

ETC 1000 TURBO GENERATOR TECHNICAL DATASHEET



Overview	
Generator type	4-pole permanent magnet
Electrical power	120 kWe (output into Mk5 power electronics)
Speed	31,000 rpm (min) / 36,000 rpm (max) (voltage must remain within the safe operating area of the associated power electronics converter)
Alternator efficiency (nom)	Typically 96.5% (120 kWe, 31,000 rpm)

Operating conditions	
Inlet temp (max)	+600°C
Inlet pressure	< 200 kPa-abs
Discharge pressure (nom)	100 kPa-abs

Output into Mk5 power electronics	
Output line voltage	410-495 VAC, 630 VAC no load, 6-phase
Output frequency	1033-1200 Hz
Output line current (RMS)	95-66 A
HV Cable Gland Diameter	30/38 mm

Environmental	
Operating temperature	0 to +55°C (-15°C on request)
Storage temperature	-25 to +60°C
Humidity (max)	95% non condensing

Lubricant	
Oil category	API CI-4, API CI-4 PLUS, API CH-4, API CG-4 *
Oil grade	SAE 10W30 (> -15°C), SAE 15W40 (> -5°C) *
Oil cleanliness	LF, HF, 10 micron absolute (Beta 1000 filtration rate) MF, 6 or 10 micron absolute (Beta 1000 filtration rate) (depending on application)
Oil inlet temp (min / max)	+80 / +120°C (nominal +100°C)
Oil outlet temp (max)	+150°C
Oil flow rate (min / max)	1.4 / 2.8 litres/minute [at +100°C]
Oil feed pressure (min / max)	180 / 220 kPa from engine into ETC-1000 System oil filter (60/220kPa directly into TG)
Oil return point pressure (min / max)	-5 / 5 kPa gauge (if outside of this range, please contact Bowman)
Oil heat load (max)	2kWth

* Unless otherwise contractually agreed.

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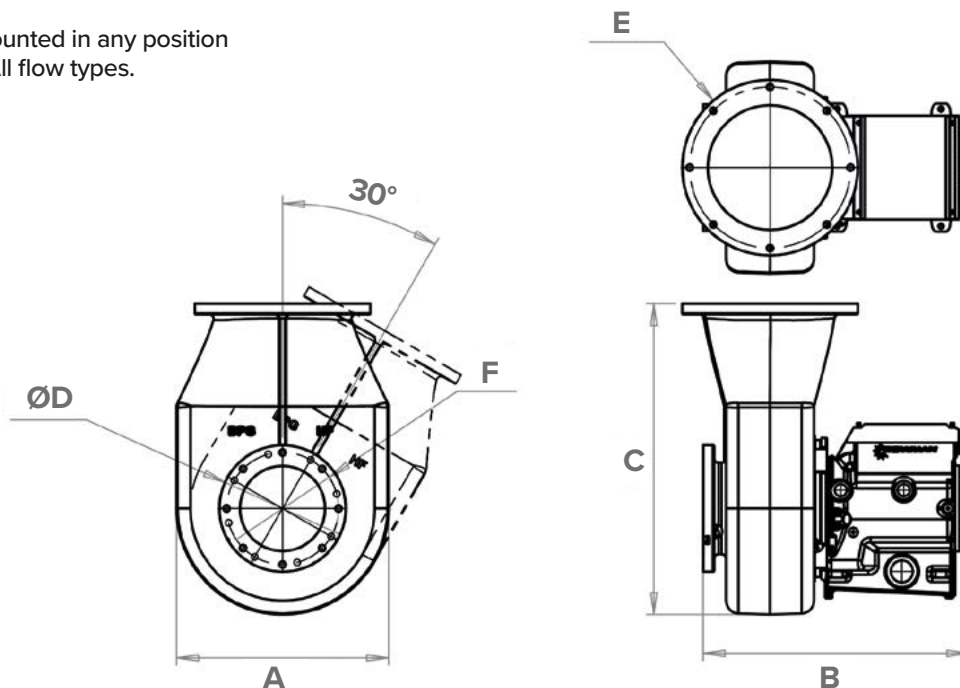
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Coolant	
Coolant type	50:50 ethylene glycol (with corrosion and algae inhibitors)
Coolant inlet temperature typical / transient limits	+40 to +65°C / -15 to +70°C
Coolant outlet temp (max)	+73°C
Coolant flow rate (min / max)	6 / 12 litres/minute
Coolant pressure (min / max)	5 / 30 kPa-gauge
Coolant heat load (max)	4kWth

Physical	
Weight	Low flow (294kg), medium flow (312kg), high flow (325kg)

Dimensions (mm)	High flow	Medium flow	Low flow
A	580	520	480
B	726.5	706.5	696.5
C	850	760	700
D	346	332	332
E	440 P.C.D	400 P.C.D	365 P.C.D
F	306 P.C.D	292 P.C.D	292 P.C.D

Volute can be mounted in any position at 30° intervals. All flow types.



For more information please contact bowmansales@bowmanpower.co.uk or visit bowmanpower.com