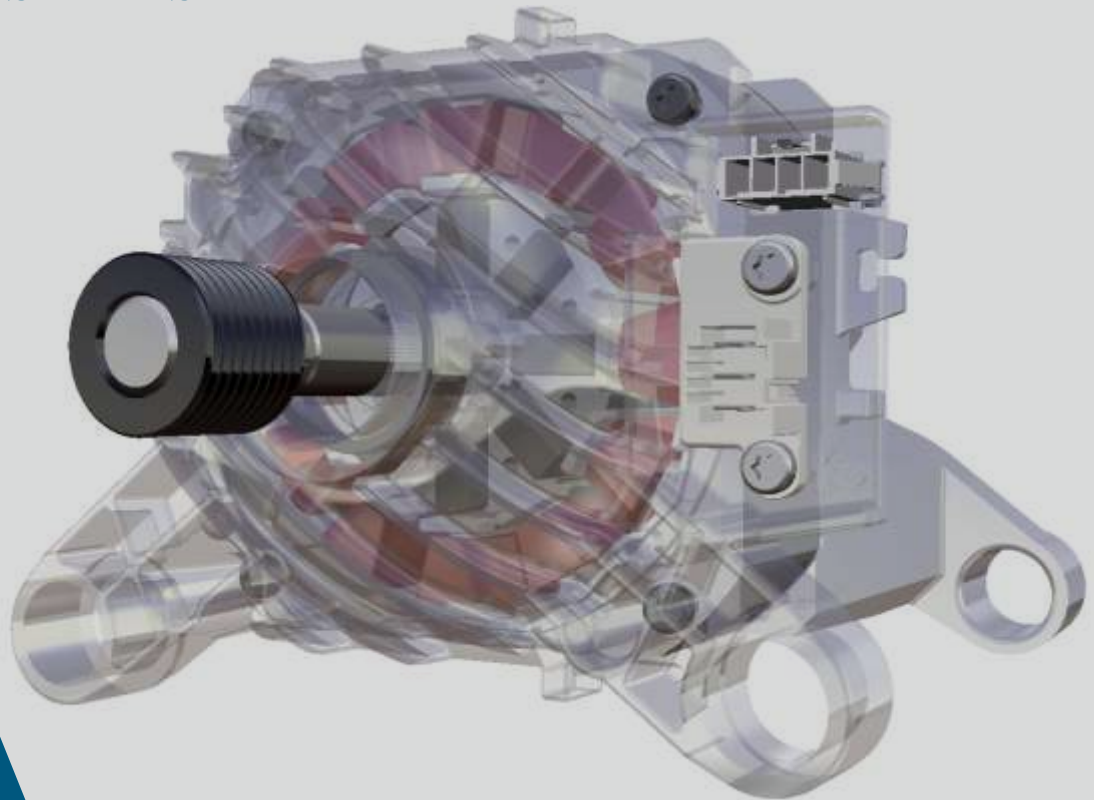


# IFB

Your Destination for  
Electrical Motors

**MOTOR DIVISION  
IFB INDUSTRIES LTD**



## COMPANY PROFILE

IFB Industries limited originally known as Indian Fine Blanks Limited started their operations in India during 1974 in collaboration with Hienrich Schmid AG of Switzerland.

IFB motors are part of USD 600 million IFB Group of Companies with business interests in Automotive, Appliances & Agro products. We at IFB are pioneers in the design, development and manufacturing of Electric motors for various applications in Appliances & Automotive areas. For customers, suppliers and manufacturers, IFB stands for quality, innovation and foresight.

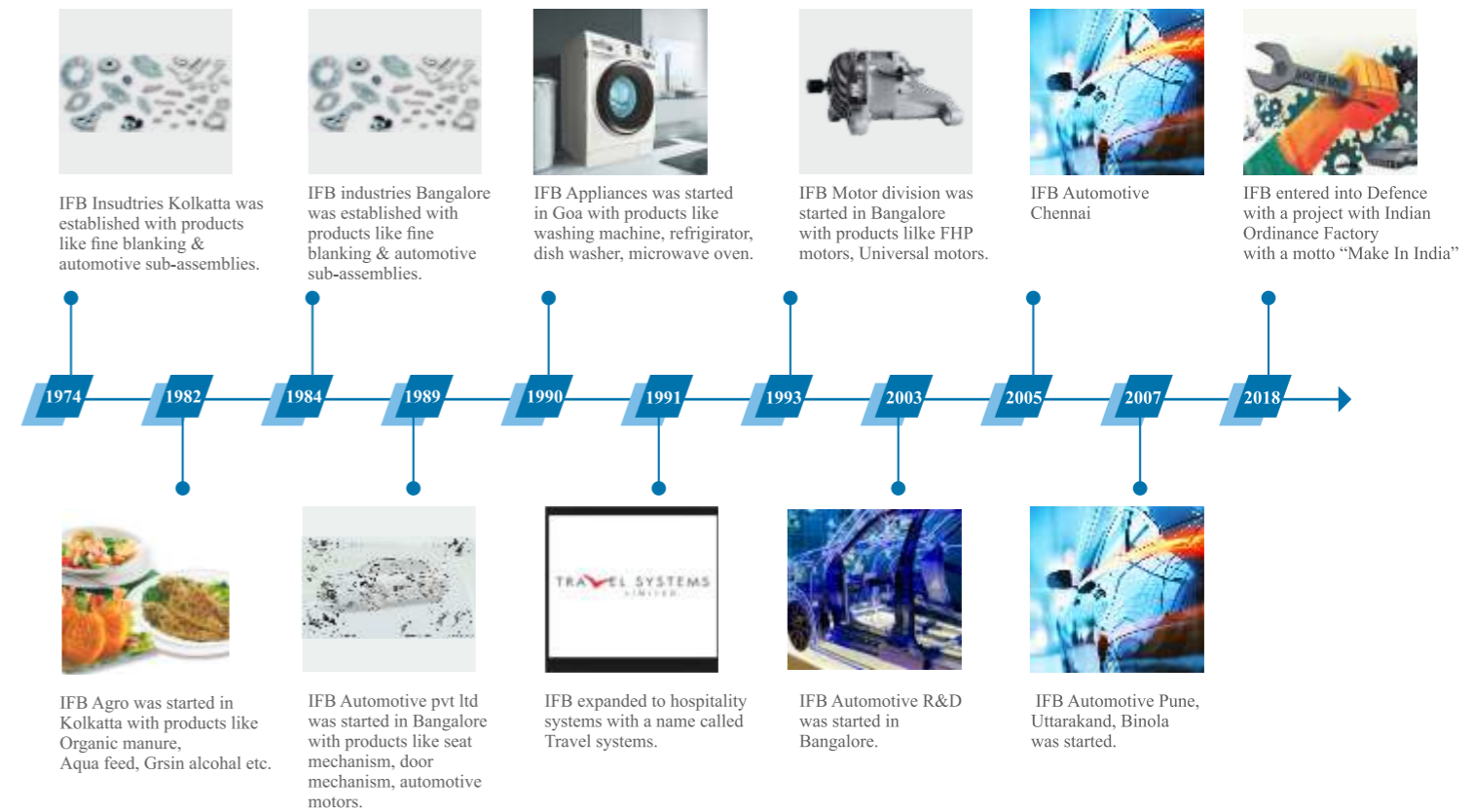
We are one of the largest manufacturers of universal motors for use in fully automated front load washing machines. We have developed BLDC motors for use in top loading & front loading washing machines & also for E-Vehicles. Our other electric drive products include Permanent Magnet DC Motors for Engine cooling (ECF / Radiator), Cabin cooling (Blower /HVAC Motor), & Window lift motor.

Our core competence lies in our dedicated Research and Development Centre, which strives to develop technologically advanced and superior products in pace with international innovations. All the products are designed keeping in mind the stringent energy regulations & safety requirements. Most of our products are successfully tested / used globally by various OEMs. Our products are at par with international quality standard, our price will be most competitive and our delivery and service will be at par or better than the best from other suppliers.

IFB has complete testing and validation facilities. IFB has the capability of performing the motor & system level testing. These facilities adhere to global standards. In addition to testing and validation during development, we also conduct planned COP testing and monitor product performance on a regular basis.

Our manufacturing facility is based out of Bangalore

## IFB TIME LINE



## IFB GROUP BUSINESS VERTICALS



### HOME APPLIANCES

Manufacturing home appliances for over three decades, IFB designs machines focused on liberating the Indian woman from the hassle of household chores. The Company is reputed for its forte in quality and technology.

### AGRO

Our business operates in the areas of

- International-Export of marine products
- Domestic-Ready to Cook Ready to Fry
- Aqua Feeds-Shrimp & Fish Feed and Aqua Shop

### AUTO

Established in 1989, IFB Automotive pioneered the manufacture of fine blanked automotive components, seating systems, door systems and automotive motors.

### FINE BLANKING

With 40 years of core fine blanking experience, backed by a world class tool room, advanced fine blanking presses and supporting machineries manned by highly skilled, competent personnel, IFB is a leader in the field of manufacturing fine blanked components for various industries.

### TRAVEL SYSTEMS

Founded in 1991, Travel Systems Ltd is an IATA accredited, travel solutions company with offices in Bangalore, Kolkata, Goa, Guwahati, and Delhi. Our hospitality services include 4,000 domestic and 23,000 international hotels.



## VISION

IFB will be synonymous with Innovation & Technology in its chosen fields of business activities. IFB will excel in Quality & Services to be in consonance with Global Standards.



## MISSION

Our mission is to create and deliver high quality and innovative products that will contribute to our customer's success and deliver value to our shareholders.. We shall provide complete solutions through our system capabilities in design, analysis, development, testing and validation. We are committed to environmental preservation and social responsibility.



## QUALITY POLICY

To supply products that will "Exceed Customer Expectation" due to excellence through perfection in quality & service. To maintain an environment for team work & continuous improvement leading to total quality in all activities of the Organisation.



## ENVIRONMENT POLICY

We at IFB are committed to protect the environment & prevent pollution by adhering to all applicable environment legislations and regulations by adopting the following,

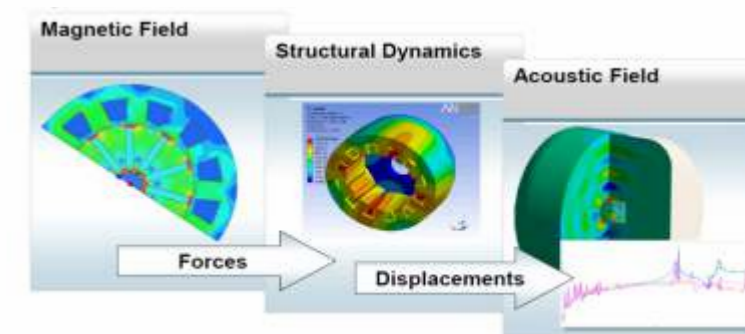
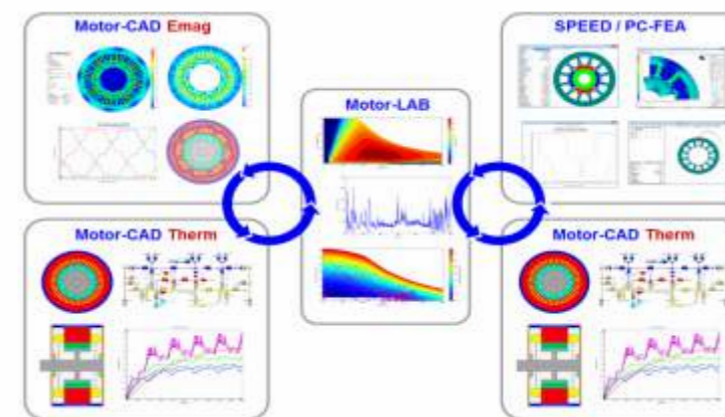
- Pollution prevention techniques in manufacturing.
- Conserving all natural resources & energy.
- Achieving continual improvement in environment performance.
- To provide a clean working environment to our employees.

## R&D INTRODUCTION

IFB Motor division R&D team continuously monitor existing portfolio against market requirements and identify new product streams to support future business growth. Our R&D is led by experienced and visionary professionals in the field of motor design & development.

Engineers at IFB Motors R&D are Experts in,

- Conceptualisation.
- 3d modelling.
- Finite element analysis.
- Electrical analysis.
- Kinetic analysis.
- Prototype development.
- Tools design & development.
- The Company's R&D centre is equipped with High-end Design software's like Iron CAD, Auto CAD, Pro e, CATIA, Hypermesh, ANSYS, ADAMS etc.
- For electrical design, simulations & FEA analysis, the team uses software's like SPEED (Siemens) & ANSYS.
- The R&D lab is well equipped with latest test instruments like Hysterisis Dynamometer, Inertial Dynamometer, Temperature Monitoring Systems etc.
- Other test facilities include Endurance test, Reliability test, Salt spray chamber, Motor life test fixture, Life test panel etc.



## ▶ WASHING MACHINE BLDC MOTORS

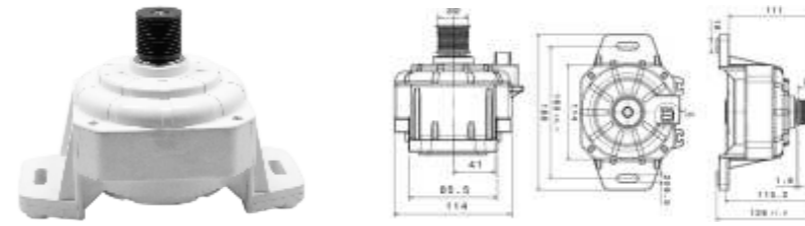


In 1993 Motor division started manufacturing of FHP Induction cum series motors for front load washing machines. Currently we are leading manufacturer of front load Universal motors in India. Our high efficient, energy saving BLDC motors prove our continual effort to develop new technology motors & adopt self-innovation.

### BLDC Motors

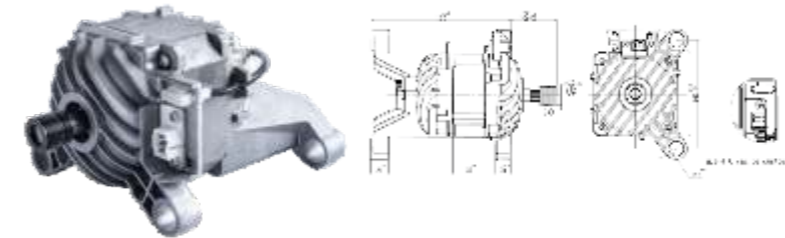
Our BLDC motors are belt driven for both front & top load applications. The motor consume less energy & have efficiency above 85%. The motor can be both sensed/sensor less. The motor can be used up to 9kg washing machine & spin speed of up to 15000 RPM.

## ▶ TOP LOAD BLDC MOTOR



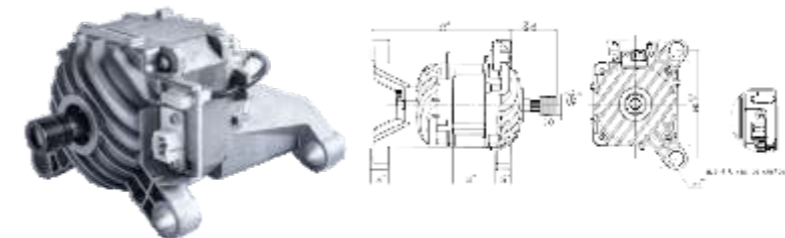
| Specification | Values                  |
|---------------|-------------------------|
| Rated Voltage | 220 / 240 V AC 50/60 Hz |
| Rated power   | 270 Watts               |
| Rated speed   | 10000 RPM               |
| Efficiency    | 85%                     |
| Load Capacity | 6.5-10kg                |

## ▶ FRONT LOAD BLDC MOTOR



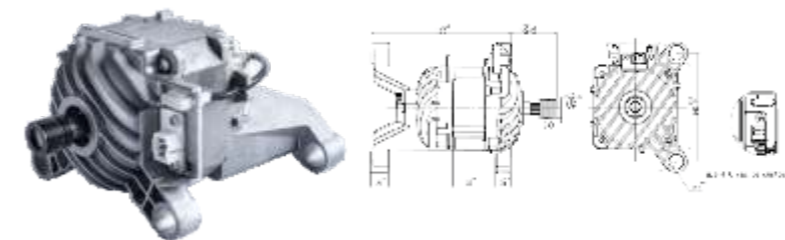
| Specification | Values                  |
|---------------|-------------------------|
| Rated Voltage | 220 / 240 V AC 50/60 Hz |
| Rated power   | 300 Watts               |
| Rated speed   | 14000 RPM               |
| Efficiency    | 85%                     |
| Load Capacity | 6.5-7.5kg               |

## ▶ FRONT LOAD BLDC MOTOR



| Specification | Values                  |
|---------------|-------------------------|
| Rated Voltage | 220 / 240 V AC 50/60 Hz |
| Rated power   | 350 Watts               |
| Rated speed   | 14500 RPM               |
| Efficiency    | 85%                     |
| Load Capacity | 7.5-8.5kg               |

## ▶ FRONT LOAD BLDC MOTOR



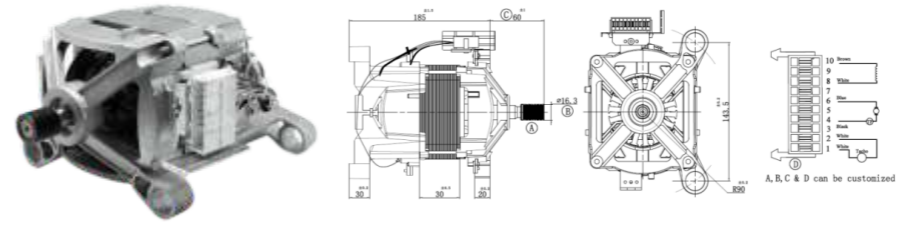
| Specification | Values                  |
|---------------|-------------------------|
| Rated Voltage | 220 / 240 V AC 50/60 Hz |
| Rated power   | 400 Watts               |
| Rated speed   | 15000 RPM               |
| Efficiency    | 85%                     |
| Load Capacity | 8.5kg & above           |

▶ **WASHING MACHINE UNIVERSAL MOTORS**



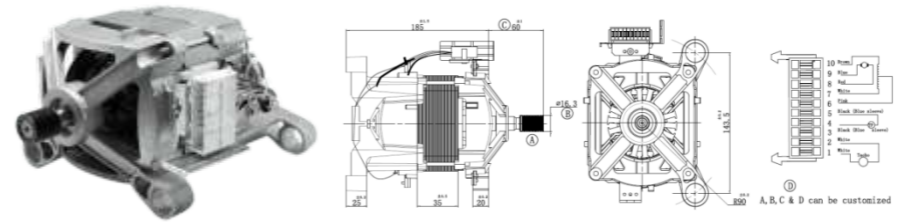
Our universal motors are reliable & value for money. The motor can be used up to 10kg washing machine & spin speed of up to 16000 RPM with efficiency above 75%.

▶ **FRONT LOAD UNIVERSAL MOTORS**



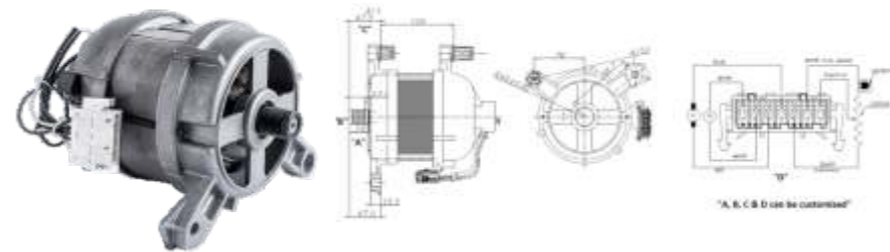
| Specification | Values                  |
|---------------|-------------------------|
| Rated Voltage | 220 / 240 V AC 50/60 Hz |
| Rated power   | 270 Watts               |
| Rated speed   | 14000 RPM               |
| Efficiency    | 75%                     |
| Load Capacity | 6-7kg                   |

▶ **FRONT LOAD UNIVERSAL MOTORS**



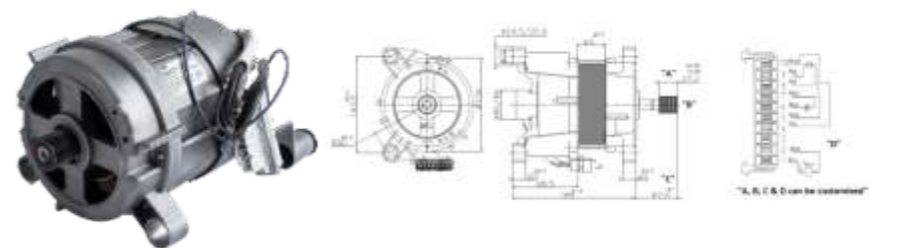
| Specification | Values                  |
|---------------|-------------------------|
| Rated Voltage | 220 / 240 V AC 50/60 Hz |
| Rated power   | 340 Watts               |
| Rated speed   | 14500 RPM               |
| Efficiency    | 75%                     |
| Load Capacity | 7-8kg                   |

▶ **FRONT LOAD UNIVERSAL MOTORS**



| Specification | Values                  |
|---------------|-------------------------|
| Rated Voltage | 220 / 240 V AC 50/60 Hz |
| Rated power   | 400 Watts               |
| Rated speed   | 15000 RPM               |
| Efficiency    | 75%                     |
| Load Capacity | 8-9kg                   |

▶ **FRONT LOAD UNIVERSAL MOTORS**

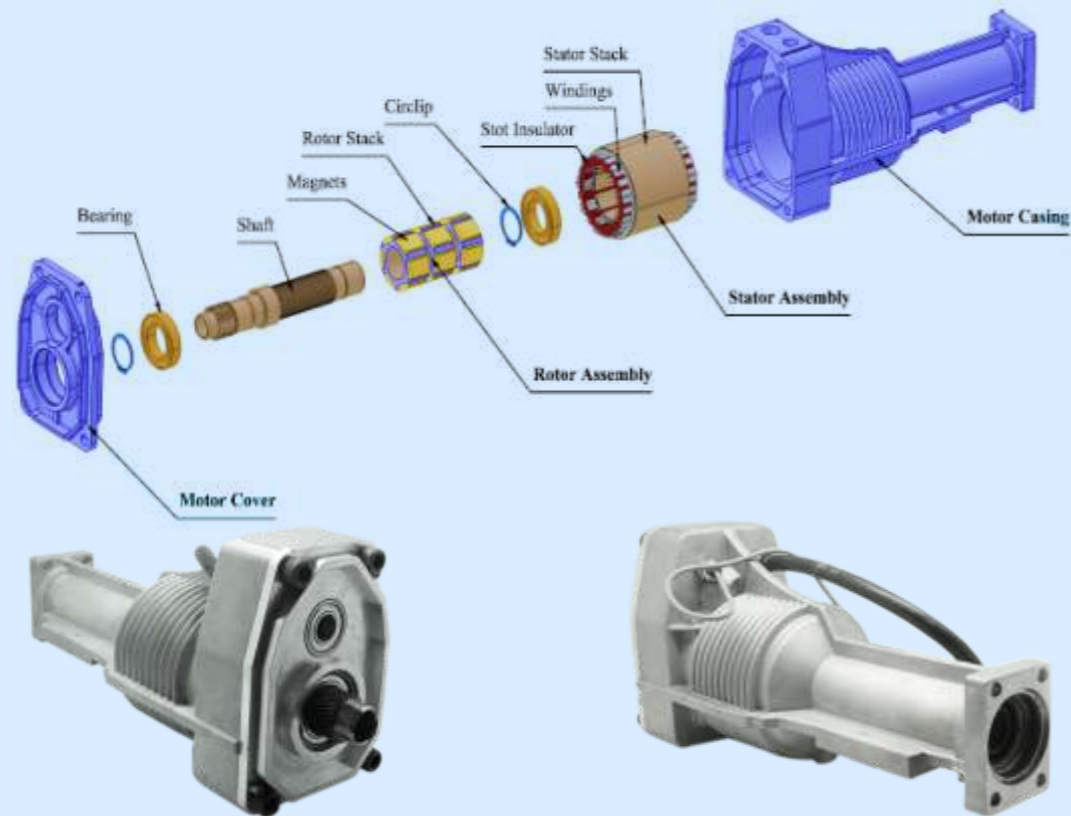


| Specification | Values                  |
|---------------|-------------------------|
| Rated Voltage | 220 / 240 V AC 50/60 Hz |
| Rated power   | 450 Watts               |
| Rated speed   | 15500 RPM               |
| Efficiency    | 75%                     |
| Load Capacity | 9kg & above             |

## ▶ E-VEHICLE MOTOR



IFB motors has developed 3KW BLDC motor for electric vehicle and focusing on extending the range further to preoccupy the fast growing E-Vehicle market. Our R&D team is focussed to consider every possible technology in this segment to deliver higher efficiency, long operating life and low noise motors.

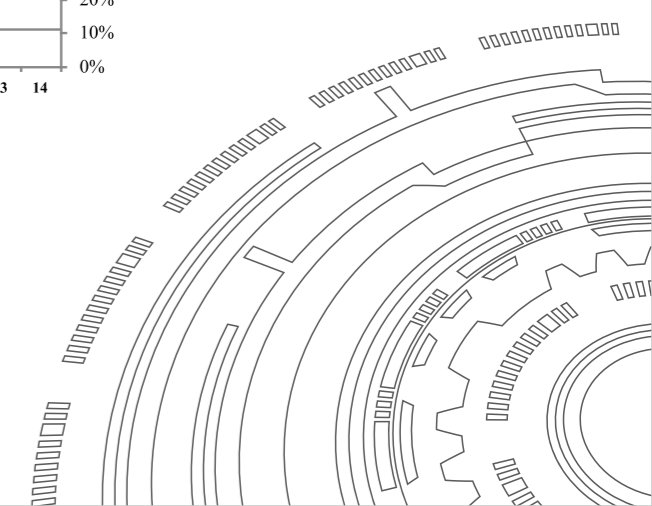
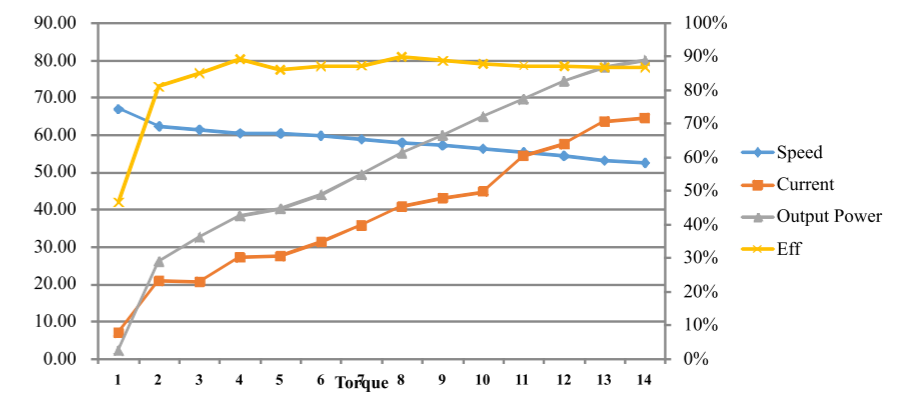
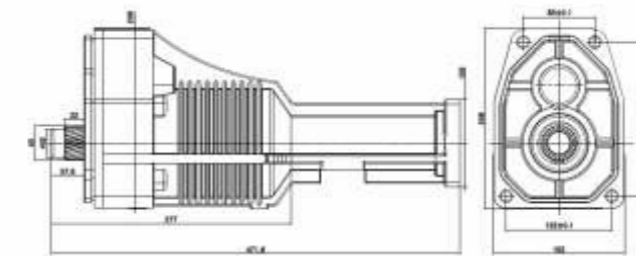


## ▶ E-VEHICLE BLDC MOTOR – TECHNICAL SPECIFICATIONS

Recently IFB has developed a BLDC Motor for ATM Kit of E Vehicle Application with a joint Venture of Foreign company. As this is different from the other ATM drive where the motor is coupled directly with Shaft & gear Mechanism of ATM kit.

### Motor Specification:

|                    |                                     |
|--------------------|-------------------------------------|
| Stack Width        | : 85mmstack                         |
| Slot / Pole        | : 10 slot / 6 pole & 12 slot/10pole |
| Rated Voltage      | : 48/72 V DC                        |
| Drive              | : Direct Drive                      |
| Speed              | : 3000-6000rpm                      |
| Feedback Mechanism | : With Hall Sensor Assy             |
| Insulation         | : Class H                           |
| Field winding      | : Aluminum Winding                  |
| Weight             | : 16– 25 Kg                         |
| Rated Power        | : 2-3 KW                            |
| Rated Torque       | : 6-10Nm                            |



## ▶ AUTOMOTIVE MOTORS

IFB design and manufacture various HVAC blower motors, condenser motors for air conditioning. Engine cooling fan motors and power window motors for automotive applications.

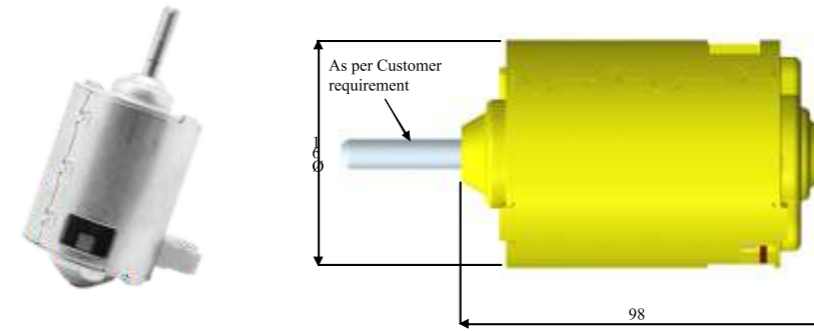
In order to diversify our product portfolio we have started developing PMDC motors for other applications such as vacuum pump for Air Braking systems and rear wiper motors. IFB also developing compact window lift motors with lower weight to cater to various applications. IFB also in the process of developing electronically controlled (BLDC) motors for ECF applications in order to become the preferred choice for OEM's.

## ▶ BLOWER MOTORS

We have a long standing experience of developing PMDC motors for HVAC applications having started supplying in 1999. We have developed complete blower assemblies with motor, impeller and cover for the leading HVAC assembly supplies.

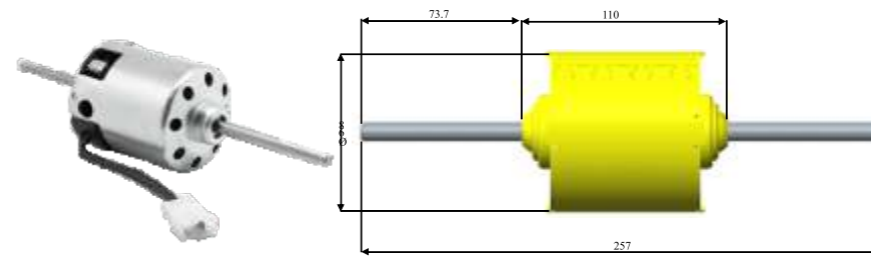


## ▶ X3 BLOWER MOTOR



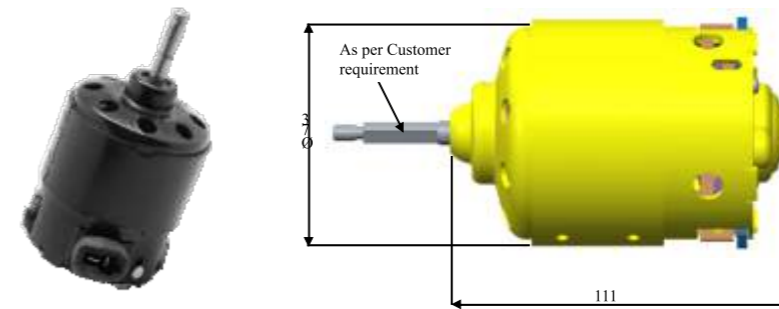
| Specification | Values     |
|---------------|------------|
| Voltage       | 13.5V      |
| Torque        | 0.26 Nm    |
| Speed         | 3800±8 RPM |
| Current       | 14A max    |

## ▶ TWIN SHAFT BLOWER MOTOR



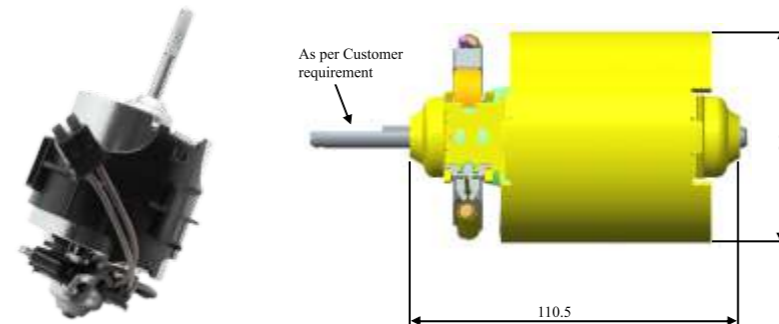
| Specification | Values      | Values      |
|---------------|-------------|-------------|
| Voltage       | 24V         | 13.5V       |
| Torque        | 0.25 Nm     | 0.24Nm      |
| Speed         | 3900±10 RPM | 4500±10 RPM |
| Current       | 7A max      | 12A max     |

## ▶ BBM BLOWER MOTOR

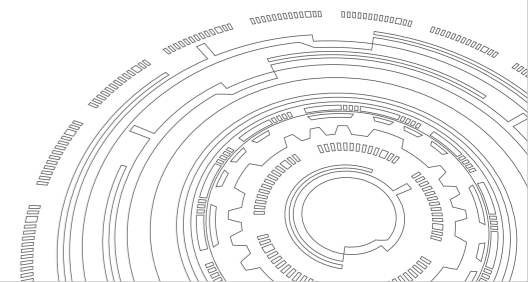


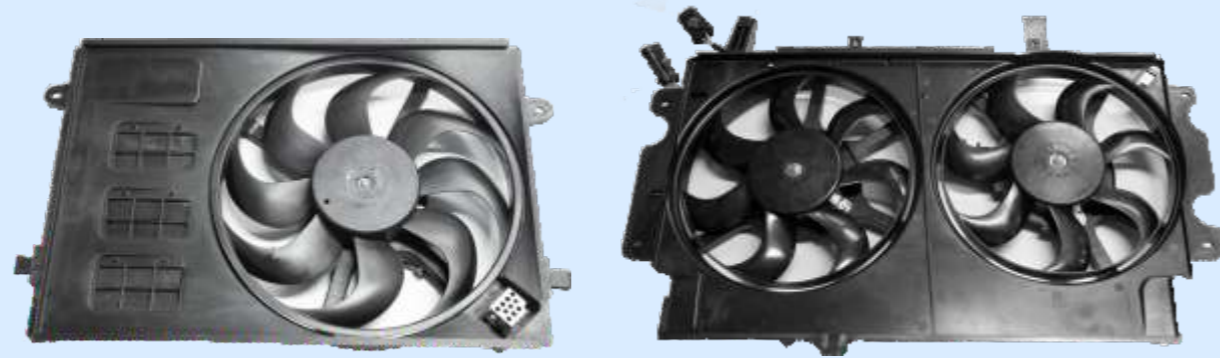
| Specification | Values     |
|---------------|------------|
| Voltage       | 12V        |
| Torque        | 0.4 Nm     |
| Speed         | 4000±8 RPM |
| Current       | 22A max    |

## ▶ SIEMENS 1BB42



| Specification | Values     |
|---------------|------------|
| Voltage       | 12V        |
| Torque        | 0.4 Nm     |
| Speed         | 3600±8 RPM |
| Current       | 22.8A max  |





## ▶ RADIATOR MOTORS

Having begun as a standalone motor supplier, we have now diversified into supplying cooling fan modules for commercial and passenger vehicles. Our fan modules are designed to keep in mind the growing requirement for compact low cost products across all OEM's. In the same module we can supply drives ranging from 80W to 500W. Low noise, high efficiency and long operating life are among the major advantages that we offer over other manufacturers.



## ▶ RADIATOR MOTOR



| Specification | Values       |
|---------------|--------------|
| Voltage       | 13 V         |
| Torque        | 0.6 Nm       |
| Speed         | 3000±150 RPM |
| Current       | 27A max      |

## ▶ RADIATOR MOTOR 3 PIECE



| Specification | Values       |
|---------------|--------------|
| Voltage       | 13.5 V       |
| Torque        | 0.6 Nm       |
| Speed         | 3050±150 RPM |
| Current       | 24A max      |

## ▶ XH5 RADIATOR MOTOR

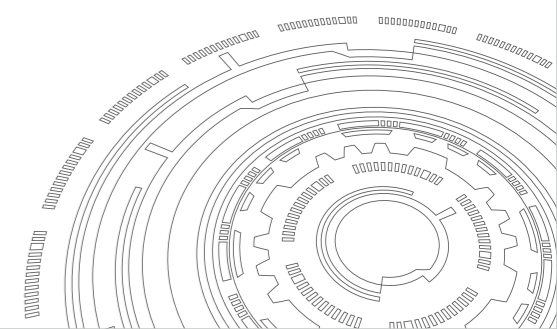


| Specification | Values       |
|---------------|--------------|
| Voltage       | 13.5 V       |
| Torque        | 0.3 Nm       |
| Speed         | 2600±150 RPM |
| Current       | 11.5A max    |

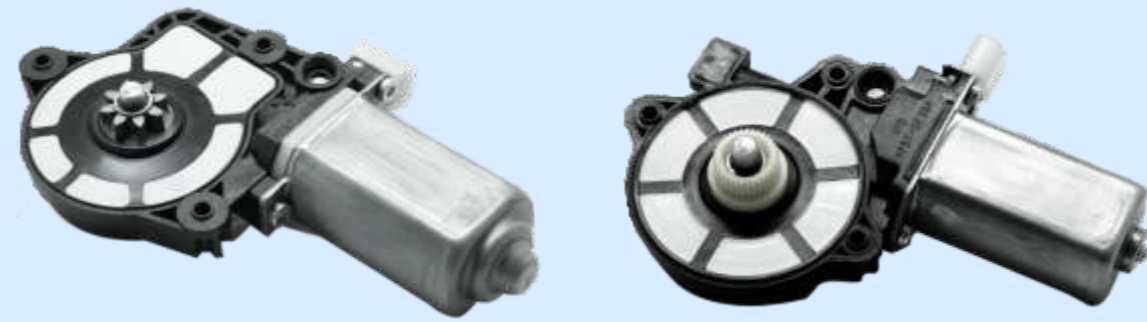
## ▶ IFB RADIATOR MOTOR



| Specification | Values    |
|---------------|-----------|
| Voltage       | 13.5 V    |
| Torque        | 0.47 Nm   |
| Speed         | 1980 RPM  |
| Current       | 13.8A max |







### ▶ POWER WINDOW MOTORS

We have motors with a wide power range (5.5Nm to 16Nm), catering to both commercial and passenger vehicles. We have developed compact motors that provide weight and packaging advantage to the customer.



### ▶ HIGH TORQUE



| Specification | Values  |
|---------------|---------|
| Voltage       | 24 V    |
| Torque        | 15 Nm   |
| Current       | 15A max |
| Weight        | 540 gms |

### ▶ MEDIUM TORQUE



| Specification | Values  |
|---------------|---------|
| Voltage       | 12 V    |
| Torque        | 14 Nm   |
| Current       | 27A max |
| Weight        | 575 gms |

### ▶ HIGH TORQUE

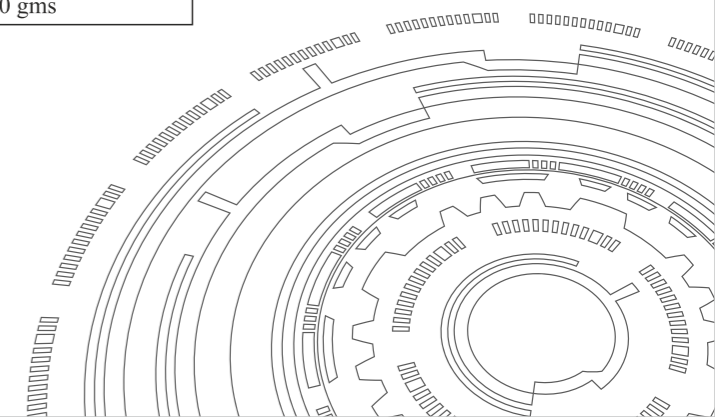


| Specification | Values  |
|---------------|---------|
| Voltage       | 12 V    |
| Torque        | 11.5 Nm |
| Current       | 25A max |
| Weight        | 440 gms |

### ▶ MEDIUM TORQUE



| Specification | Values  |
|---------------|---------|
| Voltage       | 12 V    |
| Torque        | 10 Nm   |
| Current       | 25A max |
| Weight        | 540 gms |



CERTIFICATES

**COMPLIANCE DOCUMENT**

This Compliance Document is issued to:

**IFB Industries Limited**  
16/17, Viveksharada Industrial Estate,  
Off Whitefield Road, Mahadevapura Post,  
Bangalore - 560 048

**FOR**  
Product: Electronic Control Motor

**Model No.** UM35-4LSGD, UM35-4LSGD, UM40-4LSGD,  
UM45-4LSGD, UM50-4LSGD, UM50-4LSGD,  
UM51-3LSGD, UM55-4LSGD and UM55-4LSGD

**TEST STANDARDS** ENIEC 60334-1: 2010 and ENIEC 60335-1: 2010

**TEST REPORT No.** 201112001 dated 10-02-2012, 201112002 dated  
10-02-2012, TR/SAP/81494-1 dated 20-01-2012 and  
TR/SAP/81494-2 dated 20-01-2012

The compliance document is issued according to the Low Voltage Directive 2006/95/EC. A sample of product was tested at ETDC, Bangalore to the requirements of Low Voltage Directive (2006/95/EC) and the test results comply with the requirements. It applies only to the sample submitted for testing.

**CE** After preparation of the necessary technical documentation as well as the conformity declaration the required CE marking can be affixed on the product and on all products of the same type that have been identically manufactured. Other relevant directives, if applicable, have to be considered.

The document holder is responsible for the consistent manufacturing of the product in compliance with the test sample submitted to us.

**V. Parvath**  
GENERAL MANAGER - PRODUCT CERTIFICATION

Ref No: CD2011108 Date of Original Issue: February 10, 2012 Date of Revision:

Note: Products entering the European Union are subject to the requirements set forth in the European Directives. It is the responsibility of the person placing the product on the European market to ensure compliance with applicable Directives. The requirements of Directives and standards change from time to time and it is the responsibility of the manufacturer to ensure compliance. Our services are intended to provide you with the best possible technical assistance, but the person placing the product on the European market still has the responsibility to ensure each product complies with the applicable Directives. The product holder will not be held responsible in any way for non-compliance with applicable Directives (EN 60334-1:2010).

This document applies only to the particular sample provided for testing and CE certification and does not permit the use of a TÜV PRODUCT SERVICE certification mark. It becomes ineffective in the event of changes relating to products, applicable standards and the Directives.

**COMPLIANCE DOCUMENT**

This Compliance Document is issued to:

**IFB Industries Limited**  
16/17, Viveksharada Industrial Estate,  
Off Whitefield Road, Mahadevapura Post,  
Bangalore - 560 048

**FOR**  
Product: Electronic Control Motor

**Model No.** UM35-4LSGD, UM30-4LSGD, UM30-4LSGD,  
UM35-4LSGD, UM35-4LSGD, UM30-4LSGD,  
UM35-4LSGD, UM35-4LSGD, UM35-4LSGD,  
UM35-4LSGD, UM35-4LSGD, UM35-4LSGD,  
UM35-4LSGD

**TEST STANDARDS** ENIEC 60334-1: 2010 and ENIEC 60335-1: 2010

**TEST REPORT No.** 20121540101 dated 15/11/2012 and  
20121540102 dated 15/11/2012

The compliance document is issued according to the Low Voltage Directive 2006/95/EC. A sample of product was tested at ETDC, Bangalore to the requirements of Low Voltage Directive (2006/95/EC) and the test results comply with the requirements. It applies only to the sample submitted for testing.

**CE** After preparation of the necessary technical documentation as well as the conformity declaration the required CE marking can be affixed on the product and on all products of the same type that have been identically manufactured. Other relevant directives, if applicable, have to be considered.

The document holder is responsible for the consistent manufacturing of the product in compliance with the test sample submitted to us.

**V. Parvath**  
GENERAL MANAGER - PRODUCT CERTIFICATION

Ref No: CD2012154 Date of Original Issue: November 10, 2012 Date of Revision:

Note: Products entering the European Union are subject to the requirements set forth in the European Directives. It is the responsibility of the person placing the product on the European market to ensure compliance with applicable Directives. The requirements of Directives and standards change from time to time and it is the responsibility of the manufacturer to ensure compliance. Our services are intended to provide you with the best possible technical assistance, but the person placing the product on the European market still has the responsibility to ensure each product complies with the applicable Directives. The product holder will not be held responsible in any way for non-compliance with applicable Directives (EN 60334-1:2010).

This document applies only to the particular sample provided for testing and CE certification and does not permit the use of a TÜV PRODUCT SERVICE certification mark. It becomes ineffective in the event of changes relating to products, applicable standards and the Directives.

**CERTIFICATE**

The Certification Body  
of TÜV SÜD Management Service GmbH  
certifies that

**IFB Automotive Private Limited**  
16/17, Viveksharada Industrial Estate,  
15C, Main Road, Off Whitefield Road Mahadevapura post  
Bangalore - 560048  
India

has established and applies  
a Quality Management System for

**Design, Manufacture of  
Motors and Motor assemblies and  
Sheet Metal parts & assemblies for Automotive Applications,**  
(with Product Design as per Chapter 5.2).

An audit was performed and has furnished proof  
that the requirements according to

**IATF 16949**  
First Edition 2016-10-01

are fulfilled.

Issue date: 2016-06-06  
Expiry date: 2021-06-05  
Certificate Registration No.: 12 111 880901 TMS  
IATF Certificate No.: 0338571

**M. Hoque**  
Product Compliance Management  
March, 2016 11

Page 1 of 1

TÜV SÜD Management Service GmbH • Zertifizierungsstelle • Süddeutsche ISO 9001 München • Germany  
www.tuv-sud.com/india-certification

**CERTIFICATE**

The Certification Body  
of TÜV SÜD Management Service GmbH  
Trading as TÜV SÜD South Asia Private Limited  
certifies that

**IFB Industries Limited**  
No. 17, Viveksharada Industrial Estate,  
Off Whitefield Road, Mahadevapura,  
Bangalore - 560 048, INDIA

has established and applies  
a Quality Management System for

**Design, Manufacture & Supply of Fine blisked,  
Heat treated components and sub-assemblies for automobile  
applications & electric motors for washing machines.**

An audit was performed, Report No. 79682155  
Proof has been furnished that the requirements  
according to

**ISO 9001:2008**

are fulfilled. The certificate is valid until 2013-02-28  
Certificate Registration No. 12 100 12028 TMS

**M. Hoque**  
March, 2013

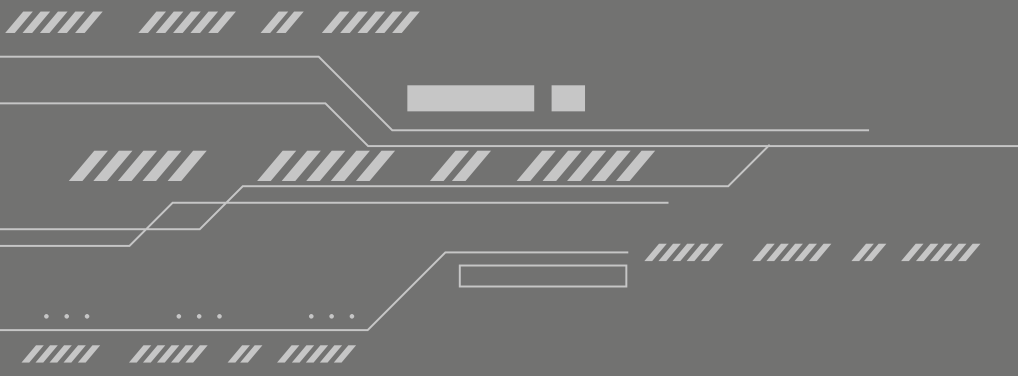
TÜV SÜD Management Service GmbH • Zertifizierungsstelle • Süddeutsche ISO 9001 München • Germany

OUR CLIENTS





Your Destination for  
Electrical Motors



**Motor Division**

**IFB Industries Limited**

#17, Visveswaraiyah Industrial Estate, Off Whitefield Road

Mahadevpura, Bangalore – 560 048

M: +919343706168 | email: mdprod@ifbbangalore.com