The EMB145 aircraft is one of the most advanced and affordable Airborne Early Warning & Control aircraft which is currently available on the market. The high efficient & lightweight 45 kW ATRU was designed and developed by Wärtsilä for the Airforce of India for the latest aircraft generation of the EMBRAER 145 AEW & C for powering the onboard aircraft radar system developed by DRDO India.

For Military Aircraft
Standard Features
- Wide temperature range
- High efficiency > 95%
- Low weight and size
- Power density >1 kW/kg
- High reliability
- RTCA / DOD 160D
- MIL-STD 810E, 704E

Application
- Military Aircraft Radar

Support Service
- Complete Integrated Logistic Support (ILS)

Key Features of the ATRU:
- 18 pulse rectifier
- Input EMI suppression filter
- Output filter
- Build in monitoring electronic
- Front panel LED indicators & external monitoring interface connector
- Power / weight ratio: > 1.0 kW/kg
- Autotransformer with strip wound core
- MTBF: > 75,000 h
- Operating temperature range: -40°C up to + 70°C
- High reliability by using passive components
- MIL-STD 810E, 704E
Electrical Specifications

Input
Voltage ....................... 200 VAC, 3-ph
Frequency ..................... 400 Hz, ± 8%
Voltage spikes and transients............ Acc. to MIL-STD 704 E
Frequency transients..... Acc. to MIL-STD 704 E

Output
Voltage ....................... 270 VDC
Current ....................... 165 A (-40° up to +50°C)
Ripple ..........................< 6 Vrms at 45 kW load
(without capacitance load)
Overload ...................... 195 A for 5 min
260 A for 1 min
430 A for 1 s
Efficiency ...................... > 95 %

Environmental Specification
Temperature range......... -40°C to +70°C (operation)
-55°C to +100°C (storage)

Humidity ...................... < 95%
Shock ......................... 30 g/2.5 ms, 25 g/6 ms, 15 g/20 ms
according to MIL-STD 810 E
Vibration ..................... Random, 15 g RMS
Altitude ...................... 4.4 kPa (20,000 m)
EMC ......................... According to RTCA DO160-F
Protection ................... IP 20 according to DIN 40050

Physical Characteristics
Dimensions ..................... Height 230 mmm
Width 200 mm
Depth 339 mm
Weight ......................... 30 kg

Design Characteristics
Power per weight/
per volume ..................... 1,500 W/kg, 28.9 kW/ltr.
Dielectric resistance...... > 100 MOhm
MTBF ........................ > 75,000 h