

# application checklist

Use this checklist as a reference tool for factors to consider when searching for the right gearmotor.



## VOLTAGE

Do you need AC or DC voltage?  
What voltage do you need your motor to run at?



## EFFICIENCY

How important is the efficiency of your motor? This is especially important for gearmotors.



## FREQUENCY

Do you need to operate at 60 Hz, 50 Hz or both 50/60 Hz?



## CONTROL

Will your application need to vary speeds? What type of control will you need?



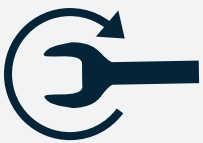
## SPEED

Does the application have high or low speeds? Are the speeds continuous or varying?



## MOUNTING/ORIENTATION

How does the motor need to be mounted within the application?



## TORQUE

Do you need high start or stall torque? What are your running torque requirements?



## OVERHUNG LOADS

Does the application have additional loads (radial or axial) putting stress on the motor?



## POWER

What are your HP or watt requirements? If using a control, do you have amperage limitations?



## PACKAGE SIZE

Is there a size restriction within your application that the motor must meet?



## DUTY CYCLE

Will your motor be operating continuously or in short bursts with time to cool down in between?



## LUBRICATION

Does your application require the use of either grease or oil? Do you need high or low temp lubrication?



## WEIGHT

Do you have any restrictions for weight within your application that the motor must meet?



## TEMPERATURE CLASS

What is the ambient temperature of the application's environment? Do you need to touch the motor?



## LIFE EXPECTANCY

How long of a life does your motor need? Is it in a location/application where maintenance is feasible?



## INGRESS PROTECTION

Will the environment of the motor be harsh and need protection from the elements—dust and water?



## NOISE

Is noise an important factor in your application or industry?



## AGENCY APPROVALS

Are there any agency approvals your application must meet—UL, CE, RoHS, CSA or others?

# data worksheet

Use this worksheet as a guide to help make sure you are sized with the correct gearmotor.

Motor Type	<input type="checkbox"/> PMDC <input type="checkbox"/> Universal <input type="checkbox"/> AC Induction <input type="checkbox"/> Brushless DC <input type="checkbox"/> Other _____
Life Requirements	_____ Hours
Voltage	_____ Volts <input type="checkbox"/> AC <input type="checkbox"/> DC    _____ Phase
Control	<input type="checkbox"/> Yes    Type _____ (SCR, PWM, VFD, etc.) <input type="checkbox"/> No    Input V _____    Output V _____
Rated Speed	_____ RPM
Rated Torque	_____ lb-in    or    _____ N-m
Rated Power	_____ Watts    or    _____ HP
Duty Cycle	<input type="checkbox"/> Continuous    _____ Off Time <input type="checkbox"/> Intermittent    _____ On Time
Speed Reducer (Gearbox)	<input type="checkbox"/> Parallel Shaft (PS) <input type="checkbox"/> Planetary (PL) <input type="checkbox"/> Right Angle (RA) <input type="checkbox"/> Right Angle Planetary (RP)
Overhung Load	<input type="checkbox"/> Yes    How much? _____ <input type="checkbox"/> No    What distance from motor? _____
Brake	<input type="checkbox"/> Yes    Voltage _____ <input type="checkbox"/> No    Holding Torque _____
Optical Encoder	<input type="checkbox"/> Yes    Counts / Revolution _____ <input type="checkbox"/> No
Agency Approvals	<input type="checkbox"/> UL <input type="checkbox"/> CE <input type="checkbox"/> Other _____ <input type="checkbox"/> CSA <input type="checkbox"/> RoHS

## IP RATINGS

### FIRST NUMBER - SOLIDS

- 0 - No protection
- 1 - Objects over 55 mm (hand)
- 2 - Objects over 12 mm (finger)
- 3 - Objects over 2.5 mm (tools/wires)
- 4 - Objects over 1 mm (small tools/wires)
- 5 - Dust-limited ingress (no harmful deposit)
- 6 - Totally protected against dust

### SECOND NUMBER - LIQUIDS

- 0 - No protection
- 1 - Vertically falling drops of water
- 2 - Direct sprays up to 15° from vertical
- 3 - Direct sprays up to 60° from vertical
- 4 - Sprays from all directions, limited ingress
- 5 - Weak jets of water from all directions, limited ingress
- 6 - Strong jets of water from all directions, limited ingress
- 7 - Water immersion between 15 cm and 1 m up to 30 minutes
- 8 - Long periods of immersion under pressure
- 9 - High temp (steam) and high pressure water sprays (IP69K)

## TEMP CLASS

### MAX TEMP AT HOTTEST SPOT

- A\* - 105°C
- E - 120°C (European)
- B\* - 130°C
- F - 155°C
- H\* - 180°C
- N - 200°C
- R - 220°C
- S - 240°C

\*Groschopp's standard insulation class ratings (based on UL 1446 temperature classes)

# note