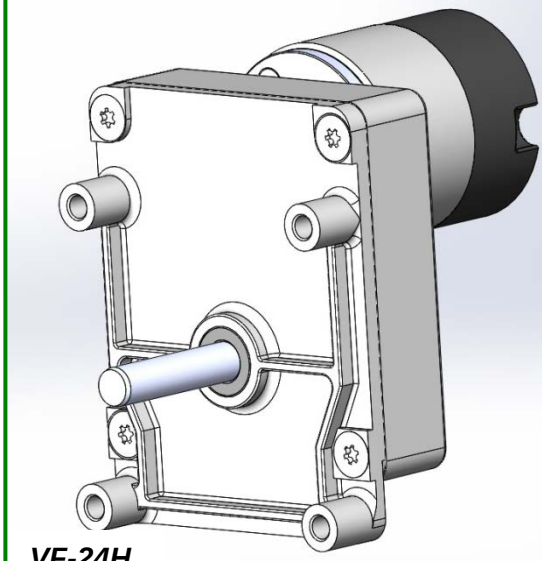
VF-24H PARALLEL SHAFT BLDC GEARMOTORS

Nidec -All for dreams Merkle-Korff Industries

Compact, quiet and versatile, the VF Series is ideal when space is a premium. A variety of features and gear reductions enable custom design. The 24H brushless motor offers extended life, high efficiency, and controllability for demanding applications at a competitive price.



VF-24H

Maximum Permissible Torque: 50 In.Lb (5.6 Nm)
Speed: Up to 300 RPM
Note: Speed and torque combinations will vary depending on the motor/gearbox combination.

GEAR REDUCER FEATURES

Housing Material: Zinc die cast
Gears: Sintered Powder Metal
Bearings: Sintered or Needle
Lubrication: Synthetic Grease
Output speeds: 25 to 300 RPM

MOTOR FEATURES

Type: Electronically Commutated
Voltage: 12Vdc or 24Vdc
Output Power: 10 to 30 Watts with Integral Drive
Phase Connection: 3 Phase Wye
Slot / Poles: 9 / 12
Rotor Magnets: High Energy skewed to reduce cogging
Insulation Class: B
Rotation: Reversible
Rotor Positioning: Three Hall Effect Sensors
Bearings: Ball

INTEGRAL CONTROL FEATURES

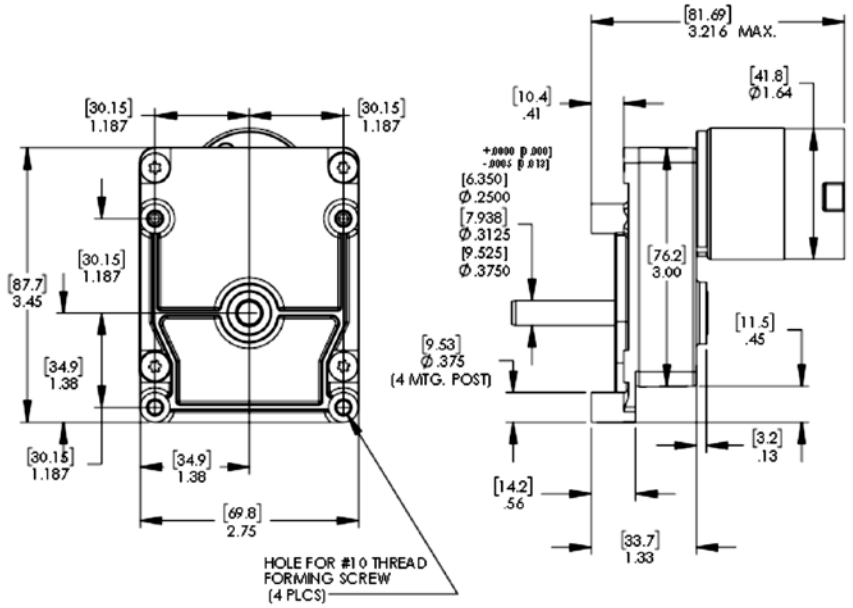
Type: Sinusoidal
Speed Control: PWM (20kHz)
Protection: Locked Rotor and thermal (165 °C)
Braking: Dynamic
Current Limit: 3 Amps
Encoder Output: 2 Channels – 100 PPR

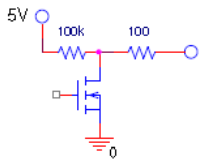
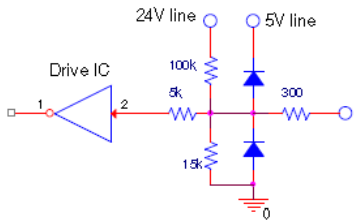
OPTIONAL FEATURES

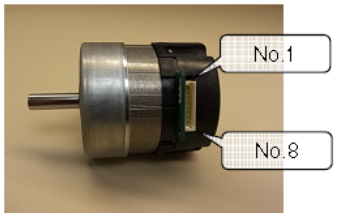
- Customized output shafts including dual output
- Helical first stage gear for low audible noise
- Various lead lengths, terminals and connectors
- Output Needle bearings for high radial loads

TYPICAL APPLICATIONS

- Food Service Equipment
- Satellite positioning systems
- Pumps
- Agricultural Equipment
- Valve Actuators
- Medical / Laboratory Equipment
- Robotics
- Material Handling



Pin	Signal	Detail	Internal Circuit
1	CHA	**Encoder Output** □100Pulses Per Revolution □Speed [rpm] = Frequency [Hz] x 60 / 100 □Output Voltage : 0-5V □CHA and CHB have Phase Difference (90degrees)	
2	CHB		
3	5V	**Encoder Power Supply**	
4	CW/CCW	**Rotational Direction Input** □H or Open : CW □L : CCW	
5	PWM	**PWM Input (Low Active)** □H or Open : Motor Stop □L : Full Speed (100%) □Recommended PWM Frequency : 20[kHz]~30[kHz]	
6	BRAKE	**Brake Input (Low Active)** □H or Open : Brake off □L : Brake on (Motor stop)	These terminal is pulled-up with voltage divider from 24V line.
7	P_GND	**Power Ground**	
8	VM	**Power Supply Voltage** □DC 24[V] +/- 10[%]	



[Using Connector on the motor]
S8B-ZR-SM4A-TF (JST)
[Matting Connector]
ZHR-8 (JST)

**Logic Input Level;
H : More Than 2.0V
L : Less Than 0.8V

**Mating Connector is not provided in mass production.