

### Vertical motor requirements specification

Item	Unit	Offered	Remark
Type of motor		Asynchronous motor	3 phases
Type of vertical shaft		Hollow	
Nominal output		410 kW / 550HP	
Phase connection		$\Delta / Y$	
Duty Type		S1	
Poles		4	
Service factor		1.15	
Nominal voltage		400V/690V $\pm$ 10% 50Hz $\pm$ 2%	
Nominal current	A	682/394	
Locked rotor current		6.5xIn	
No load current	A	124/72	
Nominal motor torque	Nm	2630	
Breakdown torque		2xMn	
Locked rotor motor torque		0.8xMn	
Cos $\phi$ (PF):	115 % load	0.9	
	100 % load	0.9	
	75 % load	0.89	
	50 % load	0.84	
Efficiency:	115 % load	% 96.3	
	100 % load	% 96.4	
	75 % load	% 96.3	
	50 % load	% 95.8	
Synchronous / rated speed	rpm	1500/1488	
Kind and class of insulation		F VPI	
Ambient temperature	$^{\circ}\text{C}$	Min -10 $^{\circ}\text{C}$ Max+40 $^{\circ}\text{C}$	
Temp. rise of winding, Continuous duty at 40 $^{\circ}\text{C}$ ambient temp.		B	
Winding temp. elements: - No. & Type		6xPT100	
Upper bearing temperature elements:		1xPT100	3 lead
Down bearing temperature elements		1xPT100	3 lead
Over voltage protection for PT100		No	



Item	Unit	Offered	Remark
Surge arresters in main power box "Zork"		No	
Space Heater	W	2x200W	230V
Starting method		VFD	
Operation with frequency converter		Yes	
Plate for vibration switch		Yes	
Material of rotor		Copper	
Non-Reverse Ratchet		Yes	
Area classification		Not hazardous	
Nominal bearing down thrust	TON	6	
Thrust Bearing lubrication		Oil	
Thrust Bearing cooling		Air	
Thrust Bearing type		29330E	
Guide Bearing lubrication		Grease	
Guide Bearing cooling		Air	
Guide Bearing type		6220-C3	
Enclosure		WPII	
Motor frame	mm	CHS355	
Mounting		V1	
Protecting "skirt" for shaft		No	only for transportation
Rabbit diameter AK	inch	22	
Bore diameter BX (VHS motor)	inch	2.687	
Direction of rotation viewed from Upper side		CCW	
Methods of cooling (IC Code)		IC01	
Motor height	mm	1934	
Main power terminal box dimension	mm	440x660x270	
Manufacturer		Amppera	
Color (Std.,Epoxy,Other)		Standard	
Altitude	m	1000	
Quantity		8	

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**According IEC60034 ED-14 2022**

