



SCHAEFFLER KOREA

Introduction of Bearings in EV-motor

- (1) Bearings & EV-motor
- (2) Bearing Application
- (3) Schaeffler Korea's Experience (Development)

(1) Bearings & EV-motor

- **Bearing** is a machine element that constrains relative movement to the desired motion and reduces friction between moving parts.



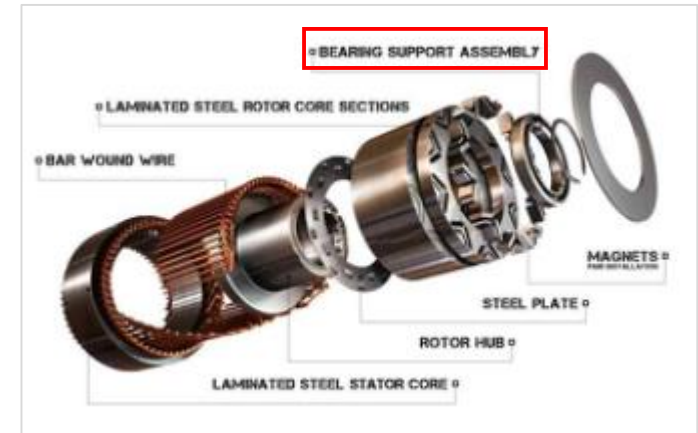
- **EV-motor** is an application of Electric motor used in vehicle.
 - The EV-motor is aligned with the Automobile Maker and the Maker decides to manufacture in in-house company or not.
 - In case of EV-motor that is applied with Schaeffler Korea's Bearing, 'G' Company Electric Vehicle is equipped with EV-motor manufactured by 'L' Company.



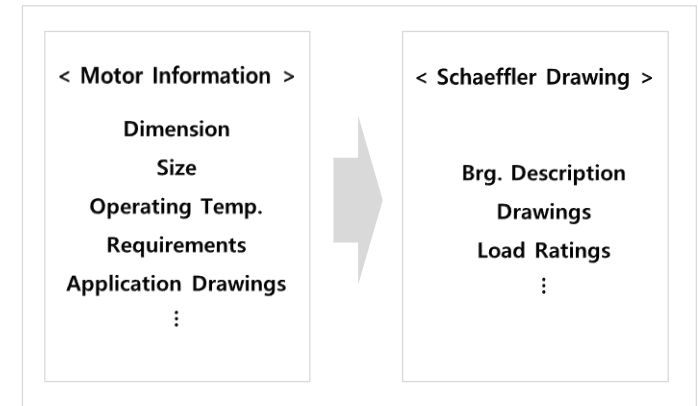
< Electric Vehicle >

(2) Bearing Application

- **Bearing** is normally applied in rotational part of the equipment.
 - Since the EV-motor is applied in Vehicle, below characteristics should be considered.
 - ✓ High Speed : EV-motor requires rpm range of 16,000 ~ 20,000
 - ✓ High Temperature : Available to endure and operate in high temperature
 - ✓ Low Friction : Prevent energy loss
 - ✓ Light Weight : Increase energy efficiency
 - ✓ Small Cross Section : Design compatibility
 - ✓ Low Grease Egress : Not interfering surrounding drives
 - ✓ Life Cycle Lubrication : Long-usage support Lubrication
 - In order to develop and further provide bearing to the customer, upper characteristics should be considered. (Communication and Info. Sharing between Engineers is vital)



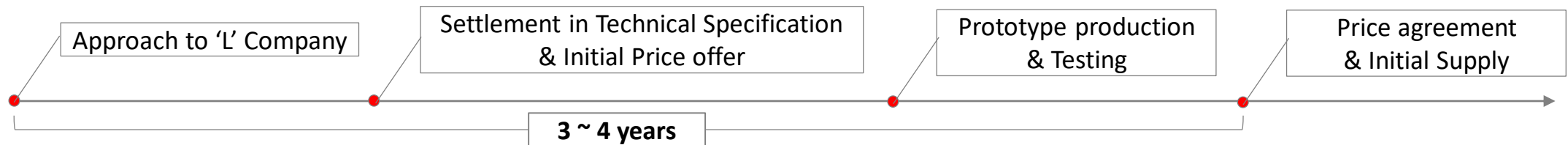
< Example of rotational part of EV-motor >



< Drawing process >

(3) Schaeffler Korea's Experience (Development)

➤ **Bearing** for EV-motor requires amount of time until initial supply.



➤ Brief introduction of Schaeffler Korea bearing applied in EV-motor.

(Unit: mm)

No.	Inner Diameter	Outer Diameter	Width	Etc.
1	50	80	16	DGBB
2	50	80	16	DGBB
3	40	62	12	DGBB
4	55	100	23	DGBB
5	40	78	18	DGBB

Schaeffler Korea can develop the customized bearings based on the specific conditions of the application.

Depending on the size and the environment of the application, the dimension and specification of the bearing may vary.

**BECAUSE YESTERDAY WE WERE ALREADY
THINKING ABOUT TOMORROW.**

