



FLINT & WALLING

Zoeller Family of Water Solutions™

Motor Data and Wire Size Specifications Single and Three Phase Jet/Centrifugal Motors

FW0016
0113
Supersedes
1109

Single Phase Motor Data 60 Hz 3450 RPM(1)

Chart A

Motor Model No.	HP	Motor Voltage	Service Factor	Service Factor Motor AMPS		Locked Rotor Motor AMPS		KVA Code Letter
				115V	230V	115V	230V	
98J103	1/3	115/230	1.75	8.6	4.3	26.0	13.0	K
98L105	1/2	115/230	1.20	8.6	4.3	26.0	13.0	G
98J105, 98S105, 98U105	1/2	115/230	1.60	13.0	6.5	36.0	18.0	K
98L107	3/4	115/230	1.00	13.0	6.5	36.0	18.0	G
98J107, 98S107, 98U107	3/4	115/230	1.50	14.0	7.0	52.0	26.0	K
98H107	3/4	115/230	1.86	18.0	9.0	78.0	39.0	P
98L110	1	115/230	1.12	14.0	7.0	52.0	26.0	H
98J110, 98S110, 98U110	1	115/230	1.40	18.0	9.0	78.0	39.0	L
98H110	1	115/230	1.95	21.0	10.5	98.0	49.0	N
98J115, 98S115	1-1/2	115/230	1.30	21.0	10.5	98.0	49.0	J
98H115	1-1/2	115/230	1.66	25.0	12.5	116.0	58.0	K
98J120, 98S120	2	115/230	1.25	25.0	12.5	116.0	58.0	H
98J630, 98S630	3	230	1.00	-	13.5	-	53.0	D

(1) Thermal Overload Protected - Automatic Reset

Single Phase Motor Data 50 Hz 2875 RPM(1)

Chart B

Motor Model No.	HP	Motor Voltage	Service Factor	Service Factor Motor AMPS		Locked Rotor Motor AMPS		KVA Code Letter
				110V	220V	110V	220V	
98J003	1/3	110/220	1.75	7.6	3.8	44.0	22.0	R
98J005, 98S005	1/2	110/220	1.60	10.0	5.0	48.0	24.0	M
98J007, 98S007	3/4	110/220	1.50	14.4	7.2	64.0	32.0	L
98J010, 98S010	1	110/220	1.40	16.4	8.2	72.0	36.0	K
98J015, 98S015	1-1/2	110/220	1.30	23.6	11.8	104.0	52.0	K
98J820, 98S820	2	220	1.00	-	13.2	-	55.0	H

(1) Thermal Overload Protected - Automatic Reset

Three Phase Motor Data 60/50(2) Hz 3450/2875 RPM

Chart C

Motor Model No.	HP	Motor Voltage	Service Factor	Service Factor Motor AMPS		Locked Rotor Motor AMPS		KVA Code Letter
				230V	460V	230V	460V	
98J305, 98S305	1/2	208-230/460	1.60	3.5	1.75	19.0	9.5	K
98J307, 98S307	3/4	208-230/460	1.50	3.5	1.75	19.0	9.5	K
98J310, 98S310	1	208-230/460	1.40	4.5	2.25	26.9	13.5	K
98J315, 98S315	1-1/2	208-230/460	1.30	5.7	2.85	33.5	16.8	K
98J320, 98S320	2	208-230/460	1.25	7.4	3.70	44.0	22.0	K
98J330, 98S330	3	208-230/460	1.00	9.8	4.90	48.0	24.0	D

(1) 3 HP, 3 phase motors are operable on 60Hz only - 3450 RPM

(2) Thermal Overload Protector - Not Supplied

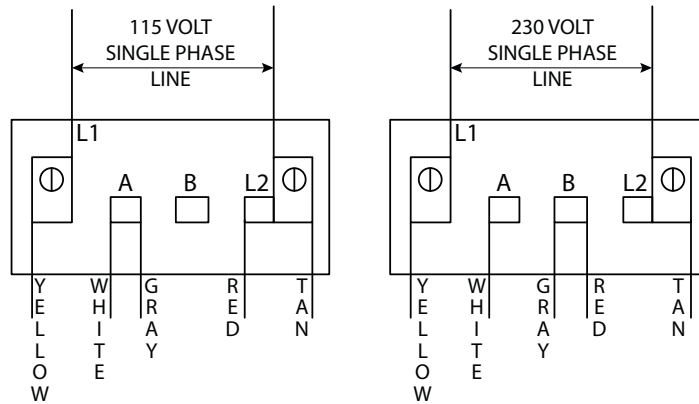
Three phase motors must be installed with a properly sized magnetic or manual starter, both with properly sized heaters. Install starter following the instruction of the starter manufacturer.

Minimum Wire Size Chart (Gauge) - Copper Wire

Chart D

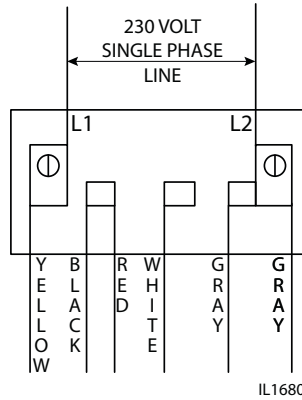
Motor HP	Volts	Phase	Distance in Feet from Motor to Service Panel					Breaker Size (Amps)
			0-50	50-100	100-150	150-200	200-300	
0.33	115/230	1	14/14	14/14	12/14	10/14	8/14	15/15
0.5	115/230	1	14/14	12/14	10/14	8/14	6/12	15/15
0.75	115/230	1	14/14	10/14	8/14	8/14	6/12	15/15
1	115/230	1	12/14	10/14	8/14	6/12	4/10	20/15
1.5	115/230	1	10/14	8/14	6/14	6/12	4/10	30/15
2	115/230	1	10/14	8/14	6/12	4/10	4/10	30/15
3	230	1	12	12	10	10	8	20
0.75	230/460	3	14/14	14/14	14/14	14/14	14/14	15/15
1	230/460	3	14/14	14/14	14/14	14/14	14/14	15/15
1.5	230/460	3	14/14	14/14	14/14	14/14	12/14	15/15
2	230/460	3	14/14	14/14	14/14	12/14	12/14	15/15
3	230/460	3	14/14	14/14	12/14	12/14	10/14	15/15

Maximum 5% voltage drop calculated by conductor resistance in NEC Table 8 and minimum ampacity rating as defined by NEC 430.22



NOTE: Dual voltage motor, change the red and gray wire to voltage required.

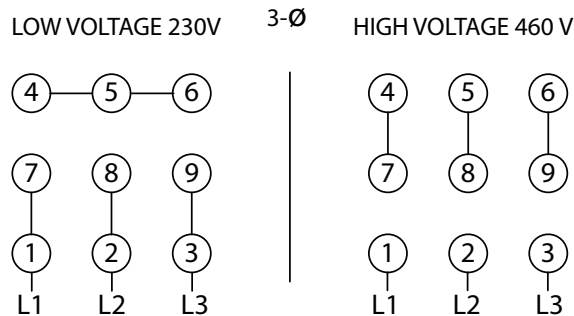
Figure 2 - Wiring Diagram for Single Phase 1/3 - 2 HP Motors



IL1680

NOTE: Single voltage (230V) motor, and cannot be connected to 115V.

Figure 3 - Wiring Diagram for Single Phase 3 HP Motors



IL0770

- | | | |
|------------|------------|------------|
| 1 - Tan | 4 - Yellow | 7 - Purple |
| 2 - Red | 5 - Black | 8 - Gray |
| 3 - Orange | 6 - Blue | 9 - White |

CONNECTION FOR 3 PHASE, 9 LEADS. IF YOUR 3 PHASE LEADS ARE COLOR CODED, MATCH NUMBER ABOVE TO THE CORRESPONDING COLOR.

NOTE: To reverse rotation, interchange any two incoming lines (Power) leads.

Figure 4 - Wiring Diagram for Three Phase Motors