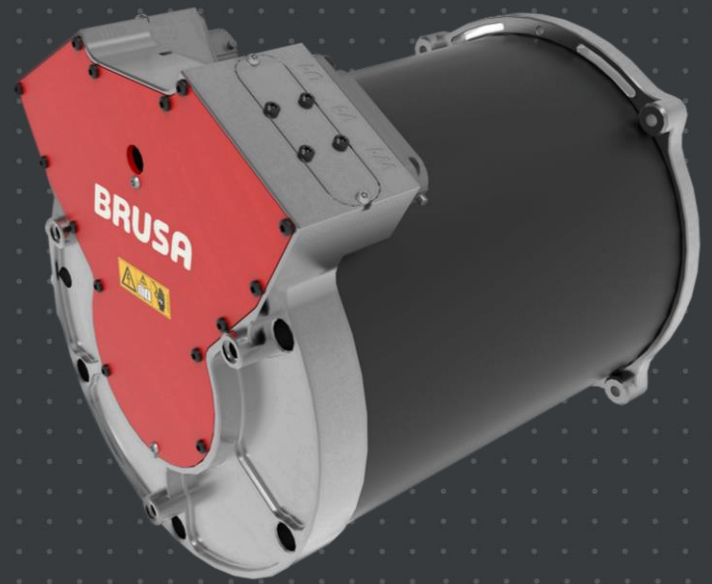


BRUSA
TECHNOLOGY

HSM2-10.18.22
Hybrid
Synchronous
Motor



**Optimal performance
from zero speed**

Safety first

Intrinsically safe

Low short circuit torque

Integrated overload
protection against
overheating

Interlock function

Cutting-Edge Technology

High power density

Minimal torque ripple

Minimal drag losses

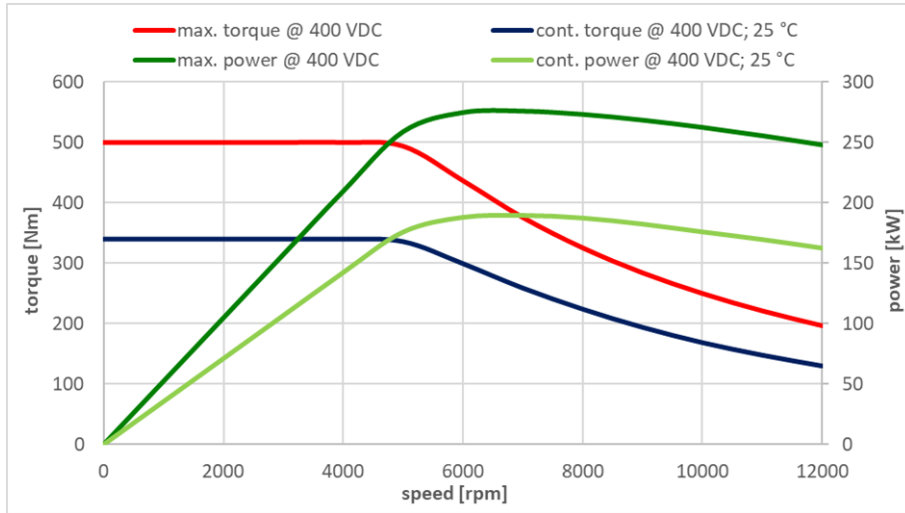
Very high constant power
over a wide speed range

High efficiency over a wide
speed and torque range

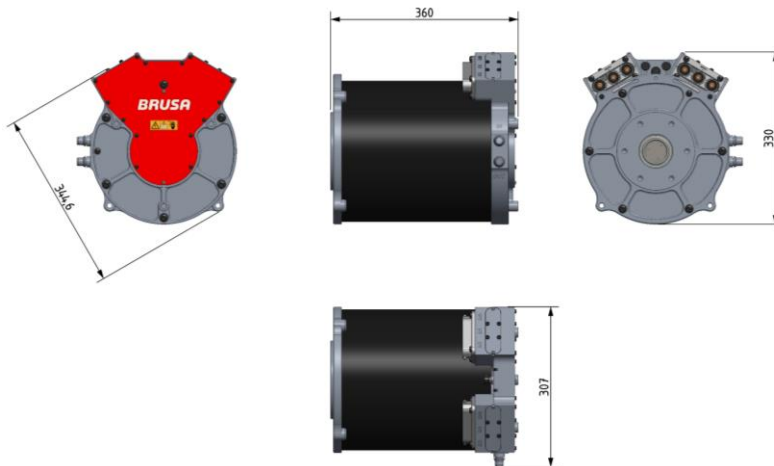
AC connectors for easy
mounting

Performance data at 400V _{DC}		HSM2-10.18.22	
Nominal speed	5'000	rpm	
Continuous torque	340	Nm	
Max. torque (at max. inverter current)	500	Nm	
Continuous power (acc. S1) at 25°C	175	kW	
Continuous power (acc. ECE R85) at 25°C	180	kW	
Maximum power	275	kW	
Maximum speed	12'000	rpm	
Typical efficiency	97.5	%	
Basic electrical data			
Compatible inverter	DTI844-6		
Recommended input voltage	300 - 450	V	
Maximum inverter current	6x 400	A _{RMS}	
Insulation class	H		
Mechanical data / Cooling system / Environment			
Diameter (cooling jacket)	270	mm	
Length	360	mm	
Stator diameter	240	mm	
Weight (dry)	79	kg	
Moment of inertia (rotor)	0.11	kg*m ²	
Ingress protection	IP67		
Ambient temperature range (operation)	-40 to +85	°C	
Ambient temperature range (storage)	-40 to +85	°C	
Amount of coolant in device	0.69	L	
Coolant water mixture water/glycol	50/50	%	
Coolant input temperature range	-30 to +65	°C	
Coolant flow rate	6 to 10	L/min	
Max. pressure drop (8 L/min, T _{coolant} = 25°C)	254	mbar	
Maximum coolant pressure	2	bar	
Maximum altitude	4000	m	
Connections			
Phases U, V, W: recommended cross section (Cu)	70	mm ²	
Ground GND: recommended cross section (Cu)	70	mm ²	
Key reference standards*			
Environmental	ISO 16750 ISO 20653 EN 60034-5 LV124		
Electrical Safety	IEC 60664-1 LV123		
Additional relevant standards	EN 60034-1		

Performance



Dimensions [mm]



Efficiency [%]

HSM2-10.18.22-B01 efficiency @ 400 V _{DC} (measured with DTI844-6-B01)										
Torque [Nm]	500	480	460	440	420	400	380	360	340	320
500	91.6	95.1	96.2	96.7						
480	91.8	95.2	96.3	96.8	97.1					
460	92.0	95.3	96.4	96.9	97.1					
440	92.3	95.4	96.5	97.0	97.2					
420	92.6	95.6	96.6	97.0	97.2	97.1				
400	92.8	95.8	96.7	97.1	97.3	97.2				
380	93.1	95.9	96.8	97.2	97.4	97.3				
360	93.4	96.0	96.9	97.2	97.4	97.4	96.9			
340	93.6	96.2	97.0	97.3	97.4	97.5	97.1			
320	93.9	96.3	97.0	97.4	97.5	97.5	97.2			
300	94.1	96.4	97.1	97.4	97.5	97.6	97.3	96.7		
280	94.4	96.6	97.2	97.4	97.5	97.6	97.4	97.0		
260	94.6	96.7	97.3	97.5	97.6	97.6	97.5	97.1	96.4	
240	94.9	96.8	97.3	97.5	97.6	97.5	97.5	97.2	96.6	
220	95.1	96.9	97.4	97.5	97.5	97.5	97.5	97.3	96.9	96.3
200	95.3	97.0	97.4	97.6	97.5	97.4	97.5	97.3	97.1	96.5
180	95.6	97.1	97.4	97.5	97.5	97.4	97.5	97.4	97.1	96.8
160	95.8	97.1	97.5	97.5	97.4	97.3	97.4	97.4	97.2	96.8
140	95.9	97.1	97.4	97.5	97.4	97.2	97.2	97.3	97.1	96.9
120	96.0	97.0	97.3	97.3	97.1	96.9	96.8	97.0	97.0	96.8
100	96.0	96.9	97.1	97.1	96.9	96.7	96.4	96.6	96.7	96.7
80	96.1	96.9	97.0	96.8	96.7	96.4	96.1	96.1	96.2	96.2
60	95.9	96.5	96.6	96.4	96.3	95.9	95.5	95.2	95.4	95.4
40	95.4	95.9	95.8	95.7	95.4	94.9	94.4	94.1	93.7	93.9
20	93.2	93.3	93.2	93.0	92.6	91.9	91.5	91.2	90.3	89.6
Q1	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000
	Speed [rpm]									