

# DATA SHEET

## CP MOTORIZED PUMP UNITS

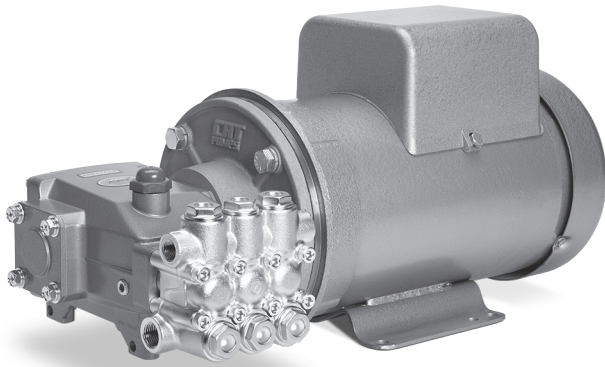


**Motors: 8023ES, 8024ES,  
8025ES**

**Used on  
Pump Models: 3CP1120, 3CP1130,  
3CP1140**

**Motors: 8026ES, 8027ES,  
8028ES, 8029ES**

**Used on  
Pump Models: 5CP2140WCS,  
5CP2150W**



Model 5CP2140WBD31 Shown

### MOTORIZED UNIT FEATURES

- No pulleys, belts, belt guards or adjustments to consider
- Easy assembly
- Single source purchases
- Motors: CSA and UL Recognized (60 Hz)  
CSA Reference No. LR-2262  
UL Reference No. E-46145

### COMMON SPECIFICATIONS

	U.S.	Metric
Inlet Pressure Range	Flooded to 70 psi	Flooded to 4.9 bar
Maximum RPM	1725 rpm	1725 rpm
Motor Frequency	60 Hz	60 Hz
Motor Enclosure Type	TEFC	TEFC

### INSTALLATION

Before installing motorized pump unit, check incoming voltage to be certain it does not exceed motor rating as this will result in motor damage. Instructions for electrical connections are on a decal on the motor housing.

Qualified or trained personnel should install equipment. Equipment should be installed in accordance with the National Electrical Code, local codes and with NEMA MG2, Safety Standards for construction and guide for selection, installation and use of electric motors and generators.

Review your application flow and pressure requirements. Exceeding the rated pressure of the motorized unit may cause overheating of your motor, high amp draw and result in shortened motor life. Before operation see *Pump and Motor Lubrication* section.

### **CAUTION**

#### **Some Motor Models Contain No Thermal Protector**

A separate over current protection device must be installed to prevent motor burnout and possible fire damage due to overloaded or stalled motor. Motor must be properly grounded.

## ASSEMBLY OF ELECTRIC MOTOR AND PUMP

1. A flange assembly is required to mount the electric motor to the pump.
2. Rotate pump shaft so keyway is toward back of pump. Insert key into pump shaft. To assure key is completely seated, beveled end should be toward pump and flat surface horizontal with shaft keyway. Shaft may not fit into motor if key is improperly installed.
3. Slip lockwashers and washers onto shaft retaining screw (HH). Apply Loctite® 242® to threaded section and thread screw into pump shaft. Torque to 110 in-lbs (12 Nm).
4. Mount flange assembly onto pump with extended collar toward pump, side vents to the right and left. Line up center four threaded holes with those on bearing case.
5. Apply a small amount of Loctite® 242® to the four flat head hex screws and secure flange assembly to pump. Torque to 60–70 in-lbs (6.6–7.7 Nm).
6. Apply Loctite® 242® to two hex head combination (HHC) screws and insert into motor shaft. Thread into shaft **only partially** into keyway.
7. Apply Antiseize lubricant (6106) to pump shaft and ID of motor shaft. Carefully insert pump into hollow motor shaft until flange assembly is flush with motor. Be certain key on pump shaft lines up with keyway on motor shaft.
8. Secure pump with flange assembly to motor with four lockwashers and four hex head screws and torque to 50–60 ft-lbs (5.5–6.6 Nm).
9. Use a ½" allen wrench (34030) to secure HHC screws through side vent in flange assembly. Torque to 60–75 in-lbs (6.6–8.3 Nm).

## MOUNTING FLANGE COMPONENTS

### 8001 Assembly Mount (3CP – 1.5 HP)

1	34307	Flange, Mount
2	34162	Screw, HHC (10–32 x ½")
4	34160	Screw, HH (⅜"–16 x 1.25)
4	30921 R	Lockwasher (⅜")
1	30047	Key (M5 x 5 x 24)
1	6106	Anti-seize
1	32145	Screw, Assembly HH (M8 x 20)
4	34379	Screw, FH (M6 x 20)
4	126745 R	Lockwasher (M6)

### 8002 Assembly Mount (3CP – 3 HP)

1	34308	Flange, Mount
2	34162	Screw, HHC (10–32 x ½")
4	32143	Screw, HH (½"–13 x 1.25)
4	126570 R	Lockwasher (½")
1	30047	Key (M5 x 5 x 24)
1	6106	Anti-seize
1	32145	Screw, Assembly, HH (M8 x 20)
4	34379	Screw, FH (M6 x 20)
4	126745 R	Lockwasher (M6)

### 8003 Assembly Mount (5CP – 3 HP, 5 HP)

1	34309	Flange, Mount
2	34162	Screw, HHC (10–32 x ½")
4	32143	Screw, HH (½"–13 x 1.25)
4	126570 R	Lockwasher (½")
1	30057	Key (M6 x 6 x 25)
1	6106	Anti-seize
1	32145	Screw, Assembly HH (M8 x 20)
4	46403	Screw, FH (M8 x 25)
4	126746 R	Lockwasher (M8)

R Components comply with RoHS Directive

## MOTOR WARRANTY

All electric motors are warranted by the motor manufacturer to be free from defects of material and workmanship for one year from the date of shipment.

View the Cat Pumps Limited Warranty online at [www.catpumps.com/literature/cat-pumps-limited-warranty](http://www.catpumps.com/literature/cat-pumps-limited-warranty).

If there is an issue with the motor, contact Cat Pumps for current warranty procedure information and to help locate the nearest authorized Baldor Service Center. For warranty consideration, ship the defective motor PREPAID directly to Baldor. If you are uncertain as to the cause of failure (Pump or Motor), contact Cat Pumps for an RGA (Returned Goods Authorization) number before returning the complete assembly PREPAID to Cat Pumps for evaluation.

## PUMP LUBRICATION

Before starting pump, fill crankcase per specifications with Cat Pumps special custom-blend, ISO-68 petroleum based hydraulic oil with anti-wear, oxidizer, high pressure and rust inhibitor additives. Change initial fill after 50 hours running period. Change oil every 3 months or at 500 hour intervals thereafter.

## MOTOR LUBRICATION

This is a ball bearing motor. The bearings have been given initial lubrication at the factory. No lubricant needs to be added unless motor has been stored for over a year.

Baldor motors are pre-greased normally with Shell Oil Company's "Dolium R". Several equivalent greases which are compatible with Baldor furnished grease are Chevron Oil's "SRI No. 2" and Texaco Inc. "Premium RB".

Overgreasing bearings can cause premature failure. Motor is equipped with Alemite fitting. Clean tip of fitting and apply grease with gun. Use 1 to 2 strokes. Any excess may drip out the bottom drain during the first 20 minutes of operation.

### NOTICE

Keep grease clean. Lubricate motors at standstill. Remove and replace drain plugs at standstill. Do not mix petroleum grease and silicone grease in motor bearings.

## SUGGESTED RELUBE INTERVAL

Hours Per Year / Duty Cycle	Lubrication Interval
500 hours	5 years
Continuous normal application	2 years
Seasonal service motor is idle for 6 months or more	1 year (beginning of season)
Continuous high ambients, dirty or moist locations or high vibration	6 months

## 3CP MOTORIZED PUMP UNITS

MOTORIZED UNITS	3CP1130BD151 1.5 HP	3CP1120BD31 3.0 HP	3CP1120BD33 3.0 HP	3CP1130BD31 3.0 HP
Shipping Unit Weight	79 lbs	113 lbs	92 lbs	113 lbs
Shipping Unit Dimensions	26.0" x 16.5" x 16.0"	27.5" x 18.5" x 17.5"	27.5" x 18.5" x 17.5"	27.5" x 18.5" x 17.5"
<b>PUMPS</b>	<b>3CP1130, 3CP1231</b>	<b>3CP1120, 3CP1221</b>	<b>3CP1120, 3CP1221</b>	3CP1130
Flow	2.4 gpm	4.2 gpm	4.2 gpm	2.4 gpm
Pressure Range	100–900 psi	100–1000 psi	100–1000 psi	100–1700 psi
<b>MOTORS</b>	<b>8023ES</b>	<b>8024ES</b>	<b>8025ES</b>	<b>8024ES</b>
Assembly Mount — REQUIRED	8001	8002	8002	8002
Horsepower	1.5 hp	3.0 hp	3.0 hp	3.0 hp
Phase	Single	Single	Three	Single
RPM	1725 rpm	1725 rpm	1750 rpm	1725 rpm
Frame Size	56C	184TC	182TCZ	184TC
Volts	115/208/230V	230V	208–230/460V	230V
Maximum Amps	12.8/6.7/6.4 Amps	13.2 Amps	8.6–8.2/4.1 Amps	13.2 Amps
Service Factor	1.15	1.0	1.15	1.0
Maximum Operating Temperature (Ambient)	104° F	104° F	104° F	104° F
Shaft Diameter (Hollow)	16.5 mm	16.5 mm	16.5 mm	16.5 mm
Thermo Overload	No	Yes	No	Yes
Capacitor Start	Yes	Yes	N/A	Yes
Insulation	Class B	Class F	Class F	Class F

## 3CP MOTORIZED PUMP UNITS

MOTORIZED UNITS	3CP1130BD33	3CP1140BD31	3CP1140BD33
	3.0 HP	3.0 HP	3.0 HP
Shipping Unit Weight	92 lbs	113 lbs	92 lbs
Shipping Unit Dimensions	27.5" x 18.5" x 17.5"	27.5" x 18.5" x 17.5"	27.5" x 18.5" x 17.5"
<b>PUMPS</b>	<b>3CP1130</b>	<b>3CP1140</b>	<b>3CP1140</b>
Flow	2.4 gpm	3.6 gpm	3.6 gpm
Pressure Range	100–1700 psi	100–1200 psi	100–1200 psi
<b>MOTORS</b>	<b>8025ES</b>	<b>8024ES</b>	<b>8025ES</b>
Assembly Mount — REQUIRED	8002	8002	8002
Horsepower	3.0 hp	3.0 hp	3.0 hp
Phase	Three	Single	Three
RPM	1750 rpm	1725 rpm	1750 rpm
Frame Size	182TCZ	184TC	182TCZ
Volts	208–230/460V	230V	208–230/460V
Maximum Amps	8.6–8.2/4.1 Amps	13.2 Amps	8.6–8.2/4.1 Amps
Service Factor	1.15	1.0	1.15
Maximum Operating Temperature (Ambient)	104° F	104° F	104° F
Shaft Diameter (Hollow)	16.5 mm	16.5 mm	16.5 mm
Thermo Overload	No	Yes	No
Capacitor Start	N/A	Yes	N/A
Insulation	Class F	Class F	Class F

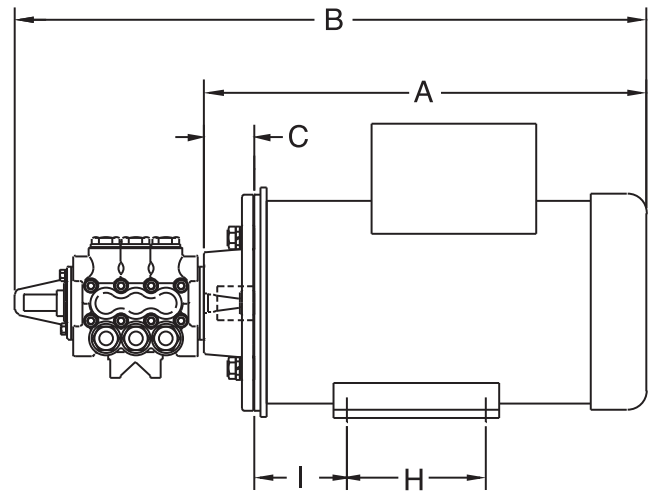
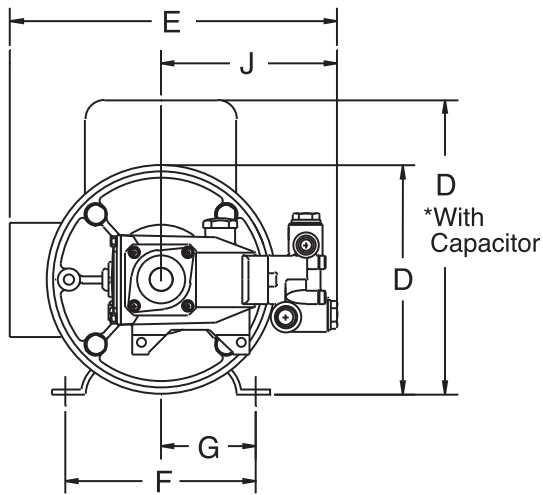
# 5CP MOTORIZED PUMP UNITS

MOTORIZED UNITS	5CP2140WBD31	5CP2140WBD33	5CP2150WBD31
	3.0 HP	3.0 HP	3.0 HP
Shipping Unit Weight	123 lbs	99 lbs	123 lbs
Shipping Unit Dimensions	27.5" x 18.5" x 17.5"	27.5" x 18.5" x 17.5"	27.5" x 18.5" x 17.5"
<b>PUMPS</b>	5CP2140WCS	5CP2140WCS	5CP2150W
Flow	4.0 gpm	4.0 gpm	5.0 gpm
Pressure Range	100–1100 psi	100–1100 psi	100–900 psi
<b>MOTORS</b>	<b>8026ES</b>	<b>8027ES</b>	<b>8026ES</b>
Assembly Mount — REQUIRED	8003	8003	8003
Horsepower	3.0 hp	3.0 hp	3.0 hp
Phase	Single	Three	Single
RPM	1725 rpm	1750 rpm	1725 rpm
Frame Size	184TC	184TCZ	184TC
Volts	230V	208–230/460V	230V
Maximum Amps	13.2 Amps	8.6–8.2/4.1 Amps	13.2 Amps
Service Factor	1.0	1.15	1.0
Maximum Operating Temperature (Ambient)	104° F	104° F	104° F
Shaft Diameter (Hollow)	20 mm	20 mm	20 mm
Thermo Overload	Yes	No	Yes
Capacitor Start	Yes	N/A	Yes
Insulation	Class F	Class F	Class F

MOTORIZED UNITS	5CP2150WBD33	5CP2140WBD51	5CP2140WBD53
	3.0 HP	5.0 HP	5.0 HP
Shipping Unit Weight	99 lbs	129 lbs	113 lbs
Shipping Unit Dimensions	27.5" x 18.5" x 17.5"	27.5" x 18.5" x 17.5"	27.5" x 18.5" x 17.5"
<b>PUMPS</b>	5CP2150W	5CP2140WCS	5CP2140WCS
Flow	5.0 gpm	4.0 gpm	4.0 gpm
Pressure Range	100–900 psi	100–1800 psi	100–1800 psi
<b>MOTORS</b>	<b>8027ES</b>	<b>8028ES</b>	<b>8029ES</b>
Assembly Mount — REQUIRED	8003	8003	8003
Horsepower	3.0 hp	5.0 hp	5.0 hp
Phase	Three	Single	Three
RPM	1750 rpm	1725 rpm	1725 rpm
Frame Size	182TCZ	184TC	184TC
Volts	208–230/460V	208–230V	208–230/460V
Maximum Amps	8.6–8.2/4.1 Amps	24.0/26.0 Amps	15.0/13.2/6/6 Amps
Service Factor	1.15	1.0	1.0
Maximum Operating Temperature (Ambient)	104° F	104° F	104° F
Shaft Diameter (Hollow)	20 mm	20 mm	20 mm
Thermo Overload	No	No	No
Capacitor Start	N/A	Yes	N/A
Insulation	Class F	Class F	Class F

## 5CP MOTORIZED PUMP UNITS

MOTORIZED UNITS	5CP2150WBD51	5CP2150WBD53
	5.0 HP	5.0 HP
Shipping Unit Weight	129 lbs	113 lbs
Shipping Unit Dimensions	27.5" x 18.5" x 17.5"	27.5" x 18.5" x 17.5"
<b>PUMPS</b>	5CP2150W	5CP2150W
Flow	5.0 gpm	5.0 gpm
Pressure Range	100–1450 psi	100–1450 psi
<b>MOTORS</b>	<b>8028ES</b>	<b>8029ES</b>
Assembly Mount— REQUIRED	8003	8003
Horsepower	5.0 hp	5.0 hp
Phase	Single	Three
RPM	1725 rpm	1725 rpm
Frame Size	184TC	184TC
Volts	208–230V	208–230/460V
Maximum Amps	24.0/26.0 Amps	15.0/13.2/6.6 Amps
Service Factor	1.0	1.0
Maximum Operating Temperature (Ambient)	104° F	104° F
Shaft Diameter (Hollow)	20 mm	20 mm
Thermo Overload	No	No
Capacitor Start	Yes	N/A
Insulation	Class F	Class F



MOTOR	PUMP/SHAFT	A		B		C		D		E	
8023ES (1.5 hp 1 ph)	3CP (16.5mm)	14.62"	371 mm	22.06"	560 mm	2.00"	51 mm	*8.38"	213 mm	12.18"	309 mm
8024ES (3 hp 1 ph)	3CP (16.5mm)	15.92"	404 mm	23.36"	593 mm	1.98"	50 mm	*11.56"	294 mm	13.43"	341 mm
8025ES (3 hp 3 ph)	3CP (16.5mm)	16.01"	407 mm	23.40"	594 mm	1.98"	50 mm	8.9"	226 mm	12.81"	325 mm
8026ES (3 hp 1 ph)	5CP (20mm)	15.92"	404 mm	22.50"	572 mm	1.98"	50 mm	*11.56"	294 mm	14.39"	366 mm
8027ES (3 hp 3 ph)	5CP (20mm)	16.01"	407 mm	24.46"	621 mm	1.98"	50 mm	8.9"	226 mm	13.77"	350 mm
8028ES (5 hp 1 ph)	5CP (20mm)	17.42"	442 mm	24.00"	618 mm	1.98"	50 mm	*11.56"	294 mm	13.77"	350 mm
8029ES (5 hp 3 ph)	5CP (20mm)	17.39"	442 mm	23.97"	609 mm	1.98"	50 mm	9.00"	229 mm	13.77"	350 mm

MOTOR	PUMP/SHAFT	F		G		H		I		J	
8023ES (1.5 hp 1 ph)	3CP (16.5mm)	4.88"	124 mm	2.44"	62 mm	3.00"	76 mm	3.06"	78 mm	6.93"	176 mm
8024ES (3 hp 1 ph)	3CP (16.5mm)	7.50"	191 mm	3.75"	95 mm	5.50"	140 mm	3.62"	92 mm	6.93"	176 mm
8025ES (3 hp 3 ph)	3CP (16.5mm)	7.50"	191 mm	3.75"	95 mm	5.50"	140 mm	3.62"	92 mm	6.93"	176 mm
8026ES (3 hp 1 ph)	5CP (20mm)	7.50"	191 mm	3.75"	95 mm	5.50"	140 mm	3.62"	92 mm	7.89"	200 mm
8027ES (3 hp 3 ph)	5CP (20mm)	7.50"	191 mm	3.75"	95 mm	5.50"	140 mm	3.62"	92 mm	7.89"	200 mm
8028ES (5 hp 1 ph)	5CP (20mm)	7.50"	191 mm	3.75"	95 mm	5.50"	140 mm	3.62"	92 mm	7.89"	200 mm
8029ES (5 hp 3 ph)	5CP (20mm)	7.50"	191 mm	3.75"	95 mm	5.50"	140 mm	3.62"	92 mm	7.89"	200 mm

#### ⚠ CAUTIONS AND WARNINGS

All high-pressure systems require a primary pressure regulating device (i.e. regulator, unloader) and a secondary pressure relief device (i.e. pop-off valve, relief valve). Failure to install such relief devices could result in personal injury or damage to pump or property. Cat Pumps does not assume any liability or responsibility for the operation of a customer's high-pressure system. Read all CAUTIONS and WARNINGS before commencing service or operation of any high-pressure system. The CAUTIONS and WARNINGS are included in each Service Manual and with each Accessory Data sheet. CAUTIONS and WARNINGS can also be viewed online at [www.catpumps.com/dynamic-literature/cautions-and-warnings](http://www.catpumps.com/dynamic-literature/cautions-and-warnings) or can be requested directly from Cat Pumps.

#### WARRANTY

View the Limited Warranty on-line at [www.catpumps.com/literature/cat-pumps-limited-warranty](http://www.catpumps.com/literature/cat-pumps-limited-warranty)

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