



Generating
Movement
Efficiently

Lynch Motor Specification

Key Elements of the Lynch Motor



Armature

The armature consists of hard-drawn electrical copper interleaved with low-loss, grain-oriented electrical steel; resin-impregnated and baked.

Magnets

Nd-Fe-B Rare Earth, plated against corrosion.

Insulation

Class F, rated at Class E.

Generators

ENCLOSURE: IP 20. Natural cooling.

BEARINGS: Double Angular Contact shielded ball bearings, greased for life. (Sealed bearings - which have greater friction - can be supplied in special cases if required).

EMC: All motors are CE marked.

Frame Sizes

All motors are equally effective as generators, with efficiencies of 90% and over. Maximum EMF to be 12 Volts less than rating as motor. Voltage is approximately proportional to speed. Driving torque required approximately proportional to current drawn. For relevant torque constant, consult Lynch Motor Company.

Standard frame sizes are nominal 200mm and 190mm diameter. Other Lynch motor designs can be considered to special order, in power range 0.5-25KW, (diameters 100-300mm), if quantities are sufficient.

Patents

European 0230759; USA 4 823 039; Japan 61-304083 (pending); others pending.

Optional Motor Designs

Standard flanges, clutches and brakes can be fitted to the front of the motor.

Weights/Shipping Spec

Standard motors: 8.5-11Kg net; 10-12.5 Kg packed. Packing size 25x25x25 cm.

Delivery

Standard sizes from stock in quantities 1-10 - next day in urgent cases. Larger quantities, special shafts, armatures etc - 2-6 weeks.

Speed Range

For most applications, motors with the most powerful magnets are recommended, giving standard speeds of 65 rpm per volt - up to 3900 rpm on 60 Volts (or 120 volts for twin-armature motors). Care must be taken to ensure that this speed is not exceeded - by over-running the motor in a vehicle in order to regenerate current. If there is any risk of over-running, nominal EMF should be limited to 48 (96) Volts. A double-wound armature can be provided in special cases to give 130-150 rpm per Volt depending on magnet power - Max EMF 24 Volts, continuous power 4 KW.

Shaft Sizes

We supply as standard either a 19mm ISO shaft (200mm motor Model LM30) or a Lynch Flange (200mm motor Model LM22). The Lynch flange (recommended) is a flanged drive shaft which is more convenient for mounting

pulleys or sprockets than a keyed shaft as the driven component requires only an accurate 15mm pilot hole and cannot fret or otherwise work loose. (See Technical Report 1.101). The installation drawing shows a 19mm standard ISO keyed shaft (inset showing Lynch Flange). Both shafts are mounted from outside the motor and are interchangeable (by factory installation) on all models. Other shaft types and sizes can be supplied to order - eg to different ISO sizes or with integral pinion for geared drives as used in transaxles.