

**90kW SQ IM 4P RC280SMV Frame - SP2000201150**

<b>90kW - 4Pole - 3Ø - B3 - Induction Motor Specification</b>			
<b>Sl. No.</b>	<b>Description</b>	<b>BHEL's Requirements</b>	<b>Bidder's Response</b>
1	Output	90kW	
2	Frame size	280M	
3	Rated Voltage	415±10%	
4	Rated Current	156 A	
5	Type	Squirrel Cage	
6	Frequency	50±5%	
7	V&F Combined variation	±10%	
8	Number of poles	4	
9	Sync. Speed (RPM)	1500	
10	Ambient temperature	50° C	
11	Insulation	F	
12	Duty	S1	
13	Cooling	IC411	
14	Protection	IP55	
15	Efficiency Class	IE3	
16	Mounting	B3	
17	Applicable codes and standards	IS12615:2018 IS/IEC 60034-1	
18	Starting method	VFD (Frequency Converter)	
19	Winding connection	Delta	
20	No. of Terminals	6	
21	Vibration Limit	AS PER IS 12075	
22	Noise Limit	AS PER IS 12065	
23	Direction of rotation	Bi Directional	
24	Terminal box location	Top	
25	PTC thermistors	3 Nos for Alarm 3 Nos for Trip	
26	Temp. rise limited to	B	
27	Colour	RAL 6011	
28	Rated Torque	Bidder to specify	
29	Locked Rotor Torque	Bidder to specify	
30	Breakdown Torque	Bidder to specify	
31	DE Bearing	Roller bearing shall be provided at DE	
32	NDE Bearing	Insulated bearing shall be provided at NDE	

**Note to Supplier:**

- Performance figures are at rated supply condition, subjected to IS/IEC 60034-1 tolerance.
- Motor shall be suitable for peak transient voltage of 1.2kv for a minimum rise time of 0.25 micro second; dv/dt= 3.84 kV/µsec.
- Double coat enamelled copper wire shall be used & VPI treated.
- GA drawing shall be provided along with the offer for approval.
- Motor Data Sheet shall be provided along with the Offer.
- Routine test reports shall be provided during supply.
- Operation and Maintenance manuals shall be provided during supply.
- Detailed Engineering drawing shall be provided along with the supply.
- Only those bidders who supply similar or higher capacity motors shall quote, relevant documents shall be provided along with the Offer.

110kW SQ IM 4P RC315SMV Frame - SP2000201155

110kW - 4Pole - 3Ø - B3 - Induction Motor Specification			
Sl. No.	Description	BHEL's Requirements	Bidder's Response
1	Output	110kW	
2	Frame size	315S	
3	Rated Voltage	415±10%	
4	Rated Current	193 A	
5	Type	Squirrel Cage	
6	Frequency	50±5%	
7	V&F Combined variation	±10%	
8	Number of poles	4	
9	Sync. Speed (RPM)	1500	
10	Ambient temperature	50° C	
11	Insulation	F	
12	Duty	S1	
13	Cooling	IC411	
14	Protection	IP55	
15	Efficiency Class	IE3	
16	Mounting	B3	
17	Applicable codes and standards	IS12615:2018 IS/IEC 60034-1	
18	Starting method	VFD (Frequency Converter)	
19	Winding connection	Delta	
20	No. of Terminals	6	
21	Vibration Limit	AS PER IS 12075	
22	Noise Limit	AS PER IS 12065	
23	Direction of rotation	Bi Directional	
24	Terminal box location	Top	
25	PTC thermistors	3 Nos for Alarm 3 Nos for Trip	
26	Temp. rise limited to	B	
27	Colour	RAL 6011	
28	Rated Torque	Bidder to specify	
29	Locked Rotor Torque	Bidder to specify	
30	Breakdown Torque	Bidder to specify	
31	DE Bearing	Roller bearing shall be provided at DE	
32	NDE Bearing	Insulated bearing shall be provided at NDE	

Note to Supplier:

1. Performance figures are at rated supply condition, subjected to IS/IEC 60034-1 tolerance.
2. Motor shall be suitable for peak transient voltage of 1.2kv for a minimum rise time of 0.25 micro second; dv/dt= 3.84 kV/µsec.
3. Double coat enamelled copper wire shall be used & VPI treated.
4. GA drawing shall be provided along with the offer for approval.
5. Motor Data Sheet shall be provided along with the Offer.
6. Routine test reports shall be provided during supply.
7. Operation and Maintenance manuals shall be provided during supply.
8. Detailed Engineering drawing shall be provided along with the supply.
9. Only those bidders who supply similar or higher capacity motors shall quote, relevant documents shall be provided along with the Offer.

110kW SQ IM 4P VRC315V Frame - SP2000201160

110kW - 4Pole - 3 $\phi$ - V1 - Induction Motor Specification			
Sl. No.	Description	BHEL's Requirements	Bidder's Response
1	Output	110kW	
2	Frame size	315S	
3	Rated Voltage	415 $\pm$ 10%	
4	Rated Current	189 A	
5	Type	Squirrel Cage	
6	Frequency	50 $\pm$ 5%	
7	V&F Combined variation	$\pm$ 10%	
8	Number of poles	4	
9	Sync. Speed (RPM)	1500	
10	Ambient temperature	50° C	
11	Insulation	F	
12	Duty	S6-30%	
13	Cooling	IC411	
14	Protection	IP55	
15	Efficiency Class	IE3	
16	Mounting	V1	
17	Applicable codes and standards	IS12615:2018 IS/IEC 60034-1	
18	Starting method	VFD (Frequency Converter)	
19	Winding connection	Delta	
20	No. of Terminals	6	
21	Vibration Limit	AS PER IS 12075	
22	Noise Limit	AS PER IS 12065	
23	Direction of rotation	Bi Directional	
24	Terminal box location	Top	
25	PTC thermistors	3 Nos-Alarm;3 Nos-Trip	
26	Temp. rise limited to	B	
27	Colour	RAL 6011	
28	Rated Torque	Bidder to specify	
29	Locked Rotor Torque	Bidder to specify	
30	Breakdown Torque	Bidder to specify	
31	Build on Encoder	1024cpr, 9-30V DC, 4 tracks	
32	Encoder Make	BAUMER HUBNER	
33	Type	HOG 10 D 1024 I	
34	DE Bearing	Angular bearing shall be provided at DE	
35	NDE Bearing	Insulated bearing shall be provided at NDE	

Note to Supplier:

- Performance figures are at rated supply condition, subjected to IS/IEC 60034-1 tolerance.
- Motor shall be suitable for peak transient voltage of 1.2kv for a minimum rise time of 0.25 micro second; dv/dt= 3.84 kV/ $\mu$ sec.
- Double coat enamelled copper wire shall be used & VPI treated.
- GA drawing shall be provided along with the offer for approval.
- Motor Data Sheet shall be provided along with the Offer.
- Routine test reports shall be provided during supply.
- Operation and Maintenance manuals shall be provided during supply.
- Detailed Engineering drawing shall be provided along with the supply.
- Only those bidders who supply similar or higher capacity motors shall quote, relevant documents shall be provided along with the Offer.

## 132kW SQ IM 4P RC315SMV Frame - SP2000201165

132kW - 4Pole - 3Ø - B3 - Induction Motor Specification			
Sl. No.	Description	BHEL's Requirements	Bidder's Response
1	Output	132kW	
2	Frame size	315M	
3	Rated Voltage	415±10%	
4	Rated Current	226 A	
5	Type	Squirrel Cage	
6	Frequency	50±5%	
7	V&F Combined variation	±10%	
8	Number of poles	4	
9	Sync. Speed (RPM)	1500	
10	Ambient temperature	50° C	
11	Insulation	F	
12	Duty	S1	
13	Cooling	IC411	
14	Protection	IP55	
15	Efficiency Class	IE3	
16	Mounting	B3	
17	Applicable codes and standards	IS12615:2018 IS/IEC 60034-1	
18	Starting method	VFD (Frequency Converter)	
19	Winding connection	Delta	
20	No. of Terminals	6	
21	Vibration Limit	AS PER IS 12075	
22	Noise Limit	AS PER IS 12065	
23	Direction of rotation	Bi Directional	
24	Terminal box location	Top	
25	PTC thermistors	3 Nos for Alarm 3 Nos for Trip	
26	Temp. rise limited to	B	
27	Colour	RAL 6011	
28	Rated Torque	Bidder to specify	
29	Locked Rotor Torque	Bidder to specify	
30	Breakdown Torque	Bidder to specify	
31	NDE bearing	Insulated bearing shall be provided at NDE	

## Note to Supplier:

- Performance figures are at rated supply condition, subjected to IS/IEC 60034-1 tolerance.
- Motor shall be suitable for peak transient voltage of 1.2kv for a minimum rise time of 0.25 micro second; dv/dt= 3.84 kV/µsec.
- Double coat enamelled copper wire shall be used & VPI treated.
- GA drawing shall be provided along with the offer for approval.
- Motor Data Sheet shall be provided along with the Offer.
- Routine test reports shall be provided during supply.
- Operation and Maintenance manuals shall be provided during supply.
- Detailed Engineering drawing shall be provided along with the supply.
- Only those bidders who supply similar or higher capacity motors shall quote, relevant documents shall be provided along with the Offer.

200kW SQ IM 8P SCF355XV Frame - SP2000201170

200kW - 8Pole - 3Ø - B3 - Induction Motor Specification			
Sl. No.	Description	BHEL's Requirements	Bidder's Response
1	Output	200kW	
2	Frame size	355L	
3	Rated Voltage	415±10%	
4	Rated Current	360 A	
5	Type	Squirrel Cage	
6	Frequency	50±5%	
7	V&F Combined variation	±10%	
8	Number of poles	8	
9	Sync. Speed (RPM)	750	
10	Ambient temperature	50° C	
11	Insulation	F	
12	Duty	S5-40%	
13	Cooling	IC416	
14	Protection	IP55	
15	Efficiency Class	IE3	
16	Mounting	B3	
17	Applicable codes and standards	IS12615:2018 IS/IEC 60034-1	
18	Starting method	VFD (Frequency Converter)	
19	Winding connection	Delta	
20	No. of Terminals	6	
21	Vibration Limit	AS PER IS 12075	
22	Noise Limit	AS PER IS 12065	
23	Direction of rotation	Bi Directional	
24	Terminal box location	Top	
25	PTC thermistors	3 Nos-Alarm;3 Nos-Trip	
26	Temp. rise limited to	B	
27	Colour	RAL 6011	
28	Rated Torque	Bidder to specify	
29	Locked Rotor Torque	Bidder to specify	
30	Breakdown Torque	Bidder to specify	
31	Build on Encoder	1024cpr, 9-30V DC, 4 tracks	
32	Encoder Make	BAUMER HUBNER	
33	Type	HOG 10 D 1024 I	
34	NDE Bearing	Insulated bearing shall be provided at NDE	

Note to Supplier:

1. Performance figures are at rated supply condition, subjected to IS/IEC 60034-1 tolerance.
2. Motor shall be suitable for peak transient voltage of 1.2kv for a minimum rise time of 0.25 micro second; dv/dt= 3.84 kV/μsec.
3. Double coat enamelled copper wire shall be used & VPI treated.
4. GA drawing shall be provided along with the offer for approval.
5. Motor Data Sheet shall be provided along with the Offer.
6. Routine test reports shall be provided during supply.
7. Operation and Maintenance manuals shall be provided during supply.
8. Detailed Engineering drawing shall be provided along with the supply.
9. Only those bidders who supplier similar or higher capacity motors shall quote, relevant documents shall be provided along with the Offer.

## 315kW SQ IM 6P SCF355XV Frame - SP2000201175

315kW - 6Pole - 3Ø - B3 - Induction Motor Specification			
Sl. No.	Description	BHEL's Requirements	Bidder's Response
1	Output	315kW	
2	Frame size	355	
3	Rated Voltage	415±10%	
4	Rated Current	568 A	
5	Type	Squirrel Cage	
6	Frequency	50±5%	
7	V&F Combined variation	±10%	
8	Number of poles	6	
9	Sync. Speed (RPM)	1000	
10	Ambient temperature	50° C	
11	Insulation	F	
12	Duty	S1	
13	Cooling	IC416	
14	Protection	IP55	
15	Efficiency Class	IE3	
16	Mounting	B3	
17	Applicable codes and standards	IS12615:2018 IS/IEC 60034-1	
18	Starting method	VFD (Frequency Converter)	
19	Winding connection	Delta	
20	No. of Terminals	6	
21	Vibration Limit	AS PER IS 12075	
22	Noise Limit	AS PER IS 12065	
23	Direction of rotation	Bi Directional	
24	Terminal box location	Top	
25	PTC thermistors	3 Nos-Alarm;3 Nos-Trip	
26	Temp. rise limited to	B	
27	Colour	RAL 6011	
28	Rated Torque	Bidder to specify	
29	Locked Rotor Torque	Bidder to specify	
30	Breakdown Torque	Bidder to specify	
31	Build on Encoder	1024cpr, 9-30V DC, 4 tracks	
32	Encoder Make	BAUMER HUBNER	
33	Type	HOG 10 D 1024 I	
34	DE Bearing	Roller bearing shall be provided at DE	
35	NDE Bearing	Insulated bearing shall be provided at NDE	

## Note to Supplier:

- Performance figures are at rated supply condition, subjected to IS/IEC 60034-1 tolerance.
- Motor shall be suitable for peak transient voltage of 1.2kv for a minimum rise time of 0.25 micro second; dv/dt= 3.84 kV/µsec.
- Double coat enamelled copper wire shall be used & VPI treated.
- GA drawing shall be provided along with the offer for approval.
- Motor Data Sheet shall be provided along with the Offer.
- Routine test reports shall be provided during supply.
- Operation and Maintenance manuals shall be provided during supply.
- Detailed Engineering drawing shall be provided along with the supply.
- Only those bidders who supply similar or higher capacity motors shall quote, relevant documents shall be provided along with the Offer.