BCP6-10MTR

ITT

Commercial, Irrigation and Agricultural Water

CentriPro

6" Single Phase Motors
6-10" Three Phase Motors

NOTE: See color brochure (BRCP6SM) for more information and cutaway views.

FEATURES

SINGLE PHASE:

- Single Phase, 6" motors available in 5 – 15 HP, 230 volt models.
- Require CentriPro Control Boxes as shown on Order Number chart.

THREE PHASE:

- Three Phase, 6", 5 – 30 HP, 230 and 460 volt models have an exclusive voltage change plug feature. Stock one model and a different voltage plug to reduce inventory cost.
- Change Plug Order Numbers are:
  - PLUG-230V
  - PLUG-460V
- 6 – 10" Three Phase available from 5 – 200 HP in 200, 230, 460 and 575 volt models.

CentriPro®

CentriPro is a brand of ITT Corporation.

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Engineered for life

6" SINGLE PHASE MOTORS AND REQUIRED CONTROL BOXES

Motor Order No.	HP	kW	Volts	Motor Dia. vs Flange Dia.	S.F.	Rated Input		Service Factor		L.R. Amps	Control Box Order No.
						Amps	Watts	Amps	Watts		
6M051	5	3.7	230	6″ x 6″	1.15	24	4987	27.5	5735	124	CB05MC
6M071	7.5	5.5				36	7675	41	8950	167	CB07MC
6M101	10	7.5				50	10135	58	11830	202	CB10MC
6M151	15	11				72	15180	85	18050	275	CB15MC

6-10" THREE PHASE MOTORS

Motor Order No.	HP	kW	Volts	Motor Dia. vs Flange Dia.	S.F.	Rated Input		Service Factor		L.R. Amps	Class 14 Starter*
						Amps	Watts	Amps	Watts		
6M058	5	3.7	200	6" x 6"	1.15	17.5	4910	19.5	5610	124	DSFD
6M052	5	3.7	230			15.0	4857	17.0	5520	110	DSFC
6M054	5	3.7	460			7.5	4857	8.5	5520	55	DSDC
6M059	5	3.7	575			5.9	4850	6.5	5520	44	DSDE
6M078	7.5	5.5	200			25.4	7180	28.5	8230	158	ESGD
6M072	7.5	5.5	230			22.0	7127	26.0	8140	144	DSFC
6M074	7.5	5.5	460			11.0	7127	13.0	8140	72	DSEC
6M079	7.5	5.5	575			8.7	7070	9.7	8080	56	DSEE
6M108	10	7.5	200			33.3	9360	37.2	10700	236	ESGD
6M102	10	7.5	230			29.0	9407	33.0	10730	208	ESGC
6M104	10	7.5	460			14.5	9407	16.5	10730	104	DSEC
6M109	10	7.5	575			11.1	9200	12.5	10520	82	DSEE
6M158	15	11	200			47.4	13700	53.5	15710	347	GSJD
6M152	15	11	230			42.0	13700	46.0	15800	320	FSHC
6M154	15	11	460			21.0	13700	23.0	15800	160	ESFC
6M159	15	11	575			16.6	13850	18.6	15820	125	ESFE
6M208	20	15	200			61.2	18040	69.5	20820	431	HSKD
6M202	20	15	230			54.0	17930	60.0	20650	392	GSGC
6M204	20	15	460			27.0	17930	30.0	20650	196	FSHC
6M209	20	15	575			21.1	17920	23.9	20630	155	FSFE
6M258	25	18.5	200			77.3	22740	87.5	26190	578	HSKD
6M252	25	18.5	230			68.0	22470	76.0	25800	530	HSKC
6M254	25	18.5	460			34.0	22470	37.0	25800	265	FSHC
6M259	25	18.5	575			26.9	22440	30.2	25760	213	FSHE
6M308	30	22	200			91.8	27000	104.0	31120	674	ISLD
6M302	30	22	230			82.0	27130	94.0	31160	610	ISLC
6M304	30	22	460			41.0	27130	47.0	31160	305	HSJC
6M309	30	22	575			31.7	27040	35.8	31070	235	GSHE
6M404	40	30	460			53.0	35530	60.0	41100	340	HSKC
6M409	40	30	575			41.3	35640	47.1	41200	272	HSJE
66M504	50	37	460			70.0	45210	79.0	52380	465	HSKC
66M509	50	37	575			55.4	45310	62.6	52480	372	HSKE
86M504	50	37	460	8" x 6"		65.0	44360	73.0	51000	435	HSKC
86M509	50	37	575								HSKE
86M604	60	45	460			80.0	52850	90.0	60900	510	ISLC
86M609	60	45	575								ISLE
8M754	75	55	460	8" x 8"		96.0	65900	109.0	76100	650	ISLC
8M759	75	55	575								ISLE
8M1004	100	75	460			127.0	87600	145.0	101300	795	NA
8M1009	100	75	575								NA
8M1254	125	90	460			160.0	110800	180.0	126000	980	NA
8M1259	125	90	575								NA
8M1504	150	110	460			195.0	130700	220.0	152000	1060	NA
8M1509	150	110	575								NA
10M2004	200	150	460	10"x 10"		235.0	171100	270.0	198600	1260	NA
10M2009	200	150	575								

CALL FOR DATA

* Furnas Class 14 Starters with ESP100 Overloads have several available coil voltages available.

* Available Coil Voltages and their 4th character code are:
A = 120/240 D = 200/208 G = 240 ex. CSBA has a 120/240V Coil
C = 240/480 E = 575 H = 480

5-30 HP, 3 Phase 230 and 460 Motors have adjustable voltage feature, change voltage plugs to convert from 230V to 460V operation. Spare Change Plug Order No's are: PLUG-230V or PLUG-460V

NOTE: The selection of Furnas "K" type ambient compensated heaters (overloads) is determined based on the Class of starter being used. Class 16 DP starters use Furnas overload heater relay Tables 393, 395 and 398. Obsolete Class 15 and Innova starters use different tables and therefore different heaters.

6" SINGLE PHASE MOTORS

Motor Order No.	HP	kW	Volts	Phase	F.L. Efficiency %	KVA Code	Resistance - Ohms		
							R - Y	B - Y	R - B
6M051	5	3.7	230	1	74.8	G	2.172	0.512	2.627
6M071	7.5	5.5			72.9	F	1.401	0.400	1.774
6M101	10	7.5			73.6	E	1.052	0.316	1.310
6M151	15	11			73.7	D	0.678	0.230	0.850

6 - 10" THREE PHASE MOTORS, 200, 230, 460 AND 575 VOLT

Motor Order No.	HP	kW	Volts	Phase	F.L. Efficiency %	KVA Code	Line - Line Resistance	Time Delay Fuse	
								Standard	Dual Element
6M058	5	3.7	200	3	75.9	K			
6M052			230		76.8		0.806	45	20
6M054			460		76.8		3.050	25	10
6M059			575		76.9				
6M078	7.5	5.5	200		77.9	J			
6M072			230		78.5		0.651	70	30
6M074			460		78.5		2.430	35	15
6M079			575		79.1				
6M108	10	7.5	200		79.7	K			
6M102			230		79.3		0.448	90	40
6M104			460		79.3		1.619	45	20
6M109			575		81.1				
6M158	15	11	200		81.7				
6M152			230		81.7		0.312	150	60
6M154			460		81.7		1.074	70	30
6M159			575		80.8				
6M208	20	15	200		82.7	J			
6M202			230		83.2		0.258	175	70
6M204			460		83.2		0.861	90	35
6M209			575		83.3				
6M258	25	18.5	200		82.0	K			
6M252			230		83.0		0.210	225	90
6M254			460		83.0		0.666	110	45
6M259			575		83.1				
6M308	30	22	200		82.9	J			
6M302			230		82.5	K	0.166	250	100
6M304			460		82.5		0.554	125	50
6M309			575		82.8	J			
6M404	40	30	460		84.0	H	0.446	175	70
6M409			575		83.7				
66M504	50	37	460		82.5	J	0.388	225	90
66M509			575		82.3				
86M504			460		84.1	H	0.331	200	90
86M509			575		84.1				
86M604	60	45	460		84.7		0.278	250	110
86M609			575		84.7				
8M754	75	55	460		84.9		0.218	300	125
8M759			575		84.9				
8M1004	100	75	460		85.2		0.164	400	175
8M1009			575		85.2				
8M1254	125	90	460		84.2	G	0.132	500	225
8M1259			575		84.2				
8M1504	150	110	460		85.6		0.115	600	250
8M1509			575		85.6				
10M2004	200	150	460		87.2	F	0.0929	800	350
10M2009			575		87.2				

CALL FOR DATA

GENERAL FEATURES OF CANNED AND REWINDABLE WATER-TIGHT MOTORS

6" CANNED DESIGN MOTOR FEATURES

- **Replaceable Plug-in Motor Lead** – All 6" motor leads are stranded copper for flexibility and strength. Leads are 150" long and field replaceable.
- **Insulation** – The canned motor's stator coil is mounted in a stainless steel frame and is completely sealed in a stainless steel cylinder. The coil wire features moisture resistant insulation which is completely water-proofed for long life.
- **Heat Resistant** – The space between the stator's stainless steel protective can and its frame is filled with a specially formulated patented resin that protects the motor against thermal fluctuation and internal stress.
- **95° F (35° C) Water Temperature (CANNED TYPE: 6", 5 – 50 HP)** – The motors operate with a minimum flow rate of 0.5 ft./sec. (0.15 m/sec) in water temperature up to 95° F (35° C) without any derating of horsepower. This 95° F (35° C) temperature is 18° F (10° C) higher than NEMA standards.

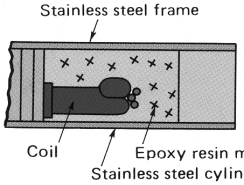
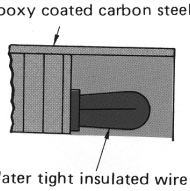
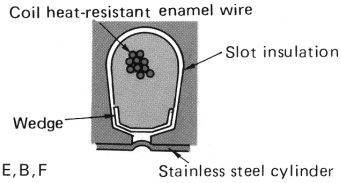
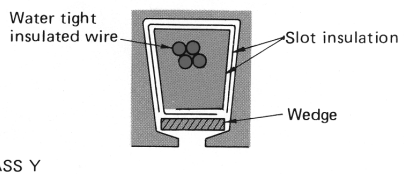
8-10" REWINDABLE WATER-TIGHT MOTOR FEATURES

- **Insulation Wire** – The coil conductor insulation material is a specially developed denatured polypropylene, which offers excellent leak-resistant characteristics. Three barriers are applied to the copper conductors to provide complete insulation against the motor's cooling fluid. This design is the result of extensive research and is of superior quality. It insures that CentriPro motors will have an extremely long service life.

MOTOR FEATURES - BOTH DESIGNS

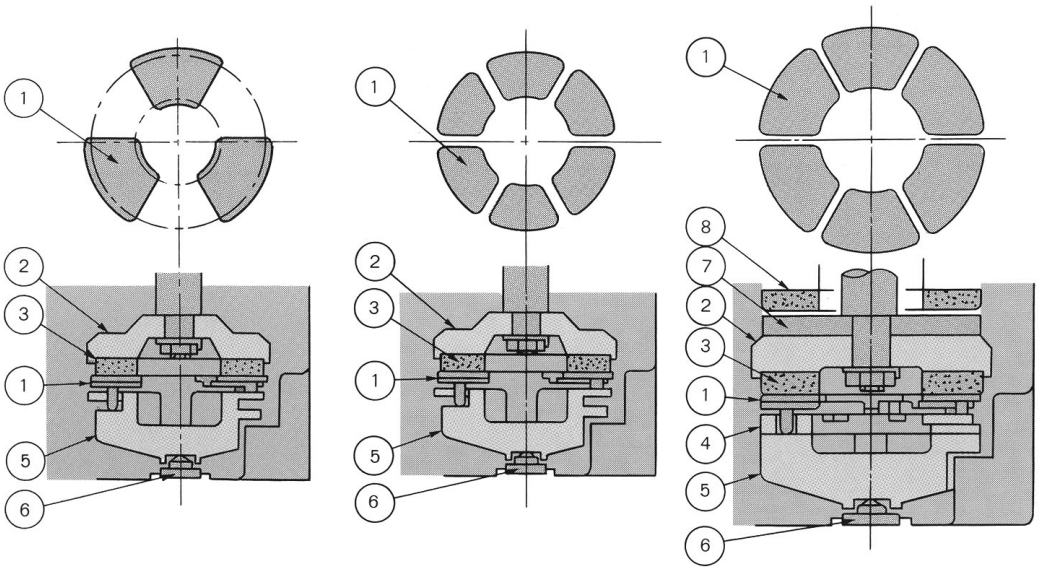
- **Sand Resistant Slinger and Lip Seals** – CentriPro submersible motors feature double-row, grease packed, lip seals to prevent sand from entering the motor. A carbon steel slinger with a baked on epoxy coating prevents sand from entering the lip seal area. Additional protection against sand intrusion is provided by the close tolerance slinger guide with a .02" fit. This design is field-proven in West Texas wells which are considered to be some of the worst sandy well applications. Best of all, these features are standard for a CentriPro motor, so there is no need to stock one motor for clean wells and another more expensive motor for the more abrasive, sandy jobs.
- **High Torque Characteristics** – The stator laminations are constructed of high quality, electrical grade, silicon steel which provide high torque even when the motor is subjected to nominal voltage variations.
- **Balancing** – The rotor balance rings (one on each end of the rotor) allow for excellent dynamic balance for the rotating element of the motor.
- **Carbon Sleeve Bearings** – Two carbon, water-lubricated, guide bearings are used to properly align the shaft. The bearings have a large surface area to better support the shaft, reducing whipping, while acting as a steady bushing.
- **Water-Filled Design** – The internal cooling water is mixed with antifreeze and antirust liquid to allow the motor to be stored at –22° F (–30° C). Two water plugs are provided for filling or draining the anti-freeze fluid during maintenance. These plugs are also used to top off and to check the water level.
- **Complete Corrosion and Water-Tight Protection** – All main motor components are made of stainless steel: including the can housing (water tight type motors have baked epoxy coated carbon steel housings), shaft and bolts. All other motor parts are finished with the baked epoxy coating.
- **Baked Epoxy Coating** – All external and internal cast iron parts are coated with a baked epoxy resin that provides excellent resistance to water and corrosion.
- **Quality Control** – All CentriPro submersible motors are manufactured and tested under the most stringent quality control procedures, providing long service life and trouble-free operation.

CONSTRUCTION AND INSULATION DETAILS

TYPE	6" CANNED DESIGN	8-10" REWINDABLE WATER-TIGHT DESIGN
Construction		
Slot Insulation		

SPECIAL TECHNOLOGY

HIGH PERFORMANCE THRUST BEARING



TYPE "A" TYPE "B" TYPE "C"

Number	Part Name
1	Pivot Shoe
2	Bearing Frame
3	Carbon Disc
4	Metal Support
5	Metal Frame
6	Thrust Plate
7	Slide Plate
8	Up Thrust Bearing

APPLICATION

Motor Size	Output		Bearing Type	Number of Shoes
	HP	kW		
6"	5 – 30	3.7 – 22	A	3
6"	40 – 50	30 – 45	B	6
8 – 10"	40 – 150	30 – 110	C	6
10"	200	150	C	8

The field proven KINGSBURY design thrust bearing creates a wedge of water between the pivot shoe and carbon disc. Our innovative design permits high thrust loads to be placed on the bearings while showing no measurable wear after several years of severe duty operation. This allows for long pumping life, virtual trouble free operation and low maintenance. For all 6" motors, the 300 lbs. maximum continuous up thrust is absorbed between the upper carbon sleeve bearing and the rotor balance ring. For all 8" – 10" motors, the 1000 lbs. maximum continuous up thrust is carried between the upper slide plate and the separate up thrust carbon bearing.

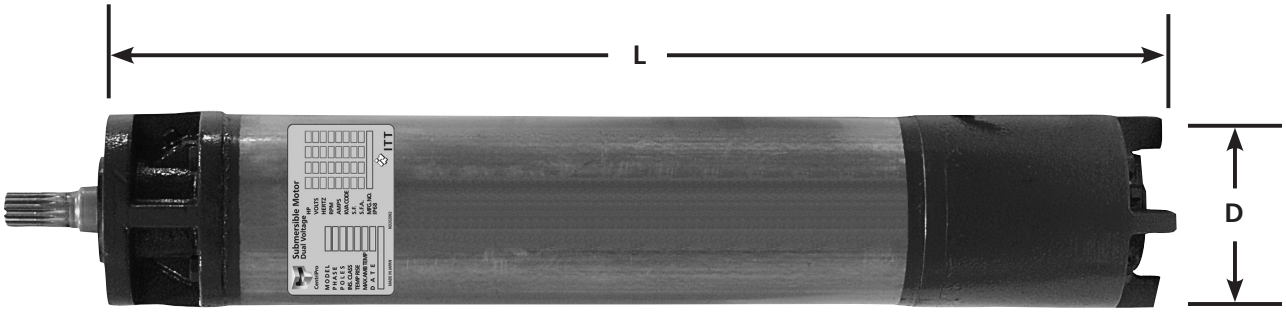
Motor Size	2P			
	Down Thrust		Up Thrust	
	lbs.	kg	lbs.	kg
6" 5-30 HP	3,500	1,590	300 *(450)	136 *(200)
6" 40-50 HP	5,000	2,270	300 *(450)	136 *(200)
8"	10,000 ** (5,000)	4,540 ** (2,270)	1,000 ** (1,500)	450 ** (680)
10"	10,000	4,540	1,000	450

Note:

1. Thrust ratings showed are continuous except for values marked *.
2. * Momentary rating (3 minutes maximum).
3. ** 8" motor - 6" Flange when using standard stainless steel bolts (B&M), has a thrust value of 5,000 lbs. A thrust value of 10,000 lbs. can be obtained by using high tensile stainless steel bolts (ASTM F593G).

6" CANNED DESIGN MOTORS

SIZE AND WEIGHT - 2 POLE 3600 RPM 60 Hz — 3000 RPM 50 Hz



Motor Size	Phase	Output		D inch (mm)	L		Net Weight	
		HP	kW		inch	mm	lbs.	kg
6"	1Ø	5	3.7	5.5 (140)	26.97	685	110	50
		7.5	5.5		29.92	760	128	58
		10	7.5		29.92	760	128	58
		15	11		33.46	850	148	67
	3Ø	5	3.7		22.95	583	95	43
		7.5	5.5		24.80	630	99	45
		10	7.5		26.97	685	110	50
		15	11		29.92	760	128	58
		20	15		31.50	800	137	62
		25	18.5		36.22	920	161	73
		30	22		38.19	970	176	80
		40	30		40.55	1030	187	85
		50	37		41.73	1060	198	90

*Gross Weight: See page 12.

CABLE SIZE AND TYPE 150 inches (3.8 m) – Lead Wire Standard Length

Motor Size	Phase	Output		460V, 415V, 400V, 380V			230V, 208V		
		HP	kW	Lead Wire Size		A x B inch (mm)	Lead Wire Size		A x B inch (mm)
				mm^2	AWG		mm^2	AWG	
6"	1Ø	5-15	3.7-11	—	—	—	3.5	#12	0.82x0.33 (20.8x8.2)
	3Ø	5-25	3.7-18.5	3.5	#12	0.82x0.33 (20.8x8.2)	3.5	#12	0.82x0.33 (20.8x8.2)
		30	22	5.5	#10	0.99x0.38 (25.1x9.6)	5.5	#10	0.99x0.38 (25.1x9.6)
		40	30	3.5	#12	0.82x0.33 (20.8x8.2)	—	—	—
		50	37	5.5	#10	0.99x0.38 (25.1x9.6)	—	—	—

6" CANNED DESIGN MOTORS *(continued)*

TYPE OF LEAD WIRE - 600V CLASS

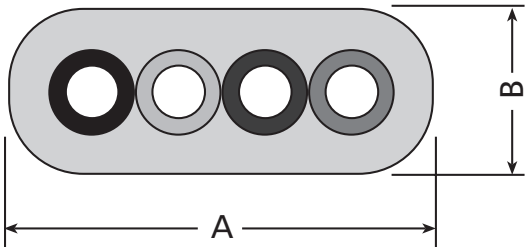
Ethylene-Propylene Rubber Insulated Chloroprene

Cabtyre Cable

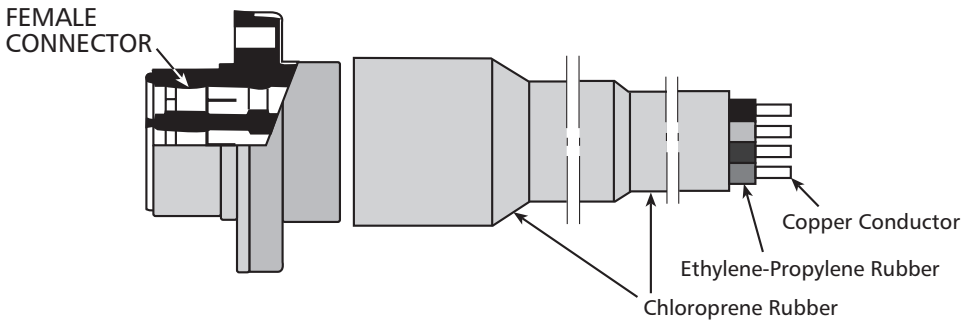
Plug-In (Field replaceable.)

Color Coded

USA Standard
(Black, Yellow, Red, Green)



CHLOROPRENE CABTYRE CABLE



6" CENTRIPRO REPLACEMENT MOTOR LEADS

Order No.	Description	Used On
CPML-12	150", 12 / 4	5-15 HP 1Ø; 5 - 25 and 40 HP, 460V, 3Ø
CPML-10	150", 10 / 4	30 HP, 230/460V and 50 HP, 3Ø
CPML-8	150", 8 / 4	Optional for 30-50 HP, 3Ø, any voltage

REWINDABLE WATER-TIGHT DESIGN MOTORS

SIZE AND WEIGHT - 2 POLE 3600 RPM 60 Hz — 3000 RPM 50 Hz

Motor Size	Output		D inch (mm)	L		Net Weight	
	HP	kW		inch	mm	lbs.	kg
8"	50*	37	7.52 (191)	46.44 (45.28)	1180 (1150)	353 (346)	160 (157)
	60*	45		49.19 (48.03)	1250 (1220)	408 (401)	185 (182)
	75	55		53.15	1350	463	210
	100	75		58.27	1480	518	235
	125	90		66.14	1680	595	270
	150	110		70.08	1780	661	300
10"	200	150	8.52 (216.5)	69.68	1770	816	370

(*) 6 inch flange. **Gross Weight: See page 12.

CABLE SIZE AND TYPE - 2 POLE 3600 RPM 60 Hz — 3000 RPM 50 Hz

200 inch (5 m) – Lead Wire Standard Length (Round 1 Stranded Conductor)

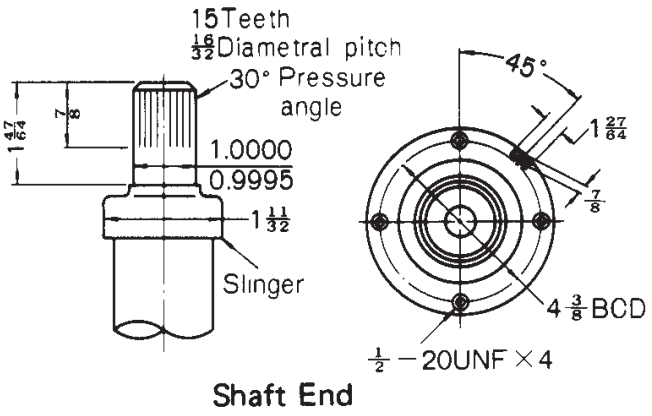
Motor Size	Output		460V, 415V, 400V, 380V			
	HP	kW	Lead Wire Size		Cable Diameter	
			mm^2	AWG	inch	mm
8"	40-75	30-55	8	#8	0.362	9.2
	100-125	75-90	14	#6	0.433	11.0
	150	110	22	#4	0.531	13.5
10"	200	150	30	#2	0.591	15.0

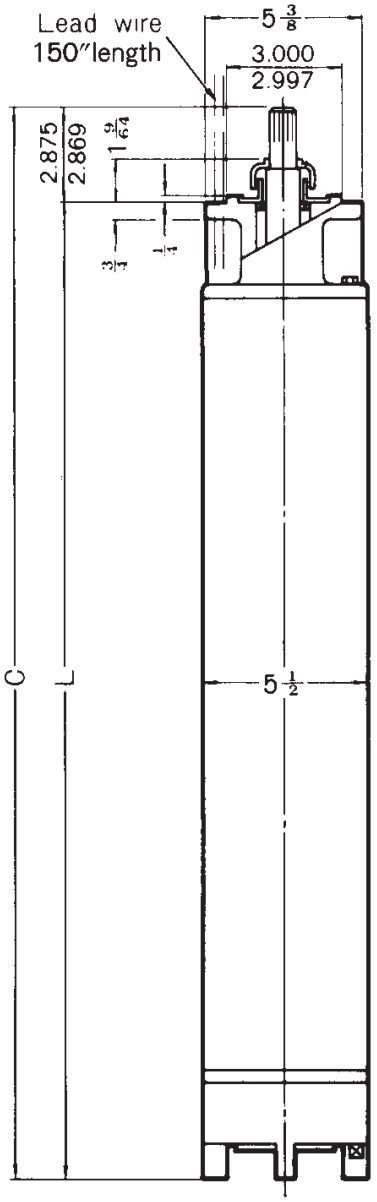
Type of Lead Wire – 600V Class

Ethylene Propylene rubber insulated chloroprene cabtyre cable.

DIMENSIONAL DATA

6", 3600 RPM, 2 POLE

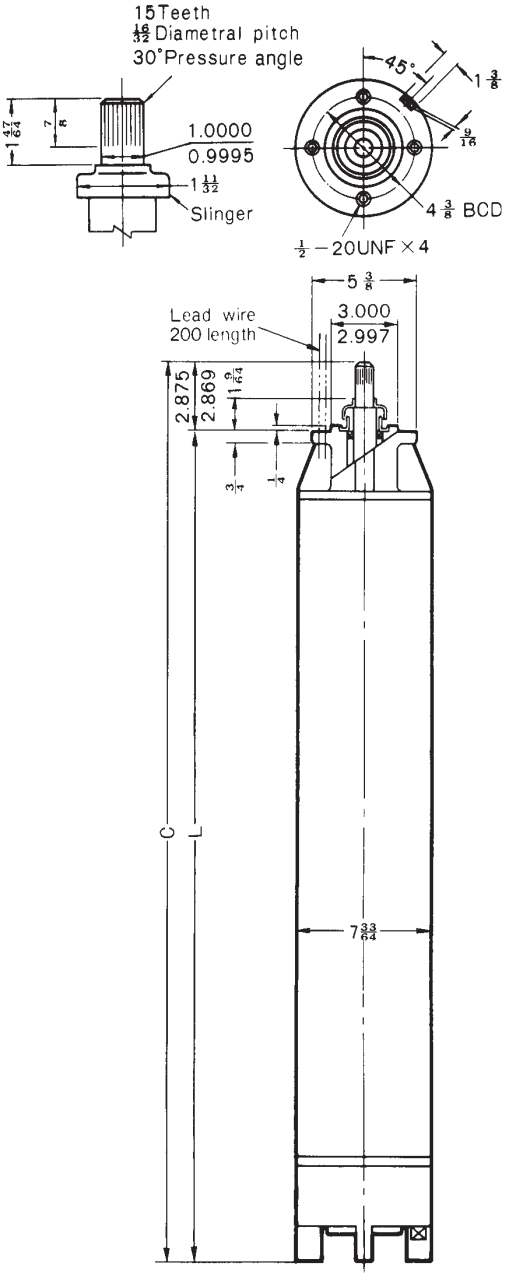




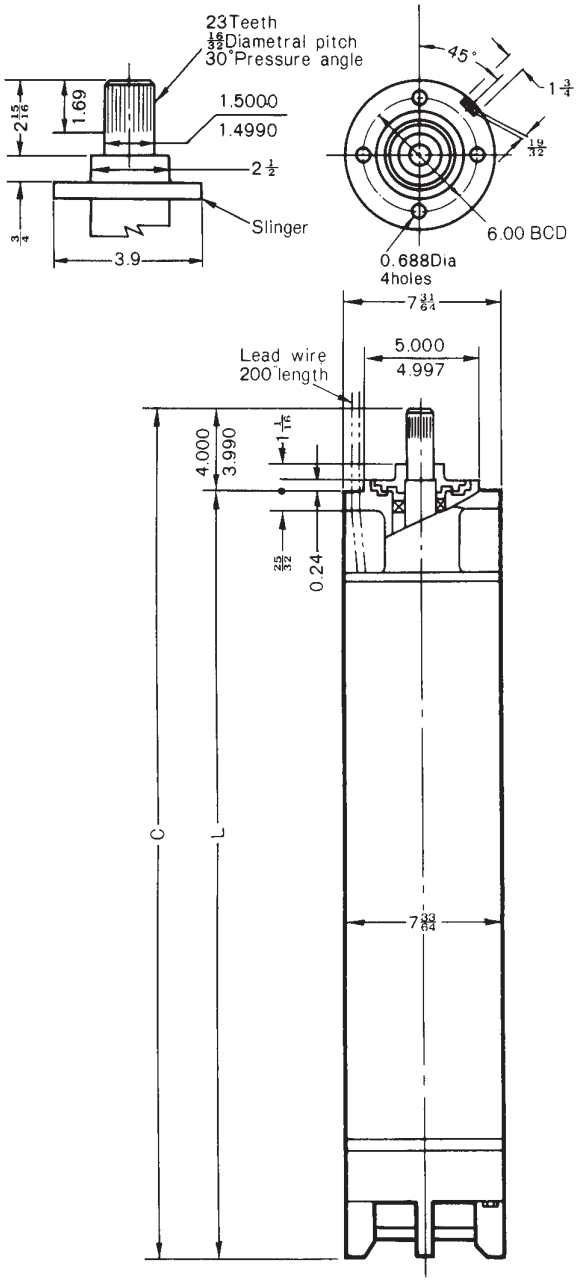
Output		Phase	C		L	
HP	kW		inch	mm	inch	mm
5	3.7	1	29.84	758	26.97	685
7.5	5.5		32.79	833	29.92	760
10	7.5		32.79	833	29.92	760
15	11		36.33	923	33.46	850
5	3.7	3	25.82	656	22.95	583
7.5	5.5		27.67	703	24.80	630
10	7.5		29.84	758	26.97	685
15	11		32.79	833	29.92	760
20	15		34.37	873	31.50	800
25	18.5		39.09	993	36.22	920
30	22		41.06	1043	38.19	970
40	30		43.42	1103	40.55	1030
50	37		44.60	1133	41.73	1060

DIMENSIONAL DATA

8", 3600 RPM, 2 POLE (6" FLANGE)



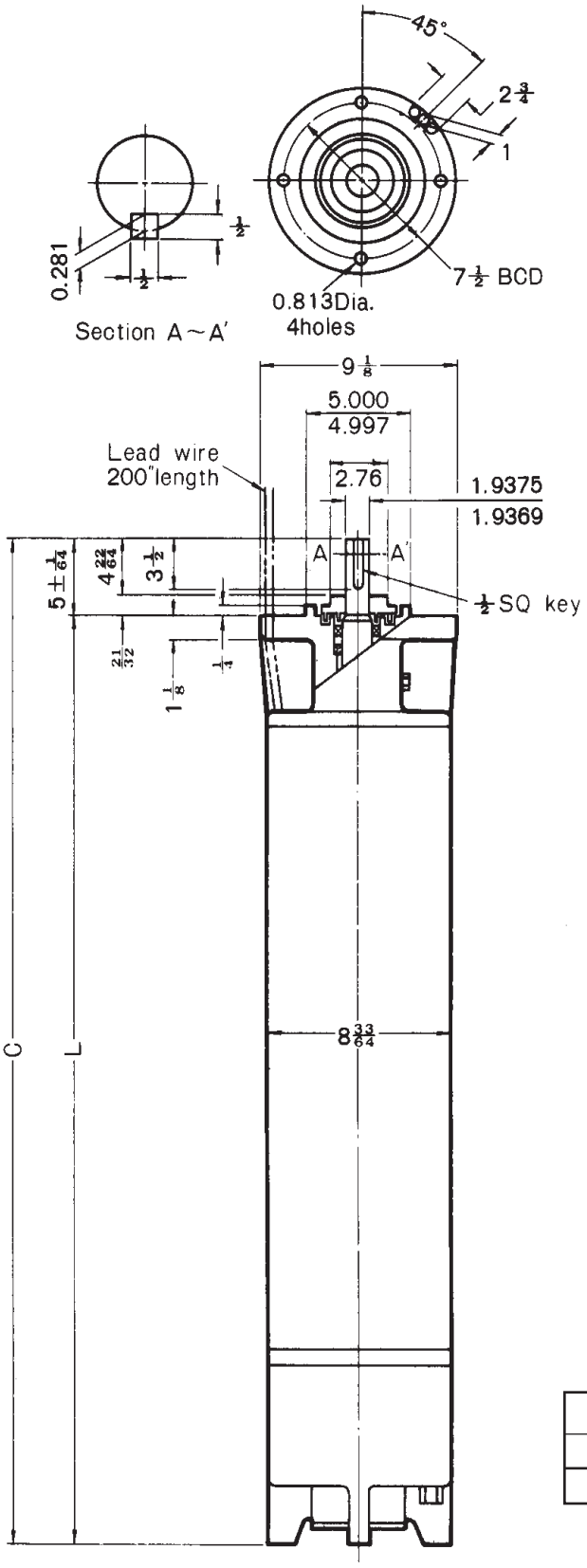
8", 3600 RPM, 2 POLE (8" FLANGE)



Output		Phase	C		L	
HP	kW		inch	mm	inch	mm
50	37	3	48.15	1223	45.28	1150
60	45		50.91	1293	48.03	1220
75	55		57.13	1451	53.15	1350
100	75		62.24	1581	58.27	1480
125	90		70.12	1781	66.14	1680
150	110		74.06	1881	70.08	1780

DIMENSIONAL DATA

10", 3600 RPM, 2 POLE (10"-B FLANGE)



Output		Phase	C		L	
HP	kW		inch	mm	inch	mm
200	150	3	74.70	1897	69.68	1770

ITT
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