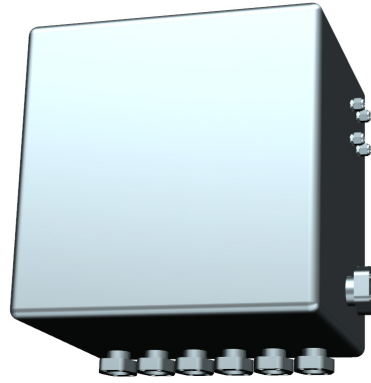


COMPACT REMOTE OPERATED
HIGH PRESSURE AIR MANIFOLD
FOR SEISMIC SOURCES



KONGSBERG

DECK MACHINERY

High pressure air manifold

The new generation High Pressure Air Manifold from Kongsberg is significantly more compact and lightweight than its predecessors, while simultaneously improving safety, robustness and reliability.

The unit is delivered fully remote operated as standard, which offers superior flexibility with regards to installation in safe locations on board. Monitoring and control is performed from the supplied Graphical User Interface (GUI) through a 12.1" touch screen/computer mounted in the HPAM Master Cabinet. Manual, 'hard-piped' pilot air operation is also available, this option also installed separate from the actual manifold for maximum personnel safety during normal operation.

The modular design allows for quick and easy exchange of valve modules, and also means that any future expansion of the unit can be performed with minimal effort.

All acid-proof steel (AISI 316) construction and considerably reduced number of potential leakage points means reliable and care-free long term operation, and less and simpler maintenance for the vessel crew.

BENEFITS

Compact

- Significantly reduced size; approx. 85 % less volume
- Previous: 1800 x 1800 x 400 mm * (W x H x D)
- New: approx. 600 x 600 x 500 mm * (W x H x D)

Lightweight

- Significantly reduced weight; approx. 60 % less mass
- Previous: 700 kg *
- New: approx. 300 kg *

Robust

- Acid-proof stainless steel (AISI 316)
- Reduced number of leakage points
- Safety Integrity Level (SIL) certified valves
- Ex ready

Modular

- Quick exchange of valve modules
- Extensibility

Flexible

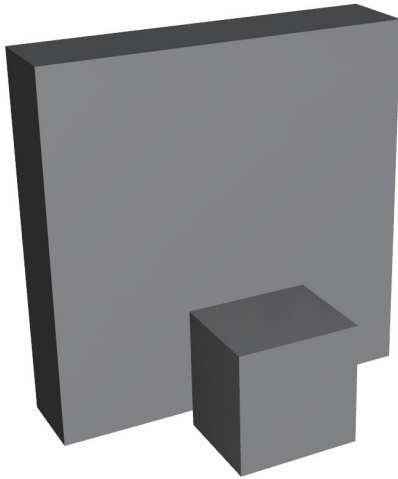
- Optional operation; automated/remote or manual
- Optional mounting direction

Safe

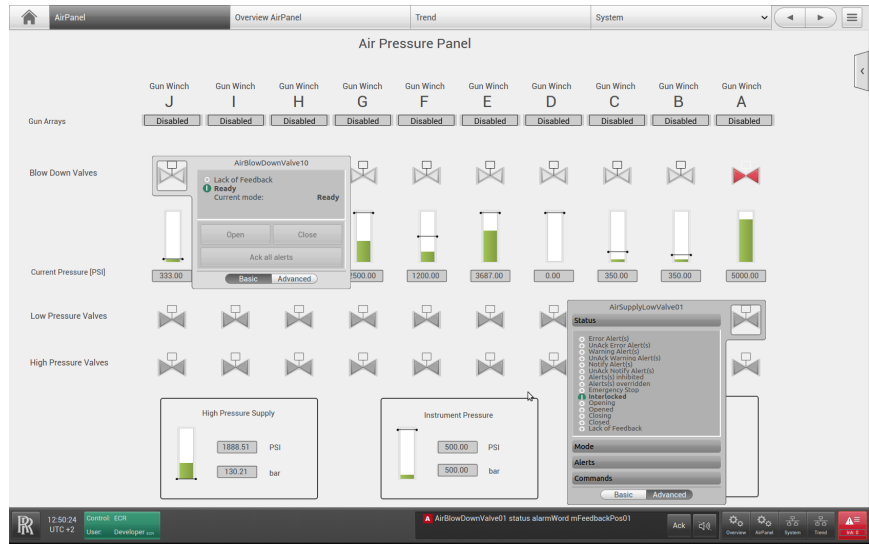
- No pipe fittings or risk of loose objects
- Remote operation as standard; fully automated or manual pilot air operation

Simpler maintenance

Quicker operation



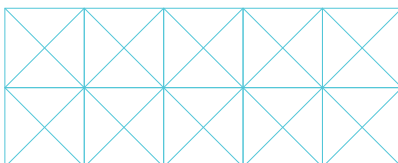
Size comparison of previous and new unit (6 lines)



Graphical User Interface (GUI) of HPAM control system.

KEY DATA

KEY DATA	VALUE
High pressure	138 / 207 bar (2 000 / 3 000 psi)
Low pressure	35 bar (500 psi)
Safety relief pressure (low pressure line)	40 bar (580 psi)
Test pressure	310 bar (4 500 psi)
Burst pressure	827 bar (12 000 psi)
Pressure drop at flow	< 7 bar (< 100 psi)
Flow rate	> 20 Sm ³ /h
Number of lines	≤ 10
Pipes & fittings	Acid proof stainless steel; AISI316
IP rating	IP66



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