

Hydraulic Ground Power Unit used for maintenance and testing of mainline aircraft hydraulic systems (ATA Chapter 29).

Designed for all aircraft types with 3000psi or 5000psi hydraulic systems and a flow rate of up to 60USgpm.

- Single system or dual independent systems (two motors and two pumps)
- Easy pressure control using the 0psi, 3000psi / 5000psi push buttons as applicable
- Very suitable hydraulic supply for "Ram Air Test Ground Checks" (together with the Airbus certified TEST-FUCHS RAT Tester P/N PGRAT 1, P/N RATMK, P/N RATMK 350, P/N RATMK 380)
- Automatic over temperature shutoff feature at 70°C (160°F)
- Ramp function for soft pressure build-up
- Pressure and flow rates are infinitely variable and limitable
- The customer can choose whatever matches his requirements:
  - A wide range of options and accessories are available
  - In addition, any customer requirement will be respected

RANGE OF APPLICATION

The >HGPU< family is designed for aircraft using Phospate-Ester Hydraulic Oil (”Skydrol” or ”Hyjet”) or Mineral Oil based Hydraulic Oil (”MIL-H-5606”, ”MIL-H-83282”, ”MIL-H-87257”)

e. g.: Airbus: A300 A310 A320 A330/340 A350 A380	Boeing: B737 B747 B757 B767 B777 B787	Embraer: ERJ135/145 E-Jets Bombardier: CRJ Series C-Series	Antonov: AN124 AN148 Sukhoi: SuperJet 100

GENERAL INFORMATION

- The stainless steel hydraulic reservoir has a capacity of 240l (63USgal)
- Hydraulic reservoir selection (A/C or >HGPU<) via illuminated buttons on the control panel
- Easy draining and filling of the aircraft reservoirs is carried out by ”Fill”/ ”Drain” push buttons
- Two large fan operated oil-air coolers ensure optimum cooling
- Easy access is provided by the hydraulically operated cover
- Maximum towing speed is 25km/h (15mph)
- When parked, the control panel is protected (Accessories 04 - “Weatherproof Cover for Control Panel“)
- Dual system without a transfer gear box (to prevent the possibility of hydraulic/lubricating oil contamination)
- A large fuel tank (200l (53USgal)) is fitted to the diesel version enabling 8 hours of continuous operation

TECHNICAL DATA (ELECTRIC AND DIESEL DRIVEN >HGPU<)

> Hydraulic Parameters:

High Pressure Circuit - Single System 3000psi:

7 - 207bar at max. 190-227lpm
(100 - 3000psi at max. 50 -60USgpm)
max. 275bar (4000psi) at reduced flow rate

High Pressure Circuit - Single System 5000psi:

7 - 345bar at max. 227lpm
(100 - 5000psi at max. 60USgpm)
max. 375bar (5300psi) at reduced flow rate

High Pressure Circuit - Dual System:

2 x 7 - 207bar at max. 2 x 95
at 2 x 114lpm
(2 x 100 - 3000psi at max. 2 x 25
at 2 x 30USgpm)
max. 2 x 275bar (2 x 4000psi) at reduced flow rate

> Measurement Accuracy:

Supply pressure (analog):	0 – 400bar (0 – 5800psi), cl. 1 (EN 837)
Return pressure (analog):	0 – 10bar (0 – 145psi), cl. 1.6 (EN 837)
Oil temperature indicator:	0 – 100°C (32 - 212°F)

Flow measurement (Options A,B):

Single circuit	0.32 - 250lpm (0.08 - 66USgpm) ±1% of full scale
Dual circuit	0.32 - 160lpm (0.08 - 42USgpm) ±1% of full scale

Depending on the type of the equipment, the following hydraulic oils can be used:

Phospate-Ester Hydraulic Oil
("Skydrol" or "Hyjet")
or Mineral Oil based Hydraulic Oil
("MIL-H-5606", "MIL-H-83282",
"MIL-H-87257")

Filter: 3 micron in filling circuit, 6 micron in each low and high pressure circuit
25 micron in return (Option D)

CONTROL PANEL - Standard

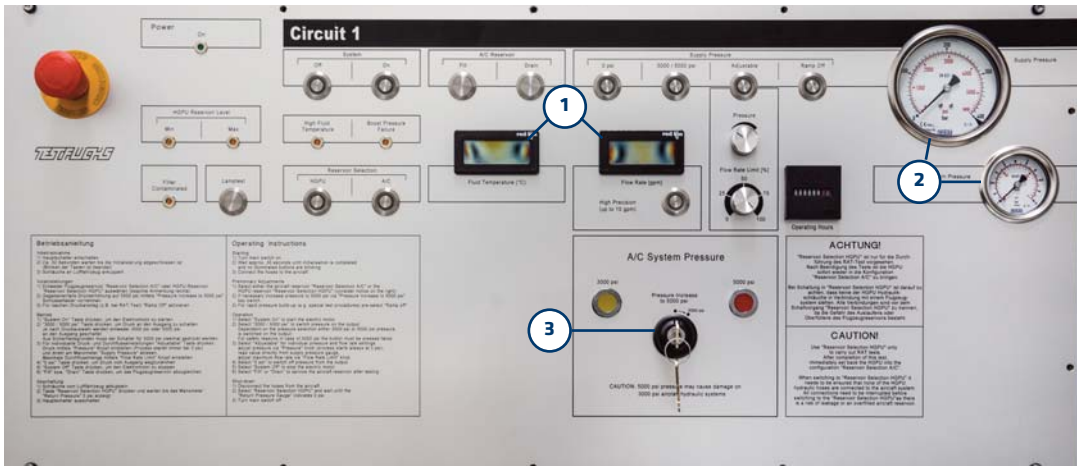


Figure shows the control panel of an electric driven >HGPU<
with Single System, 5000psi

1	Digital indicator for flow (Option A) and temperature measurement	2	Manometer for supply and return pressure	3	Selector switch to change between 3000 and 5000psi operations (only fitted to >HGPU60-50-1S<)

CONTROL PANEL - LC display (Option 34)

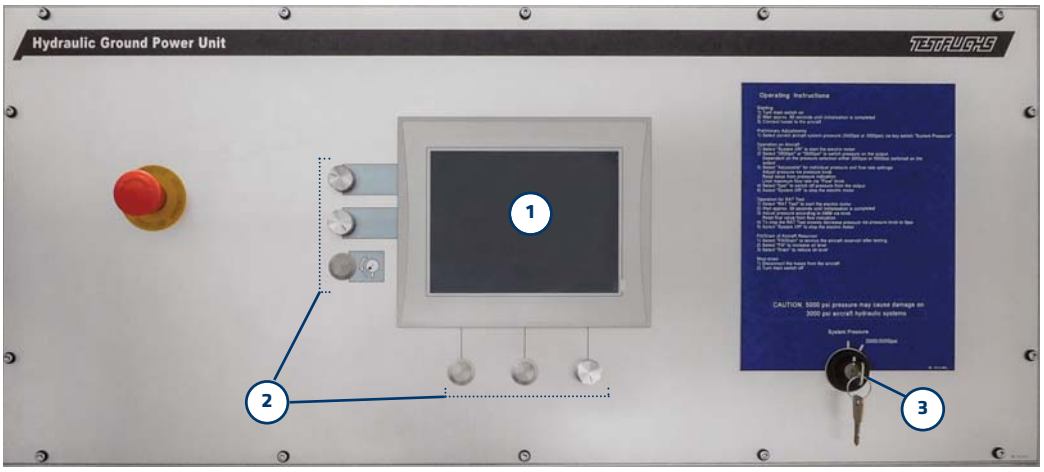


Figure shows the control panel with LC display of an electric driven >HGPU<
with Single System, 5000psi

1	LC display	2	Rotary and pressure knobs for operation via LC Display	3	Selector switch to change between 3000 and 5000psi operations (only fitted to >HGPU60-50-1S<)

ELECTRIC MOTOR DRIVEN >HGPU< WITH SINGLE SYSTEM

applicable for aircraft with 3000psi and for aircraft with 5000psi on-board system

> Assembly 1 (5000psi)

HGPU60-50-1

System:	Single system
Flow:	227lpm (60 USgpm)
Motor:	132kW

Nominal current:	250 - 280A
Performance	approx. 173kVA
Length:	4000mm (13,1ft)
Width:	1800mm (5,9ft)
Height:	1750mm (5,6ft)
Weight:	2800kg (6100lb)

> Assembly 2 (3000psi)

HGPU50-30-1

System:	Single system
Flow:	189lpm (50USgpm)
Motor:	75kW

HGPU60-30-1

System:	Single system
Flow:	227lpm (60USgpm)
Motor:	90kW

Nominal current:	125 - 150A
Performance:	approx. 86 - 104kVA
Length:	3850mm (12,6ft)
Width:	1800mm (5,9ft)
Height:	1750mm (5,7ft)
Weight:	2600kg (5700lb)

> Assembly 3 (3000psi)

HGPU25-30-1

System:	Single system
Flow:	95lpm (25USgpm)
Motor:	45kW

HGPU30-30-1

System:	Single system
Flow:	114lpm (30USgpm)
Motor:	45kW

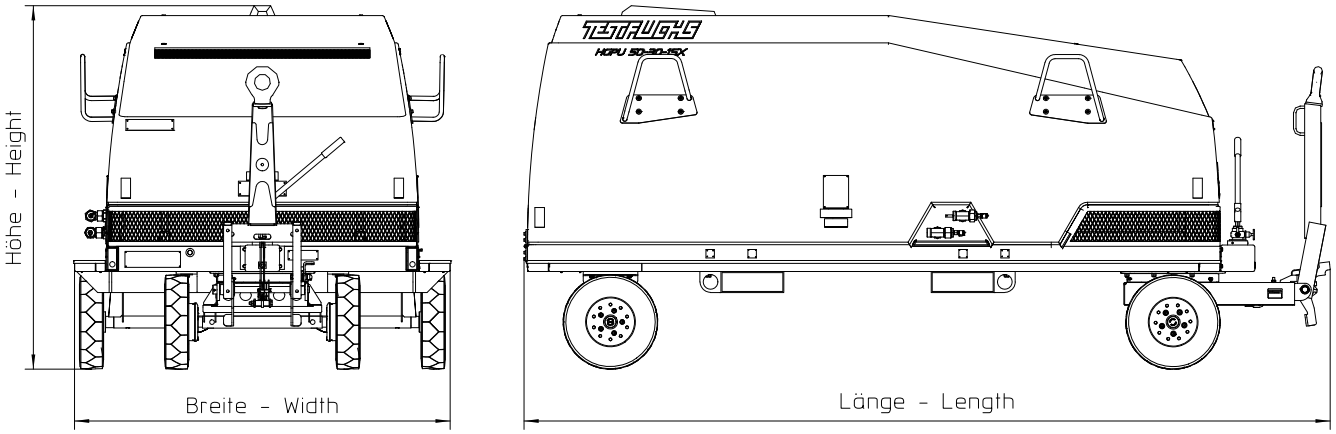
Nominal current:	63 - 80A
Performance:	ca. 44 - 59kVA
Length:	3500mm (11,4ft)
Width:	1650mm (5,4ft)
Height:	1600mm (5,2ft)
Weight:	1900kg (4200lb)

Supply:	3/PE AC 50-60Hz 400V

Operating conditions

Operating temperature:	-25 to +45°C (-13 to +113°F)
Noise emission:	max. 75dB(A) in 1m distance

ELECTRIC MOTOR DRIVEN >HGPU< WITH SINGLE SYSTEM



ELECTRIC MOTOR DRIVEN >HGPU< WITH SINGLE SYSTEM
Cover open

1. Filter (6 micron) for each high and low pressure circuit
2. Filter (25 micron) in the return line (Option D)
3. Filling pump to refill the aircraft reservoir
4. Two large oil-air coolers
5. A hand pump enables easy and quick opening of the cover
6. Drive motor

ELECTRIC MOTOR DRIVEN >HGPU< WITH DUAL SYSTEM
applicable for aircraft with 3000psi with on-board system

> **Assembly 2** (3000psi)

HGPU25-30-2

System:	Dual system
Flow:	2 x 95lpm (2 x 25USgpm)
Motor:	2 x 45kW

HGPU30-30-2

System:	Dual system
Flow:	2 x 114lpm (2 x 30USgpm)
Motor:	2 x 45kW

Nominal current:	125 - 150A
Performance:	approx. 86 - 104kVA
Length:	3850mm (12,6ft)
Width:	1800mm (5,9ft)
Height:	1750mm (5,7ft)
Weight:	2600kg (5700lb)

> **Assembly 3** (3000psi)

HGPU8-30-2

System:	Dual system
Flow:	2 x 30lpm (2 x 8USgpm)
Motor:	2 x 15kW

HGPU12-30-2

System:	Dual system
Flow:	2 x 45lpm (2 x 12USgpm)
Motor:	2 x 22kW

Nominal current:	63 - 80A
Performance:	approx. 44 - 59kVA
Length:	3500mm (11,4ft)
Width:	1650mm (5,4ft)
Height:	1600mm (5,2ft)
Weight:	1900kg (4200lb)

Supply:	3/PE AC 50-60Hz 400V

Operating conditions

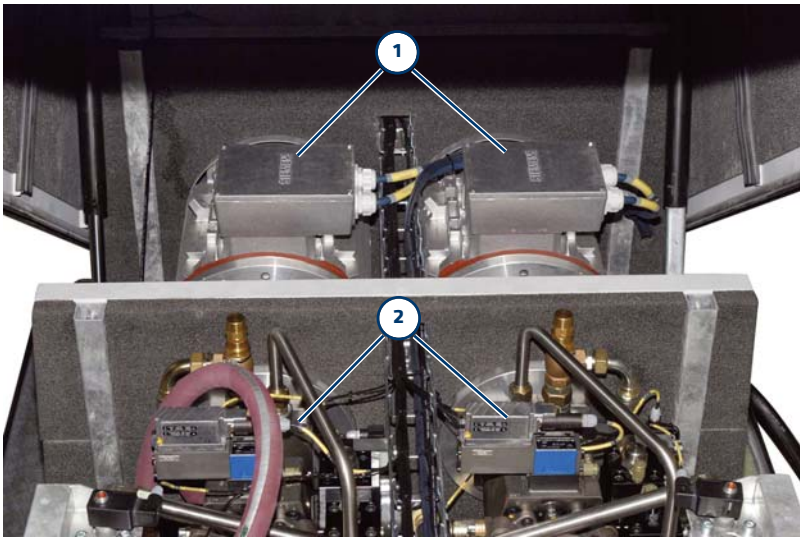
Operating temperature:	-25 to +45°C (-13 to +113°F)
Noise emission:	max. 75dB(A) in 1m distance

REAR VIEW OF A >HGPU< WITH TWO CIRCUIT-SYSTEM

1. Short instructions for easy and comfortable operation in required language (Option S)

2. Clearly and ergonomically arranged control panel with all operating and control elements

ELECTRIC MOTOR DRIVEN >HGPU< WITH DUAL SYSTEM



1. Two electric motors to drive the pumps

2. Two hydraulic circuits independent from each other provide a real “Two circuit-system“ without transfer gearbox

DIESEL ENGINE DRIVEN >HGPU<
applicable for aircraft with 3000psi and for aircraft with 5000psi on-board system

> **Assembly 0:**

HGPU50-30-1D

System:	Single system	Length:	4500mm (14,7ft)
Flow:	189lpm (50USgpm)	Width:	1800mm (5,9ft)
Motor:	114kW	Height:	1950mm (6,3ft)
		Weight:	3200kg (7050lb)

HGPU60-50-1D

System:	Single system
Flow:	227lpm (60USgpm)
Motor:	173kW

Supply:	Diesel motor: Common rail
Operating conditions	
Operating temperature:	-25 to +45°C (-13 to +113°F)
Noise emission:	approx. 84dB(A) at the operating panel (at 2200rpm, approx. 50USgpm, 3000psi)

DIESEL ENGINE DRIVEN >HGPU<
Cover open

1. Ventilation grille prevents heat accumulation inside the >HGPU<
2. Diesel engine drive
3. Large diesel tank for 8hrs continuous operation
4. Openings for transport with forklift truck
5. Chassis with towbar

OPTIONS

OPTION	DESCRIPTION
A	Flow measurement with digital indicator: Single system 10 to 250l/min (2 to 66USgpm), ±1% of full scale Dual system (independent) 5 to 160l/min (1.3 to 42USgpm), ±1% of full scale
B	Leakage measurement: 0.32 to 20l/min (0.08 to 5.3USgpm), ±1% of full scale
B1	Leakage measurement: 0.40 to 40l/min (0.11 to 10.6USgpm), ±1% of full scale
C	Flushing circuit with loading system
D	Filter (25 micron) in the return line
G	Required hose lengths differing from the standard 10m (33ft) for Single system and 12m (39ft) for Dual system must be specified by the customer.
H	Electrical soft start
K	Sampling points
L	Connected mode for >HGPU< with Dual system. The hose lengths will be 10m (33ft) long.
R	Cover color change from standard blue (RAL 5017) / light grey (RAL 7035) The required color combination must be specified by the customer including the RAL standard.
S	Changes to the standard languages German or English for front panel. Languages and markings must be clearly defined by the customer as an additional requirement.
T	Dual output kit for >HGPU< with Single system
U	Spring-loaded chassis
06	Tank filling opening on the cover
07	Tank level indicator on the cover
13	Pivoting connection for hydraulic hoses (only for HGPU with 1 circuit)
30	Operation via display