
Section	Page
Motor Specifications	1-213
Power Cable	1-214
Wiring Diagrams	1-215
Electrical Data 1/2 to 5 HP 208/230V	1-216
Electrical Data 1/2 to 5 HP 460V	1-217
Electrical Data 3 to 10 HP 208/230V	1-218
Electrical Data 3 to 10 HP 460V	1-219

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EBARA Submersible Pumps

DSU, DVSU, DSHU, DVSHU

Motor Specification

Project: _____ Model: _____ Chk'd: _____ Date: _____

2 Pole Motor Specification — Models DSU, DVSU

OUTPUT		PHASE	RATING			LOCKED ROTOR CURRENT A	INSULATION CLASS	OVERLOAD PROTECTION	CABLE			PERFORMANCE DATA AT RATING POINT		RESISTANCE AT 20°C OHMS	* Symbols			
HP	KW		VOLTAGE V	CURRENT A	SPEED R.P.M.				TYPE	No. OF COND	mm ²	AWG	LENGTH Ft.			EFFICIENCY %	POWER FACTOR %	
3	2.2	THREE	208/230	8.8/8.4	3470/3490	54/61	F	BUILT-IN OVERLOAD PROTECTION (AUTO CUT)	2PNCT	4	2.0	#14	33	78.7/78.5	88.1/83.7	1.36	EB	
			460	4.2	3490	30.5								78.5	83.7	4.89		
208/230	14.6/13.8	3460/3490	93/104	78.8/79.2	89.2/84.9	0.79												
460	6.9	3490	52	79.2	84.9	2.59												
7½	5.5	THREE	208/230	20.4/18.4	3490/3510	120/136					3.5	#11		80/80.6	93.5/93.0	0.54		EB
			460	9.2	3510	68								80.6	93	1.85		
10	7.5	THREE	208/230	27.2/24.6	3480/3500	160/182			5.5	#10	81.7/82.2	93.5/93	0.36	EB				
			460	12.3	3500	91					82.2	93	1.26					

* Ref. data Mfr.'s Symbols

2 Pole Motor Specification — Models DSHU, DVSHU

OUTPUT		PHASE	RATING			LOCKED ROTOR CURRENT A	INSULATION CLASS	OVERLOAD PROTECTION	CABLE			PERFORMANCE DATA AT RATING POINT		RESISTANCE AT 20°C OHMS	* Symbols								
HP	KW		VOLTAGE V	CURRENT A	SPEED R.P.M.				TYPE	No. OF COND	mm ²	AWG	LENGTH Ft.			EFFICIENCY %	POWER FACTOR %						
½	0.4	THREE	208/230	2.5/2.2	3345/3410	10.2/11.3	H	BUILT-IN OVERLOAD PROTECTION (AUTO CUT)	2PHCT	4	2.0	#14	33	56.3/57.1	89.6/90.6	10.41	MA						
			460	1.1	3390	5.3								57.1	89.7	44.2							
208/230	4.2/3.6	3355/3420	17.7/20.5	64.7/65.8	89.4/86.7	5.57																	
460	1.8	3395	9.0	67.0	87.9	22.7																	
2	1.5	THREE	208/230	6.2/6.0	3410/3450	40.0/44.6					F	BUILT-IN OVERLOAD PROTECTION (AUTO CUT)		2PHCT	4	2.0		#14	33	71.6/67.9	93.7/92.3	2.70	EB
			460	3.0	3450	22.3														67.9	92.1	12.0	
3	2.2	THREE	208/230	9.0/8.6	3470/3490	54.0/61.0	F	BUILT-IN OVERLOAD PROTECTION (AUTO CUT)	2PHCT	4	5.5	#10	33	74.4/73.5	91.0/87.1	1.36	EB						
			460	4.3	3490	30.5								73.5	87.1	4.89							
5	3.7	THREE	208/230	15.0/14.6	3505/3520	118/132	F	BUILT-IN OVERLOAD PROTECTION (AUTO CUT)	2PHCT	4	5.5	#10	33	76.0/74.3	90.0/85.5	0.563	EB						
			460	7.3	3520	66.0								75.0	84.7	2.04							

* Ref. data Mfr.'s Symbols



EBARA Submersible Pumps

DSU, DVSU, DSHU, DVSHU

Motor Power Cable

Project: _____ Model: _____ Chk'd: _____ Date: _____

2 Pole Motor Specification — Models DSU, DVSU

OUTPUT		PHASE	VOLTAGE V	GAUGE	NUMBER OF COND	DETAILS OF CONDUCTOR		INSULATOR THICKNESS mm	SHEATH THICKNESS mm	CABLE O.D. mm	CONDUCTOR RESISTANCE at (20°C)Ω/km	MAX CABLE LENGTH Ft
HP	KW					QTY/Dia of WIRE PCS/mm	DIAMETER mm					
3	2.2	THREE	208/230	2.0	4	37/0.26	1.8	0.8	1.9	12.5	10.2	125
			460									499
			575									950
5	3.7	THREE	208/230	2.0	4	37/0.26	1.8	0.8	1.9	12.5	10.2	95
			460									380
			575									810
7½	5.5	THREE	208/230	3.5	4	45/0.32	2.5	0.8	2.0	14.5	5.54	118
			460									472
			575									810
10	7.5	THREE	208/230	5.5	4	70/0.32	3.1	1.0	2.1	17.0	3.56	121
			460									485
			575									810

2 Pole Motor Specification — Models DSHU, DVSHU

OUTPUT		PHASE	VOLTAGE V	GAUGE	NUMBER OF COND	DETAILS OF CONDUCTOR		INSULATOR THICKNESS mm	SHEATH THICKNESS mm	CABLE O.D. mm	CONDUCTOR RESISTANCE at (20°C)Ω/km	MAX CABLE LENGTH Ft
HP	KW					QTY/Dia of WIRE PCS/mm	DIAMETER mm					
½	0.4	THREE	208/230	2.0	4	37/0.26	1.8	0.8	1.9	12.3	10.2	460
			460									1840
			575									2850
1	0.75	THREE	208/230	2.0	4	37/0.26	1.8	0.8	1.9	12.3	10.2	260
			460									1050
			575									1640
2	1.5	THREE	208/230	2.0	4	37/0.26	1.8	0.8	1.9	13.5	10.2	130
			460									525
			575									820
3	2.2	THREE	208/230	5.5	4	70/0.32	3.1	1.0	2.2	18.2	3.56	310
			460									1240
			575									1944
5	3.7	THREE	208/230	5.5	4	70/0.32	3.1	1.0	2.2	18.2	3.56	145
			460									580
			575									901



EBARA Submersible Pumps

DSU, DVSU, DSHU, DVSHU

Motor Wiring Diagram

Project:

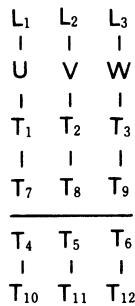
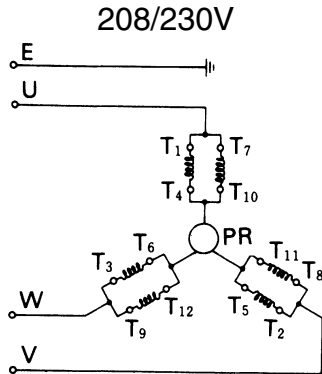
Model:

Chk'd:

Date:

Three Phase

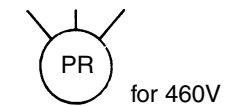
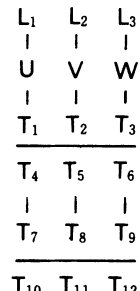
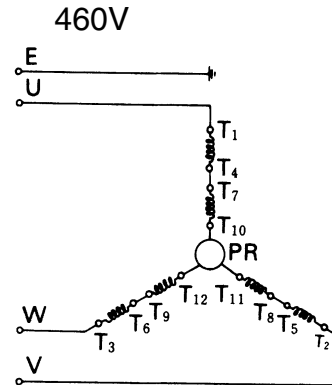
- Model DSU, DVSU



E : GREEN
 U : RED
 V : WHITE
 W : BLACK

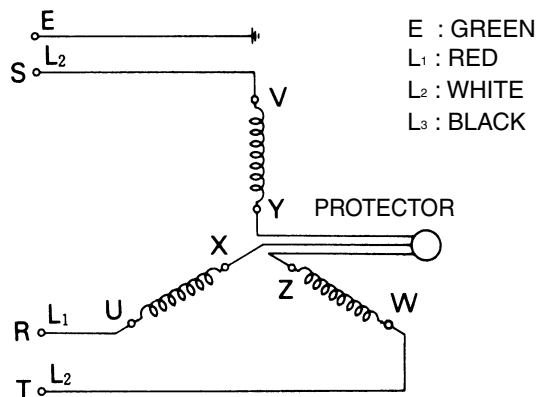
PR : PROTECTOR
 (AUTO-CUT)

L1 : RED
 L2 : WHITE
 L3 : BLACK



Three Phase – Hot Water Type

- Model DSHU, DVSHU



E : GREEN
 L1 : RED
 L2 : WHITE
 L3 : BLACK



EBARA Submersible Pumps

DSU, DVSU, DSHU, DVSHU

Electrical Data

Project: _____ Model: _____ Chk'd: _____ Date: _____

**Model DSHU, DVSHU
1/2 to 5HP, 60Hz, 208/230V**

Name-Plate Rating	Motor Model		HM-KG66	HM-KG66	ZDSNH	ZDSNH	ZDSNH
	Output	HP	1/2	1	2	3	5
		kW	0.4	0.75	1.5	2.2	3.7
	Phase		3	3	3	3	3
	Poles		2	2	2	2	2
	Volts		208/230	208/230	208/230	208/230	208/230
	Amperes		2.5/2.2	4.2/3.6	6.2/6.0	9.0/8.6	15.0/14.6
	Speed		3345/3410	3355/3420	3430/3470	3470/3490	3505/3520
	Insulation Class		H	H	F	F	F
Capacitor µF	Start		—	—	—	—	—
	Run		—	—	—	—	—
No Load Test	Amperes		0.85/1.03	1.3/1.6	2.2/2.5	2.9/3.9	5.5/7.0
	Watts		117/130	151/168	420/490	530/610	830/710
Resistance at 20°C	OHMS		10.41	5.57	2.70	1.36	0.563
100% Load	Current	Amp.	2.5/2.2	4.2/3.6	6.2/6.0	9.0/8.6	15.0/14.6
	Efficiency	%	56.3/57.1	64.7/65.8	71.6/67.9	74.4/73.5	76.0/74.3
	Power Factor	%	89.6/90.6	89.4/86.7	93.7/92.3	91.0/87.1	90.0/85.5
	Speed	RPM	3345/3410	3355/3420	3430/3469	3461/3488	3503/3521
Locked Rotor Torque	%	268/342	252/329	277/342	142/174	256/319	
Locked Rotor Current	Amp.	10.2/11.3	17.7/20.5	40.0/44.6	54.0/61.0	118/132	
Vibration	Micron	20	20	20	20	20	
Noise	Phon (50cm)	60	60	60	60	60	
Number Starts Per Hour		20	20	20	20	20	
Design Standard		NEMA (EQUIVALENT)					
Voltage Tolerance	%	±10					
Frequency Tolerance	%	±5					
(Ref. data Mfr.'s Symbols)		MA	MA	EB	EB	EB	



EBARA Submersible Pumps

DSU, DVSU, DSHU, DVSHU

Electrical Data

Project: _____ Model: _____ Chk'd: _____ Date: _____

**Model DSHU, DVSHU
1/2 to 5HP, 60Hz, 460V**

Name-Plate Rating	Motor Model		HM-KG66	HM-KG66	ZDSNH	ZDSNH	ZDSNH
	Output	HP	1/2	1	2	3	5
		kW	0.4	0.75	1.5	2.2	3.7
	Phase		3	3	3	3	3
	Poles		2	2	2	2	2
	Volts		460	460	460	460	460
	Amperes		1.1	1.8	3.0	4.3	7.3
	Speed		3390	3395	3450	3490	3520
	Insulation Class		H	H	F	F	F
Capacitor µF	Start		—	—	—	—	—
	Run		—	—	—	—	—
No Load Test	Amperes		0.40	0.61	1.3	1.9	3.6
	Watts		74.0	54.0	490	590	970
Resistance at 20°C	OHMS		44.2	22.7	12.0	4.89	2.04
100% Load	Current	Amp.	1.1	1.8	3.0	4.3	7.3
	Efficiency	%	57.1	67.0	67.9	73.5	75.0
	Power Factor	%	89.7	87.9	92.1	87.1	84.7
	Speed	RPM	3390	3395	3469	3488	3521
Locked Rotor Torque		%	288	293	342	174	319
Locked Rotor Current		Amp.	5.3	9.0	22.3	30.5	66.0
Vibration		Micron	20	20	20	20	20
Noise		Phon (50cm)	60	60	60	60	60
Number Starts Per Hour			20	20	20	20	20
Design Standard	NEMA (EQUIVALENT)						
Voltage Tolerance		%	±10				
Frequency Tolerance		%	±5				
(Ref. data Mfr.'s Symbols)			MA	MA	EB	EB	EB



EBARA Submersible Pumps

DSU, DVSU, DSHU, DVSHU

Electrical Data

Project: _____ Model: _____ Chk'd: _____ Date: _____

**Model DSU, DVSU
3 to 10 HP, 60Hz, 208/230V**

Name-Plate Rating	Motor Model		ZDS	ZDS	ZDS	ZDS	
	Output	HP	3	5	7½	10	
		kW	2.2	3.7	5.5	7.5	
	Phase		3	3	3	3	
	Poles		2	2	2	2	
	Volts		208/230	208/230	208/230	208/230	
	Amperes		8.8/8.4	14.6/13.8	20.4/18.4	27.2/24.6	
	Speed		3470/3490	3460/3490	3490/3510	3480/3500	
	Insulation Class		F	F	F	F	
Capacitor µF	Start		—	—	—	—	
	Run		—	—	—	—	
No Load Test	Amperes		2.8/3.7	4.2/5.8	3.5/4.3	4.3/5.2	
	Watts		250/300	450/500	350/400	400/450	
Resistance at 20°C	OHMS		1.36	0.79	0.54	0.36	
100% Load	Current	Amp.	8.80/8.40	14.6/13.8	20.4/18.4	27.2/24.6	
	Efficiency	%	78.7/78.5	78.8/79.2	80.0/80.6	81.7/82.2	
	Power Factor	%	88.1/83.7	89.2/84.9	93.5/93.0	93.5/93.0	
	Speed	RPM	3471/3497	3461/3493	3490/3514	3482/3508	
Locked Rotor Torque	%	143/175	181/223	132/158	124/148		
Locked Rotor Current	Amp.	54/61	93/104	120/136	160/182		
Vibration	Micron	15	15	15	15		
Noise	Phon (50cm)	65	65	65	65		
Number Starts Per Hour		20	20	20	20		
Design Standard		NEMA (EQUIVALENT)					
Voltage Tolerance	%	±10					
Frequency Tolerance	%	± 5					
(Ref. data Mfr.'s Symbols)		EB	EB	EB	EB		



EBARA Submersible Pumps

DSU, DVSU, DSHU, DVSHU

Electrical Data

Project: _____ Model: _____ Chk'd: _____ Date: _____

**Model DSU, DVSU
3 to 10HP, 60Hz, 460V**

Name-Plate Rating	Motor Model		ZDS	ZDS	ZDS	ZDS	
	Output	HP	3	5	7½	10	
		kW	2.2	3.7	5.5	7.5	
	Phase		3	3	3	3	
	Poles		2	2	2	2	
	Volts		460	460	460	460	
	Amperes		4.2	6.9	9.2	12.3	
	Speed		3490	3490	3510	3500	
	Insulation Class		F	F	F	F	
Capacitor µF	Start		—	—	—	—	
	Run		—	—	—	—	
No Load Test	Amperes		1.85	2.9	2.15	2.6	
	Watts		300	500	400	450	
Resistance at 20°C	OHMS		4.89	2.59	1.85	1.26	
100% Load	Current	Amp.	4.20	6.90	9.20	12.3	
	Efficiency	%	78.5	79.2	80.6	82.2	
	Power Factor	%	83.7	84.9	93.0	93.0	
	Speed	RPM	3497	3493	3514	3508	
Locked Rotor Torque		%	175	223	158	148	
Locked Rotor Current		Amp.	30.5	52	68	91	
Vibration		Micron	15	15	15	15	
Noise		Phon (50cm)	65	65	65	65	
Number Starts Per Hour			20	20	20	20	
Design Standard	NEMA (EQUIVALENT)						
Voltage Tolerance		%					± 10
Frequency Tolerance		%					± 5
(Ref. data Mfr.'s Symbols)			EB	EB	EB	EB	



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