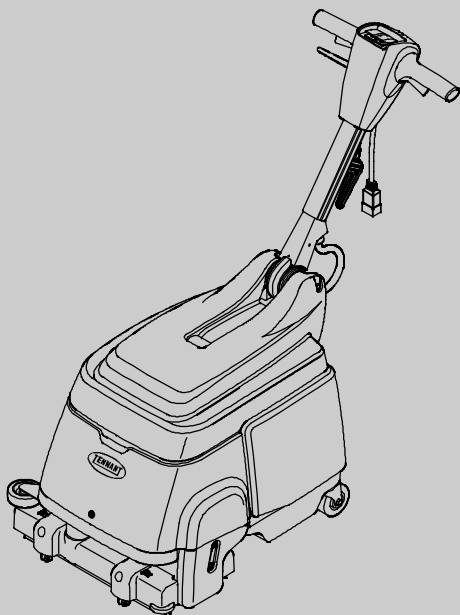




T1

Floor Scrubber

English **EN**
Operator Manual



Model 9004195-230V



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9003680
Rev. 01 (07-2016)



This manual is furnished with each new model. It provides necessary operation and maintenance instructions.

Read this manual completely and understand the machine before operating or servicing it.



This machine will provide excellent service. However, the best results will be obtained at minimum costs if:

- The machine is operated with reasonable care.
- The machine is maintained regularly - per the machine maintenance instructions provided.
- The machine is maintained with manufacturer- supplied or equivalent parts.

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Parts and supplies may be ordered online, by phone, by fax or by mail.

UNCRATING MACHINE: Carefully check carton for signs of damage. Report damages at once to carrier.

	PROTECT THE ENVIRONMENT Please dispose of packaging materials and old machine components in an environmentally safe way according to local waste disposal regulations.
	Always remember to recycle.

MACHINE DATA

Please fill out at time of installation for future reference.	
Model No. -	_____
Serial No. -	_____
Machine Options -	_____
Sales Rep. -	_____
Sales Rep. phone no. -	_____
Customer Number -	_____
Installation Date -	_____

TABLE OF CONTENTS

SAFETY PRECAUTIONS	3
GROUNDING INSTRUCTIONS	4
SAFETY LABELS	4
MACHINE COMPONENTS	5
BRUSH INFORMATION	6
MACHINE SETUP	6
INSTALLING BRUSH	6
FILLING SOLUTION TANK	6
CONNECTING POWER CORD	7
MACHINE OPERATION	7
PRE- OPERATION	7
SCRUBBING FLOORS	7
MACHINE MAINTENANCE	9
AFTER EACH USE	9
AFTER EVERY 100 HOURS OF USE	11
BRUSH MOTOR MAINTENANCE	11
STORING MACHINE	11
RECOMMENDED STOCK ITEMS	11
TROUBLESHOOTING	12
MACHINE SPECIFICATIONS	13
MACHINE DIMENSIONS	13

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Specifications and parts are subject to change without notice.

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SAFETY PRECAUTIONS

This machine is intended for commercial use. It is designed exclusively to scrub hard floors in an indoor environment and is not constructed for any other use.

All operators must read, understand and practice the following safety precautions.

The following warning alert symbol and the "FOR SAFETY" heading are used throughout this manual as indicated in their description:

⚠ WARNING: To warn of hazards or unsafe practices which could result in severe personal injury or death.

FOR SAFETY: To identify actions which must be followed for safe operation of equipment.

The following safety precautions signal potentially dangerous conditions to the operator or equipment.

⚠ WARNING: Fire Or Explosion Hazard

- Do Not Use or Pick Up Flammable Materials
- Only Use Commercially Available Floor Cleaners intended for machine application.
- Do Not Use Near Flammable Liquids, Vapors Or Combustible Dusts.

This machine is not equipped with explosion proof motors. The electric motors will spark upon start up and during operation which could cause a flash fire or explosion if machine is used in an area where flammable vapors/liquids or combustible dusts are present.

⚠ WARNING: Electrical Hazard

- Do Not Operate With Damaged Power Cord.
- Do Not Modify Power Cord Plug.
- Unplug Power Cord Before Servicing Machine.

If the power cord is damaged or broken, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard.

⚠ WARNING: Spinning Brush. Keep Hands Away. Unplug Power Cord Before Servicing Machine.

⚠ WARNING: Electrical Shock Hazard. Do Not Use Outdoors. Do Not Expose To Rain. Store Indoors.

FOR SAFETY:

1. Do not operate machine:
 - Unless trained and authorized.
 - Unless operator manual is read and understood.
 - In an area where flammable vapors/liquids or combustible dusts are present.
 - Unless power cord is properly grounded. Only use the manufacturer-supplied power cord which is designed exclusively for this machine. Do not use additional extension cords.
 - Outdoors.
 - If not in proper operating condition.
 - In standing water.
2. Before operating machine:
 - Make sure all safety devices are in place and operate properly.
 - Wear non-slip shoes.
 - Place wet floor signs as needed.
3. When operating machine:
 - Do not run machine over power cord.
 - Do not pull machine by plug or power cord.
 - Do not pull power cord around sharp edges or corners.
 - Do not unplug by pulling on power cord.
 - Do not stretch power cord.
 - Do not handle plug with wet hands.
 - Keep cord away from heated surfaces.
 - Report machine damage or faulty operation immediately.
 - Do not allow children to play on or around machine.
 - If foam or liquid begins to leak from machine, immediately shut off machine.
4. Before leaving or servicing machine:
 - Turn off machine.
 - Unplug cord from wall outlet.
5. When servicing machine:
 - Unplug power cord from wall outlet.
 - Avoid moving parts. Do not wear loose jackets, shirts, or sleeves.
 - Do not power spray or hose off machine. Electrical malfunction may occur.
 - Use manufacturer-supplied or approved replacement parts.
 - All repairs must be performed by a qualified service person.
 - Do not modify the machine from its original design.
6. When transporting machine:
 - Unplug power cord from wall outlet.
 - Get assistance when lifting machine.
 - Do not wheel up or down stairs.
 - Use tie-down straps to secure machine to truck or trailer.

GROUNDING INSTRUCTIONS

This machine must be grounded. If it should electrically malfunction, grounding provides a path of least resistance for electrical current to reduce the risk of electrical shock. This machine is equipped with a cord having an equipment-grounding conductor and grounding plug. The plug must be plugged into an appropriate outlet that is properly installed in accordance with all local codes and ordinances.

⚠ WARNING: Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the machine. If it will not fit the outlet, have a proper outlet installed by a qualified electrician.

SAFETY LABELS

The safety labels appear on the machine in the locations indicated. Replace labels if they are missing or become damaged or illegible.



FOR SAFETY:
Read Manual before Operating Machine



⚠ WARNING: Spinning brush. Keep hands away. Unplug power cord before servicing machine.



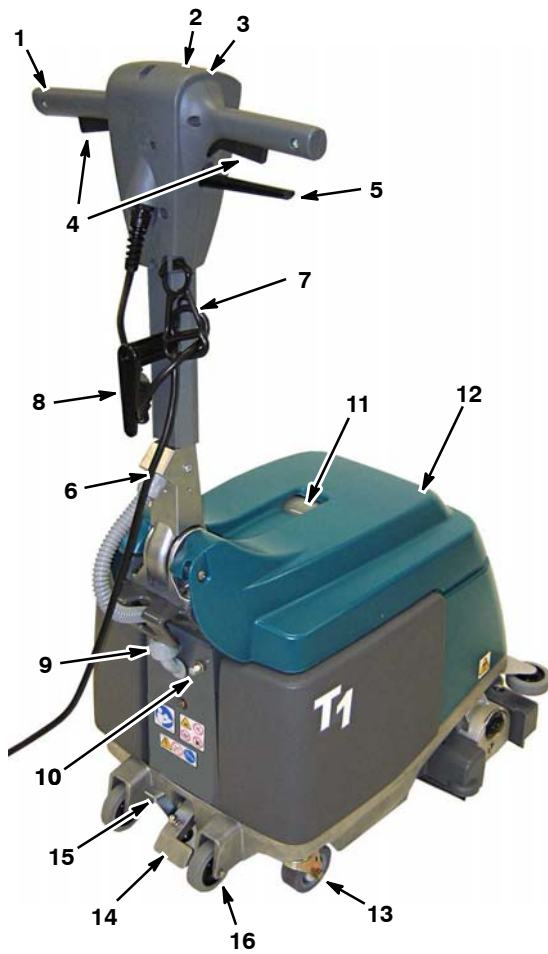
⚠ WARNING: Electrical Hazard. Do not use with damaged cord. Unplug cord before servicing.



⚠ WARNING: Fire or Explosion Hazard. Do not use flammable liquids. Do not pick flammable liquids



MACHINE COMPONENTS



1. Adjustable Control Handle
2. Main Power ON/OFF Switch
3. Scrubbing Mode Switch
4. Start Triggers
5. Handle Adjustment Lever
6. 15 m Power Cord
7. Power Cord Strain Relief Clip
8. Power Cord Hook
9. 7.5 Amp Machine Circuit Breaker Button
10. 2.5 Amp Brush Circuit Breaker Button
11. Recovery Window
12. Tank Cover
13. Main Wheels

14. Scrub Head Lift Pedal
15. Transport Release Pedal
16. Curb Climbing/Tilt Wheels
17. Vacuum Shut-Off Float
18. Recovery Tank
19. Solution Tank
20. Solution Hose
21. Solution Hose Screen
22. Hour meter
23. Vacuum intake Screen
24. Scrub Head
25. Squeegee Blades
26. Bumper Wheel

SWITCH SYMBOLS

- Power On
 Power Off
 Vacuum
 Brush
 Solution

BRUSH INFORMATION

Soft Nylon Bristle Scrub Brush -

Part No. 1037197 (standard)
Recommended for cleaning coated floors without removing finish. Cleans without scuffing.

Polypropylene Bristle Scrub Brush -

Part No. 1037277 (option)
This general purpose polypropylene bristle scrub brush is used for scrubbing lightly compacted soilage. This brush works well for maintaining concrete, wood and grouted tile floors.

Abrasive Bristle Scrub Brush -

Part No. 1037278 (option)
Nylon fiber impregnated with abrasive grit to remove stains and soilage. Strong action on any surface. Performs well on buildup, grease, or tire marks.

MACHINE SETUP

INSTALLING BRUSH

FOR SAFETY: Before installing brush, turn off machine and unplug power cord from wall outlet.

1. Raise the scrub head to the transport position by stepping on the scrub head lift pedal (Figure 1).



FIG. 1

2. Remove the brush idler plate from the brush base. Turn the idler plate locking knob counter-clockwise to remove (Figure 2).

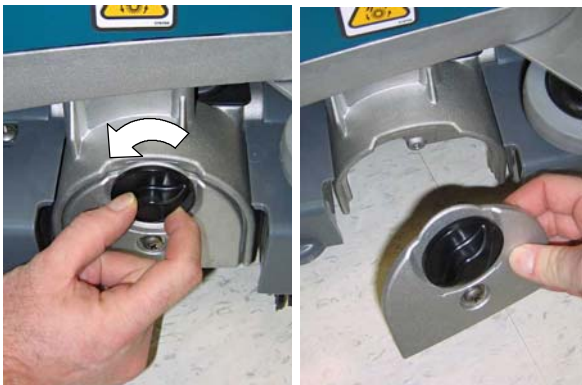


FIG. 2

3. Connect the slotted end of the brush to the drive hub (Figure 3).

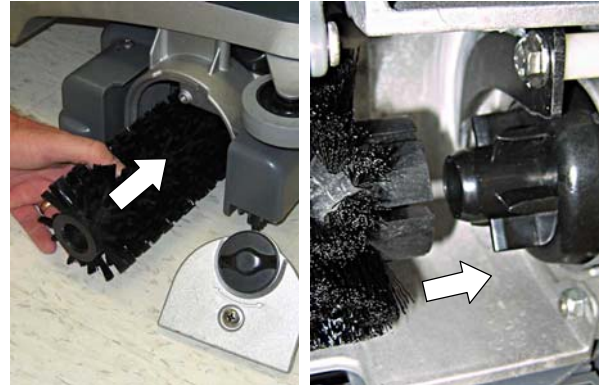


FIG. 3

4. Connect the idler plate to the brush and reinstall the idler plate. Make sure the idler plate hooks engage the brush base and that the locking knob is secure (Figure 4).



FIG. 4

NOTE: If storing the machine for an extended period, raise the scrub head to the transport position (Fig. 19).

FILLING SOLUTION TANK

1. Lift the cover and remove the solution tank from the machine (Figure 5).
2. Fill the solution tank with 11 L of clean water (50°C maximum temperature) (Figure 6). Do not fill beyond the "MAX" fill label. Partially fill if unable to lift a full tank.



FIG. 5



FIG. 6

ATTENTION: Do not use the recovery tank to fill the solution tank. Dirt from the recovery tank may cause damage to the solution pump.

3. Pour an approved low foaming cleaning detergent into the solution tank according to the mixing instructions on the bottle.

⚠ WARNING: Fire Or Explosion Hazard. Do Not Use Flammable Materials. Only Use Commercially Available Floor Cleaners intended for machine application.

ATTENTION: Only use approved cleaning detergents. Machine damage due to improper detergent usage will void the manufacturer's warranty.

Contact your dealer for recommended cleaning detergents.

4. Submerge the solution hose screen into the solution tank and close the cover (Figure 7).



FIG. 7

CONNECTING POWER CORD

1. Plug the supplied power cord into the machine and attach the power cord to the strain relief clip as shown (Figure 8).

FOR SAFETY: Do not operate machine unless power cord is properly grounded. Only use the manufacturer-supplied power cord which is designed exclusively for this machine. Do not use additional extension cords.

2. Plug the power cord into a properly grounded wall outlet (Figure 9).



FIG. 8

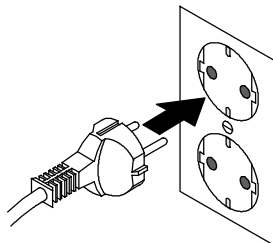


FIG. 9

⚠ WARNING: Electrical Hazard, Do Not Operate With Damaged Power Cord.

If the power cord is damaged or broken, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard.

3. Wrap the power cord around the handle and cord hook when storing machine. To remove power cord, turn the cord hook upward (Figure 10).



FIG. 10

MACHINE OPERATION

FOR SAFETY: Do not operate machine unless operator manual is read and understood.

PRE- OPERATION

1. Inspect power cord for damage.
2. Sweep and dust-mop the floor.
3. Check that the brush and squeegee blades are installed.

SCRUBBING FLOORS

⚠ WARNING: Fire or Explosion Hazard, Do Not Use or Pick Up Flammable Materials.

1. Pull the handle adjustment lever and adjust the handle to a comfortable operating height (Figure 11). Release the lever to lock the position.



FIG. 11

- 2. Lower the scrub head to the floor by stepping on the transport release pedal (Figure 12).



FIG. 12

- 3. Press the main power switch to the on (I) position (Figure 13).
- 4. Press the scrubbing mode switch towards the vacuum/brush/solution mode (Figure 14).



FIG. 13



FIG. 14

- 5. To begin scrubbing, pull the start triggers and push or pull the machine in either direction (Figure 15).

FOR SAFETY: When operating machine, do not run machine over power cord.



FIG. 15

- 6. When stopping, release the triggers and continue to move the machine to pick up all solution.

- 7. View the water pickup from the recovery window (Figure 16). When the water pickup stops, unplug the power cord and empty the recovery tank.

The machine is equipped with a vacuum shut-off float that will automatically stop the water pickup should the water level reach the full point. A sudden change in vacuum motor sound will occur.

ATTENTION: Check for excessive foam in the recovery tank. Empty tank if excessive. Foam may not activate the shut-off float which may result in vacuum motor damage.



FIG. 16

FOR SAFETY: When operating machine, if foam or liquid begins to leak from machine, immediately shut off machine.

- 8. For heavily soiled areas, press the scrubbing mode switch towards the brush/solution mode (Figure 17). This allows you to use the double scrub method. First scrub the soiled area in the brush/solution mode then scrub the area a second time in the vacuum/brush/solution mode.

FOR SAFETY: Before operating machine, place wet floor signs as needed.

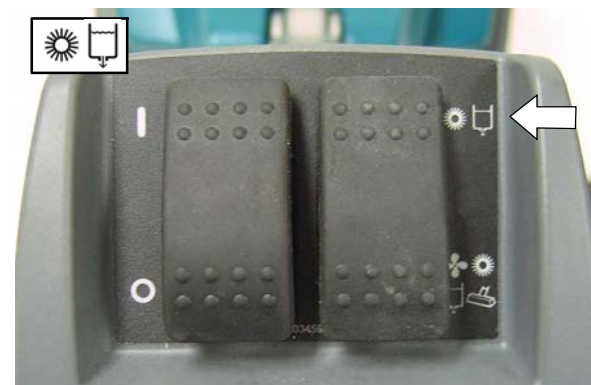


FIG. 17

- The brush circuit breaker will trip if the brush is obstructed. To reset the circuit breaker, unplug the power cord, remove the obstruction and reset the 2.5 amp circuit breaker button (Figure 18). If the circuit breaker does not reset immediately, allow the motor to cool.

FOR SAFETY: Before removing obstruction from brush unplug power cord from wall outlet.

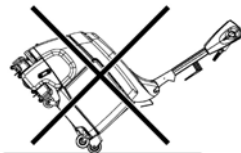


FIG. 18

- When transporting machine, raise the scrub head to the transport position (Figure 19).



FIG. 19



FOR SAFETY: When transporting machine, do not wheel up or down stairs.

MACHINE MAINTENANCE

To keep the machine in good working condition, simply follow the machine's maintenance procedures.

FOR SAFETY: Before performing maintenance procedures turn off machine and unplug power cord from wall outlet.

ATTENTION: Contact an Authorized Service Center for machine repairs.

AFTER EACH USE

- Wipe clean the power cord and inspect it for damage (Figure 20). Wrap power cord around handle and cord hook when not in use (Figure 21).



FIG. 20



FIG. 21

⚠ WARNING: Electrical Hazard, Do Not Operate With Damaged Power Cord.

If the power cord is damaged or broken, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard.

- Empty the recovery and solution tanks and thoroughly rinse with clean water (Figure 22).



FIG. 22

- Clean the vacuum shut-off float (Figure 23) and the vacuum intake screen of any debris buildup (Figure 24).



FIG. 23



FIG. 24

4. Clean the solution hose screen (Figure 25).



FIG. 25

5. Remove and clean the brush (Figure 26). Replace brush if worn.



FIG. 26

6. Clean the underside of the scrub head (Figure 27).

FOR SAFETY: Before tipping machine back, unplug power cord from wall outlet.



FIG. 27

7. Clean the squeegee blades of any debris (Figure 28). Replace the blades if worn or damaged.

FOR SAFETY: Before tipping machine back, unplug power cord from wall outlet.



FIG. 28

To remove the squeegee blades, lift the blade retainer clip and pull the blade from the channel (Figure 29).

When replacing blades, install the red blades to the inside channels and the gray blades to the outside channels, ribs facing outwards.

NOTE: The red and gray blade rails are designed to match up with the appropriate channel to prevent improper blade installation.

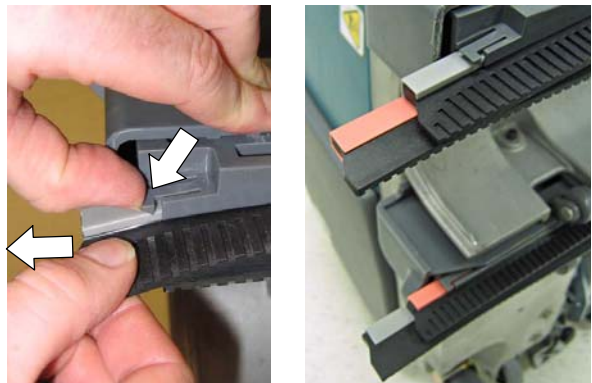


FIG. 29

8. Clean the machine with an all purpose cleaner and damp cloth (Figure 30).



FIG. 30

AFTER EVERY 100 HOURS OF USE

1. Flush the solution system with white vinegar to remove any chemical deposits. Pour 2.2 L of white vinegar into the solution tank and operate the machine for 1-2 minutes, then let vinegar sit for up to six hours. Rinse solution system with water.
2. Remove the spray tip and soak in white vinegar to prevent clogging. Do not use a pointed object to clean out spray tip, damage will occur (Figure 31).

FOR SAFETY: When servicing machine, unplug power cord from wall outlet.

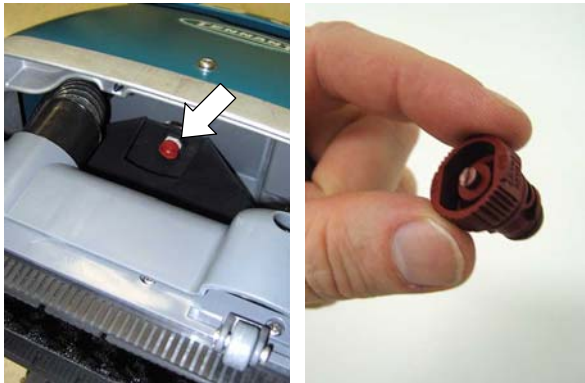


FIG. 31

BRUSH MOTOR MAINTENANCE

Contact an Authorized Service Center for carbon brush replacement.

Carbon Brush Replacement	Hours
Brush Motor	500

STORING MACHINE

Empty tanks and store the machine in a dry area in the upright position. Neatly wrap power cord around handle and cord hook. Raise the scrub head to the transport position.

If storing machine in freezing temperatures, purge solution system and pump from all water.

⚠ WARNING: Electrical Shock Hazard. Do Not Use Outdoors. Do Not Expose To Rain. Store Indoors.

RECOMMENDED STOCK ITEMS

Refer to the Parts List Manual for recommended stock items.

To view, print or download Parts manual online visit www.tennantco.com/manuals

TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
Machine does not operate.	Faulty power cord.	Replace power cord.
	Tripped circuit breaker.	Unplug power cord and determine cause. Reset 7.5 amp circuit breaker button. Contact Service Center if circuit breaker continues to trip.
Brush does not spin	Tripped circuit breaker.	Unplug power cord and inspect brush for obstruction. Reset 2.5 amp circuit breaker button.
	Broken brush belt.	Contact Service Center.
	Faulty brush motor or worn carbon brushes.	Contact Service Center.
Poor water pickup.	Incorrect scrubbing mode.	Properly set scrubbing mode switch.
	Clogged squeegee blades.	Clean debris from squeegee blades.
	Worn or damaged squeegee blades.	Replace squeegee blades.
	Clogged shut- off float.	Clean debris from shut- off float.
	Clogged vacuum intake screen.	Clean debris from intake screen.
	Worn tank cover gaskets.	Replace gaskets.
	Clogged vacuum hose.	Contact Service Center.
	Faulty vacuum motor.	Contact Service Center.
Little or no spray.	Clogged spray tip.	Clean or replace tip.
	Improper spray tip angle.	Adjust spray tip angle.
	Faulty spray tip.	Replace spray tip.
	Empty solution tank.	Refill solution tank.
	Clogged solution hose screen.	Clean debris from solution tank screen.
	Damaged solution hose.	Contact Service Center.
	Faulty solution pump.	Contact Service Center.
Poor scrubbing performance.	Worn brush.	Replace brush.
	Incorrect brush type.	Change to a different brush type. (See BRUSH INFORMATION on page 6).

MACHINE SPECIFICATIONS

MODEL	T1
LENGTH	693 mm with handle folded
WIDTH	501 mm
HEIGHT	605 mm with handle folded
WEIGHT	44 kg
SOLUTION TANK CAPACITY	11.4 L
RECOVERY TANK CAPACITY	17 L
PRODUCTIVITY RATE - AVG.	810 m ² /hr
CLEANING PATH WIDTH	380 mm
SQUEEGEE WIDTH	445 mm
BRUSH PRESSURE	15 kg
BRUSH MOTOR	230V, .3 kW, 1.6 A, 1200 brush rpm
VACUUM MOTOR	230V, .88 kW, 2-stage 5.7, 3.6 A
WATER LIFT- AIR FLOW	2184 mm
SOLUTION PUMP	230V, 0.032 kW, 0.14 A
SOLUTION FLOW RATE	.38 L/min
VOLTAGE	230 AC
TOTAL POWER CONSUMPTION	5.8 A
POWER CORD LENGTH	15 m
DECIBEL RATING AT OPERATOR'S EAR, INDOORS*	72 dBA
PROTECTION GRADE	IPX3
VIBRATIONS AT CONTROLS	<2.4 m/s ²

MACHINE DIMENSIONS

