

Premium Efficient Adjustable Speed Brushless Motors and Controls

- **Precise speed/constant torque over wide range**
- **Adjustable speed packages from 1/4 to 3HP**
- **Easy to setup, install and operate**
- **Control accepts industry standard +/- 10 Vdc or potentiometer input for speed command**
- **Durable brushless motor with Hall sensors**
- **UL, cUL, CE**

- Adjustable Speed
- Mixers
- Conveyors
- Blowers
- Pumps
- Indexers
- Feeders
- Packaging Equipment
- Door/Gate Openers
- Material Handling

Baldor's brushless motors and controls now enable adjustable speed applications to make use of the benefits of brushless technology, high efficiency, less maintenance, quieter operation, faster acceleration, higher torque and power output.

The adjustable speed Brushless Motor Control (BMC-series) is simple to use and easy to set up without programming - user trimpots and jumpers are factory set and will work for most applications. Input command signal may be +/- 10 Vdc, a 5k speed pot, or a form "C" contact or relay for forward-stop-reverse operation.

These packages are designed to operate directly from 115 or 230 Vac input voltage, providing accurate speed control for applications requiring up to 3 HP (0.18-2.2 kW).



Baldor has standard brushless motors for a variety of applications. Or you may have a custom motor designed for your exact needs. Contact Baldor with your requirements.

Baldor's BMC-series Adjustable Speed Brushless Control



cULus
CE

- Simple to operate - no programming necessary
- Tight speed regulation - provides stable performance
- Industry standard input speed command
- Wide speed range - performance when needed
- Fully protected unit - application reliability
- 200% overload - power available to move a load
- Potentiometer or reference speed input

Design Specs

- Peak current two times continuous
- Jumper selections: line voltage, motor poles, automatic/manual start, braking.
- Diagnostic LED's

Environmental & Operating Conditions

- 115/208/230 +/- 10% 50/60 Hz
- 200% overload for 3 sec
- Max temperature 45 °C
- Humidity - 95% max RH non-condensing
- Altitude - 3300 feet max without derate

Standard Specs

- Industry standard speed command of +/- 10 Vdc or pot input
- Speed range to 7000 rpm (4 pole)
- Trimpot adjustments
- Accel/decel time 0.1 - 30 sec

Protection Features

- Motor overload, I²T & short circuit
- RMS current & electronic inrush
- Hall sensor input
- Undervoltage & overvoltage
- MOV transient
- IP20

Control Technical Specifications

Control Catalog	Input Vac 50/60Hz	Phase	Output		Output	
			HP	kW	VDC	Amps
BMC6A01	115/230	1	1/4	0.18	320	1.5
BMC6A02	115/230	1	1/2	0.37	320	2.4
BMC6A04	115/230	1	1	0.75	320	4.0
BMC6A05	115/230	1	1 1/2	1.13	320	5.5
BMC2A06	230	1,3	2	1.5	320	6.7
BMC2A09	230	3	3	2.25	320	9.0

Optional Dynamic Brake Module (cat no. ID5RGA-1) provides up to 25% continuous or 200% instantaneous braking torque (maximum 1HP (0.75 Kw)).

Baldor's BSM-series Brushless Motors With Hall Feedback

- Premium efficient - high torque density
- High voltage insulation - protection against current/voltage surges
- Rugged industrial construction - quality package design
- Heavy-duty continuous operating design
- Hall sensor feedback - long life & durable

UL, cUL
CE



Design Specs

- NEMA 42/56 foot/base mount
- Hall sensor feedback
- Face/Foot mount
- High energy Neodymium magnets

Environmental & Operating Conditions

- Wide operating range 0 to 40°C
- Reliable sealed TENV housing
- Sealed to NEMA4 (IP54)
- 95% max RH non-condensing
- Altitude - 3300 feet max without derate

Standard Specs

- Premium 200°C moisture resistant wire
- ABEC Quality Class 3 bearings
- High 155°C winding temperature design
- UL/CE/cUL

*Only available in Model 33

Motor Technical Specifications

Motor Catalog	Output		Bus Volts	Base Speed	Torque lb-in/nm	NEMA Frame
	HP	kW				
BSM25C-1177MHC	1/4	0.18	320	1800	8.75/98	42
BSM25C-2177MHC	1/2	0.37	320	1800	17.5/197	42
BSM33C-2177MHQ	1/2	0.37	320	1800	17.5/197	56
BSM33C-3177MHQ	1	0.75	320	1800	35/395	56
BSM33C-4177MHQ	1 1/2	1.13	320	1800	52.5/649	56
BSM33C-5177MHQ	2	1.5	320	1800	70/791	56
BSM33C-6177MHQ	3	2.25	320	1800	105/1186	56

Motor ID:

Model
25
33

Motor Size
1 = 1/4 HP
2 = 1/2 HP*
3 = 1 HP*
4 = 1.5 HP*
5 = 2 HP*
6 = 3 HP*

Winding Code

BSM xx C - XXXX H Q

Motor Terminations

M = flying leads (no shaft seal)
O = flying leads & shaft oil seal

Mounting Configurations

C = Face inch (round)
F = Foot mount
Q = Foot mount & face inch (round)

Hall sensor feedback

Contact Baldor for other HP, speeds, brakes, sealing and mounting options.

First in Energy Efficiency Since 1920

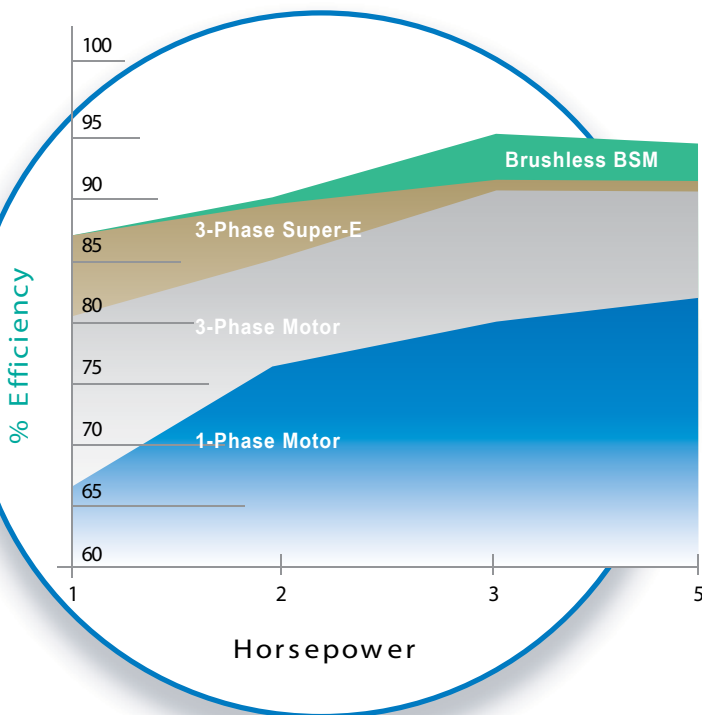
The history of energy efficiency in industrial motors is really the story of Baldor Electric Company. For the past eight decades, Baldor has led the industry in developing products that deliver greater performance and reliability while using less electricity. From the company's founding in the 1920s through today, Baldor has introduced one efficiency enhancing advancement after another. In fact, many of the advancements initiated by Baldor have later been adopted as industry standards. The issue of energy efficiency for electric motors and drives is becoming increasingly relevant as electricity costs continue to rise.

Industrial electric motors represent the single largest end use of electricity in the United States. The Department of Energy estimates that 25 percent of the electricity sold in the US is consumed by industrial electric motors. In addition, 64 percent of the energy used in plants is consumed by motorized equipment. These motors are used to power production processes and heating, cooling and ventilation systems. Improvements to the efficiency of motorized equipment can therefore result in a significant impact to the overall profitability of manufacturing plants.

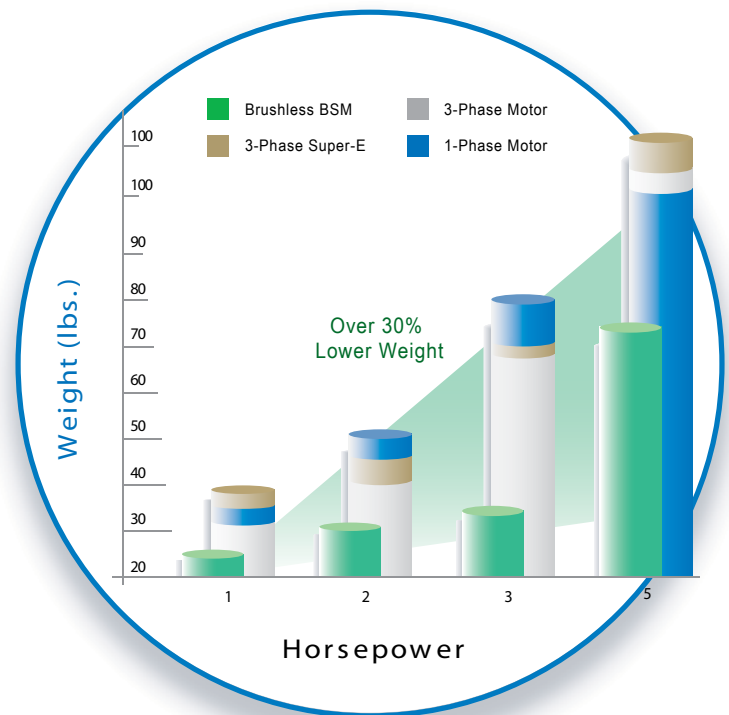
Energy Savings - Brushless BSM-Series Motors

As an alternative to standard energy efficient induction motors: Brushless DC has the highest efficiency currently available under five horsepower. Standard induction motor efficiency falls off when they are run at less than full speed. Brushless dc however maintains a high efficiency throughout the available speed range. In addition these motors are in a smaller frame size and weigh considerably less; contributing to smaller, lighter machines.

Highest Efficiency Available



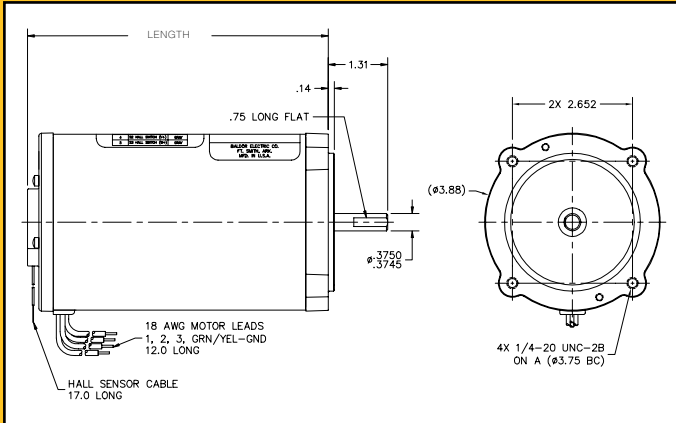
Lowest Equipment Weight



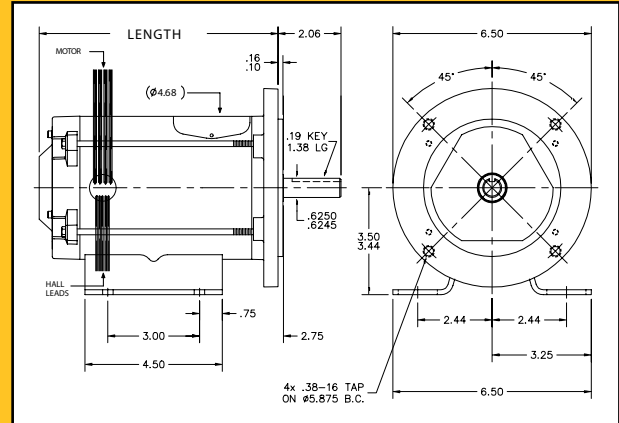
BSM Advantages

- Reduction in system energy losses
- Lower mechanical wear & longer component life
- Higher peak torque with lower motor temperature rise
- Light weight and wide speed range
- Energy savings can pay for the installation cost
- Additional rebate programs offered by utility companies

BSM25C Motor (1/4 - 1/2 HP)



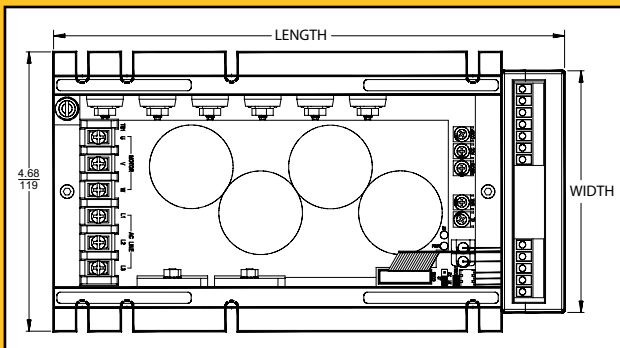
BSM33C Motor (1/2 - 3 HP)



Motor Dimension Table

Model	BSM 25C-1	BSM 25C-2	BSM 33C-2	BSM 33C-3	BSM 33C-4	BSM 33C-5	BSM 33C-6
HP	1/4	1/2	1/2	1	1.5	2	3
Length (inches/mm)	6.64/169	7.1/180	6.7/170	7.8/198	10.1/257	13.1/333	14.6/370

BMC Control



Control Dimension Table

Control Catalog	Height		Width		Length	
	inch	mm	inch	mm	inch	mm
BMC6A01	2.75	69.9	4.05	103	5.35	136
BMC6A02	2.75	69.9	4.05	103	5.35	136
BMC6A04	5	127	4.05	103	6.75	172
BMC6A05	4.5	114	4.05	103	6.75	172
BMC2A06	4.45	113	4.05	103	8.55	217
BMC2A09	4.45	113	4.05	103	8.55	217

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