

SCM24 Auto Nozzle Cleaner

Installation & Commissioning Guide

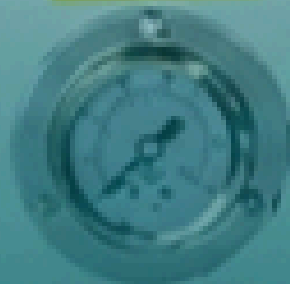
HPW/ST '1



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Welcome to Enhanced Nozzle Maintenance.

Congratulations on your investment in the SCM24 Auto Nozzle Cleaner.

This guide provides a comprehensive, step-by-step procedure for the successful installation and commissioning of your new equipment.

Following these steps will ensure optimal performance, reliability, and immediate integration into your production workflow.

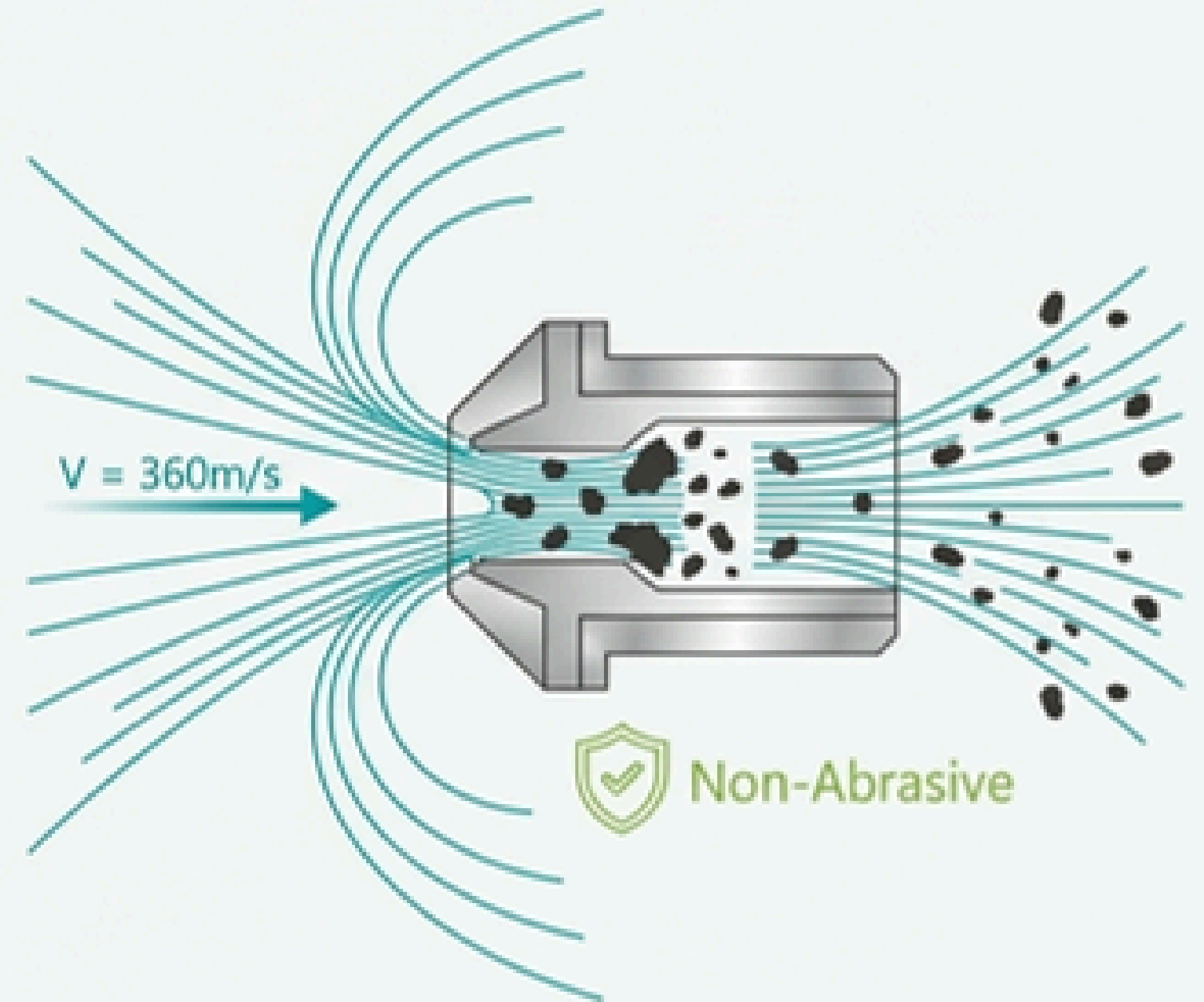
We are committed to empowering your factory with high-efficiency automation solutions.



The Principle of Hydrodynamic Cleaning

The SCM24 utilizes hydrodynamic water fragmentation to achieve superior cleaning results. This process generates a very fine water mist propelled at the speed of sound ($V = 360\text{m/s}$), creating a strong momentum jet. This jet forms a continuous field that crushes dirt from the internal surfaces of the nozzle without causing any damage to the nozzle's coating or reflector panel.

- ✔ High-Velocity Mist: Crushes stubborn dirt ultrasonic cleaners can't remove.
- ✔ Non-Abrasive: Preserves nozzle integrity and extends lifespan.
- ✔ Efficient Medium: Uses only Deionized (DI) or Distilled water.



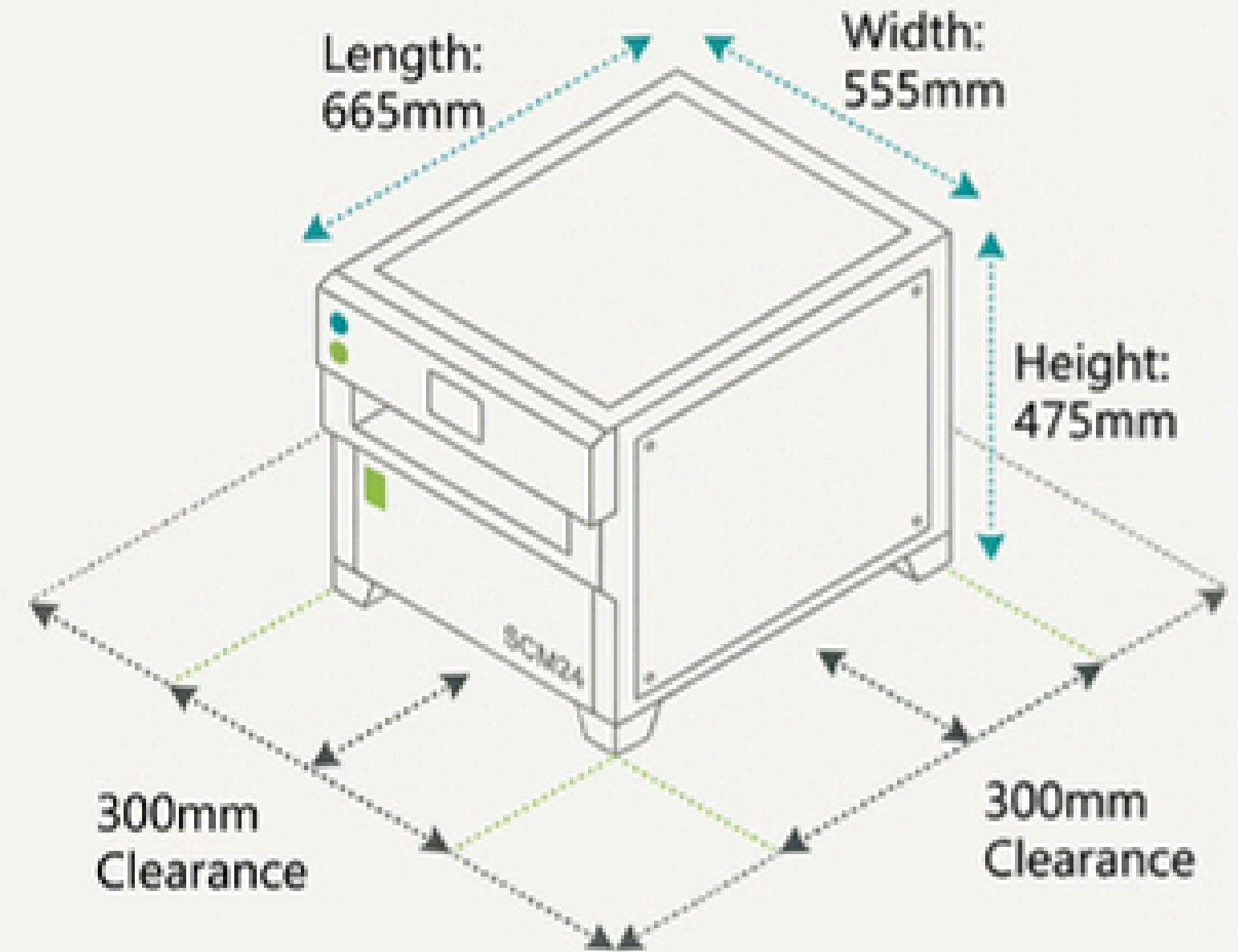
Section 01: Pre-Installation Requirements

Preparing Your Facility for the SCM24.

Step 1: Site Preparation & Placement

Select a stable, level surface capable of supporting the machine's weight, with adequate clearance for operation and maintenance access.

Parameter	Requirement
Machine Dimensions (L x W x H) 	665mm x 555mm x 475mm
Machine Weight 	30 KG
Required Clearance	Minimum 300mm on all sides recommended



Step 2: Utility Connections

Ensure that the following facility utilities are available at the installation site and meet the required specifications before connecting the machine.



Electrical Power

AC 220V, 1A

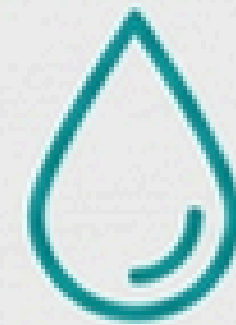
Requires a stable, grounded power source.



Compressed Air

0.5 – 0.7 MPa

Requires clean, dry compressed air. Intake pipe size is $\varnothing 8$.



Cleaning Liquid

Purified or DI Water Only

Machine includes an 800cc internal liquid storage tank.

Step 3: Liquid Management

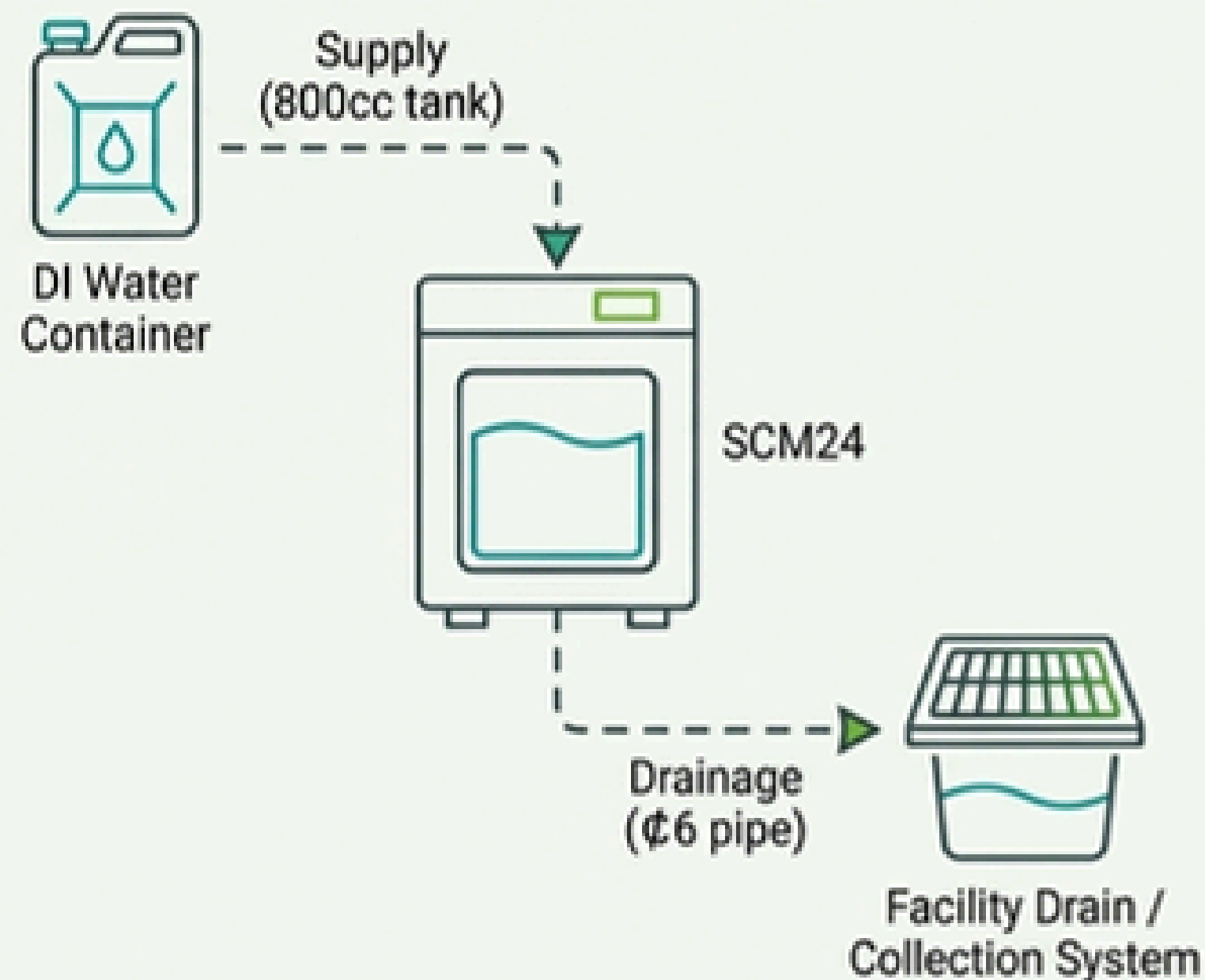
The SCM24 is designed for high efficiency with minimal consumable waste. Proper management of the cleaning liquid and drainage is essential for continuous operation.

Liquid Supply

- Type: Industrial Purified Water or Deionized (DI) Water
- Tank Capacity: 800cc
- Consumption Rate: $\leq 150\text{cc} / \text{Hour}$

Liquid Drainage

- System: Automatic direct emissions
- Drain Pipe Size: $\phi 6$
- Note: Ensure the drain pipe is properly routed to a suitable collection or disposal system.



Section 02: First Time Operation

Preparing the Machine for its First Cleaning Cycle.

Preparing the Nozzle Jig

The SCM24 is compatible with a wide array of mounter nozzles. Ensure nozzles are correctly seated in the jig before initiating a cleaning cycle.

Jig Capacity: 24 Holes

Compatible Nozzle Range: Min01005 up to
Max hole diameter of 2.0mm

Benefit: Suitable for all kinds of mounter nozzles, extending their lifespan and ensuring consistent pick-and-place performance.



Understanding the Control Interface

The SCM24 features a simple, touch-screen PLC interface for easy operation. Key parameters can be set to optimize the cleaning process for different types of nozzle contamination.

Typical Cycle Parameters

Process Step	Typical Duration
Clean Time	3 – 6 minutes
Dry Time	1 – 3 minutes
Spray Pressure	≤ 0.55 MPa

Interface Feature: The system includes a self-test function that displays the cause of any malfunction, simplifying troubleshooting.

Set Clean/Dry Time ←

Monitor Spray Pressure ←



Expected Cleaning Performance

The hydrodynamic cleaning process thoroughly cleans dirt, even from the smallest nozzle holes, where conventional ultrasonic methods may fail.

Before Cleaning



After SCM24 Cleaning



Example: Cleaning results for 110Snozzle and 225 nozzle types after a 60-90 second cycle.

Final Commissioning Checklist

Before initiating the first cycle, please verify that all requirements have been met.

- Site is stable, level, and provides adequate clearance.
- Electrical Supply (AC220V, 1A) is connected and stable.
- Compressed Air Supply (0.5-0.7 MPa) is connected and active.
- Internal liquid tank is filled with Purified or DI Water.
- Drainage pipe ($\phi 6$) is correctly routed.
- Nozzles are securely placed in the 24-hole jig.
- Cleaning chamber door is securely closed.

Support & Resources

Southern Machinery is committed to your success. Our global support network is available to assist with any questions or technical challenges.

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Technical Documentation & Catalogs:

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