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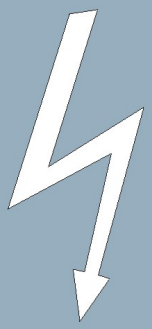
External Fuse and Wire Sizes—For Milnor Machines



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Grounding

Ground machine to an earth ground (zero potential). Use a ground wire of at least as large a gauge as that required for incoming power; do not rely on conduit, machine anchorage, etc. Connect the ground wire between the ground lug on the incoming power junction box on the machine and the external disconnect box or other location as required to assure a reliable earth ground.

Fuse Sizing

Size external fuses per the *external fuse and wire size table* in the schematic manual. The recommended fuse sizes are per National Electric Code (NEC) section 430-52, exception No. 2 Part B, as follows:

The rating of a time-delay (dual-element) fuse shall be permitted to be increased, but shall in no case exceed 225 percent of the full-load current.

⚠ CAUTION ⚠

UNSAFE OPERATION AND MACHINE DAMAGE HAZARDS—Correct fuse must be used. An extract motor may take up to two minutes to accelerate the basket to full speed, during which time the motor draws nearly locked rotor current. All motors on dryers and membrane presses may run at the same time requiring fusing for the whole group.

☞ **NEVER use fuses other than those specified in the tables in the schematic manual.**

☞ **Use only Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.**

Circuit Breaker Sizing

If an inverse time circuit breaker is to be used, it should have the same characteristics as FRN/FRS type fuse, which will allow you to use the *Fuse Size* as shown in the table; otherwise, use the *Circuit Breaker Size* shown in B the table. The calculation is per National Electric Code (NEC) section 430-52, exception No. 2 Part C, as follows:

The rating of an inverse time circuit breaker shall be permitted to be increased but shall in no case exceed 400 percent for full-load currents of 100 amperes or less.

Wire Sizing

Size wire as follows:

1. Except as noted in *item 2*, below, size wire per the *external fuse and wire size table* in the schematic manual, for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

2. If an inverse circuit breaker is to be used and local code requires a *larger* wire size than called for by the *external fuse and wire size table*, abide by the local code.

⚠ CAUTION ⚠

UNSAFE OPERATION AND MACHINE DAMAGE HAZARDS—Correct wire size must be used. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) The voltage drop is greatest the instant the motor is energized, thus when highest torque is required.

☞ **Never use wire of a smaller size than called for by the *external fuse and wire size table* in the schematic manual.**

NOTICE

Wire size shown in the *external fuse and wire size table* may sometimes appear to be too small for the fuse/circuit breaker shown. However, the listed wire size is acceptable for the load imposed by the machine and commensurate with the National Electric Code.

Section 1

Washer Extractors and Dye Machines

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS: 30010 G5E, G5X

LARGEST MOTOR = 1.5 HP

VOLT CODE (NOTE 5)	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	5	3	50	FRN10	10	14 / 2.5
62	220	4.5	3	50	FRN10	10	14 / 2.5
71/74	208/240	4	1 or 3	60	FRN10	10	14 / 2.5
82	380	3	3	50	FRS5	5	14 / 2.50
83	380	3	3	60	FRS5	5	14 / 2.50
84	400	3	3	50	FRS5	5	14 / 2.50
85	415	2.5	3	50	FRS5	5	14 / 2.50
88	440	2.5	3	50	FRS5	5	14 / 2.50
96	480	2	3	60	FRS5	5	14 / 2.50
99	600 → 480	1.5	3	60	FRS5	5	14 / 2.50

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.

NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE "FUSE AND WIRE SIZING" for more information.

NOTE 5: Not all voltages available on all models.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS: 30015 C4A, C4T, M4A, M4G, M4J, M4P, M4T

LARGEST MOTOR = .75HP

VOLT CODE (NOTE 5)	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
33	110	14	1	50	FRN20	35	12 / 4.00
37	120	14	1	60	FRN20	35	12 / 4.00
46	200	3.5	3	50	FRN5.6	10	14 / 2.50
55	220	7	1	50	FRN15	25	14 / 2.50
62	220	3	3	50	FRN5.6	10	14 / 2.50
71	208/240	7	1	60	FRN15	25	14 / 2.50
74	208/240	3.3/3	3	60	FRN5.6	10	14 / 2.50
82	380	2	3	50	FRS2.5	6	14 / 2.50
84	400	1.5	3	50	FRS2.5	6	14 / 2.50
96	480	1.5	3	60	FRS2.5	6	14 / 2.50
99	600 → 480	1.2	3	60	FRS2	4	14 / 2.50

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.

NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE "FUSE AND WIRE SIZING" for more information.

NOTE 5: Not all voltages available on all models.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS: 30015 M6G, M6J, M6P, J4P

LARGEST MOTOR = 1.5HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	6	3	50	FRN10	20	14 / 2.50
62	220	5.5	3	50	FRN10	20	14 / 2.50
74	208/240	5	3	60	FRN10	20	14 / 2.50
82	380	3	3	50	FRS06	15	14 / 2.50
84	400	3	3	50	FRS06	15	14 / 2.50
88	440	2.5	3	50	FRS04	6	14 / 2.50
96	480	2.5	3	60	FRS04	6	14 / 2.50
99	600 → 480	2	3	60	FRS04	6	14 / 2.50

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.

NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS: 30015 K5A, K5T, S5A, S5T, S5G, S5J

LARGEST MOTOR = 2HP/.5HP

VOLT CODE (NOTE 5)	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTE 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTE 3, 4) AWG/mm2
46	200	8.5	3	50	FRN20	30	14 / 2.50
62	220	7.7	3	50	FRN20	30	14 / 2.50
71	240	16	1	60	FRN30	60	10 / 6.00
74	208/240	7	3	60	FRN20	30	14 / 2.50
82	380	4.5	3	50	FRS08	15	14 / 2.50
83	380	4.5	3	60	FRS08	15	14 / 2.50
84	400	4.3	3	50	FRS08	15	14 / 2.50
85	415	4.2	3	50	FRS08	15	14 / 2.50
88	440	4	3	50	FRS08	15	14 / 2.50
96	480	3.7	3	60	FRS08	15	14 / 2.50
99	600 → 480	3.0	3	60	FRS06	15	14 / 2.50

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.
NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

NOTE 5: Not all voltages available on all models.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS: 30015 C4E, G5E, G5X, T5E, T5J, T5X 30022 C4E, T5E, T5J, T5X

LARGEST MOTOR = 3.0 HP

VOLT CODE (NOTE 5)	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	7	3	50	FRN15	15	14 / 2.5
62	220	7	3	50	FRN15	15	14 / 2.5
71/74	208/240	7	1 or 3	60	FRN15	15	14 / 2.5
82	380	4.5	3	50	FRS15	15	14 / 2.50
83	380	4.5	3	60	FRS15	15	14 / 2.50
84	400	4.5	3	50	FRS15	15	14 / 2.50
85	415	4.5	3	50	FRS15	15	14 / 2.50
88	440	3.5	3	50	FRS15	15	14 / 2.50
96	480	3.5	3	60	FRS15	15	14 / 2.50
99	600 → 480	3.5	3	60	FRS15	15	14 / 2.50

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.

NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE "FUSE AND WIRE SIZING" for more information.

NOTE 5: Not all voltages available on all models.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS:
30015 V7J
30022 V6J, F8J, F8W, H7J, H8J, J8P, X8J

LARGEST MOTOR = 5.0 HP

VOLT CODE (NOTE 5)	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	7	3	50	FRN20	20	12 / 4.00
62	220	7	3	50	FRN20	20	12 / 4.00
71/74	208/240	7	1 or 3	60	FRN20	20	12 / 4.00
82	380	4.5	3	50	FRS15	15	14 / 2.50
83	380	4.5	3	60	FRS15	15	14 / 2.50
84	400	4.5	3	50	FRS15	15	14 / 2.50
85	415	4.5	3	50	FRS15	15	14 / 2.50
88	440	3.5	3	50	FRS15	15	14 / 2.50
96	480	3.5	3	60	FRS15	15	14 / 2.50
99	600 → 480	3.5	3	60	FRS15	15	14 / 2.50

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.

NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE "FUSE AND WIRE SIZING" for more information.

NOTE 5: Not all voltages available on all models.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS: 30020 C4A, C4T, M4A, M4T, M5G, M5J, M5P; 30022 C4A, C4T, M4A, M4T, M5G, M5J, M5P, M5T

LARGEST MOTOR = 1.5HP

VOLT CODE (NOTE 5)	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	6	3	50	FRN10	20	14 / 2.50
52	208	5.8	3	60	FRN10	20	14 / 2.50
62	220	5.5	3	50	FRN10	20	14 / 2.50
74	240	5	3	60	FRN10	20	14 / 2.50
82	380	3	3	50	FRS06	15	14 / 2.50
83	380	3	3	60	FRS06	15	14 / 2.50
84	400	3	3	50	FRS06	15	14 / 2.50
85	415	3	3	50	FRS06	15	14 / 2.50
88	440	2.5	3	50	FRS04	6	14 / 2.50
96	480	2.5	3	60	FRS04	6	14 / 2.50
99	600 → 480	2	3	60	FRS04	6	14 / 2.50

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.

NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE "FUSE AND WIRE SIZING" for more information.
NOTE 5: Not all voltages available on all models.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS: 30020 M7G, M7J, M7P; 36021 Q6G, Q6J, Q6P; 36026 Q6G, Q6J, Q6P; 42026 Q4G, Q4J, Q4P

LARGEST MOTOR = 2 HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	7.8	3	50	FRN20	30	12 / 4.00
52	208	7.5	3	60	FRN20	30	12 / 4.00
62	220	7.0	3	50	FRN20	30	12 / 4.00
66	220	7.0	3	60	FRN20	30	12 / 4.00
74	240	6.5	3	60	FRN20	25	12 / 4.00
81	346	4.5	3	50	FRS15	20	14 / 2.50
82	380	4.0	3	50	FRS15	15	14 / 2.50
83	380	3.9	3	60	FRS15	15	14 / 2.50
84	400	3.7	3	50	FRS15	15	14 / 2.50
85	415	3.6	3	50	FRS15	15	14 / 2.50
88	440	3.4	3	50	FRS15	15	14 / 2.50
94	440	3.4	3	60	FRS15	15	14 / 2.50
96	480	3.1	3	60	FRS15	15	14 / 2.50
* 98	600	2.5	3	60	FRS15	15	14 / 2.50

*** Not applicable for 3020 M7G, M7J, M7P.**

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.

NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS: 30022 K5A, K5T, S5A, S5G, S5J, S5T

LARGEST MOTOR = 3HP/.6HP

VOLT CODE (NOTE 5)	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTE 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTE 3, 4) AWG/mm2
46	200	11	3	50	FRN20	30	12 / 4.00
62	220	10	3	50	FRN20	30	12 / 4.00
74	208/240	9	3	60	FRN20	30	12 / 4.00
82	380	5.8	3	50	FRS15	15	14 / 2.50
83	380	5.8	3	60	FRS15	15	14 / 2.50
84	400	5.4	3	50	FRS15	15	14 / 2.50
85	415	5.2	3	50	FRS15	15	14 / 2.50
88	440	4.9	3	50	FRS15	15	14 / 2.50
96	480	4.5	3	60	FRS15	15	14 / 2.50
99	600 → 480	3.6	3	60	FRS08	15	14 / 2.50

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.
NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

NOTE 5: Not all voltages available on all models.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTOR: 36021F8P

LARGEST MOTOR = 7.5 HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	18.5	3	50	FRN30	35	10 / 6.00
52	208	17.8	3	60	FRN30	35	10 / 6.00
62	220	16.8	3	50	FRN25	30	10 / 6.00
66	220	16.8	3	60	FRN25	30	10 / 6.00
74	240	15.4	3	60	FRN25	30	10 / 6.00
81	346	10.7	3	50	FRS15	20	14 / 2.50
82	380	9.7	3	50	FRS15	20	14 / 2.50
83	380	9.7	3	60	FRS15	20	14 / 2.50
84	400	9.3	3	50	FRS15	20	14 / 2.50
85	415	8.9	3	50	FRS15	15	14 / 2.50
88	440	8.4	3	50	FRS15	15	14 / 2.50
94	440	8.4	3	60	FRS15	15	14 / 2.50
96	480	7.7	3	60	FRS15	15	14 / 2.50
98	600	6.2	3	60	FRS15	15	14 / 2.50

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.

NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS: 36021 Q4G, Q4J, Q4P; 36026 Q4G, Q4J, Q4P

LARGEST MOTOR = 1.5 HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	6	3	50	FRN15	25	14 / 2.50
52	208	5.75	3	60	FRN15	25	14 / 2.50
62	220	5.4	3	50	FRN15	20	14 / 2.50
66	220	5.4	3	60	FRN15	20	14 / 2.50
74	240	5	3	60	FRN15	20	14 / 2.50
81	346	3.5	3	50	FRS15	15	14 / 2.50
82	380	3.2	3	50	FRS15	15	14 / 2.50
83	380	3.2	3	60	FRS15	15	14 / 2.50
84	400	3	3	50	FRS15	15	14 / 2.50
85	415	2.9	3	50	FRS15	15	14 / 2.50
88	440	2.7	3	50	FRS15	15	14 / 2.50
94	440	2.7	3	60	FRS15	15	14 / 2.50
96	480	2.5	3	60	FRS15	15	14 / 2.50
98	600	2.0	3	60	FRS15	15	14 / 2.50

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.
NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS: 36021 BWP, CPE, NSP, Q7G, Q7J, Q7P; 36026 Q7G, Q7J, Q7P; 42026 Q6G, Q6J, Q6P

LARGEST MOTOR = 3 HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	11	3	50	FRN25	45	10 / 6.00
52	208	10.5	3	60	FRN25	45	10 / 6.00
62	220	10	3	50	FRN25	40	10 / 6.00
66	220	10	3	60	FRN25	40	10 / 6.00
74	240	9	3	60	FRN25	35	10 / 6.00
81	346	6.5	3	50	FRS15	25	14 / 2.50
82	380	6	3	50	FRS15	25	14 / 2.50
83	380	6	3	60	FRS15	25	14 / 2.50
84	400	5.5	3	50	FRS15	20	14 / 2.50
85	415	5.3	3	50	FRS15	20	14 / 2.50
88	440	5	3	50	FRS15	20	14 / 2.50
94	440	5	3	60	FRS15	20	14 / 2.50
96	480	4.6	3	60	FRS15	20	14 / 2.50
98	600	3.7	3	60	FRS15	15	14 / 2.50

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.
NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE "FUSE AND WIRE SIZING" for more information.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS:
36021 V5J
36026 V5J

LARGEST MOTOR: 36021V5J = 7.5 HP, 36026V5J = 10 HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	9	3	50	FRN20	20	12 / 4.00
52	208	9	3	60	FRN20	20	12 / 4.00
62	220	9	3	50	FRN20	20	12 / 4.00
66	220	9	3	60	FRN20	20	12 / 4.00
74	240	9	3	60	FRN20	20	12 / 4.00
81	346	5.7	3	50	FRS15	15	14 / 2.50
82	380	5.7	3	50	FRS15	15	14 / 2.50
83	380	5.7	3	60	FRS15	15	14 / 2.50
84	400	5.7	3	50	FRS15	15	14 / 2.50
85	415	4.5	3	50	FRS15	15	14 / 2.50
88	440	4.5	3	50	FRS15	15	14 / 2.50
94	440	4.5	3	60	FRS15	15	14 / 2.50
96	480	4.5	3	60	FRS15	15	14 / 2.50
98	600	4.5	3	60	FRS15	15	14 / 2.50

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.
NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE "FUSE AND WIRE SIZING" for more information.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS: 36026 V7J, 42026 V6J

LARGEST MOTOR = 10 HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	11	3	50	FRN30	30	10 / 6.00
52	208	11	3	60	FRN30	30	10 / 6.00
62	220	11	3	50	FRN30	30	10 / 6.00
66	220	11	3	60	FRN30	30	10 / 6.00
74	240	11	3	60	FRN30	30	10 / 6.00
81	346	7	3	50	FRS15	15	14 / 2.50
82	380	7	3	50	FRS15	15	14 / 2.50
83	380	7	3	60	FRS15	15	14 / 2.50
84	400	7	3	50	FRS15	15	14 / 2.50
85	415	7	3	50	FRS15	15	14 / 2.50
88	440	5.5	3	50	FRS15	15	14 / 2.50
94	440	5.5	3	60	FRS15	15	14 / 2.50
96	480	5.5	3	60	FRS15	15	14 / 2.50
98	600	5.5	3	60	FRS15	15	14 / 2.50

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.
NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS:
36026 X8J
36030 F8J, F8W, F8P, F8S, J8P

LARGEST MOTOR = 10HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm
46	200	30	3	50	FRN40	40	10 / 6.00
52	208	29	3	60	FRN40	40	10 / 6.00
62	220	28	3	50	FRN40	40	10 / 6.00
66	220	28	3	60	FRN40	40	10 / 6.00
74	240	26	3	60	FRN40	40	10 / 6.00
81	346	20	3	50	FRS25	25	12 / 4.00
82	380	18	3	50	FRS25	25	12 / 4.00
83	380	18	3	60	FRS25	25	12 / 4.00
84	400	18	3	50	FRS25	25	12 / 4.00
85	415	17	3	50	FRS25	25	12 / 4.00
88	440	17	3	50	FRS20	20	12 / 4.00
94	440	17	3	60	FRS20	20	12 / 4.00
96	480	17	3	60	FRS20	20	12 / 4.00
99	600 → 480	17	3	60	FRS20	20	12 / 4.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.
NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE "FUSE AND WIRE SIZING" for more information.

EXTERNAL FUSE AND WIRE SIZES FOR DYE MACHINE: 42026 P5A

LARGEST MOTOR = 7.5HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
52	208	32	3	60	FRN50	50	08 / 10.00
62	220	30	3	50	FRN50	50	08 / 10.00
74	240	28	3	60	FRN50	50	08 / 10.00
82	380	18	3	50	FRS30	30	10 / 6.00
84	400	17	3	50	FRS30	30	10 / 6.00
96	480	14	3	60	FRS25	25	10 / 6.00
98	600	11	3	60	FRS20	20	12 / 4.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.

NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS: 42026 QHP,QTL,QTN; 42031 CP2, CP3, NP2, NP3, SP2, SP3, WP2, WP3

LARGEST MOTOR = 5HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	17.5	3	50	FRN35	70	10 / 6.00
52	208	17	3	60	FRN35	70	10 / 6.00
62	220	16	3	50	FRN35	70	10 / 6.00
74	240	14.5	3	60	FRN30	60	10 / 6.00
81	346	10	3	50	FRS25	40	14 / 2.50
82	380	9	3	50	FRS20	35	14 / 2.50
83	380	9	3	60	FRS20	35	14 / 2.50
84	400	9	3	50	FRS17.5	35	14 / 2.50
85	415	8.5	3	50	FRS17.5	35	14 / 2.50
88	440	8	3	50	FRS17.5	35	14 / 2.50
96	480	7	3	60	FRS15	30	14 / 2.50
98	600	6	3	60	FRS15	25	14 / 2.50

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.

NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED —Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS: 42032 F7J, F7P, F7S, F7W, J7P, F8S

LARGEST MOTOR = 15HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	41	3	50	FRN50	50	08 / 10.00
52	208	40	3	60	FRN50	50	08 / 10.00
62	220	38	3	50	FRN50	50	08 / 10.00
66	220	38	3	60	FRN50	50	08 / 10.00
74	240	35	3	60	FRN50	50	08 / 10.00
81	346	25	3	50	FRS30	30	10 / 6.00
82	380	23	3	50	FRS30	30	10 / 6.00
83	380	23	3	60	FRS30	30	10 / 6.00
84	400	22	3	50	FRS30	30	10 / 6.00
85	415	21	3	50	FRS25	25	10 / 6.00
88	440	20	3	50	FRS25	25	10 / 6.00
94	440	20	3	60	FRS25	25	10 / 6.00
96	480	19	3	50	FRS25	25	10 / 6.00
99	600 → 480	19	3	60	FRS25	25	10 / 6.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.
NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE "FUSE AND WIRE SIZING" for more information.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS: 42044 CP2, CP3, NP2, NP3, SP2, SP3, WP2, WP3

LARGEST MOTOR = 7.5HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	25	3	50	FRN60	100	08 / 10.00
52	208	24	3	60	FRN50	100	08 / 10.00
62	220	23	3	50	FRN50	90	08 / 10.00
66	220	23	3	60	FRN50	90	08 / 10.00
74	240	21	3	60	FRN45	80	08 / 10.00
81	346	14.5	3	50	FRS30	60	10 / 6.00
82	380	13	3	50	FRS30	60	10 / 6.00
83	380	13	3	60	FRS30	60	10 / 6.00
84	400	12.5	3	50	FRS30	50	10 / 6.00
85	415	12	3	50	FRS25	50	10 / 6.00
88	440	11.5	3	50	FRS25	45	10 / 6.00
94	440	11.5	3	60	FRS25	45	10 / 6.00
96	480	10.5	3	60	FRS25	40	12 / 4.00
98	600	8.5	3	60	FRS20	35	12 / 4.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.
NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS:
48032 BHP, BTL, BTN;
48036 QHP, QTL, QTN, J6L, J6N, J6P;
DYE MACHINES:
48036 D6A, D6L, D6N, P6A, P6L, P6N

LARGEST MOTOR = 10HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	32	3	50	FRN70	125	08 / 10.00
52	208	31	3	60	FRN70	125	08 / 10.00
62	220	29	3	50	FRN60	125	08 / 10.00
66	220	29	3	60	FRN60	125	08 / 10.00
74	240	26	3	60	FRN60	100	08 / 10.00
81	346	18.5	3	50	FRS40	70	10 / 6.00
82	380	17	3	50	FRS35	70	10 / 6.00
83	380	17	3	60	FRS35	70	10 / 6.00
84	400	16	3	50	FRS35	70	10 / 6.00
85	415	15.5	3	50	FRS35	60	10 / 6.00
88	440	14.5	3	50	FRS30	60	10 / 6.00
94	440	14.5	3	60	FRS30	60	10 / 6.00
96	480	13.5	3	60	FRS30	50	10 / 6.00
98	600	11	3	60	FRS25	45	12 / 4.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.
NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE "FUSE AND WIRE SIZING" for more information.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS: 48040 F7J, F7B, F7N, F7W

LARGEST MOTOR = 25HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	63	3	50	FRN75	75	04 / 25.00
52	208	62	3	60	FRN75	75	04 / 25.00
62	220	60	3	50	FRN75	75	04 / 25.00
66	220	60	3	60	FRN75	75	04 / 25.00
74	240	59	3	60	FRN75	75	04 / 25.00
81	346	34	3	50	FRS50	50	8 /10 .00
82	380	33	3	50	FRS50	50	8 / 10.00
83	380	33	3	60	FRS50	50	8 /10 .00
84	400	33	3	50	FRS50	50	8 /10.00
85	415	33	3	50	FRS50	50	8 /10 .00
88	440	32	3	50	FRS50	50	8 /10 .00
94	440	32	3	60	FRS50	50	8 /10 .00
96	480	32	3	50	FRS50	50	8 /10 .00
99	600 → 480	32	3	60	FRS50	50	8 /10 .00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.
NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE "FUSE AND WIRE SIZING" for more information.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS: 52038 WP1, WTL, WTN; 72058 J2N

LARGEST MOTOR = 15HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	48	3	50	FRN100	200	06 / 16.00
52	208	46.5	3	60	FRN100	200	06 / 16.00
62	220	44	3	50	FRN90	175	06 / 16.00
66	220	44	3	60	FRN90	175	06 / 16.00
74	240	40	3	60	FRN90	175	06 / 16.00
81	346	28	3	50	FRS60	110	08 / 10.00
82	380	25.5	3	50	FRS60	100	08 / 10.00
83	380	24	3	60	FRS60	100	08 / 10.00
84	400	24	3	50	FRS50	100	08 / 10.00
85	415	23	3	50	FRS50	90	10 / 6.00
88	440	22	3	50	FRS45	90	10 / 6.00
94	440	22	3	60	FRS45	90	10 / 6.00
96	480	20	3	60	FRS45	80	10 / 6.00
98	600	16	3	60	FRS35	70	10 / 6.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.
NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS: 60044 SP2/SP3, WP2/WP3; 64040 E6N; 64042 BHP, BTL/BTN, D6A/D6L/D6N; 64046 D6N, E6N, J6N, T6N; 64050 E6N; 72044 D6A/D6L/D6N, SP2/SP3, WP1/WP2/WP3, WTL/WTN; 72046 D5N, E5N, J5N, T5N

LARGEST MOTOR = 20 HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	62	3	50	FRN110	225	04 / 25.00
52	208	60	3	60	FRN110	200	04 / 25.00
62	220	56.5	3	50	FRN100	200	04 / 25.00
66	220	56.5	3	60	FRN100	200	04 / 25.00
74	240	51.5	3	60	FRN100	200	06 / 16.00
81	346	36	3	50	FRS70	125	08 / 10.00
82	380	33	3	50	FRS60	125	08 / 10.00
83	380	33	3	60	FRS60	125	08 / 10.00
84	400	31	3	50	FRS60	125	08 / 10.00
85	415	30	3	50	FRS60	100	08 / 10.00
88	440	28	3	50	FRS50	100	08 / 10.00
94	440	28	3	60	FRS50	100	08 / 10.00
96	480	26	3	60	FRS50	90	08 / 10.00
98	600	21	3	60	FRS40	70	08 / 10.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.
NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS: 68036 F5N

LARGEST MOTOR = 40 HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	62	3	50	FRN110	225	04 / 25.00
52	208	60	3	60	FRN110	200	04 / 25.00
62	220	56.5	3	50	FRN100	200	04 / 25.00
66	220	56.5	3	60	FRN100	200	04 / 25.00
74	240	51.5	3	60	FRN100	200	06 / 16.00
81	346	36	3	50	FRS70	125	08 / 10.00
82	380	33	3	50	FRS60	125	08 / 10.00
83	380	33	3	60	FRS60	125	08 / 10.00
84	400	31	3	50	FRS60	125	08 / 10.00
85	415	30	3	50	FRS60	100	08 / 10.00
88	440	28	3	50	FRS50	100	08 / 10.00
94	440	28	3	60	FRS50	100	08 / 10.00
96	480	26	3	60	FRS50	90	08 / 10.00
98	600	21	3	60	FRS40	70	08 / 10.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.
NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTORS: 72058J2N, 72075J2N

LARGEST MOTOR = 15HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG / mm^2
46	200	48	3	50	FRN100	100	06 / 16.00
52	208	46.5	3	60	FRN100	100	06 / 16.00
62	220	44	3	50	FRN90	90	06 / 16.00
66	220	44	3	60	FRN90	90	06 / 16.00
74	240	40	3	60	FRN90	90	06 / 16.00
81	346	28	3	50	FRS60	60	08 / 10.00
82	380	25.5	3	50	FRS60	60	08 / 10.00
83	380	24	3	60	FRS60	60	08 / 10.00
84	400	24	3	50	FRS50	50	08 / 10.00
85	415	23	3	50	FRS50	50	10 / 6.00
88	440	22	3	50	FRS45	45	10 / 6.00
94	440	22	3	60	FRS45	45	10 / 6.00
96	480	20	3	60	FRS45	45	10 / 6.00
98	600	16	3	60	FRS35	35	10 / 6.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.
NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR WASHER EXTRACTOR: 72058 J5N

LARGEST MOTOR = 30 HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	92	3	50	FRN200	375	2 / 35.00
52	208	89	3	60	FRN200	350	2 / 35.00
62	220	84	3	50	FRN200	350	3 / 35.00
66	220	84	3	60	FRN200	350	3 / 35.00
74	240	77	3	60	FRN175	300	3 / 35.00
81	346	53	3	50	FRS125	200	6 / 16.00
82	380	49	3	50	FRS110	200	6 / 16.00
83	380	49	3	60	FRS110	200	6 / 16.00
84	400	46	3	50	FRS110	200	6 / 16.00
85	415	45	3	50	FRS110	200	6 / 16.00
88	440	42	3	50	FRS100	175	8 / 10.00
94	440	42	3	60	FRS100	175	8 / 10.00
96	480	39	3	60	FRS90	150	8 / 10.00
98	600	31	3	60	FRS70	125	10 / 6.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.
NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE "FUSE AND WIRE SIZING" for more information.

Section 2

Continuous Batch Washers

EXTERNAL FUSE AND WIRE SIZES FOR CONTINUOUS BATCH WASHERS WITH THREE HORSEPOWER MOTORS

Explanation of Run Amps

The published RUN AMPS is calculated based on all drive motors fully loaded and up to speed, all five .75 horse-power motors (four pumps and a CONLO loading conveyor) fully loaded and up to speed, and 3 KVA of control power. Since neither the motors nor the control power are fully loaded, the measured RUN AMPS will be 20% to 30% below these published values.

NUMBER OF MODULES	VOLTAGE	200	208	220	240	346	380	400	415	440	480	600
3	FUSE/Circuit Breaker	70	70	70	60	50	40	40	40	40	30	25
	WIRE(AWG)	4	4	4	4	6	8	8	8	8	8	10
	WIRE(mm^2)	25.00	25.00	25.00	25.00	16.0	10.0	10.0	10.0	10.0	10.0	6.00
	RUN AMPS	64	61	58	54	38	34	31	31	29	26	21
4	FUSE/Circuit Breaker	80	80	80	70	50	50	40	40	40	40	30
	WIRE(AWG)	3	3	3	4	6	6	6	6	8	8	8
	WIRE(mm^2)	35.00	35.00	35.00	25.00	16.0	16.0	16.0	16.0	10.0	10.0	10.0
	RUN AMPS	75	72	68	63	44	40	37	36	34	31	25
5	FUSE/Circuit Breaker	100	100	90	90	60	60	50	50	50	50	40
	WIRE(AWG)	3	3	3	3	6	6	6	6	6	8	8
	WIRE(mm^2)	35.00	35.00	35.00	35.00	16.0	16.0	16.0	16.0	16.0	10.0	10.0
	RUN AMPS	86	83	78	72	50	46	43	41	39	36	29
6	FUSE/CircuitBreaker	125	110	100	100	70	60	60	60	50	50	40
	WIRE(AWG)	1	1	1	2	4	4	4	4	6	6	8
	WIRE(mm^2)	50.00	50.00	50.00	35.00	25.0	25.0	25.0	25.0	16.0	16.0	10.0
	RUN AMPS	97	94	88	81	56	52	49	46	44	41	33
7	FUSE/Circuit Breaker	125	125	125	110	70	70	70	60	60	60	50
	WIRE(AWG)	0	0	1	1	4	4	4	4	4	4	6
	WIRE(mm^2)	70.00	70.0	50.0	50.0	25.0	25.0	25.0	25.0	25.0	25.0	16.0
	RUN AMPS	108	105	98	90	62	58	55	51	49	46	37
8	FUSE/Circuit Breaker	150	150	125	110	80	70	70	70	60	60	50
	WIRE(AWG)	0	0	0	1	3	3	4	4	4	4	6
	WIRE(mm^2)	70.0	70.0	70.0	50.0	35.0	35.0	25.0	25.0	25.0	25.0	16.0
	RUN AMPS	119	116	108	99	68	64	61	56	54	51	41
9	FUSE/Circuit Breaker	150	150	150	125	90	80	80	70	70	70	50
	WIRE(AWG)	0	0	0	0	3	3	3	3	4	4	4
	WIRE(mm^2)	70.00	70.0	70.0	70.0	35.0	35.0	35.0	35.0	25.0	25.0	25.0
	RUN AMPS	130	127	118	108	74	70	67	61	59	56	45

NUMBER OF MODULES	VOLTAGE	200	208	220	240	346	380	400	415	440	480	600
10	FUSE/Circuit Breaker WIRE(AWG) WIRE(mm^2) RUN AMPS	175 00 70.00 141	175 00 70.0 138	150 0 70.00 128	150 0 70.0 117	90 3 35.0 80	90 3 35.0 76	80 3 35.0 73	80 3 35.0 66	70 3 35.0 64	70 4 25.0 61	60 4 25.0 49
11	FUSE/Circuit Breaker WIRE(AWG) WIRE(mm^2) RUN AMPS	175 00 70.00 152	175 00 70.0 149	150 00 70.0 138	150 00 70.0 126	100 3 35.0 86	90 3 35.0 82	90 3 35.0 79	80 3 35.0 71	80 3 35.0 69	80 3 35.0 66	60 4 25.0 53
12	FUSE/Circuit Breaker WIRE(AWG) WIRE(mm^2) RUN AMPS	175 000 95.00 163	175 000 95.00 160	175 000 95.00 148	150 00 70.0 135	100 2 35.0 92	100 2 35.0 88	100 2 35.0 85	90 3 35.0 76	90 3 35.0 74	80 3 35.0 71	70 4 25.0 57
13	FUSE/Circuit Breaker WIRE(AWG) WIRE(mm^2) RUN AMPS	200 000 95.00 174	200 000 95.00 171	175 000 95.00 158	175 00 70.0 144	110 2 35.0 98	110 2 35.0 94	100 2 35.0 91	90 2 35.0 81	90 3 35.0 79	90 3 35.0 76	70 4 25.0 61
14	FUSE/Circuit Breaker WIRE(AWG) WIRE(mm^2) RUN AMPS	200 000 95.00 185	200 000 95.00 182	200 000 95.00 168	175 000 95.00 153	125 1 50.0 104	110 1 50.0 100	110 1 50.0 97	100 2 35.0 86	90 2 35.0 84	90 3 35.0 81	70 4 25.0 65
15	FUSE/Circuit Breaker WIRE(AWG) WIRE(mm^2) RUN AMPS	225 0000 120.00 196	225 0000 120.00 193	200 0000 120.00 178	175 000 95.00 162	125 1 50.0 110	125 1 50.0 106	110 1 50.0 103	100 1 50.0 91	100 2 35.0 89	100 2 35.0 86	80 3 35.0 69
16	FUSE/Circuit Breaker WIRE(AWG) WIRE(mm^2) RUN AMPS	225 0000 120.00 207	225 0000 120.00 204	200 0000 120.00 188	200 000 95.00 171	125 0 70.0 116	125 0 70.0 112	125 1 50.0 109	110 1 50.0 96	100 1 50.0 94	100 2 35.0 91	80 3 35.0 74
17	FUSE/Circuit Breaker WIRE(AWG) WIRE(mm^2) RUN AMPS	225 300MCM 185.00 218	225 300MCM 185.00 215	225 250MCM 150.00 198	200 0000 120.00 180	150 00 70.0 122	125 0 70.0 118	125 0 70.0 115	110 1 50.0 101	110 1 50.0 99	100 1 50.0 96	90 3 35.0 79
18	FUSE/Circuit Breaker WIRE(AWG) WIRE(mm^2) RUN AMPS	250 300MCM 185.00 229	250 300MCM 185.00 226	225 300MCM 185.00 208	200 250MCM 150.00 190	150 00 70.0 128	150 00 70.0 124	125 00 70.0 121	110 0 70.0 106	110 0 70.0 104	110 1 50.0 101	90 2 35.0 84
19	FUSE/Circuit Breaker WIRE(AWG) WIRE(mm^2) RUN AMPS	250 300MCM 185.00 240	250 300MCM 185.00 237	225 300MCM 185.00 218	225 250MCM 150.00 200	150 00 70.0 134	150 00 70.0 130	150 00 70.0 127	125 0 70.0 111	125 0 70.0 109	110 0 70.0 106	100 2 35.0 89
20	FUSE/Circuit Breaker WIRE(AWG) WIRE(mm^2) RUN AMPS	275 350MCM 185.00 251	275 350MCM 185.00 248	250 300MCM 185.00 228	225 250MCM 150.00 210	150 00 70.0 140	150 00 70.0 136	150 00 70.0 133	125 0 70.0 116	125 0 70.0 114	125 0 70.0 111	100 2 35.0 94

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Use only Bussmann fusetron KTN (up to 250 volts), KTS (250 to 600 volts), or similar lag type fuses, or inverse time circuit breakers.

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Use the wire size shown for runs up to 50 feet (15 meters). Use the next larger size for runs of 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters). NEVER use wire of a smaller size than specified above. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes the motor to produce only 90% of its rated torque.) The voltage drop is greatest at the instant the motor is energized, thus when the highest torque is required.

EXTERNAL FUSE AND WIRE SIZES FOR WELDED CONTINUOUS BATCH WASHERS WITH 10 HORSEPOWER PER WELDED GROUP

Explanation of Run Amps

The published RUN AMPS is calculated based on all drive motors fully loaded and up to speed, all five .75 horse-power motors (four pumps and a CONLO loading conveyor) fully loaded and up to speed, and 3 KVA of control power. Since neither the motors nor the control power are fully loaded, the measured RUN AMPS will be 20% to 30% below these published values.

NUMBER OF WELDED GROUPS	VOLTAGE	200	208	220	240	346	380	400	415	440	480	600
1	FUSE	90	90	90	75	60	50	50	50	50	40	30
	Circuit Breaker	110	100	100	90	60	60	60	50	50	50	40
	WIRE (AWG)	6	6	6	6	8	8	8	8	8	8	8
	WIRE (mm^2)	16.0	16.0	16.0	16.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	RUN AMPS	68	66	62	57	40	36	34	33	31	28	23
2	FUSE	125	125	125	110	80	70	70	70	60	60	50
	Circuit Breaker	150	150	150	125	80	80	70	70	70	60	50
	WIRE (AWG)	2	3	3	4	6	6	6	8	8	8	10
	WIRE (mm^2)	35.0	35.0	35.0	25.0	16.0	16.0	16.0	10.0	10.0	10.0	6.0
	RUN AMPS	103	99	94	86	60	54	52	50	47	43	34
3	FUSE	175	175	150	150	100	90	90	80	80	80	60
	Circuit Breaker	175	175	175	150	100	100	90	80	80	80	60
	WIRE (AWG)	0	0	1	1	4	4	4	4	6	6	8
	WIRE (mm^2)	70.0	70.0	50.0	50.0	25.0	25.0	25.0	25.0	16.0	16.0	10.0
	RUN AMPS	140	134	126	116	80	73	70	67	63	58	47
4	FUSE	200	200	175	175	110	100	100	100	90	80	70
	Circuit Breaker	225	200	200	175	125	110	110	100	100	90	70
	WIRE (AWG)	000	00	00	0	2	3	3	3	4	4	6
	WIRE (mm^2)	95.0	70.0	70.0	70.0	35.0	35.0	35.0	35.0	25.0	25.0	16.0
	RUN AMPS	168	161	152	140	97	88	84	81	76	70	56

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Use only Bussmann fusetron KTN (up to 250 volts), KTS (250 to 600 volts), or similar lag type fuses, or inverse time circuit breakers.

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Use the wire size shown for runs up to 50 feet (15 meters). Use the next larger size for runs of 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters). NEVER use wire of a smaller size than specified above. Smaller wire—even though its current—carrying capacity may be greater than the required fuse— may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes the motor to produce only 90% of its rated torque). The voltage drop is greatest at the instant the motor is energized, thus when the highest torque is required.

Explanation of FEEDER TAPS per National Electric Code (NEC) section 430-28

Feeder Conductor	Feeder TAP
0000 AWG (120.0mm^2)	4 AWG (25.0mm^2)
000 AWG (95.0mm^2)	4 AWG (25.0mm^2)
00 AWG (70.0mm^2)	6 AWG (16.0mm^2)
0 AWG (70.0mm^2)	8 AWG (10.0 mm^2)
1 AWG (50.0mm^2)	8 AWG (10.0mm^2)
2 AWG (35.0mm^2)	8 AWG (10.0mm^2)
3 AWG (35.0mm^2)	8 AWG (10.0mm^2)
4 AWG (25.0mm^2)	8 AWG (10.0mm^2)

430 - 28. FEEDER TAPS. Feeder tap conductors shall have an ampacity not less than that required by Part B, shall terminate in a branch-circuit protective device and, in addition, shall have an ampacity of at least one-third that of the feeder conductors, be protected from physical damage and be not more than 25 feet (7.62m) in length.

Section 3

Membrane Press, Single Stage Press and Centrifugal Extractor

EXTERNAL FUSE AND WIRE SIZES FOR SINGLE STAGE PRESS: MP1601CL, CR, L, R

HORSEPOWER GROUP = 13.25

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	32	3	50	FRN70	125	08 / 10.00
52	208	31	3	60	FRN70	125	08 / 10.00
62	220	29	3	50	FRN60	125	08 / 10.00
66	220	29	3	60	FRN60	125	08 / 10.00
74	240	26	3	60	FRN60	100	08 / 10.00
81	346	18.5	3	50	FRS40	70	10 / 6.00
82	380	17	3	50	FRS35	70	10 / 6.00
83	380	17	3	60	FRS35	70	10 / 6.00
84	400	16	3	50	FRS35	70	10 / 6.00
85	415	15.5	3	50	FRS35	60	10 / 6.00
88	440	14.5	3	50	FRS30	60	10 / 6.00
94	440	14.5	3	60	FRS30	60	10 / 6.00
96	480	13.5	3	60	FRS30	50	10 / 6.00
98	600	11	3	60	FRS25	45	12 / 4.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.
NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE "FUSE AND WIRE SIZING" for more information.

EXTERNAL FUSE AND WIRE SIZES FOR SINGLE STAGE PRESS:
MP1602CL, CR, L, R
MP1603CL, CR, L, R

HORSEPOWER GROUP = 18.25

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	70	3	50	FRN100	200	04 / 25.00
52	208	67	3	60	FRN100	200	04 / 25.00
62	220	63	3	50	FRN90	175	04 / 25.00
66	220	63	3	60	FRN90	175	04 / 25.00
74	240	58	3	60	FRN90	175	06 / 16.00
81	346	40	3	50	FRS60	110	08 / 10.00
82	380	37	3	50	FRS60	100	08 / 10.00
83	380	37	3	60	FRS60	100	08 / 10.00
84	400	35	3	50	FRS50	100	08 / 10.00
85	415	34	3	50	FRS50	90	08 / 10.00
88	440	32	3	50	FRS45	90	08 / 10.00
94	440	32	3	60	FRS45	90	08 / 10.00
96	480	29	3	60	FRS45	80	08 / 10.00
98	600	23	3	60	FRS35	70	10 / 6.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.
NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR SINGLE STAGE PRESS: MP1604CL, CR, L, R

HORSEPOWER GROUP = 23.25

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	82	3	50	FRN110	200	03 / 25.00
52	208	79	3	60	FRN110	200	03 / 25.00
62	220	75	3	50	FRN100	175	04 / 25.00
66	220	75	3	60	FRN100	175	04 / 25.00
74	240	70	3	60	FRN100	175	04 / 25.00
81	346	46	3	50	FRS70	110	08 / 10.00
82	380	43	3	50	FRS70	100	08 / 10.00
83	380	43	3	60	FRS70	100	08 / 10.00
84	400	41	3	50	FRS60	100	08 / 10.00
85	415	40	3	50	FRS60	90	08 / 10.00
88	440	38	3	50	FRS50	90	08 / 10.00
94	440	38	3	60	FRS50	90	08 / 10.00
96	480	35	3	60	FRS50	80	08 / 10.00
98	600	29	3	60	FRS40	70	10 / 6.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.
NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE "FUSE AND WIRE SIZING" for more information.

EXTERNAL FUSE AND WIRE SIZES FOR MEMBRANE PRESS: MP2501CL, CR, L, R; MP2601CL, CR, L, R

HORSEPOWER GROUP
Standard = 21.25 HP High Flow = 22.75 HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1) Standard/High Flow	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	66 / 72	3	50	FRN125	150	04 / 25.00
52	208	63 / 70	3	60	FRN125	150	04 / 25.00
62	220	59 / 66	3	50	FRN110	125	04 / 25.00
66	220	59 / 66	3	60	FRN110	125	04 / 25.00
74	240	54 / 60	3	60	FRN100	110	04 / 25.00
81	346	38 / 42	3	50	FRS70	80	06 / 16.00
82	380	34 / 38	3	50	FRS70	80	08 / 10.00
83	380	34 / 38	3	60	FRS70	80	08 / 10.00
84	400	33 / 36	3	50	FRS60	70	08 / 10.00
85	415	31 / 35	3	50	FRS60	70	08 / 10.00
88	440	30 / 33	3	50	FRS60	70	08 / 10.00
94	440	30 / 33	3	60	FRS60	70	08 / 10.00
96	480	27 / 30	3	60	FRS50	60	08 / 10.00
98	600	22 / 24	3	60	FRS40	50	10 / 6.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.
NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified.These motors all run at the same time which requires fusing for the whole group.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR MEMBRANE PRESS: MP2606CL, CR, L, R

HORSEPOWER GROUP 42.75 HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1) High Flow	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	124	3	50	FRN200	300	00 / 70.00
52	208	119	3	60	FRN200	300	0 / 70.00
62	220	113	3	50	FRN200	300	0 / 70.00
66	220	113	3	60	FRN200	300	0 / 70.00
74	240	103	3	60	FRN175	250	01 / 50.00
81	346	72	3	50	FRS125	200	03 / 35.00
82	380	65	3	50	FRS110	175	04 / 25.00
83	380	65	3	60	FRS110	175	04 / 25.00
84	400	62	3	50	FRS110	175	04 / 25.00
85	415	60	3	50	FRS100	150	04 / 25.00
88	440	56	3	50	FRS100	150	04 / 25.00
94	440	56	3	60	FRS100	150	04 / 25.00
96	480	52	3	60	FRS90	150	06 / 16.00
98	600	41	3	60	FRS70	110	06 / 16.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.

NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified.These motors all run at the same time which requires fusing for the whole group.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR SINGLE STAGE PRESS: TP1607CL, CR, L, R

LARGEST MOTOR = 15HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	48	3	50	FRN100	200	06 / 16.00
52	208	46.5	3	60	FRN100	200	06 / 16.00
62	220	44	3	50	FRN90	175	06 / 16.00
66	220	44	3	60	FRN90	175	06 / 16.00
74	240	40	3	60	FRN90	175	06 / 16.00
81	346	28	3	50	FRS60	110	08 / 10.00
82	380	25.5	3	50	FRS60	100	08 / 10.00
83	380	24	3	60	FRS60	100	08 / 10.00
84	400	24	3	50	FRS50	100	08 / 10.00
85	415	23	3	50	FRS50	90	10 / 6.00
88	440	22	3	50	FRS45	90	10 / 6.00
94	440	22	3	60	FRS45	90	10 / 6.00
96	480	20	3	60	FRS45	80	10 / 6.00
98	600	16	3	60	FRS35	70	10 / 6.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.
NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR EXTRACTORS: M7E42AHL, M7E42AHR, M7E42ALL, M7E42ALR

LARGEST MOTOR = 10HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	32	3	50	FRN70	125	08 / 10.00
52	208	31	3	60	FRN70	125	08 / 10.00
62	220	29	3	50	FRN60	125	08 / 10.00
66	220	29	3	60	FRN60	125	08 / 10.00
74	240	26	3	60	FRN60	100	08 / 10.00
81	346	18.5	3	50	FRS40	70	10 / 6.00
82	380	17	3	50	FRS35	70	10 / 6.00
83	380	17	3	60	FRS35	70	10 / 6.00
84	400	16	3	50	FRS35	70	10 / 6.00
85	415	15.5	3	50	FRS35	60	10 / 6.00
88	440	14.5	3	50	FRS30	60	10 / 6.00
94	440	14.5	3	60	FRS30	60	10 / 6.00
96	480	13.5	3	60	FRS30	50	10 / 6.00
98	600	11	3	60	FRS25	45	12 / 4.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.

NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR EXTRACTORS: M9E42AHL, HR, LL, LR

LARGEST MOTOR = 15HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	32	3	50	FRN70	125	08 / 10.00
52	208	31	3	60	FRN70	125	08 / 10.00
62	220	29	3	50	FRN60	125	08 / 10.00
66	220	29	3	60	FRN60	125	08 / 10.00
74	240	26	3	60	FRN60	100	08 / 10.00
81	346	18.5	3	50	FRS40	70	10 / 6.00
82	380	17	3	50	FRS35	70	10 / 6.00
83	380	17	3	60	FRS35	70	10 / 6.00
84	400	16	3	50	FRS35	70	10 / 6.00
85	415	15.5	3	50	FRS35	60	10 / 6.00
88	440	14.5	3	50	FRS30	60	10 / 6.00
94	440	14.5	3	60	FRS30	60	10 / 6.00
96	480	13.5	3	60	FRS30	50	10 / 6.00
98	600	11	3	60	FRS25	45	12 / 4.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.

NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR EXTRACTORS: M7V42AHL, M7V42AHR, M7V42ALL, M7V42ALR

LARGEST MOTOR = 20HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	43	3	50	FRN70	125	06 / 16.00
52	208	42	3	60	FRN70	125	06 / 16.00
62	220	40	3	50	FRN70	125	06 / 16.00
66	220	40	3	60	FRN70	125	06 / 16.00
74	240	38	3	60	FRN70	100	06 / 16.00
81	346	27	3	50	FRS50	70	08 / 10.00
82	380	25	3	50	FRS40	70	08 / 10.00
83	380	25	3	60	FRS40	70	08 / 10.00
84	400	24	3	50	FRS40	70	08 / 10.00
85	415	22	3	50	FRS40	60	08 / 10.00
88	440	20	3	50	FRS40	60	08 / 10.00
94	440	20	3	60	FRS40	60	08 / 10.00
96	480	16	3	60	FRS40	50	08 / 10.00
98	600	16	3	60	FRS40	45	08 / 10.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.

NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR EXTRACTORS: M9V42AHL, HR, LL, LR

LARGEST MOTOR = 20HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	43	3	50	FRN70	125	06 / 16.00
52	208	42	3	60	FRN70	125	06 / 16.00
62	220	40	3	50	FRN70	125	06 / 16.00
66	220	40	3	60	FRN70	125	06 / 16.00
74	240	38	3	60	FRN70	100	06 / 16.00
81	346	27	3	50	FRS50	70	08 / 10.00
82	380	25	3	50	FRS40	70	08 / 10.00
83	380	25	3	60	FRS40	70	08 / 10.00
84	400	24	3	50	FRS40	70	08 / 10.00
85	415	22	3	50	FRS40	60	08 / 10.00
88	440	20	3	50	FRS40	60	08 / 10.00
94	440	20	3	60	FRS40	60	08 / 10.00
96	480	16	3	60	FRS40	50	08 / 10.00
98	600	16	3	60	FRS40	45	08 / 10.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.

NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

Section 4

Dryers and Dryvacs

EXTERNAL FUSE AND WIRE SIZES FOR DRYERS: 50040 CS1, CT1, SB1, TG1, TS1, TT1

HORSEPOWER GROUP 50040 CT1, TG1, TT1= 8.75HP 50040 CS1, SB1, TS1= 8.5 HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1) CT1, TG1, TT1	RUNNING AMPS (NOTE 1) CS1/SB1/TS1	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	30	29	3	50	FRN60	100	08 / 10.00
52	208	29	28	3	60	FRN60	100	08 / 10.00
62	220	27	26	3	50	FRN60	100	08 / 10.00
66	220	27	26	3	60	FRN60	100	08 / 10.00
74	240	25	24	3	60	FRN50	90	08 / 10.00
81	346	17	17	3	50	FRS35	60	10 / 6.00
82	380	16	16	3	50	FRS30	60	10 / 6.00
83	380	16	16	3	60	FRS30	60	10 / 6.00
84	400	15	15	3	50	FRS25	50	10 / 6.00
85	415	14.5	14	3	50	FRS25	50	12 / 4.00
88	440	13.5	13	3	50	FRS25	45	12 / 4.00
94	440	13.5	13	3	60	FRS25	45	12 / 4.00
96	480	12.5	12	3	60	FRS25	40	12 / 4.00
98	600	10	10	3	60	FRS20	35	12 / 4.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.

NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. These motors all run at the same time which requires fusing for the whole group.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greater the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR DRYERS: 58040 CS1, CT1, SB1, TG2, TS1, TT1

HORSEPOWER GROUP
58040 CT1, TG1, TG2, TT1 =10HP 58040 CS1, SB1, TS1 =9.5HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1) CT1, TG1,TG2,TT1	RUNNING AMPS (NOTE 1) CS1,SB1,TS1	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3,4) AWG/mm^2
46	200	35.5	33	3	50	FRN60	100	08 / 10.00
52	208	34	32	3	60	FRN60	100	08 / 10.00
62	220	32	30	3	50	FRN60	90	08 / 10.00
66	220	32	30	3	60	FRN60	90	08 / 10.00
74	240	29.5	27.5	3	60	FRN50	80	08 / 10.00
81	346	20.5	19	3	50	FRS35	60	10 / 6.00
82	380	18.5	17.5	3	50	FRS30	60	10 / 6.00
83	380	18.5	17.5	3	60	FRS30	60	10 / 6.00
84	400	17.5	16.5	3	50	FRS25	50	10 / 6.00
85	415	17	16	3	50	FRS25	50	12 / 4.00
88	440	16	15	3	50	FRS25	45	12 / 4.00
94	440	16	15	3	60	FRS25	45	12 / 4.00
96	480	14.5	14	3	60	FRS25	40	12 / 4.00
98	600	12	11	3	60	FRS20	35	12 / 4.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.

NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified.These motors all run at the same time which requires fusing for the whole group.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR DRYERS: 58058 CS1, CT1, SB1, TG2, TS1, TT1

HORSEPOWER GROUP
58058 CT1, TG1,TG2, TT1, =13.5HP 58058 CS1, SB1, TS1, =13HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1) CT1, TG1, TG2, TT1	RUNNING AMPS (NOTE 1) CS1,SB1, TS1	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	45.5	43	3	50	FRN80	125	06 / 16.00
52	208	43.5	41.5	3	60	FRN70	125	06 / 16.00
62	220	41.5	39	3	50	FRN70	125	06 / 16.00
66	220	41.5	39	3	60	FRN70	125	06 / 16.00
74	240	38	36	3	60	FRN70	100	06 / 16.00
81	346	26.5	25	3	50	FRS50	70	08 / 10.00
82	380	24	22.5	3	50	FRS40	70	10 / 6.00
83	380	24	22.5	3	60	FRS40	70	10 / 6.00
84	400	22.5	21.5	3	50	FRS40	70	10 / 6.00
85	415	22	21	3	50	FRS35	60	10 / 6.00
88	440	20.5	19.5	3	50	FRS35	60	10 / 6.00
94	440	20.5	19.5	3	60	FRS35	60	10 / 6.00
96	480	19	18	3	60	FRS35	50	10 / 6.00
98	600	15	14.5	3	60	FRS30	45	12 / 4.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.

NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. These motors all run at the same time which requires fusing for the whole group.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR DRYERS: 58080 CS1, CT1, SB1, TG2, TS1, TT1

HORSEPOWER GROUP 5880 CT1, TG2, TT1 =26HP 5880 CS1, SB1, TS1,=25HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1) CT1,TG2,TT1	RUNNING AMPS (NOTE 1) CS1, SB1,TS1	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE SIZE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	84	78	3	50	FRN150	250	02 / 35.00
52	208	81	75	3	60	FRN150	250	02 / 35.00
62	220	76	70	3	50	FRN150	225	03 / 35.00
66	220	76	70	3	60	FRN150	225	03 / 35.00
74	240	70	65	3	60	FRN125	200	03 / 35.00
81	346	48	45	3	50	FRS90	150	06 / 16.00
82	380	44	41	3	50	FRS80	150	06 / 16.00
83	380	44	41	3	60	FRS80	150	06 / 16.00
84	400	42	39	3	50	FRS70	125	06 / 16.00
85	415	40	38	3	50	FRS70	125	08 / 10.00
88	440	38	36	3	50	FRS70	110	08 / 10.00
94	440	38	36	3	60	FRS70	110	08 / 10.00
96	480	35	33	3	60	FRS60	110	08 / 10.00
98	600	28	26	3	60	FRS50	90	08 / 10.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.

NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. These motors all run at the same time which requires fusing for the whole group.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire- even though its current carrying capacity may be greater than the required fuse-may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR DRYERS: 64058TG1

HORSEPOWER GROUP 28.33 HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE SIZE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	100	3	50	FRN150	250	02 / 35.00
52	208	96	3	60	FRN150	250	02 / 35.00
62	220	90	3	50	FRN150	250	03 / 35.00
66	220	90	3	60	FRN150	250	03 / 35.00
74	240	83	3	60	FRN150	250	03 / 35.00
81	346	57	3	50	FRS90	150	06 / 16.00
82	380	52	3	50	FRS90	150	06 / 16.00
83	380	52	3	60	FRS90	150	06 / 16.00
84	400	50	3	50	FRS80	140	06 / 16.00
85	415	48	3	50	FRS80	140	06 / 16.00
88	440	45	3	50	FRS70	125	08 / 10.00
94	440	45	3	60	FRS70	125	08 / 10.00
96	480	42	3	60	FRS70	125	08 / 10.00
98	600	33	3	60	FRS50	90	08 / 10.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.

NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. These motors all run at the same time which requires fusing for the whole group.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire- even though its current carrying capacity may be greater than the required fuse-may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE "FUSE AND WIRE SIZING" for more information.

EXTERNAL FUSE AND WIRE SIZES FOR DRYERS: 72072 CS1, CT1, SB1, TG1, TS1, TT1

HORSEPOWER GROUP 7272 CT1, TG1, TT1=31.5HP 7272 CS1, SB1, TS1=30 HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1) CT1, TG1, TT1	RUNNING AMPS (NOTE 1) CS1/SB1/TS1	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	97	95	3	50	FRN150	250	02 / 35.00
52	208	93	91	3	60	FRN150	250	02 / 35.00
62	220	88	86	3	50	FRN150	225	03 / 35.00
66	220	88	86	3	60	FRN150	225	03 / 35.00
74	240	81	79	3	60	FRN125	200	03 / 35.00
81	346	56	55	3	50	FRS90	150	06 / 16.00
82	380	51	50	3	50	FRS80	150	06 / 16.00
83	380	51	50	3	60	FRS80	150	06 / 16.00
84	400	48	47	3	50	FRS70	125	06 / 16.00
85	415	47	46	3	50	FRS70	125	08 / 10.00
88	440	44	44	3	50	FRS70	110	08 / 10.00
94	440	44	44	3	60	FRS70	110	08 / 10.00
96	480	40	40	3	60	FRS60	110	08 / 10.00
98	600	32	32	3	60	FRS50	90	08 / 10.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.

NOTE 2: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. These motors all run at the same time which requires fusing for the whole group.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

EXTERNAL FUSE AND WIRE SIZES FOR: DRYVAC 1, DRYVAC 2

LARGEST MOTOR = 10HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 2, 4)	CIRCUIT BREAKER (AMPS) (NOTE 4)	WIRE PER NEC (NOTES 3, 4) AWG/mm^2
46	200	32	3	50	FRN70	125	08 / 10.00
52	208	31	3	60	FRN70	125	08 / 10.00
62	220	30	3	50	FRN70	125	08 / 10.00
66	220	30	3	60	FRN70	125	08 / 10.00
74	240	28	3	60	FRN70	100	08 / 10.00
81	346	19	3	50	FRS40	70	10 / 6.00
82	380	17	3	50	FRS35	70	10 / 6.00
83	380	17	3	60	FRS35	70	10 / 6.00
84	400	16	3	50	FRS35	70	10 / 6.00
85	415	15.5	3	50	FRS35	60	10 / 6.00
88	440	14.6	3	50	FRS30	60	10 / 6.00
94	440	14.6	3	60	FRS30	60	10 / 6.00
96	480	13.5	3	60	FRS30	50	10 / 6.00
98	600	11	3	60	FRS25	45	12 / 4.00

NOTE 1: Running amps are for the highest demand portion of the cycle, after the motor is up to speed, and are approximate.

NOTE 2: Use Bussman Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. These motors all run at the same time which requires fusing for the whole group.

NOTE 3: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire–even though its current carrying capacity may be greater than the required fuse–may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque. Note that the voltage drop is greater the instant the motor is energized, and thus when the highest torque is required.

NOTE 4: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.

Section 5

Shuttles & Conveyors

EXTERNAL FUSE AND WIRE SIZES FOR ALL SHUTTLES, FLAT BED CONVEYORS, AND LOAD CONVEYORS

LARGEST MOTOR = 10HP

VOLT CODE	VOLTAGE (VAC)	RUNNING AMPS (NOTE 1)	PHASE	FREQUENCY (Hz)	FUSE (AMPS) (NOTES 1, 3)	CIRCUIT BREAKER (AMPS) (NOTE 3)	WIRE PER NEC (NOTES 2, 3) AWG/mm^2
46	200	N/A	3	50	FRN15	15	14 / 2.5
52	208	N/A	3	60	FRN15	15	14 / 2.5
62	220	N/A	3	50	FRN15	15	14 / 2.5
66	220	N/A	3	60	FRN15	15	14 / 2.5
74	240	N/A	3	60	FRN15	15	14 / 2.5
81	346	N/A	3	50	FRS10	10	14 / 2.5
82	380	N/A	3	50	FRS8	8	14 / 2.5
83	380	N/A	3	60	FRS8	8	14 / 2.5
84	400	N/A	3	50	FRS8	8	14 / 2.5
85	415	N/A	3	50	FRS8	8	14 / 2.5
88	440	N/A	3	50	FRS8	8	14 / 2.5
94	440	N/A	3	60	FRS8	8	14 / 2.5
96	480	N/A	3	60	FRS8	8	14 / 2.5
98	600	N/A	3	60	FRS6	6	14 / 2.5

NOTE 1: Use Bussmann Fusetron FRN (up to 250V), FRS (250 to 600V) or similar lag type fuses.

⚠ CAUTION ⚠

CORRECT FUSE MUST BE USED—Never use fuses other than those specified. Extract motor may take up to two minutes to fully accelerate basket, during which time motor draws nearly locked rotor current.

NOTE 2: Use wire size shown for runs up to 50 feet (15 meters). Use next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters).

⚠ CAUTION ⚠

CORRECT WIRE SIZE MUST BE USED—Never use wire of a smaller size than specified. Smaller wire—even though its current-carrying capacity may be greater than the required fuse—may cause voltage drops, thereby reducing starting torque. (A 5% voltage drop causes motor to produce only 90% of its rated torque.) Note that the voltage drop is greatest the instant the motor is energized, and thus when the highest torque is required.

NOTE 3: See section MSSM0118AE “FUSE AND WIRE SIZING” for more information.