The transistorized (IGBT) 400 Hz Converter is designed in PWM (Pulse Width Modulation) technique. An unregulated Rectifier with autotransformer and 18 pulse rectification supplies the Inverter built up by a central electronic with control and monitoring devices, three power units, output L/C filters and an output transformer. The DC-voltage is separated into phase shifted PWM-signals by power transistor switches. The synthetic sine waves with 400 Hz base frequency are derived from these PWMs and of the transistor bridge arrangement. The high precision output sine waves are achieved by L/C-filtering and galvanic separated by transformer also used for voltage adaption. For suppression of radiated and conducted emission the equipment is fitted out with EMC devices. An integrated Fault Detection and Location (FDL) system is monitoring all important system signals. High efficiency, low noise, modular design, easy servicing and possibility of synchronisation and paralleling are some special advantages of the equipment. The Static Converter fulfills the applicable requirements for naval vessels as MIL-STD and BVs. Type and compatibility tests are also executed.
**Electrical Specifications**

**Input**
- Voltage: 440 V (418...462V), 3-ph
- Frequency: 60 Hz, ± 5%
- Harmonic current distortion: < 5%
- Power Factor: >0.97

**Output**
- Voltage: 450 V, 3-ph (other voltages on request)
- Static Tolerance: ± 1%
- Frequency: 400 Hz
- Frequency Tolerance: ± 0.01%
- Power: 80 kVA/kW
- Overload: 130 % for 5 min
- Power Factor: 0.6 lagging to 1 to 0.9 leading
- Efficiency: approx. 92% at 100% load
- Recovery time to 50% load step: ≤ 2 s
- Short Circuit Current: approx. 2 x Inom for 10 s

**Environmental Specification**
- Temperature Range: 0°C to +50°C (operation), -30°C to +70°C (storage)
- Humidity: ≤ 98%, non condensing
- Airborne Noise: ≤ 68 dB (A)
- Shock: Acc. to BV 043 aerea II, Class A
- Vibration: Acc. to BV 044
- EMC: Acc. to MIL-STD 461 C, CE 01, CE 03, RE 02
- Protection: IP 23 acc. to DIN 40050

**Physical Characteristics**
- Dimensions: 1620 x 1108 x 605 (HxDxW) mm without shock mounts
- Weight: 930 kg, ± 5%

**Design Characteristics**
- Controls: Start/Stop, Lamp test, Remote Start/Stop
- Monitoring: Output Voltage, Output Current, Time counter, Input out of range, Output over current, Over temperature, Air flow fault, Failure display
- Cooling: Self-cooling by fans, Anti-Condensation heating integrated
- MTBF: >18,000 h

*Specification subject to change without notice*