KBVF

Hybrid AC Drive

A Digital Drive with Analog Interface IP-20 Enclosure

Primary Features

Horsepower 1/8 to 5 HP, Jumper Selectable 1Ø & 3Ø Input 115/230/460 VAC, 50/60 Hz 3Ø Output 230/460 VAC 200% Starting Torque Power & Status Indicators

Benefits

Saves Time

Easy to Install and Simple to Operate
Does not require programming
or commissioning

Up and running in less than 10 minutes.

Motors Last Longer

Proprietary CL Software

Provides overload protection, prevents motor burnout and eliminates nuisance tripping. UL approved as electronic overload protector for motors.

Energy Saving

Uses only the power the application requires

Energy savings is realized by using variable motor speed vs. constant speed motors.

Economical to Use

Combines Soft Start with Variable Speed

Adjustable Soft Start.

KB Customization for OEM's

"You get exactly what you need. Nothing more, Nothing less."

Includes: preset calibration, installing drive options and custom software. Ready to use out of the box.

GFCI software* allows equipment to operate with Ground Fault Circuit Interruption circuit breakers or outlets.

*With factory programming.





CUL)US ROHS

Additional Features

Sensorless Flux Vector Control

Flux Vector Compensation with Static Auto-Tune provides excellent speed regulation with high torque loads throughout the entire speed range. Auto energy saving at light loads. Smooth motor torque.

Electronic Inrush Current Limit (EICL™) Protection

Eliminates harmful inrush AC line current during power up.

Ride-Through

Provides smooth recovery to the previous set speed during a momentary power loss.

Holding Torque at Zero Speed

Resists motor shaft rotation when the drive is in "Stop" mode.

Regeneration Protection

Eliminates tripping due to high bus voltage caused by rapid deceleration of high inertial loads.

Undervoltage and Overvoltage Protection

Shuts down the drive if the AC line input voltage goes above or below the operating range.

Short Circuit Protection

Shuts down the drive if a short circuit occurs at the motor (phase-to-phase).

Basic, Programmable, Trimpot Adjustments

Min. Speed, Max. Speed, Accel, Decel, Current Limit, Slip Comp.

Drive Options

Drive-Link™ Programming Kit

Allows PC programming.

SIVFR Signal Isolator and Run Fault Relay*

Provides isolation between a non-isolated signal source and the drive.

DIVF Modbus Serial Communication Module

Class "A" or "B" (CE) RFI Filter

Installs on drive.

DBVF Dynamic Brake Module

Provides faster braking.

Multi-Speed Board

Provides up to four independently adjustable preset speeds.

KBRK Remote Digital Keypad

Allows remote operation and programming of drive**.

IOVF Input/Output Multi-Function Module

Adds up to 17 points of additional I/O.

*Standard on 460 VAC models.

** OEM applications only.

Learn about our BAD™ distributor program www.kbelectronics.com/BAD.pdf



Automation and Control

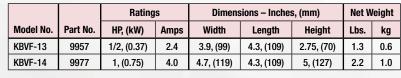


Applications

- Actuators Air Cleaners Amusement Rides
- Ball Pitching Machines Blowers Boat Lifts
- Bowling Alley Lane Cleaners CNC Conveyors
- Door and Gate Openers Drilling Duct Cleaners
- Dumbwaiters Elevators and Hoists
- Exercise Equipment Fabric Processing Fans
- Feeders Film Processing Floor Cleaning
- Food Processing Garment Cutting
- Grinding and Polishing Hoppers Horse Walkers
- HVAC Indexers Irrigation Laminating
- Lift Station Pumps
 Machine Tools
- Medical Milling Mixers Oven Conveyors
- Packaging Paint Blenders, Shakers, and Sprayers
- Paper Handling Portable Equipment Used with GFCIs
- Pottery Wheels Printing
- Pumps Range Hoods Sandblasting Saws
- Sewing
 Stretch Wrap
 Textile
 Treadmills
- Therapeutic Vibrators Washing Machines
- Wave Soldering Web Processing Wheelchair Lifts
- Whole House Vacuums and Attic Fans
- Wire Feeders Wood and Metal Lathes and Cutters
- Winders and Unwinders

Ratings & Dimensions





230 VAC 1-Phase Input • 230 VAC 3-Phase Output

		Rating	s	Dimens	Net Weight			
Model No.	Part No.	HP, (kW)	Amps	Width	Length	Height	Lbs.	kg
KBVF-23	9958	1/2, (0.37)	2.4	3.9, (99)	4.3, (109)	2.75, (70)	1.3	0.6
KBVF-24	9978	1, (0.75)	4.0	4.7, (119)	4.3, (109)	5, (127)	2.2	1.0

115/230 VAC 1-Phase Input • 230 VAC 3-Phase Output

		Ratings		Dimensions – Inches, (mm)			Net Weight	
Model No.	Part No.	HP, (kW)	Amps	Width	Length	Height	Lbs.	kg
KBVF-21D	9581	1/10, (0.07)	1.0	3.9, (99)	4.3, (109)	2, (51)	0.7	0.3
KBVF-22D	9572	1/4, (0.18)	1.5	3.9, (99)	4.3, (109)	2.75, (70)	1.3	0.6
KBVF-23D	9959	1/2, (0.37)	2.4	3.9, (99)	4.3, (109)	2.75, (70)	1.3	0.6
KBVF-24D	9979	1, (0.75)	4.0	4.7, (119)	4.3, (109)	5, (127)	2.2	1.0
KBVF-26D	9496	1½, (1.13)	5.5	4.7, (119)	5.7, (145)	4.5, (114)	2.9	1.3

230 VAC 3-Phase Input • 230 VAC 3-Phase Output

		Rating	s	Dimensions – Inches, (mm)			Net Weight	
Model No.	Part No.	HP, (kW)	Amps	Width	Length	Height	Lbs.	kg
KBVF-23P	9676	1/2, (0.37)	2.4	3.9, (99)	4.3, (109)	2.75, (70)	1.1	0.5
KBVF-24P	9677	1, (0.75)	4.0	4.7, (119)	4.3, (109)	5, (127)	2.0	0.9
KBVF-27	9591	2, (1.5)	6.7	4.7, (119)	7.5, (191)	4.45, (113)	4.1	1.9
KBVF-29	9593	3, (2.25)	9.0	4.7, (119)	7.5, (191)	4.45, (113)	4.6	2.1

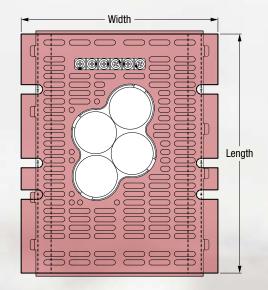
460 VAC 3-Phase Input • 460 VAC 3-Phase Output*

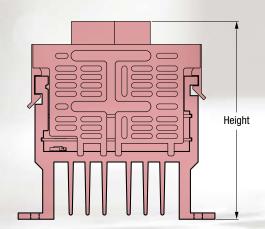
Ratings			Dimensions – Inches (mm)			Net Weight		
Model No.	Part No.	HP, (kW)	Amps	Width	Length	Height	Lbs.	kg
KBVF-42	9645	1, (0.75)	2.0	4.1, (103)	9.31, (236)	2.75, (70)	2.8	1.3
KBVF-45	9590	3, (2.25)	4.6	4.7, (119)	8.75, (222)	4.45, (113)	4.1	1.9
KBVF-48	9592	5, (3.75)	8.3	4.7, (119)	8.75, (222)	4.45, (113)	4.6	2.1



Maximum Load (% of Current Overload for 2 Minutes)	150
Carrier, Switching Frequency (kHz)	16,8
Output Frequency Resolution (Hz)	0.06
Minimum Output Frequency to Motor (Hz)	0.3
Acceleration Time (Seconds)	0.3 – 20
Deceleration Time (Seconds)	0.3 – 20
Speed Range (Ratio)	60:1
Speed Regulation (30:1 Speed Range, 0 – Full Load) (% Base Speed)	2.5
Stalled Motor Trip Time (Seconds)	6
Braking	DC Injection*
Operating Temperature Range (°C / °F)	0 - 40 / 32 - 104
Storage Temperature (°C / °F)	-25 - +85 / -13 - +185

^{*}Requires factory programming, option for regenerative braking module is available







General Connection Diagram

