Washer-Extractors

Cabinet Freestanding

Refer to Page 9 for Model Identification

Installation/Maintenance

Original Instructions
Keep These Instructions for Future Reference.
CAUTION: Read the instructions before using the machine.
(If this machine changes ownership, this manual must accompany machine.)

Alliance™ Laundry Systems

www.alliancelaundry.com

Part No. D2418ENR4
April 2021

Table of Contents

Regulatory Statements

PRODUCT COMPLIANCE

Users of this product are cautioned not to make modifications or changes that are not approved by Alliance Laundry Systems, LLC. Doing so may void the compliance of this product with applicable laws and regulatory requirements and may result in the loss of the user's authority to operate the equipment.

UNITED STATES

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions; (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the radio or television receiving antenna.
- Increase the separation between the computer equipment or receiver.
- Connect the equipment into an outlet on a circuit different from that to which the radio or television receiver is connected.
- Consult the dealer or experienced radio television technician for help.

CAUTION

To comply with the limits of the Class B device, pursuant to Part 15 of the FCC Rules, this device is to comply with Class B limits. All peripherals must be shielded and grounded. Operation with non-certified peripherals or non-shielded cables is likely to result in interference and reception of the device.

W1004

Radiation Exposure Statement: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. The radio installed in this equipment and is intended to operate with minimum distance 20cm between the radiator and your body.

Limited Channels Fixed For Use In USA: IEEE 802.11b or 802.11g or 802.11n(HT20) operation of this product in the U.S. is firmware-limited to Channel 1 through 11.

CANADA - CAN ICES-3(B)/NMB-3(B)

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s) standards. Operation is subject to the following two conditions:

- This device may not cause interference.
- This device must accept any interference, including interference that may cause undesired operation of the device.

Radiation Exposure Statement: This equipment complies with Innovation, Science and Economic Development Canada's radiation exposure limits set forth for in RSS-102. The radio installed in this equipment is installed and is intended to operate with minimum distance 20cm between the radiator and your body.

EUROPE

Products bearing the CE mark comply with the following EU directives:

- EMC Directive 2014/30/EU
- Low Voltage Directive 2014/35/EU
- Ecodesign Directive 2009/125/EC
- RoHS Directive 2011/65/EU

If the product has telecommunications functionality, it also complies with the requirements of the following EU directive:

- Radio Equipment Directive 2014/53/EU

Compliance with these Directives implies conformity to harmonized European standards that are noted in the EU Declaration of Conformity which is available upon request.

Alliance Laundry Systems products comply with the requirement of Article 10(2) as it can be operated in at least one Member State as examined and the product is compliant with Article 10(10) as it has no restrictions on putting into service in all EU member states.

This device contains a 2.4GHz transceiver, intended for indoor use only in all EU member states, EFTA states, and Switzerland. Attention has been given to allowed operational frequencies. For detailed information concerning installations in France, the user should contact the national spectrum authority in France (http://www.arcep.fr/)

Be aware that outdoor installations require special attention and will only be handled by trained and qualified installation personnel. No one from the general-public is permitted to install wireless products outdoors when external antennas, power and grounding must be installed for use.

AUSTRALIA/NEW ZEALAND

The radio in this equipment complies with and is certified to the Australian and New Zealand regulatory requirements.

BRAZIL ANATEL (Brazilian Portuguese)

This equipment operates in secondary status, that is, it is not entitled to protection against harmful interference, even for type stations, and cannout cause interference to systems operating in primary status.

CHINA SRRC (Simplified Chinese)

The radio device has recieved certification of conformance in accordance with the People's Republic of China State Radio Regulation Committee (SRRC) certification scheme. Integrations of this radio into a final product does not require additional radio certification provided installation instructions are followed. No changes are authorized to the radio or the antenna of the approved device.

JAPAN

This product is equipped with a certified wireless device pursuant to Article 2-1-19 of the Certification Ordinance. No changes are authorized to the radio or the antenna of the approved device.

MEXICO IFETEL (Mexico Spanish)

“The operation of this equipment is subject to the following two conditions: (1) it is possible that this equipment or device does not cause harmful interference and (2) this equipment or device must accept any interference, including that which may cause its unwanted operation.”

SOUTH KOREA (KC) (Korean)

The radio device has received certification of conformance in accordance with the Radio Waves Act. Integration of this radio into a final product does not require additional radio certification provided installation instructions are followed. No changes are authorized to the radio or the antenna of the approved device.

TAIWAN

The information in this section applies to products bearing the Taiwan National Communications Commission mark:

This telecom equipment has complied with NCC regulations.

According to “Administrative Regulations of Low Power Radio Waves Radiated Devices:

Article 12 The low-power radio-frequency devices must not be altered by changing the frequency, enhancing emission power, adding external antenna, and modification of original design characteristic as well as function.

Article 14 The operation of the low-power radio-frequency devices is subject to the conditions that no harmful interference is caused. The user must stop operating the device immediately should harmful interference is caused and shall not resume until the condition causing the harmful interference has been corrected.

Moreover, the interference must be accepted that may be caused by the operation of an authorized communications, or ISM equipment. (1) Precautions (marked in the product manual and on outer packaging)

THAILAND

The information in this section applies to products approved by the Thailand National Communications Commission:

These telecommunication and device are compliance with the requirements of National Broadcasting and Telecommunication Commission.

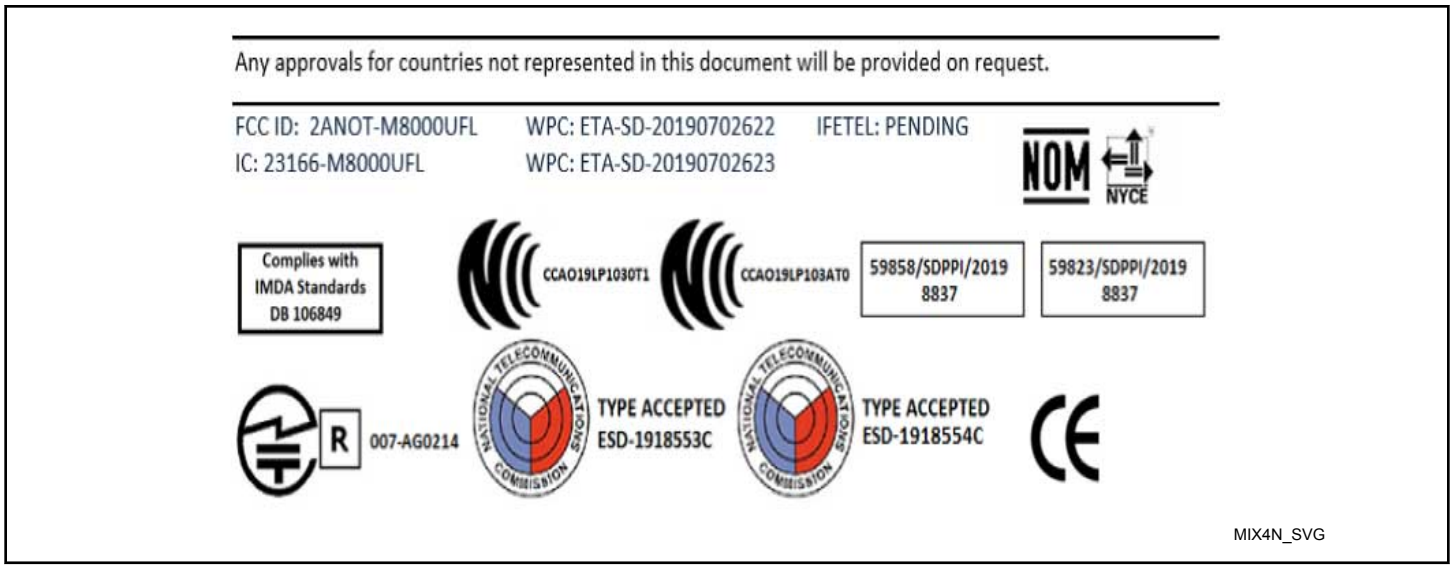


Figure 1

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

WARNING

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 technicians 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.

W963

- Read all instructions before using the washer.
- Install the washer according to the INSTALLATION instructions. Refer to the Earthing (grounding) instructions in the INSTALLATION manual for the proper earthing (grounding) of the washer. All connections for water, drain, electrical power and earthing (grounding) must comply with local codes and be made by licensed personnel when required. The machine has to 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.

CAUTION

This appliance is not intended for use by children, persons lacking knowledge, or infirm persons without supervision by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance. Close supervision of children is necessary when the washer is used near children.

- This appliance is not intended for use by children, persons lacking knowledge, or infirm persons without supervision by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance. Close supervision of children is necessary when the washer is used near children.
- 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.
- To avoid machine corrosion and component failure, do not use corrosive chemicals in the machine. Warranty claims related to damage caused by corrosive chemicals will be denied.
- 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 10 minutes after turning the power OFF and needs to check for residual voltage with a voltage meter. The inverter 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. Before starting inspection of the inverter, check for residual voltage across main circuit terminals + and -. This voltage must be below 30 VDC before the servicer can access the inverter for inspection.
- 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. If the supply cord is damaged, it must be replaced by a qualified technician.
- The new hose sets supplied with the appliance are to be used. Old hose sets should NOT be reused.
- The appliance must be connected to water mains with a minimum of 100 kPa and maximum of 800 kPa.
- If the appliance is not equipped with a supply mains disconnecting device, means for disconnection must by incorporated in fixed wiring in accordance with the relevant wiring rules.
- To reduce the risk of fire, this appliance must be bolted to an uncovered concrete floor.
- Before the washer is removed from service or discarded, remove the door to the washing compartment.
- To avoid premature bearing failure, do not operate the machine while the basket is empty.
- 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.
- Use manufacturer-authorized spare parts to avoid safety hazards.
- Adequate ventilation has to be provided to avoid the backflow of gases into the room from appliances burning other fuels.
- The use of hypochlorite will cause corrosion which may cause component failure under certain circumstances.
- The warranty of the machine cannot be accepted in case corrosion was caused by chlorine and chlorine compounds impact.
- The machine is not designed for use in IT networks.

NOTE: The WARNING and IMPORTANT SAFETY INSTRUCTIONS appearing in this manual are not meant to cover all possible conditions and situations that may occur. Observe and be aware of other labels and precautions that are located on the machine. They are intended to provide instruction for safe use of the machine. Common sense, caution and care must be exercised when installing, maintaining, or operating the washer.

Always contact your dealer, distributor, service agent or the manufacturer on any problems or conditions you do not understand.

NOTE: For European Union member states only: Electrical safety of the washers described in this manual is in compliance with the requirements of the European standard EN60204-1.

DANGER

Electrical shock hazard will result in death or serious injury. Disconnect electric power and wait ten (10) minutes before servicing.

W911

WARNING

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.

W736

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

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.

SW014

WARNING

Install the machine on a level floor of sufficient strength. Failure to do so may result in conditions which can produce serious injury, death and/or property damage.

W703

WARNING

Never interfere with the setting of the door handle. Never try to modify the setting or repair the handle! Any interference with its setting may lead to serious risk for the operator! A damaged or incorrectly functioning door handle must always be immediately replaced with a new original part.

C014

CAUTION

To avoid premature bearing failure, do not operate the machine while the basket is empty.

- Electrical disconnect must be located so that it is easily accessible with the machine in place. Machine must be hard-wired. An intermediate shut-off box that provides all pole disconnection from the supply mains must be used in compliance with all local electrical codes.

CAUTION

Machine with weighing system: Never carry load sensors by their cables. Avoid electric welding near the load sensors. An impact may cause permanent damage to the load sensor. Avoid unequal load distribution between the load sensors when putting the machine down. When the power of the machine is switched on, the system needs a ten (10) minute warm-up time. This is important when the power has been off for more than five (5) minutes. Ignoring warm-up may result in a major error in weighing.

W912

CAUTION

Models outside of North America - Machine with weighing system: Never carry load sensors by their cables. Avoid electric welding near the load sensors. An impact may cause permanent damage to the load sensor. Avoid unequal load distribution between the load sensors when putting the machine down. When the power of the machine is switched on, the system needs a ten (10) minute warm-up time. This is important when the power has been off for more than five (5) minutes. Ignoring warm-up may result in a major error in weighing.

W941

NOTE: All appliances are produced according the EMC-directive (Electro-Magnetic-Compatibility). They can be used in restricted surroundings only (comply minimally with class A requirements). For safety reasons there must be kept the necessary precaution distances with sensitive electrical or electronic device(s). These machines are not intended for domestic use by private consumers in the home environment.

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

Machines referred to by model in this manual are intended to be used by the general public in applications such as:

- staff areas in shops, offices, kitchens and other working environments
- by clients in hotels, motels and other residential type environments
- areas for communal use in blocks of flats or in launderettes
- any other similar applications

Installation of these machines must fully conform to the instructions contained in this manual.

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

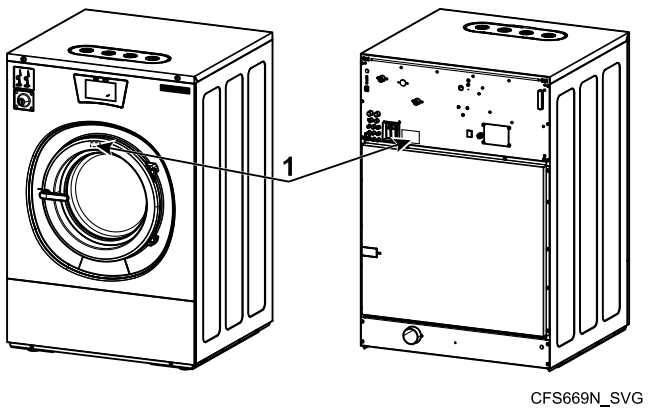
Introduction

Model Identification

Information in this manual is applicable to these models:

SY20_QUANTUM_TOUCH	SYT020V	SYE065V	SYX280V
SY25_QUANTUM_TOUCH	SYT025V	SYE080V	HY20_GALAXY_TOUCH
SY30_QUANTUM_TOUCH	SYT030V	SYE105V	HY25_GALAXY_TOUCH
SY40_QUANTUM_TOUCH	SYT040V	SYE135V	HY30_GALAXY_TOUCH
SY55_QUANTUM_TOUCH	SYT055V	SYE180V	HY40_GALAXY_TOUCH
SY70_QUANTUM_TOUCH	SYT070V	SYE240V	H55_GALAXY_TOUCH
SY65_QUANTUM_TOUCH	SYC065V	SYE280V	HY70_GALAXY_TOUCH
SY80_QUANTUM_TOUCH	SYC080V	SYX065V	HYT020V
SY105_QUANTUM_TOUCH	SYC105V	SYX080V	HYT025V
SY135_QUANTUM_TOUCH	SYC135V	SYX105V	HYT030V
SY180_QUANTUM_TOUCH	SYC1805V	SYX135V	HYT040V
SY240_QUANTUM_TOUCH	SYC240V	SYX180V	HYT055V
SY280_QUANTUM_TOUCH	SYC280V	SYX240V	HYT070V

Serial Plate Location



1. Serial Plate Location

Figure 2

The serial plate is located on the rear panel of the machine and on the frame inside the machine.

Always provide the machine serial number when ordering parts or when seeking technical assistance.

Manufacturing Date

The manufacturing date for your unit can be found on the serial number. The last two characters indicate first the year and then the month. Refer to *Table 1* and *Table 2* . For example, a unit with serial number 520I000001DK was manufactured in May 2015.

Manufacturing Date - Year	
Year	**Serial Number Character**
2009	P
2010	R
2011	T
2012	V
2013	X
2014	B
2015	D
2016	F
2017	H
2018	K
2019	M

Table 1 *continues...*

Manufacturing Date - Year	
Year	**Serial Number Character**
2020	Q

Table 1

Manufacturing Date - Month	
Month	**Serial Number Character**
January	A or B
February	C or D
March	E or F
April	G or H
May	J or K
June	L or M
July	N or Q
August	P or S
September	R or U
October	T or W
November	V or Y
December	X or Z

Table 2

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.

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

Specifications and Dimensions

General Specifications

Specifications	65 L Models	80 L Models	105 L Models	135 L Models	180 L Models	240 L Models	280 L Models
Capacity							
Drum Capacity,lb. [kg]	14 lb. [6.5 kg]	16.5 lb. [7.5 kg]	23 lb. [10.5 kg]	30 lb. [13.5 kg]	40 lb. [18 kg]	55 lb. [24 kg]	70 lb. [28 kg]
Drum Volume, gal [l]	17.17 [65]	21.13 [80]	27.74 [105]	35.66 [135]	47.55 [180]	63.40 [240]	73.97 [280]
Overall Dimensions							
Overall width, in. [mm]	27.95 [710]	27.95 [710]	31.29 [795]	31.29 [795]	38.18 [970]	38.18 [970]	38.18 [970]
Overall height, in. [mm]	44.69 [1135]	44.69 [1135]	49.02 [1245]	49.02 [1245]	56.30 [1430]	56.30 [1430]	56.30 [1430]
Overall depth, in. [mm]	28.74 [730]	30.71 [780]	30.91 [785]	36.81 [935]	37.80 [960]	43.11 [1095]	46.26 [1175]
Weight and Shipping Information							
Net weight, lbs. [kg]	375 [170]	408 [185]	463 [210]	563 [255]	838 [380]	948 [430]	1092 [495]
Shipping weight, lbs. [kg]	397 [180]	441 [200]	518 [235]	606 [275]	871 [395]	992 [450]	1135 [515]
Shipping dimensions (WxDxH), in. [mm]	29.53 x 33.01 x 49.80 [750 x 840 x 1265]	29.53 x 33.01 x 49.80 [750 x 840 x 1265]	32.87 x 33.01 x 53.75 [835 x 840 x 1365]	32.87 x 38.78 x 53.75 [835 x 985 x 1365]	40.35 x 39.96 x 61.81 [1025 x 1015 x 1570]	40.35 x 45.28 x 61.81 [1025 x 1150 x 1570]	40.35 x 48.23 x 61.81 [1025 x 1225 x 1570]
Wash Cylinder Information							
Cylinder diameter in. [mm]	20.87 [530]	20.87 [530]	24.40 [620]	24.40 [620]	29.53 [750]	29.53 [750]	29.53 [750]

Table 3 *continues...*

Specifications	65 L Models	80 L Models	105 L Models	135 L Models	180 L Models	240 L Models	280 L Models
Cylinder depth in. [mm]	12.01 [305]	13.78 [350]	13.78 [350]	17.72 [450]	16.14 [410]	21.46 [545]	24.41 [620]
Cylinder volume ft^3 [l]	2.3 [65]	2.6 [75]	3.7 [105]	4.8 [135]	6.4 [180]	8.5 [240]	9.9 [280]

Table 3 *continues...*

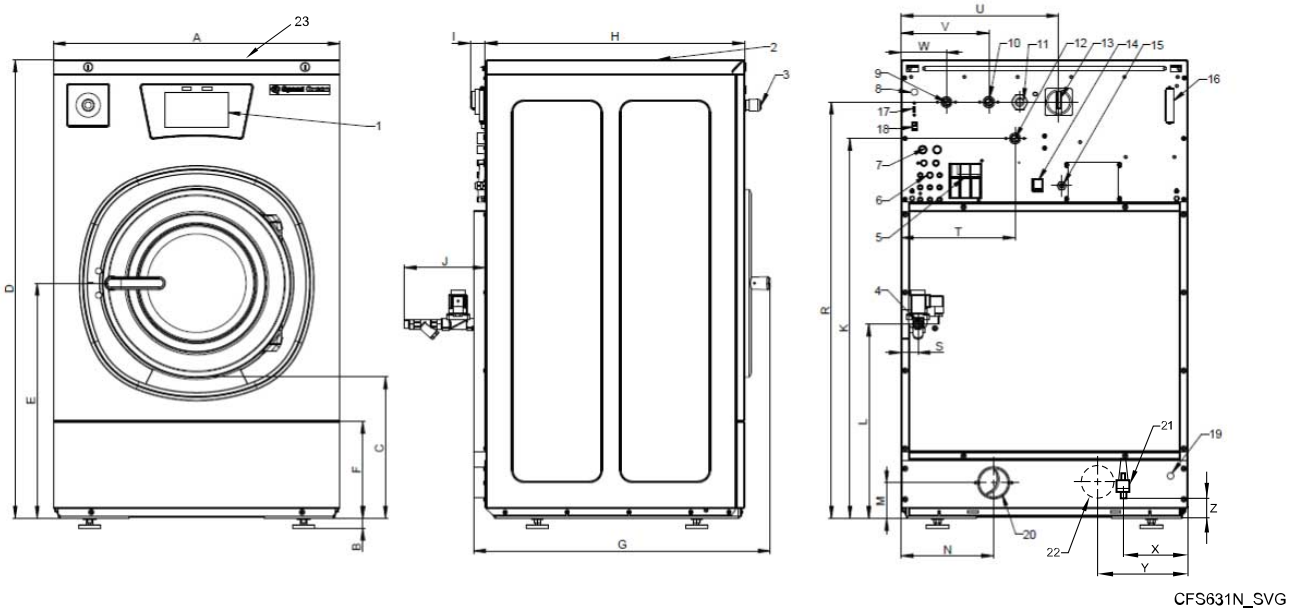
Specifications	65 L Models	80 L Models	105 L Models	135 L Models	180 L Models	240 L Models	280 L Models
Door Opening Information							
Door opening size, in. [mm]	13 [330]	13 [330]	16.14 [410]	16.14 [410]	18.11 [460]	18.11 [460]	18.11 [460]
Height of door bottom above floor, in. [mm]	13.74 [349]	13.74 [349]	13.46 [342]	13.46 [342]	18.77 [477]	18.77 [477]	18.77 [477]
Drive Train Information							
Number of motors in drive train	1	1	1	1	1	1	1
Motor Size, hp [kW]	1 [0.75]	1 [0.75]	1.48 [1.1]	2.01 [1.5]	2.95 [2.20]	4.02 [3.0]	4.02 [3.0]
Cylinder Speeds							
Wash, RPM	49	49	49	49	42	42	42
Extraction, RPM (400G)	1165	1165	1075	1075	980	980	N/A
Heating							
Electric, kW	6 / 9 (4.6)	6 / 9 (4.6)	6 / 9 / 12	9 / 12	12 / 18	18	21.9
Steam, psi [bar]	15-116 [1-8]	15-116 [1-8]	15-116 [1-8]	15-116 [1-8]	15-116 [1-8]	15-116 [1-8]	15-116 [1-8]
Hot water, °F [°C]	194 [90]	194 [90]	194 [90]	194 [90]	194 [90]	194 [90]	194 [90]
Noise Emissions							
Wash sequence, dB	46	52	52	50	50	50	47
Extract sequence, dB	59	63	66	65	68	66	70

Table 3 *continues...*

Specifications	65 L Models	80 L Models	105 L Models	135 L Models	180 L Models	240 L Models	280 L Models
Floor Load Data							
Maximum static load on floor, lbs. [kN]	472 [2.1]	517 [2.3]	585 [2.6]	719 [3.2]	1102 [4.9]	1191 [5.3]	1304 [5.8]
Maximum dynamic load on floor, lbs. [kN]	405 ± 112 [1.8 ± 0.5]	428 ± 112 [1.9 ± 0.5]	495 ± 112 [2.2 ± 0.5]	607 ± 112 [2.7 ± 0.5]	899 ± 112 [4.0 ± 0.7]	1034 ± 112 [4.6 ± 1.1]	1124 ± 112 [5.0 ± 1.1]
Frequency of dynamic load, Hz	19.4	19.4	17.9	17.9	16.3	16.3	15.25
G factor	400	400	400	400	400	400	350
Static floor pressure lbs/ft^2 [kN/m^2]	96 [4.61]	98 [4.68]	99 [4.73]	100 [4.78]	121 [5.8]	113 [5.43]	116 [5.53]
Dynamic floor pressure lbs/ft^2 [kN/m^2]	83 ± 23 [3.95 ± 1.1]	81 ± 21 [3.87 ± 1.02]	84 ± 19 [4.0 ± 0.91]	84 ± 16 [4.04 ± 0.75]	99 ± 17 [4.73 ± 0.83]	98 ± 24 [4.71 ± 1.13]	99 ± 22 [4.76 ± 1.05]
General Data							
Ambient Temperature, °F [°C]	41-95 [5-35]						
Relative Humidity	30%-90% without condensation						
Height above sea level ft. [m]	up to 3280 [up to 1000]						
Storage Temperature, °F [°C]	34-131 [1-55]						

Table 3

Machine Dimensions



1. Control panel
2. Soap dispenser
3. Centralstop button
4. Steam connection
5. Air relieve
6. Liquid soap connection
7. Recyled water inlet
8. Recycled water valve cable inlet
9. Cold water inlet, soft
10. Cold water inlet, hard
11. Electrical connection
12. Hot water inlet
13. Main switch/Field wiring terminal (NA models)
14. Heating change-over switch
15. Liquid soap pump eletrical connection
16. Fuses
17. USB port - optional
18. PC programming connection
19. Discharge water cable inlet
20. Drain valve - 3 in. [76 mm]
21. Drain Valve - 1/2", applicable for wash bath sample (on request only)
22. Drain valve or recycle valve - 3 in. [76 mm]280 L Models only)
23. Hidden USB port (under top cover) - standard

Figure 3

Specifi-cations	65 L Models in. [mm]	80 L Models in. [mm]	105 L Models in. [mm]	135 L Models in. [mm]	180 L Models in. [mm]	240 L Models in. [mm]	280 L Models in. [mm]
A	27.95 [710]	27.95 [710]	31.29 [795]	31.29 [795]	38.18 [970]	38.18 [970]	38.18 [970]
B	0.94 [24]	0.94 [24]	0.94 [24]	0.94 [24]	0.94 [24]	0.94 [24]	0.94 [24]
C	13.74 [349]	13.74 [349]	13.46 [342]	13.46 [342]	18.77 [477]	18.77 [477]	18.77 [477]
D	44.69 [1135]	44.69 [1135]	49.02 [1245]	49.02 [1245]	56.30 [1430]	56.30 [1430]	56.30 [1430]
E	22.91 [582]	22.91 [582]	24.29 [617]	24.29 [617]	30.59 [777]	30.59 [777]	30.59 [777]
F	9.45 [240]	9.45 [240]	9.45 [240]	9.45 [240]	13.19 [335]	13.19 [335]	13.19 [335]
G	28.74 [730]	30.71 [780]	30.91 [785]	36.81 [935]	37.80 [960]	43.11 [1095]	46.26 [1175]
H	25.28 [642]	27.24 [692]	27.24 [692]	33.15 [842]	34.33 [872]	39.65 [1007]	42.80 [1087]
I	1.89 [48]	1.89 [48]	1.89 [48]	1.89 [48]	1.89 [48]	1.89 [48]	1.89 [48]
J	7.08 [180]	7.08 [180]	7.08 [180]	7.08 [180]	3.54 [90]	3.54 [90]	3.54 [90]
K	37.00 [940]	37.00 [940]	41.34 [1050]	41.34 [1050]	48.58 [1234]	48.58 [1234]	48.58 [1234]
L	18.89 [480]	18.89 [480]	19.92 [506]	19.92 [506]	19.29 [490]	19.29 [490]	19.29 [490]
M	3.46 [88]	3.46 [88]	3.46 [88]	3.46 [88]	4.27 [108.5]	4.27 [108.5]	4.27 [108.5]
N	9.05 [230]	9.05 [230]	9.05 [230]	9.05 [230]	10.62 [270]	10.62 [270]	10.62 [270]
R	40.55 [1030]	40.55 [1030]	44.88 [1140]	44.88 [1140]	52.13 [1324]	52.13 [1324]	52.13 [1324]
S	1.65 [42]	1.65 [42]	1.65 [42]	1.65 [42]	3.14 [80]	3.14 [80]	3.14 [80]
T	11.14 [283]	11.14 [283]	11.53 [293]	11.53 [293]	11.53 [293]	11.53 [293]	11.53 [293]
U	15.35 [390]	15.35 [390]	18.70 [475]	18.70 [475]	24.01 [610]	24.01 [610]	24.01 [610]
V	8.58 [218]	8.58 [218]	8.58 [218]	8.58 [218]	8.58 [218]	8.58 [218]	8.58 [218]
W	4.44 [113]	4.44 [113]	4.44 [113]	4.44 [113]	4.44 [113]	4.44 [113]	4.44 [113]
X	N/A	N/A	N/A	N/A	N/A	N/A	7.99 [203]
Y	N/A	N/A	N/A	N/A	N/A	N/A	10.79 [274]
Z	N/A	N/A	N/A	N/A	N/A	N/A	2.64 [67]

Table 4

Mounting Bolt Hole Locations

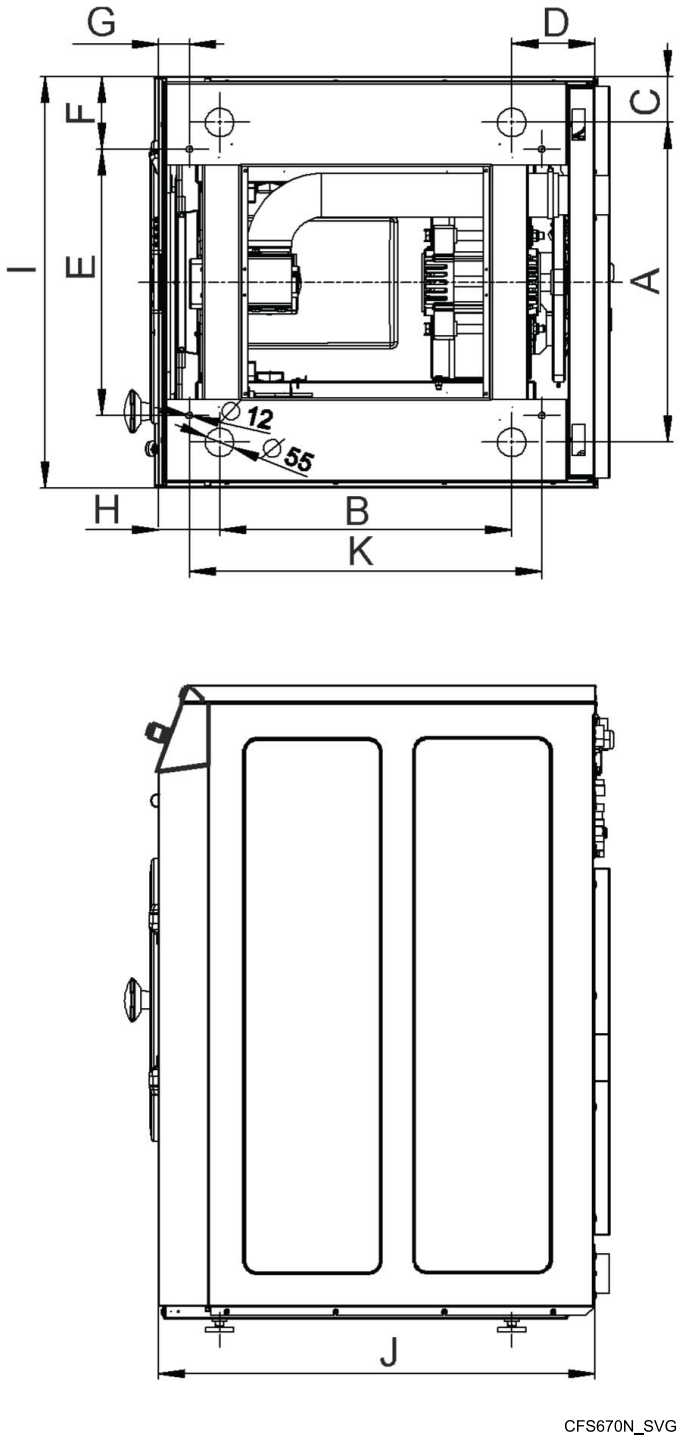


Figure 4

Mounting Bolt Hole Locations, in. [mm]				
Specification	**65 L Models**	**Models**	**105 L Models**	**135 L Models**
A	20.86 [530]	20.86 [530]	24.33 [618]	24.33 [618]
B	15.51 [394]	17.48 [444]	17.48 [444]	22.20 [564]
C	3.54 [90]	3.54 [90]	3.48 [88.5]	3.48 [88.5]
D	5.09 [129.5]	5.09 [129.5]	5.09 [129.5]	6.27 [159.5]
E	14.76 [375]	14.76 [375]	17.91 [455]	20.27 [515]
F	6.59 [167.5]	6.59 [167.5]	6.69 [170]	5.51 [140]
G	1.57 [40]	1.57 [40]	1.37 [35]	2.36 [60]
H	4.64 [118]	4.64 [118]	4.64 [118]	4.64 [118]
I	27.95 [710]	27.95 [710]	31.29 [795]	31.29 [795]
J	25.25 [641.5]	27.22 [691.5]	27.22 [691.5]	33.12 [841.5]
K	21.65 [550]	23.62 [600]	24.02 [610]	26.77 [680]

Table 5

Mounting Bolt Hole Locations, in. [mm]			
Specification	**180 L Models**	**240 L Models**	**280 L Models**
A	30.90 [785]	30.90 [785]	30.90 [785]
B	22.04 [560]	27.36 [695]	30.31 [770]
C	3.64 [92.5]	3.64 [92.5]	3.64 [92.5]
D	8.32 [211.5]	8.32 [211.5]	8.32 [211.5]
E	26.37 [670]	26.37 [670]	26.37 [670]
F	5.90 [150]	5.90 [150]	5.90 [150]
G	1.96 [50]	1.96 [50]	1.96 [50]
H	3.94 [100]	3.94 [100]	3.94 [100]
I	38.18 [970]	38.18 [970]	38.18 [970]
J	34.31 [871.5]	39.62 [1006.5]	42.60 [1082]
K	25.98 [660]	31.30 [795]	34.25 [870]

Table 6

Floor Mounting Layout

Dimensional Clearances

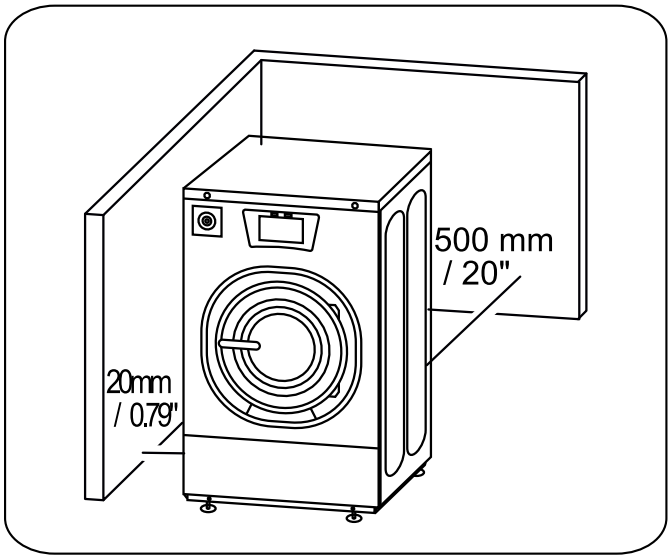


Figure 5

Dimensional Clearances, in. [mm]								
Models		**65 L**		**105 L**	**135 L**	**180 L**	**240 L**	**280 L**
A	Distance of machine to side wall or other machine (minimum)	0.79 [20]	0.79 [20]	0.79 [20]	0.79 [20]	0.79 [20]	0.79 [20]	0.79 [20]
B	Distance to wall (minimum)	20 [500]	20 [500]	20 [500]	20 [500]	20 [500]	20 [500]	20 [500]
C	Dimensional clearance above machine (minimum)	35.43 [900]	35.43 [900]	35.43 [900]	35.43 [900]	43.31 [1100]	43.31 [1100]	43.31 [1100]

Table 7

Installation

Pallet Removal

The machine is delivered bolted onto the transport pallet and packed in shrink-wrap foil or box.

1. Remove packing from machine.
2. Remove bottom front and rear panel.
3. Remove bolts between machine and pallet.
4. Mount bottom front and rear panel.
5. When machine is lifted off pallet, make sure the machine does not come down on the floor with either of the rear corners first. The machine's side panel can be damaged.

   NOTE: Two self-adhesive rubber stop-blocks are supplied with the machine. They may be applied as paint protection when opening the door.
6. Mount leveling legs.
7. Level machine with feet of the machine.

WARNING

It is of utmost importance that the machine is placed level, from side to side as well as front to back. If the machine is not properly leveled, it may result in out-of-balance error without a real out of balance in the drum.

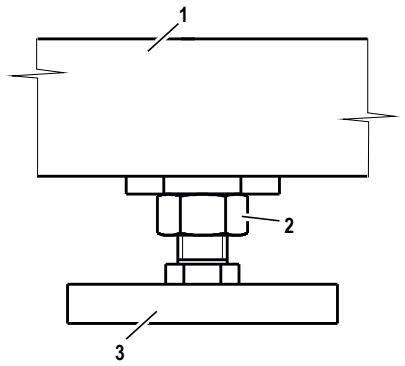
W913

   NOTE: Only put the feet on a solid surface. Do not use shock absorbing mats underneath.
8. Recheck the setting of the safety switch, refer to *Every 6 Months*.

Mounting Bolt Installation

1. Drill 2 holes for the anchoring bolts, refer to *Figure 4* . Hole diameter in machine's base is 0.47 in. [12 mm] .
2. Place the machine adjacent to the foundation. Do not attempt to move it by pushing on the sides. Always use the bottom of the frame of the washer-extractor to lift and move the whole machine.
3. Place the machine carefully over the two drilled holes.
4. Check that the machine is seated in a perfectly level manner. Adjust leveling legs as needed.

   NOTE: After leveling is complete, tighten the nut securely against the machine's base. Refer to *Figure 6* .

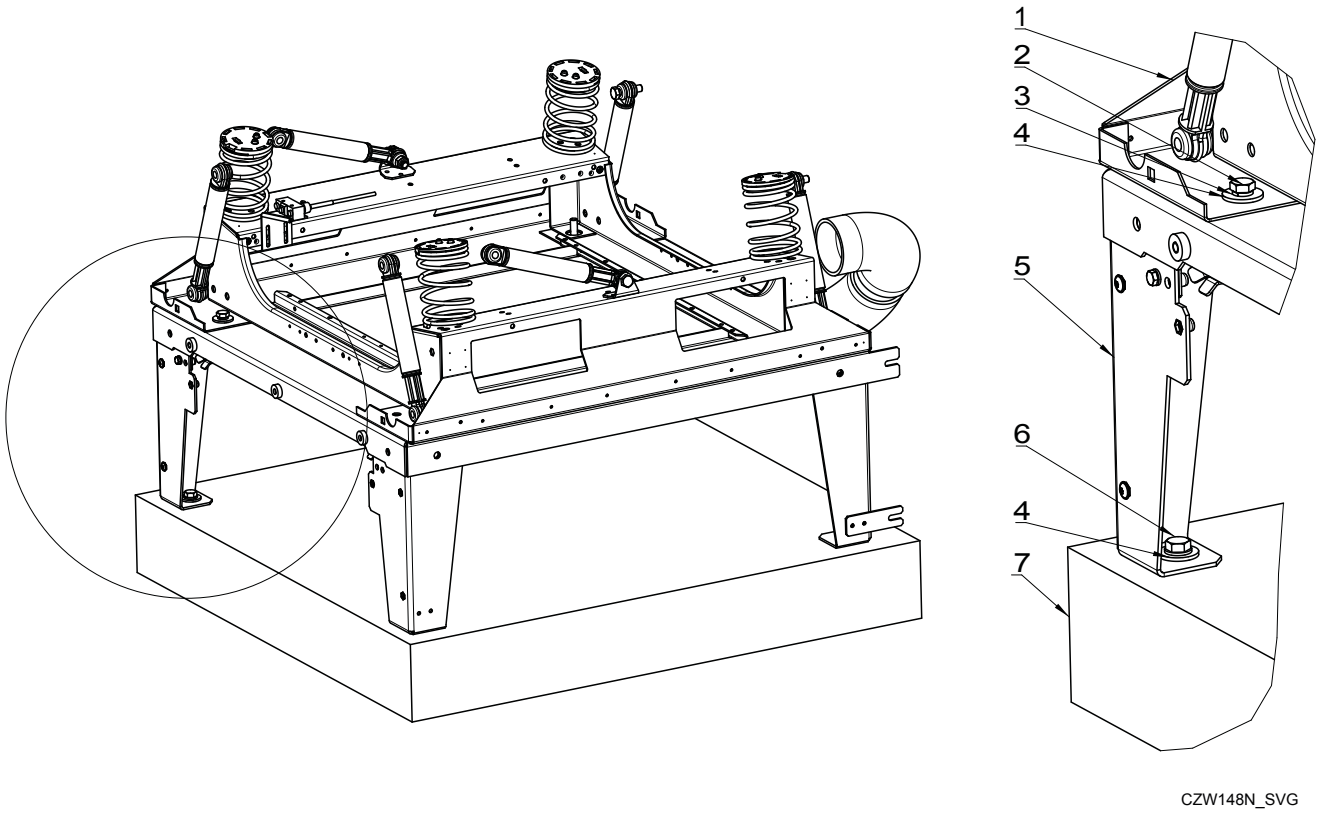


1. **Machine**
2. **Nut**
3. **Leveling Leg**

Figure 6

5. Mount the anchoring bolts in the holes drilled in the floor.
6. Position washers and locknuts on machinery anchor bolts and finger-tighten to machine base.

   NOTE: If necessary, prop up the machine frame so that not deformation occurs during the tightening of the anchoring bolts.
7. Remove the shipping braces which secure the moving components of the machine during shipping. Refer to *Shipping Brace Removal*.

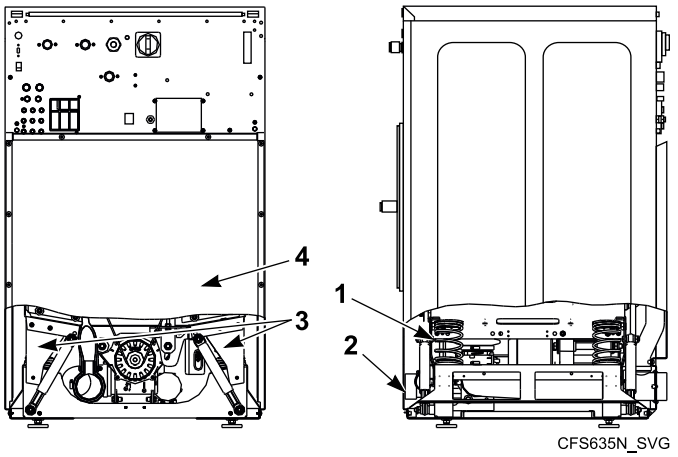


1. Washing machine
2. Bolt (Supplied with the machine)
3. Spring washer (Supplied with the machine)
4. Washer (Supplied with the machine)
5. Base frame
6. Anchor bolt (Supplied with the machine)
7. Concrete floor

Figure 7

Shipping Brace Removal

1. Remove bottom front and rear panel, refer to *Figure 8* .



1. Front transport holder
2. Bottom front panel
3. Rear transport holder
4. Rear panel

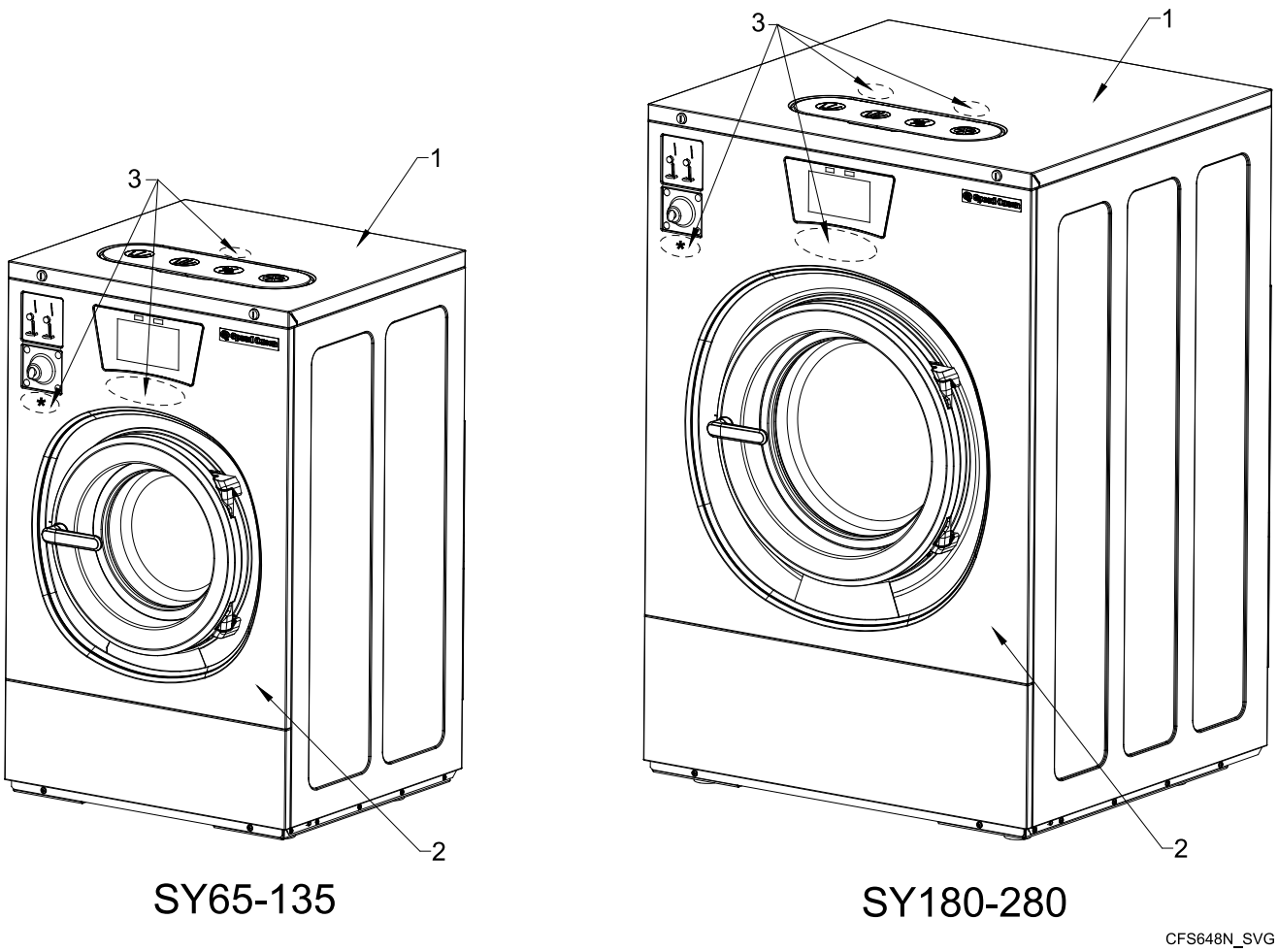
Figure 8

2. Remove both front metal transport holders.
3. Remove both rear transport holders.

IMPORTANT: The machine may not be moved with the shipping braces removed. Save the shipping braces for future use.

Top and Front Panel Reinstallation

When installing and servicing the machine, it is often necessary to remove the top and upper front panels. These panels are equipped with a self-locking system, which is designed to eliminate vibration. When re-installing the panels, press gently on each of the areas identified in *Figure 9* until a faint click is heard.



1. Top Cover
2. Upper Front Panel
3. Areas that must be pressed until a click is heard to lock the panels in place (* - does not apply to models with central payment systems)

Figure 9

Machine Installation

Install the machine close to a floor drain or open drain.

Elevated Base Frame Installation with Existing Floor (Base Frame Supplied by Manufacturer)

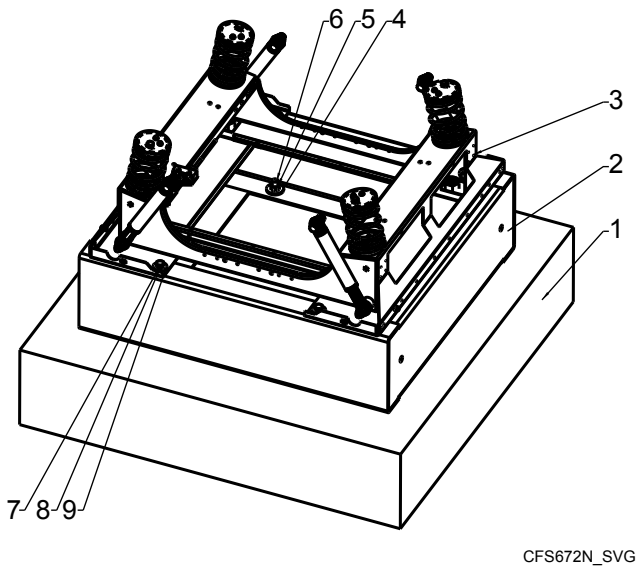
The elevated base frame structure must be able to withstand the static and dynamic loads of the machine floor (refer to *General Specifications*), and it must allow the machine to be seated in a perfectly level manner.

IMPORTANT: Floor or plinth under machine must be level, stable, and straight to prevent the frame from twisting. The manufacturer is not responsible for any defomation of the frame caused by not fulfilling these conditions.

1. Drill four holes for anchoring bolts (6) into the floor. Refer to *Figure 10* . Refer to dimensions E and K in *Table 5* and *Table 6* for spacing of the holes. The diameter of the openings in the base frame is .49" [12 mm].
2. Install mechanical or chemical anchoring bolts into the holes drilled in the floor.

   NOTE: The anchoring bolts are not included in the machine supply.
3. Place the base frame on the anchoring bolts so that the four 35 mm openings are upwards and the BACK label is at the back of the machine.
4. Make sure the base frame is level.
5. Place the washers (4) and nuts (5) on the anchoring bolts and tighen to a torque of 80 Nm. Refer to *Figure 10* .
6. Remove the transport packaging from the machine.
7. Remove the front and rear panels from the machine.
8. Remove the bolts fastening the machine to the pallet, but DO NOT mount the adjustable feet from the machine packaging on the bottom frame of the machine.
9. Install the machine on the anchored base frame.

   NOTE: When removing the machine from the pallet, do not put the rear corner of the machine on the floor first. This can cause damage to the side panel of the machine or frame.
10. Make sure the machine is level.
11. Fasten the machine to the base frame using bolts M10x35 (7), washers M10 (9), and spring washers M10 (8). Refer to *Figure 10* . Tighten to a torque of 50 Nm.
12. Remove the shipping brace. Refer to *Shipping Brace Removal*.
13. Re-install the front and rear panels on the machine.

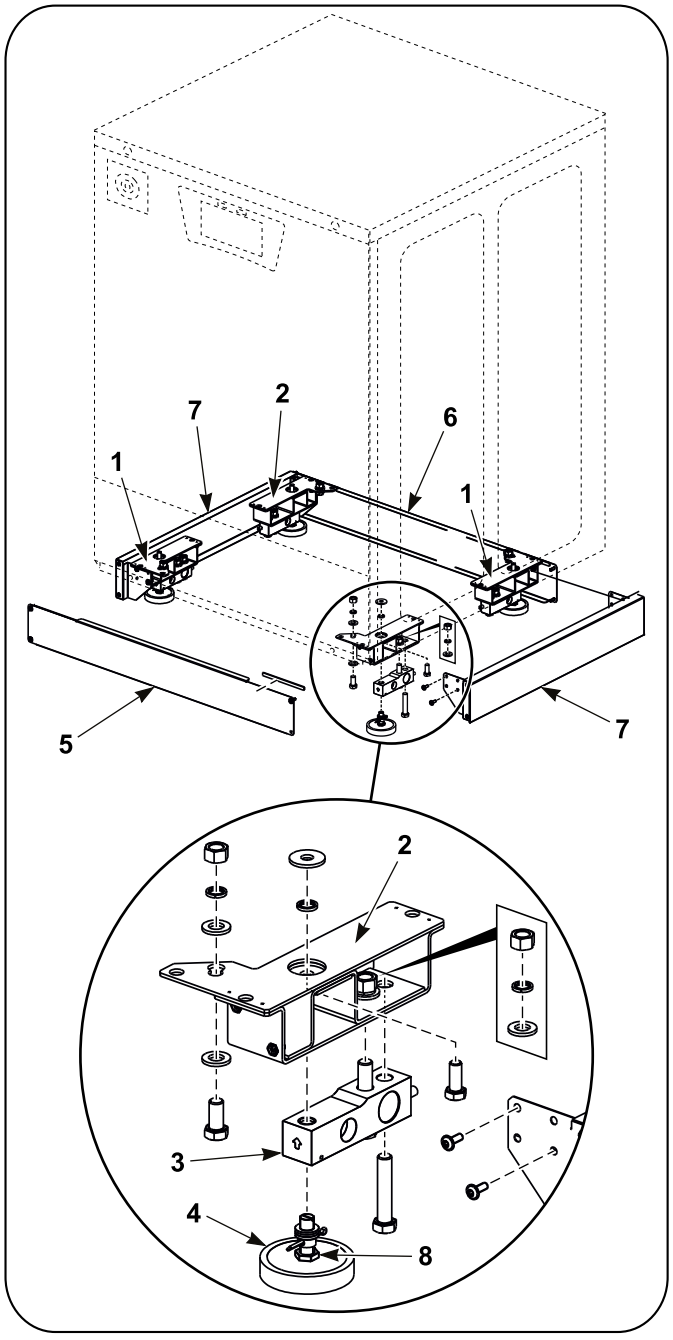


1. Floor
2. Base frame
3. Machine frame
4. Anchoring bolt washer
5. Anchoring bolt nut
6. Anchoring bolt
7. Bolt M10x35
8. Spring washer M10
9. Washer M10

Figure 10

Weighing System Installation

1. Lift up the machine.
2. Install two left load sensor supports and two right load sensor supports to the machine frame. Refer to *Figure 11* .

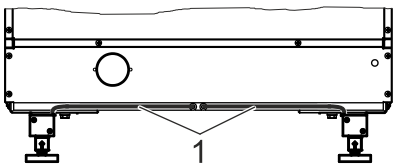


CFS634N_SVG

1. Load sensor support
2. Load sensor support
3. Load sensor
4. Leveling leg
5. Cover
6. Cover
7. Cover
8. Nut

Figure 11

3. Install load sensors with their rubber leveling legs on to the supports.
4. Check that all the supports and load sensors with rubber leveling legs are correctly placed on the machine frame and tightened.
5. Place the machine in the required position.
6. Check that all the rubber leveling legs of the load sensors are stable.
7. Fit the sensor cables into the prepared openings with cable fixtures. Refer to *Figure 12* .



CFD1212N

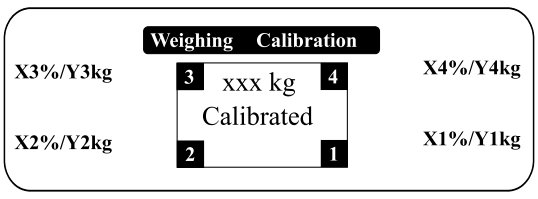
1. Sensor cable openings

Figure 12

8. Remove the transport safety devices (transport props).
9. Use a water-level to check that the lower frame of machine is positioned totally level.
10. Attach hoses for water supply to the machine.

    NOTE: The machine is not anchored into the floor; it stands on the load sensor feet. Take into consideration that the entire machine acts as a measuring gauge. Therefore, anything that you place on to the machine or anything that is in physical contact with it influences the weighing process. Make sure that the water connection, as regards the pressure in the hoses, does not interfere with the weighing. The hoses must no pull or push the machine in any direction or prop it up in any way.

11. Install the covers. Refer to *Figure 11* .
12. Check and, if necessary, adjust the height of the load sensor feet so that an even load distribution among all the load sensors is ensured. Refer to *Figure 13* .



CFD1211N

1. X1, X2, X3, X4 - range must be within 10-40%
2. Y1, Y2, Y3, Y4 - load of each load sensor in kg

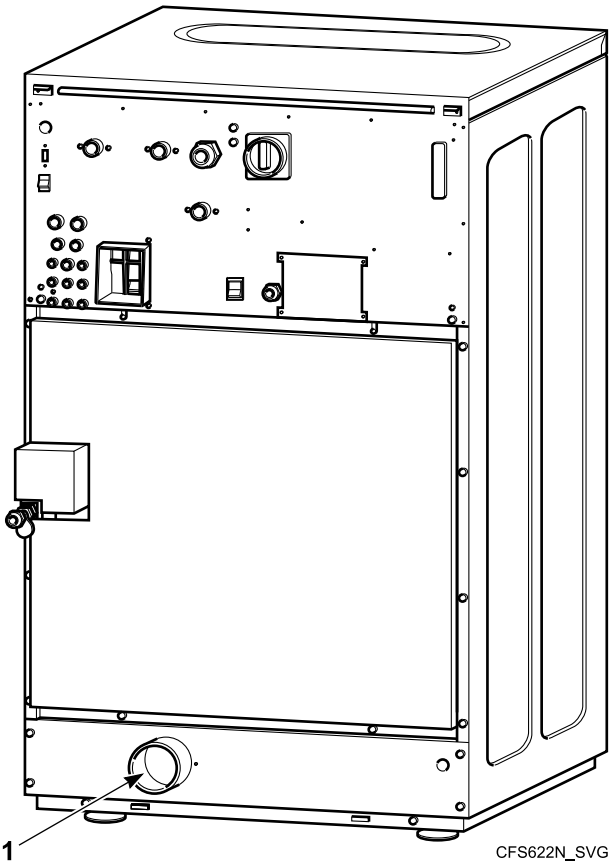
Figure 13

13. If the load sensors are outside of the specified range, it is necessary to adjust the leveling legs of load sensors. Each load

sensor leveling leg can be adjusted within the range of 0.2 in. [5 mm].

a. Lift up the machine.
b. Loosen the nut and turn the level leg in order to achieve the required position.
c. Tighten the nut.
d. Put the machine down and verify that the load applied to each sensor is within the specified range.

Drain Connection



1. Drain connection

Figure 14

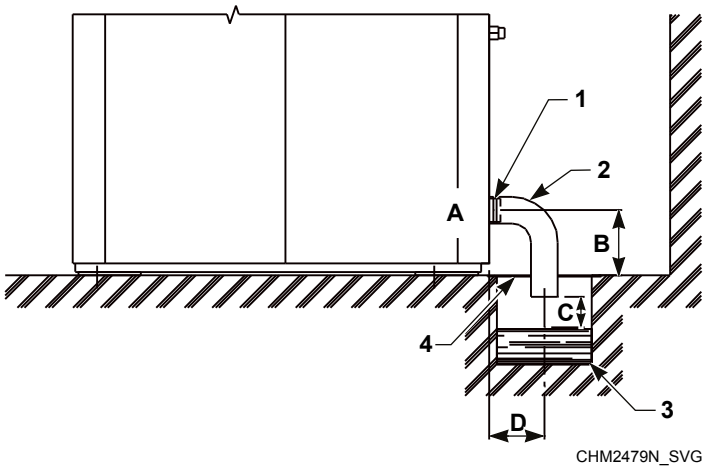
Drain Valve

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.

Connect a 3 inch [76 mm] pipe or rubber hose to the machine's drain pipe, ensuring a downward flow from the machine. Avoid sharp bends which may prevent proper draining.

The drainage pipe should be located over a floor drain, drainage channel.



1. Clamp
2. Drain elbow 3 in. [76 mm]
3. Waste channel
4. Waste channel cover

Figure 15

Drainage Pipe Information, in. [mm]							
Specification	**65 L**		**105 L**	**135 L**	**180 L**	**240 L**	**280 L**
A	3 [75]	3 [75]	3 [75]	3 [75]	3 [75]	3 [75]	3 [75]
B	4.17 [106]	4.4 [112]	4.4 [112]	4.4 [112]	5.21 [132.5]	5.21 [132.5]	5.21 [132.5]
C minimum	0.79 [20]	0.79 [20]	0.79 [20]	0.79 [20]	0.79 [20]	0.79 [20]	0.79 [20]
D minimum	3.94 [100]	3.94 [100]	3.94 [100]	3.94 [100]	3.94 [100]	3.94 [100]	3.94 [100]

Table 8

Drain Connections		
Specification	**Model**	**Requirement**
Drain connection number	All	1
Drain connection size, in. [mm]	All	3 [76]
Average flow rate of draining gal/min. [l/min.]	All	55.48 [210]

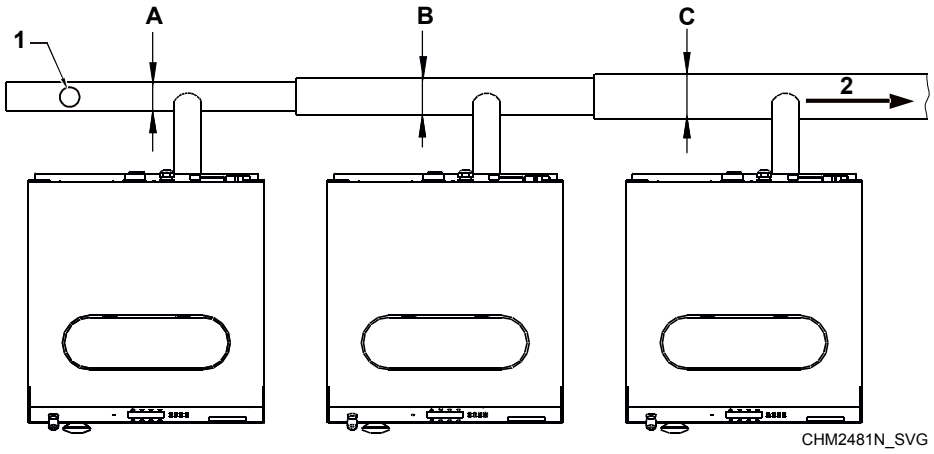
Table 9 *continues...*

Drain Connections		
Specification	**Model**	**Requirement**
Drain pump with hose - internal diameter of hose, in [mm]	65 L-	0.75 [19]
Flow rate of drain pump, gal/min. [l/min.]	65 L-	9.51 [36]

Table 9

The main drain channel-pipe must have the capacity to be able to handle the total output of all connected machines. In a drainpipe, a vent must be provided every 65.62 ft. [20 m] to assure the drain pipe will work. If the main drain pipe cannot be sufficiently vented, install a vent per machine. Every time a machine is coupled on the drainpipe, the diameter of the tube or the width of the waste channel must increase. Refer to *Figure 16* .

The diameters of drain pipe for machines with two drain valves must have dimensions suitable for double the value of water flow.



1. Vent
2. Flow

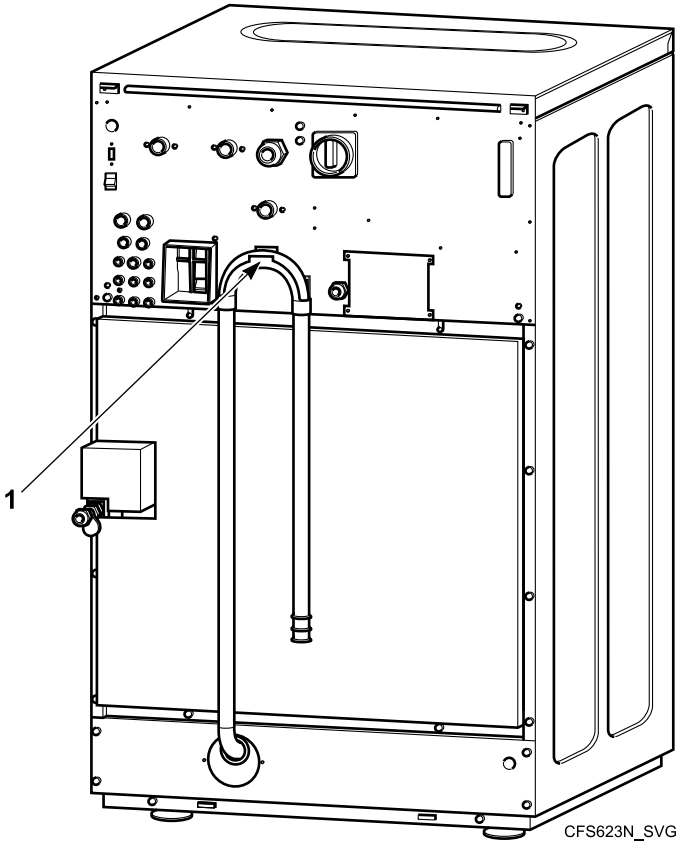
Figure 16

Drain Line Sizing / Minimum Drain ID, in. [mm]		
A - 1 Machine	**B - 2 Machines**	**C - 3 Machines**
3 [75]	4 [100]	5 [125]

Table 10

Drain Pump

Connect a flexible hose to a drain pipe so that the hose bend must not be located lower than the water level to provide sufficient siphon effect. In order to achieve good draining, the hose must not bend at a sharp angle. Refer to *Figure 17* .



1. Drain hose bend

Figure 17

Venting

	WARNING
Vapours escape from the machine through the air vent opening! Do not cover!	
C238	

Water Connection Requirements

WARNING

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

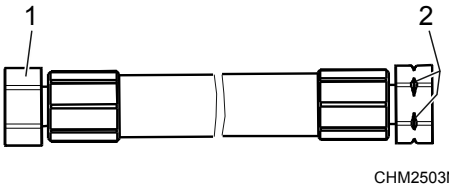
W748

WARNING

Hot water is used to flush the supply dispenser. Do not open the supply dispenser lid while the machine is running. The discharge or splashing of hazardous liquid can cause serious scalding and burning.

C377

Models manufactured through April, 2017

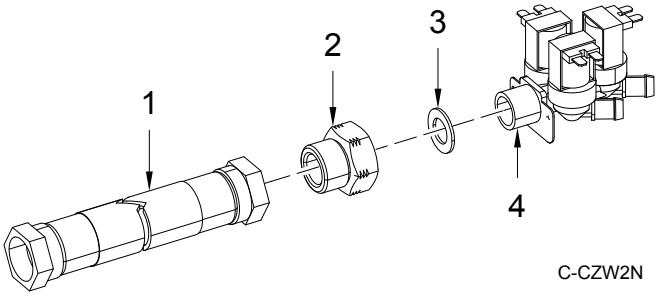


NOTE: North American Models: Water inlet hose with notches should be connected to the water supply faucet, while the side of the water inlet hose without notches should be connected to the water inlet valves.

1. Water inlet valve connection (hose connection without notch)
2. Water supply faucet connection (hose connection with notch)

Figure 18

Models manufactured starting May, 2017



NOTE: North American Models: Install threaded reduction pieces together with sealant on all inlet valves. The filling hose end piece with an internal filter must be connected to the water inlet tap. The second end of the hose must be connected to a reduction piece.

1. Hose
2. Reduction
3. Seal
4. Valve

Figure 19

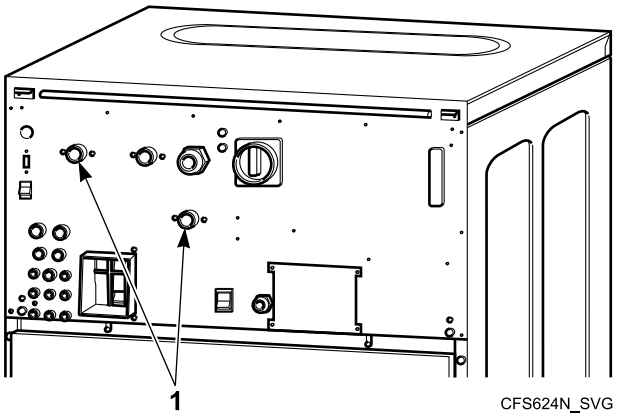
Do not re-use water hoses; only use new water hoses.

The appliance has been designed with a built-in "AB" airgap system according to EN1717. Nevertheless, when potable water will be connected to the appliance, a WRAS approved double check valve or some other no less effective device providing backflow prevention protection to at least fluid category three shall be fitted at the point of connections between the water supply and the appliance.

All intake connections to the machine are to be fitted with manual shut-off valves and filters, to facilitate installation and servicing.

All water connectors present on the machine must be connected or the wash program will not function correctly. Refer to *Table 11* for possible connection options, which will depend on the water types to be connected to the machine, which can be found by checking the machine plates.

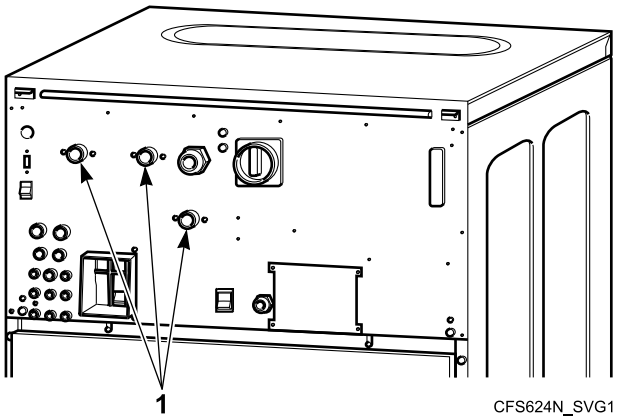
2 Water Connection Models



1. Refer to *Table 11* .

Figure 20

3 Water Connection Models



1. Refer to *Table 11* .

Figure 21

Water type	Water connection		
	1	2	3
Cold and Hot	Cold	Hot	N/A
Cold soft, Cold hard and Hot	Cold soft	Hot	Cold hard

Table 11

WARNING

If the water pressure is below the minimum value, the wash result can not be guaranteed for a selected program.

W914

The maximum water inlet temperature for vended models is 151°F [66°C]and the maximum water inlet temperature for on-premises models is 194°F [90°C] (models without WRAS approval) or 140°F [60°C] (WRAS approved models).

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 IEC 61770.

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.

Table 11 *continues...*

Water Connections		
Specification	**Model**	**Requirement**
Water inlet connection size, in. BSP	All	3/4
Recommended pressure, PSI [bar]	All	44-73 [3-5]

Table 12 *continues...*

Water Connections		
Specification	**Model**	**Requirement**
Inlet flow capacity per inlet, gal/min [l/min.]	65 L- 240 L	5.28 [20]
Inlet flow capacity per inlet, gal/min at 60 PSI [l/min. at 4 bar]	180 L- 280 L*	34.88 [133]
* 18 kg - 24 kg / 40 lb.- 55 lb./ 180 L- 240 L-optional		

Table 12

Suitable air cushions (risers) should be installed in supply lines to prevent “hammering.”

Solenoid valves provide machine protection to comply with WRAS (IRN R150), European standard EN1717.

Figure 22

Connecting Hoses

To comply with Australian water regulations and Australian standard AS/NZS3500.1, an approved dual 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 24* .

Figure 23

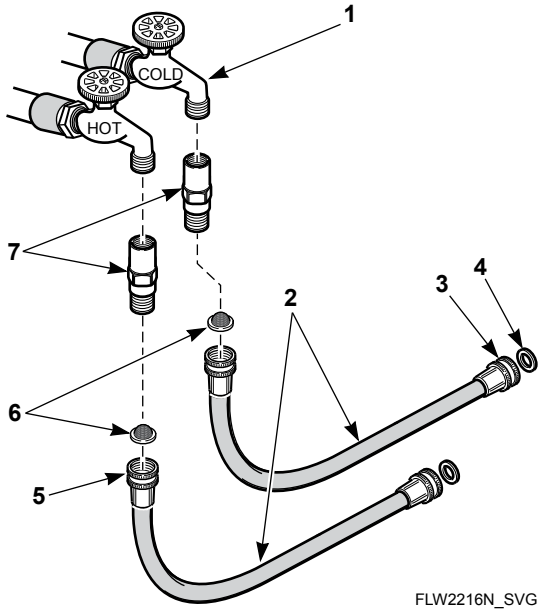
Connections should be supplied by a hot and a cold water line per national and local codes and in accordance with AS/NZS 3500.1.

1. Insert rubber washers and filter screens (from accessories bag) in water fill hose couplings (two hoses supplied with washer). The filter screen must be facing outward.

   NOTE: If using hoses with BSPP thread coupling, insert filter screens into the BLACK colored hose couplings and the rubber washers into the brass colored hose couplings.
2. Connect fill hose couplings with filter screens to water supply taps.
3. Connect the other hose couplings to the hot and cold valve connections at the rear of the washer.

   NOTE: If using hoses with BSPP thread coupling, connect the BLACK colored hose coupling end of the fill hoses (with filter screens) to the water supply taps. Then connect end of hoses with the brass colored hose couplings to the hot and cold water mixing valve connections at rear of washer.
4. Thread hose couplings onto valve connections finger tight. Then turn 1/4 turn with pliers.

   IMPORTANT: DO NOT cross thread or overtighten couplings. This will cause them to leak.
5. Turn water on and check for leaks.
6. If leaks are found, retighten the hose couplings.
7. Continue tightening and rechecking until no leaks are found.



1. Tap
2. Fill Hoses
3. Install this end of hose to valve connections at rear of washer
4. Plain Rubber Washer
5. Install this end of hose to water supply tab (Black colored coupling for BSPP thread)
6. Filter Screens
7. Dual Check Valves

Figure 24

Water Reuse Connection

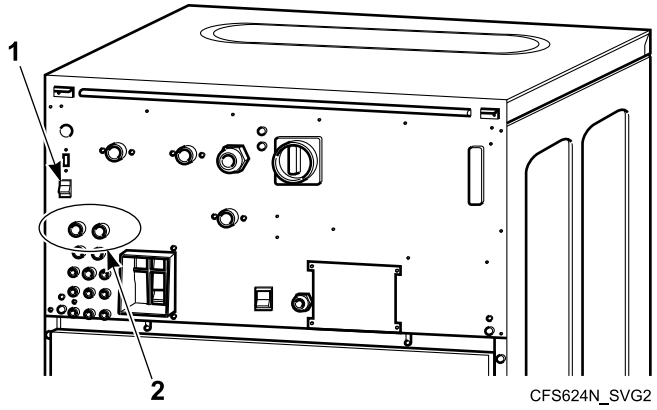
WARNING

Disconnect the machine power supply. When the main switch is turned off, the inlet terminals of the machine main switch are still under current.

W900

1. Drill out the protective screens of the water reuse inlet using a drill bit of 0.59 in. [15 mm] diameter. Refer to *Figure 25* .

   IMPORTANT: Do not pierce the screens open. It could lead to blockage of the water channel.



1. Cable inlet for control of water reuse valve or pump
2. Water reuse inlet

Figure 25

2. Connect the control of your reuse valve or pump onto the conductor of inlet valve I5 or I7 provided by the manufacturer, which will disconnect the valve in question from standard function.

   IMPORTANT: The manufacturer waives all responsibility for malfunction of the washing machine if a different valve than the specified I5 or I7 is used as the water recycle valve.

3. Fit a cable bushing into the opening, and pull the cable through the bushing. Refer to *Figure 25* .
4. Connect the coil for control of the recuperated water inlet (the coil is not supplied with the machine), operating voltage 208-240V 50/60 Hz.
5. Secure the cable so that it cannot be pulled out of the machine or inlet valve.

Water Reuse Specifications	
Temperature range, °F [°C]	41 to 194 [5 to 90]

Table continues...

Water Reuse Specifications	
Maximum pressure, PSI [bar]	116 [8]
Connection - outside diameter, in. [mm]	0.75 [19]

The hose and the connector must be resistant to chemical substances which are used for the washing process. It is also possible to use a hose with enhanced performance such as the rubber EPDM hose.

The water reuse system must be fitted with a filter which must be regularly and thoroughly cleaned (based on water quality). This cleaning prevents prolongation of filling up times and malfunction of water valves.

Reused Water Treatment

The reused water must be filtered before entering the water reuse tank. A mechanical filter must be installed which filters off small particles (fluff, buttons, paper, etc.) of sizes 0.0079 in. [0.2 mm] or smaller. The denser the mesh, the better. There must also be a filter installed on the pressure side of the pump. It is also possible to install an additional, chemical filter. The manufacturer advises to consult a specialist in filter systems.

Water Reuse Tank Properties

WARNING

It is prohibited to heat the water in the reuse tank. This would disturb the temperature balance of the washer and make the remaining chemicals in the recuperated water more active, which would lead to corrosion of the entire installation.

W901

The reuse tank must meet the following minimum requirements:

- The tank must be made according to national standards.
- Tank capacity varies depending on multiple factors, so it must be calculated by an authorized engineer. The factors are:
  - The number of washing steps per washer, in which the water will be re-used.
  - The programmable amount of water that will be re-used in a washing step (to find this amount, please refer to the Programming Manual).
  - The number of washers that will deliver water to the reuse tank.
  - The use of recuperated water per washer.

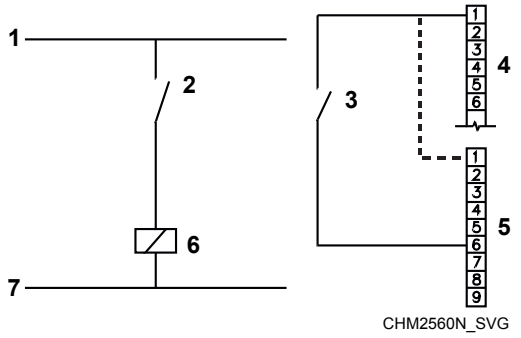
The tank must have an overflow to the sewer. Water from the sewer must not be able to flow back into the reuse tank.

The network of pipes and hoses, the water pump and the reuse tank must be of a non-corroding material. It must be resistant to water and chemicals used for washing.

The tank must be equipped with a system that fills the tank with clean water to a minimum required working level, in case the water level drops below this minimum. If this requirement is not met and an insufficient or no amount of recuperated water is fed into the washer, it will not function properly.

A pump must transport the recuperated water from the tank to the washer. The requirements for the pump depend on the number and type of washers that are connected to the water re-use system. The maximum pump pressure is 116 psi [8 bar].

It is advisable to install a level switch. This level switch must be connected to the microprocessor by means of a potential-free contact. Refer to *Figure 26* .



1. L
2. Level switch
3. K1
4. Terminal A
5. Terminal B
6. K1
7. N

Figure 26

The relay contact K1 has to close when the water level is too low. Terminal B is positioned on the left side, in the lower part of the microprocessor. Terminal A is positioned directly above Terminal B. The microprocessor is positioned inside the washer. If the "Check signal recycle" parameter is set to "yes" in the configuration menu, the timer will send a signal if the water level of the reuse tank is too low.

Electrical Installation Requirements

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

NOTE: The machines are not designed for use in an IT network.

DANGER

Electrical shock hazard will result in death or serious injury. Disconnect electric power and wait ten (10) minutes before servicing.

W911

WARNING

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.

W736

WARNING

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.

W360

North America models only:

WARNING

This machine is not provided with a Mains Disconnect Means. Suitable Mains Disconnect Means must be provided during installation and by authorized personnel in accordance with the Canadian Electrical Code, Part 1 (CE Code), or (US) National Electrical Code (NEC).

W961

Models outside of North America:

IMPORTANT: If the machine is not equipped with a main switch, supply disconnecting devices need to be provided in the installation for all electrical supplies connected to the machine, in accordance with EN 60204-1 standard, point 5.3.

IMPORTANT: Make sure the supply voltage is always within the limits specified. When you have long distances in the electrical installation, it may be necessary to use bigger cables to reduce the voltage drop.

Models outside of North America:

IMPORTANT: When the machine is connected near a large capacity power supply transformer (500kVA or more, wiring length shorter than 32.81 ft [10 m]) or there is a power capacitor switch-over, a power supply improving reactor must be installed. If you do not install this, the inverter may get damaged. Contact your distributor for more information.

Models outside of North America: For electrical protection, if required by local regulations, there must be installed a residual current device (RCD) and a circuit breaker in the electrical installation of the building (laundry switchboard). Refer to *Figure 27* .

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.

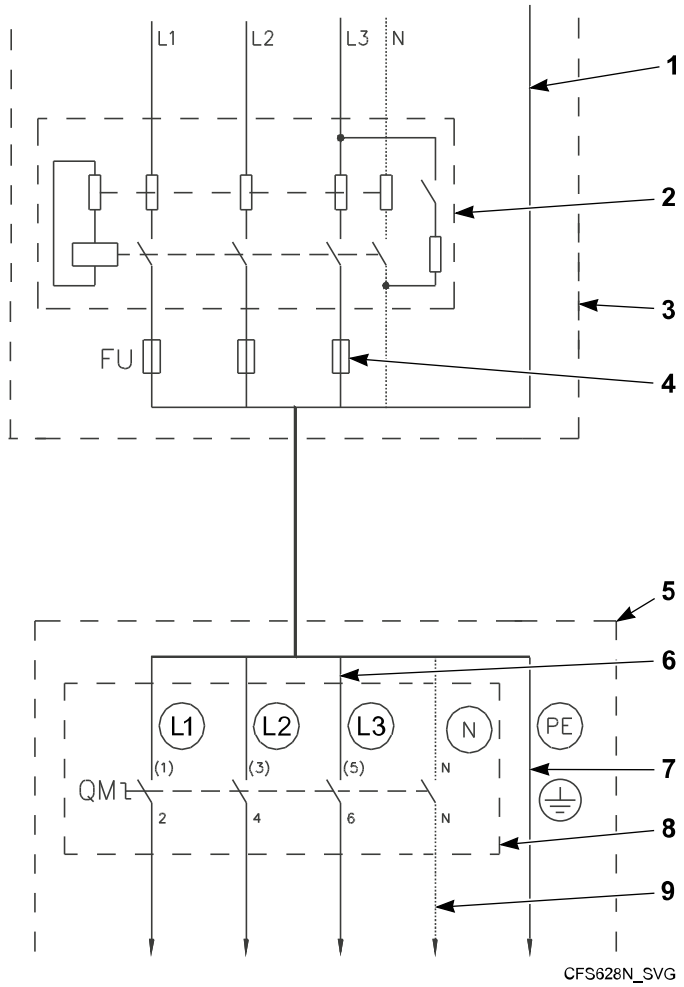
WARNING

GROUNDING INSTRUCTIONS:

This appliance must be connected to a grounded metal, permanent wiring system, or an equipment-grounding conductor must be run with the circuit conductors and connected to the equipment-grounding terminal or lead on the appliance.

In event of malfunction, breakdown, or leakage current, grounding will reduce the risk of electrical shock and serve as a protecting device by providing a path of least resistance of electrical current. Therefore, it is very important and the responsibility of the installer to assure the washer is adequately grounded at installation, following all national and local requirements.

W964



1. Supply ground
2. Residual current device (RCD) (models outside North America)
3. Laundry electrical switchboard
4. Supply protection device
5. Washing machine
6. Phase conductors
7. Protective conductor
8. Incoming Field Wiring Terminal
9. Neutral conductor

Figure 27

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

Residual Current Device (RCD) - Models Outside of North America

In some countries, an RCD is known as an Earth Leakage Trip, Ground Fault Circuit Interrupter (GFCI), Appliance Leakage Current Interrupter (ALCI) or Earth (Ground) Leakage Current Breaker.

When locally allowed, an RCD must be installed. In some power network earthing systems, an RCD may not be allowed.

The RCD must have the following specifications:

- Tripping current of 100mA (if not locally available/allowed, use a 30mA trip current, preferably selective type with small time delay set)
- Type B (components inside the machine which make use of DC voltages and require this better performance RCD)
- Maximum of 2 machines installed on each RCD (for 30mA, only 1 machine)

Some washer control circuits are supplied with a separating transformer. Therefore, the RCD may not detect faults in the control circuits (but the fuse(s) on the separating transformer will).

Supply Protection Device

A supply protection device protects the machine and wiring against short circuits. (Glow-wire) fuses or (automatic) circuit breakers may be used as supply protection devices.

Protection must be the "slow" type, which means curve D for circuit breakers.

Supply Cable

- Conductors with copper cores (For wire size details, refer to *Electrical Specifications - Models Outside of North America* or *Electrical Specifications - North American Models*)
- Stranded conductors (flexible wiring) that can withstand vibration from machine
- For crossection size, refer to *Table 13*
- Route the supply cable as short as possible, directly from the supply protection device to the washer without branching off
- Do not use a plug or extensions cords (the machine is intended to be permanently connected to the electrical network)

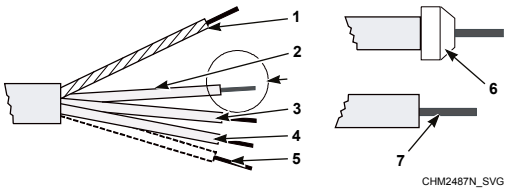
Determining AWG Sizes

Power supply protection device nominal current		Min. phase conductor section, AWG [mm²]	Min. protection conductor section, AWG [mm²]
Automatic circuit breakers	**Fuses**		
16A (15A)	10A (10A)	15 [1.5]	15 [1.5]
20A (20A)	16A (15A)	13 [2.5]	13 [2.5]
25A (-)	20A (20A)	11 [4]	11 [4]
40A (40A)	32A (30A)	9 [6]	9 [6]
63A (-)	50A (50A)	7 [10]	7 [10]
80A	63A	5 [16]	5 [16]
100A	80A	3 [25]	5 [16]
125A	100A	2 [35]	3 [25]

Table 13

To connect the supply cable, the following steps must be performed:

1. Insert cable through opening on rear panel. Insure a strain relief is used so the supply cable can not move.
2. Strip the conductor ends. Refer to *Figure 28* . The protection conductor must be longer so it can be routed to the machine without tension.



1. Protection conductor
2. Phase conductor
3. Phase conductor
4. Phase conductor
5. Neutral conductor
6. Molded tube
7. Stripped length of conductors

Figure 28

3. With stranded conductors, use wire end tubes with an insulated sleeve (6) for L1, L2, (L3), (N) conductors. Make sure there is no accidental contact, since the supply cable stays under voltage even when the main switch is off.

4. Crimp a ring terminal to the protection conductor so it stays fixed to the PE terminal.

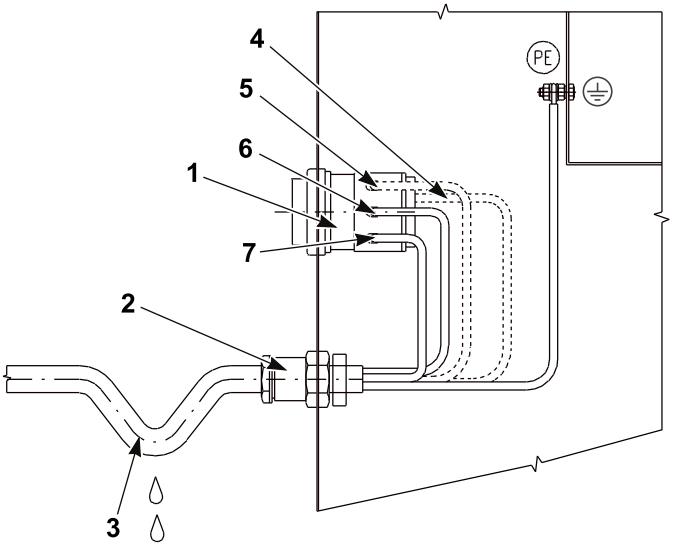
Models outside of North America

5. Connect the supply cable conductors to the incoming terminals of main switch [1]), marked with L1, L2, L3, N and the terminal marked with PE. Refer to *Figure 29* .

North American Models

6. Connect the supply cable conductors to the incoming field wire terminals [1] marked with L1, L2, L3, and the terminal marked with the grounding symbol. Refer to *Figure 29* .
7. Provide a sag in the cable, in front of the strain relief. This will prevent condensed water from dripping into the machine. Refer to *Figure 29* or *Figure 30* .

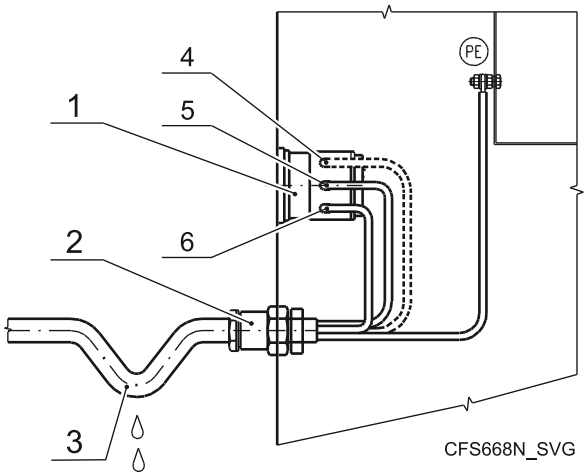
Models outside of North America



1. Main switch
2. Strain relief
3. Sag of inlet cable
4. N (for models outside North America)
5. L3
6. L2
7. L1

Figure 29

North American Models



1. Input Terminal
2. Strain relief
3. Sag of inlet cable
4. L3
5. L2
6. L1

Figure 30

Machine Protective Earth Connection and Equipotential Bonding

If there are other washers or appliances with exposed conductive parts, which can touch simultaneously, make sure to make equipotential bonding between all these appliances. The external protective terminal for this purpose is located on the rear panel of the machine frame. The minimum protection conductor's cross section depends on the supply cable cross section (refer to *Table 13*). However, for the protection purposes, with the supply cable cross section of a min. 4 mm^2, select a larger conductor section, i.e., 6 mm^2.

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.

Input Power Condition	Possible Corrective Action(s)
Low Line impedance (less than 1% line reactance)	• Install Line Reactor • Isolation Transformer
Greater than 120 kVA supply transformer	
Line has power factor correction capacitors	• 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	• Remove MOV jumper to ground • Install Isolation Transformer with grounded secondary (if necessary)
Ungrounded distribution system	
240V open delta configuration (stinger leg)*	• Install Line Reactor
* 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.	

Table 14

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

Electrical shock hazard will result in death or serious injury. Disconnect electric power and wait five (5) minutes before servicing.

W810

DANGER

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.

W361

Circuit Breakers and Quick Disconnects

Single-phase machines require a single-phase inverse-time circuit breaker. Three-phase 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 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 (2) sizes larger for runs greater than 100 feet [30 m].

Single-Phase Connections

Single Phase Connection - North American Models

Connect the electrical service's wires to the machine's electrical connection terminal as shown.

Electrical Service Wire	Machine's Electrical Connection Terminal
L1	L1
L2	L2
Supply Ground	⏚

Table 15

Electrical Connection Terminal Block

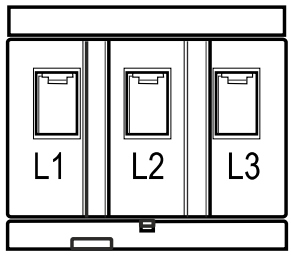
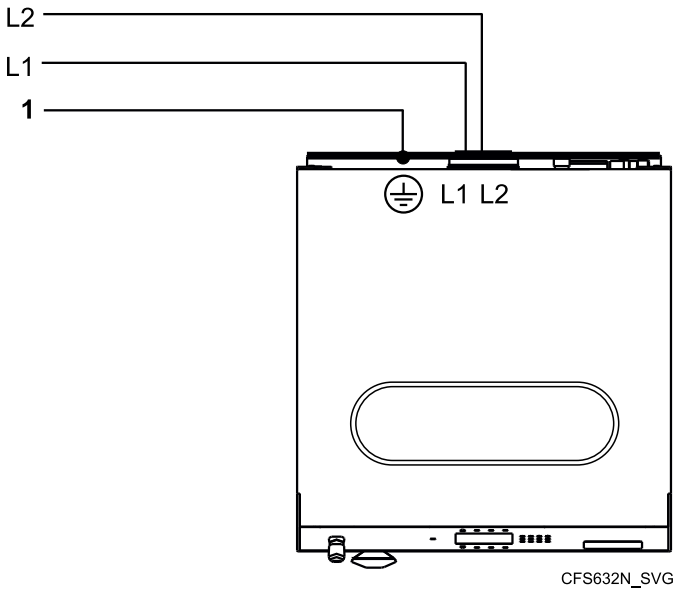


Figure 31

North American Models with Single-Phase Connection



1. Supply Ground

Figure 32

Single Phase Connection - Models outside of North America

Connect the electrical service's wires to the machine's electrical connection terminal as shown. For voltage supply systems without neutral, N is replaced by L2.

Electrical Service Wire	Machine's Electrical Connection Terminal
L1	L1
Neutral/L2	N/L2
Supply Ground	PE

Table 16

Electrical Connection Terminal Block

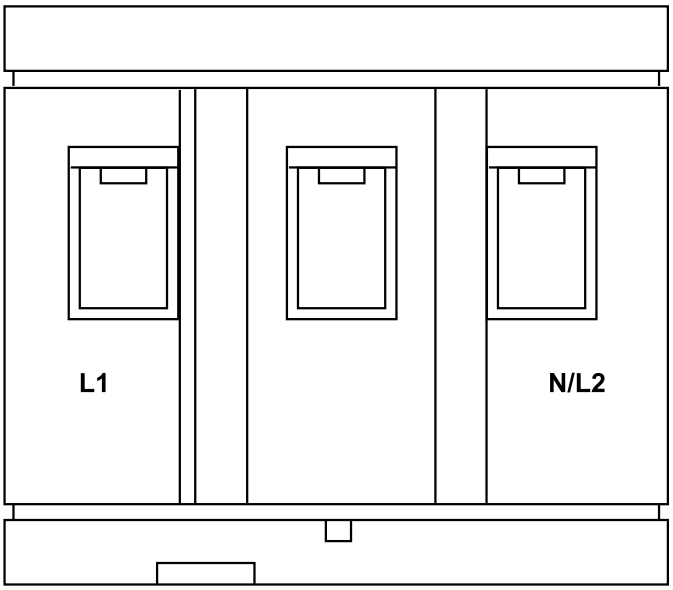
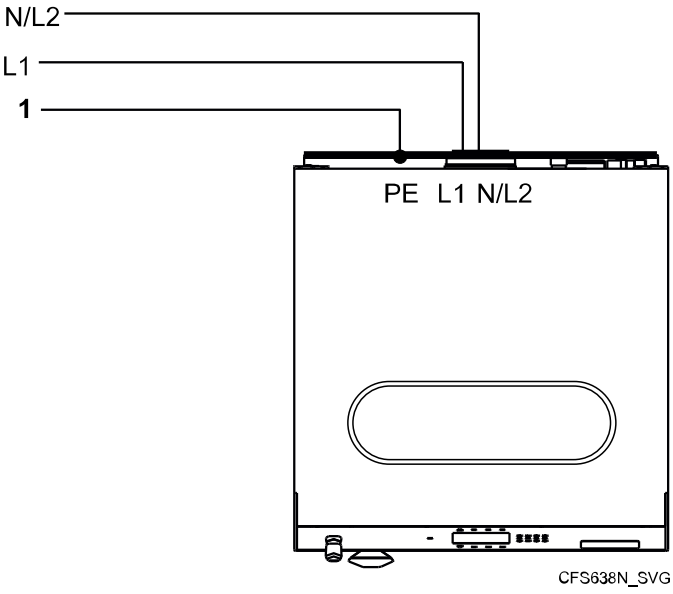


Figure 33

Models outside of North America with Single-Phase Connection



1. Supply Ground

Figure 34

Three-Phase Connections

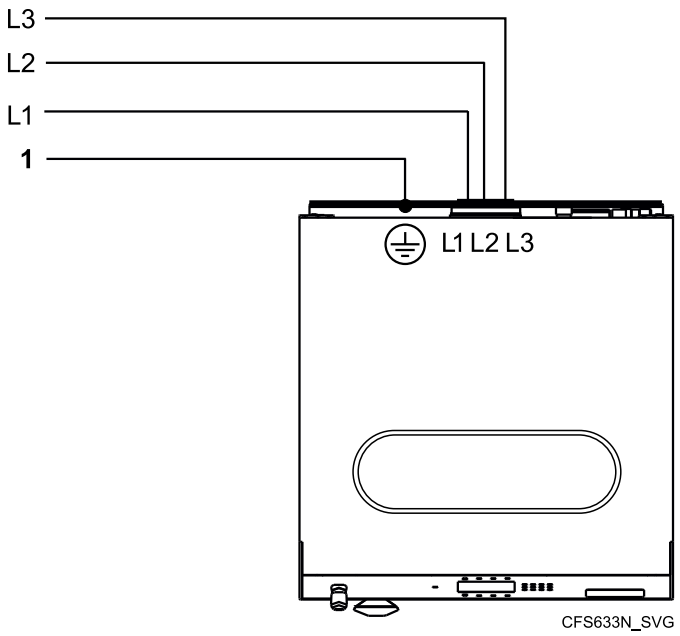
Three Phase Connection - North American Models

Connect the electrical service's wires to the machine's electrical connection terminal as shown.

Electrical Service Wire	Machine's Electrical Connection Terminal
L1	L1
L2	L2
L3	L3
Supply Ground	⏚

Table 17

North American Models with Three-Phase Connection



1. Supply Ground

Figure 35

Three Phase Connection - Models Outside of North America

Connect the electrical service's wires to the machine's electrical connection terminal as shown.

Electrical Service Wire	Machine's Electrical Connection Terminal
L1	L1
L2	L2
L3	L3
Neutral	N

Table 18 *continues...*

Electrical Service Wire	Machine's Electrical Connection Terminal
Supply Ground	PE

Table 18

Electrical Connection Terminal Block

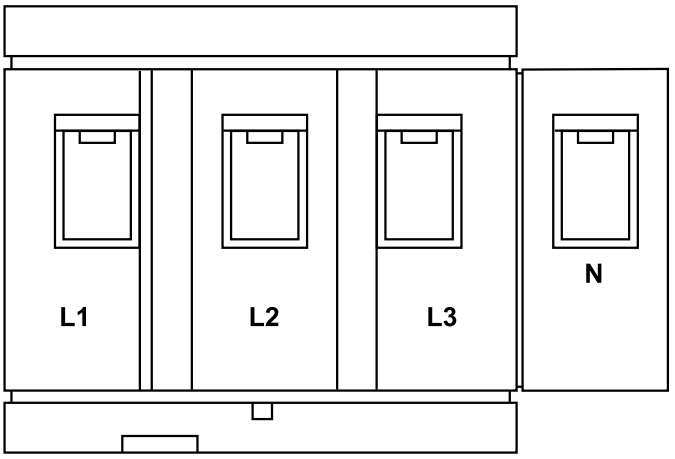
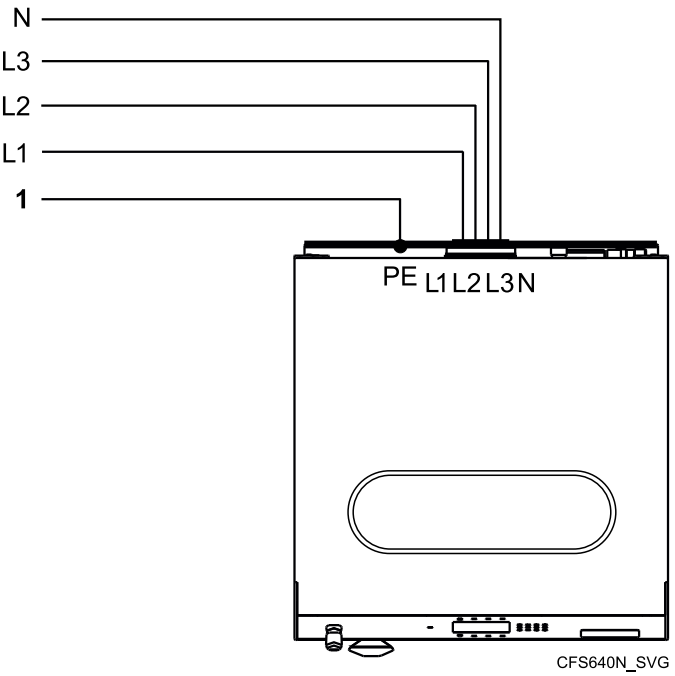


Figure 36

Models Outside of North America with Three-Phase Connection



1. Supply Ground

Figure 37

Phase Adder

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

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

Voltage Settings

The machines are designed and manufactured for a voltage range. Refer to the serial plate for votage range information specific to your machine.

Make sure the supply voltage is always within the limits specified.

When a transformer is provided (control or step down transformer), it is set to the highest voltage of the range at the manufacturing facility. If, at installation, the nominal supply voltage is lower, the appropriate voltage terminal on the transformer must be selected. For example, if the voltage range is 208-240V, the connected terminal transformer will be 240V. If the supply voltage is 208V, redirect the voltage wire to the 208V terminal.

Frequency Settings

The machines are designed and manufactured for 50/60HZ. Refer to the serial plate for frequency information specific to your machine.

Make sure the frequency is always within the limits specified.

When a gravity drain is provided (no pump execution), the factory setting for the drain valve is 60Hz for North American models and 50Hz for models outside of North America.

If the frequency required at installation is different than the default setting, redirect the voltage wire to the appropriate frequency terminal at the drain valve.

Thermal Overload Protector

North American Models

For models with inverter drives, the inverter drive provides overload protection for the drive motor.

Models Outside North America

A thermal overload protector is provided inside the motor.

Electrical Specifications

6.5 kg/14 lb./65 L Models

Voltage (V)	Frequency (Hz)	Phase	Wire	Standard			Electric Heat		
				Total Power (kW)	Full Load Amps (A)	Fuse (A)	Total Power (kW)	Full Load Amps (Electric Heating kW)	Fuse (A)
200-240	50/60	1	2 (L1, L2, or L1, N)	0.85	6.6	10	3.6	17.9 (3)	20
							5.2	24.9 (4.6)	32
200-240	50/60	3	3 (L1, L2, L3)	0.85	6.6	10	6.7	20 (6)	25
							9.7	27.5 (9)	32
380-415 + N	50/60	3	4 (L1, L2, L3, N)	0.85	6.6	10	5.3	10 (4.6)	16
							6.7	13.5 (6)	16
							9.7	18 (9)	20
380-415	50/60	3	3 (L1, L2, L3)	0.85	2.4	10	6.7	9.9 (6)	16
							9.7	15.3 (9)	20
440-480	50/60	3	3 (L1, L2, L3)	0.85	2.4	10	7.7	11.6 (7)	16
							9.7	13.8 (9)	16

Table 19

7.5 kg/16.5 lb./ Models

Voltage (V)	Frequency (Hz)	Phase	Wire	Standard			Electric Heat		
				Total Power (kW)	Full Load Amps (A)	Fuse (A)	Total Power (kW)	Full Load Amps (Electric Heating kW)	Fuse (A)
200-240	50/60	1	2 (L1, L2, or L1, N)	0.85	6.7	10	3.6	18 (3)	20
							5.2	25.1 (4.6)	32
200-240	50/60	3	3 (L1, L2, L3)	0.85	6.7	10	6.7	20.2 (6)	25
							9.7	27.9 (9)	32
380-415 + N	50/60	3	4 (L1, L2, L3, N)	0.85	6.7	10	5.3	10 (4.6)	16
							6.7	13.7 (6)	16
							9.7	18.2 (9)	20
380-415	50/60	3	3 (L1, L2, L3)	0.85	2.5	10	6.7	10 (6)	16
							9.7	15.4 (9)	20
440-480	50/60	3	3 (L1, L2, L3)	0.85	2.5	10	7.7	11.7 (7)	16
							9.7	13.9 (9)	16

Table 20

10.5 kg/23 lb./105 L Models

Voltage (V)	Frequency (Hz)	Phase	Wire	Standard			Electric Heat		
				Total Power (kW)	Full Load Amps (A)	Fuse (A)	Total Power (kW)	Full Load Amps (Electric Heating kW)	Fuse (A)
200-240	50/60	1	2 (L1, L2, or L1, N)	1.2	9.8	16	3.8	18.5 (3)	25
							5.4	25.5 (4.6)	32
200-240	50/60	3	3 (L1, L2, L3)	1.2	9.8	16	6.8	20.5 (6)	25
							9.8	28.1 (9)	32
							12.8	35.6 (12)	40
380-415 + N	50/60	3	4 (L1, L2, L3, N)	1.2	9.8	16	6.8	14.1 (6)	16
							9.8	18.5 (9)	20
							12.8	22.8 (12)	25
380-415	50/60	3	3 (L1, L2, L3)	1.2	3.2	10	6.8	10.1 (6)	16
							9.8	15.5 (9)	16
							12.8	19.9 (12)	25
440-480	50/60	3	3 (L1, L2, L3)	1.2	3.2	10	7.8	12.8 (7)	16
							9.8	14 (9)	16
							12.8	18.2 (12)	25

Table 21

13.5 kg/30 lb./135 L Models

Voltage (V)	Frequency (Hz)	Phase	Wire	Standard			Electric Heat		
				Total Power (kW)	Full Load Amps (A)	Fuse (A)	Total Power (kW)	Full Load Amps (Electric Heating kW)	Fuse (A)
200-240	50/60	1	2 (L1, L2, or L1, N)	1.6	10.1	16	4.1	19 (3)	25
							5.7	27 (4.6)	32
200-240	50/60	3	3 (L1, L2, L3)	1.6	10.1	16	7.1	22 (6)	25
							10.1	29.6 (9)	32
							13.1	37.2 (12)	40
							14.9	41.7 (13.8)	50
380-415 + N	50/60	3	4 (L1, L2, L3, N)	1.6	10.1	16	7.1	13 (6)	16
							10.1	18 (9)	20
							13.1	22.6 (12)	25
							14.9	27 (13.8)	32
380-415	50/60	3	3 (L1, L2, L3)	1.6	3.6	10	7.1	11.6 (6)	16
							10.1	16 (9)	20
							13.1	19.9 (12)	20
							14.9	22.5 (13.8)	32
440-480	50/60	3	3 (L1, L2, L3)	1.6	3.6	10	8.1	13.2 (7)	16
							10.1	14.8 (9)	16
							13.1	18.7 (12)	25

Table 22

18 kg/40 lb./180 L Models

Voltage (V)	Frequency (Hz)	Phase	Wire	Standard			Electric Heat		
				Total Power (kW)	Full Load Amps (A)	Fuse (A)	Total Power (kW)	Full Load Amps (Electric Heating kW)	Fuse (A)
200-240	50/60	1	2 (L1, L2, or L1, N)	2.3	14.2	20	N/A	N/A	N/A
200-240	50/60	3	3 (L1, L2, L3)	2.3	14.2	20	13.5	37.9 (12)	40
							19.5	53.3 (18)	63
380-415 + N	50/60	3	4 (L1, L2, L3, N)	2.3	14.2	20	13.5	23.1 (12)	25
							19.5	31.9 (18)	32
380-415	50/60	3	3 (L1, L2, L3)	2.3	5.2	10	13.5	20.9 (12)	25
							19.5	30.5 (18)	32
440-480	50/60	3	3 (L1, L2, L3)	2.3	5.2	10	13.5	19.7 (12)	25
							19.5	27.2 (18)	32

Table 23

24 kg/55 lb./240 L Models

Voltage (V)	Frequency (Hz)	Phase	Wire	Standard			Electric Heat		
				Total Power (kW)	Full Load Amps (A)	Fuse (A)	Total Power (kW)	Full Load Amps (Electric Heating kW)	Fuse (A)
200-240	50/60	1	2 (L1, L2, or L1, N)	3.1	15	20	N/A	N/A	N/A
200-240	50/60	3	3 (L1, L2, L3)	3.1	15	20	20	54.3 (18)	63
380-415 + N	50/60	3	4 (L1, L2, L3, N)	3.1	15	20	20	31.9 (18)	32
380-415	50/60	3	3 (L1, L2, L3)	3.1	7.1	10	20	31.5 (18)	32
440-480	50/60	3	3 (L1, L2, L3)	3.1	7.1	10	20	28.2 (18)	32

Table 24

28 kg/70 lb./280 L Models

Voltage (V)	Frequency (Hz)	Phase	Wire	Standard			Electric Heat		
				Total Power (kW)	Full Load Amps (A)	Fuse (A)	Total Power (kW)	Full Load Amps (Electric Heating kW)	Fuse (A)
200-240	50/60	1	2 (L1, L2, or L1, N)	3.1	16	20	N/A	N/A	N/A
200-240	50/60	3	3 (L1, L2, L3)	3.1	16	20	23.9	64 (21.9)	80
380-415 + N	50/60	3	4 (L1, L2, L3, N)	3.1	16	20	23.9	40.5 (21.9)	50
380-415	50/60	3	3 (L1, L2, L3)	3.1	7.2	10	23.9	37 (21.9)	40
440-480	50/60	3	3 (L1, L2, L3)	3.1	7.2	10	23.9	34 (21.9)	40

Table 25

Electrical Specifications - North American Models

7.5 kg/16.5 lb./ Models

Code	Voltage (V)	Frequency (Hz)	Phase	Wire	Full Load Amps (A)	Circuit Breaker CSA (A)	AWG (mm^2)
X	200-240	50/60	1/3	2 (L1, L2 or L1, N)	6.7	10	14 (2.5)
N	440-480	50/60	3	3 (L1, L2, L3)	2.5	10	14 (2.5)

Table 26

10.5 kg/23 lb./105 L Models

Code	Voltage (V)	Frequency (Hz)	Phase	Wire	Full Load Amps (A)	Circuit Breaker CSA (A)	AWG (mm^2)
X	200-240	50/60	1/3	2 (L1, L2 or L1, N)	9.8	15	14 (2.5)
N	440-480	50/60	3	3 (L1, L2, L3)	3.2	10	14 (2.5)

Table 27

13.5 kg/30 lb./135 L Models

Code	Voltage (V)	Frequency (Hz)	Phase	Wire	Full Load Amps (A)	Circuit Breaker CSA (A)	AWG (mm^2)
X	200-240	50/60	1/3	2 (L1, L2 or L1, N)	10.1	15	14 (2.5)
N	440-480	50/60	3	3 (L1, L2, L3)	3.6	10	14 (2.5)

Table 28

18 kg/40 lb./180 L Models

Code	Voltage (V)	Frequency (Hz)	Phase	Wire	Full Load Amps (A)	Circuit Breaker CSA (A)	AWG (mm^2)
X	200-240	50/60	1/3	2 (L1, L2 or L1, N)	14.2	20	12 (4)
N	440-480	50/60	3	3 (L1, L2, L3)	5.2	10	14 (2.5)

Table 29

24 kg/55 lb./240 L Models

Code	Voltage (V)	Frequency (Hz)	Phase	Wire	Full Load Amps (A)	Circuit Breaker CSA (A)	AWG (mm^2)
X	200-240	50/60	1/3	2 (L1, L2 or L1, N)	15	20	12 (4)
N	440-480	50/60	3	3 (L1, L2, L3)	7.1	10	14 (2.5)

Table 30

28 kg/70 lb./280 L Models

Code	Voltage (V)	Frequency (Hz)	Phase	Wire	Full Load Amps (A)	Circuit Breaker CSA (A)	AWG (mm^2)
X	200-240	50/60	1/3	2 (L1, L2 or L1, N)	16	20	12 (4)
N	440-480	50/60	3	3 (L1, L2, L3)	7.2	10	14 (2.5)

Table 31

Steam Requirements (Steam Heat Option Only)

WARNING

Hot Surfaces. Will cause severe burns. Turn steam off and allow steam pipes, connections and components to cool before touching.

W505

For machines equipped with optional steam heat, install piping in accordance with approved commercial steam practices. Steam requirements are shown in *Table 32* .

Specification	Requirement
Steam inlet connection size, in. BSP	1/2"
Steam pressure, PSI [bar]	15-116 [1-8]

Table 32

IMPORTANT: It is necessary to insert a filter with permeability up to 0.0118 in. [300 µm] in front of the steam valve. Dirt larger than 0.0118 in. [300 µm] may damage the steam valve and cause leaks.

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

Use an inlet steam pressure hose only adapted to the steam valve with appropriate seal suitable for the applied working pressure.

Steam Valve Installation

1. Remove the rear cover.
2. Fit the bracket with the steam valve and filter onto the rear part of machine.
3. Connect steam hose to steam valve.
4. Connect the cable to the steam coil.
5. Fit rear cover back to its original place and fit steam cover.

Supply Dispensing

WARNING

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.

W363

Supply Dispensing	
Number of external liquid supply connections	8
Liquid supply connection size, in. [mm]	5/16 [8]
Number of diluted liquid soap supply connections	3
Diluted liquid soap supply connection size, in. [mm]	1/2 [12]

Table 33

IMPORTANT: Always use liquid soap pumps with a flow that bring the requested quantity in less than 30 sec.

IMPORTANT: Start pumping immediately after water valves are open. The incoming water dilutes the liquid soap and brings it into the tub assembly.

Secure the location of the wiring and hoses so they can not be pinched, damaged or rubbed. Before you start to use liquid soap, check with your liquid soap supplier whether the liquid soap is harmless and inert to PP and PVC material in order to avoid damage to machine.

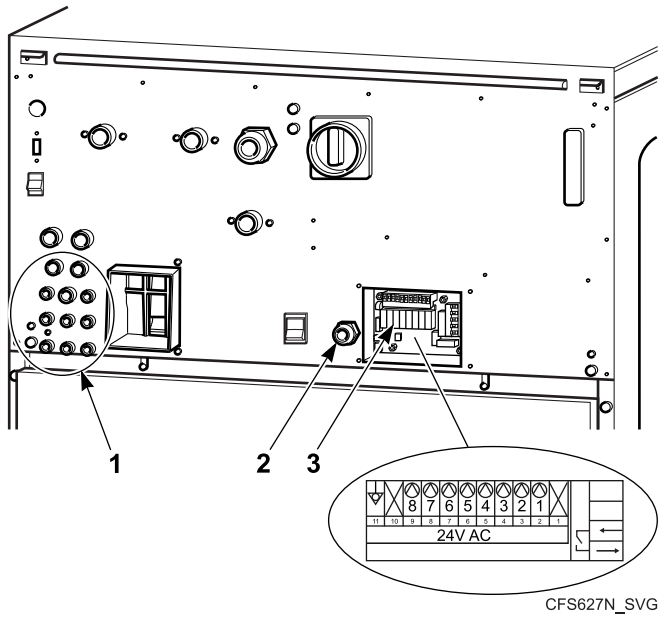
IMPORTANT: Failure to follow these instructions could damage the machine and void the warranty.

Connection of External Liquid Supplies

1. Facing the rear of the machine, locate the eight (8) 5/16 inch [8 mm] supply hose connections found on the left-hand side of the valve panel. Refer to *Figure 38* .

   NOTE: Recommended setting of the pump's flow rate is 60 to 100 liters per hour.

Valve Panel-Rear View



1. External Supply Hose Connections
2. Cable Bushing
3. Control Signals Terminal Box

Figure 38

2. Drill through the eight (8) plastic holes on the valve panel for the external supply hoses as needed.

   NOTE: On the valve panel by the external supply hose connections are three (3) connections of 1/2 in. 12 mm that are to be used only for entering diluted soap. To use, drill a 7/16 inch 11.5 mm hole only in connections that will be used.
3. Remove plastic debris.
4. Attach the external supply hoses to the ports at each of the drilled holes.
5. Secure with proper clamps.

WARNING

Check that the hose connections are tight (check the clamps). Any chemical leakage may cause serious bodily injuries as well as serious damage to the washer. If one of the connections is open, close and secure the opening with an appropriate cover.

W909

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.

Electrical Connection of External Liquid Soap Supply System

The power supply of the external liquid soap supply system has to be connected to an external electrical source. Only authorized workers with valid qualifications must execute the electrical connection on the machine according to valid local standards. The correction connection can be found on the wiring diagram included with the machine. Do not connect the liquid soap pump system in the washer.

The electric connection for supply control signals is available on the rear panel. Refer to *Figure 38* . At the terminal box, there is a label for electric connection. Detail on connection of signals can also be found on the electric scheme of the machine.

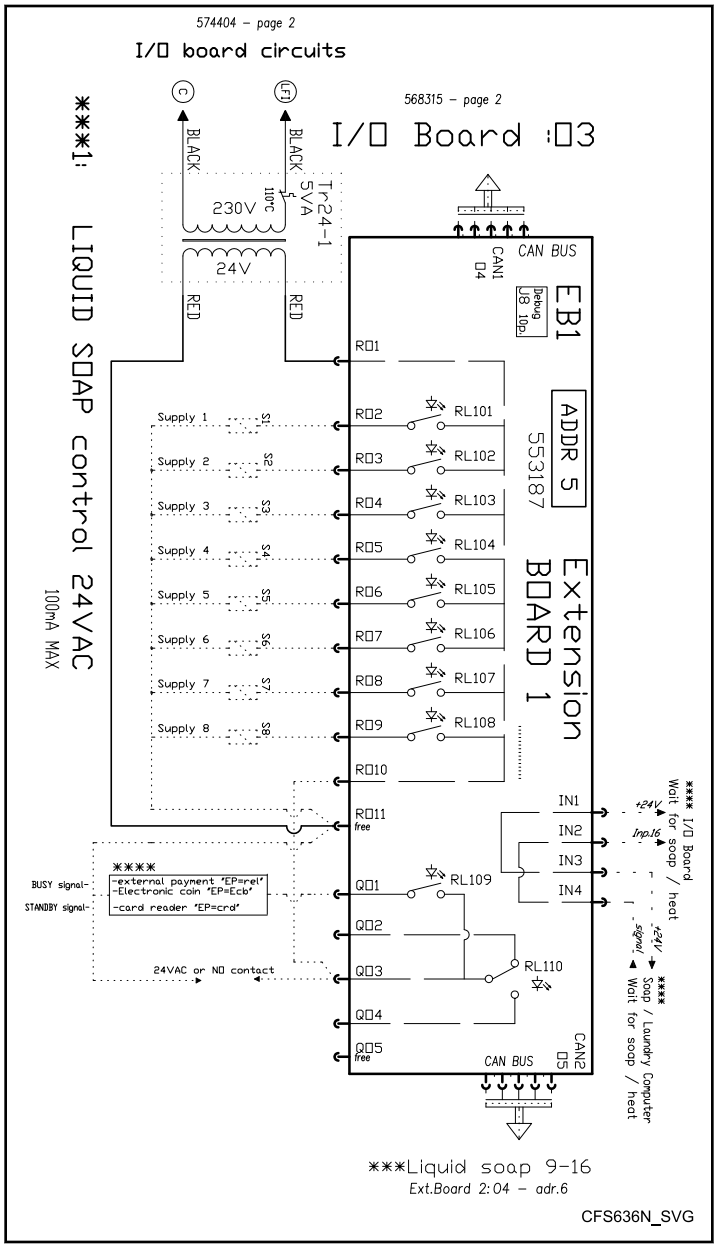
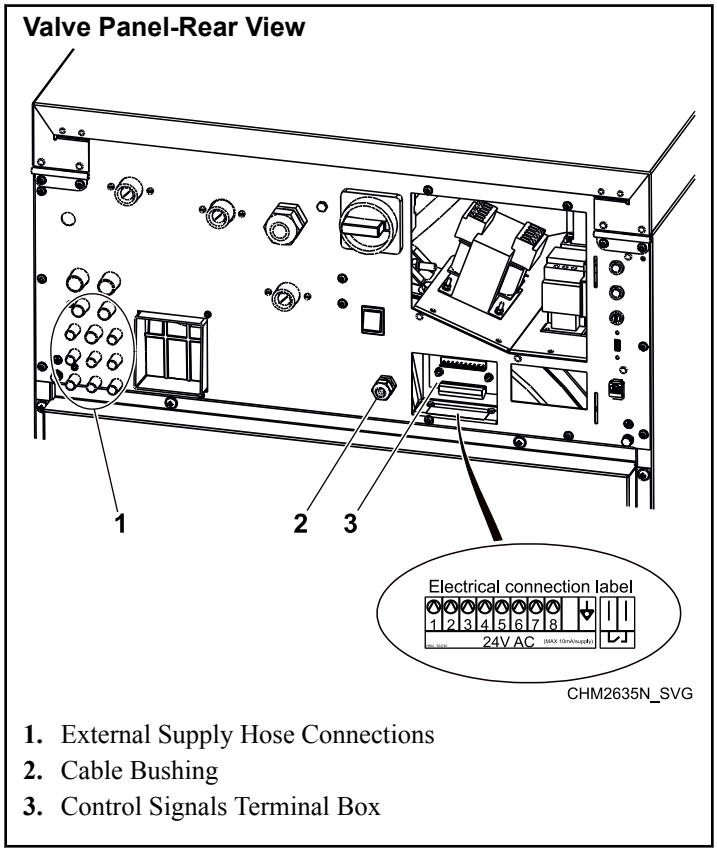


Figure 39

Signals for supply pump control are 24 VAC. Maximum current for control circuits of pump must be limited to 100mA. Lead the cable for connection of pump control signals through the plastic cable bushing. After connection of conductors to the respective positions of the connector "P", fix up the cable by tightening the cable bushing against disconnections and close the box with the cover. For details about liquid soap supply sytem programming, refer to Programming Manual.

External Wait Control

This function can be activated by an external contact which is connected between the pins ↑ and ↓. Refer to *Figure 40* . Such connection is possible only with machines which had been ordered with the "Heating Delay / Waiting for Detergent" option.



1. External Supply Hose Connections
2. Cable Bushing
3. Control Signals Terminal Box

Figure 40

Chemical Injection Supply System

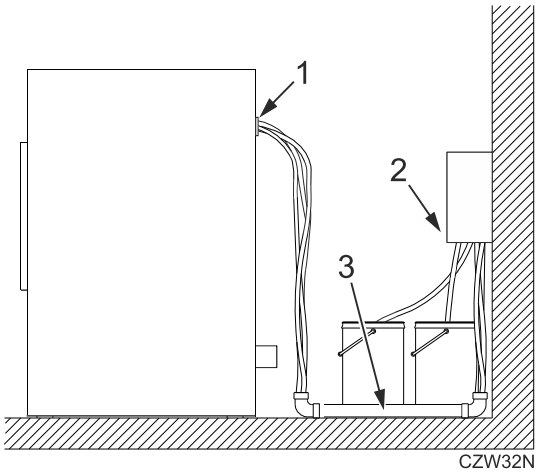
WARNING

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.

C365

Undiluted chemical dripping can damage the washerextractor. Therefore, all chemical supply dispenser pumps should be mounted below the washerextractor's injection point. All dispenser tubing should also run below the injection point. Loops do not prevent drips if these instructions are not followed. Failure to follow these instructions could damage the machine and void the warranty. *Figure 41* shows a typical chemical injection supply system.

Chemical Injection Supply System



1. Injection Point
2. Chemical Dispenser Pump Outlet
3. PVC Pipe

Figure 41

Maintenance

Maintenance

WARNING

Use the proper chemical agents which avoid calcium sediments on heating elements and other machine parts. Discuss the issue with your supplier of washing products. The manufacturer of the machine is not responsible for the damage of heating elements and other machine parts due to calcium sediments.

W904

WARNING

Sharp edges can cause personal injury. Wear safety glasses and gloves, use proper tools and provide lighting when handling sheet metal parts.

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

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

WARNING

Do not spray the machine with water. Short circuiting and serious damage may result.

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.

2. 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.
3. Inspect water inlet valve hose connections on the back of the machine for leaks.
4. Inspect steam hose connections for leaks (if applicable).
5. On machines equipped with an automatic Chemical Supply System, check all the hoses and hose connections for leaks or visible signs of deterioration. Replace immediately if either are present. Chemical leaks can cause damage to the machine's components.

WARNING

To reduce the risk of electrical shock, serious injury or death, disconnect the electrical power to washer-extractor before examining the wiring.

6. Verify that insulation is intact on all external wires and that all connections are secure. If bare wire is evident, call a service technician.
7. Ensure all panels and guards are properly installed.

End of Day

1. Inspect and clean the basket and door gasket of residual detergent and all foreign matter.
2. Clean the door glass and between the door gasket and the door with a damp cloth.
3. Clean supply dispenser lid and general area with mild detergent. Flush the dispenser with clean water.
4. Clean the machine's top, front and side panels with all-purpose cleaner. Rinse with clean water and dry.

   IMPORTANT: Use only isopropyl alcohol to clean graphic overlays. Never use ammonia-based, vinegar- based or acetone-based cleaners on graphic overlays.

   IMPORTANT: Do not use abrasive cleaners.

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

5. Leave the loading door open at the end of each day to allow moisture to evaporate.
6. Shut off water supply.

Quarterly

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

1. Check the bearing house for leakage.
2. 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.
3. Visually check all hoses and connections inside machine for leaks.
4. Make sure that control components are protected against moisture and dust during the clean up. Wipe and clean the machine inside.
5. For models with electric heat, check the tightening of the contacts of heating elements terminals and other power terminals (main switch, fuse disconnectors, contactors).
6. In order to increase the service life of the door gasket, apply a glycerine-based impregnating agent.
7. Open the door approximately 15-20°.
   a. Try to move the door up and down. If the door is able to be moved, add a .5mm thick washer to the fixed lower hinge pin. The washer was included when the machine was delivered, but can be ordered from Alliance Laundry Systems under part number 571642.
   b. Try to turn the door in a clockwise or counterclockwise rotation. If the door can me moved clockwise or counterclockwise, replace the door hinges.

Every 6 Months

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

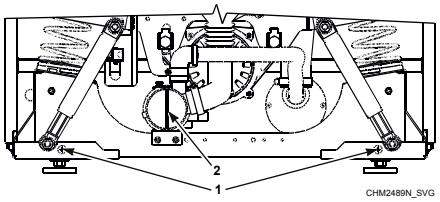
1. Clean the water valve filters.

WARNING

Before you start cleaning the water filters, make sure all water inlets to machine are closed.

W907

   a. Turn off the water supply.
   b. Unscrew the hoses at the back of machine.
   c. Take out filter at center with pointed pliers.
   d. Clean the filter and re-insert.
   e. When reattaching the hoses, make sure the seals are seated correctly.
   f. Check water inlets for leaks.
   g. Tighten the connections or replace the seals of inlet hose if necessary.
2. If machine is fitted with a drain pump, make sure the pump provides normal flow rate during draining. The drain pump can be cleaned when it becomes clogged with foreign objects.
   a. Drain all water from machine.
   b. Disconnect machine from power supply.
   c. Remove the front panel of cabinet by unlocking bolts. Refer to *Figure 42* .



1. Bolts
2. Pump lid

Figure 42

   d. Slightly turn the pump lid until water starts flowing out, making sure to catch the water.
   e. Unscrew the lid and remove any foreign objects.
   f. Reattach pump lid and front panel of cabinet.
3. Remove dust or dirt and verify functionality of the following:
   a. Inverter cooling fin

WARNING

Before removing top or back panel of machine, switch power off and wait for at least 10 minutes. Before starting inspection of frequency inverter, check for residual voltage across main circuit terminals. This voltage must be below 30 VDC before you can access the inverter for inspection.

W905

b. Motor cooling fins
c. Interior inverter ventilator (if present)
d. Exterior inverter ventilator (if present)

IMPORTANT: All torque joints must remain dry (non-lubricated).

4. Check for belts for wear and inspect tightness. For recommended values, refer to *Table 34* .

Model	Torque, Hz
65 L	67 - 70
	67 - 70
105 L	65 - 68
135 L	79 - 83
180 L	64 - 69
240 L	72 - 75
280 L	72 - 75

Table 34

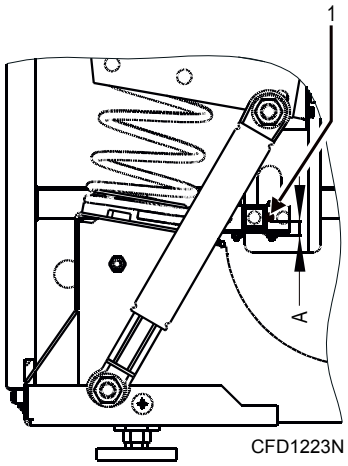
5. Check the tightness of bolts. Refer to *Table 35* .

Item	Bolt Type	Torque, lb. ft. [Nm]
Bolts of the dampers	M10	17.70 [24]
Bolts of the weight	M8	19.18 [26]
Door lock bolts	M5	1.84 [2.5]
Door handle central bolt	M6	6.49 [8.8]
Door hinge and front panel bolts	M6	6.49 [8.8]
Anchoring bolts	M16	73.76 [100]
External tub bolts 180 L - 280 L Models	M8	19.18 [26]
External tub bolts 65 L - 135 L Models	M8	8.85 [12]
Motor bolts	M12	N/A
Spring holder bolts	M8	7.38 [10]

Table 35 *continues...*

6. Adjust the safety switch.

NOTE: The safety switch is an important component which must, if correctly adjusted, stop the machine when excessive movement and shaking occur due to an unbalance caused by improper distribution of linen in the washing drum or when the amount of laundry exceeds the machine capacity.



1. Stick of safety switch

Figure 43

Specification	Model	Requirement, in. [mm]
A - distance between lower edge of lug and stick of safety switch	65 L - 135 L	0.20 ± 0.04 [5 ± 1]
	180 L - 280 L	0.04 ± 0.04 [1 ± 1]

Table 36

7. **NOTE: Inspect the door seal after every 5,000 cycles and replace it as needed. Refer to instructions 4-18-215 for door closing torque adjustment and door seal replacement details.**

7. Using a torque wrench and a SP546123 Torque Wrench Jig Assembly, check the door's closing torque (apply pressure to the tool with one finger and use it to close the door). If the torque value isn't between 2.5 and 4.0 Nm (22.13 and 35.40 in. lbs), adjust the door's closing torque.
8. 8. After a cycle has been completed, check the shock absorbers to see if they are warm. If the shock absorbers aren't warm just after a wash cycle has been completed, replace them.

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 machine's injection point to prevent siphoning of chemicals into the machine.

Disposal of Unit

Disconnecting the Machine

1. Switch off the external electric power inlet to machine.
2. Turn off the main switch on machine.
3. Shut the external water or steam inlets to machine.
4. Make sure the external electric power and steam inlets are shut off. Disconnect all electric, water or steam inlets.
5. Insulate the external electric power inlet conductors.
6. Equip the machine with an "Out of Service" sign.
7. Unscrew nuts and bolts that fix machine to floor.
8. If the machine will never be used again, secure it so injury to persons and damage to health, property and nature is avoided. Remove the door, secure the drum so it does not turn and remove any sharp parts of machine so enclosure or injury of a person or animal will not occur.

CAUTION

Be careful when disconnecting machine from service. Falling door and glass can cause injuries.

W922

WARNING

Take all necessary action and precautions when disassembling the washer to avoid injury from glass or sharp metal edges.

W908

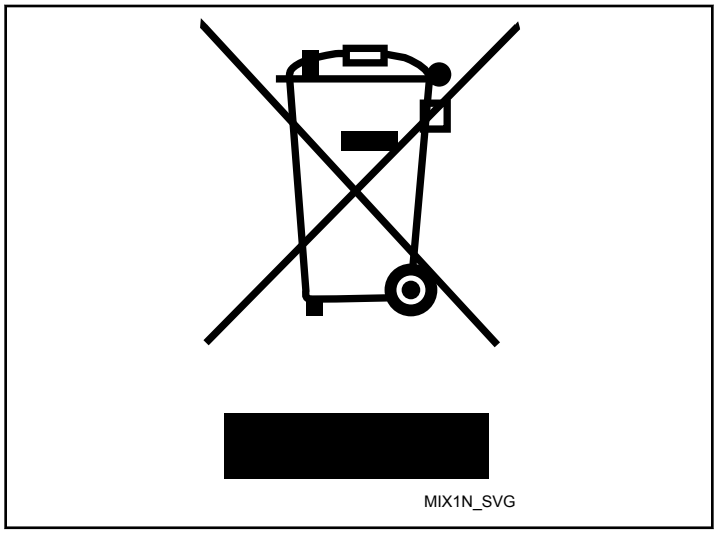


Figure 44

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 44* . 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.

China Restriction of hazardous substances (RoHS)

The Table of Hazardous Substances/Elements and their Content As required by China's Management Methods for Restricted Use of Hazardous Substances in Electrical and Electronic Products

Hazardous substances						
Part Name	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (CR[VI])	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
PCBs	X	O	O	O	O	O
Electromechanical Parts	O	O	O	O	O	O
Cables and Wires	O	O	O	O	O	O
Metal Parts	O	O	O	O	O	O
Plastic Parts	O	O	O	O	O	O
Batteries	O	O	O	O	O	O
Hoses and Tubing	O	O	O	O	O	O
Timing Belts	O	O	O	O	O	O
Insulation	O	O	O	O	O	O
Glass	O	O	O	O	O	O
Display	O	O	O	O	O	O

This table is prepared in accordance with the provisions of SJ/T-11364.

O: Indicates that the content of said hazardous substance in all of the homogenous materials in the component is within the limits required by GB/T 26572.

X: Indicates that the content of said hazardous substance exceeds the limits required by GB/T 26572 in at least one homogenous material in the component.

All parts named in this table with an "X" are in compliance with the European Union's RoHS Legislation.

NOTE: The referenced Environmental Protection Use Period Marking was determined according to normal operating use conditions of the product such as temperature and humidity.

This product under normal use, durable years of environmental protection is 15 years.