

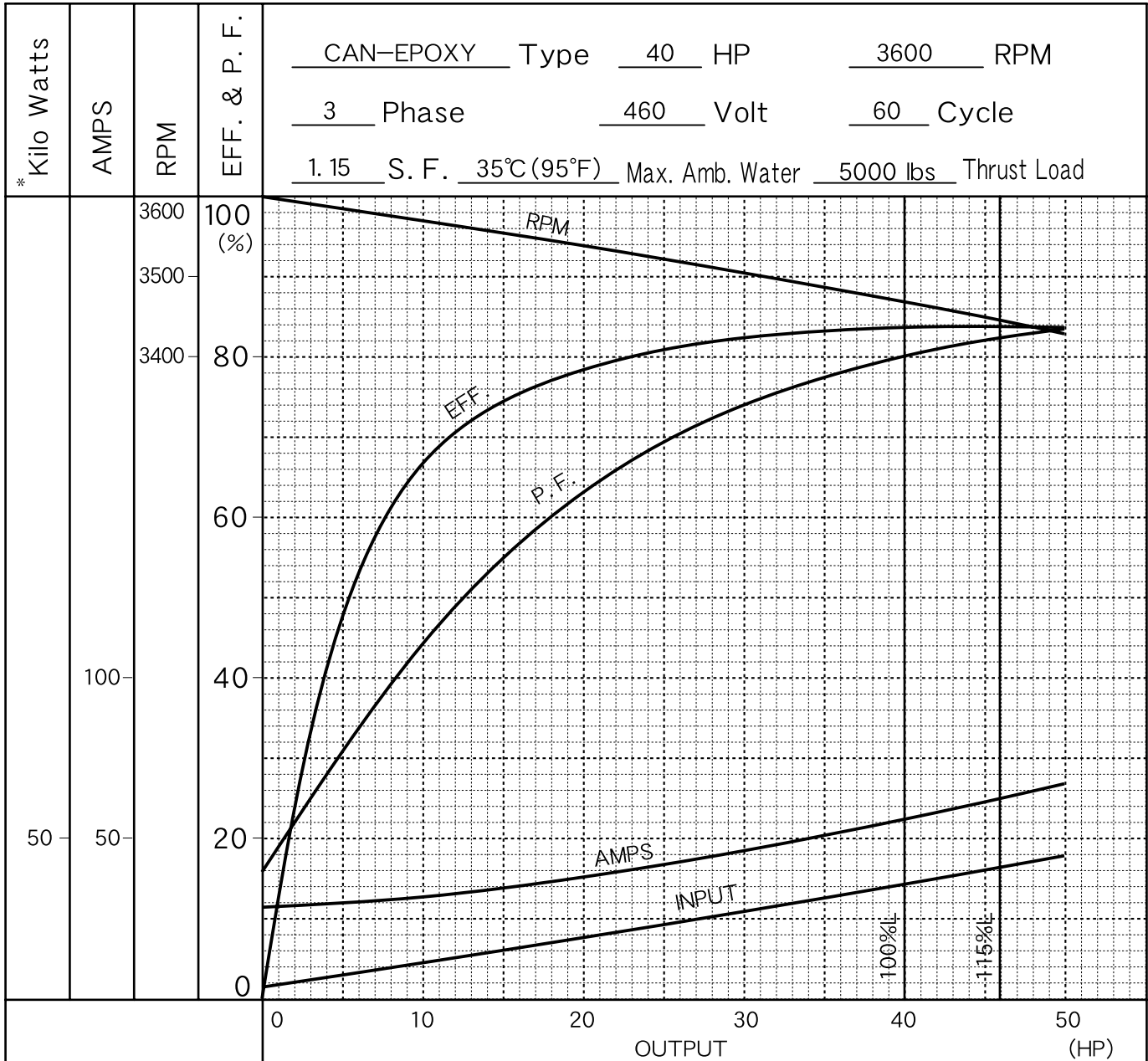
HITACHI

D 12

Date : 8/4/06
Supersedes : 9/ 1/91

6" SUBMERSIBLE MOTOR PERFORMANCE CHARACTERISTICS

40 HP
3600 RPM



LOAD (HP)	No load (-)	25% (10)	50% (20)	75% (30)	100% (40)	115% (46)	125% (50)	
** AMPS	28.5	31.7	37.9	46.1	55.9	62.4	67.0	Full load Torque <u>60.7</u> Foot pounds
EFF.	0	66.7	78.4	82.4	83.7	83.8	83.7	Break Down Torque <u>237</u> Foot pounds
P. F.	15.8	44.2	63.1	74.0	80.1	82.4	83.5	Locked Rotor Torque <u>174</u> Foot pounds
r/min	3600	3570	3539	3505	3469	3446	3429	Locked Rotor Current <u>420</u> Amperes **
* WATTS	3600	11180	19030	27160	35650	40950	44560	KVA Code <u>K</u>

* Additional input watts due to thrust load – see page C5.
Quick trip O.L. + short circuit protection required in each phase.

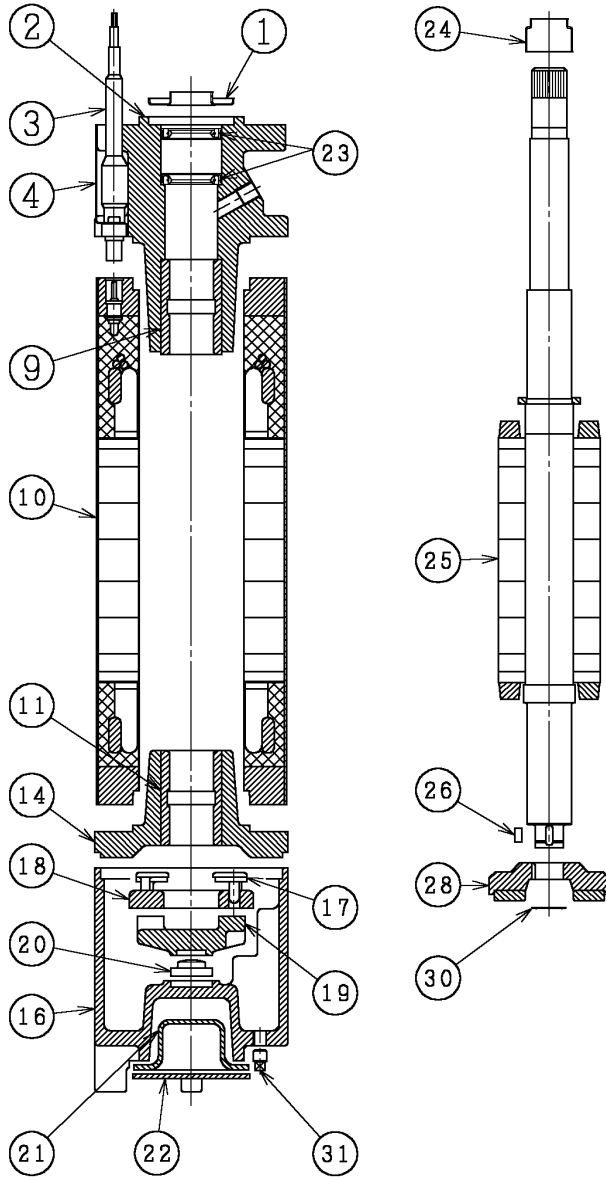
Power factor correction capacitor – see page C7.

2 POLE HITACHI SUBMERSIBLE MOTORS 6" 40HP-60HP CUTAWAY, 3PHASE

E3

Date: 7/7/06
Supersedes: 4/1/92

6" PARTS LIST. 3 PHASE



No.	Parts Name	Parts drg. No.	Q'ty (required)	
1	Slinger guide	XNR385531- 1	1	
2	Upper end bracket	3 φ 40HP	X2R127632- 2	1
		3 φ 50-60HP	X2R127629- 1	1
3	150 in. length Motor lead wire	3 φ 40HP	X3R116300-1C	1
		3 φ 50-60HP	X3R116300-1D	1
4	Lead wire cover	XNR386163- 2	1	
9	Upper sleeve bearing	X4R132923- 1	1	
10	Stator Assembly 460V	3 φ 40HP	4R932882-1D	1
		3 φ 50HP	4R932882-1B	1
		3 φ 60HP	4R932882-1C	1
11	Lower sleeve bearing	X4R132923- 1	1	
14	Lower end bracket	XNR211060- 2	1	
16	End cover	XNR229585- 1	1	
17	Pivot shoe	X3R128883- 1	6	
18	Metal Support	XNR388275- 1	1	
19	Metal frame	XNR388276- 1	1	
20	Thrust plate	XNR455852- 1	1	
21	Bellows	XNR477665- 1	1	
22	Bellows cover	XNR477664- 1	1	
23	Rubber seal	XNR358848- 6	2	
24	Slinger	XNR474354- 1	1	
25	Rotor Assembly	3 φ 40HP	4R954496-1E	1
		3 φ 50HP	4R954496-1C	1
		3 φ 60HP	4R954496-1D	1
26	Bearing key	XNR446887- 4	1	
28	Thrust bearing	XNR376998- 1	1	
30	Snap ring	CRTR020CS	1	
31	Drain plug	CPLG09	1	
50	Bolts,screws		1set	

Missing numbers are not necessary for this motor.

HITACHI SUBMERSIBLE MOTORS(2POLE) PERFORMANCE AND APPLICATION DATA

WELL DIA. (INCH)	HP	VOLTS	HZ	PHASE	SERVICE FACTOR	WINDING CONNECTION RESISTANCE WITH MOTOR LEADS(Ω) at 68°F(20°C)	RATED INPUT		SERVICE FACTOR INPUT		MAX. THRUST LOAD (LBS)	EFFICIENCY(%)				POWER FACTOR(%)			LOCKED ROTOR		OVERLOAD PROTECTION STARTER SIZE	OVERLOAD PROTECTION HEATER CODE (FURNAS AMB.COMP.)	STD FUSE SIZE	DUAL ELEMENT FUSE SIZE
							AMPS	WATTS	AMPS	WATTS		F.L.	3/4	1/2	F.L.	3/4	1/2	AMPS	CODE	STARTER SIZE				
6"	40	460	60	3	1.15	DELTA 0.358	56	35650	61	40950	5000	83.7	82.4	78.4	80.1	74.0	63.1	420	K	3	K76	175	100	
"	40	380	50	3	1.0	DELTA 0.358	66	35870	-	-	5000	83.2	83.8	82.1	83.8	78.8	68.6	380	G	3	K77	200	125	
"	50	460	60	3	1.15	DELTA 0.308	70	45210	79	52380	5000	82.5	82.3	79.6	81.4	75.6	64.6	465	J	3	K83	225	125	
"	50	380	50	3	1.0	DELTA 0.308	83	46630	-	-	5000	80.0	82.3	82.0	84.7	80.4	70.7	415	F	3	K85	250	150	
"	60	460	60	3	1.15	DELTA 0.308	82	54320	94	63400	5000	82.4	83.2	81.6	84.4	79.8	70.1	465	G	3-1/2	K86	250	150	
8"	40	460	60	3	1.15	DELTA 0.372	56	35570	63	40800	10000	83.9	82.3	78.0	82.1	77.0	67.2	380	J	3	K76	175	100	
"	40	380	50	3	1.0	DELTA 0.372	65	35480	-	-	10000	84.1	84.4	82.5	84.3	80.2	71.2	340	F	3	K77	200	125	
"	50	460	60	3	1.15	DELTA 0.331	65	44360	73	51000	10000	84.1	83.0	79.3	85.7	81.8	73.4	435	H	3	K78	200	125	
"	50	380	50	3	1.0	DELTA 0.331	78	44940	-	-	10000	83.0	83.7	82.2	87.8	85.1	78.1	410	F	3	K85	250	150	
"	60	460	60	3	1.15	DELTA 0.278	80	51930	90	59650	10000	86.2	85.1	81.6	83.4	78.7	69.1	556	J	3-1/2	K86	250	150	
"	60	380	50	3	1.0	DELTA 0.278	95	52410	-	-	10000	85.4	85.8	84.1	85.8	82.6	74.7	511	G	3-1/2	K87	300	175	
"	75	460	60	3	1.15	DELTA 0.218	96	64380	109	74040	10000	86.9	86.1	83.1	84.6	80.1	70.8	675	J	3-1/2	K88	300	175	
"	75	380	50	3	1.0	DELTA 0.218	115	64910	-	-	10000	86.2	86.8	85.5	86.8	84.1	76.8	634	F	4	K89	350	225	
"	100	460	60	3	1.15	DELTA 0.164	127	86140	145	99180	10000	86.6	85.7	82.7	85.4	81.2	72.1	855	H	4	K92	400	225	
"	100	380	50	3	1.0	DELTA 0.164	152	86950	-	-	10000	85.8	86.5	85.3	87.6	84.9	77.6	816	F	4-1/2	K26	500	300	
"	125	460	60	3	1.15	DELTA 0.132	161	107310	180	123550	10000	86.9	86.3	83.6	84.3	79.7	70.2	1122	J	4-1/2	K28	500	300	
"	125	380	50	3	1.0	DELTA 0.132	192	108810	-	-	10000	85.7	86.6	85.6	86.8	83.7	75.9	1009	F	4-1/2	K28	600	350	
"	150	460	60	3	1.15	DELTA 0.115	197	128920	220	148430	10000	86.8	86.2	83.4	82.9	77.5	67.0	1331	H	4-1/2	K31	600	350	
"	150	380	50	3	1.0	DELTA 0.115	235	131340	-	-	10000	85.2	86.1	85.0	85.6	81.9	73.2	1227	F	5	K32	800	450	
10"	175	460	60	3	1.15	DELTA 0.121	205	151100	230	175400	10000	86.4	86.9	85.5	92.0	91.1	87.4	1030	E	5	K31	700	400	
"	175	380	50	3	1.0	DELTA 0.121	261	156160	-	-	10000	83.6	86.1	86.7	91.9	91.9	89.4	1090	D	6	K23	800	500	
"	200	460	60	3	1.15	DELTA 0.0929	235	171100	270	198600	10000	87.2	87.5	86.0	92.2	91.3	87.6	1260	F	5	K33	800	450	
"	200	380	50	3	1.0	DELTA 0.0929	295	177600	-	-	10000	84.0	86.1	86.4	91.8	92.0	89.8	1260	D	6	K24	900	600	
"	250	460	60	3	1.15	DELTA 0.0776	295	215600	340	235000	10000	86.5	87.5	86.7	92.1	91.8	88.9	1500	E	6	K26	900	600	
"	250	380	50	3	1.0	DELTA 0.0776	370	224000	-	-	10000	83.4	86.3	87.2	91.4	92.4	90.9	1470	C	6	K28	1200	650	
12"	300	460	60	3	1.15	DELTA 0.0386	350	255500	396	292200	10000	87.6	86.1	82.2	92.1	90.2	85.4	2700	G	6	K29	1200	650	
"	300	380	50	3	1.0	DELTA 0.0386	420	252900	-	-	10000	88.5	88.6	86.9	92.3	91.1	87.0	2700	G	6	K31	1300	750	

WATER VELOCITY VS SERVICE FACTOR

1. CANNED TYPE

Service Factor Water Velocity (f/s)	Ambient Temperature					
	35°C		45°C		55°C	
	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz
0.3	1.10	0.96	0.77	0.67	0.45	0.39
0.5	1.15	1.00	0.82	0.70	0.48	0.40
0.75	1.20	1.04	0.85	0.73	0.50	0.42
1.0	1.25	1.08	0.88	0.76	0.52	0.45
1.5	1.30	1.12	0.91	0.79	0.54	0.47
2.0	1.35	1.16	0.94	0.82	0.56	0.49
3.0	1.40	1.20	0.98	0.85	0.58	0.51
4.0	1.45	1.24	1.02	0.88	0.61	0.53
5.0	1.49	1.28	1.04	0.90	0.63	0.55
6.0	1.50	1.30	1.06	0.92	0.64	0.56
7.0	1.50	1.30	1.08	0.94	0.65	0.57
8.0	1.50	1.30	1.09	0.95	0.66	0.58
9.0	1.50	1.30	1.10	0.96	0.67	0.59
10	1.50	1.30	1.11	0.97	0.68	0.60

Note 1. 50Hz is not applied 6~60HP motor.

2. WATERPROOF WIRE TYPE

Service Factor Water Velocity (f/s)	Ambient Temperature							
	25°C		35°C		45°C		55°C	
	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz
0.3	1.10	0.95	0.83	0.72	0.58	0.48	0.35	0.30
0.5	1.15	1.00	0.87	0.76	0.61	0.51	0.37	0.32
0.75	1.20	1.05	0.91	0.79	0.64	0.54	0.38	0.34
1.0	1.25	1.10	0.94	0.82	0.66	0.57	0.39	0.36
1.5	1.30	1.14	0.98	0.85	0.69	0.60	0.41	0.38
2.0	1.35	1.18	1.02	0.88	0.72	0.62	0.42	0.39
3.0	1.40	1.22	1.05	0.91	0.74	0.64	0.44	0.40
4.0	1.44	1.25	1.08	0.94	0.76	0.66	0.45	0.41
5.0	1.47	1.28	1.11	0.96	0.78	0.68	0.46	0.42
6.0	1.50	1.30	1.13	0.98	0.80	0.70	0.47	0.43
7.0	1.50	1.30	1.15	1.00	0.82	0.71	0.48	0.44
8.0	1.50	1.30	1.17	1.02	0.83	0.72	0.48	0.44
9.0	1.50	1.30	1.18	1.03	0.84	0.73	0.49	0.45
10	1.50	1.30	1.19	1.03	0.85	0.74	0.49	0.45

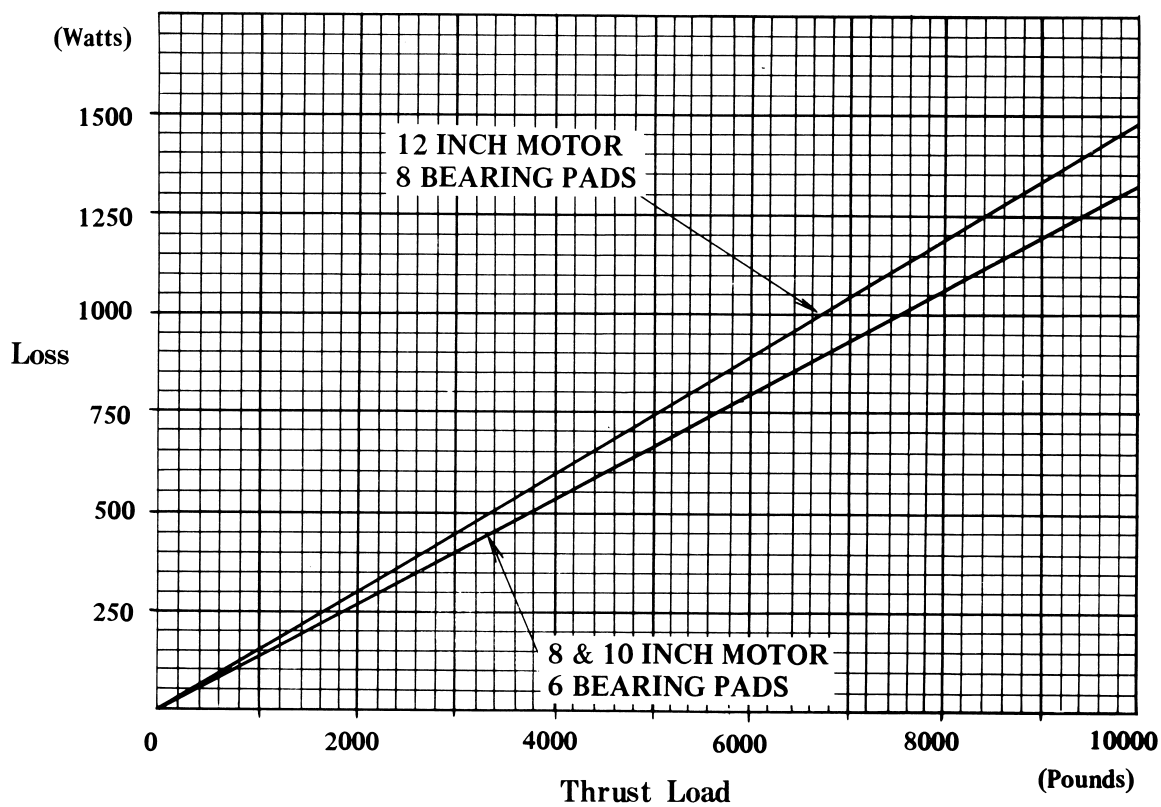
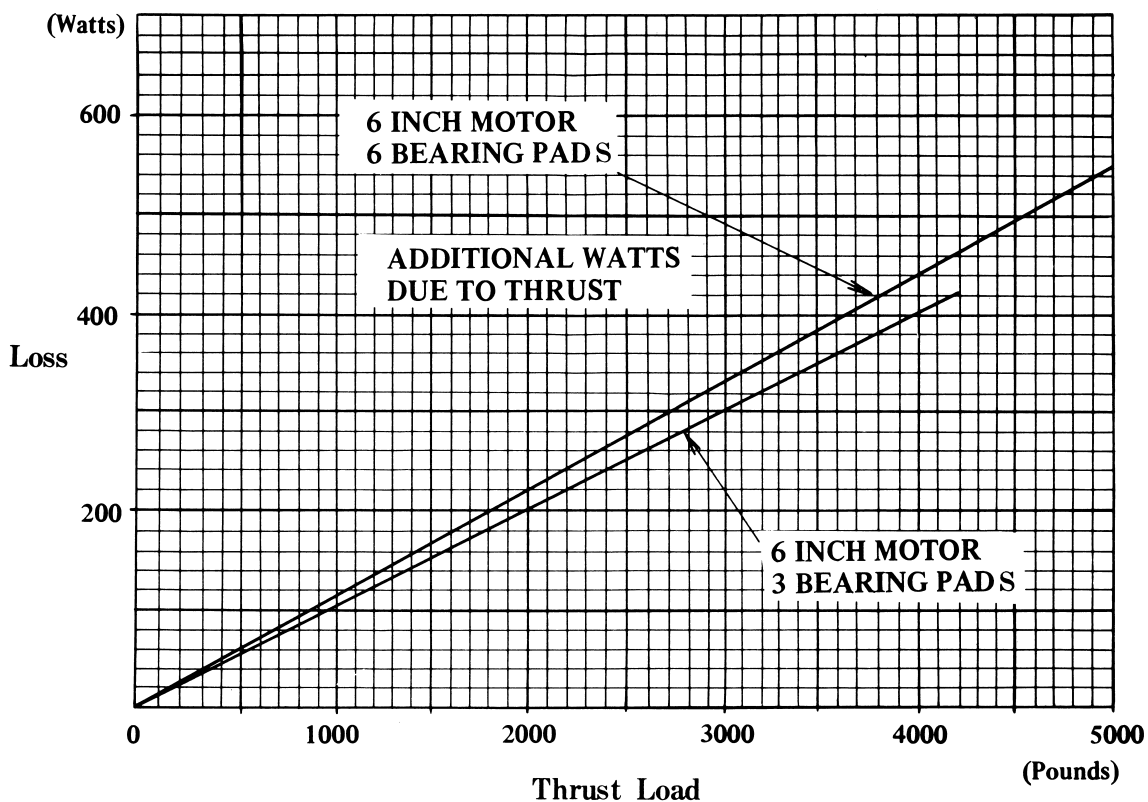
Note 1. 50Hz is not applied 4P motor.

HITACHI SUBMERSIBLE MOTORS

Date : 12/1/82
Supersedes : NEW

2 POLE THRUST LOSS

ADDITIONAL WATTS DUE TO THRUST



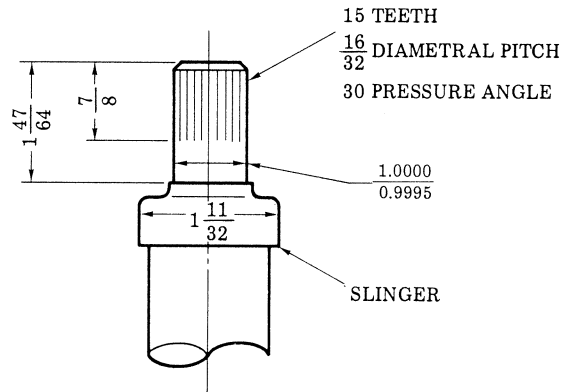
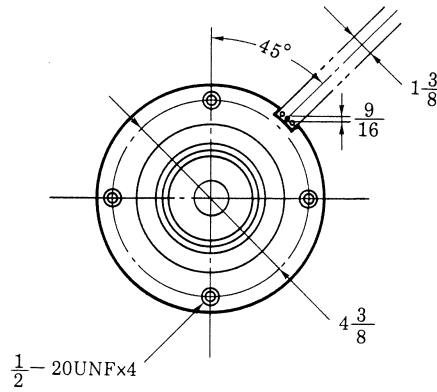
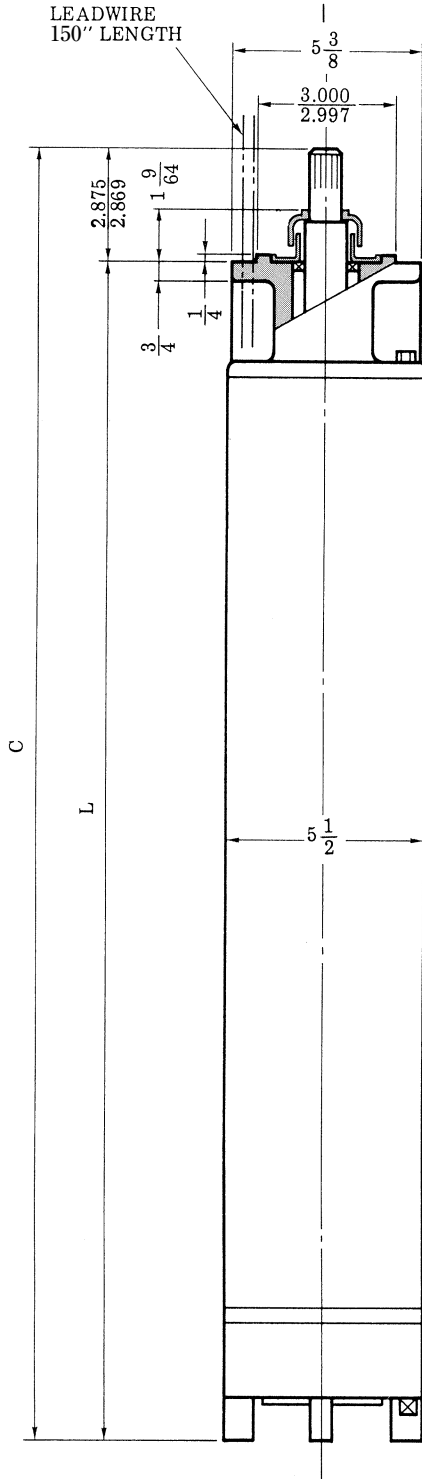
2 POLE HITACHI SUBMERSIBLE MOTORS

B 1

Date : 8/4/06
Supersedes : 4/1/92

6" MOTOR
6" FLANGE

SINGLE VOLTAGE 5~60HP
DUAL VOLTAGE 5~30HP



Dimensions in inches

HP	PHASE	VOLT	Hz	THRUST (LBS)	C	L
5	1	230	60	3500	29.84	26.97
7.5	1	230	60	3500	32.79	29.92
10	1	230	60	3500	32.79	29.92
15	1	230	60	3500	36.33	33.46
5	3	230/460	60	3500	25.82	22.95
7.5	3	230/460	60	3500	27.67	24.80
10	3	230/460	60	3500	29.84	26.97
15	3	230/460	60	3500	32.79	29.92
20	3	230/460	60	3500	34.37	31.50
25	3	230/460	60	3500	39.09	36.22
30	3	230/460	60	3500	41.06	38.19
40	3	460	60	5000	44.60	41.73
50	3	460	60	5000	44.60	41.73
60	3	460	60	5000	44.60	41.73

Catalog No. SM-E182P Printed in Japan (ZR-Y)

HITACHI