

Scope of Supply Summary - BDAX 9.450PR(H) - 01/62167A-1G & 01/62169A-1G

Rating Data:-

Supply:-	15,000V, 50Hz, 3 phase
Speed:-	3000 rpm
Nameplate Data:-	139MW, 163.529MVA @ 15°C air inlet temperature
Altitude:-	< 1000 masl
Insulation:-	Class F throughout
Temperature Rise:-	Class B total temperatures (IEC 34-1 and 3)

Interfaces:-

Exciter End:-	Half coupling (drilled to suit MHI starter package motor coupling). Starter package not included in scope of supply.
Turbine End:-	Shrunk on coupling (drilled to suit 701 turbine coupling)
Sole Plates:-	Included / bolted to underside of bedplate. (Foundation / anchor bolts and location blocks not in scope of supply).
Canopy Baseframe:-	Holding down bolts not in scope of supply.
Oil Pipe Flanges:-	Inlet (stainless steel) and outlet (carbon steel) pipework provided in scope to end of bedplate. Inlet and outlet to be at the turbine end on the LHS looking on the turbine end of the generator.
Line Terminals:-	Six ends out from the LHS when looking on the generator turbine end, marked U1, V1, W1 reading left to right.
Neutral Terminals:-	Three ends out from the RHS when looking at the generator turbine end, marked U2, V2, W2 reading top to bottom.

Instrumentation:-

Qty	12	Stator winding RTD's (12 x simplex)
Qty	4	Generator air inlet RTD's (2 x duplex)
Qty	2	Generator air outlet RTD's (1 x duplex)
Qty	2	Exciter air outlet RTD's (1 x duplex)
Qty	1	(per bearing) Bearing oil drain chromel / alumel thermocouples (fitted for BEM use)
Qty	2	(per bearing) Bearing metal chromel / alumel thermocouples
Qty	2	(per bearing) Bently Nevada vibration detectors (45°/45°)
Qty	1	Static 'O' ring pressure switch in jacking oil pump common supply
Qty	1	Static 'O' ring pressure switch in jacking oil pump discharge

Direction of Rotation:-

Clockwise when viewed from Exciter End

Bearings:-

Three sleeve bearings (exciter end main bearing and exciter bearing insulated)

Accessories:-

Neutral Cubicle (see description below)
Jacking Oil Module (see description below)
Acoustic Enclosure (see description below)
Anti-condensation heaters (supply 380V, 3 phase, 50Hz, load 5,510W)
Rotor Withdrawal Equipment (for use with station crane)
Tool Box & Metric Tools
Electronic Rotor Earth Fault Monitor (infra-red type)

Neutral Cubicle

Aluminium cubicle containing the following equipment:-

- Qty 1 Grounding transformer, single phase, 14,000 - 240V, 140kVA for 60 seconds
- Qty 1 Secondary loading resistor
- Qty 3 Current transformers, ratio 8000/5A, 30VA, class 0.2 FS 1.5
- Qty 6 Current transformers, ratio 8000/5A, 50VA class 0.2 / 100 VA class 10P10

Jacking Oil Module

Oil jacking module (two main bearings only) comprising:-

- Qty 2 Pressure Relief Valves
- Qty 2 Jacking Oil Pumps (driven by AC motors)
- Qty 2 Pressure Gauges
- Qty 1 Jacking Oil Module, support frame and interconnecting pipework

Acoustic Enclosure

Free standing outdoor acoustic enclosure designed to meet a free field noise level of 80dB(A) at 1 metre when averaged from several readings covering all major surfaces. The enclosure only goes to the level of the top of the generator stator - the completion to depend on the cooling method chosen, i.e. a TEWAC design would need an enclosure roof, and a filter type would need a top air treatment module.

Painting

Generator:- To PS 2828, colour green shade 14D44 to BS 5252
Enclosure Interior:- White
Enclosure Exterior:- Primer finish only (with barrier coat)

Shipping Specification

For each machine.

Case	Description	Dimensions (CM)	Weight (Tonnes)
1	Generator	1100 x 460 x 3927	200.0
2	Canopy walls	1042 x 395 x 139	14.0
3	Jacking oil assembly	178 x 157 x 89	0.725
4	Neutral cubicle	365 x 124 x 392	2.5
5	Rotor removal equipment	460 x 117 x 800	2.3

Electrical Data

Brush Data sheets 142633/11/62169S/62169R

Performance curves

Output Vs air inlet temperature HEP 11884
Reactive capability diagram HEP 11883
Efficiency Vs output HEP 11765
Open and short circuit curves HEP 11766
Permitted negative sequence current HEP 2959

Drawings

Generator general arrangement drawing A0 3160011