Stencil Cleaning Machine

SC 740

DIRECT SPRAY IN AIR SYSTEM

Application:

- Metal Stencil Cleaning
- Pump Print Stencil Cleaning
- Misprint Cleaning (Chemical isolation –outside machine)
- PCBA Defluxing (Chemical Isolation –outside machine)
- Squeegee Cleaning
- Maintenance Part Cleaning


Stencil Cleaning


Mis Print Cleaning


PCB Defluxing


Sueegee Cleaning


Pallet Cleaning

Unique Features:

- SC-740 is very versatile machine. It has totally closed loop system for cleaning with it's own spray pump and filtration system.
- Unique Up and down moving parallel travelling spray manifolds cleans the parts with NO shadow effect.
- The parallel arms with high speed/flow hot air knife help in faster drying, the system throughput is comparable with big inline systems.
- This machine is energy efficient and requires minimum floor space.
- Machine is designed to handle Zestron range of Cleaning Chemical and enable to use also for pallet cleaning / maintenance part cleaning.

SC-740 PROCESS CHAMBER AND MANIFOLD SYSTEM

- SC-740 has the process chamber and manifold system optimized against liquid drag-out.
- All manifolds are in vertical position for better liquid draining.
- Chamber has no horizontal surface which helps in saving cleaning chemical
- Consumption as low as 0,15 l / cycle reported from users for stencil cleaning.
- Easy and smooth travel mechanism
- One year warranty

Technological Parameters	
Number of cleaning phases	2
Temperature of Liquid	max. 60°C
Drying	max. 85°C
Mechanical filtration (Cleaning)	20 µm 5 µm
tank volume max/min	65/30 L
Pressure on the nozzles with new filters (Cleaning)	0.85 bar
Flow with new filters (Cleaning)	48 l/min
Frame dimension max/std/min	740 x 740 x 40 mm
Space between the nozzles	90 mm
Speed of reciprocating arms	110 mm/sec
Number of installed nozzles	44

Note: Approximate values of pressure and flow are stated. The real values can be a bit different depending on the tolerances of used components. These differences have no effect on cleaning process.

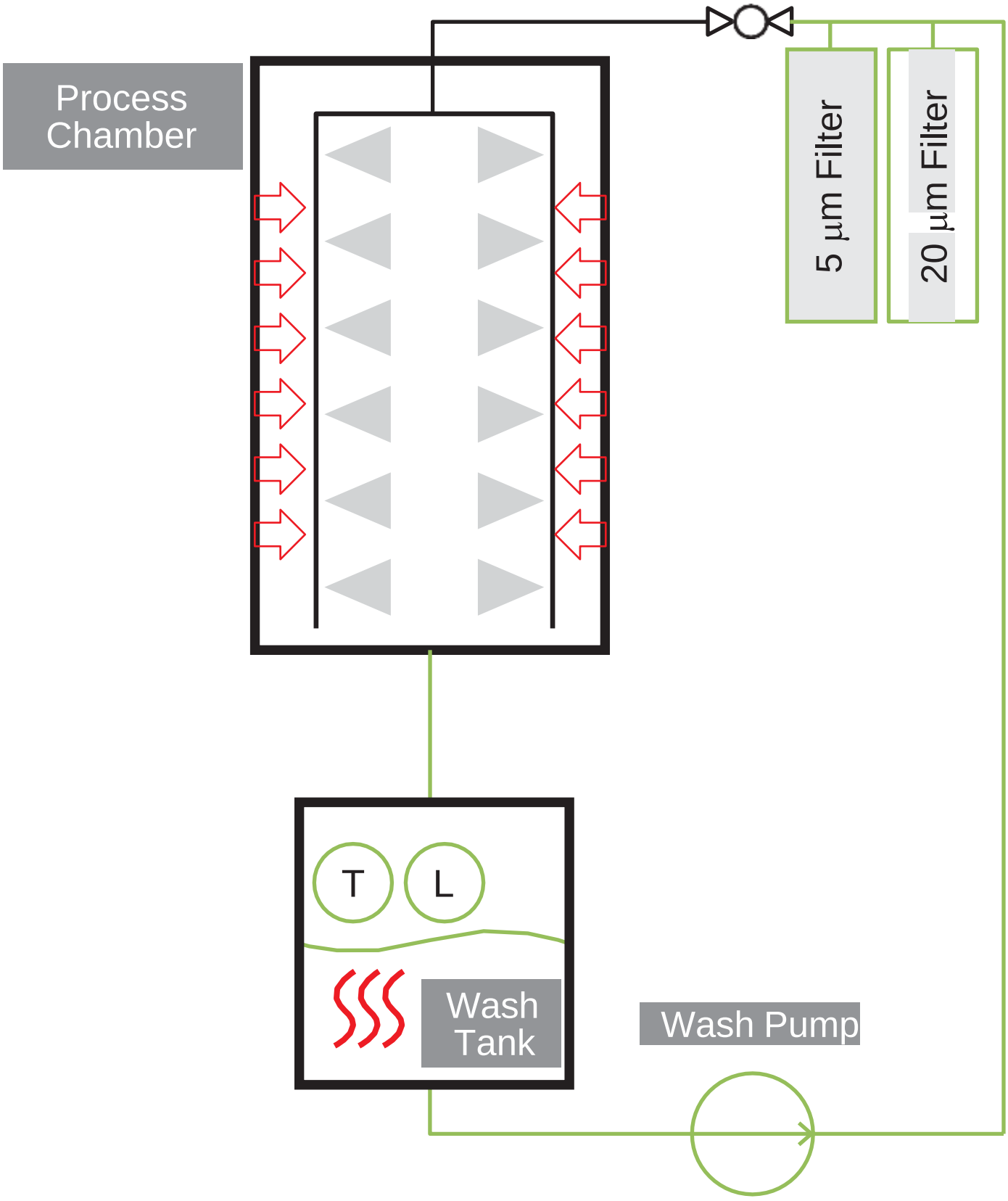
Technical parameters

Machine dimensions	950 x 1250 x 1850 mm
Weight (without liquid)	360 kg
Maximum power input	6.5 kVA
Machine noisiness	Less than 70 dB

System Features

- Machine can be used for cleaning of Solder Paste as well as SMT Adhesive stencils.
- All wettable parts are in Stainless Steel.
- Spray in air technology works with low pressure spraying nozzles (less than 1 bar) for cleaning the sensitive screen and stencil.
- Hot Air Knife with blower fans gives maximum efficiency for drying.
- Reciprocating Vertical elevator mechanism mounted with spray arm and air knife.
- Vertical elevator mechanism with adjustable stroke adjustment (only for required area) reduces the processing time (actual printing area need to clean).
- Storage up to 99 Cleaning Programs.
- Weekly Timer
- Password Protected.
- STC fault monitoring and reporting facility.
- Status Light Tower

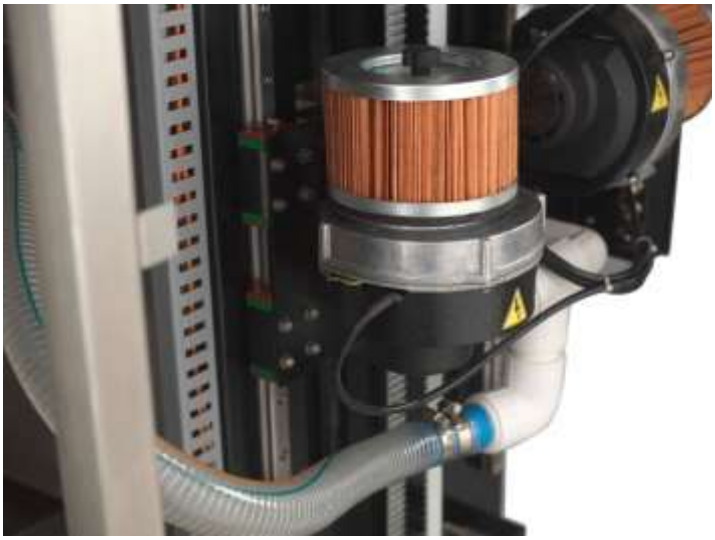
Machine Schematic



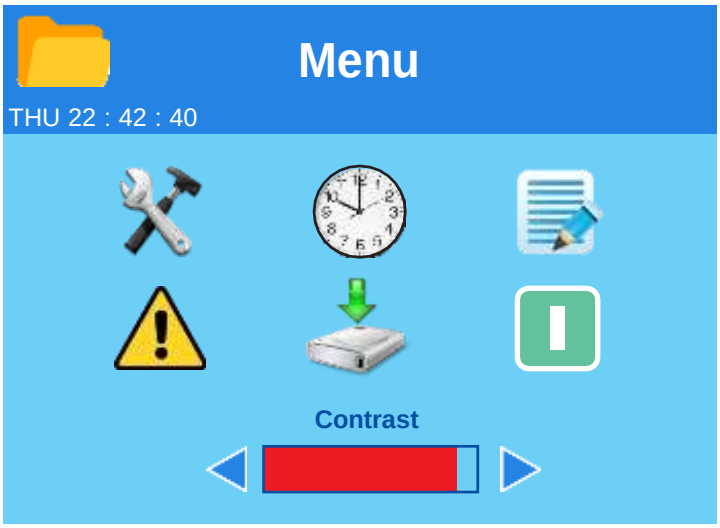
Key Features

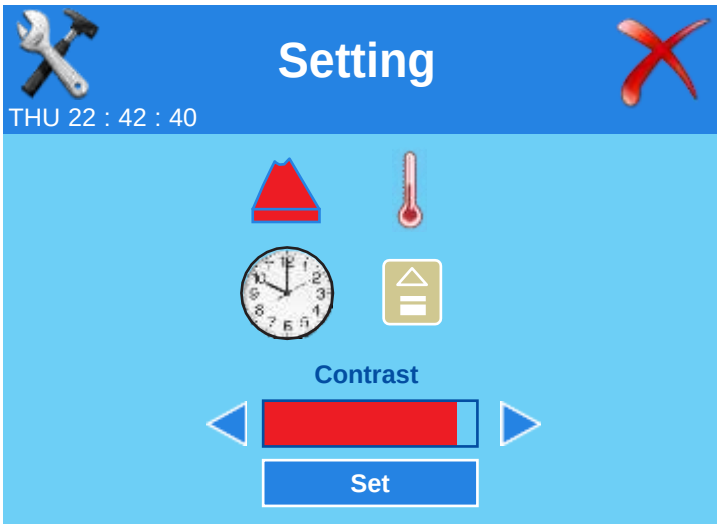
SC 740 can clean solder paste and SMT Adhesive

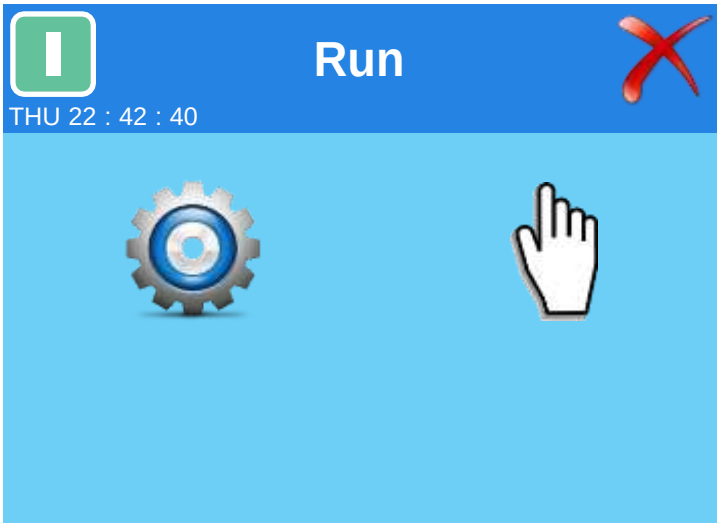
- 42 Spray nozzles (21 on each arm)
- Program parameters
  - Cleaning
    - Spray Time
    - Bath Temperature
  - Drying
    - Drying Time
    - Hot Air Temperature
  - Elevator
    - Start Point
    - End Point
- Air knife delay to squeeze chemical from cleaning chamber
- Password protection - 2 level
- SPC Monitoring - Fault log
- Serial port - Hyper Terminal
- Weekly Timer
- Maintenance mode - To check / Inspect all electrical parts of machine
- Digital pressure monitoring - Filter clogging

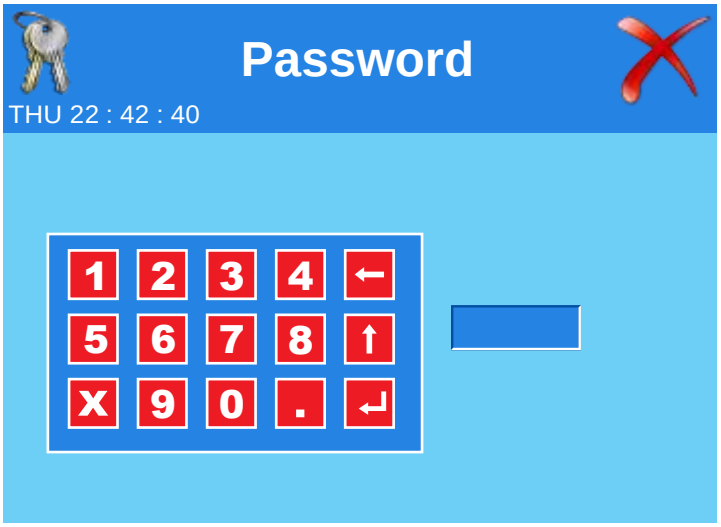


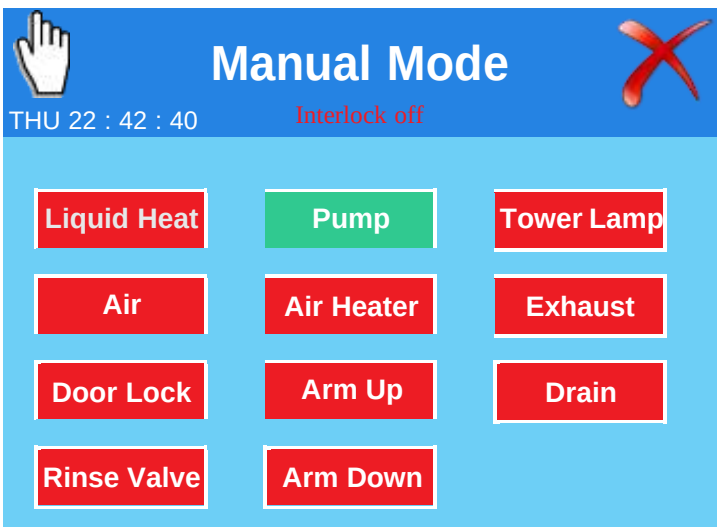
Display : Touch Panel LCD

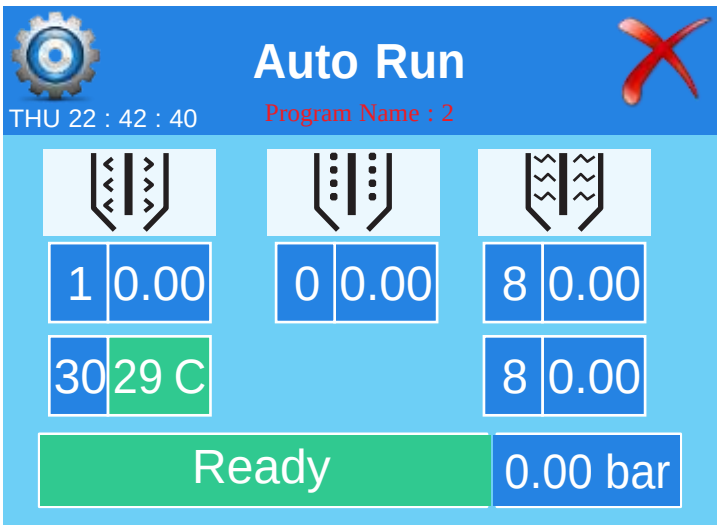












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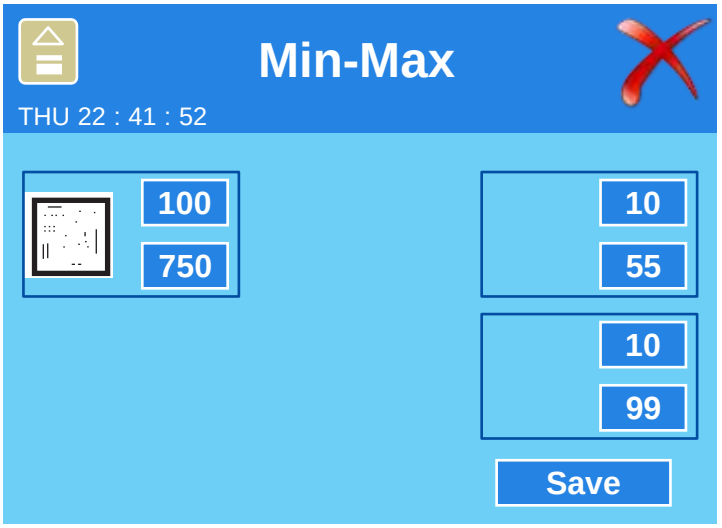
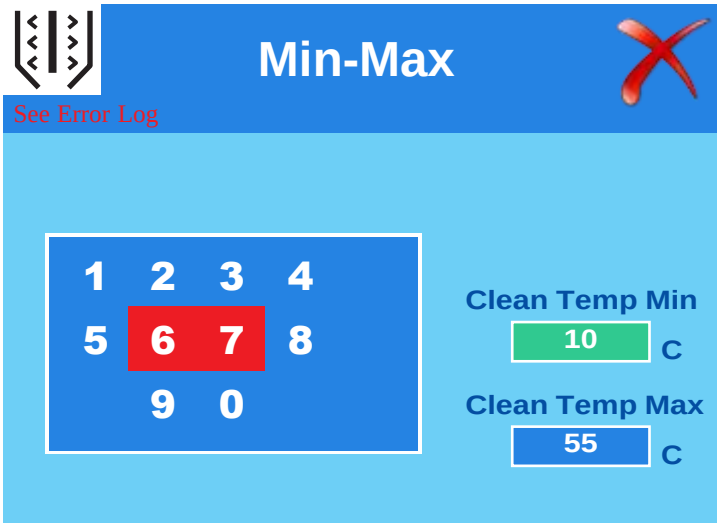




Display : Touch Panel LCD

Offsets

See Error Log

Offsets

THU 22 : 41 : 52

1	2	3	4
5	6	7	8
	9	0	

Filter Pressure

50

Save

Clock

THU 22 : 41 : 52

Hour	Min	Sec
22	41	46

Date	Month	Year
9	4	16

Set

Weekly Timer

See Error Log

Day	Start	End	Program
MON	--:--	--:--	
TUE	--:--	--:--	
WED	--:--	--:--	
THU	--:--	--:--	
FRI	--:--	--:--	
SAT	--:--	--:--	
SUN	--:--	--:--	

Edit

Calibrate Temperature

TC Zero	1
TC Span	2967
Room Temp	33

Thermo Type
- (⊗) J Type
- ( ) K Type

Save

Error Log

Time	Date	Info
22:36:51	09/04/16	Liquid Over Temp
22:31:50	09/04/16	Liquid Over Temp
22:28:18	09/04/16	Liquid Thermo Open
22:28:00	09/04/16	Drain Valve Open
22:17:49	09/04/16	Liquid Thermo Open
02:38:35	09/04/16	Drain Valve Open

Delete

SC 740 working principle and comparison with other conventional spray systems

Model SC 740 has several features, which are only available at this machine. They make the system highly efficient and economical among it's category.

SC 740 USES HIGH PRESSURE/ HIGH FLOW SPRAY SYSTEM

Majority of machines on the market are using pressure at nozzles 0,5-1,0 Bar but SC 740 has spraying nozzle arrangement which helps to increase efficiency of cleaning the apertures, deep openings including Pump Print Stencils.

SC 740 USES SYNCHRONOUSLY DRIVEN MOVING MANIFOLDS

There is no risk of damaging thin stencils by higher pressure, because spray arms are moving synchronously and spray beam pressure is balanced from both sides of the stencil.
Majority of stencil cleaning systems uses non-driven (liquid reaction forces driven) rotating arms. Spray beam impact can heavily damage stencil. The most critical is, that such damage is not visible at first sight. The rotating, uncontrolled spray arms induce load to the stencil sheet from both sides. If the arms are in 90° angle each to other, the impact from both sides cause increasing of the tension in the middle of the stencil. For thin stencil with narrow bridges between apertures, it can cause plastic elongation of those bridges and bowing of the plane. Such stencil does not seal sufficiently in the middle anymore and must be exchanged. Also, the glued stencil are critically tensioned in the edges of the frame and this release the tension of the stencil after some time. Therefore SC 740 uses synchronous linear motion of spray arms. This also helps in removing any shadow area on cleaning parts.

Conventional rotation arms

Water spray impact from both sides is not balanced. It causes bending of stencil sheet > tensionoverloading of elastic zone (mesh zone) at the edge.

Non-driven rotational arms (worst position)

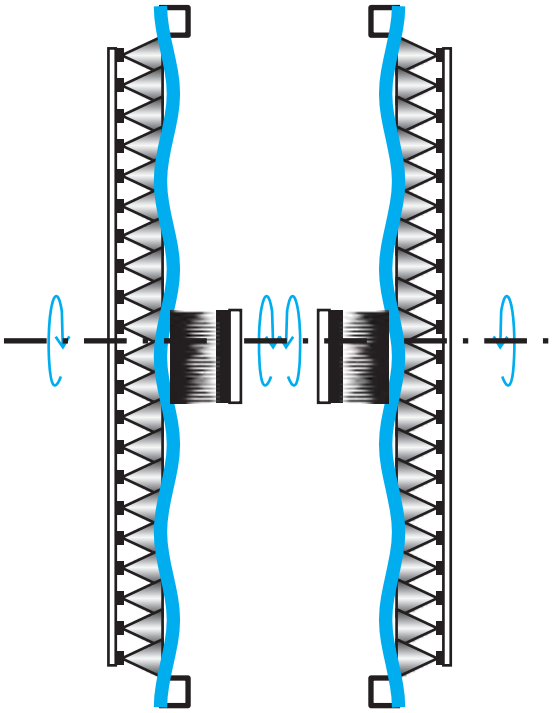
SC 740

Water spray impact is well balanced during the whole cleaning cycle.
Synchronously-driven arms (always the same position)

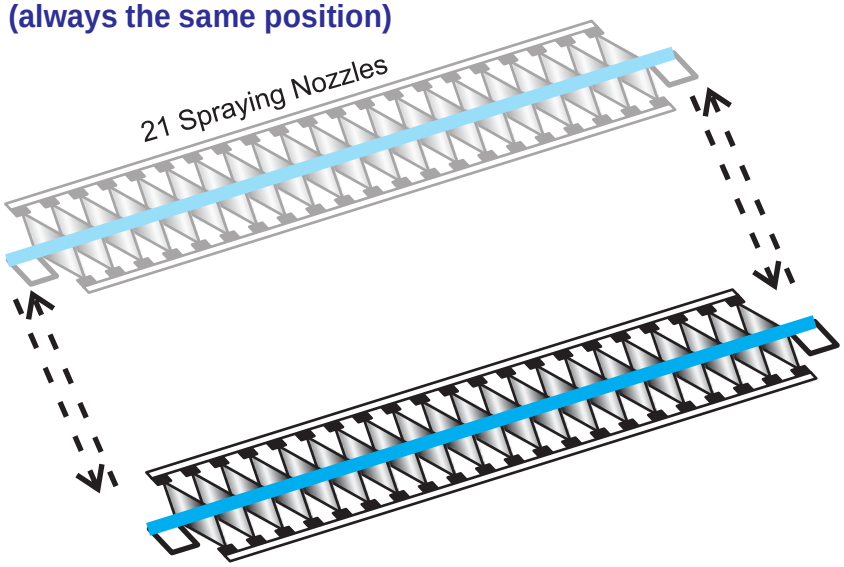
Plumbing and Pumping Systems

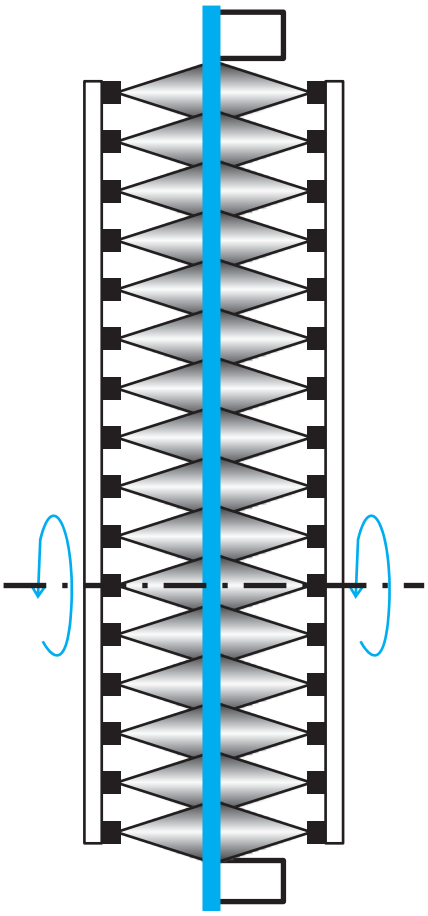
Moving Spray Arms

Conventional Rotation Arms Systems



SC 740 Synchronously-driven arms (always the same position)





Rotational arms spray system can leave shadows behind on cleaning objects even if they rotate in synchronous motion, therefore to clean such places takes longer (one must wait until the less intensive sprayed spots are cleaned).

These kind of systems takes longer cleaning time to clean due to shadow effect. SC 740 moving arms have uniform spray field and moves slowly all along cleaning objects. It does not make shadows. Therefore the whole area is cleaned effectively in shorter time.

Shorter cleaning save energy (for pumps), saving cleaning medium (less aerosol generation – less cleaning medium consumption).

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