

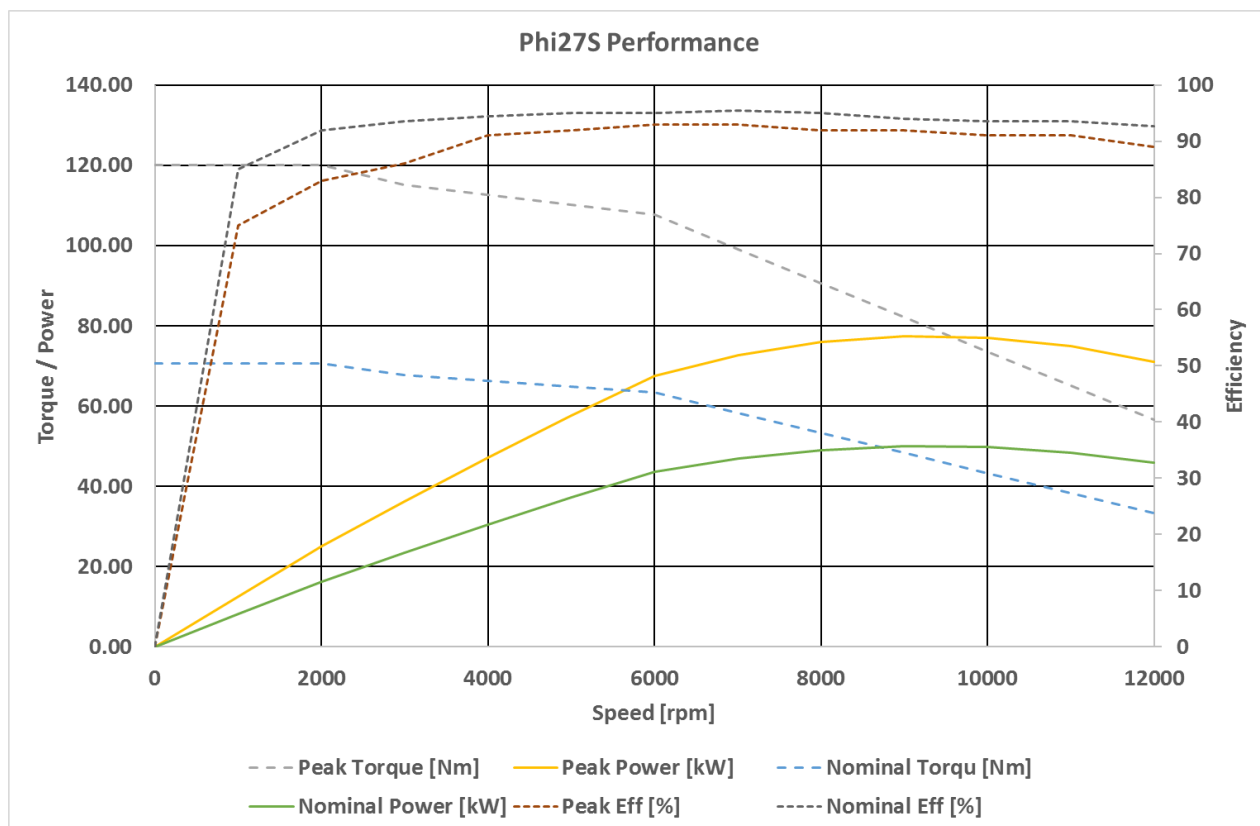
Phi271S – High performance Axial Flux Motor

Phi-power ag is supplying high performance axial flux motors. The machines offer superior power and torque density with low torque-ripple. The Phi271 series is offered as single (The Phi271) and a slim version (The Phi271S).

Phi271S– Performance Parameters:

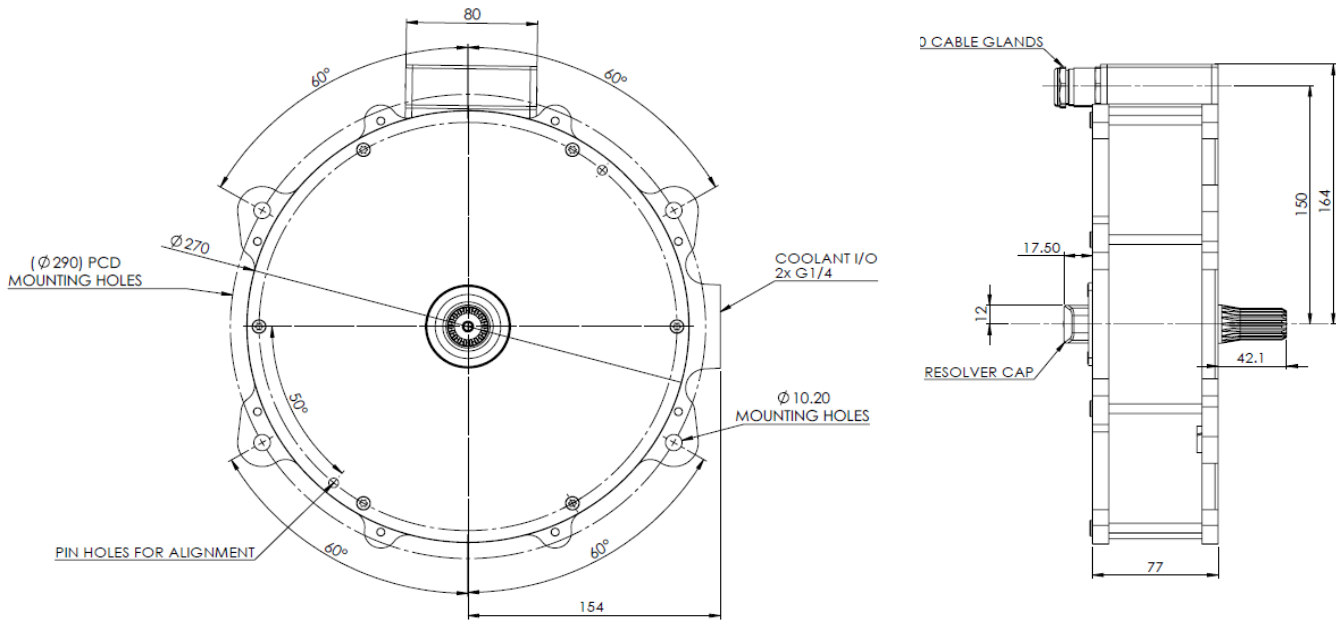
Peak Torque (for up to 60s)	120	[Nm]
Nominal Torque	92	[Nm]
Peak Output Power (for up to 60s)	75	[kW]
Nominal Output Power	45	[kW]
Mass ¹	12	[kg]
Maximum Speed	12000	[rpm]
Peak Efficiency	95.5	[%]
Length ²	77	[mm]
Diameter ³	270	[mm]

1) Dry with complete with shaft 2) Internal resolver version 3) Body max diameter excluding terminal box and coolant manifold



Performance data for 650 V DC and 170 A rms max line current. Coolant flow 8 l/min @ 55 °C (50/50 water-glycol). Ratings and dimension subject to change without notice.

Phi271S – Outline drawing



Coolant flow	6	[l/min]	Nominal coolant temperature ¹	55	[C]
Coolant pressure drop @ 6l/min	35	[kPa]	IP rating ²	IP69	
Max pressure:	100	[kPa]	Temperature sensor type	PT100	

- 1) Performance will change depending on temperature. Please contact us for application specific performance predictions.
- 2) IP69 rating only for machine mounted to sealed flange on shaft side or with optional shaft seal.

Spline to ANSI B92.1-1970, 18 teeth, fillet root side fit, class 5 fit, other splines possible.
Motor can be supplied with resolver cap (as shown) or on request with internal resolver routing.
Through shaft version available on request.

Phi271S – Electrical Parameters

Number of Turns:	Ke [Vs/rad] (Vrms P2P)	Kt [Nm/A] (A in rms)	Ra [Ohm] (P2P)	Ld [mH]	Lq [mH]
3	0.32	0.42	0.062	0.091	0.088
4	0.43	0.56	0.110	0.162	0.156
5	0.53	0.70	0.172	0.253	0.244
6	0.64	0.84	0.248	0.365	0.351

Ke in Vs/rad with rad in mechanical speed.

Please contact us to discuss your application requirements or other motor sizes you require.
info@phi-power.com

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