Fuel system maintenance

Fuel Valve Test Rig

OBEL-P®

VPUD 1000 LGI

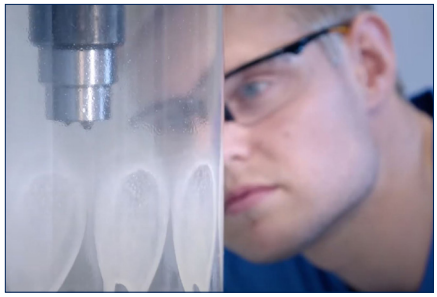
VPUD 1000 LGI is a fuel injector testing unit designed for effective testing of fuel valves in marine 2-stroke gas engines running on liquid gas.

Well-functioning and non-leaking fuel valves are essential for gas engines and provide an efficient combustion and safe operation.

VPUD 1000 LGI has been developed in cooperation with MAN Energy Solutions, enabling the optimum testing of MAN liquid gas injector valves and blow off valves.

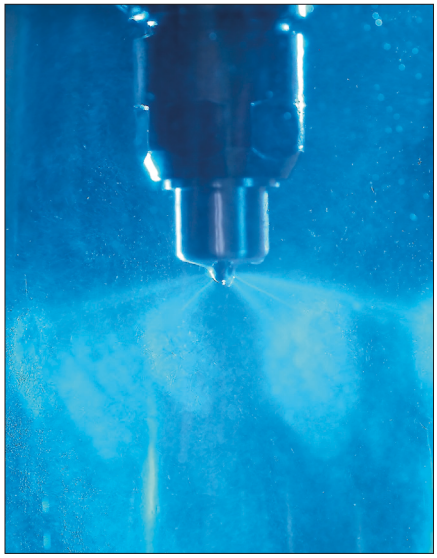


Fuel valve test rig



Application areas

- For MAN liquid gas fuel injector valves and blow off valves.
- 2-stroke engines
- Onboard
- Workshop





Key benefits

- Easy to operate
- Cost-efficient
- Robust
- Time-saving
- Helps to avoid unnecessary fuel consumption and particle emissions

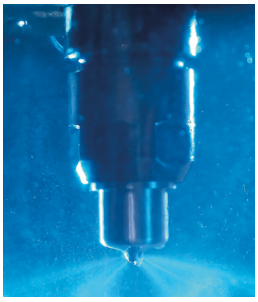
Sustainable engine operation

Regular testing of of gas fuel injectors is extremely important. Testing helps to reduce emissions, fuel consumption and engine fouling. It saves time and money and means reducing downtime while saving resources. Proper engine care prolongs engine lifetime and is a much more environmentally friendly alternative than replacing liners. It is also more cost-efficient as it means reducing downtime while saving resources.

VPUD 1000 LGI

VPUD 1000 LGI is a pneumatic/hydraulic test rig intended for testing MAN liquid gas fuel injector valves and MAN blow off valves. The test rig is delivered with an engine-specific valve holder for the different fuel injector valves. With VPU 1000 LGI, it is possible to execute the following tests:

- Non return valve seal test
- Nozzle leakage test
- Function test
- Blow-off valve test



Optional: Oil mist separator

Oil mist separator, for environmental purposes, and better visual inspection of nozzle spray.



Optional: Test fluid

Test fluid based on a mineral oil designed to meet the requirements of high tolerance fuel injectors. Preserves the fuel injectors, so no cleaning is needed after test procedure. Approved for testing of both 2-stroke and 4-stroke fuel injectors. Protects core parts of pump unit and extends the lifetime of the test rig.

Technical specifications

VPUD 1000 LGI

Suitable for MAN B&W (2-stroke marine engines running on low-flashpoint liquid fuels - methanol)

• Weight	230 kg
• Dimension (LxWxH mm)	694 x 1431 x 1475 mm
• Max. air inlet pressure	10 bar
• Air quality according to ISO 8573-1	6.4.1
• Air consumption	B1100-2 2160 – 3000 l/min A500 300 - 1050 l/min per pump (two A500 pumps present) The pumps run intermittently and not simultaneously.
• Nitrogen input	200 – 300 bar 30 bar for the version with optional Gas Booster
• Hydraulic/Gas output pressure	Control oil: 460 bar Seal oil: 300 bar (not in use for G95ME-C10.5-LGIM) Fuel oil: 8 bar Nitrogen: 200 bar
• Max. flow at no pressure	Control oil: 1.2 l/min @ 7 bar, air pump B1100-2 Seal oil: 1.4 l/min @ 7 bar, air pump A500 Fuel oil: 1.4 l/min @ 7 bar, air pump A500
• Cycle frequency	Control oil: 60 cycles/min @ > 7 bar air, no output pressure Seal oil: 450 cycles/min @ > 7 bar air, no output pressure Fuel oil: 450 cycles/min @ > 7 bar air, no output pressure
• Discharge per cycle	Control oil: 20 cm^3 Seal oil: 4 cm^3 Fuel oil: 4 cm^3
• Tank capacity	20 l
• Gas leak monitor capacity	1 l
• Gauges	Gauges Class 1.0 Display Class 0.2
• Power supply	1x115 or 1x230 V 50/60 Hz, 100 VA
• Noise	Max. 90 dB(A)
• Adapters included	**Air inlet** Claw coupling for 1/2" hose or as an option M42x2 (needs to be specified separately on purchase order) pressure **Hydraulic outlets** 1.5 m high pressure hoses with CEJN 116 female coupling (seal oil), 1 m high pressure hoses with CEJN 117 female coupling (fuel oil), and 1.5 m high pressure hoses with CEJN 125 female coupling (control oil) **Nitrogen inlet** Male G1/4", 3200 mm hose with female G1/4" connectors included **Nitrogen outlet** MINIMESS M16x2, 1500 mm hose with female M16x2 connectors included **Electrical inlet** 5 m cable with a Schuko connector

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