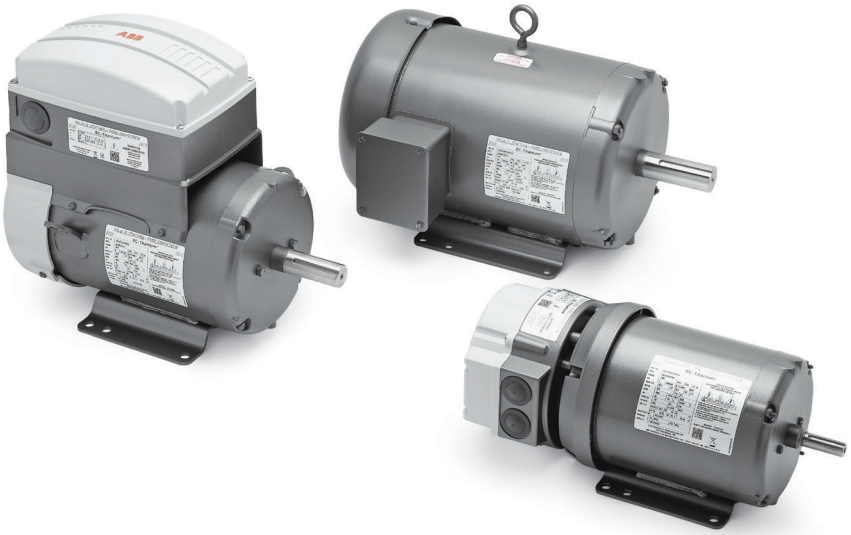
DATA SHEET

EC Titanium™

Beyond EC efficiency & performance



EC Titanium motors are a highly efficient integrated motor drive that combines synchronous reluctance and permanent magnet technologies for a sustainable, wirelessly connected solution that improves your bottom line.

BALDOR · RELIANCE

IE5 Efficiency – Stay ahead of the curve
High total system efficiency at full and partial load

Minimizing your environmental impact
Sustainable non-rare earth magnet material

IE5 efficiency – low energy use

Together as one – Cut the cord
Integrated motor & drive eliminates expensive wiring and installation time

Reduce personnel risks and hazards of accessing difficult to reach work areas

Fan & pump control
Specifically designed for variable speed/ torque applications

Plug and play
Pre-programmed motor and drive designed to run out of the box

Tune and control flexibility –
Keypad, PC or mobile tools for easy Start-up and Bluetooth communication for easy configuration and ABB Ability™ data

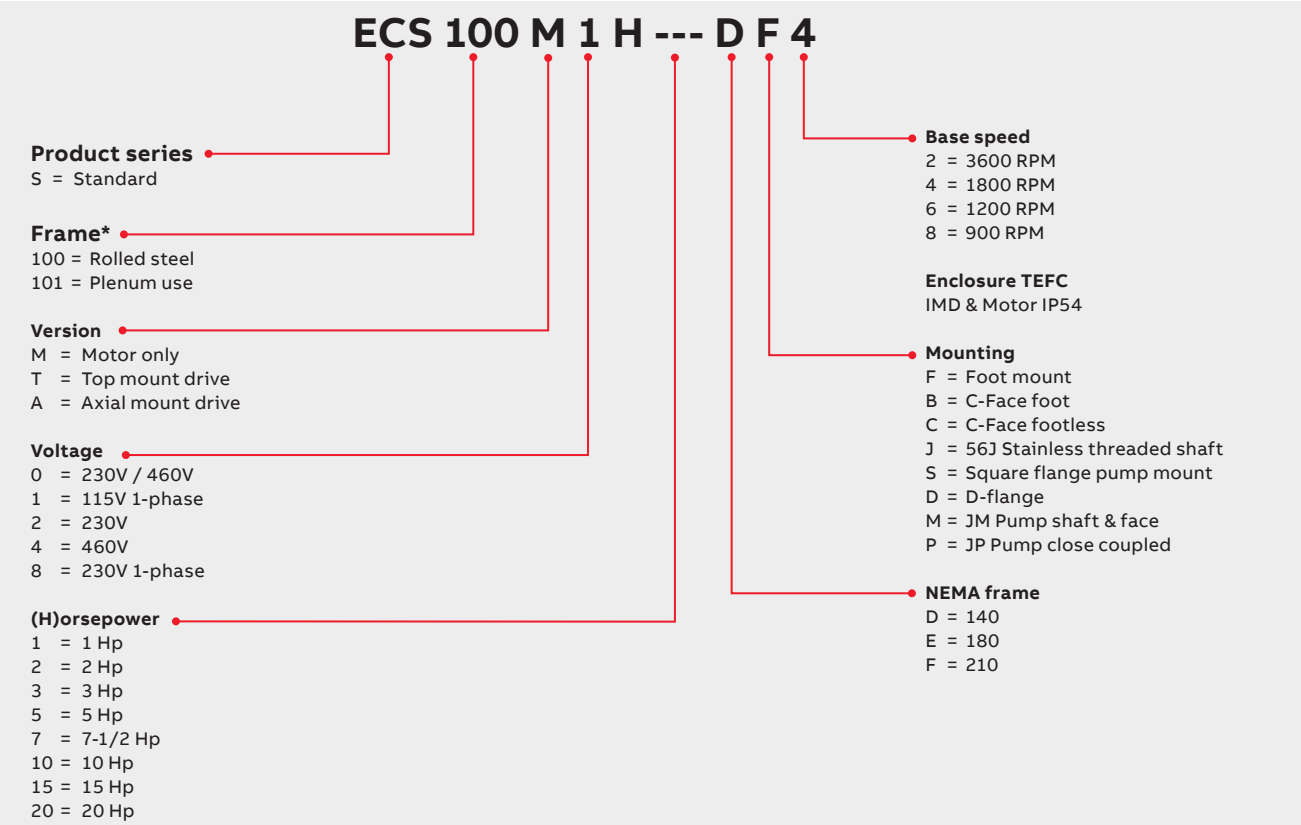
Reliable & low noise
Extremely low starting current and less cogging reduces mechanical stress, increases reliability and produces ultra-quiet operation.

Power density
Higher ratings per frame size than traditional motor designs

Reduces cost and saves valuable space

EC Titanium product ordering

A EC Titanium stock assembly consists of the standard rolled steel motor with a selection of a (M) motor only, or either a (T) top mount or (A) axial mount motor drive package and defined by voltage and horsepower at 1800 RPM base speed. Custom configuration are available and can be selected from the part number definition table.



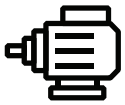
*Note: 100 = Rolled steel motor frame, plastic use, for indoor use (with Bluetooth)
101 = Rolled steel motor frame, aluminum covers, for indoor/outdoor/ and Plenum use (without Bluetooth), includes (M) Motor only

Technical data

Specifications	
Voltage & power requirements:	110V - 115Vac (+/- 10%) - 1-phase
	200V - 240Vac (+/- 10%) - 1-phase
	200V - 240Vac (+/- 10%) - 3-phase
	380V - 480Vac (+/- 10%) - 3-phase
Input frequency:	50/60 Hz
Overload capacity:	150% for 1 minute (most models)
Switching frequency:	4kHz, 8Khz, 12kHz, 16kHz, 24kHz, 32kHz
NEMA frames:	140, 180 & 210
IEC frames:	90, 112 & 132
Mounting:	Foot, C-Face, D-Flange, JM Pump, JP Pump, Square Flange Pump
Analog references:	0-10Vdc, 0-20mAdc, 4-20mAdc
Digital inputs:	24Vdc - (1 = 8 - 30Vdc; 0 = 0 - 4Vdc)
Input configurations:	2 Fixed DI's; 2 Configurable (AI or DI)
Output relay:	No contact; 250Vac, 6A / 30Vdc, 5A
Standards & certifications:	UL 580C, cUL 580C, CE Mark

Environmental	
Enclosure	TEFC/IP54 Motor with UL
	Type 12/IP54 Drive
Operating temperature	-10 to 50°C
Storage temperature	-40 to 70°C
Relative humidity	0 95% (non-condensing)
Vibration (operating)	1 G Peak at 20 Hz
Vibration (non-operating)	0.2G Peak at 20 to 50Hz
Maximum elevation	Up to 1000 meters
Elevation for de-rated operation	Up to 2000 meters
	De-rate above 1000 meters -1% for every 100 meters

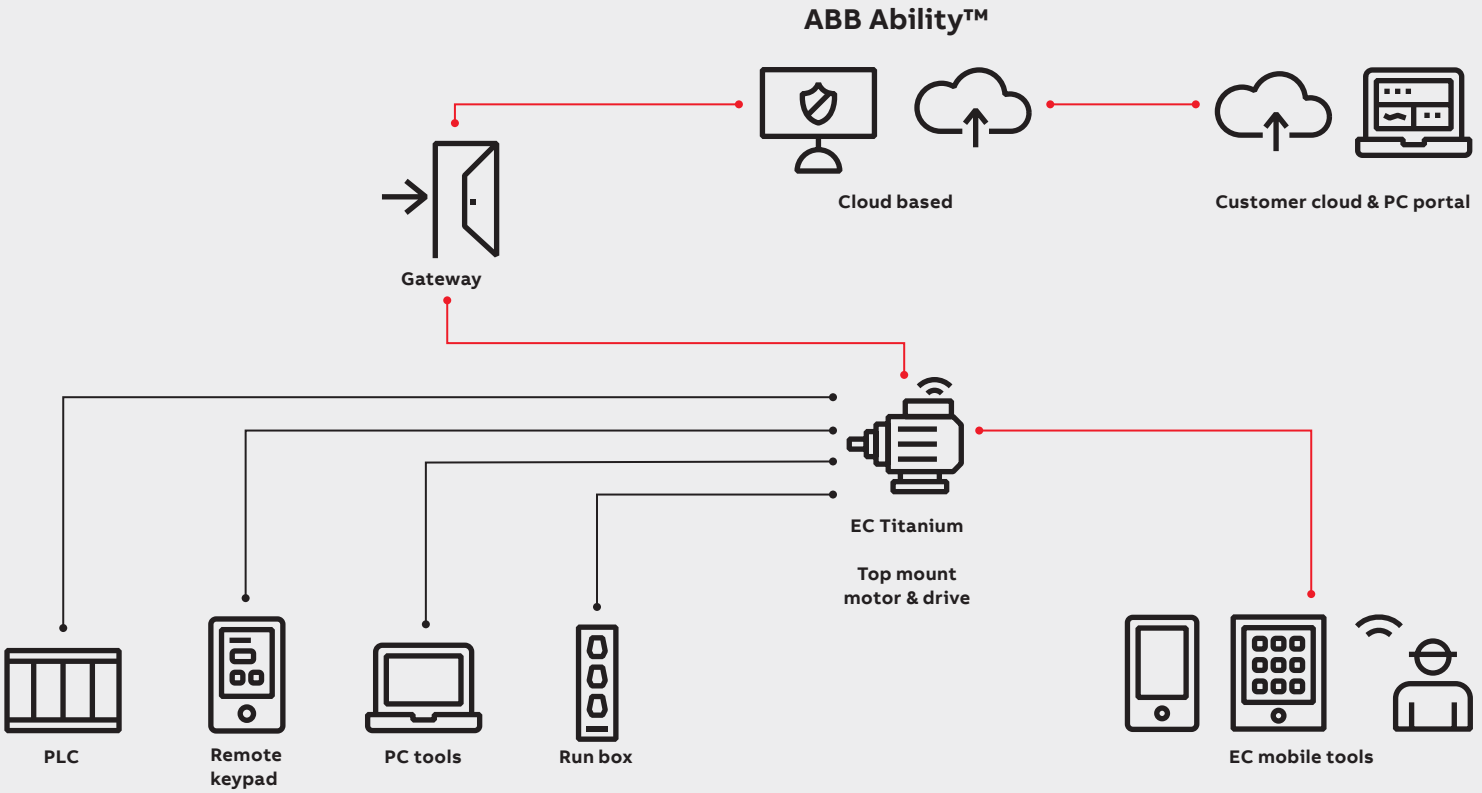
EC Series stock ratings - 1800 RPM base speed, foot mounted*

Catalog number	Configuration	Drive input voltage	Hp	Motor frame	Motor efficiency	Motor amps	Drive size
ECS101M0H1DF4	 Motor only	230V / 460V	1	140	89.3%	2.3/1.2	N/A
ECS101M0H2DF4			2	140	90.7%	4.5/2.3	
ECS101M0H3DF4			3	140	91.4%	7.0/3.5	
ECS101M0H3EF4			5	140	93.0%	10.4/5.2	
ECS101M0H5DF4			3	180	92.8%	7.3/3.7	
ECS101M0H5EF4			5	180	93.7%	10.5/5.3	
ECS101M0H7EF4			7.5	180	94.0%	17.5/8.8	
ECS101M0H7FF4			7.5	210	94.0%	17.4/8.7	
ECS101M0H10FF4			10	210	94.8%	22.0/11.0	
ECS101M0H15FF4			15	210	95.6%	34.8/17.4	
ECS101M4H20FF4			20	210	95.9%	21.6	
ECS100T1H1DF4	 Top-mount drive	115V	1	140	89.3%	2.3	1
ECS100T8H1DF4		230V - 1-phase	1	140	89.3%	2.3	
ECS100T8H2DF4			2	140	90.7%	4.4	
ECS100T8H3DF4			3	140	91.4%	7.0	
ECS100T8H3EF4			3	180	93.7%	7.3	
ECS100T2H1DF4		230V - 3-phase	1	140	89.3%	2.3	
ECS100T2H2DF4			2	140	90.7%	4.3	
ECS100T2H3DF4			3	140	91.4%	6.7	
ECS100T2H3EF4			3	180	92.8%	7.3	
ECS100T2H5EF4			5	180	93.7%	10.5	2
ECS100T4H1DF4		460V - 3-phase	1	140	89.3%	1.2	1
ECS100T4H2DF4			2	140	90.7%	2.2	
ECS100T4H3DF4			3	140	91.4%	3.5	
ECS100T4H3EF4			3	180	92.8%	3.7	
ECS100T4H5EF4			5	180	93.7%	5.3	
ECS100T4H7EF4			7.5	180	94.0%	8.8	2
ECS100T4H7FF4			7.5	210	94.0%	8.7	
ECS100T4H10FF4			10	210	94.8%	11.0	
ECS100A1H1DF4	 Axial-mount (ODE) drive	115V	1	140	89.3%	2.3	1
ECS100A8H1DF4		230V - 1-phase	1	140	89.3%	2.3	
ECS100A8H2DF4			2	140	90.7%	4.4	
ECS100A8H3DF4			3	140	91.4%	7.0	
ECS100A8H3EF4			3	180	92.8%	6.8	
ECS100A2H1DF4		230V - 3-phase	1	140	89.3%	2.3	
ECS100A2H2DF4			2	140	90.7%	4.3	
ECS100A2H3DF4			3	140	91.4%	7.0	
ECS100A2H3EF4			3	180	92.8%	7.3	
ECS100A2H5EF4			5	180	93.7%	10.5	2
ECS100A4H1DF4		460V - 3-phase	1	140	89.3%	1.3	1
ECS100A4H2DF4			2	140	90.7%	2.2	
ECS100A4H3DF4			3	140	91.4%	3.5	
ECS100A4H3EF4			3	180	92.8%	3.7	
ECS100A4H5EF4			5	180	93.7%	5.3	2
ECS100A4H7EF4			7.5	180	94.0%	8.8	

***Note:** For stock C-Face foot mounted configurations, substitute a B into the model string third last position. For example, the ECS100A4H7180FF4 becomes a ECS100A4H7180BF4.

Future release

Control and insight



Monitored paramaters:

- Drive module temperature
- Drive control board temperature
- DC bus voltage
- Estimated speed
- Output frequency
- Output voltage
- DC bus ripple
- Status word/fault word
- DI status word
- Motor power
- Motor torque

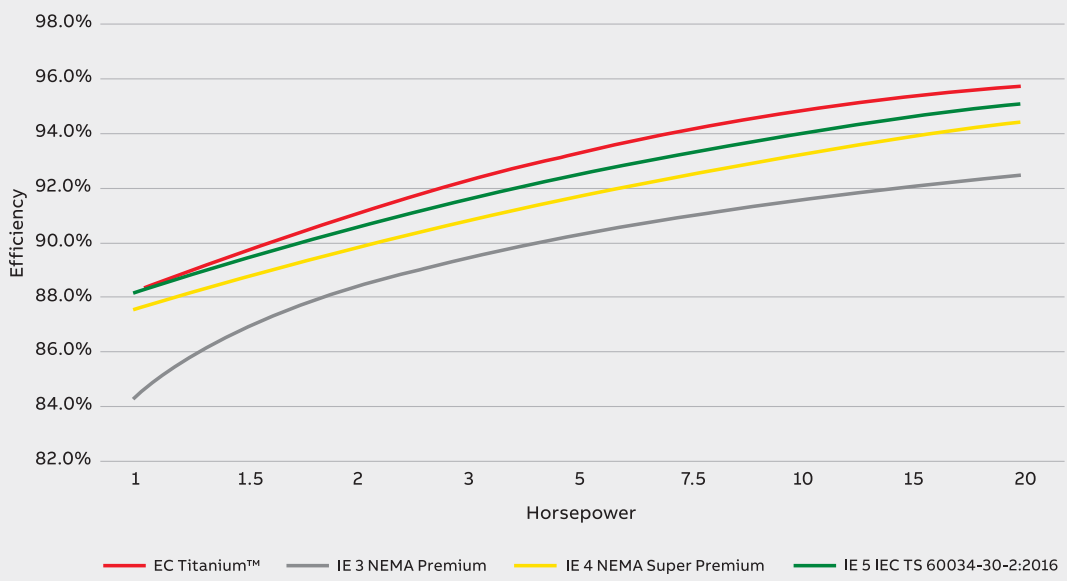
EC series drive option stock parts	
Remote LED keypad with 3-meter drive to RJ45 cable	ECS100L
Copystick Smart drive program backup stick with Blutooth (Bluetooth/NFC interface for Plenum drives)	ECS100B
USB drive to PC connection kit for PC tool interface	ECS100U

EC Titanium

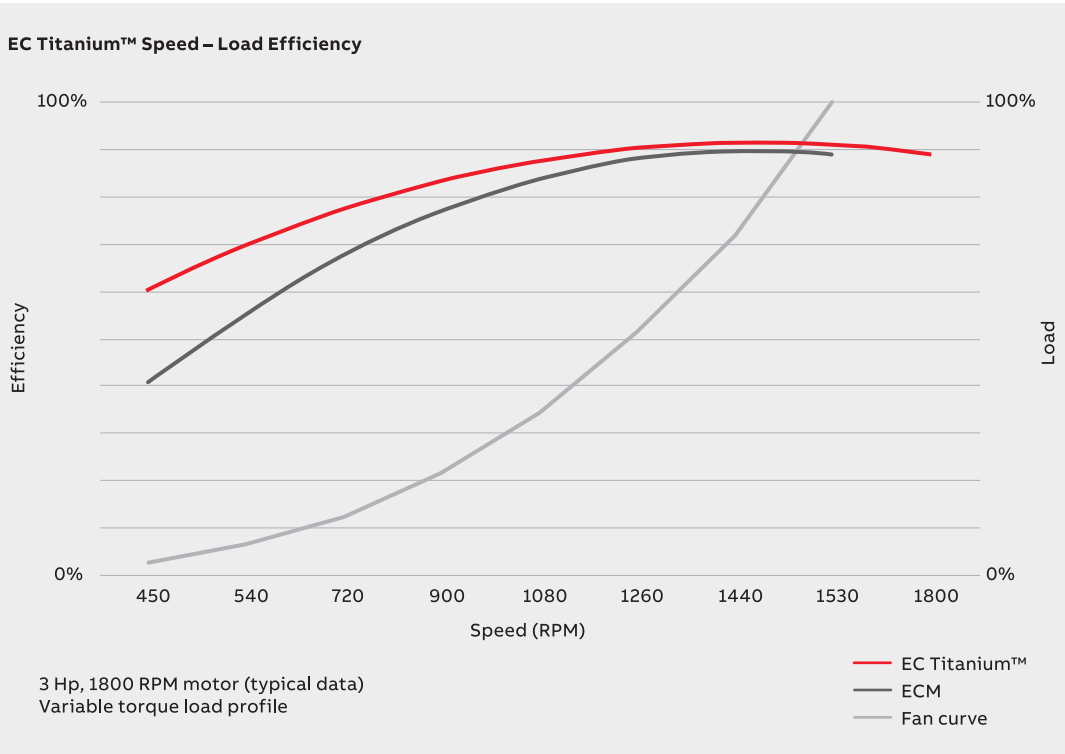
Beyond EC efficiency and performance

The **EC Titanium** achieves IE5 efficiencies and is a step above traditional EC motor designs. The **EC Titanium** is paired with an electronic drive control that enables the use of advanced motor control algorithms for higher efficiencies across the speed load range than traditional EC (electrically commutated) motor solutions.

Efficiency



Performance

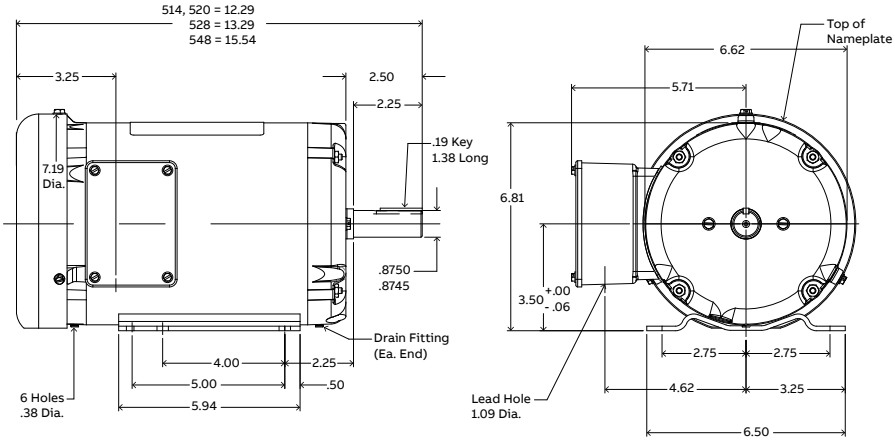


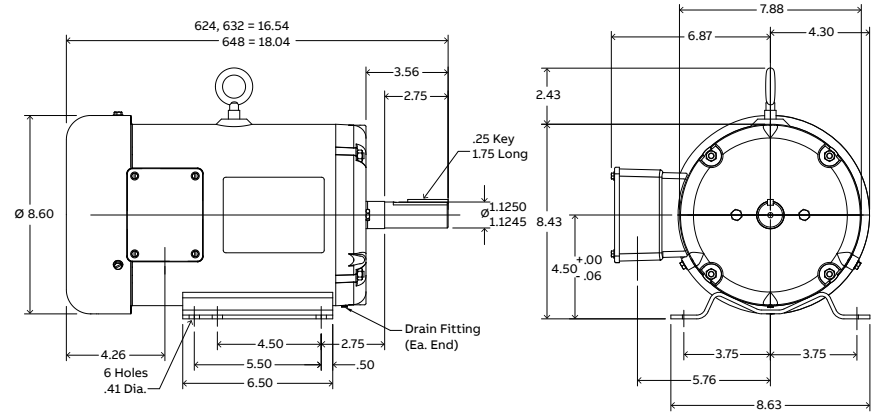
3 Hp, 1800 RPM motor (typical data)
Variable torque load profile

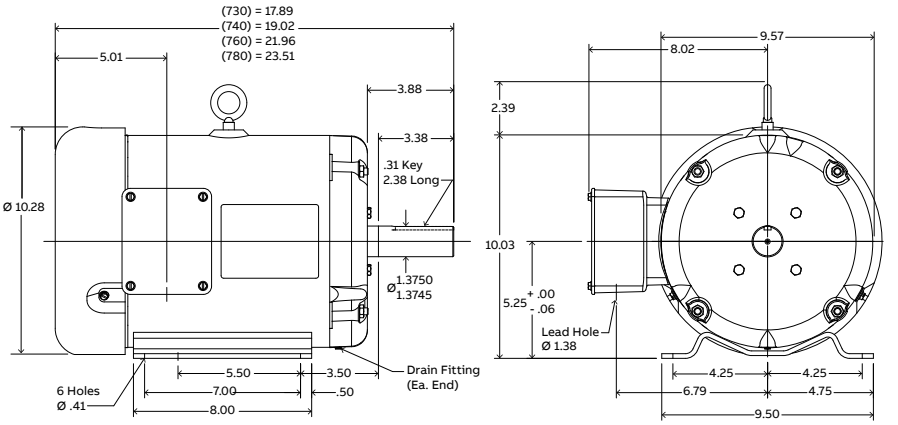
Dimensions

Motor only

NEMA Frame	Hp	Baldor Frame	Estimated Weight
140	1	3514B	28
	2	3528B	35
	3	3520B	44
	5	3548B	64
180	3	3624B	59
	5	3632B	68
	7.5	3648B	92
210	7.5	3730B	105
	10	3740B	123
	15	3760B	168
	20	3780B	218



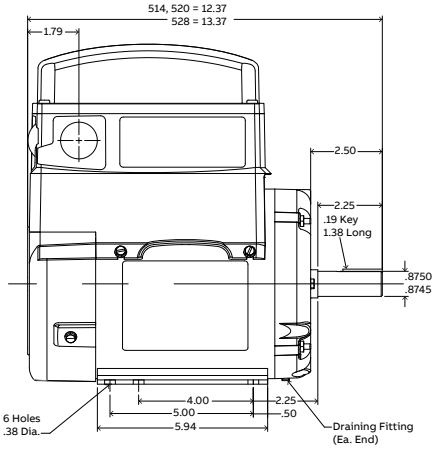


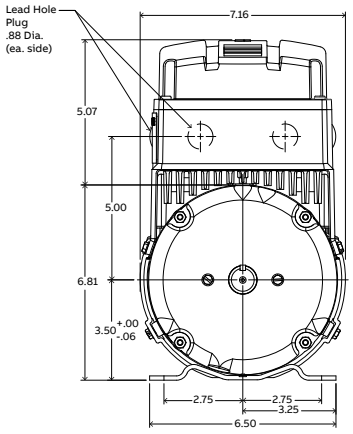


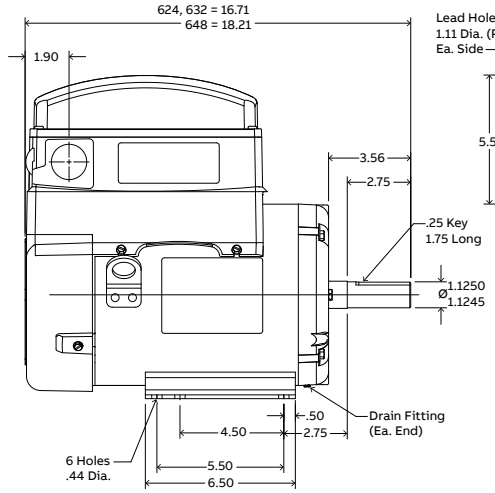
Dimensions

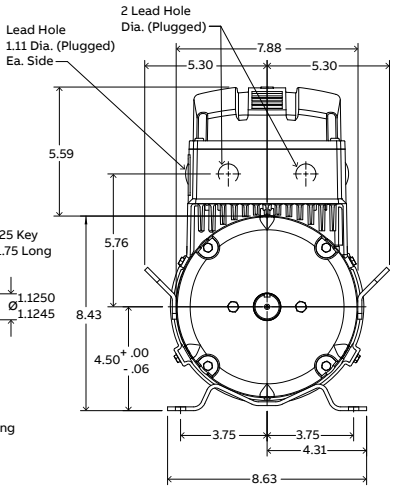
Top mounting

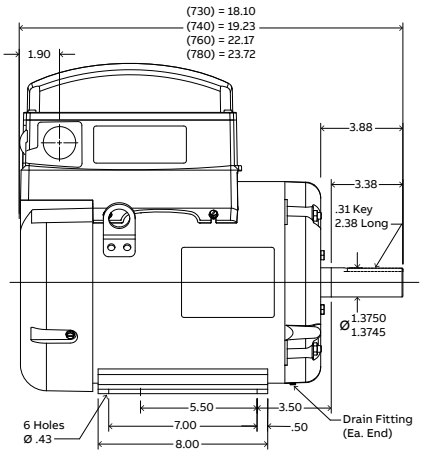
NEMA Frame	Hp	Baldor Frame	Estimated Weight
140	1	3514B	35
	2	3520B	41
	3	3528B	47
180	3	3624B	66
	5	3632B	77
	7.5	3648B	106
210	7.5	3730B	111
	10	3740B	132

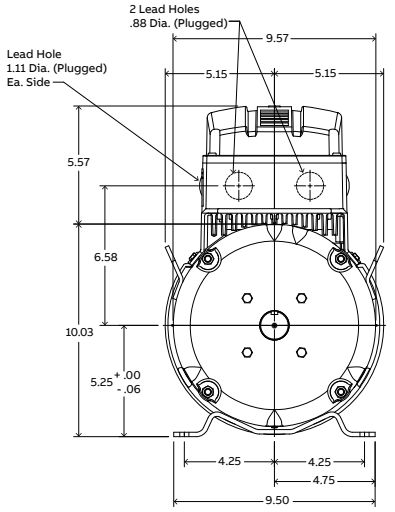








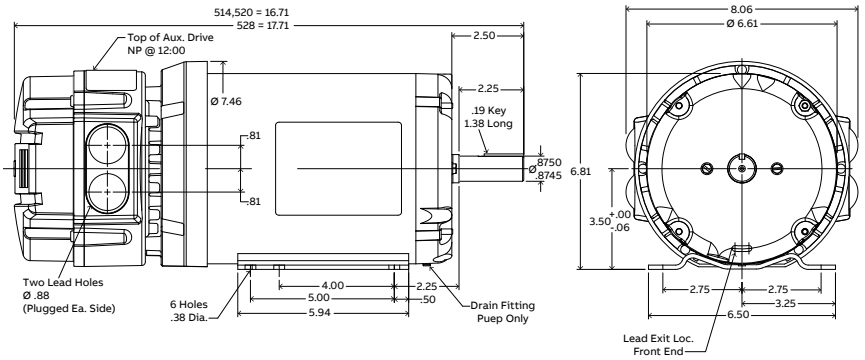


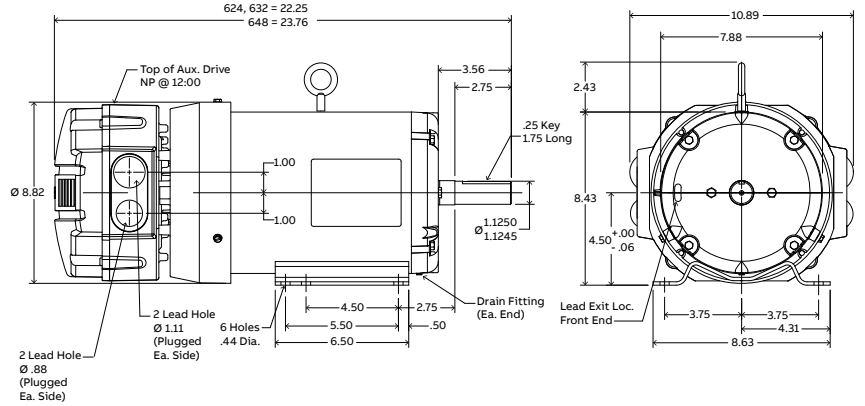


Dimensions

Axial mounting

NEMA Frame	Hp	Baldor Frame	Estimated Weight
140	1	3514B	35
	2	3520B	38
	3	3528B	46
180	3	3624B	66
	5	3632B	76
	7.5	3648B	101





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9AKK107591 06.2020