

safety in test > safety in flight

TETRAUGH

Hydraulic Ground Power Units

HYDRAULIC POWER WORLDWIDE



▶ HYDRAULIC GROUND POWER UNIT

Tested Solutions

- > Electric*
- > Certified for all AIRBUS aircraft
- > Free from Skydrol vapours
- > Automatic over-temp protection
- > Separate low pressure circuit for anti-cavitation
- > Entire life cycle support and spares

* diesel on request

▶ EASY HANDLING

- > Ergonomic design
- > Easy to use: 3,000/0 or 5,000/0 psi button
- > Easy access for maintenance
- > Oil cleanliness class 6 NAS 1638 or better
- > Express start-up: ramp-up function
- > Tow bar with break function

USER-FRIENDLY



Tow bar with break function



Select either 3,000psi or 5,000psi



Fan of the oil-air cooler

▶ VERY QUIET AND CLEAN

> No need for hearing protection

Hydraulic Ground Power Units are mainly used inside the hangar. A crucial factor for these operators is the generated noise.

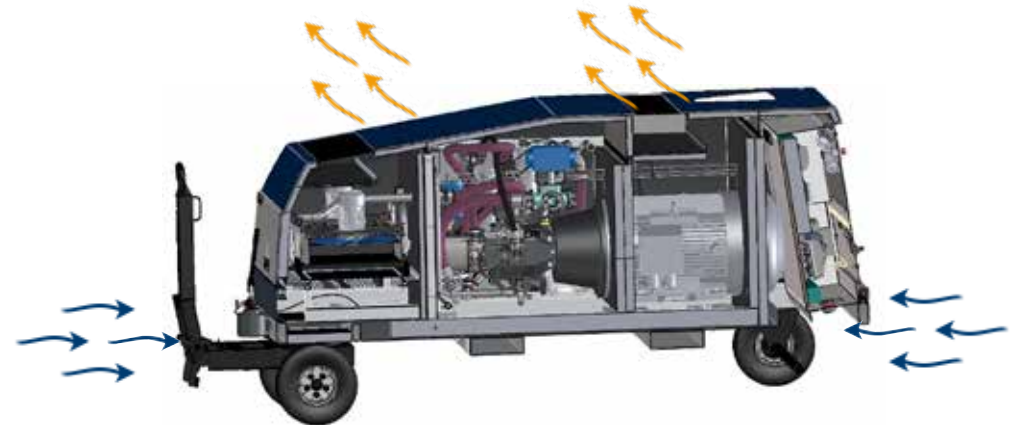
With a noise level of maximum 75 dB, full load, at a distance of 1 meter makes communication hassle-free.

> A highly sophisticated ventilation concept that avoids oil fumes

The well-engineered design of the hydraulic cart has many advantages. One of the highlights is its clean functioning.

The hydraulic installations and the cooling are separated. Therefore it is impossible that Skydrol contaminates the environment.

Neither the aircraft nor the operator will suffer from oil contamination, saving a lot of time and hassle in cleaning processes.



100% CLEAN

▶ WORK IN A HEALTHY ENVIRONMENT

> Electric motor*

Depending on the version of the Hydraulic Ground Power unit it is driven either by a diesel engine or an electric motor. The electric power is generated by motors within a range of 45kW to 132kW.

The start of the electric motor is achieved with the traditional star delta start.



LESS POLLUTION

* diesel engine on request



► HYDRAULIC GROUND POWER

The power for your tasks

- > Special low pressure circuit guarantees constant cleaning and cooling of hydraulic medium
- > Waterproof cover made of GRP, Skydrol resistant
- > OEM quick connect couplings for every A/C
- > Change the filter only upon indication

▶ WORLDWIDE SERVICE

Expertise, safety, knowledge

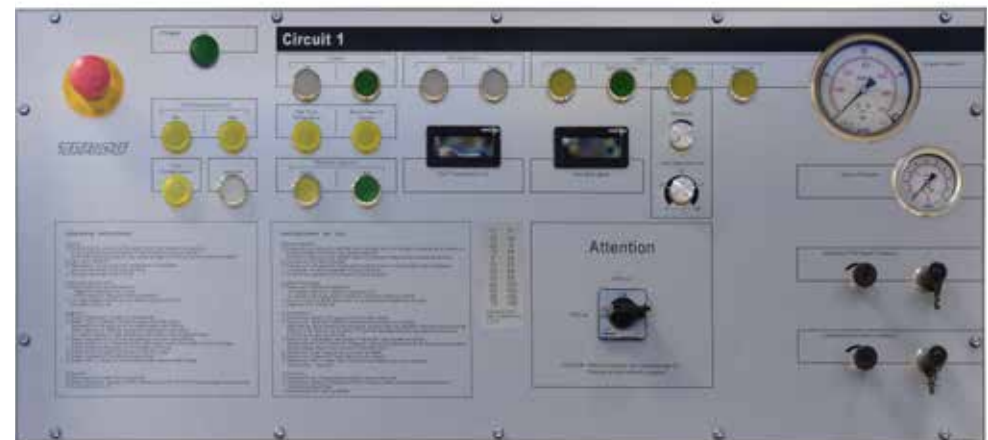
- > Worldwide service locations
- > Expert support
- > On-hand spares
- > Easy calibration
- > Extended warranty
- > Fleet support programs



► FEATURES

Flow measurement with digital indicator

- > Flow measurement includes a digital display for the hydraulic circuit. Flow measurement is performed by a volume counter.
- > The digital display is mounted in the control panel. During operation the present flow can be read easily.
- > It measures the flow at the output of the respective hydraulic circuit.





Flushing circuit with loading system

> This feature includes one manually adjustable throttle valve, which can be equipped with couplings or adaptations. Available accessories for HGPU are: Coupling Kits that can be connected to the hydraulic hoses (female and male).

> The flushing circuit with loading system serves for flushing the hydraulic circuit of HGPU. The throttle valve performs simulation of loads within the hydraulic circuit.



Flushing circuit 5,000 psi



Flushing circuit 3,000 psi

Connection scheme of the HGPU including flushing circuit with loading system, throttle valves



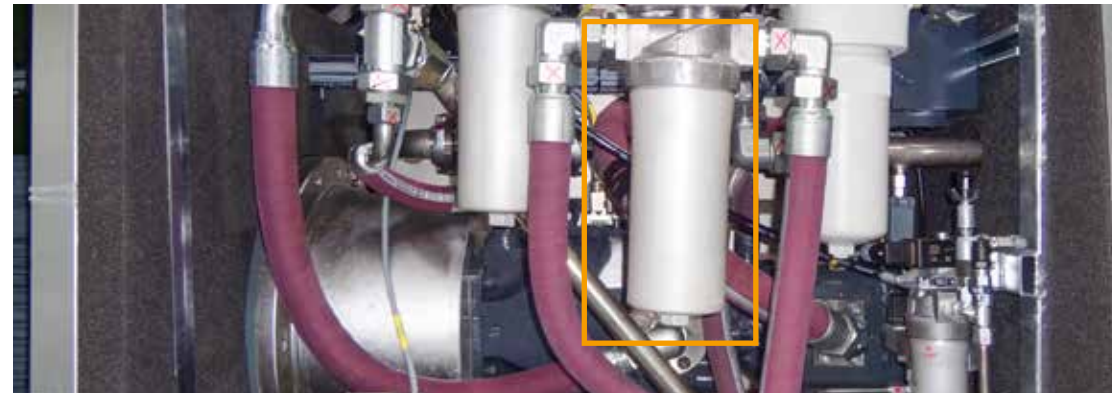


► FEATURES*

Additional filter in return line

- > An additional hydraulic filter 25 micron in the return line is included.
- > It serves as preliminary purification of the hydraulic oil, returning to the reservoir. The filter prevents harm and contamination of the device. Standard density is 25 micron, it can be changed upon customer's requirements to 10 micron.

* Features depend on Hydraulic Ground Power Unit model. Please talk to your sales contact for specific information



Additional filter in the return line

Sampling points

> The sampling point offers the possibility to draw oil samples from both the high pressure and the low pressure circuit.

This way you are always in control of the oil quality.



Sampling kit and sampling point, separately available





► FEATURES



Comfortable filling neck

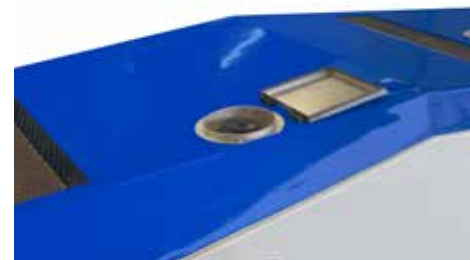
- > The filling cap on the outside of the housing guarantees comfortable refilling of the hydraulic medium.



Filling level indication

- > The external indication of the filling level eliminates the need to open the cover to

check the filling level of the hydraulic medium.



Filling cap on external housing



Filling level indication

180 degree swivel adapters

> Swivel adapters allow to pivot the hoses in a 180 degree radius for easy operation. Even if the hoses of the HGPU are not facing the

aircraft, it is not necessary to turn the HGPU around. With the swivel adapters you avoid that hydraulic hoses are bent and damaged.



Standard hose connection



180° swivel adapters





▶ FEATURES

Operation via display

- > The operation via a programmable logic controller guides the operator menu and assists with a clear failure indication. Operate the menu-guided display by

turning and pressing buttons. Know the status of your unit at one glance. The green/red color code makes it easy.



IoT gateway

- > The next step into the future. Our IoT Gateway brings your data from the unit to your computer on your desk. Benefit from additional collected data for advanced analysis and predictive measures. Or simply find your unit on the airfield.



Available Features*:

- ▶ Flow measurement with digital indicator:
Single system 2 to 66USgpm (10 to 250l/min), $\pm 1\%$ of full scale
Dual System (independent) 1.3 to 42gpm (5 to 160l/min), $\pm 1\%$ of full scale
- ▶ Flushing circuit with loading system
- ▶ Filter (25 micron) in the return line
- ▶ Sampling points
- ▶ Comfortable filling neck outside of the housing
- ▶ External filling level indication
- ▶ 180 degree swivel adapters
- ▶ PLC operation, operation via display
- ▶ IoT

* Features depend on Hydraulic Ground Power Unit model. Please talk to your sales contact for specific information



▶ TYPES

For aircraft with 3000psi system - electric motor

TYPE	SYSTEM	FLOW (USgpm)*	MOTOR (kW)
HGPU30-30-2	Dual (independent)	2 x 30	2 x 45
HGPU50-30-1	Single	50	75

For aircraft with 5000psi system - electric motor

TYPE	SYSTEM	FLOW (USgpm)**	MOTOR (kW)
HGPU60-50-1	Single	60	132

Accessory: dust cover for HGPU in the appropriate size **



* The specified values are based on the nominal flow at 50Hz supply, the values are proportionately higher at 60Hz.

** additionally available

▶ HYDRAULIC GROUND POWER UNIT SETS

Choose from the different sets and find the perfect solution for your particular needs.

Sets guarantee many advantages for our customers:

- > Short delivery times
- > Attractive discounts
- > Expert support team
- > A/C specific solutions
- > OEM quick connect couplings for every A/C *

*For your information: the use of non-certified quick connect couplings is not permitted.





LIST OF AVAILABLE SETS

HGPU Set BASIC 3000psi, AIRBUS/BOEING	19
HGPU Set BASIC 3000psi, Diesel, AIRBUS/BOEING	20
HGPU Set BASIC A350/A380	21
HGPU Set BASIC A350/A380, Diesel	22
HGPU Set BASIC B787	23
HGPU Set BASIC B787, Diesel	24
HGPU Set EXPERT 3000psi, AIRBUS/BOEING	25
HGPU Set EXPERT A350/A380	26
HGPU Set EXPERT B787	27
HGPU Set PROFESSIONAL 3000psi, AIRBUS/BOEING	29
HGPU Set PROFESSIONAL A350/A380	30
HGPU Set PROFESSIONAL B787	31
Fleet Management	32

▶ BASIC SET 50 GALLONS, 3000 PSI, 1 SYSTEM

HGPU50-30-1S - 50 Gallons, 3000psi, 1 System



Flow measurement



CEE plug 125A



Coupling kit
CK001F 3000psi



HGPU Set BASIC 3000psi	169060036
consisting of:	
HGPU50-30-1S, MODEL 0001	
Flow measurement	
CEE plug 125A	
CK001F - Coupling kit 3000psi	

Accessories



Flushing circuit 3000psi



Adapter hose kit
for B737 Classic

Suitable for many different A/C types, e.g.:

AIRBUS A319, A320, A321, A330, A340

BOEING B747, B757, B767, B777, B737NG (-600/ -700/ -800/ -900 series),
B737MAX (-7/ -8/ -200/ -9 series)

optionally available:	article number:
Flushing circuit with QDCs 3000psi	159060074-001
AHK001 - Adapter hose kit for B737 Classic	104090733-001

Set benefit: 2% discount

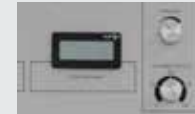
▶ BASIC SET 50 GALLONS, 3000 PSI, 1 SYSTEM

DIESEL

HGPU50-30-1S - 50 Gallons, 3000psi, 1 System



Flow measurement



Coupling kit
CK001F 3000psi



HGPU Set BASIC 3000psi	169060075
consisting of:	
HGPU50-30-1S, MODEL 0004	
Flow measurement	
CK001F - Coupling kit 3000psi	

Accessories



Flushing circuit 3000psi



Adapter hose kit
for B737 Classic

Suitable for many different A/C types, e.g.:

AIRBUS A319, A320, A321, A330, A340

BOEING B747, B757, B767, B777, B737NG (-600/ -700/ -800/ -900 series),
B737MAX (-7/ -8/ -200/ -9 series)

optionally available:	article number:
Flushing circuit with QDCs 3000psi	159060074-001
AHK001 - Adapter hose kit for B737 Classic	104090733-001

Set benefit: 2% discount

▶ BASIC SET 60 GALLONS, 5000 PSI, 1 SYSTEM

HGPU60-50-1S - 60 Gallons, 5000psi, 1 System



Flow measurement



Marechal® plug 250A



Coupling kit
CK002F 5000psi



HGPU Set BASIC A350/A380	169060038
consisting of:	
HGPU60-50-1S, MODEL0001	
Flow measurement	
Marechal® plug 250A	
CK002F - Coupling kit 5000psi	

Accessories



Flushing circuit 5000psi

Suitable for A/C types:

AIRBUS A350, A380

optionally available:	article number:
Flushing circuit with QDCs 5000psi	600000052-001

Set benefit: 2% discount

▶ BASIC SET 60 GALLONS, 5000 PSI, 1 SYSTEM

DIESEL

HGPU60-50-1S - 60 Gallons, 5000psi, 1 System



Flow measurement



Coupling kit
CK002F 5000psi



HGPU Set BASIC A350/A380	169060076
consisting of:	
HGPU60-50-1S, MODEL 0007	
Flow measurement	
CK002F - Coupling Kit 5000psi	

Accessories



Flushing circuit 5000psi

Suitable for A/C types:

AIRBUS A350, A380

optionally available:	article number:
Flushing circuit with QDCs 5000psi	600000052-001

Set benefit: 2% discount

▶ BASIC SET 60 GALLONS, 5000 PSI, 1 SYSTEM

HGPU60-50-1S - 60 Gallons, 5000psi, 1 System



Flow measurement



Marechal® plug 250A



Coupling kit
CK007F 5000psi



HGPU Set BASIC B787	169060039
consisting of:	
HGPU60-50-1S, MODEL 0002	
Flow measurement	
Marechal® plug 250A	
CK007F - Coupling kit 5000psi	

Accessories



Flushing circuit 5000psi

Suitable for A/C types:

BOEING B787

optionally available:	article number:
Flushing circuit with QDCs 5000psi	600000052-001

Set benefit: 2% discount

▶ BASIC SET 60 GALLONS, 5000 PSI, 1 SYSTEM

DIESEL

HGPU60-50-1S - 60 Gallons, 5000psi, 1 System



Flow measurement



Coupling kit
CK007F 5000psi



HGPU Set BASIC B787	169060071
consisting of:	
HGPU60-50-1S, MODEL 0008	
Flow measurement	
CK007F - Coupling kit 5000psi	

Accessories



Flushing circuit 5000psi

Suitable for A/C types:

BOEING B787

optionally available:	article number:
Flushing circuit with QDCs 5000psi	600000052-001

Set benefit: 2% discount

EXPERT SET 50 GALLONS, 3000 PSI, 1 SYSTEM

HGPU50-30-1S - 50 Gallons, 3000psi, 1 System



Flow measurement



Filter in return line



Sampling point



CEE plug 125A



Coupling kit CK001F 3000psi



Flushing circuit 3000psi



HGPU Set EXPERT 3000psi	169060041
consisting of:	
HGPU50-30-1S, MODEL 0002	
Flow measurement	
Filter in return line	
Sampling point	
CEE plug 125A	
CK001F - Coupling kit 3000psi	
Flushing circuit with QDCs 3000psi	

Suitable for many different A/C types, e.g.:

AIRBUS A319, A320, A321, A330, A340

BOEING B747, B757, B767, B777, B737NG (-600/ -700/ -800/ -900 series),
B737MAX (-7/ -8/ -200/ -9 series)

Accessories



AHK001 - Adapter hose kit for B737 Classic

optionally available:	article number:
AHK001 - Adapter hose kit for B737 Classic	104090733-001

Set benefit: 3% discount

EXPERT SET 60 GALLONS, 5000 PSI, 1 SYSTEM

HGPU60-50-1S - 60 Gallons, 5000psi, 1 System



Flow measurement



Filter in return line



Sampling point



Marechal® plug 250A



Coupling kit CK002F 5000psi



Flushing circuit 5000psi



HGPU Set EXPERT A350/A380	169060042
consisting of:	
HGPU60-50-1S, MODEL 0003	
Flow Measurement	
Filter in Return Line	
Sampling Point	
Marechal® Plug 250A	
CK002F - Coupling Kit 5000psi	
Flushing circuit with QDCs 5000psi	

Suitable for A/C types:

AIRBUS A350, A380

Set benefit: 3% discount

EXPERT SET 60 GALLONS, 5000 PSI, 1 SYSTEM

HGPU60-50-1S - 60 Gallons, 5000psi, 1 System



Flow measurement



Filter in return line



Sampling point



Marechal® plug 250A



Coupling kit CK007F 5000PSI



Flushing circuit 5000psi



HGPU Set EXPERT B787

169060043

consisting of:

HGPU60-50-1S, MODEL 0004

Flow measurement

Filter in return line

Sampling Point

Marechal® plug 250A

CK007F - Coupling Kit 5000psi

Flushing circuit with QDCs 5000psi

Suitable for A/C types:

BOEING B787

Set benefit: 3% discount

► THE DIGITAL DISPLAY

> Your Benefits:

- > Overview the status of your unit at one glance
- > User friendly menu-guided operation
- > Switch between different measuring units (e.g. Celsius or Fahrenheit, liter or gallon)
- > Switch easily between different languages
- > Take advantage of different user privileges
- > Errors are displayed in comprehensive text
- > Collect error alarms and create alarm-lists



Know the status of your unit at one glance.
The green/red color code makes it easy.



Clear indication of values when the system is on.



Operate the menu-guided display by turning and pressing buttons.



Clear display of measuring values.

▶ PROFESSIONAL SET 3000 PSI

HGPU Set PROFESSIONAL 3000psi 169060044

NEW: LCD display

consisting of:

HGPU50-30-1S, MODEL 0003

Flow measurement

Additional filter in return line

Sampling point

CEE plug 125A

CK001F - Coupling kit 3000psi

Filling cap on external housing

Filling level indication on external housing

180 degree swivel adapters

LCD display

Flushing circuit with QDCs 3000psi

Product training - one day

Suitable for many different A/C types, e.g.:

AIRBUS A319, A320, A321, A330, A340

BOEING B747, B757, B767, B777, B737NG (-600/ -700/ -800/ -900 series),
B737MAX (-7/ -8/ -200/ -9 series)

Set benefit: 7% discount

HGPU50-30-1S - 50 Gallons, 3000psi, 1 System



Flow measurement



Filter in return line



Sampling point



CEE plug 125A



Supply Return
Coupling kit
CK001F 3000psi



Filling cap on
external housing



Filling level indication



180 degree swivel
adapters



LCD display



Flushing
circuit 3000psi



Product training

▶ PROFESSIONAL SET 5000 PSI

HGPU Set PROFESSIONAL A350/A380 169060046

NEW: LCD display

consisting of:

HGPU60-50-1S, MODEL 0005

Flow measurement

Additional filter in return line

Sampling point

Marechal® plug 250A

CK002F - Coupling kit 5000psi

Filling cap on external housing

Filling level indication on external housing

180 degree swivel adapters

LCD display

Flushing circuit with QDCs 5000psi

Product training - one day

Suitable for A/C types:

AIRBUS A350, A380

Set benefit: 7% discount

HGPU60-50-1S - 60 Gallons, 5000psi, 1 System



Flow measurement



Filter in return line



Sampling point



Marechal® plug 250A



Supply Return
Coupling kit
CK002F 5000psi



Filling cap on
external housing



Filling level indication



180 degree swivel
adapters



LCD display



Flushing
circuit 5000psi



Product training

▶ PROFESSIONAL SET 5000 PSI

HGPU Set PROFESSIONAL B787	169060047
NEW: LCD display	
consisting of:	
HGPU60-50-1S, MODEL 0006	
Flow measurement	
Additional filter in return line	
Sampling point	
Marechal® plug 250A	
CK007F - Coupling kit 5000psi	
Filling cap on external housing	
Filling level indication on external housing	
180 degree swivel adapters	
LCD display	
Flushing circuit with QDCs 5000psi	
Product training - one day	

Suitable for A/C types:

BOEING B787

Set benefit: 7% discount

HGPU50-30-1S - 60 Gallons, 5000psi, 1 System



Flow measurement



Filter in return line



Sampling point



Marechal® plug 250A



Supply Return
Coupling kit
CK007F 5000psi



Filling cap on
external housing



Filling level indication



180 degree swivel
adapters



LCD display



Flushing
circuit 5000psi



Product training

FLEET MANAGEMENT MAKES OWNERSHIP

OF GSE EASY AND HASSLE-FREE

> Additional services above and beyond warranty

To assist our customers with GSE fleet management, TEST-FUCHS provides additional services to cover the service life of your equipment and to make ownership and operation easy. These services are provided on customer site or in our facilities in Europe, the Americas or Asia.

Less Downtime

ISO9001 CALIBRATION SERVICE

TEST-FUCHS, as OEM, provides the equipment and performs an annual calibration according to ISO9001. The annual visit is perfectly planned and aligned with local staff to insure you have your certificate and keep your equipment in continuous operation.

ON-STOCK SPARE AND WEAR PARTS AVAILABILITY

TEST-FUCHS ensures in stock consumable, wear and spare parts. This includes filters to ready-to-install sub-assemblies.

Less Administration

PREVENTIVE MAINTENANCE

An annual maintenance is performed by a highly qualified technician from TEST-FUCHS. This service covers the labor and insures exact maintenance according to the technical documentation as well as provisions of a maintenance and non-conformity report. Preventive Maintenance ensures smooth operation and a minimal downtime of the equipment.

24/7 SUPPORT HOTLINE WITH SERVICE LEVELS

A special hotline providing around-the-clock technical support via 24/7 on-call rotation of TEST-FUCHS technicians. This ensures a response time of an hour after the transmission of the breakdown message via telephone call.

More Productivity

PREPAID TELEPHONE AND REMOTE SUPPORT (HOUR POOL)

Advanced technical support, prepaid 10 hour blocks, are an efficient and cost-effective way to get equipment back in service quickly. You receive quarterly usage reports and your local operators receive timely solutions to their requests without unnecessary down-time and administration.




BREAKDOWN AND REPAIR SERVICE INCL. SPARES (SUPPORT BUDGET)

Prepaid account to cover labor costs as well as consumables, wear and spare parts for Preventive Maintenance to break-downs. TEST-FUCHS can send out technicians as well as parts ASAP without time-consuming commercial issues.



> TEST-FUCHS fleet management for HGPU (all types)

To assist our customers with GSE fleet management, TEST-FUCHS can offer service level agreements in three levels. Following you will find further information regarding the scope of delivery and the price reduction to standard prices:

			
ISO9001 calibration service	✓	✓	✓
Preventive maintenance	✓	✓	✓
Prepaid telephone and remote support	✓	✓	✓
On-stock spare and wear parts availability	✓	✓	✓
24/7 support hotline with service levels	-	✓	✓
Breakdown and repair service incl. spares	-	-	✓

What equipment can be covered?

Fleet management is a service program offered by TEST-FUCHS and its sales partners. It is available to all operators, airlines, end-customers regardless of sales channel used to purchase the equipment. It can be purchased with the initial order of the equipment or it can be added to existing equipment including 3rd party equipment after inspection. Fleet management will initially cover HGPUs (mules) but will be rolled out to other GSE equipment as it becomes available.

Cost and quotation process

Fleet management prices are standardized per equipment type and vary based on location and level of program coverage. A personalized quote can be made to cover your entire fleet of TEST-FUCHS Ground Support Equipment. A list of spare parts is available and it is also possible to purchase fleet management through our sales partner Hydro Systems.





Manufactured in every detail. *Safety in test > safety in flight*

Certifications

AIRBUS A380 | AIRBUS A350 | AIRBUS A320 Family | AIRBUS A330 | AIRBUS A340

Proven technology and solutions tested by major OEMs and MROs

