

BFP Main Motor Component Specifications

General Specifications:

Type	– Revolving Field, Cylindrical Rotor, Brushless
Enclosure	– Closed Air Circuit Water Cooled (CACW)
Insulation Class	– F
Air Gap	– 25mm
Speed	– 5600RPM
Power Factor	– 0.85
Voltage	– 2700V
Current	– 1119A
Frequency	– 93.33Hz
Number of Phases	– 6
Number of Poles	– 2
Output Power	– 8.8MW

Mass of Components:

Rotor (including exciter rotor)	– 5.48 Tonne
Main Stator	– 13.10 Tonne
Main Bearings	– 0.60 Tonne
Heat Exchanger (full)	– 1.50 Tonne
Exciter Stator	– 0.40 Tonne
Exciter Pedestal	– 0.14 Tonne
Exciter acoustic Hood	– 0.38 Tonne
Total Weight of Motor	– 30 Tonne

Stator Temperature Detectors:

Make	Sensing Devices Ltd
Type	Platinum Resistance
Alarm Setting	135°C
Trip Setting	145°C

Make-up Air Filters:

Make	Davis Industrial Filters Ltd.
Type	150x150x50 Front Withdrawal

Anti-Condensate Heaters:

Make	Bray Chromalox Ltd.
Type	EV
Voltage	220V, 50Hz
Rating	250W
Number off	5

Motor Bearings:

Make	Glacier Metal Co. Ltd.
Type	HSR 18 Tilting Pad
Load between pads	25kN
Diametrical clearance between pivots	0.353/0.274mm
Oil Grade	ISO VG32 at 50°C
Oil Inlet Temperature	50°C
Oil Outlet Temperature	70°C
Oil Inlet Pressure	100-200kPa
Oil Flow @ 5600RPM	0.55l/s

Bearing Thermocouple:

Make	Universal Thermosensors Ltd.
Type	Chromel/Alumel
Extension Lead Spec.	L13K
Alarm Setting	105°C
Trip Setting	110°C

Earthing Brush:

Make	Morgan Components Ltd.
Brush Holder Type	ZKA (Radial) 10x16mm
Brush	Morgan, crucible brush grade 'CM' standard length Insulated Pigtail, 10x16x32mm with slotted double clip
Spring Pressure	284gm

Heat Exchanger

Water Design Pressure	1000kPa
Hydrostatic Test Pressure	1500kPa

BFP Exciter Specifications

Exciter Details:

Type	Brushless
Speed	5600RPM
Insulation	Class F
Air Gap	2mm
Number of Poles	4
Full load output (diode wheel)	204ADC, 204VDC
Armature Connection	Star
Armature Resistance @ 20°C	0.012Ω per phase
Stator Resistance @ 20°C	0.054Ω per phase

Exciter Bearing

Make	Glacier Metal Co. Ltd.
Type	HSR14 Tilting Pad
Load between pads	2.3kN
Diametrical clearance at pivots	0.237/0.171mm

Exciter Bearing Thermocouple:

Make	Universal Thermosensors ltd.
Type	Chromel/Alumel
Extension Lead Spec.	L13K
Alarm Setting	105°C
Trip Setting	110°C