

## Annexure for tender : DPS/MRPU/IGCAR/ELE/8869

### 1. Description of the item:

Design, Manufacture, testing at manufacturer's works and delivery of 125Watt,415V, 3 Ph, 50 Hz squirrel cage induction motors with electric brake, as per the technical specifications and dimensional details given below:-

### 2. Detailed specifications and Quantity: 3Nos

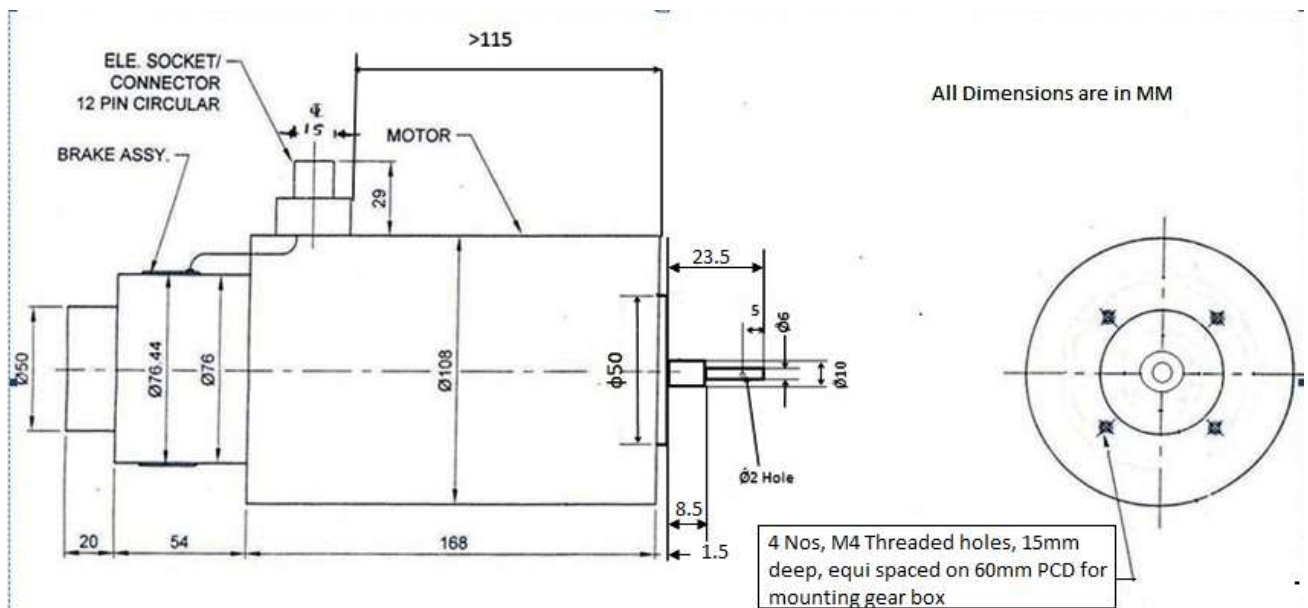
#### 2.1 Technical Specifications for 125Watt face mounting brake motor

Quantity : 3Nos

Sl.No	Particulars	Specifications
<b>Specifications of Motor</b>		
1.	Capacity (Watts)	125Watts
2.	Supply voltage	415V + 6% to – 6%
3.	Frequency variation	50 Hz + 3% to – 3%
4.	Speed	1445 rpm $\pm$ 10%
5.	Phase	3
6.	Class of Insulation	F
7.	Motor full load current	0.35A
8.	Duty	S4
9.	Rating	This motor shall withstand 200 starts/hr and 400 Jogs/Hr.
10.	Atmospheric condition	Corrosive and non hazardous
11.	Degree of protection	IP 55
12.	Ambient	60 Deg
13.	Thermostat	Thermostat shall be embedded in the winding with a setting of (>135°C Trip)
14.	Mounting reference	Vertical Face mounting (Shaft pointing upward)
15.	Position of terminal box	Terminal leads shall be brought out suitably to terminate in 12 pin connector available with us. Necessary mounting arrangement shall be provided for the connector as shown in figure.
16.	Connection	Star
17.	Direction of rotation	Bi-directional
18.	Type of coupling	Directly coupled to the gear box.
19.	Starting Torque	0.5 mN
20.	Rotor Inertia	28Kg-cm <sup>2</sup>
21.	Starting time	$\leq$ 0.3Sec
22.	Over load capacity	Capable of withstanding 60% overloads for 15 Sec
23.	Over speed	120% over speed for 2 min.
24.	Method of starting	DOL
<b>Specifications of Brake</b>		
25.	Type of brake	Fail-safe DC brake
26.	Brake power supply	48V DC.

27.	<b>Insulation class</b>	<b>F</b>
28.	Power consumption	should be less than 20Watts
29.	Current	0.35A at 48V dc
30.	Coil resistance	138 Ohms
31.	<b>Braking Torque</b>	<b>0.1Kgm</b>
32.	<b>Braking couple</b>	<b>0.04 mdaN</b>
33.	<b>Braking time</b>	<b>&lt;0.04 Sec</b>
34.	Withstanding temperature	70 deg.C

**Dimensional details of the Brake motor:**



**3. Other specifications:**

- a. The motors shall conform to the latest editions of the following standards
  - i. IS: 325 : Specification for 3 phase induction motors
  - ii. IS: 4722: Specifications for rotating electrical machines
- b. The materials and components supplied shall be of good quality and shall confirm to all applicable Indian Standards.
- c. The motors shall be fixed with a name plate indicating all technical details as specified in IS 325 clause 17; in addition the following information shall be added.
  - i. Temperature rise in degrees at rated load
  - ii. DE / NDE bearings and recommended lubricants

- d. The suppliers shall carry out all routine tests on both the motors as per IS: 325 at their works in the presence of department representatives. In addition, detailed type test results of similar motor shall be submitted by the supplier.
- e. 2 sets of test results along with factory test certificate shall be submitted before dispatch of the motors.
- f. The motors shall be guaranteed for satisfactory performance and against any manufacturing defects for a period of 12 months from the date of delivery.
- g. The motors shall be suitably packed and protected to avoid transit damages.

**4.0 Important Note:**

- a. The motors shall be suitable for direct replacement of existing motors at FBTR. The supply of motor shall be strictly as per the drawings.
- b. Before commencing the manufacture of the equipment, the drawings shall be submitted by the manufacturer for approval and the process of manufacturing shall be initiated only after getting necessary approval.
- c. The Offers shall be attached with the detailed catalogue indicating all the technical specifications, dimensional details and the guaranteed technical particulars given in section-D ; offers without the detailed catalogue and guaranteed technical particulars will not be considered.

**Section-D**

**Guaranteed Technical Particulars to be filled by the Supplier**

Sl.No	Particulars	Specifications
<b>Specifications of Motor</b>		
1.	Capacity (Watts)	
2.	Supply voltage	
3.	Frequency variation	
4.	Speed	
5.	Phase	
6.	Class of Insulation	
7.	Motor full load current	
8.	Duty	
9.	Rating	
10.	Atmospheric condition	
11.	Degree of protection	
12.	Ambient	
13.	Thermostat	
14.	Mounting reference	
15.	Position of terminal box	
16.	Connection	

17.	Direction of rotation	
18.	Type of coupling	
19.	Starting Torque	
20.	Rotor Inertia	
21.	Starting time	
22.	Over load capacity	
23.	Over speed	
24.	Method of starting	
<b>Specifications of Brake</b>		
25.	<b>Type of brake</b>	
26.	<b>Brake power supply</b>	
27.	<b>Insulation class</b>	
28.	Power consumption	
29.	Current	
30.	Coil resistance	
31.	<b>Braking Torque</b>	
32.	<b>Braking couple</b>	
33.	<b>Braking time</b>	
34.	Withstanding temperature	