

# 12.5kW -25kW

## 2-POLE

## SMF162 Range

### Application and Standards

Every application-prime or standby, large or small, simple or complex, urban or rural, on the utility grid or off  
Comply with standards of IEC60034,NEMA MG1-32,IS08528,CSA C22.2-100 , VDE 0530 , GB755

### Electrical Features

- H class insulation
- Special-treated winding is optional to meet the needs of harsh environment
- 12 leads, achieve a variety of voltage output
- 2/3 winding pitch, effective control of harmonics.
- High efficiency and strong motor start ability
- Variety of excitation and voltage regulation system to meet different loads.



### Mechanical Features

- Be protected to IP23, and IP44 is optional
- Both single bearing and double bearing configurations are available
- Sealed for life bearings
- Blackening coupling disc
- The rotors are dynamically balanced according to ISO 1940. A half-key balanced for double bearings.

### Common Data

Insulation	H	Voltage Regulation	± 1%	THD	NO LOAD < 1.5%
Altitude	<=1000m	Leads	12	TIF	<50
Protection	IP23	Winding pitch	2/3	THF	<2%
Overspeed	4500rpm	AVR	SX460 (Standard) / AS440 (Optional)		

### Rating @ 3-Phase

H Class	50Hz / 3000RPM / 40 °C/ PF 0.8						60Hz / 3600RPM / 40 °C/ PF 0.8						
	Prime			Standby			40°C Prime			Standby			Efficiency
Voltage													
Y Series Star	380	400	415	440	400		416	440	460	480	480		
YY Parallel Star	190	200	208	220	200		208	220	230	240	240		
△ Series Delta	220	230	240	254	230		240	254	266	277	277		
SMF162C	kVA	12.5	12.5	12.5	12.0	N/A	74.2%	14.7	15.6	15.6	15.6	N/A	73.6%
	kW	10.0	10.0	10.0	9.6			11.8	12.5	12.5	12.5		
SMF162D	kVA	15.0	15.0	15.0	14.5	N/A	77.1%	17.8	18.8	18.8	18.8	N/A	76.7%
	kW	12.0	12.0	12.0	11.6			14.2	15.0	15.0	15.0		
SMF162E	kVA	17.5	17.5	17.5	16.5	N/A	79.1%	20.8	21.9	21.9	21.9	N/A	78.9%
	kW	14.0	14.0	14.0	13.2			16.6	17.5	17.5	17.5		
SMF162F	kVA	25.0	25.0	25.0	22.5	N/A	82.6%	29.6	31.3	31.3	31.3	N/A	81.5%
	kW	20.0	20.0	20.0	18.0			23.7	25.0	25.0	25.0		

### Rating @ 1-Phase

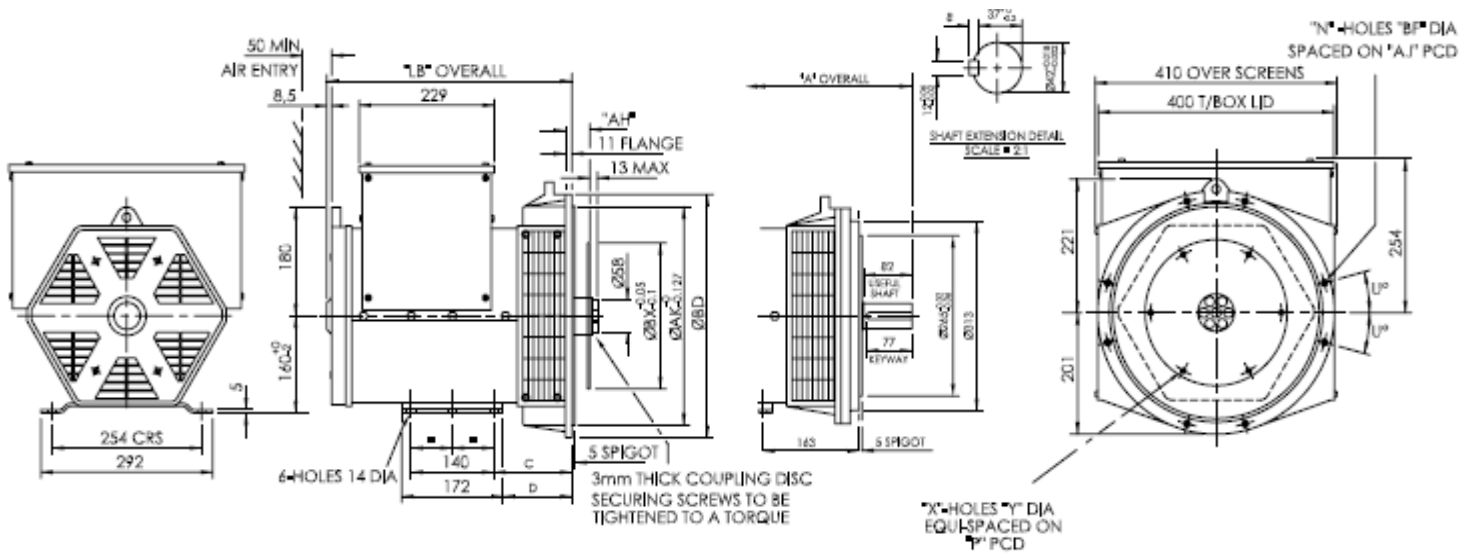
Winding	12 Wire Reconnectable						4 Wire Dedicated					
	Base 40°C/Continuous 125°C						Base 40°C/Continuous 125°C					
Ambient/Temp Rise	220-240V			240V			220-240V			240V		
Voltage	50Hz		60Hz		Efficiency	50Hz		60Hz		Efficiency		
Frequency	PF1	PF0.8	PF1	PF0.8		PF1	PF0.8	PF1	PF0.8			
SMF162C	kVA	7.5	7.5	8.8	8.8	68.0%	9.6	8.4	12.0	10.0	68.1%	
	kW	7.5	6.0	8.8	7.0		9.6	6.7	12.0	8.0		
SMF162D	kVA	9.0	9.0	10.7	10.7	72.0%	11.5	10.0	15.0	12.4	72.4%	
	kW	9.0	7.2	10.7	8.6		11.5	8.0	15.0	9.9		
SMF162E	kVA	10.5	10.5	12.5	12.5	74.3%	13.5	11.8	17.5	14.4	74.7%	
	kW	10.5	8.4	12.5	10.0		13.5	9.4	17.5	11.5		
SMF162F	kVA	15.0	15.0	17.8	17.8	77.4%	17.5	16.8	22.0	20.6	77.9%	
	kW	15.0	12.0	17.8	14.2		17.5	13.4	22.0	16.5		

Reactance- time constant ( s ) -H class

SMF 162C/D/E/F

50Hz @ 400V	SMF162C	SMF162D	SMF162E	SMF162F	
Xd	Direct axis synchro. reactance unsaturated	2.551	2.551	2.379	2.874
X'd	Direct axis transient reactance saturated	0.258	0.258	0.237	0.291
X''d	Direct axis sub transient reactance saturated	0.161	0.161	0.151	0.183
Xq	Quadra. Axis synchro. reactance unsaturated	1.270	1.270	1.184	1.432
X''q	Quadra. Axis sub transient reactance saturated	0.291	0.291	0.269	0.323
X2	Negative sequence reactance unsaturated	0.248	0.248	0.226	0.269
Xo	Zero sequence reactance unsaturated	0.108	0.108	0.097	0.118
T'd	Short-Circuit transient time constant	0.012	0.012	0.012	0.012
T''d	Sub transient time constant	0.003	0.003	0.003	0.003
T'do	Open circuit time constant	0.225	0.225	0.225	0.225
Ta	Armature time constant	0.004	0.004	0.004	0.004
Kcc	Short circuit ratio	1/Xd	1/Xd	1/Xd	1/Xd

Outline Drawing



Dimension ( mm )	2-BRG	SAE3	SAE 4	SAE 5	Net W.	Gross W.	Packing
Model	A	LB	LB	LB	kg	kg	L x W x H (mm)
SMF162C	484.5	376.5	364.5	364.5	89	95	740×650×700
SMF162D	484.5	376.5	364.5	364.5	94	99	740×650×700
SMF162E	536.5	428.5	416.5	416.5	101	108	740×650×700
SMF162F	536.5	428.5	416.5	416.5	117	113	740×650×700

Flange ( mm )									Disc ( mm )					
SAE#	BD	AK	AJ	U °	BF	n	C	D	SAE#	BX	P	X	Y	AH
SAE 5	356	314.32	333.38	22.5	11	8	133	117	11.5	352.42	333.38	8	11	39.6
SAE 4	402	361.95	381	15	11	8	133	117	10	314.32	295.28	8	11	53.8
SAE 3	451	409.58	428.62	15	11	8	145	129	8	263.52	244.48	6	11	62
									7.5	241.3	222.25	8	9	30.2
									6.5	215.9	200.02	6	9	30.2