

Washer-Extractors

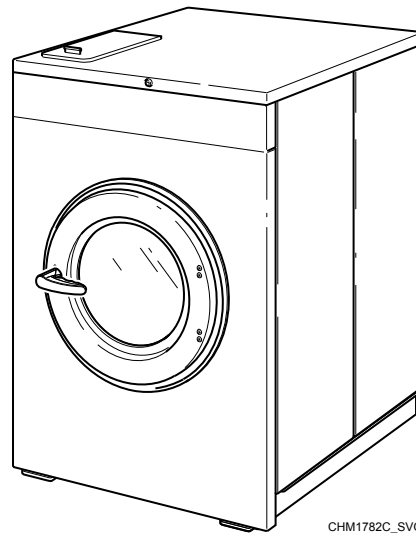
Cabinet Hardmount

Design 2 and 3 Models

Refer to Page 8 for Model Identification



Installation/Operation/Maintenance



CHM1782C_SVG

Original Instructions

Keep These Instructions for Future Reference.

(If this machine changes ownership, this manual must accompany machine.)



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Safety Information

Explanation of Safety Messages

Precautionary statements [“DANGER,” “WARNING,” and “CAUTION”], followed by specific instructions, are found in this manual and on machine decals. These precautions are intended for the personal safety of the operator, user, servicer, and those maintaining the machine.

	DANGER
Indicates an imminently hazardous situation that, if not avoided, will cause severe personal injury or death.	

	WARNING
Indicates a hazardous situation that, if not avoided, could cause severe personal injury or death.	


	CAUTION
Indicates a hazardous situation that, if not avoided, may cause minor or moderate personal injury or property damage.	

Additional precautionary statements [“IMPORTANT” and “NOTE”] are followed by specific instructions.

IMPORTANT: The word “IMPORTANT” is used to inform the reader of specific procedures where minor machine damage will occur if the procedure is not followed.

NOTE: The word “NOTE” is used to communicate installation, operation, maintenance or servicing information that is important but not hazard related.

Important Safety Instructions

	WARNING
To reduce the risk of fire, electric shock, serious injury or death to persons when using your washer, follow these basic precautions:	
W023	

- Read all instructions before using the washer.


- Install the washer according the INSTALLATION instructions. Refer to the GROUNDING instructions in the INSTALLATION manual for the proper grounding of the washer. All connections for water, drain, electrical power and grounding must comply with local codes and be made by licensed personnel when required. It is recommended that the machine be installed by qualified technicians.
- Do not install or store the washer where it will be exposed to water and/or weather.
- To prevent fire and explosion, keep the area around machine free from flammable and combustible products. Do not add the following substances or textiles containing traces of the following substances to the wash water: gasoline, kerosene, waxes, cooking oils, vegetable oils, machine oils, dry-cleaning solvents, flammable chemicals, thinners, or other flammable or explosive substances. These substances give off vapors that could ignite, explode or cause the fabric to catch fire by itself.
- Under certain conditions, hydrogen gas may be produced in a hot water system that has not been used for two weeks or more. HYDROGEN GAS IS EXPLOSIVE. If the hot water system has not been used for such a period, before using a washing machine or combination washer-dryer, turn on all hot water faucets and let the water flow from each for several minutes. This will release any accumulated hydrogen gas. The gas is flammable, do not smoke or use an open flame during this time.
- To reduce the risk of an electric shock or fire, DO NOT use an extension cord or an adapter to connect the washer to the electrical power source.
- Do not allow children to play on or in the washer. Close supervision of children is necessary when the washer is used near children. This appliance is not intended for use by young children or infirm persons without supervision. Young children should be supervised to ensure that they do not play with the appliance. This is a safety rule for all appliances.
- DO NOT reach and/or climb into the tub or onto the washer, ESPECIALLY if the wash drum is moving. This is an imminently hazardous situation that, if not avoided, will cause severe personal injury or death.
- Never operate the washer with any guards, panels and/or parts removed or broken. DO NOT bypass any safety devices or tamper with the controls.
- Use washer only for its intended purpose, washing textiles. Never wash machine parts or automotive parts in the machine. This could result in serious damage to the basket or tub.
- Use only low-sudsing, no-foaming types of commercial detergent. Be aware that hazardous chemicals may be present. Wear hand and eye protection when adding detergents and chemicals. Always read and follow manufacturer’s instructions on packages of laundry and cleaning aids. Heed all

warnings or precautions. To reduce the risk of poisoning or chemical burns, keep them out of the reach of children at all times [preferably in a locked cabinet].


- Do not use fabric softeners or products to eliminate static unless recommended by the manufacturer of the fabric softener or product.
- Always follow the fabric care instructions supplied by the textile manufacturer.
- Loading door **MUST BE CLOSED** any time the washer is to fill, tumble or spin. **DO NOT** bypass the loading door switch by permitting the washer to operate with the loading door open. Do not attempt to open the door until the washer has drained and all moving parts have stopped.
- Be aware that hot water is used to flush the supply dispenser. Avoid opening the dispenser lid while the machine is running.
- Do not attach anything to the supply dispenser’s nozzles, if applicable. The air gap must be maintained.
- Do not operate the machine without the water reuse plug or water reuse system in place, if applicable.
- Be sure water connections have a shut-off valve and that fill hose connections are tight. **CLOSE** the shut-off valves at the end of each wash day.
- Keep washer in good condition. Bumping or dropping the washer can damage safety features. If this occurs, have washer checked by a qualified service person.
- **DANGER:** Before inspecting or servicing machine, power supply must be turned **OFF**. The servicer needs to wait for at least 5 minutes after turning the power **OFF** and needs to check for residual voltage with a voltage meter. The inverter capacitor or EMC filter remains charged with high voltage for some time after powering **OFF**. This is an imminently hazardous situation that, if not avoided, will cause severe personal injury or death.
- Do not repair or replace any part of the washer, or attempt any servicing unless specifically recommended in the user-maintenance instructions or in published user-repair instructions that the user understands and has the skills to carry out. **ALWAYS** disconnect the washer from electrical, power and water supplies before attempting any service.
- Disconnect the power by turning off the circuit breaker or by unplugging the machine. Replace worn power cords.
- Before the washer is removed from service or discarded, remove the door to the washing compartment.
- Failure to install, maintain, and/or operate this washer according to the manufacturer’s instructions may result in conditions which can produce bodily injury and/or property damage.

NOTE: The WARNINGS and IMPORTANT SAFETY INSTRUCTIONS appearing in this manual are not meant to cover all possible conditions and situations that may occur. Common sense, caution and care must be exercised when installing, maintaining, or operating the washer.

Any problems or conditions not understood should be reported to the dealer, distributor, service agent or the manufacturer.

	WARNING
<p>Machine installations must comply with minimum specifications and requirements stated in the applicable Installation Manual, any applicable municipal building codes, water supply requirements, electrical wiring regulations and any other relevant statutory regulations. Due to varied requirements and applicable local codes, this machine must be installed, adjusted, and serviced by qualified maintenance personnel familiar with applicable local codes and the construction and operation of this type of machinery. They must also be familiar with the potential hazards involved. Failure to observe this warning may result in personal injury, property damage, and/or equipment damage, and will void the warranty.</p> <p style="text-align: right;">W820</p>	

IMPORTANT: Ensure that the machine is installed on a level floor of sufficient strength. Ensure that the recommended clearances for inspection and maintenance are provided. Never allow the inspection and maintenance space to be blocked.


	WARNING
<p>Never touch internal or external steam pipes, connections, or components. These surfaces can be extremely hot and will cause severe burns. The steam must be turned off and the pipe, connections, and components allowed to cool before the pipe can be touched.</p> <p style="text-align: right;">SW014</p>	

Safety Decals

Safety decals appear at crucial locations on the machine. Failure to maintain legible safety decals could result in injury to the operator or service technician.

Use manufacturer-authorized spare parts to avoid safety hazards.

Operator Safety

	WARNING
NEVER insert hands or objects into basket until it has completely stopped. Doing so could result in serious injury.	
SW012	


The following maintenance checks must be performed daily:

1. Verify that all warning labels are present and legible, replace as necessary.
2. Check door interlock before starting operation of the machine:
 - a. Attempt to start the machine with the door open. The machine should not start.
 - b. Close the door without locking it and start the machine. The machine should not start.
 - c. Attempt to open the door while a cycle is in progress. The door should not open.

If the door lock and interlock are not functioning properly, disconnect power and call a service technician.

3. Do not attempt to operate the machine if any of the following conditions are present:
 - a. The door does not remain securely locked during the entire cycle.
 - b. Excessively high water level is evident.
 - c. Machine is not connected to a properly grounded circuit.

Do not bypass any safety devices in the machine.

	WARNING
Operating the machine with severe out-of-balance loads could result in personal injury and serious equipment damage.	
W728	

Introduction

Model Identification

Information in this manual is applicable to Design 2 models or later. Refer to the 12th position of the model number [e.g. *CN040*YVXU 2 001]:

Model						
20 POUND	CCN020HNF	HCN020KXF	ICN020KNV	SCL020WXF	SCN020WEF	SCU020WDV
	CCN020HNV	HCN020KYF	ICN020KXF	SCL020WYV	SCN020WEV	SCU020WEV
	CCN020KNF	HCN020KYV	ICN020KYF	SCN020GNF	SCN020WYF	SCU020WXV
	CCN020KNV	HCU020GNF	ICN020KYV	SCN020HNF	SCN020WYV	SCU020WYV
	HCD020LDV	HCU020HEF	SCL020GNF	SCN020HNV	SCU020GNF	SCZ020GNF
	HCL020GNF	HCU020HNF	SCL020HNF	SCN020JCF	SCU020GNV	UCL020GNF
	HCL020HDF	HCU020HNV	SCL020HNV	SCN020JCV	SCU020HNF	UCL020GNV
	HCL020HNF	HCU020KCF	SCL020JCF	SCN020JDF	SCU020JCF	UCL020HNF
	HCL020HNV	HCU020KCV	SCL020JDF	SCN020JEF	SCU020JCV	UCL020HNV
	HCL020KDF	HCU020KEV	SCL020JDV	SCN020JXF	SCU020JDF	UCL020KNF
	HCL020KDV	HCU020KLF	SCL020JEF	SCN020JYF	SCU020JDV	UCL020KNV
	HCL020KEV	HCU020KLV	SCL020JEV	SCN020JYV	SCU020JEF	UCN020GNF
	HCN020GNF	HCU020KXV	SCL020JXF	SCN020KNF	SCU020JEV	UCN020GNV
	HCN020HCF	HCU020KYF	SCL020JYF	SCN020KNV	SCU020JLF	UCN020HNF
	HCN020HDF	HCU020KYV	SCL020LDV	SCN020LCF	SCU020JLV	UCN020HNV
	HCN020HEF	HCZ020GNF	SCL020LYV	SCN020LCV	SCU020JXF	UCN020KNF
	HCN020HNF	ICN020GNF	SCL020KNV	SCN020LDF	SCU020JXV	UCN020KNV
	HCN020HNV	ICN020HNF	SCL020LCF	SCN020LDV	SCU020JYF	UCU020GNF
	HCN020HXF	ICN020HNV	SCL020LDF	SCN020LEF	SCU020JYV	UCU020GNV
	HCN020HYF	ICN020KCF	SCL020LEF	SCN020LEV	SCU020KNF	UCU020HNF
	HCN020KCF	ICN020KCV	SCL020LEV	SCN020LYF	SCU020LCV	UCU020HNV
	HCN020KCV	ICN020KDF	SCL020LLV	SCN020LYV	SCU020LDV	UCU020KNF
	HCN020KDF	ICN020KDV	SCL020LXF	SCN020WCF	SCU020LEV	UCU020KNV
	HCN020KDV	ICN020KEF	SCL020LYF	SCN020WCV	SCU020LXV	UCZ020GNF
	HCN020KEF	ICN020KEV	SCL020LYV	SCN020WDF	SCU020LYV	
	HCN020KEV	ICN020KNF	SCL020WEV	SCN020WDV	SCU020WCV	

Model						
30 POUND	CCN030HNF	HCU030GNF	SCL030JEV	SCN030JCF	SCN030WYV	SCU030WDV
	CCN030HNV	HCN030KDV	ICN030KNV	SCL030WEV	SCN030WEF	SCU030WEV
	CCN030KNF	HCN030KEF	ICN030KXF	SCL030WXF	SCN030WEV	SCU030WXV
	CCN030KNV	HCN030KEV	ICN030KYF	SCL030WYV	SCN030WLV	SCU030WYV
	HCD030LDF	HCN030KXF	ICN030KYV	SCN030GNF	SCN030WYF	SCZ030GNF
	HCD030LDV	HCN030KYF	SCD030JDF	SCN030GNV	SCU030GNF	UCL030GNF
	HCL030GNF	HCN030KYV	SCD030LDF	SCN030HNF	SCU030GNV	UCL030GNV
	HCL030HDF	HCU030GNV	SCL030GCF	SCN030HNV	SCU030HNF	UCL030HNF
	HCL030HEF	HCU030HLF	SCL030GNF	SCN030JCV	SCU030JCF	UCL030HNV
	HCL030HLF	HCU030HNF	SCL030GNV	SCN030JDF	SCU030JCV	UCL030KNF
	HCL030HNF	HCU030HNV	SCL030HNF	SCN030JEF	SCU030JDF	UCL030KNV
	HCL030HNV	HCU030KCF	SCL030HNV	SCN030JXF	SCU030JDV	UCN030GNF
	HCL030KCV	HCU030KCV	SCL030LCV	SCN030JYF	SCU030JEF	UCN030GNV
	HCL030KDF	HCU030KEV	SCL030LXF	SCN030JYV	SCU030JEV	UCN030HNF
	HCL030KDV	HCU030KLV	SCL030JCF	SCN030KNF	SCU030JLF	UCN030HNV
	HCL030KEF	HCU030KYF	SCL030JDF	SCN030KNV	SCU030JLV	UCN030KNF
	HCL030KEV	HCU030KYV	SCL030JDV	SCN030LCF	SCU030JXF	UCN030KNV
	HCN030GNF	HCZ030GNF	SCL030JEF	SCN030LCV	SCU030JXV	UCU030GNF
	HCN030GNV	HCZ030HNV	SCL030JXF	SCN030LDF	SCU030JYF	UCU030GNV
	HCN030HCF	ICN030GNF	SCL030JYV	SCN030LDV	SCU030JYV	UCU030HNF
	HCN030HDF	ICN030HNF	SCL030KNF	SCN030LEF	SCU030KNF	UCU030HNV
	HCN030HEF	ICN030HNV	SCL030KNV	SCN030LEV	SCU030KNV	UCU030KNF
	HCN030HNF	ICN030KCF	SCL030LEF	SCN030LXF	SCU030LCV	UCU030KNV
	HCN030HNV	ICN030KCV	SCL030LEV	SCN030LYF	SCU030LDV	UCZ030GNF
	HCN030HXF	ICN030KDF	SCL030LYV	SCN030LYV	SCU030LEF	UCZ030HNF
	HCN030HYF	ICN030KDV	SCL030LXF	SCN030WCF	SCU030LEV	
	HCN030KCF	ICN030KEF	SCL030LXV	SCN030WCV	SCU030LXV	
	HCN030KCV	ICN030KEV	SCL030WCF	SCN030WDF	SCU030LYV	
	HCN030KDF	ICN030KNF	SCL030WCV	SCN030WDV	SCU030WCV	

Model						
40 POUND	CCN040HNF	HCN040KCV	SCB040HNV	SCL040JCF	SCN040LCV	SCU040LEV
	CCN040HNV	HCN040KDF	SCB040JYV	SCL040KNF	SCN040LLF	SCU040LLF
	CCN040KNF	HCN040KDV	SCB040JCF	SCL040JCV	SCN040LDF	SCU040WEV
	CCN040KNV	HCN040KEF	SCB040JCV	SCL040JDF	SCN040LDV	SCU040LXV
	HCB040HNF	HCN040KEV	SCB040JDF	SCL040JEF	SCN040LEF	SCU040LYV
	HCB040HNV	HCN040KXF	SCB040JDV	SCL040JEV	SCN040LEV	SCU040WCF
	HCB040KCF	HCN040KYF	SCB040JEF	SCL040JXF	SCU040HNF	SCU040WCV
	HCB040KCV	HCN040KYV	SCB040JEV	SCL040JXV	SCN040LYF	SCU040WDV
	HCB040KEV	HCU040GNF	SCB040JLF	SCL040JYF	SCN040LYV	SCU040WXV
	HCB040KLV	HCU040GNV	SCB040JLV	SCN040JEF	SCN040WCF	SCU040WYV
	HCB040KXF	HCU040HLF	SCB040JXF	SCL040KNV	SCN040WCV	UCB040HNF
	HCB040KYF	HCU040HNF	SCB040JXV	SCL040LCF	SCN040WDF	UCB040HNV
	HCB040KYV	HCU040HNV	SCB040JYF	SCL040LEF	SCN040WDV	UCB040KNF
	HCB040LDF	HCU040KCF	SCL040JDV	SCL040LEV	SCN040WEF	UCB040KNV
	HCD040LDF	HCU040KCV	SCB040KNF	SCL040LLF	SCN040WEV	UCL040GNF
	HCL040GNF	HCU040KEV	SCB040KNV	SCL040LXF	SCN040WYF	UCL040GNV
	HCL040GNV	HCU040KLV	SCB040LCV	SCL040LYF	SCN040WYV	UCL040HNF
	HCL040HCF	HCU040KXF	SCB040LDV	SCL040WCF	SCU040GNF	UCL040HNV
	HCL040HDF	HCU040KYF	SCB040LEF	SCL040WEV	SCU040GNV	UCL040KNF
	HCL040HEF	HCU040KYV	SCB040LEV	SCL040WLV	SCU040JCF	UCL040KNV
	HCL040HNF	ICN040GNF	SCB040LLF	SCL040WXF	SCU040JCV	UCN040GNF
	HCL040HNV	ICN040HNF	SCB040LXV	SCL040WXV	SCU040JDF	UCN040GNV
	HCL040KCV	ICN040HNV	SCB040LYV	SCL040WYV	SCU040JDV	UCN040HNF
	HCL040KDF	ICN040KCF	SCB040WCF	SCN040GNF	SCU040JEF	UCN040HNV
	HCL040KDV	ICN040KCV	SCB040WCV	SCN040GNV	SCU040JEV	UCN040KNF
	HCL040KEV	ICN040KDF	SCB040WDV	SCN040HNF	SCU040JLF	UCN040KNV
	HCN040GNF	ICN040KDV	SCB040WEV	SCN040HNV	SCU040JLV	UCU040GNF
	HCN040GNV	ICN040KEF	SCB040WXV	SCN040JCF	SCU040JXF	UCU040GNV
	HCN040HCF	ICN040KEV	SCB040WYV	SCN040JCV	SCU040JXV	UCU040HNF
	HCN040HDF	ICN040KNF	SCD040JDF	SCN040JDF	SCU040JYF	UCU040HNV
	HCN040HEF	ICN040KNV	SCD040LDF	SCN040JXF	SCU040JYV	UCU040KNF
	HCN040HNF	ICN040KXF	SCL040GCF	SCN040JYF	SCU040KNF	UCU040KNV
	HCN040HNV	ICN040KYF	SCL040GNF	SCN040JYV	SCU040KNV	
	HCN040HXF	ICN040KYV	SCL040GNV	SCN040KNF	SCU040LCV	
	HCN040HYF	SCB040GNF	SCL040HNF	SCN040KNV	SCU040LDV	
	HCN040KCF	SCB040HNF	SCL040HNV	SCN040LCF	SCU040LEF	

Model						
60 POUND	CCN060HNF	HCN060KEV	SCL060JEF	SCN060JXF	SCU060JCF	UCL060GNF
	CCN060HNV	HCN060KDV	ICN060KNV	SCN060GNF	SCN060WEF	SCU060LYV
	CCN060KNF	HCN060KEF	ICN060KXF	SCN060GNV	SCN060WEV	SCU060WCV
	CCN060KNV	HCN060KXF	ICN060KYF	SCN060HNF	SCN060WYF	SCU060WEV
	HCD060LDF	HCN060KYF	ICN060KYV	SCN060HNV	SCN060WYV	SCU060WXV
	HCL060GNF	HCN060KYV	SCD060JDF	SCN060LDF	SCU060GNF	SCU060WYV
	HCL060GNV	HCU060GNF	SCD060LDF	SCN060LEF	SCU060GNV	UCL060GNV
	HCL060HCF	HCU060GNV	SCL060GNV	SCN060LEV	SCU060HNF	UCL060HNF
	HCL060HDF	HCU060HNF	SCL060GNF	SCN060JCF	SCU060HNV	UCL060HNV
	HCL060HNF	HCU060HNV	SCL060HNF	SCN060JCV	SCU060JCV	UCL060KNF
	HCL060HNV	HCU060KCF	SCL060HNV	SCN060JDF	SCU060JDF	UCL060KNV
	HCL060KDF	HCU060KCV	SCL060JCF	SCN060JEF	SCU060JDV	UCN060GNF
	HCL060KDV	HCU060KEV	SCL060JDF	SCN060JYF	SCU060JEF	UCN060GNV
	HCL060KEV	HCU060KLV	SCL060JDV	SCN060JYV	SCU060JEV	UCN060HNF
	HCN060GNF	HCU060KYF	SCL060JEV	SCN060KNF	SCU060JLF	UCN060HNV
	HCN060GNV	HCU060KYV	SCL060JXF	SCN060KNV	SCU060JLV	UCN060KNF
	HCN060HCF	ICN060GNF	SCL060JYF	SCN060LCF	SCU060JXF	UCN060KNV
	HCN060HDF	ICN060HNF	SCL060KNF	SCN060LCV	SCU060JXV	UCU060GNF
	HCN060HEF	ICN060HNV	SCL060KNV	SCN060LDV	SCU060JYF	UCU060GNV
	HCN060HNF	ICN060KCF	SCL060LCV	SCN060LXF	SCU060JYV	UCU060HNF
	HCN060HNV	ICN060KCV	SCL060LEV	SCN060LYF	SCU060KNF	UCU060HNV
	HCN060HXF	ICN060KDF	SCL060LLF	SCN060LYV	SCU060KNV	UCU060KNF
	HCN060HYF	ICN060KDV	SCL060LXF	SCN060WCF	SCU060LCV	UCU060KNV
	HCN060KCF	ICN060KEF	SCL060WEF	SCN060WCV	SCU060LDV	SCU060WDV
	HCN060KCV	ICN060KEV	SCL060WXF	SCN060WDF	SCU060LEV	
	HCN060KDF	ICN060KNF	SCL060WYV	SCN060WDV	SCU060LXV	

Model						
80 POUND	CCN080HNF	HCN080KDV	ICN080KDF	SCN080LYV	SCU080JXV	UCL080KNF
	CCN080HNV	HCN080KEF	ICN080KDV	SCN080JYV	SCU080JDF	SCU080WXV
	HCD080LDF	HCN080KEV	ICN080KEF	SCN080KNF	SCU080JDV	SCU080WYV
	HCD080LDV	HCN080KYF	ICN080KEV	SCN080KNV	SCU080JEF	UCL080GNF
	HCL080GNF	HCN080KYV	ICN080KNF	SCN080LCF	SCU080JEV	UCL080HNF
	HCL080HNF	HCU080GNF	ICN080KNV	SCN080LCV	SCU080JLF	UCL080HNV
	HCL080HNV	HCU080HCF	ICN080KYF	SCN080LDF	SCU080JLV	UCL080KNV
	HCL080KDF	HCU080HNF	ICN080KYV	SCN080LDV	SCU080JXF	UCN080GNF
	HCL080KDV	HCU080HXF	SCD080LDV	SCN080LEF	SCU080JYF	UCN080HNF
	HCN080GNF	HCU080KCF	SCL080GNF	SCN080LYF	SCU080JYV	UCN080HNV
	HCN080HCF	HCU080KCV	SCL080HNF	SCN080WCF	SCU080KNV	UCN080KNF
	HCN080HCV	HCN080KDF	SCL080KNF	SCN080WCV	SCU080LCV	UCN080KNV
	HCN080HDF	HCU080KYF	SCL080KNV	SCN080WDV	SCU080LDV	UCU080GNF
	HCN080HNF	HCU080KYV	SCN080GNF	SCN080WYF	SCU080LEV	UCU080HNF
	HCN080HNV	ICN080GNF	SCN080HNF	SCN080WYV	SCU080LXV	UCU080HNV
	HCN080HYF	ICN080HNF	SCN080JCF	SCU080GNF	SCU080LYV	UCU080KNF
	HCN080HYV	ICN080HNV	SCN080JCV	SCU080HNF	SCU080WCV	UCU080KNV
	HCN080KCF	ICN080KCF	SCN080JDF	SCU080JCF	SCU080WDV	
	HCN080KCV	ICN080KCV	SCN080JYF	SCU080JCV	SCU080WEV	
	100 POUND	CCN100HNV	HCN100KEV	SCN100JCF	SCN100LXV	SCN100WEF
HCL100GNF		HCN100KXF	ICN100KEV	SCN100LDF	SCN100WEV	UCN100HNF
HCL100HNV		HCN100KXV	ICN100KNV	SCN100LDV	SCN100WXF	UCN100HNV
HCL100KDF		HCN100KYF	ICN100KXV	SCN100LEF	SCN100WXV	UCN100KNV
HCL100KDV		HCN100KYV	ICN100KYV	SCN100LEV	SCN100WYF	UCU100HNF
HCN100GNF		HCU100HNV	SCL100GNF	SCN100LXF	SCN100WYV	UCU100HNV
HCN100HNV		ICN100GNF	SCL100KNV	SCN100LYF	SCU100KNV	UCU100KNF
HCN100KCF		ICN100HNF	SCN100GNF	SCN100LYV	UCL100GNF	UCU100KNV
HCN100KCV		ICN100HNV	SCN100KNF	SCN100WCF	UCL100HNF	
HCN100KDF		ICN100HNV	SCN100KNV	SCN100WCV	UCL100HNV	
HCN100KDV		ICN100KCV	SCN100LCF	SCN100WDF	UCL100KNF	
HCN100KEF		ICN100KDV	SCN100LCV	SCN100WDV	UCL100KNV	

Model			
125 POUND	HCN125KYV	SCU125KNV	
	SCL125KNV	UCL125HNV	
	SCN125KNV	UCL125KNV	
	SCN125LYV	UCU125HNV	
	SCN125WYV	UCU125KNV	

Delivery Inspection

Upon delivery, visually inspect crate, protective cover, and unit for any visible shipping damage. If signs of possible damage are evident, have the carrier note the condition on the shipping papers before the shipping receipt is signed, or advise the carrier of the condition as soon as it is discovered.

Serial Plate Location

The serial plate is located at the rear of the machine and inside door. Provide the machine's serial number and model number when ordering parts or seeking technical assistance. Refer to *Figure 1*.

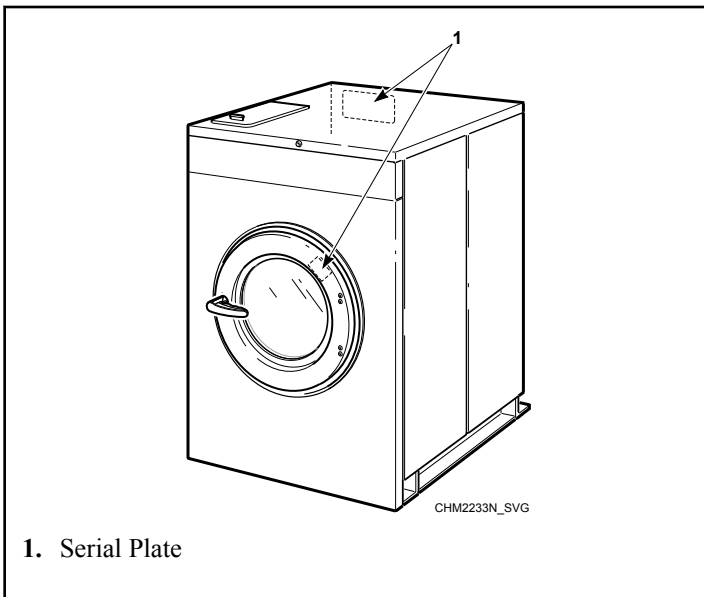


Figure 1

Replacement Parts

If literature or replacement parts are required, contact the source from which the machine was purchased or contact Alliance Laundry Systems at +1 (920) 748-3950 for the name and address of the nearest authorized parts distributor.

Customer Service

For technical assistance, contact your local distributor or contact:

Alliance Laundry Systems

Shepard Street

P.O. Box 990

Ripon, WI 54971-0990

U.S.A.

www.alliancelaundry.com

Phone: +1 (920) 748-3121 Ripon, Wisconsin

Alliance International: +32 56 41 20 54 Wevelgem, Belgium

Specifications and Dimensions

General Specifications

Specification	20		30	40	60	80	100	125
Weight and Shipping Information								
Net weight, lbs. [kg]	335 [152]		460 [209]	550 [249]	695 [315]	1210 [549]	1260 [572]	2301 [1044]
Standard shipping weight, lbs. [kg]	365 [166]		495 [225]	590 [268]	745 [338]	1260 [572]	1310 [594]	2384 [1081]
Standard shipping volume, ft ³ [m ³]	Design 1 and 2	26.5 [0.75]	35.8 [1.01]	43.9 [1.24]	57.3 [1.62]	81.3 [2.30]	87.3 [2.5]	163 [4.3]
	Design 3	27.1 [0.77]						
Standard shipping dimensions [WxDxH], in. [mm]	Design 1 and 2	28 x 33.8 x 48.4 [711 x 859 x 1229]	31.5 x 38.3 x 51.3 [800 x 973 x 1303]	32.5 x 43.5 x 53.6 [826 x 1105 x 1361]	37.5 x 46.9 x 56.3 [953 x 1191 x 1430]	44 x 54.5 x 58.6 [1118 x 1384 x 1488]	44 x 58.5 x 58.6 [1118 x 1486 x 1488]	56 x 61.5 x 77.8 [1422 x 1562 x 1976]
	Design 3	28 x 33.8 x 49.4 [711 x 859 x 1256]						
Slat crate shipping weight, lbs. [kg]	450 [204]		590 [268]	690 [313]	860 [390]	1385 [628]	1435 [651]	2492 [1130]
Slat crate shipping volume, ft ³ [m ³]	Design 1 and 2	36.2 [1.04]	47.3 [1.34]	54.1 [1.53]	77.6 [2.20]	105 [2.97]	112.4 [3.18]	173 [4.8]
	Design 3	38.1 [1.08]						

Specification		20	30	40	60	80	100	125
Slat crate shipping dimensions [WxDxH], in. [mm]	Design 1 and 2	32.5 x 36.8 x 49.8 [826 x 935 x 1240]	36 x 41.3 x 55 [914 x 1049 x 1397]	37 x 45.9 x 55 [940 x 1166 x 1397]	42 x 49.9 x 64 [1067 x 1267 x 1626]	48.5 x 57.5 x 65.1 [1232 x 1461 x 1654]	48.5 x 61.5 x 65.1 [1232 x 1562 x 1654]	59 x 64.5 x 80 [1499 x 1638 x 2032]
	Design 3	32.5 x 36.8 x 55 [826 x 935 x 1397]						
Wash Cylinder Information								
Cylinder diameter, in. [mm]	21 [533]	24 [610]	26.25 [667]	30 [762]	36 [914]	36 [914]	43 [1092]	
Cylinder depth, in. [mm]	13.75 [349]	16 [406]	20.25 [514]	22 [559]	21.86 [555]	25.86 [657]	24 [610]	
Cylinder volume, ft ³ [l]	2.76 [78.1]	4.19 [118]	6.34 [180]	9.00 [255]	12.88 [327]	15.23 [389]	19.2 [544]	
Perforation size, in. [mm]	0.188 [4.78]	0.188 [4.78]	0.188 [4.78]	0.188 [4.78]	0.188 [4.78]	0.188 [4.78]	0.188 [4.78]	
Perforation open area, %	17.3	18.6	18.8	18.8	19.6	20.2	24	
Door Opening Information								
Door opening size, in. [mm]	11.63 [295]	14.34 [364]	16.25 [413]	16.25 [413]	18.5 [470]	18.5 [470]	20 [508]	
Height of door bottom above floor, in. [mm]	14.38 [365]	14 [356]	14.56 [370]	14.94 [379]	17.91 [455]	17.91 [455]	28.28 [718]	
Height of door opening above floor, in. [mm]	17 [432]	17 [431]	17.74 [451]	18.12 [460]	20.77 [528]	20.77 [528]	30.25 [768]	
Power Consumption								
Average power used per cycle, kW- hr. (X-voltage shown)	No load	.05	.09	.10	.15	.19	.19	.63
	80 % load	.06	.11	.14	.22	.28	.28	.64

Specification	20	30	40	60	80	100	125
Estimated Building Heat Load							
HVAC load, Btu/hr. [Kcal/hr.] (Non-heat models)	400 [101]	450 [113]	510 [129]	750 [189]	950 [239]	950 [239]	1200 [302]
Drive Train Information							
Number of motors in drive train	1	1	1	1	1	1	1
Drive motor power, hp [kW]	*	2 [1.5]	2 [1.5]	3 [2.2]	5 [3.7]	5 [3.7]	7.5 [5.6]
Cylinder Speeds							
Gentle wash/reverse speed, RPM [G]	37 [0.4]	34 [0.4]	33 [0.4]	31 [0.4]	28 [0.4]	28 [0.4]	26 [0.4]
Wash/reverse speed, RPM [G]	51 [0.8]	48 [0.8]	46 [0.8]	43 [0.8]	39 [0.8]	39 [0.8]	36 [0.8]
Distribution speed, RPM [G]	92 [2.5]	86 [2.5]	82 [2.5]	77 [2.5]	70 [2.5]	70 [2.5]	64 [2.6]
Extract Speed 1 (very low), RPM [G]	301 [27]	282 [27]	269 [27]	252 [27]	230 [27]	230 [27]	256 [40]
Extract Speed 2 (low), RPM [G]	518 [80]	485 [80]	464 [80]	434 [80]	396 [80]	396 [80]	362 [80]
Extract Speed 3 (medium), RPM [G]	579 [100]	542 [100]	518 [100]	485 [100]	443 [100]	443 [100]	405 [100]
Extract Speed 4 (high), RPM [G]	648 [120]	606 [120]	579 [120]	542 [120]	495 [120]	495 [125]	444 [120]
Extract Speed 5 (very high), RPM [G]	710 [150]	664 [150]	635 [150]	594 [150]	542 [150]	542 [150]	479 [140]
Extract Speed 6 (ultra high), RPM [G]	819 [200]	766 [200]	733 [200]	686 [200]	626 [200]	568 [165]	N/A
Direct Steam Heating (Optional)							
Steam inlet connection size, NPT	1/2	1/2	1/2	1/2	1/2	1/2	3/4

Specification		20	30	40	60	80	100	125	
Number of steam inlets		**	**	1	1	1	1	1	
Steam required to raise bath water temperature 10°F [10°C], lbs. [kg]	LOW	.74 [0.34]	.94 [0.43]	2.09 [0.94]	3.80 [1.63]	3.80 [1.72]	3.80 [1.72]	3.64 [1.65]	
	MED	1.07 [0.49]	1.28 [0.58]	2.40 [1.09]	4.65 [2.11]	4.65 [2.11]	5.49 [2.49]	5.17 [2.35]	
	HIGH	1.44 [0.65]	1.74 [0.79]	2.84 [1.29]	5.79 [2.63]	5.79 [2.63]	6.84 [3.10]	7.78 [3.52]	
Average steam consumption per cycle, bhp		.34	.41	.78	.98	1.34	1.58	1.14	
Electrical Heating									
Total electrical heating capacity, kW	Input Voltage								
	200V	5.4	5.4	10.8	10.8	19.1	19.1	N/A	
	240V	7.8	7.8	15.6	15.6	27.4	27.4	N/A	
	380V	6.5	6.5	13.0	13.0	17.2	17.2	34.4	
	415V	7.8	7.8	15.5	15.5	20.5	20.5	41.0	
	480V	N/A	N/A	15.6	15.6	27.4	27.4	54.8	
Electrical heating elements		3	3	6	6	6	6	12	
Electrical heat element size, kW		2.6	2.6	2.6	2.6	4.2	4.2	4.2	
Noise Emissions									
dBA	Wash	58	58	58	58	58	58	N/A	
	Extract	100G	52	59	59	59	69	69	N/A
		200G	61	66	66	66	76	76	N/A

Specification	20	30	40	60	80	100	125
* For B, Q, and X-voltage models = 1 hp [.75 kW] and for N and P-voltage models = 2 hp [1.7 kW]							
** 20 and 30 pound models can be prep for steam and a kit is available for conversion.							
N/A = Not Applicable							

Table 1

Machine Dimensions

20-60 Pound Capacity Machines

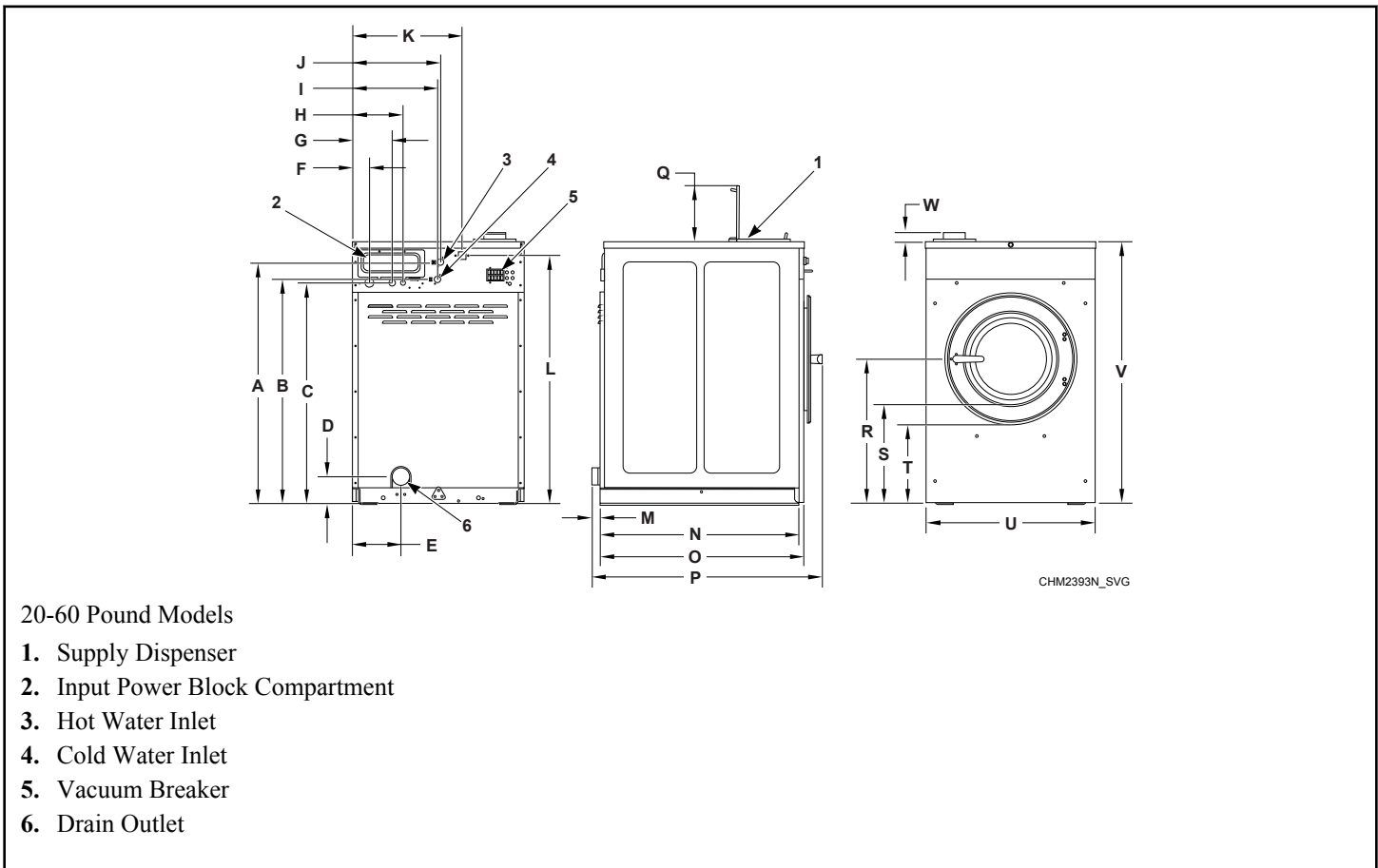


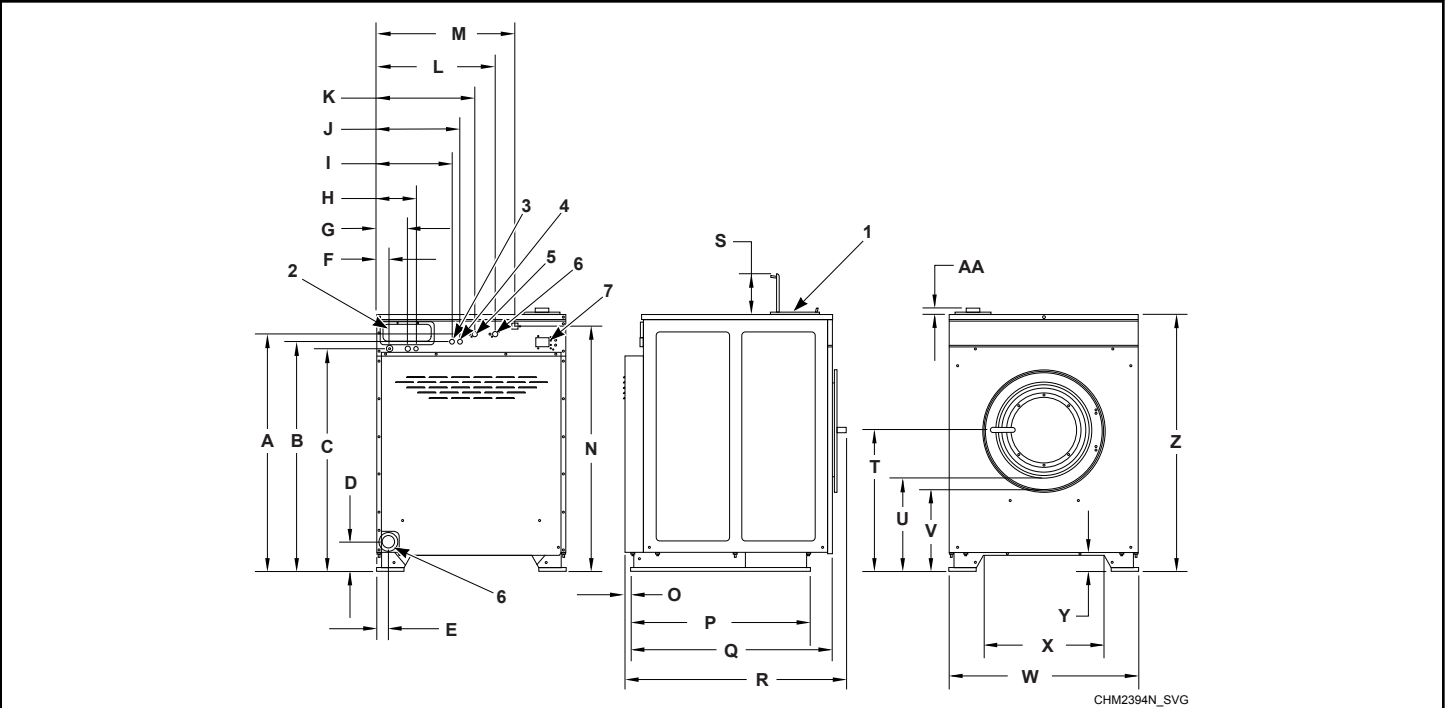
Figure 2

Machine Capacity Dimensions - 20-60 Pound Models					
	20 [Design 1 and 2]	20 [Design 3]	30	40	60
A	38.0 in. [965 mm]	39.0 in. [991 mm]	40.94 in. [1040 mm]	43.19 in. [1097 mm]	45.88 in. [1165 mm]
B	35.0 in. [889 mm]	36.0 in. [914 mm]	37.9 in. [963 mm]	40.2 in. [1021 mm]	42.8 in. [1087 mm]
C	34.5 in. [876 mm]	35.5 in. [902 mm]	37.5 in. [953 mm]	39.7 in. [1008 mm]	42.4 in. [1077 mm]
D	4.7 in. [119 mm]	4.7 in. [119 mm]	4.14 in. [105 mm]	4.51 in. [115 mm]	4.87 in. [124 mm]
E	7.8 in. [198 mm]	7.8 in. [198 mm]	9.3 in. [236 mm]	8.8 in. [224 mm]	9.9 in. [251 mm]
F	3 in. [76 mm]	3 in. [76 mm]	3 in. [76 mm]	3 in. [76 mm]	3 in. [76 mm]
G	6.9 in. [175 mm]	6.9 in. [175 mm]	6.9 in. [175 mm]	6.9 in. [175 mm]	6.9 in. [175 mm]
H	8.8 in. [224 mm]	8.8 in. [224 mm]	8.8 in. [224 mm]	8.8 in. [224 mm]	8.8 in. [224 mm]
I	15.2 in. [386 mm]	15.2 in. [386 mm]	15.2 in. [386 mm]	15.2 in. [386 mm]	19.9 in. [505 mm]
J	15.7 in. [399 mm]	15.7 in. [399 mm]	15.7 in. [399 mm]	15.7 in. [399 mm]	20.4 in. [518 mm]
K	N/A	N/A	N/A	19.5 in. [495 mm]	22.9 in. [582 mm]
L	N/A	N/A	N/A	44.6 in. [1133 mm]	47.3 in. [1201 mm]
M	0.3 in. [9 mm]	0.3 in. [9 mm]	0.3 in. [9 mm]	2.0 in. [51 mm]	2.0 in. [51 mm]
N	26.83 in. [681 mm]	26.83 in. [681 mm]	31.5 in. [800 mm]	35.52 in. [902 mm]	38.62 in. [981 mm]
O	27.3 in. [693 mm]	27.3 in. [693 mm]	31.8 in. [808 mm]	37 in. [940 mm]	39.5 in. [1003 mm]
P	30.85 in. [784 mm]	30.85 in. [784 mm]	35.29 in. [896 mm]	42.25 in. [1073 mm]	44.7 in. [1135 mm]
Q	9.0 in. [254 mm]	9.0 in. [254 mm]	9.0 in. [254 mm]	9.0 in. [254 mm]	9.0 in. [254 mm]
R	23.0 in. [584 mm]	23.0 in. [584 mm]	24.0 in. [610 mm]	26.0 in. [660 mm]	26.4 in. [671 mm]
S	17.0 in. [432 mm]	17.0 in. [432 mm]	17.0 in. [432 mm]	17.7 in. [450 mm]	18.1 in. [460 mm]

Machine Capacity Dimensions - 20-60 Pound Models					
	20 [Design 1 and 2]	20 [Design 3]	30	40	60
T	14.38 in. [365 mm]	14.38 in. [365 mm]	14 in. [356 mm]	14.56 in. [370 mm]	14.94 in. [379 mm]
U	26.0 in. [660 mm]	26.0 in. [660 mm]	29.0 in. [737 mm]	30.63 in. [778 mm]	34.06 in. [865 mm]
V	42.0 in. [1067 mm]	43.0 in. [1092 mm]	45.0 in. [1143 mm]	47.2 in. [1199 mm]	49.89 in. [1267 mm]
W	1.5 in. [38 mm]	1.5 in. [38 mm]	1.5 in. [38 mm]	1.5 in. [38 mm]	1.5 in. [38 mm]
N/A = Not Applicable					

Table 2

80 and 100 Pound Capacity Machines



CHM2394N_SVG

80 and 100 Pound Models

- 1. Supply Dispenser
- 2. Input Power Block Compartment
- 3. Auxiliary Hot Water Inlet
- 4. Auxiliary Cold Water Inlet
- 5. Cold Water Inlet
- 6. Hot Water Inlet
- 7. Vacuum Breaker
- 8. Drain Outlet

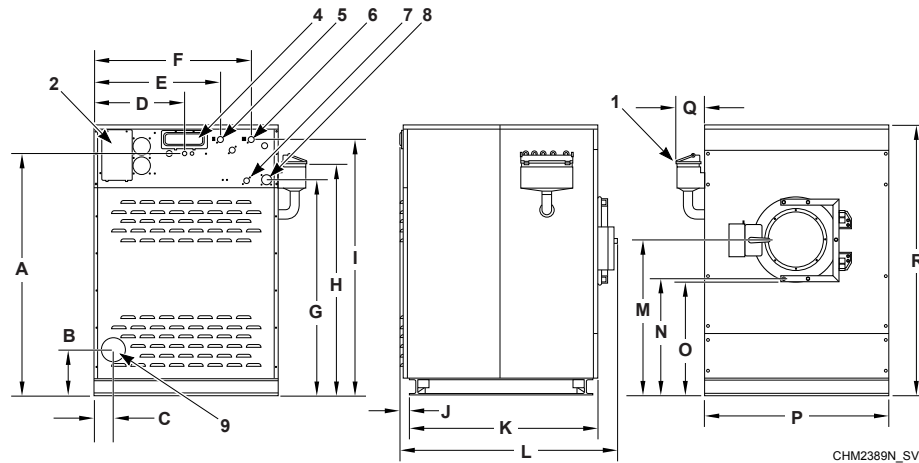
Figure 3

Machine Capacity Dimensions - 80 and 100 Pound Models			
A	51.82 in. [1316 mm]	O	1.4 in. [35 mm]
B	50.3 in. [1278 mm]	P	39.24 in. [997 mm]
C	48.7 in. [1237 mm]	Q	80 44.2 in. [1122 mm]
			100 48.2 in. [1223 mm]

Machine Capacity Dimensions - 80 and 100 Pound Models			
D	6.4 in. [163 mm]	R	80 48.6 in. [1234 mm]
			100 52.6 in. [1336 mm]
E	2.6 in. [66 mm]	S	9.0 in. [229 mm]
F	3.0 in. [76 mm]	T	30.9 in. [785 mm]
G	6.9 in. [175 mm]	U	20.8 in. [528 mm]
H	8.8 in. [224 mm]	V	17.91 in. [455 mm]
I	16.7 in. [424 mm]	W	41.5 in. [1054 mm]
J	18.2 in. [462 mm]	X	26.2 in. [665 mm]
K	21.7 in. [551 mm]	Y	3.6 in. [91 mm]
L	26.2 in. [665 mm]	Z	56.2 in. [1427 mm]
M	30.35 in. [771 mm]	AA	1.5 in. [38 mm]
N	53.57 in. [1361 mm]		

Table 3

125 Pound Capacity Machines



125 Pound Models

- 1. Dry Chemical Dispenser [Optional on OPL Models]
- 2. Input Power Block Compartment
- 3. Fans
- 4. Valve Panel
- 5. Cold Water Inlet
- 6. Hot Water Inlet
- 7. Liquid Chemical Inlet
- 8. Steam Inlet [Optional]
- 9. Drain Outlet

Figure 4

Machine Capacity Dimensions - 125 Pound Models			
A	63.04 in. [1601 mm]	J	2.29 in. [58 mm]
B	11.69 in. [297 mm]	K	49.02 in. [1245 mm]
C	5.01 in. [127 mm]	L	56.06 in. [1424 mm]
D	23.65 in. [601 mm]	M	40.16 in. [1020 mm]
E	33.03 in. [839 mm]	N	30.16 in. [766 mm]
F	39.28 in. [998 mm]	O	28.28 in. [718 mm]
G	55.81 in. [1418 mm]	P	48 in. [1219 mm]
H	60.21 in. [1529 mm]	Q	7.94 in. [202 mm]

Machine Capacity Dimensions - 125 Pound Models			
I	65.77 in. [1671 mm]	R	70.47 in. [1790 mm]

Table 4

Mounting Bolt Hole Locations – 20 and 30 Pound Models

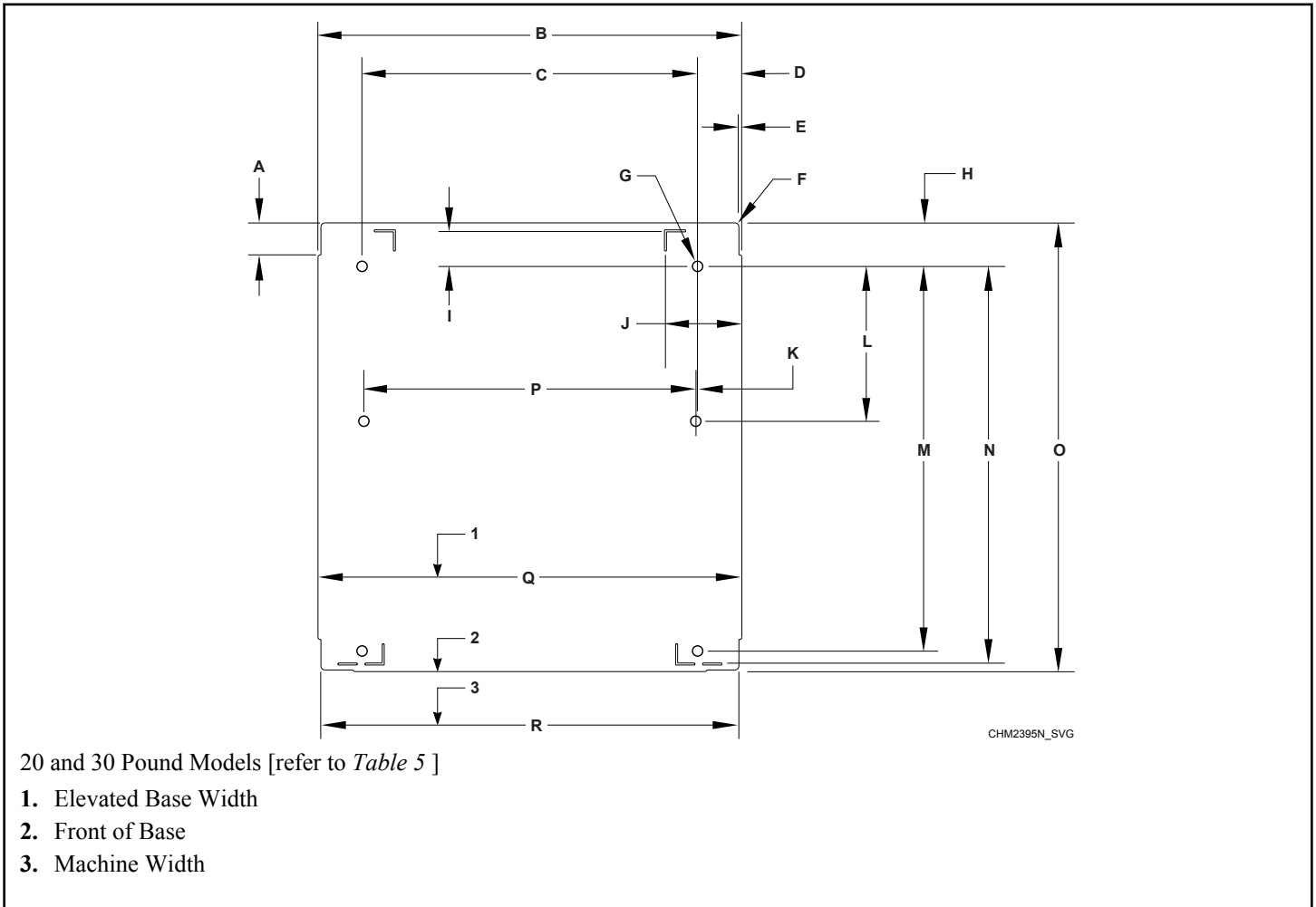


Figure 5

Mounting Bolt Hole Locations – 20 and 30 Pound Models		
	20	30
A	2 in. [51 mm]	2 in. [51 mm]
B	26.37 in. [670 mm]	29.38 in. [746 mm]

Mounting Bolt Hole Locations – 20 and 30 Pound Models		
	20	30
C	20.88 in. [530 mm]	23.89 in. [607 mm]
D	2.75 in. [70 mm]	2.75 in. [70 mm]
E	0.18 in. [5 mm]	0.18 in. [5 mm]
F	0.25 in. [6 mm]	0.25 in. [6 mm]
G	0.64 in. [16 mm]	0.64 in. [16 mm]
H	2.71 in. [69 mm]	2.37 in. [60 mm]
I	2.15 in. [55 mm]	1.81 in. [46 mm]
J	4.69 in. [119 mm]	4.69 in. [119 mm]
K	0.19 in. [5 mm]	0.19 in. [5 mm]
L	9.64 in. [245 mm]	10.5 in. [267 mm]
M	23.94 in. [608 mm]	28.94 in. [735 mm]
N	24.69 in. [627 mm]	29.69 in. [754 mm]
O	27.92 in. [709 mm]	32.59 in. [828 mm]
P	20.65 in. [524 mm]	23.5 in. [597 mm]
Q	26.37 in. [670 mm]	29.38 in. [746 mm]
R	26 in. [660 mm]	29.02 in. [737 mm]

Table 5

Mounting Bolt Hole Locations - 40 and 60 Pound Models

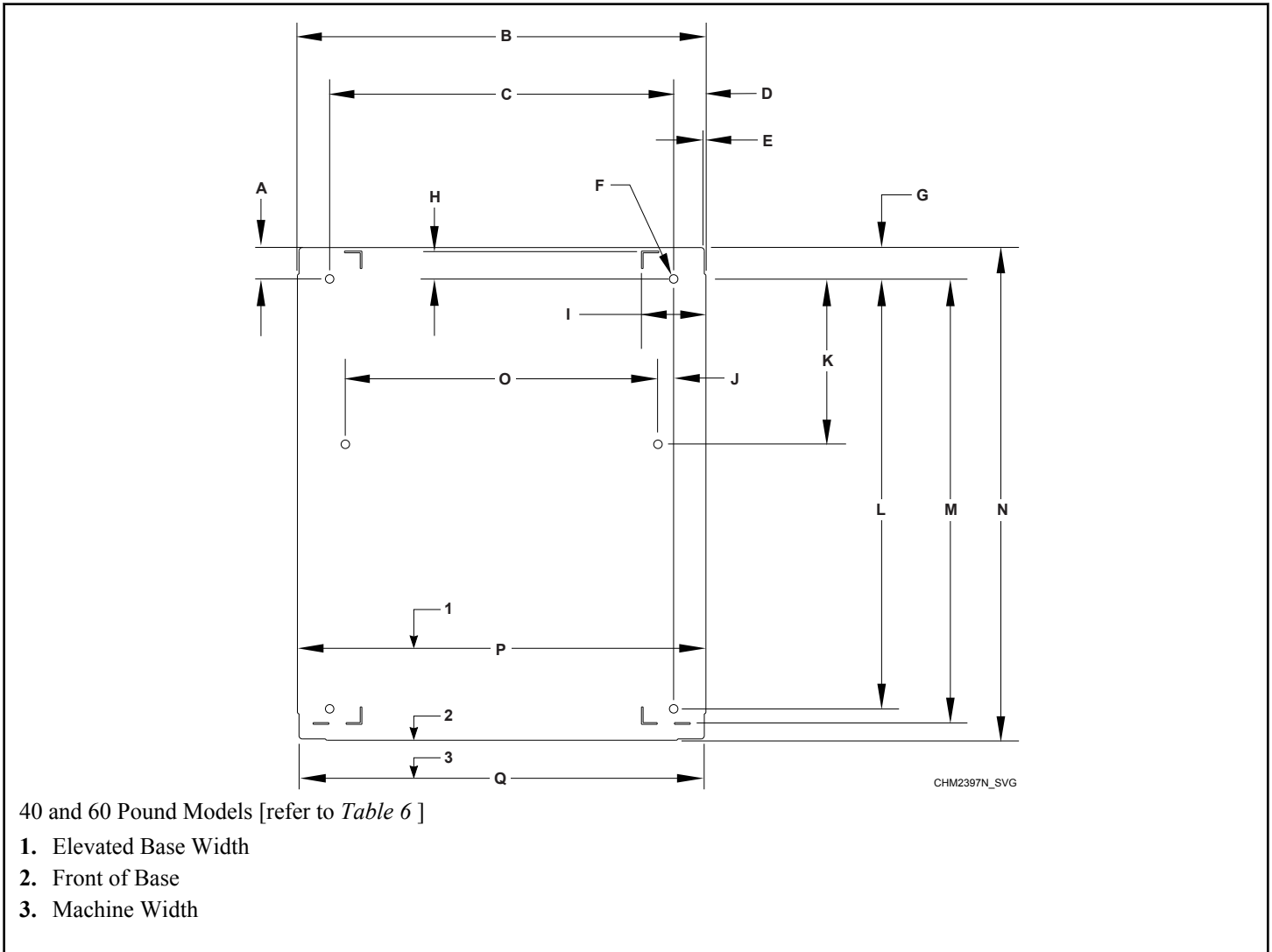


Figure 6

Mounting Bolt Hole Locations - 40 and 60 Pound Models		
	40	60
A	2 in. [51 mm]	2 in. [51 mm]
B	30.88 in [784 mm]	34.44 in. [875 mm]
C	26 in. [660 mm]	30 in. [762 mm]
D	2.44 in. [62 mm]	2.22 in. [56 mm]
E	0.12 in. [3 mm]	0.12 in. [3 mm]

Mounting Bolt Hole Locations - 40 and 60 Pound Models		
	40	60
F	0.64 in. [16 mm]	0.64 in. [16 mm]
G	2.37 in. [60 mm]	2.37 in. [60 mm]
H	2 in. [51 mm]	1.75 in. [44 mm]
I	4.75 in. [121 mm]	5.15 in. [131 mm]
J	1.19 in. [30 mm]	1.25 in. [32 mm]
K	12.5 in. [318 mm]	11.93 in. [303 mm]
L	32.5 in. [826 mm]	36 in. [914 mm]
M	33.54 in. [852 mm]	36.87 in. [936 mm]
N	37.25 in. [946 mm]	40.5 in. [1029 mm]
O	23.63 in. [600 mm]	27.5 in. [699 mm]
P	30.88 in. [784 mm]	34.44 in. [875 mm]
Q	30.63 in. [778 mm]	34.19 in. [868 mm]

Table 6

Mounting Bolt Hole Locations – 80 and 100 Pound Models

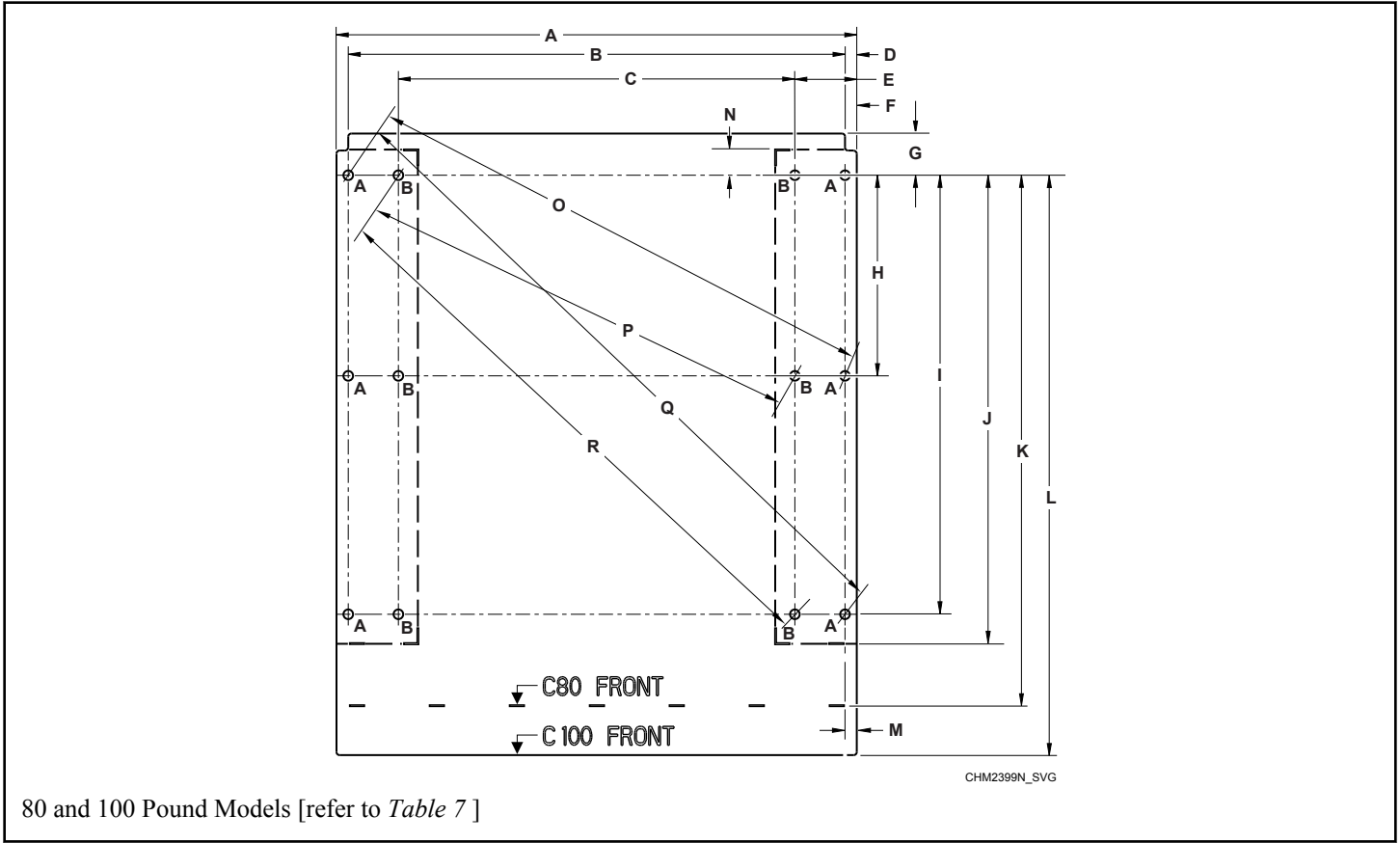


Figure 7

NOTE: For single machine installations or two machines installed back to back, use the outside bolt holes marked “A”. For multiple machines installed side by side with minimum clearance, use the inside bolt holes marked “B”.

Mounting Bolt Hole Locations – 80 and 100 Pound Models		
	80	100
A	41.5 in. [1054 mm]	41.5 in. [1054 mm]
B	39.62 in. [1006 mm]	39.62 in. [1006 mm]
C	31.62 in. [803 mm]	31.62 in. [803 mm]
D	.94 in. [24 mm]	.94 in. [24 mm]
E	4.94 in. [124 mm]	4.94 in. [124 mm]

Mounting Bolt Hole Locations – 80 and 100 Pound Models			
		80	100
F		6.63 in. [164 mm]	6.63 in. [164 mm]
G		3.3 in. [84 mm]	3.3 in. [84 mm]
H		16 in. [406 mm]	16 in. [406 mm]
I		35 in. [889 mm]	35 in. [889 mm]
J		37.3 in. [947 mm]	37.3 in. [947 mm]
K		42.2 in. [1073 mm]	N/A
L		N/A	46.2 in. [1260 mm]
M		1 in. [25 mm]	1 in. [25 mm]
N		1.96 in. [50 mm]	1.96 in. [50 mm]
O	Outside	42.72 in. [1085 mm]	35.43 in. [900 mm]
P	Inside	52.86 in. [1342 mm]	47.16 in. [1197 mm]
Q	Outside	35.43 in. [900 mm]	42.72 in. [1085 mm]
R	Inside	47.16 in. [1197 mm]	52.86 in. [1342 mm]
N/A = Not Applicable			

Table 7

Mounting Bolt Hole Locations – 125 Pound Models

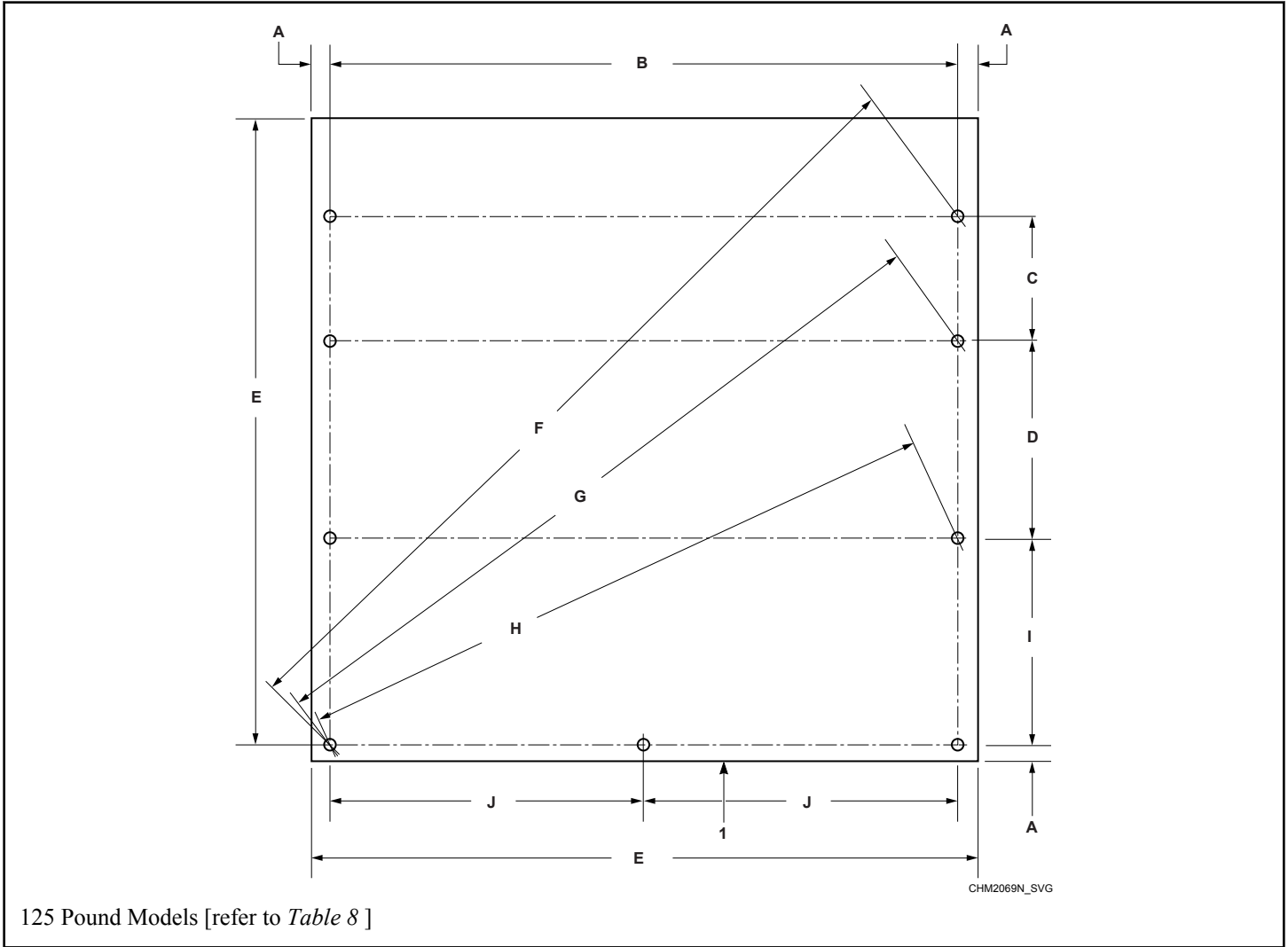


Figure 8

Machine Capacity Dimensions - 125 Pound Models	
	125
A	0.75 in. [19 mm]
B	46.5 in. [1181 mm]
C	10 in. [254 mm]
D	15 in. [381 mm]
E	48 in. [1219 mm]

Machine Capacity Dimensions - 125 Pound Models	
	125
F	61.5 in. [1562 mm]
G	55.47 in. [1409 mm]
H	48.94 in. [1243 mm]
I	15.25 in. [388 mm]
J	23.25 in. [591 mm]

Table 8

Floor Mounting Layout – 20-60 Pound Models

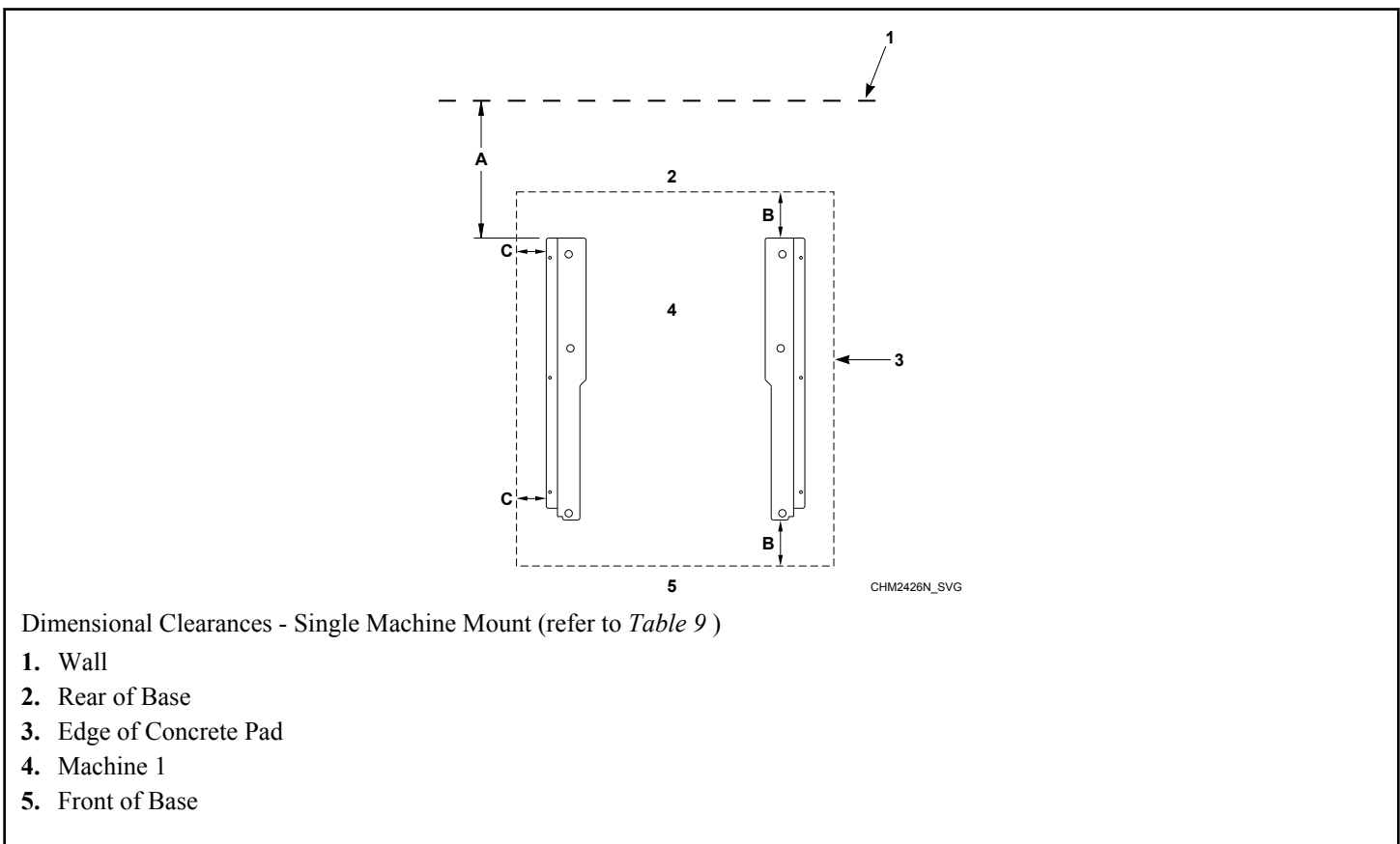


Figure 9

Dimensional Clearances - Single Machine Mount - 20-60 Pound Models				
Specifications	20	30	40	60
A - Distance to wall [minimum]	24 in. [610 mm]	24 in. [610 mm]	24 in. [610 mm]	24 in. [610 mm]
B - Distance of machine base to edge of pad [minimum]	3.44 in. [87 mm]	4 in. [102 mm]	3.99 in. [101 mm]	5.99 in. [152 mm]
C - Distance of machine base to edge of pad [minimum]	2.52 in. [64 mm]	2.51 in. [64 mm]	2.81 in. [71 mm]	5.18 in. [131 mm]

Table 9

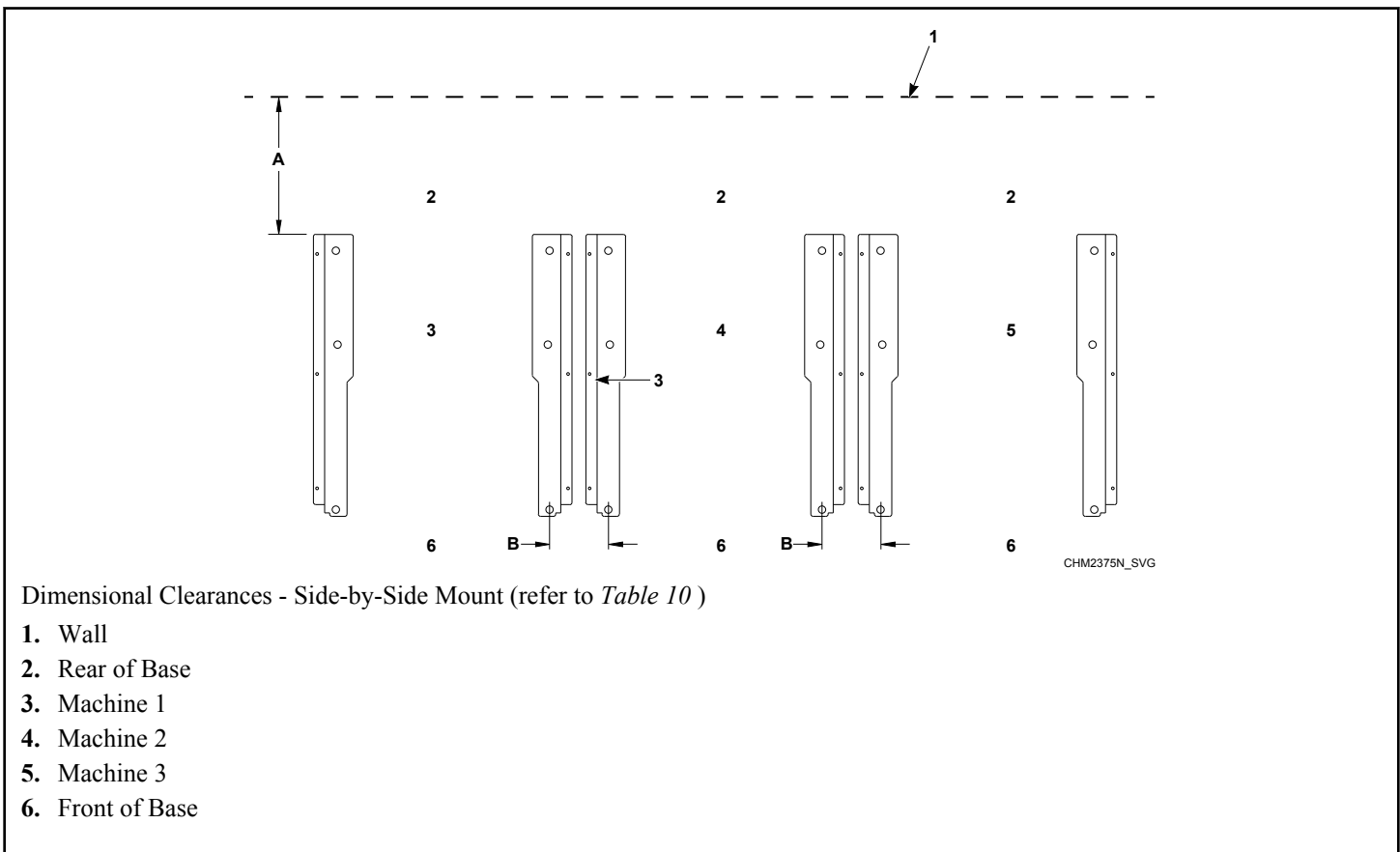


Figure 10

Dimensional Clearances - Side-by-Side Mount - 20-60 Pound Models				
Specifications	20	30	40	60
A - Distance to wall [minimum]	24 in. [610 mm]	24 in. [610 mm]	24 in. [610 mm]	24 in. [610 mm]

Dimensional Clearances - Side-by-Side Mount - 20-60 Pound Models					
Specifications		20	30	40	60
B	Mounted without bases [minimum]	5.14 in. [131 mm]	5.12 in. [130 mm]	4.63 in. [118 mm]	4.06 in. [103 mm]
	Mounted with bases [minimum]	5.5 in. [139 mm]	5.5 in. [139 mm]	4.88 in. [124 mm]	4.44 in. [112 mm]

Table 10

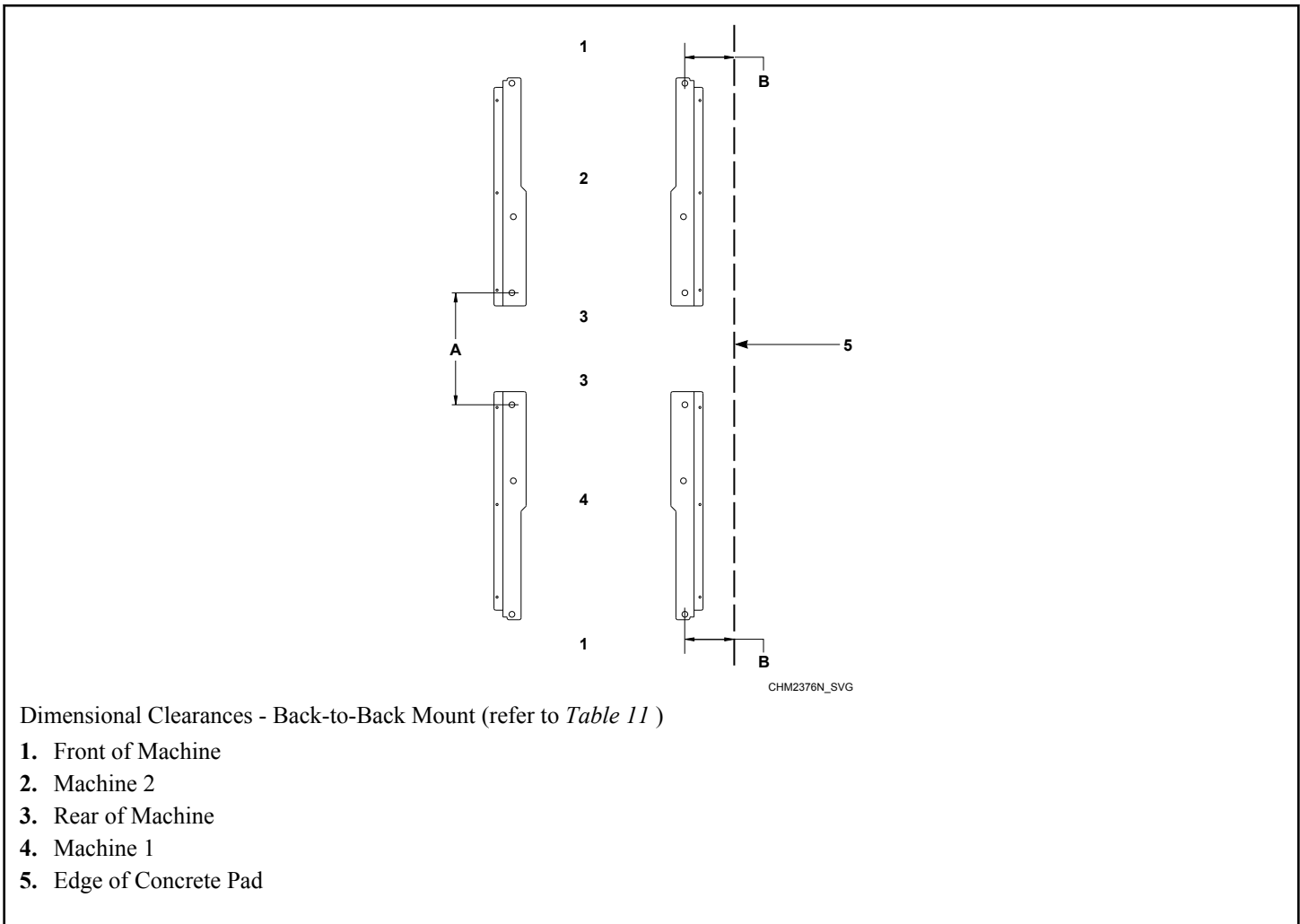


Figure 11

Dimensional Clearances - Back-to-Back Mount - 20-60 Pound Models				
Specifications	20	30	40	60
A [minimum]	28.3 in. [719 mm]	27.6 in. [702 mm]	28.0 in. [710 mm]	27.5 in. [699 mm]
B [minimum]	5.26 in. [134 mm]	5.26 in. [134 mm]	6.19 in. [157 mm]	8.9 in. [226 mm]

Table 11

Floor Mounting Layout – 80 and 100 Pound Models

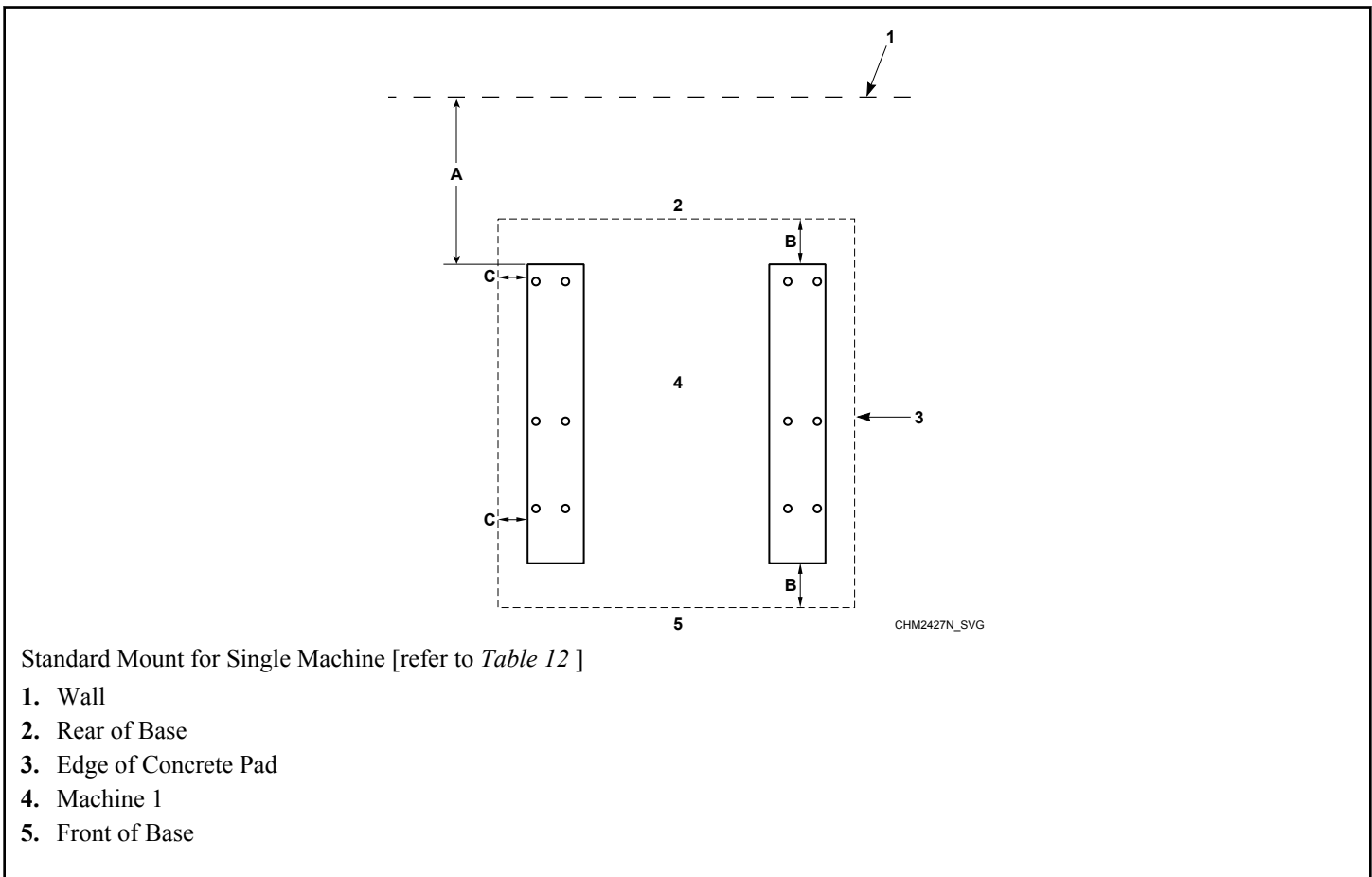


Figure 12

Standard Mount for Single Machine - 80 and 100 Pound Models	
Specifications	80-100
A - Distance to wall [minimum]	24 in. [610 mm]

Standard Mount for Single Machine - 80 and 100 Pound Models	
Specifications	80-100
B - Distance of machine base to edge of pad [minimum]	4.98 in. [126 mm]
C - Distance of machine base to edge of pad [minimum]	8 in. [203 mm]

Table 12

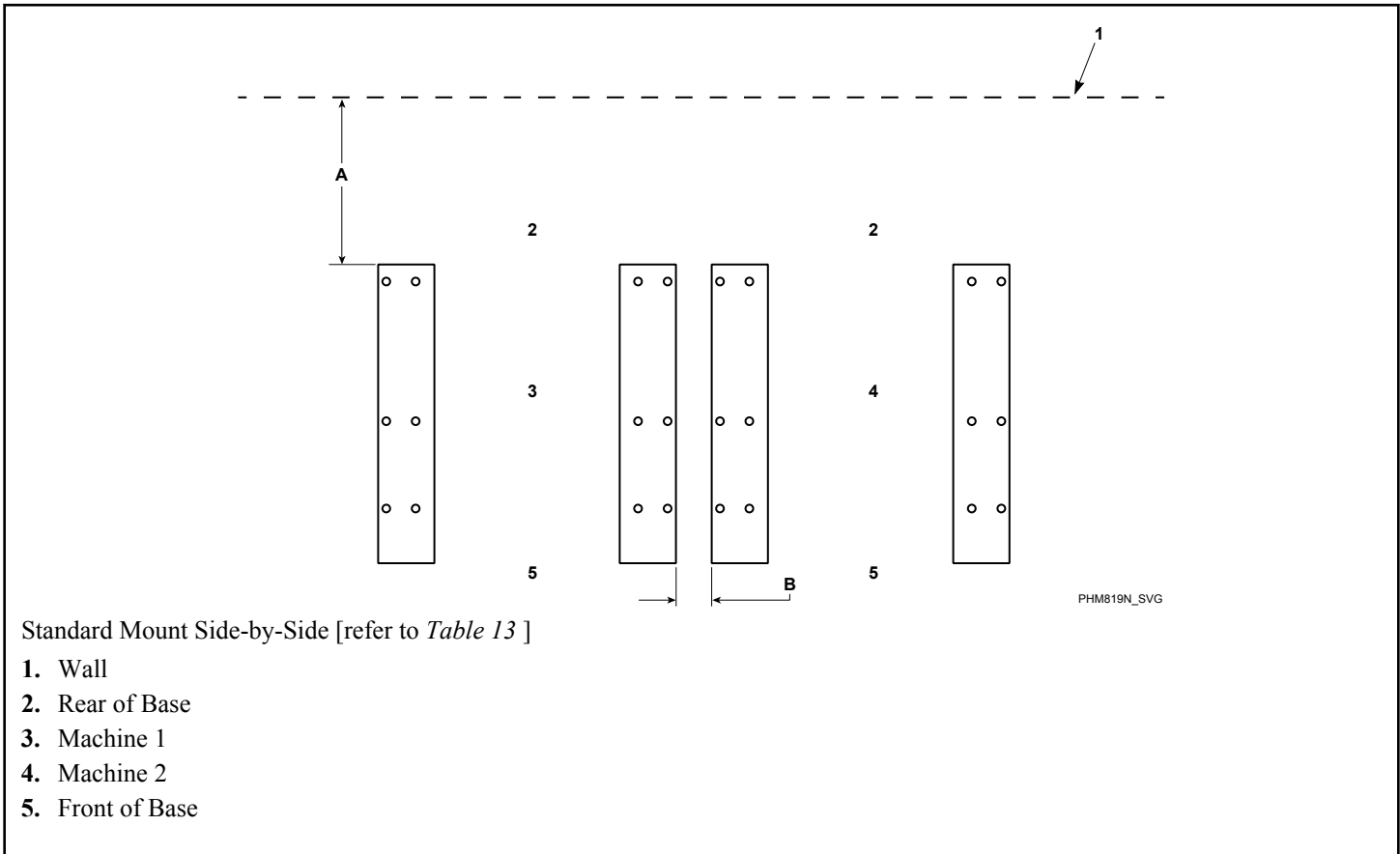


Figure 13

Standard Mount Side-by-Side - 80 and 100 Pound Models	
Specifications	80-100
A - Distance to wall [minimum]	24 in. [610 mm]
B - Adjacent unit bolt spacing [minimum]	6 in. [152 mm]

Table 13

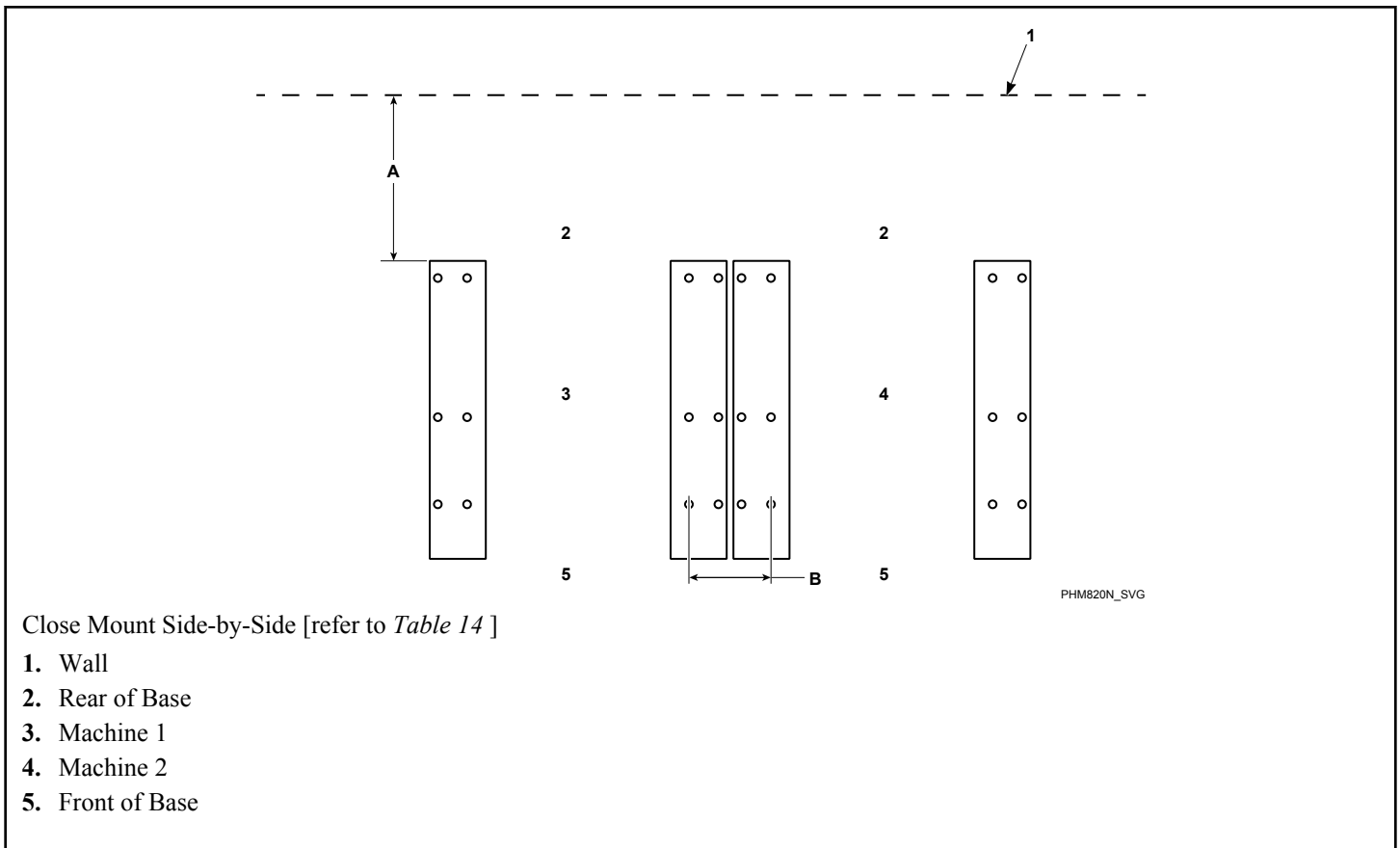
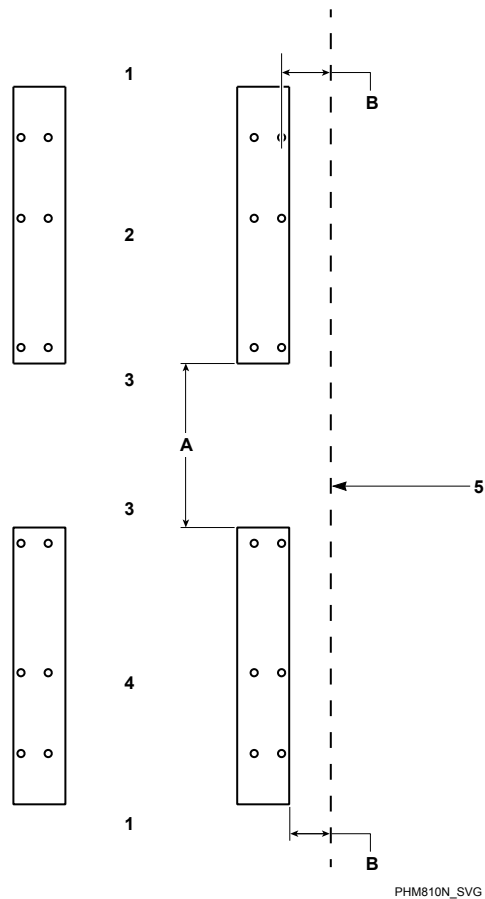


Figure 14

Close Mount Side-by-Side - 80 and 100 Pound Models	
Specifications	80-100
A - Distance to wall [minimum]	24 in. [610 mm]
B - Adjacent unit bolt spacing [minimum]	10.38 in. [264 mm]

Table 14

IMPORTANT: When close mounting, bolt machine using inside bolt holes.



PHM810N_SVG

Back-to-Back Mount [refer to *Table 15*]

- 1. Front of Machine
- 2. Machine 2
- 3. Rear of Machine
- 4. Machine 1
- 5. Edge of Concrete Pad

Figure 15

Back-to-Back Mount - 80 and 100 Pound Models	
Specifications	80-100
A [minimum]	33.3 in. [846 mm]
B [minimum]	8 in. [203 mm]

Table 15

Installation

Pallet Jack Cover Plate Removal [80 and 100 Pound Models Only]

Prior to installing an 80 and 100 pound machine, the optional pallet jack cover plate can be removed in preparation of re-installing to machine base frame after machine installation.

1. Locate cover plate on back panel.
2. Remove back panel.
3. Remove all hardware holding cover plate on back panel, refer to *Figure 16*. DO NOT DISCARD HARDWARE.
4. Remove cover plate.

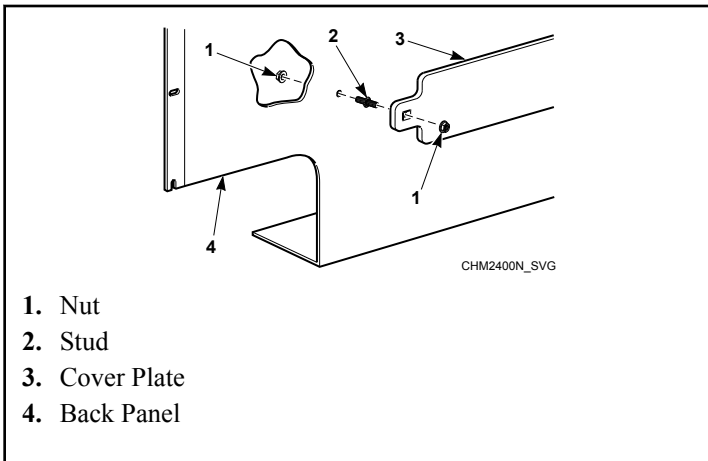


Figure 16

5. Re-install back panel.

NOTE: Refer to *Pallet Jack cover Plate Installation [80 and 100 Pound Models Only]* section to install cover plate to machine base after machine installation.

Single Machine Foundation Requirements

A minimum 3500 psi [refer to rating per supplier] reinforced concrete set on a prepared bed is required for all new machine installations.

NOTE: Do not mount on wooden floors, tile floors, elevated floor levels, stacked multiple base frames, or over basements or crawl spaces because of the high extract speed and the G-forces exerted. For 80 pound models and larger, do not mount on metal base frames.

Thoroughness of detail must be stressed with all foundation work to ensure a stable unit installation, eliminating possibilities of excessive vibration during extract.



WARNING

To reduce the risk of fire, serious injury, property damage and/or death, install the machine on a level (within 3/8 inch), uncovered concrete floor of sufficient strength at grade.

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For new foundations a mounting bolt template or an elevated metal base frame is available at extra cost. For all installations a concrete hardware kit is available at extra cost.

The machine must be anchored to a smooth level surface so that the entire base of the machine is supported and rests on the mounting surface.

IMPORTANT: Do not permanently support the machine on only four points with spacers. Grouting is required and spacers must be removed.

Machine Installation with Existing Floor

The existing floor slab must meet minimum requirements shown in *Machine Foundation and Pad Installation* per machine model. The floor must be reinforced concrete without voids under slab. If the floor meets these requirements and an elevated pad is NOT desired, refer to *Figure 1* and proceed to *Machine Mounting and Grouting* section.

Elevated Pad Installation with Existing Floor

The existing floor slab must meet minimum requirements shown in *Machine Foundation and Pad Installation* per machine. The floor must be reinforced concrete without voids under slab. If the slab meets these requirements and an elevated pad is desired, refer to *Figure 2* and proceed to *Machine Foundation and Pad Installation* section.

Elevated Base Frame Installation with Existing Floor

The existing floor slab must meet minimum requirements shown in *Machine Foundation and Pad Installation* per machine. The floor must be reinforced concrete without voids under slab. If the slab meets these requirements and an elevated base frame is desired, refer to *Figure 1* and *Figure 3* and proceed to *Machine Mounting and Grouting* section.

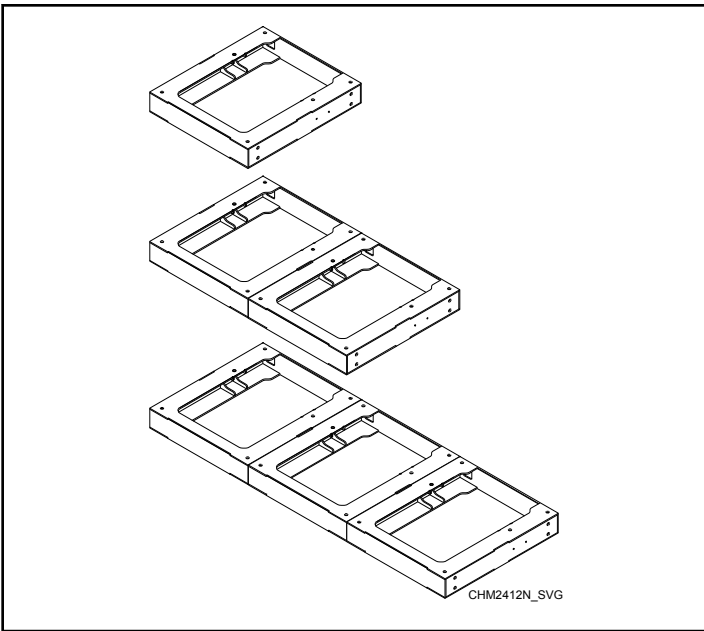


Figure 17

Isolated Pad Installation

This type of installation is NOT recommended. Installer MUST consult a Structural Engineer for concrete specifications and requirements for installations that will not be tied into adjacent foundations.

IMPORTANT: The above instructions and recommendations are conservative specifications for a typical installation based on consultations with a structural engineer. Alliance Laundry Systems stands behind all installations meeting these specifications. For alternate installation specifications based on your soil type, location, building structure, unique floor geometry, machine types, and utilities, consult a structural engineer in your local area.

Machine Foundation and Pad Installation

A concrete pad may be constructed to elevate a machine. Care must be exercised in the design of the pad due to the force exerted by the machine during extract. This concrete pad, recommended not to exceed 8 inches [203 mm] above existing floor, must be placed, reinforced with rebar and tied to the existing floor. Refer to Table 16 , Figure 18 , Figure 19 and Figure 20 for multiple machine installations.

New Foundation

If the existing floor slab does not meet the single machine foundation requirements per model, refer to Figure 3 and proceed to Machine Foundation and Pad Installation section.

Machine Foundation and Pad Installation							
Specification		20	30	40	60	80-100	125
Minimum Foundation Thickness	F-speed	4 in. [102 mm]	4 in. [102 mm]	4 in. [102 mm]	4 in. [102 mm]	6 in. [152 mm]	N/A
	V-speed			6 in. [152 mm]	6 in. [152 mm]	9 in. [229 mm]	12 in. [305 mm]
Minimum Excavation Depth	F-speed	8 in. [203 mm]	8 in. [203 mm]	8 in. [203 mm]	8 in. [203 mm]	12 in. [305 mm]	N/A
	V-speed			12 in. [305 mm]	12 in. [305 mm]	15 in. [381 mm]	18 in. [457 mm]
Minimum Pad Size							
Single machine [WxD]		31.4 in. x 34.8 in. [798 mm x 884 mm]	34.4 in. x 39.5 in. [874 mm x 1003 mm]	36.5 in. x 43.5 in. [927 mm x 1105 mm]	44.8 in. x 50.6 in. [1139 mm x 1285 mm]	57.5 in. x 49.2 in. [1461 mm x 1250 mm]	72 in. x 72 in. [1828 mm x 1828 mm]

Machine Foundation and Pad Installation						
Specification	20	30	40	60	80-100	125
Two machines, Side-by-side [WxD]	57.54 in. x 34.8 in. [1462 mm x 884 mm]	63.52 in. x 39.5 in. [1613 mm x 1003 mm]	67.38 in. x 43.5 in. [1711 mm x 1105 mm]	78.98 in. x 50.6 in. [2006 mm x 1285 mm]	99.5 in. x 49.2 in. [2527 mm x 1250 mm]	133 in. x 72 in. [3378 mm x 1828 mm]
Two machines, Back-to-back [WxD]	31.4 in. x 88.63 in. [798 mm x 2251 mm]	34.4 in. x 98.37 in. [874 mm x 2499 mm]	36.5 in. x 115.23 in. [927 mm x 2927 mm]	44.8 in. x 119.48 in. [1138 mm x 3035 mm]	51.5 in. x 130.56 in. [1308 mm x 3316 mm]	72 in. x 156 in. [1828 mm x 3962 mm]
NOTE: Inside and outside mounting only available on 80 and 100 pound models.						
N/A = Not Applicable						

Table 16

IMPORTANT: Do NOT install a pad on top of the existing floor. The foundation and pad must be constructed and tied together as one piece.

If the existing floor is not reinforced concrete at least of minimum thickness [depending on model], an elevated pad is desired or multiple machines are to be installed, the following steps must be performed [refer to *Figure 18*, *Figure 19*, and *Figure 20*]:

1. Cut a hole larger on all sides than the machine base through the existing floor, refer to *Table 16*.
2. Excavate to a depth as indicated in *Table 16* from the top of the existing floor.
3. If installing a foundation with elevated pad, prepare a form for the above-ground portion of the foundation. Verify that the top of the foundation is level. The height of the foundation pad must not exceed 8 inches [203 mm] above the existing floor.
4. Backfill with clean fill dirt.
5. Compact backfill, making sure to allow for correct concrete thickness.
6. Drill holes [refer to manufacturer’s requirements for drill hole size] for the perimeter reinforcing bar at a depth of 2.5 inches [64 mm] into the existing floor. The reinforcing should be 12 inches [305 mm] on center each way around entire perimeter.
7. Clean out debris from each reinforcing bar hole.
8. Fill half the hole depth with acrylic adhesive.
9. Using #4 [60 ksi] reinforcing bar, tie new pad to existing floor making sure to tie reinforcing bars at the intersections and us-

ing proper reinforcing bar supports to hold bars at the proper depth in the pad.

10. Allow adhesive around reinforcing bar to cure properly, refer to adhesive manufacturer for recommended cure times.
 11. Completely fill with 3500 psi minimum concrete up to the existing foundation level plus any added level [maximum of 8 inch [203 mm]] for the desired elevated pad. The concrete must be poured so that the entire foundation and pad cures as one piece.
 12. Allow concrete to cure, refer to manufacturer’s recommended cure times.
 13. Using a mounting bolt template, elevated base frame or the machine base, mark where the holes should be drilled to mount the machine.
- NOTE: As an alternate method, cast in the Grade 5 (minimum SAE rating), 5/8 inches [16 mm] for 20-60 pound models and 3/4 inch [19 mm] for 80-125 pound models anchor bolts as the concrete is poured, refer to *Figure 22*. Ensure that the bolt threads extend a minimum of 3.5 inches [64 mm] above floor level and a minimum of 6 inches [89 mm] for 20-60 pound models, 5.5 inches [152 mm] for 80-100 pound models and for 125 pound models if the bolt is embedded in concrete.**
14. Proceed to *Machine Mounting and Grouting* section.

Machine Installation

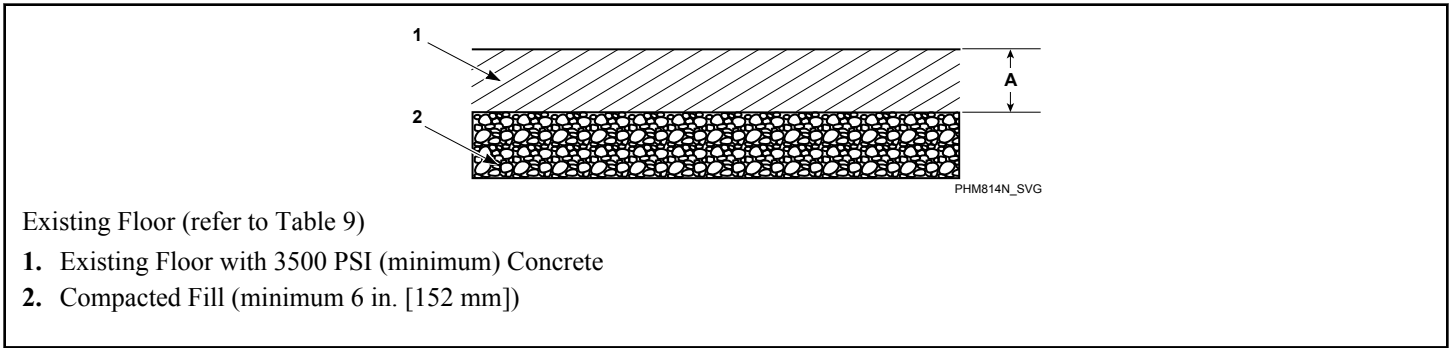


Figure 18

Existing Floor					
Description	20-30 (F and V-speed)	40-60 (F-speed)	40-60 (V-speed)	80-100 (F and V-speed)	125 (V-speed)
A - Required Thickness of Existing Floor (minimum)	4 in. [102 mm]	4 in. [102 mm]	6 in. [152 mm]	9 in. [229 mm]	12 in. [305 mm]

Table 17

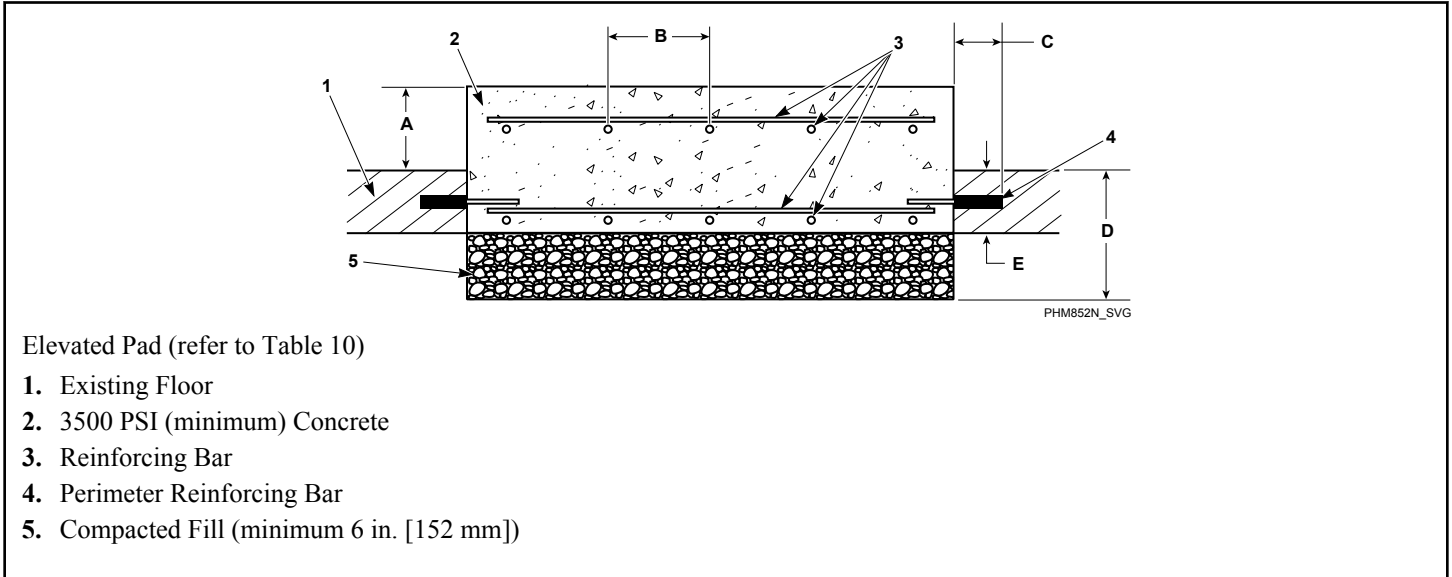


Figure 19

Elevated Pad					
Description	20-30 (F and V-speed)	40-60 (F-speed)	40-60 (V-speed)	80-100 (F and V-speed)	125 (V-speed)
A - Hight of Elevated Pad Above Floor (maximum)	8 in. [203 mm]	8 in. [203 mm]	8 in. [203 mm]	8 in. [203 mm]	8 in. [203 mm]
B - Distance Between Reinforcing Bars (maximum)	12 in. [305 mm]	12 in. [305 mm]	12 in. [305 mm]	12 in. [305 mm]	12 in. [305 mm]
C - Length of Reinforcing Bar Extending into Existing Floor (minimum)	2.5 in. [64 mm]	2.5 in. [64 mm]	2.5 in. [64 mm]	2.5 in. [64 mm]	2.5 in. [64 mm]
D - Total Depth of Foundation (minimum)	8 in. [203 mm]	8 in. [203 mm]	12 in. [305 mm]	15 in. [381 mm]	18 in. [457 mm]
E - Required Thickness of Existing Floor (minimum)	4 in. [102 mm]	4 in. [102 mm]	6 in. [152 mm]	6 in. [152 mm]	6 in. [152 mm]

Table 18

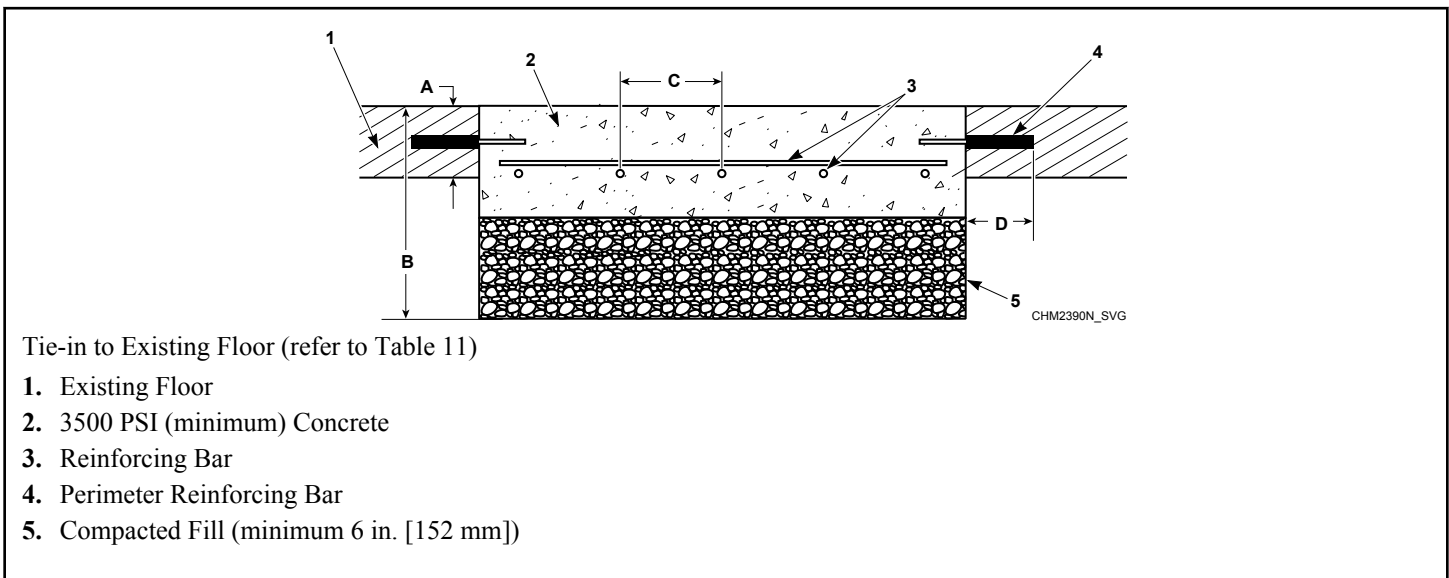


Figure 20

Tie-in to Existing Floor					
Description	20-30 (F and V-speed)	40-60 (F-speed)	40-60 (V-speed)	80-100 (F and V-speed)	125 (V-speed)
A - Required Thickness of Existing Floor (minimum)	4 in. [102 mm]	4 in. [102 mm]	6 in. [152 mm]	6 in. [152 mm]	6 in. [152 mm]
B - Total Depth of Foundation (minimum)	8 in. [203 mm]	8 in. [203 mm]	12 in. [305 mm]	15 in. [381 mm]	18 in. [457 mm]
C - Distance Between Reinforcing Bars (minimum)	12 in. [305 mm]	12 in. [305 mm]	12 in. [305 mm]	12 in. [305 mm]	12 in. [305 mm]
D - Length of Reinforcing Bar Extending into Existing Floor (minimum)	2.5 in. [64 mm]	2.5 in. [64 mm]	2.5 in. [64 mm]	2.5 in. [64 mm]	2.5 in. [64 mm]

Table 19

Machine Mounting and Grouting


NOTE: After the concrete has cured completely and the cast-in-place method was used, refer to *Figure 22* and proceed to step 7. If acrylic adhesive anchors are desired, refer to *Figure 21* and proceed with step 1 after concrete has cured completely.

1. Refer to *Table 20* to set the drill depth gauge.
2. Drill the holes to the set depth.
3. Use compressed air or squeeze bulb to clean out debris from each hole.
4. Fill half the hole depth with an industry-accepted adhesive anchoring system.
5. Insert anchor bolt until it reaches the bottom and a minimum of 2.5 inches [64 mm] extends above surface and a minimum of 3.5 inches [89 mm] for 20-60 pound models, 6 inches [127 mm] for 80-100 pound models or 5.5 inches [127 mm] for 125 pound models is embedded in concrete.
6. Ensure all air pockets are removed from adhesive surrounding the bolt.
7. Allow adhesive around bolt to cure completely.
8. Remove shipping materials and place the machine or elevated base frame carefully over the bolts.

NOTE: Never attempt to lift the machine by the door handle or by pushing on the cover panels. Always insert a pry bar or other lifting device under the bottom frame of the machine to move it.

IMPORTANT: DO NOT install 80 pound or larger machines on an elevated metal base frame.

9. Raise and level the machine or elevated base frame 0.5 inch [1.27 cm] off the floor on four corners, using spacers such as nut fasteners.

	WARNING
Crush hazard. To avoid personal injury and/or property damage, do not tip the machine more than 25 degrees in any direction.	
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10. Completely fill the space between the elevated base frame or machine base and the floor with a good quality **non-shrinking machinery precision grout** to ensure a stable installation. Grout completely under frame. Remove front panel and back panel to gain access to **entire perimeter of base plates**. Force grout under base until all voids are filled.
IMPORTANT: Minimum Grade 5, SAE rating, flat washers and minimum Grade 5, SAE rating, serrated hex flange locknuts are the recommended hardware for anchoring machine or elevated base frame to anchor bolts.
11. Position the flat washers and locknuts on the anchor bolts and finger-tighten to machine base or elevated base frame.
12. Allow machine grout to set, but not cure.
IMPORTANT: Refer to bolt manufacturer's recommended adhesive cure times.
13. Remove the spacers carefully, allowing the machine base or elevated base frame to settle into the wet grout.

NOTE: If installing a 20 through 60 pound model directly to finished floor, wait until grout is completely cured and skip to Step 18. If installing on elevated base frame, proceed to Step 14.

20-60 Pound Models

14. After the grout is completely cured, position the machine over the elevated base frame.
15. Align the mounting holes on the machine with the corresponding holes on the elevated base frame.
16. Install a bolt, flat washer and locknut in each mounting hole.
17. Hand tighten each nut.
 - a. Tighten the two rear nuts two turns.
 - b. Tighten the two front nuts two turns.

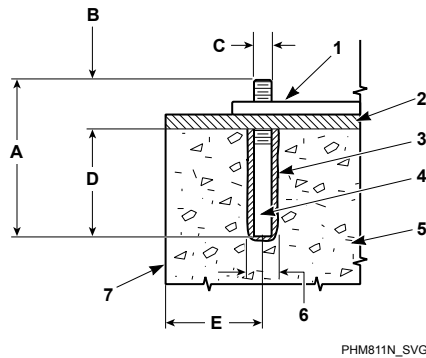
- c. Tighten the two middle nuts firmly.
18. Torque all the locknuts to 90 ± 9 ft.-lbs. – one after the other – until all are tightened evenly and the machine is fastened securely to the elevated base frame or floor.

80 Pound and Larger Models

19. After the grout is completely cured, torque the locknuts to 150 ± 15 ft.-lbs. – one after the other – until all are tightened evenly and the machine is fastened securely to the floor.

IMPORTANT: Refer to recommended grout cure times from manufacturer before torquing locknuts.

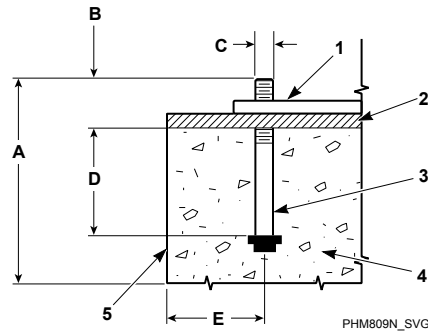
NOTE: Check and retighten the locknuts after five to ten days of operation and every month thereafter.



Acrylic Adhesive Anchors [refer to *Table 20*]

1. Machine Frame Base
2. Grout 0.5 in. [13 mm]
3. Acrylic Adhesive
4. Anchor Bolt [minimum Grade 5 SAE rating]
5. Concrete
6. Drill Hole Size per Manufacturer Requirements
7. Edge of Pad

Figure 21



Cast-in-place Anchors [refer to *Table 20*]

- 1. Machine Frame Base
- 2. Grout
- 3. Anchor Bolt [minimum Grade 5 SAE rating]
- 4. Concrete
- 5. Edge of Pad

Figure 22

Minimum Anchoring Specifications					
	Specification	20-40	60	80-100	125
	Number of Bolts	4 or 6*	6	6	10
A	Bolt Length	6 in. [152 mm]	6 in. [152 mm]	8.75 in. [216 mm]	8 in. [203 mm]
B	Thread Extension	2.5 in. [64 mm]	2.5 in. [64 mm]	2.75 in. [64 mm]	2.5 in. [64 mm]
C	Bolt Diameter	5/8 in. [16 mm]	5/8 in. [16 mm]	3/4 in. [19 mm]	3/4 in. [19 mm]
D	Embedment Depth	3.5 in. [89 mm]	3.5 in. [89 mm]	6 in. [152 mm]	5.5 in. [127 mm]
E	Distance from Bolt Center to Edge of Concrete Pad	Refer to <i>Table 10</i>	Refer to <i>Table 10</i>	Refer to <i>Table 13</i>	6 in. [152 mm]
<p>* On 20-40 pound models, the four [4]corner bolts are required and the two [2] center bolts are optional when mounting a machine or elevated base frame to floor.</p>					

Table 20

Floor Load Data								
Specification		20	30	40	60	80	100	125
Static floor load, lbs. [kN]		420 [1.87]	570 [2.54]	700 [3.11]	940 [4.18]	1550 [6.89]	1670 [7.51]	2795 [12.43]
Static pressure, lbs.-ft ² [kN-m ²]		96 [4.60]	99 [4.74]	100 [4.79]	106 [5.08]	137 [6.56]	147 [7.04]	163 [7.80]
Dynamic floor load, lbs. [kN]		420 [1.86]	630 [2.80]	840 [3.74]	1260 [5.61]	1680 [7.48]	1680 [7.48]	2814 [12.52]
Dynamic floor pressure, lbs.-ft ² [kN-m ²]		96 [4.60]	109 [5.22]	119 [5.70]	143 [6.85]	149 [7.13]	149 [7.13]	165 [7.9]
Dynamic load fre- quency, Hz	F-speed	9.7	9.0	8.6	8.1	7.4	7.4	N/A
	V-speed	13.7	12.8	12.2	11.4	10.4	9.5	8.3
Maximum moment about machine base, lbs.-ft. [kN-m]		805 [1.09]	1260 [1.71]	1820 [2.47]	2770 [3.76]	4330 [5.87]	4330 [5.87]	9398 [12.74]
Maximum vertical load, lbs. [kN]		795 [3.54]	1150 [5.12]	1470 [6.54]	2080 [9.25]	3050 [13.57]	3140 [13.82]	5365 [23.86]
N/A = Not Applicable								

Table 21

Drain Connection

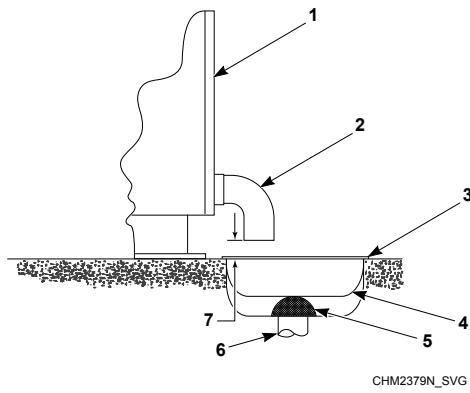
IMPORTANT: Machine must be installed in accordance with all local codes and ordinances.

All drain systems must be vented to prevent an air lock or siphoning.

Use the supplied black rubber adapter and clamps to transition from the machine drain outlet to the 2 inches [51 mm] schedule

40 PVC plumbing [20 and 30 models] and the 3 inches [76 mm] schedule 40 PVC plumbing [40-125 models].

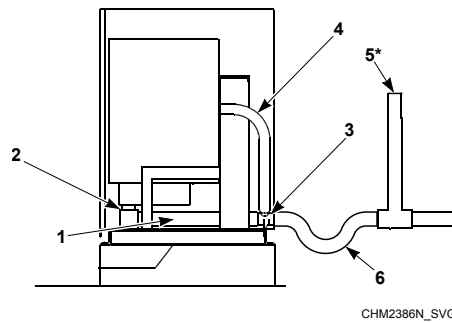
If proper drain size is not available or practical, a surge tank is required. A surge tank along with a sump pump should be used when gravity drainage is not possible.



Drain Trough System

1. Rear of Machine
2. Drain Pipe
3. Steel Grate
4. Drain Trough
5. Strainer
6. Waste Line
7. 1 in. [25 mm] minimum gap

Figure 23



* Drain line must be vented to meet local plumbing codes.

Direct Drain System

1. Drain Hose
2. Drain Valve
3. Drain Tee
4. Overflow Hose
5. Vent Pipe*
6. Trap [as required by local codes]

Figure 24

IMPORTANT: Increasing the drain hose length, installing elbows, or causing bends will decrease drain flow rates and increase drain times, impairing machine performance.

NOTE: Installation of additional machines will require larger drain connections. Refer to *Drain Line Sizing / Minimum Drain ID*.

Drain Information							
	20	30	40	60	80	100	125
Drain connection size	2 in. [51 mm]	2 in. [51 mm]	3 in. [76 mm*]	3 in. [76 mm*]	3 in. [76 mm*]	3 in. [76 mm*]	3.5 in. [89 mm*]
Overflow drain connection size	1.5 in. [457 mm]	1.5 in. [457 mm]	1.5 in. [457 mm]	1.5 in. [457 mm]	2.25 in. [686 mm]	2.25 in. [686 mm]	2.25 in. [686 mm]
Number of drain outlets	1	1	1	1	1	1	1
Drain flow capacity	25 gal/min [95 l/min]	30 gal/min [114 l/min]	40 gal/min [151 l/min]	50 gal/min [189 l/min]	55 gal/min [208 l/min]	55 gal/min [208 l/min]	70 gal/min [265 l/min]
Recommended drain pit size	2.0 ft ³ [57 l]	2.5 ft ³ [71 l]	3.5 ft ³ [128 l]	5.7 ft ³ [99 l]	8.0 ft ³ [221 l]	9.5 ft ³ [269 l]	13 ft ³ [368 l]


* Also works with 3 in. OD PVC pipe if connected to inside of drain tee connector.

Table 22

Drain Line Sizing / Minimum Drain ID					
Model	Number of Machines				
	1	2	3	4	5
20	2 in. [50 mm]	3 in. [76 mm]	3 in. [76 mm]	4 in. [102 mm]	4 in. [102 mm]
30	2 in. [50 mm]	3 in. [76 mm]	3 in. [76 mm]	4 in. [102 mm]	4 in. [102 mm]
40	3 in. [76 mm]	4 in. [102 mm]	4 in. [102 mm]	4 in. [102 mm]	6 in. [152 mm]
60	3 in. [76 mm]	4 in. [102 mm]	4 in. [102 mm]	4 in. [102 mm]	6 in. [152 mm]
80-125	4 in. [102 mm]	6 in. [152 mm]	6 in. [152 mm]	8 in. [203 mm]	8 in. [203 mm]

Table 23

Water Connection Requirements

	WARNING
<p>To prevent personal injury, avoid contact with inlet water temperatures higher than 125° Fahrenheit [51° Celsius] and hot surfaces.</p>	
W748	

The maximum water inlet temperature for vended models is 125°F [51°C] and the recommended maximum water inlet temperature for on-premises models is 150°F [66°C].

Connections should be supplied by a hot and a cold water line of at least the sizes shown in *Water Supply Line Sizing*. Installation of additional machines will require proportionately larger water lines.

Connections should be supplied by a hot and a cold water line per national and local codes and in accordance with AS/NZS 3500.1.

To connect water service to a machine with hoses, use the following procedure:

1. Before installing hoses, flush the building's water system at the machine connection valves for at least two [2] minutes.
2. Check filters in the machine's inlet hoses for proper fit and cleanliness before connecting.
3. Hang hoses in a large loop; do not allow them to kink.

If additional hose lengths are needed or using hoses other than those supplied by manufacturer, flexible hoses with screen filters are required.

Cabinet Hardmount Water Supply Information		
Description	Model	Requirement
Water Inlet Connection size, in. BSP [mm]	20-125	3/4 [19]
Thread pitch, GHT [BSPP]	20-125	3/4 x 11.5 [3/4 x 14]
Number of water inlets	20-125	2
Number of auxillary water inlets	80-100	2
Recommended pressure, psi [bar]	20-125	20-85 [1.4-5.7]

Cabinet Hardmount Water Supply Information		
Description	Model	Requirement
Inlet flow capacity per inlet, gal/min at 85 psi [l/min at 5.5 bar]	20-100	5.2 [20]
	80-100 [Auxillary water inlets]	4.0 [15]
	125	50 [189]

Table 24

Water Supply Line Sizing			
Model	Number of Machines	Supply Line Size	
		Main	Hot/Cold
20-100	1	.75 in. [19 mm]	.75 in. [19 mm]
	2	1 in. [25 mm]	.75 in. [19 mm]
	3	1.25 in. [32 mm]	1 in. [25 mm]
	4	1.5 in. [38 mm]	1 in. [25 mm]
125	1	1.5 in. [38 mm]	1 in. [25 mm]
	2	2 in. [50 mm]	1.5 in. [38 mm]
	3	2 in. [50 mm]	2 in. [50 mm]
	4	2.5 in. [64 mm]	2 in. [50 mm]

Table 25

Suitable air cushions [risers] should be installed in supply lines to prevent "hammering." Refer to *Figure 25*.

Alliance Laundry Systems, LLC ranges of front loading commercial clothes washing machines have solenoid valves at the inlets. The water supply to the washing machines is supplied with an AB air gap between the soap tray and the drum. Minimum and maximum working pressure 1.4 bar and 8.3 bar. The machines are supplied with approved inlet hoses with a maximum inlet dimension of 0.50 inch [15 mm] [ID].

NOTE: This machine has a fluid category 5 backflow prevention device built in between the soap tray and drum.

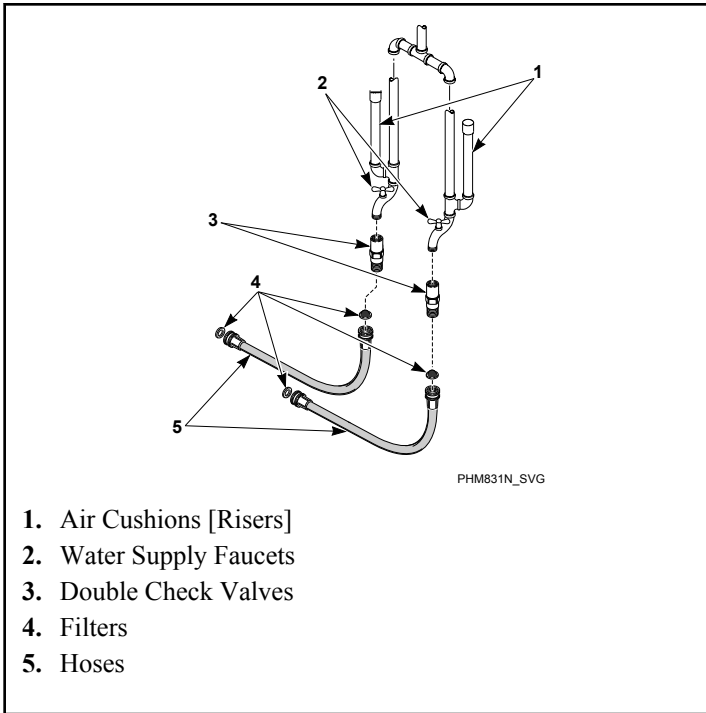


Figure 25

To comply with WRAS (IRN R150) and Australian water regulations, European standard EN1717 and Australian standard ATS5200.101, an approved double check valve backflow prevention device with the watermark is provided with the unit and must be fitted at the point of connection(s) between the supply and the fitting. Refer to *Figure 25*.



Figure 26

Electrical Installation Requirements

IMPORTANT: Electrical ratings are subject to change. Refer to serial plate for electrical ratings information specific to your machine.

	DANGER
<p>Electrical shock hazard will result in death or serious injury. Disconnect electric power and wait five (5) minutes before servicing.</p>	
W810	

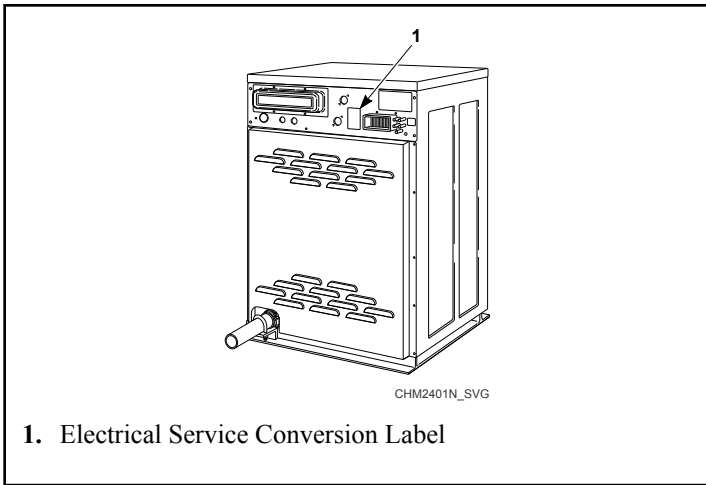
	WARNING
<p>Dangerous voltages are present inside the machine. Only qualified personnel should attempt adjustments and troubleshooting. Disconnect power from the machine before removing any cover and guards, and before attempting any service procedures.</p>	
W736	

	WARNING
<p>Hazardous Voltage. Can cause shock, burn or death. Verify that a ground wire from a proven earth ground is connected to the lug near the input power block on this machine.</p>	
W360	

Electrical connections are made at the rear of the machine. The machine must be connected to the proper electrical supply shown on the serial plate on the rear of the machine, using copper conductors only.

IMPORTANT: Alliance Laundry Systems warranty does not cover components that fail as a result of improper input voltage.

Make sure the correct transformer jumper [208 Volt or 240 Volt] is in place. Refer to the “optional” Electrical Service Conversion label located on the back of the machine near the serial plate. Refer to *Figure 27*.



Machines are equipped with an AC inverter drives requiring a clean power supply, free from voltage spikes and surges. Use voltage monitor to check incoming power.

Input Power Conditioning

The drive is suitable for direct connection to input power within the rated voltage of the drive. Listed in *Input Power Condition* are certain input power conditions which may cause component damage or reduction in product life. If any of the conditions exist, install one of the devices listed under the Possible Corrective Action(s).

IMPORTANT: Only one device per branch circuit is required. It should be mounted closest to the branch and sized to handle the total current of the branch circuit.

Figure 27

Input Power Condition	Possible Corrective Action(s)
Low Line impedance [less than 1% line reactance]	<ul style="list-style-type: none"> • Install Line Reactor • Isolation Transformer
Greater than 120 kVA supply transformer	
Line has power factor correction capacitors	<ul style="list-style-type: none"> • Install Line Reactor • Isolation Transformer
Line has frequent power interruptions	
Line has intermittent noise spikes in excess of 6000V [lightning]	
Phase to ground voltage exceeds 125% of normal line to line voltage	<ul style="list-style-type: none"> • Remove MOV jumper to ground • Install Isolation Transformer with grounded secondary [if necessary]
Ungrounded distribution system	
240V open delta configuration [stinger leg]*	<ul style="list-style-type: none"> • Install Line Reactor
<p>* For drives applied on an open delta with a middle phase grounded neutral system, the phase opposite the phase that is tapped in the middle to the neutral or earth is referred to as the “stinger leg,” “high leg,” “red leg,” etc. This leg should be identified throughout the system with red or orange tape on the wire at each connection point. The stinger leg should be connected to the center Phase B on the reactor.</p>	

Table 26


Input Voltage Requirements


For voltages above or below listed specifications, contact your power company or local electrician.

If machine is intended for four-wire service, a neutral leg must be provided by power company.

If a delta supply system is used on a four-wire model, connect high leg to L3.

IMPORTANT: Improper connections will result in equipment damage and will void warranty.

	DANGER
<p>Electrical shock hazard will result in death or serious injury. Disconnect electric power and wait five (5) minutes before servicing.</p>	
W810	

	DANGER
<p>Hazardous Rotation Speed. Will cause serious injury when controlling AC inverter drive with a parameter unit, safety features are bypassed allowing basket to rotate at high speeds with the door open. Place large sign on front of machine to warn people of imminent danger.</p>	
W361	

Circuit Breakers and Quick Disconnects

Single-phase machines require a single-phase inverse-time circuit breaker. Three-phase machines and V-speed machines require a separate, three-phase inverse-time circuit breaker to prevent damage to the motor by disconnecting all legs if one should be lost accidentally. Refer to *Electrical Specifications* section for model-specific circuit breaker requirements.

IMPORTANT: All quick disconnects should comply with the specifications. DO NOT use fuses instead of circuit breakers.

Connection Specifications

IMPORTANT: Connection must be made by a qualified electrician using wiring diagram provided with machine, or according to accepted European Union standards.

Connect machine to an individual branch circuit not shared with lighting or other equipment. Shield connection in a liquid-tight or approved flexible conduit. Copper conductors of correct size must be installed in accordance with National Electric Code [NEC] or other applicable codes.

Use wire sizes indicated in the Electrical Specifications chart for runs up to 50 feet [15 m]. Use next larger size for runs of 50 to 100 feet [15 to 30 m]. Use two sizes larger for runs greater than 100 feet [30 m].

Single-Phase Connections

For single-phase input, connect L1, L2 and Ground and cap neutral as shown in *Figure 28*.

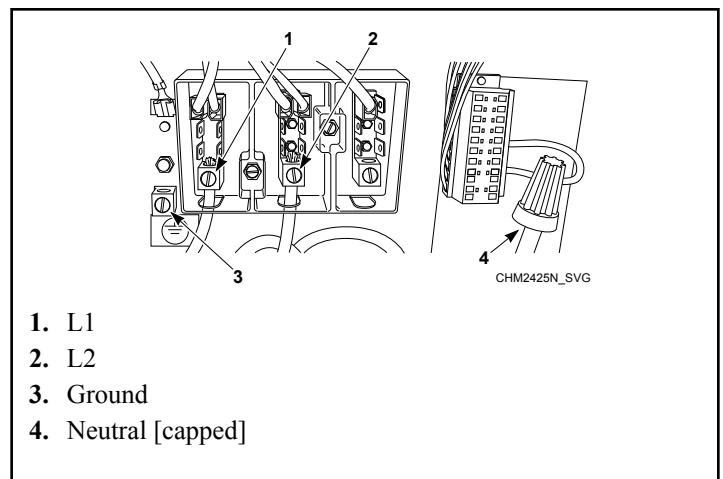


Figure 28

Three-Phase Connections

For three-phase input, connect L1, L2, L3 and Ground as shown in *Figure 29*.

IMPORTANT: If a stinger leg is used for three-phase input, it MUST be connected to L3.

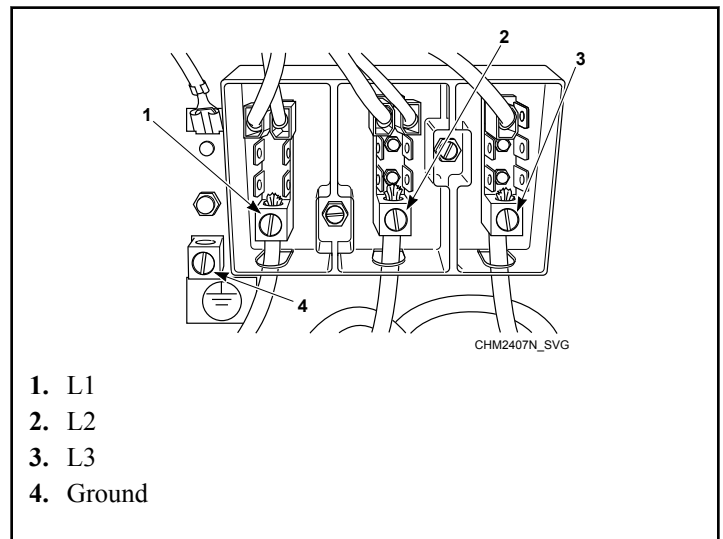


Figure 29

Grounding

For personal safety and proper operation, the machine must be grounded in accordance with state and local codes. If such codes are not available, grounding must conform to the National Electric Code, article 250 [current edition]. The ground connection must be made to a proven earth ground, not to conduit or water pipes.

WARNING

Electrically heated machines DO NOT require dual power sources. Do not connect customer power or customer load to the Internal Load Distribution terminal block. Refer to the machine electrical schematic for details.

W759

Machines with Electric Heat

1. Grounding Lug: Connect to proven earth ground
2. Customer Input Power Terminals
3. Internal Load Distribution - DO NOT connect customer power source or load.

CHM2380N_SVG

Figure 30

Machines without Electric Heat

1. Grounding Lug: Connect to proven earth ground
2. Customer Input Power Terminals

CHM2381N_SVG

Figure 31

Machines can be converted for lower voltage operation and/or 50 Hz operation. Refer to conversion label by serial plate for details.

Phase Adder

IMPORTANT: Do not use a phase adder on any machine.

Thermal Overload Protector

For V-speed machines, the inverter drive provides overload protection for the drive motor.

Electrical Specifications

North American Approval

20 Pound Capacity Models								
Voltage Designation					Specifications			
Code	Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	AWG	mm2
F and V-Speed Models [unless otherwise noted]								
B [F-speed]	120	60	1	2	7	15	14	2.5
B [V-speed]	120	60	1	2	8	15	14	2.5
X	220–240	50/60	1/3	2/3	4/3	15	14	2.5

20 Pound Capacity Models									
Voltage Designation						Specifications			
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	AWG	mm2
Q	Standard	220–240	50/60	3	3	3	15	14	2.5
	Electric Heat					21	30	10	6.0
N		440–480	50/60	3	3	2	15	14	2.5
P	Standard	380–415	50/60	3	3	2	15	14	2.5
	Electric Heat					13	15	14	2.5

NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.

Table 27

30 Pound Capacity Models									
Voltage Designation						Specifications			
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	AWG	mm2
F and V-Speed Models [unless otherwise noted]									
X [F-speed]		220–240	50/60	1/3	2/3	5/4	15	14	2.5
X [V-speed]		220–240	50/60	1/3	2/3	6/4	15	14	2.5
Q	Standard	220–240	50/60	3	3	4	15	14	2.5
	Electric Heat					22	30	10	6.0
N		440–480	50/60	3	3	3	15	14	2.5

30 Pound Capacity Models									
Voltage Designation					Specifications				
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	AWG	mm2
P	Standard	380–415	50/60	3	3	3	15	14	2.5
	Electric Heat					13	15	14	2.5

NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.

Table 28

40 Pound Capacity Models									
Voltage Designation					Specifications				
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	AWG	mm2
F and V-Speed Models [unless otherwise noted]									
X [F-speed]		220–240	50/60	1/3	2/3	6/4	15	14	2.5
X [V-speed]		220–240	50/60	1/3	2/3	7/4	15	14	2.5
Q	Standard	220–240	50/60	3	3	4	15	14	2.5
	Electric Heat					42	50	8	10.0
N	Standard	440-480	50/60	3	3	3	15	14	2.5
	Electric Heat					22	30	10	6.0
P	Standard	380–415	50/60	3	3	3	15	14	2.5
	Electric Heat					25	30	10	6.0

40 Pound Capacity Models								
Voltage Designation					Specifications			
Code	Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	AWG	mm2
NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.								

Table 29

60 Pound Capacity Models									
Voltage Designation					Specifications				
Code	Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	AWG	mm2	
F and V-Speed Models [unless otherwise noted]									
X [F-speed]	220–240	50/60	1/3	2/3	9/6	15	14	2.5	
X [V-speed]	220–240	50/60	1/3	2/3	10/6	15	14	2.5	
Q	Standard	220–240	50/60	3	3	6	15	14	2.5
	Electric Heat					43	50	8	10.0
N	Standard	440-480	50/60	3	3	4	15	14	2.5
	Electric Heat					22	30	10	6.0
P	Standard	380-415	50/60	3	3	4	15	14	2.5
	Electric Heat					25	30	10	6.0
NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.									

Table 30

80 Pound Capacity Models									
Voltage Designation					Specifications				
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	AWG	mm ²
F-Speed Models									
X		220-240	50/60	1/3	2/3	12/8	15	14	2.5
Q	Standard	220-240	50/60	3	3	8	15	14	2.5
	Electric Heat					72	80	4	25.0
N	Standard	440-480	50/60	3	3	5	15	14	2.5
	Electric Heat					37	40	8	10.0
P	Standard	380-415	50/60	3	3	5	15	14	2.5
	Electric Heat					33	40	8	10.0
V-Speed Models									
X		220-240	50/60	1/3	2/3	15/9	20/15	12/14	4/2.5
Q	Standard	220-240	50/60	3	3	9	15	14	2.5
	Electric Heat					72	80	4	25.0
N	Standard	440-480	50/60	3	3	6	15	14	2.5
	Electric Heat					37	40	8	10.0
P	Standard	380-415	50/60	3	3	6	15	14	2.5
	Electric Heat					33	40	8	10.0

80 Pound Capacity Models								
Voltage Designation					Specifications			
Code	Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	AWG	mm2
NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.								

Table 31

100 Pound Capacity Models									
Voltage Designation					Specifications				
Code	Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	AWG	mm2	
F-Speed Models									
X	220–240	50/60	1/3	2/3	16/9	20/15	12/14	4/2.5	
Q	Standard	220–240	50/60	3	3	9	15	14	2.5
	Electric Heat					74	80	4	25.0
N	Standard	440-480	50/60	3	3	6	15	14	2.5
	Electric Heat					37	40	8	10.0
P	Standard	380-415	50/60	3	3	6	15	14	2.5
	Electric Heat					34	40	8	10.0
V-Speed Models									
X	220–240	50/60	1/3	2/3	16/10	20/15	12/14	4/2.5	

100 Pound Capacity Models									
Voltage Designation						Specifications			
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	AWG	mm2
Q	Standard	220-240	50/60	3	3	10	15	14	2.5
	Electric Heat					74	80	4	25.0
N	Standard	440-480	50/60	3	3	7	15	14	2.5
	Electric Heat					37	40	8	10.0
P	Standard	380-415	50/60	3	3	7	15	14	2.5
	Electric Heat					34	40	8	10.0

NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.

Table 32

125 Pound Capacity Models									
Voltage Designation						Specifications			
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	AWG	mm2
N		440-480	50/60	3	3	10	15	14	2.5
P		380-415	50/60	3	3	10	15	14	2.5
Q		200-240	50/60	3	3	11	15	14	2.5

NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.

Table 33

CE Approval

20 Pound Capacity Models								
Voltage Designation					Specifications			
Code	Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	mm2	
F and V-Speed Models								
N	440-480	50/60	3	3	2	6	2.5	
X	220-240	50/60	1/3	2/3	4/3	6	2.5	
Q	Standard	220-240	50/60	3	3	3	6	2.5
	Electric Heat					21	25	2.5
P	Standard	380-415	50/60	3	3	2	6	2.5
	Electric Heat					13	16	2.5
NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.								

Table 34

30 Pound Capacity Models								
Voltage Designation					Specifications			
Code	Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	mm2	
F and V-Speed Models [unless otherwise noted]								
N	440-480	50/60	3	3	3	6	2.5	
X [F-speed]	220-240	50/60	1/3	2/3	5/4	6	2.5	
X [V-speed]	220-240	50/60	1/3	2/3	7/4	10/6	2.5	
Q	Standard	220-240	50/60	3	3	4	6	2.5
	Electric Heat					22	25	2.5

30 Pound Capacity Models								
Voltage Designation					Specifications			
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	mm2
P	Standard	380-415	50/60	3	3	3	6	2.5
	Electric Heat					13	16	2.5

NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.

Table 35

40 Pound Capacity Models								
Voltage Designation					Specifications			
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	mm2
F and V-Speed Models [unless otherwise noted]								
N	Standard	440-480	50/60	3	3	3	6	2.5
	Electric Heat					22	25	2.5
X		220-240	50/60	1/3	2/3	7/4	10/6	2.5
Q	Standard	220-240	50/60	3	3	4	6	2.5
	Electric Heat					42	50	10.0
P [F-Speed]	Standard	380-415	50/60	3	3	3	6	4.0
	Electric Heat					26	32	2.5
P [V-Speed]	Standard	380-415	50/60	3	3	3	6	2.5
	Electric Heat					26	32	2.5

40 Pound Capacity Models							
Voltage Designation					Specifications		
Code	Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	mm2
NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.							

Table 36

60 Pound Capacity Models								
Voltage Designation					Specifications			
Code	Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	mm2	
F and V-Speed Models [unless otherwise noted]								
N	Standard	440-480	50/60	3	3	4	6	4.0
	Electric Heat					22	25	2.5
X		220-240	50/60	1/3	2/3	11/7	16/10	2.5
Q	Standard	220-240	50/60	3	3	7	10	2.5
	Electric Heat					43	50	10.0
P [F-Speed]	Standard	380-415	50/60	3	3	4	6	4.0
	Electric Heat					26	32	2.5
P [V-Speed]	Standard	380-415	50/60	3	3	4	6	2.5
	Electric Heat					26	32	2.5
NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.								

Table 37

80 Pound Capacity Models								
Voltage Designation					Specifications			
Code		Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	mm2
F-Speed Models								
N	Standard	440-480	50/60	3	3	7	10	2.5
	Electric Heat					37	40	6.0
X		220-240	50/60	1/3	2/3	12/8	16/10	2.5
Q	Standard	220-240	50/60	3	3	8	10	2.5
	Electric Heat					72	80	16.0
P	Standard	380-415	50/60	3	3	7	10	2.5
	Electric Heat					33	40	4.0
V-Speed Models								
N	Standard	440-480	50/60	3	3	7	10	2.5
	Electric Heat					37	40	6.0
X		220-240	50/60	1/3	2/3	17/11	20/16	2.5
Q	Standard	220-240	50/60	3	3	11	16	2.5
	Electric Heat					72	80	16.0
P	Standard	380-415	50/60	3	3	7	10	2.5
	Electric Heat					33	40	4.0

80 Pound Capacity Models							
Voltage Designation					Specifications		
Code	Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	mm2
NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.							

Table 38

100 Pound Capacity Models								
Voltage Designation					Specifications			
Code	Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	mm2	
F and V-Speed Models								
N	Standard	440-480	50/60	3	3	7	10	2.5
	Electric Heat					38	40	10.0
X		220-240	50/60	1/3	2/3	17/11	20/16	2.5
Q	Standard	220-240	50/60	3	3	11	16	2.5
	Electric Heat					74	80	25.0
P	Standard	380-415	50/60	3	3	7	10	2.5
	Electric Heat					34	40	4.0
NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.								


Table 39

125 Pound Capacity Models							
Voltage Designation					Specifications		
Code	Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	mm2
N	440-480	50/60	3	3	10	15	2.5
P	380-415	50/60	3	3	10	15	2.5
Q	200-240	50/60	3	3	11	15	2.5

NOTE: Wire sizes shown are for copper, THHN, 90°C conductor per NEC article 310.

Table 40

Steam Requirements (Steam Heat Option Only)

	WARNING
<p>Hot Surfaces. Will cause severe burns. Turn steam off and allow steam pipes, connections and components to cool before touching.</p>	
W505	

For machines equipped with optional steam heat, install piping in accordance with approved commercial steam practices. Steam requirements are shown in *Table 41* . .


Steam Supply Information		
Steam inlet connection size, in. [mm]	40-100 pound*	1/2 [13]
	125 pound	3/4 [19]
Number of steam inlets	1	
Required pressure, (min. - max. psi [bar])	30-80 [2.0-5.4]	
Maximum pressure, psi [bar]	80 [5.4]	

Steam Supply Information
<p>* 20 and 30 pound models can be prep for steam and a kit is available for conversion.</p>

Table 41

IMPORTANT: Failure to install the customer supplied steam filter may void the warranty.

Supply Dispensing

	WARNING
<p>Dangerous Chemicals. May damage eyes and skin. Wear eye and hand protection when handling chemicals; always avoid direct contact with raw chemicals. Read the manufacturer's directions for accidental contact before handling chemicals. Ensure an eye-rinse facility and an emergency shower are within easy reach. Check at regular intervals for chemical leaks.</p>	
W363	

Supply Dispensing		
Capacities	20–100	125
Number of liquid chemical supply signals [OPL only]	4	4
Number of supply compartments	4	0 or 5 [optional]
Number of external liquid supply connections	5	5
Liquid supply connection size	3/8 in. [8 mm]	5/8 in. [15.9 mm]

Table 42

IMPORTANT: Undiluted chemical dripping can damage the machine. All chemical injection supply dispenser pumps and dispenser tubing should be mounted below the washer’s injection point. Loops do not prevent drips if these instructions are not followed.

IMPORTANT: Failure to follow these instructions could damage the machine and void the warranty.

External Supplies


For proper communication between the machine and an external chemical supply system, it is important for the low-voltage signal power to be connected properly. The included wiring diagram shows several different options for safe and correct wiring of this interface.

The preferred method for connecting the wiring from the external chemical supply system to the machine is to use the 300mA power of the machine’s 24VAC control transformer, which is intended strictly for this purpose. Other voltage and current options are available, but require some wiring changes and must be provided with an external power source. Under no circumstances should the high-voltage machine supply connections or source be used for the communication wiring.

Communication wiring connections, which include a single row of identified terminal blocks, can be found under a service panel at the upper back of the machine.

Chemical Injection Using Internal 24VAC Control Transformer

NOTE: Using the Internal 24VAC 300 Milliamp Control Transformer is recommended by Alliance Laundry Systems.



CAUTION

Do not attempt to increase fuse rating or alter wiring of external chemical supply terminal strip in such a way that may conflict with the suggested methods provided on the Optional External Supply Wiring Diagram.

W699

IMPORTANT: DO NOT remove the red jumper wire from the terminal strip.

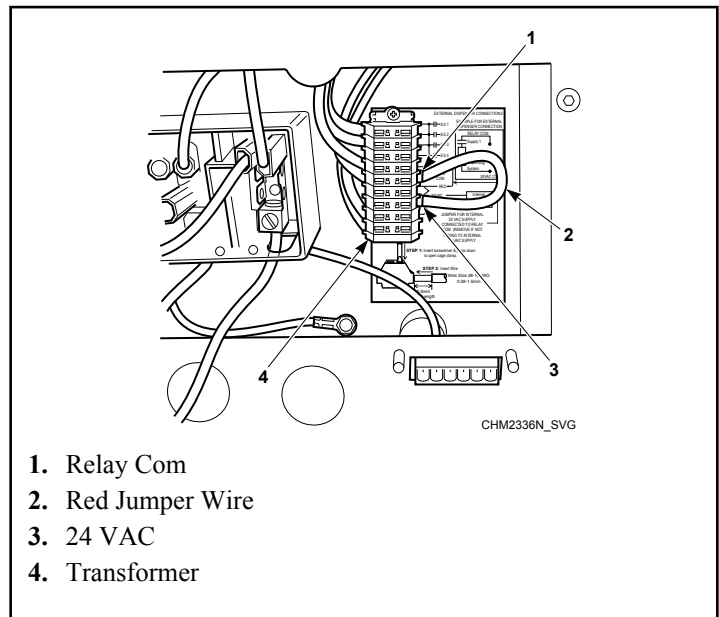


Figure 32

There are 3 terminals necessary for this connection option.

- Terminal “24VAC COM” is used to connect one side of the internal control transformer to the external dispenser input signals common.
- The second terminal is used to connect the other side of the control transformer to the machine output signals common through a red jumper wire between “24VAC” and “RELAY COM”. Refer to *Figure 33*.

IMPORTANT: Do not use the transformer terminals if an external power supply is used.

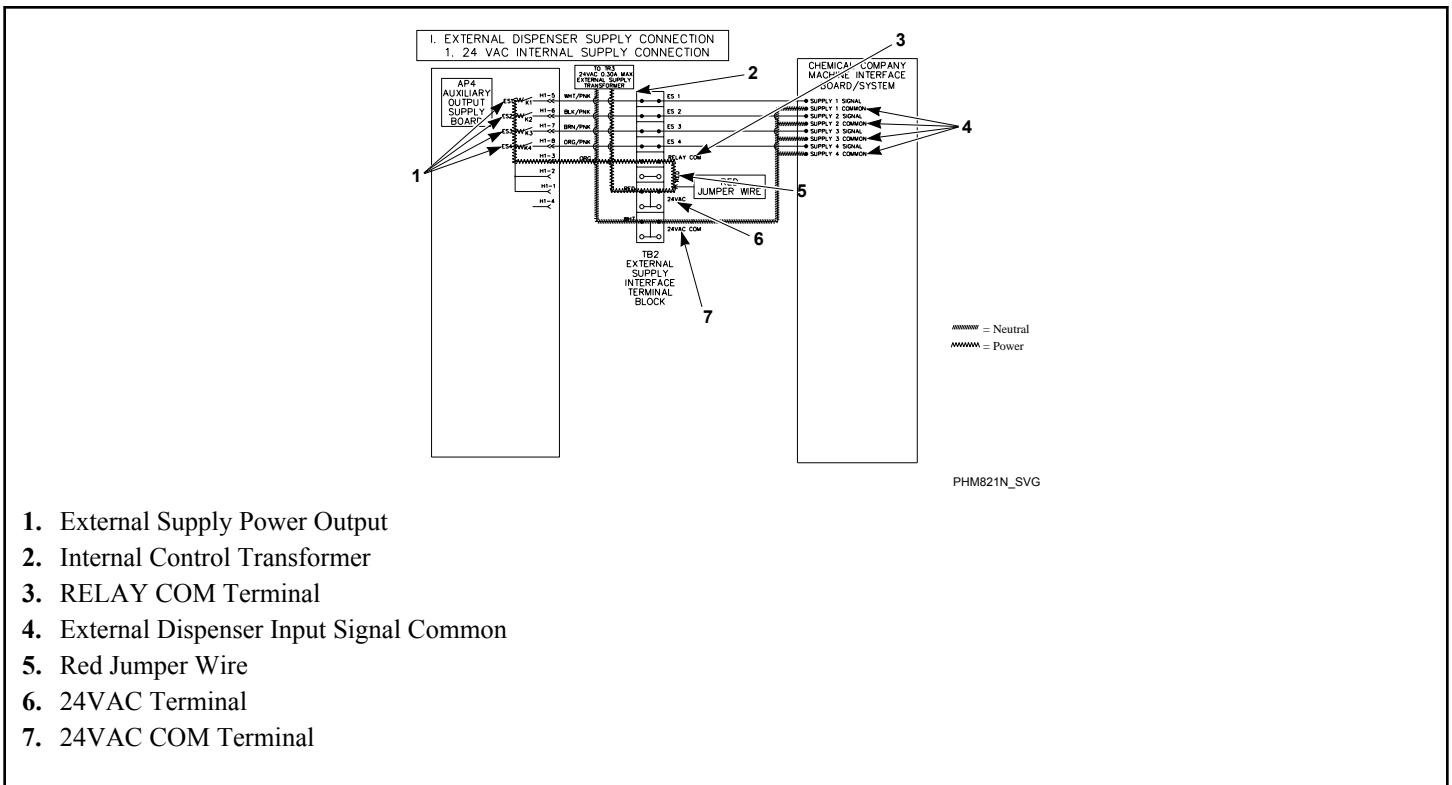


Figure 33

Chemical Injection Using External AC Power Source

NOTE: An External AC Power Source is NOT provided by Alliance Laundry Systems.

NOTE: Power for external supplies must not be derived from the high-voltage main power connection point.

IMPORTANT: The external power must supply power of 240VAC or less and be protected at 3 Amps or less.

1. Remove the red jumper wire installed by the factory between “24VAC”, and “RELAY COM”.
2. Connect one side of the external power to the “RELAY COM” and the other to the external dispenser input signals common. Refer to *Figure 34* .

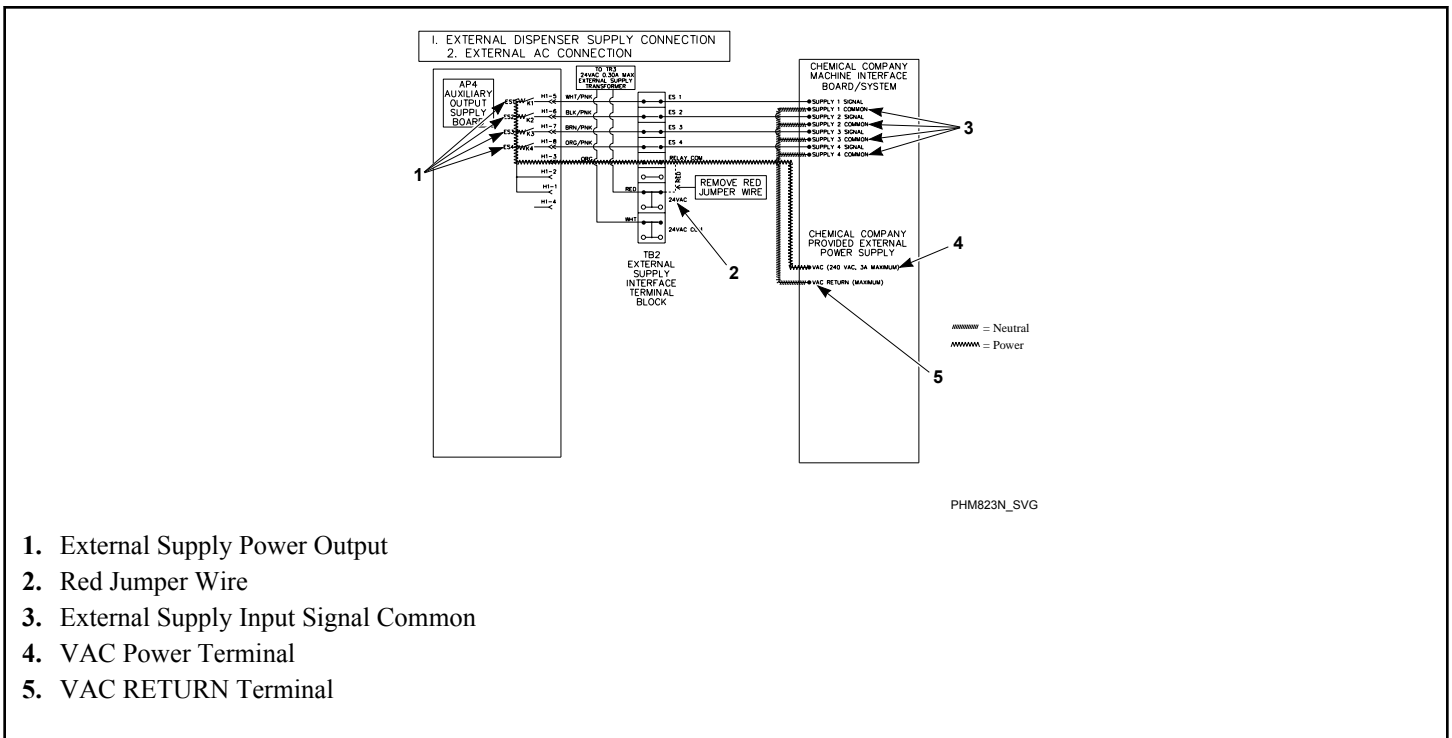


Figure 34

	CAUTION
<p>Do not attempt to increase fuse rating or alter wiring of external chemical supply terminal strip in such as way that may conflict with the suggested methods provided on the Optional External Supply Wiring Diagram.</p>	
<p>W699</p>	

External Supply Signals

Wash-cycle signals are provided to the external chemical supply equipment and a “wait for the next step” signal can be received from the supply equipment.

For example, if ES1 is selected the K1 contact will close and power will be supplied to Supply 1 Signal. The contact will remain closed for the amount of time programmed in control. Refer to *Figure 35* for Internal Supply Connection or *Figure 36* for External AC Connection.

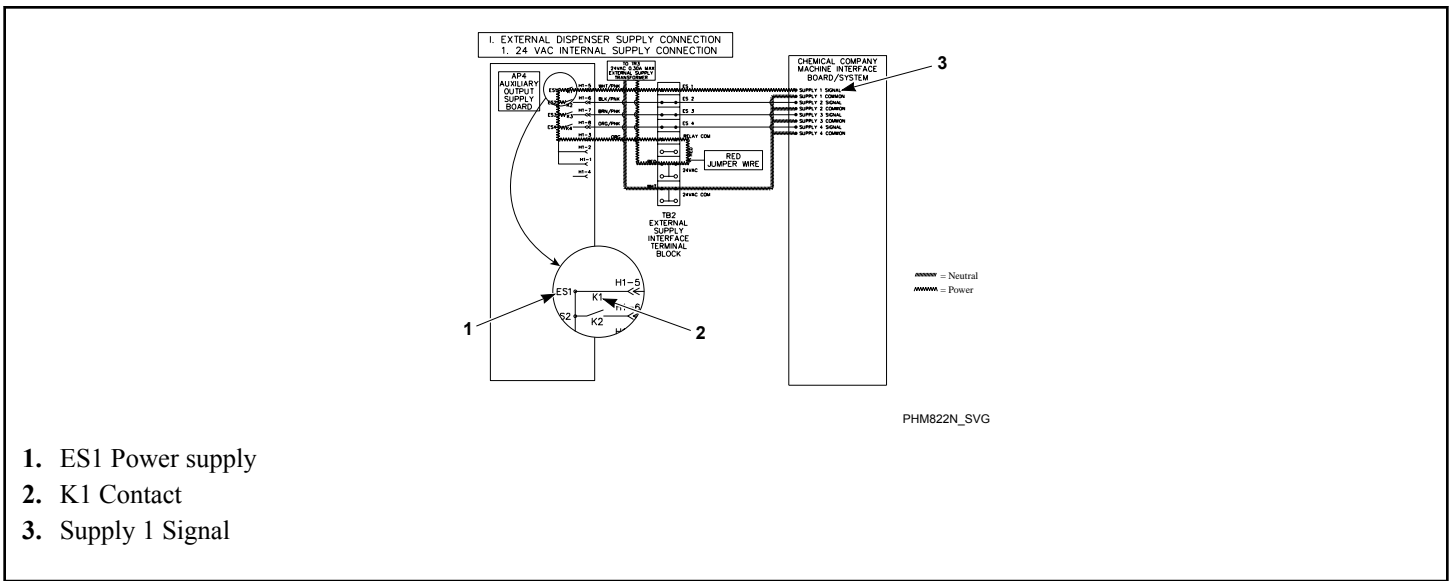


Figure 35

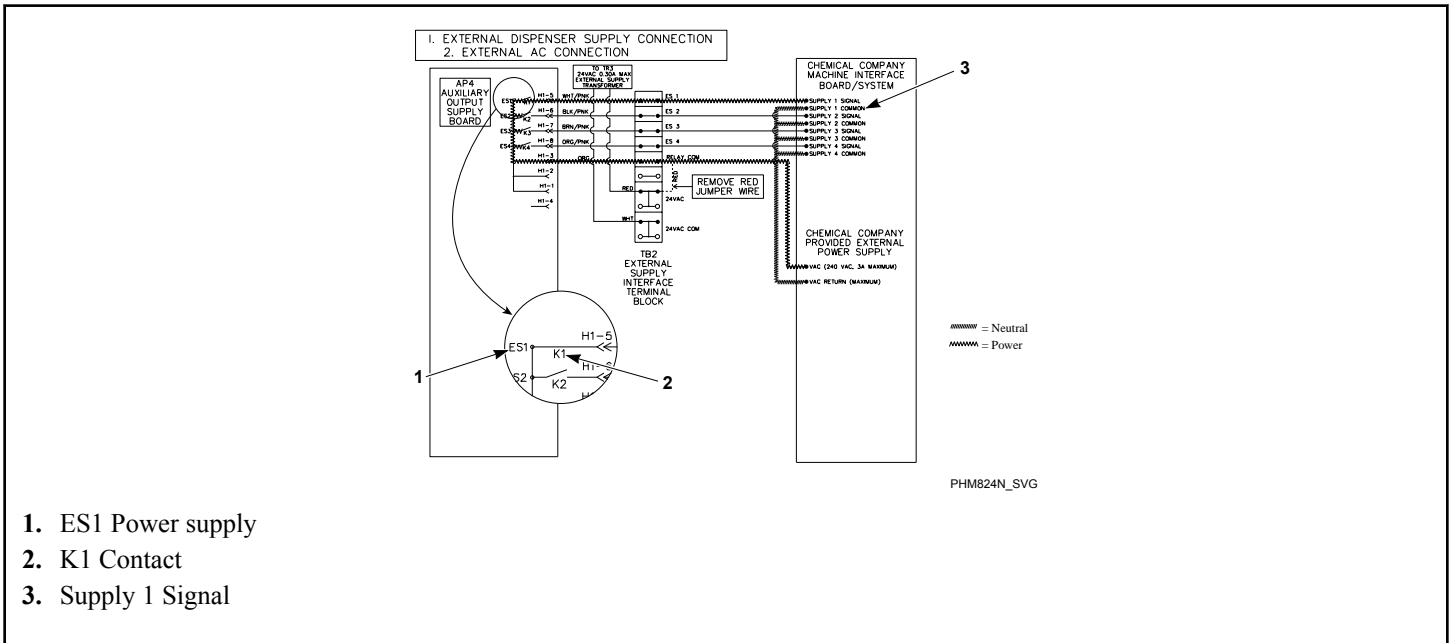


Figure 36

Connection of External Liquid Supplies

20–100 Pound OPL Models

1. Facing the rear of the machine, locate the five 3/8 inch supply hose connections found on the right-hand side of the valve panel. Refer to *Figure 37*.

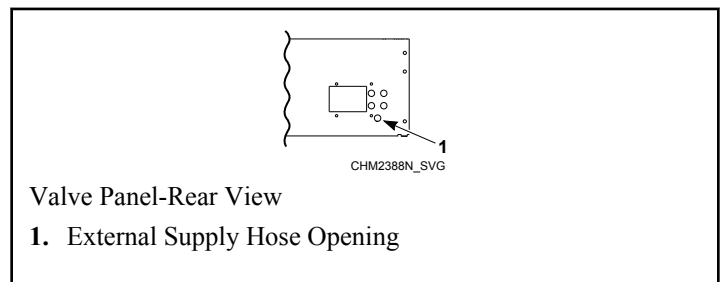


Figure 37

2. Drill through the five plastic holes on the valve panel for the external supply hoses as needed.

Installation

3. Remove plastic debris.
4. Attach the external supply hoses to the ports at each of the drilled holes.
5. Secure with proper clamps.

NOTE: Do not attempt to make chemical injection supply pump electrical connections to points other than those provided specifically for that purpose by the factory.

125 Pound OPL Models [With Optional Dispenser]

Refer to *Figure 38* .

1. Remove plugs from base. Plugs are assembled inside tubing ring.
2. Install strain reliefs with the seal nuts.
3. Insert tubes through base. Do not remove dry supply cups. Tube should extend into plastic cup, with exception of softener tube, which should be routed to outside of cup.
4. Tighten seal nut to prevent tubing from escaping assembly.

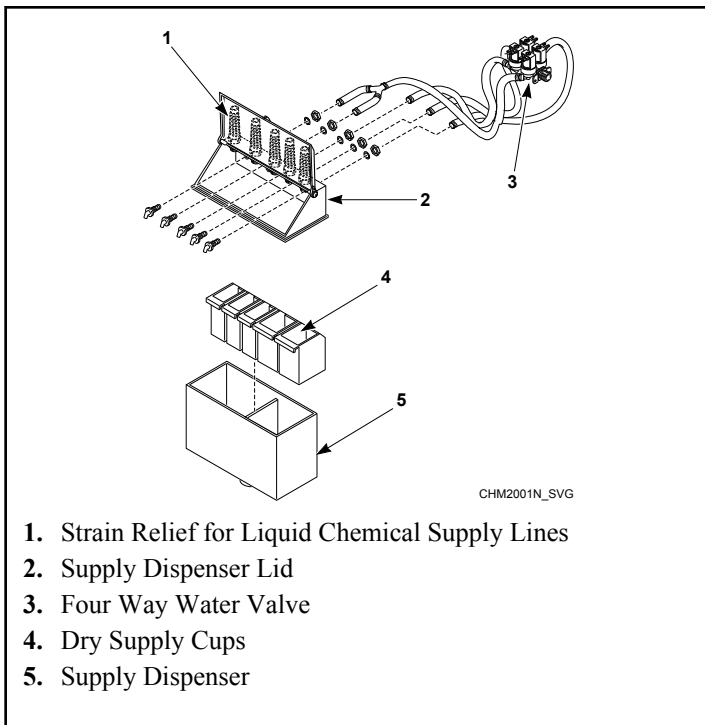


Figure 38

Start Up

Pallet Jack cover Plate Installation [80 and 100 Pound Models Only]

After machine is fully installed, the optional pallet jack cover plate can be installed.

1. Locate the two holes on the front of the machine base frame. Refer to *Figure 39*.

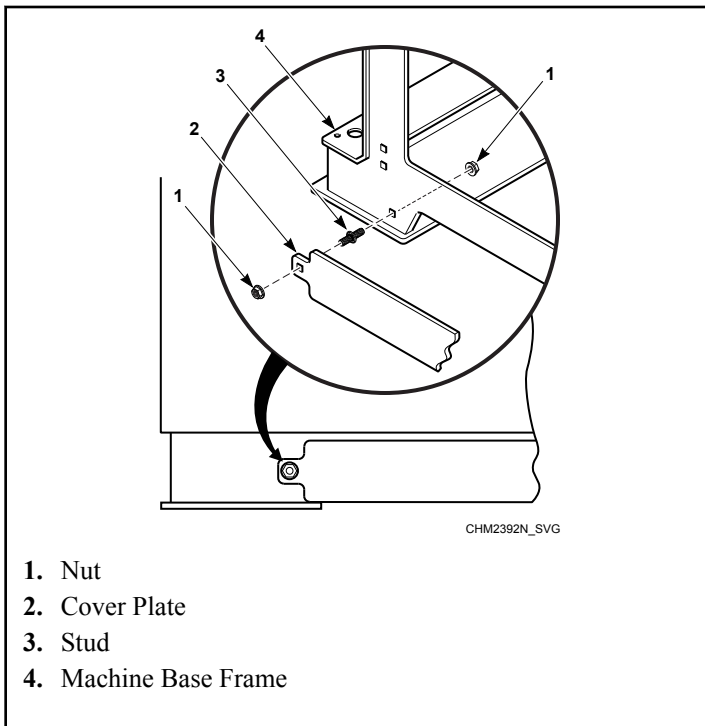


Figure 39

2. Using the hardware from removing plate from back panel, install the cover plate to the machine base frame. The square on stud goes into square hole in machine frame. Refer to *Figure 39*.

Basket Rotation

Check that basket rotation is counterclockwise in the extract step.

1. If rotation is not counterclockwise, disconnect power to machine.
2. Have a qualified electrician reverse any two motor leads at the inverter terminal block.

Operation

Operating Instructions

1. Turn on main power source [circuit breaker].
2. Turn handle clockwise to open. Refer to *Figure 40*.

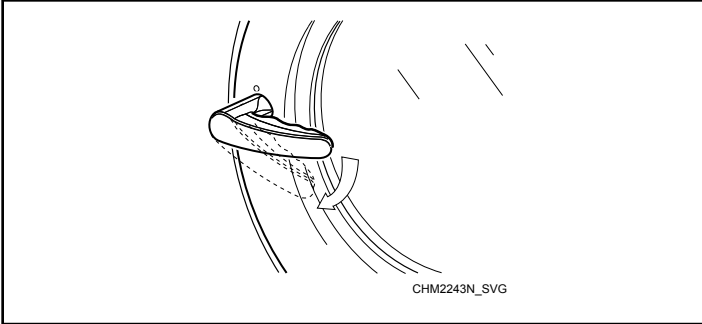


Figure 40

3. Load to capacity whenever possible. **DO NOT OVERLOAD.** Refer to *Figure 41*.

NOTE: Underloading can cause out-of-balance conditions that can shorten machine life.

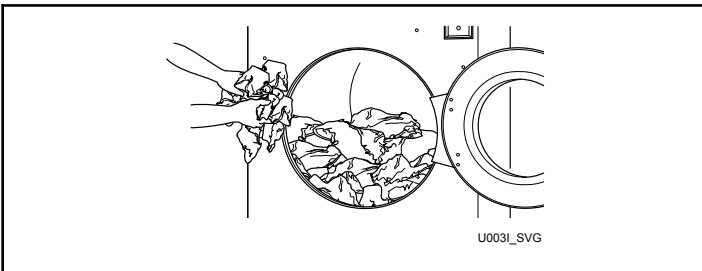


Figure 41

4. Close door and turn handle counter clockwise. Refer to *Figure 42*.

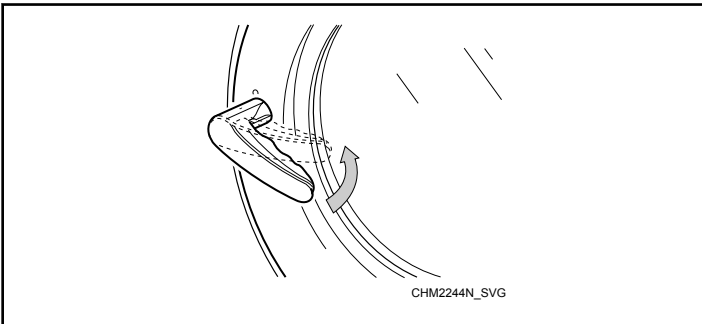


Figure 42

5. The default wash cycle will display.

	WARNING
<p>To prevent personal injury, avoid contact with inlet water temperatures higher than 125° Fahrenheit [51° Celsius] and hot surfaces.</p>	
<p>W748</p>	

6. Select the desired soil setting [select models only], cycle setting [select models only] and cycle/temperature. The LED indicator(s) for that cycle will light.

	CAUTION
<p>Water cannot be extracted from rubber backed items. To avoid damage to machine from out of balance conditions, do not use a spin (extract) step when washing rubber backed items. Warranty will be voided.</p>	
<p>W880</p>	

7. Add liquid and/or powder supplies to supply dispenser. Refer to *Table 43*.

a. Detergent:

- Liquid - Compartment 1 [prewash] + Compartment 3
- Powder - Compartment 1 [prewash] + Compartment 2

b. Bleach:

- Liquid - Compartment 3
- Powder - Compartment 2

c. Softener:

- Liquid - Compartment 4

8. For vended models only, insert coin(s) or card as necessary.
 - If the machine is a coin operated unit, add coins. As each coin is added, the vend counts down to the amount remaining.
 - If the machine is a card operated unit, insert and remove card per card system instructions.
 - If the unit is interfaced to a central/remote pay system, go to the central/remote pay console, make payment and select the machine and follow central/remote pay system instructions.

9. Press the START keypad.

10. During first fill, the desired wash cycle can be changed. After first fill has ended, the wash cycle active at that moment remains the chosen wash cycle.

11. When cycle is complete, display shows “00”.

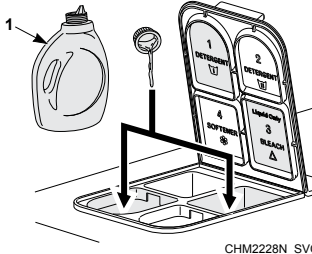
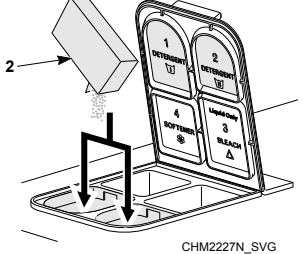
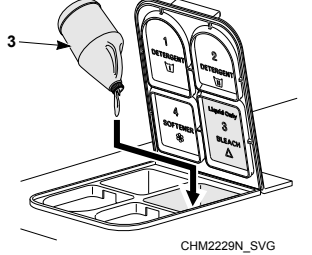
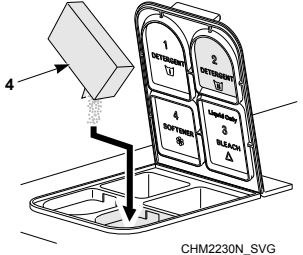
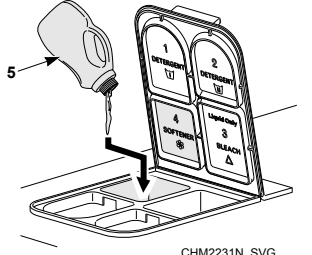

<p>a. DETERGENT</p>	 <p>CHM2228N_SVG</p> <p>1. Liquid Detergent</p>	 <p>CHM2227N_SVG</p> <p>2. Powder Detergent</p>
<p>b. BLEACH</p>	 <p>CHM2229N_SVG</p> <p>3. Liquid Bleach</p>	 <p>CHM2230N_SVG</p> <p>4. Powder Bleach</p>
<p>c. SOFTENER</p>	 <p>CHM2231N_SVG</p> <p>5. Liquid Softener</p>	

Table 43


Maintenance

Maintenance

	WARNING
<p>Sharp edges can cause personal injury. Wear safety glasses and gloves, use proper tools and provide lighting when handling sheet metal parts.</p>	
W366R1	

IMPORTANT: Replace all panels that are removed to perform service and maintenance procedures. Do not operate the machine with missing guards or with broken or missing parts. Do not bypass any safety devices.

Daily

	WARNING
<p>Do not spray the machine with water. Short circuiting and serious damage may result.</p>	
W782	

IMPORTANT: Door lock should be checked daily to ensure proper operation. Also check that all safety and instruction stickers are on the machine. Any missing or illegible safety instructions stickers should be replaced immediately.

Beginning of Day


1. Check door interlock before starting operation:
 - a. Attempt to start the machine with the door open. The machine should not start.
 - b. Close the door without locking it and start the machine. The machine should not start.
 - c. Attempt to open the door while the cycle is in progress. The door should not open.

If the door lock and interlock are not functioning properly, disconnect power and call a service technician.

IMPORTANT: Door lock should be checked daily to ensure proper operation. Also, check that all safety and instruction stickers are on the machine. Replace as necessary.

2. Inspect water inlet valve hose connections on the back of the machine for leaks.
3. Inspect steam hose connections for leaks (where applicable).

4. Inspect all chemical inlets, lines and connections for leaks.

	WARNING
<p>To reduce the risk of electrical shock, serious injury or death, disconnect the electrical power to washer-extractor before examining the wiring.</p>	
W636	

5. Verify that insulation is intact on all external wires and that all connections are secure. If bare wire is evident, call a service technician.

End of Day

1. Clean the door gasket of residual detergent and all foreign matter.
2. Clean the door glass with a damp cloth.
3. Clean automatic supply dispenser lid and general area.
4. Clean the machine's top, front and side panels with mild detergent. Rinse with clean water. DO NOT use products that contain alcohol on the control panel.
5. Inspect and clean basket.
6. Clean the inverter drive box filter(s) weekly or more frequently as needed [where applicable]:
 - a. Wash the filter with warm water and allow filter to air dry. As an alternative, the filter may be vacuumed clean.

NOTE: Unload the machine promptly after each completed cycle to prevent moisture buildup. Leave loading door open after each completed cycle to allow moisture to evaporate.

Weekly

1. Check the machine for leaks.
 - a. Start an unloaded cycle to fill the machine.
 - b. Verify that door and door gasket do not leak.
 - c. Verify that the drain valve is operating and that the drain system is free from obstruction. If water does not leak out during the first wash segment, the drain valve is closed and functioning properly.
2. Clean the inverter drive box filter(s) weekly or more frequently as needed [where applicable]:
 - a. Wash the filter with warm water and allow filter to air dry. As an alternative, the filter may be vacuumed clean.

IMPORTANT: The control module cover and fan filter must be in place for the fan to properly cool the inverter drive. Failure to observe this warning will void the warranty and could lead to expensive inverter drive repair.

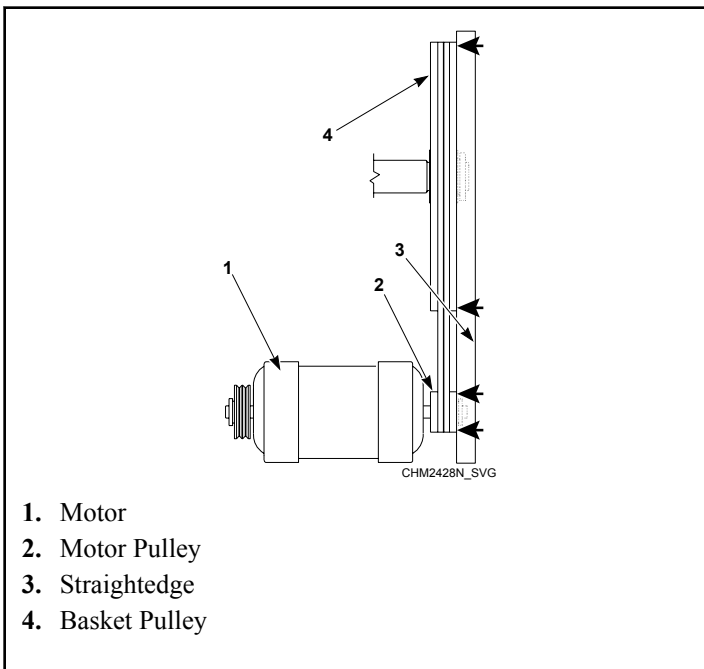
3. On machines equipped with an automatic chemical supply system, check chemical connections by inspecting all connections and chemical hoses for leaks or cracks.

IMPORTANT: Chemical leaks can quickly cause permanent damage to the machine components and structure.

Monthly

NOTE: Disconnect power to the machine at its source before performing the monthly maintenance procedures.

1. Check belt(s) require replacement or adjustment. Call a qualified service technician in either case.
 - a. Check belt(s) for uneven wear and frayed edges.
 - b. For groove-pulley drive systems, verify alignment by placing a straightedge across both pulley faces. The straightedge should make contact with the pulleys in four places. Refer to *Figure 43* . After making necessary adjustments, torque the upper spring tensioning jam nut to 20.6 ± 2 ft.-lbs.



1. Motor
2. Motor Pulley
3. Straightedge
4. Basket Pulley

Figure 43

- c. For flat-pulley drive systems, verify allowable distance of belt from edge of basket pulley. Refer to *Flat-Pulley Alignment* .

Flat-Pulley Alignment	
Model	Minimum Allowable Distance from Edge
20	.09 in. [2 mm]
30	.09 in. [2 mm]
40	.09 in. [2 mm]
60	.38 in. [10 mm]

Table 44

Belt Tension by Frequency or Belt Tension Gauge			
Model*	Frequency [Hz]	Belt Tension [lbs.]	Tension Gauge
20 [1 HP]	95 ± 4	40 ± 3	176 ± 15
80-100	102 ± 4	132 ± 10	588 ± 45
* 20 pound 2 HP High Voltage and all 30, 40 and 60 pound Models are self-tensioning and do not require any adjustment.			

Table 45

2. For 80 through 125 pound capacity models only, lubricate bearings and seals each month OR after every 200 hours of operation.
 - a. Use a premium-grade lithium-based #2 grease. Never mix two types of grease, such as petroleum and silicone.
 - b. Pump the grease gun slowly, permitting only the following number of strokes:
 - Bearing grease fittings, 2 strokes each
 - Seal grease fitting, 2 stroke [125 pound models only]

NOTE: Do not pump the grease gun until grease comes out of the bearing housing. This can result in over lubrication, causing damage to bearings and seals.

3. Check overflow hose and drain hose for leaks.
4. Check the supply dispenser hoses and hose connections.
5. Clean inlet hose filter screens:
 - a. Turn water off and allow valve to cool, if necessary.
 - b. Unscrew inlet hose and remove filter screen.

- c. Clean with soapy water and reinstall. Replace if worn or damaged.

Quarterly

NOTE: Disconnect power to the machine at its source before performing the quarterly maintenance procedures.

1. Tighten door hinges and fasteners, if necessary.
2. Tighten anchor bolts, if necessary.
3. Tighten anchor bolts as specified in the *Machine Mounting and Grouting* section, if necessary.
4. Verify that the drain motor shield is in place and secure, if so equipped.
5. Clean customer-supplied steam filter, where applicable. Refer to *Figure 44* .
 - a. Turn off steam supply and allow time for the valve to cool.
 - b. Unscrew cap.
 - c. Remove element and clean.
 - d. Replace element and cap.

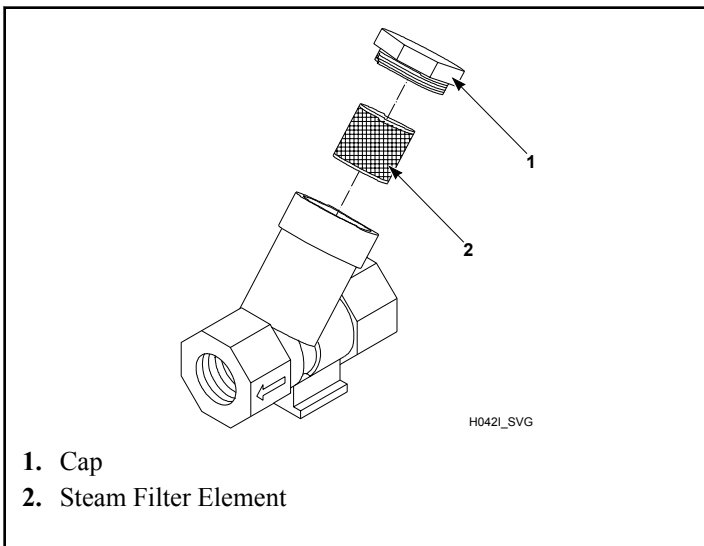


Figure 44

6. Check the bearing mounting bolts to make sure they are torqued properly. Refer to *Torque* .

Torque		
Machine Capacity	Bearing	Torque
20	All	41 ft.-lbs.
30-40	All	101 ft.-lbs.

Torque		
Machine Capacity	Bearing	Torque
60	All	201 ft.-lbs.
80-100	All	357 ft.-lbs.
125	All	201 ft.-lbs.

Table 46

7. Tighten motor mounting bolt locknuts and bearing bolt locknuts.
8. Vacuum lint from motor vents.
9. Clean all electronic boards of moisture and dust with canned air.
10. Verify the insulation is intact on all external wires and that all connections are secure. If bare wire is evident, call a service technician.
11. Clean inverter drive cooling fan blades [where applicable].

Care of Stainless Steel

- Remove dirt and grease with detergent and water. Thoroughly rinse and dry after washing.
- Avoid contact with dissimilar metals to prevent galvanic corrosion when salty or acidic solutions are present.
- Do not allow salty or acidic solutions to evaporate and dry on stainless steel. Wipe clean of any residues.
- Rub in the direction of the polish lines or “grain” of the stainless steel to avoid scratch marks when using abrasive cleaners. Use stainless steel wool or soft, non-metal bristle brushes. Do not use ordinary steel wool or steel brushes.
- If the stainless steel appears to be rusting, the source of the rust may be an iron or steel part not made of stainless steel, such as a nail or screw.
- Remove discoloration or heat tint from overheating by scouring with a powder or by employing special chemical solutions.
- Do not leave sterilizing solutions on stainless steel equipment for prolonged periods of time.
- When an external chemical supply is used, ensure no siphoning of chemicals occurs when the machine is not in use. Highly concentrated chemicals can cause severe damage to stainless steel and other components within the machine. Damage of this kind is not covered by the manufacturer’s warranty. Locate the pump and tubing below the machines’s injection point to prevent siphoning of chemicals into the machine.

Disposal of Unit

This appliance is marked according to the European directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Refer to *Figure 45*. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. Ensuring this product is disposed of correctly will help prevent potential negative consequences for the environment and human health which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact the local city office, household waste disposal service, or the source from which the product was purchased.

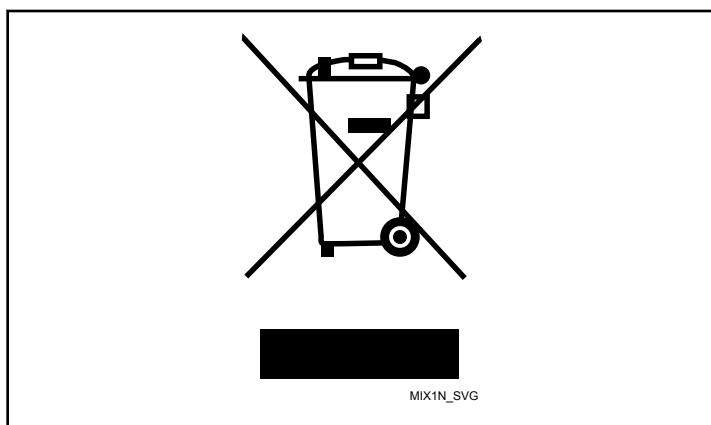


Figure 45