

Firbimatic SF 200 V Compliant Totally Enclosed Solvent Degreaser with ICS TAE EVO Chiller



Stock No	DA1425J
Manufacturer	Firbimatic
Model	SF 200 V
Year of Manufacture	2008
Serial	554-F8-0005
Condition	Seen working by RSW, Excellent Condition
Work Envelope (WxDxH mm)	750 x 2000 x 750, Cap. 500Kgs
Process Stages	Four - Wash, Immersion, Vapour & Dry
Other Info	Solvent Perchloroethylene C2CL4
Location	Our Central Warehouse, Aldridge, UK
Weight (kgs)	7000
External Dimensions (WxDxH mm)	3800 x 3500 x 2800

Description

Firbimatic SF 200 V Fully enclosed Solvent Degreaser with Steam Generator and ICS TAE EVO 251 MTA Chiller includes large basket (as seen in video)

Key features:-



Designed to work exclusively with Super Stabilised Perchloroethylene.

- Operates with swing action baskets that rock from side to side.
- Unit is fully programmable and self cleaning.
- Basket size:- 2000mm x 750mm x 750mm
- Totally Compliant Degreasing system
- Cycle time - 1st cycle - 23 mins. 3rd + Cycle - 17-18mins
- Low connected Electric load 72kW (4 x 18kW Heaters)
- Machine uses electricity to convert water to steam
- Steam Boilers and Heating elements were replaced in November 2019 at a cost of £4,500.00 plus labour etc.
- Complete Technical details, operating instructions, maintenance guidance etc. provided with machine (253 Pages)

During the execution of a program (automatic cycle) it is possible to modify the 5 programmable temperatures:

- Washing Chamber Inlet
- Cooling Washing Chamber
- Outlet Washing Chamber
- Cooling Solvent
- Solvent Heating

Multiple Wash/Spin speeds

The programmable speeds of the drum are:

- A) Washing: minimum 20 RPM - maximum 50 RPM.
- B) Slow Spin: minimum 200 RPM - maximum 300 RPM.
- C) Fast Spin: minimum 300 RPM - maximum 450 RPM.

Solvent capacity:

Main Tank- 1800 Litres
Secondary Tank- 400 litres

Solvent volume (usage):

Previous owner used 2-3 barrels per year (220 litres per barrel) based on using the machine for 50-60 hours per week

General description

Base (Main)Tank - (Tank 1)

It contains the clean and hot solvent necessary to carry out the precleaning and cleaning phase through immersion and by sending all present solvent to the cleaning chamber and collects the recovered solvent after distillation.

Inside this tank there is a coil, fed by steam (coming from the steam generator) which heats the solvent.

The solvent circulation pump permits the solvent to reach an optimal working temperature by forcing its circulation.

In the rear side of the machine there are big inspection port holes with sight glass.

Waiting (Secondary) Tank - (Tank 2)

The solvent recovered from the distillation phase is sent to Tank 2.

In the rear side of the machine there are big inspection port holes with sight glass. Tank 2 is also called WAITING TANK.

Floor Safety Tank

It is the structure, in the lower part, where all the parts making up the machine rest. This basin holds any solvent that accidentally leaks from the tanks thus preventing damaging dispersions to be emitted into the surrounding environment.

On the outside perimeter of the latter are the attachments for fastening the plant to the ground.

Washing Chamber

The washing chamber is the central part of the machine, containing the structure supporting the racks in which pieces to be washed are placed.

Loading/Unloading Door

The loading/unloading door is situated on the front of the machine and it is through this component that the pieces to be washed are introduced into the machine.

This device is part of the whole of the washing chamber, since inside of this different washing phases take place accordingly to the basket movements.

Refrigerator Group

This device located to the side of the machine serves to condense solvent vapours present in the air suctioned out of the washing chamber while drying is underway.

Condensation released by the vapours is collected in the separator.

Vacuum Pump and Liquid Ring Tank

The vacuum pump operates on the principle of the liquid ring. The whirlpool created for the extraction of the solvent, pulls in air from the suction channel thus achieving vacuum into the cleaning chamber of the machine.

The liquid ring tank constitutes the solvent reserve indispensable for operation of the vacuum pump.

Active Carbon Depurator

The Active Carbon Depurator is a recovery device which uses the properties of active carbon to absorb solvent gases dispersed along the machine pipework.

Steam Generators (Boilers)

Equipped with a condensate recouper which discharges the steam condensates outside, produce steam at very high temperatures which serves to heat up different uses of the machine.

Solvent Pump

This device on the back of the machine serves to transfer solvent from the tank to other parts of the machine. It permits constant solvent recycling during cleaning cycles, removing impurities which are deposited on the filter.

Solvent Recirculation Pump

The solvent inside tank 1 is moved by a pump; the solvent flows through a heater and then the temperature of the solvent increases.

The piping between the solvent pump and the tank 1 includes two manual valve that can be use of the maintenance of the pump.

Still Residue Pump

The Still Residue Pump is a device, fitted to the still, which allows the removal of distillation residues and direct discharge into the disposal container.

Still

Purifies dirty solvent used to wash pieces.

Still Condenser

This device located on top of the separator condenses solvent vapours from distillation.

Separator

This device located on top of the condenser separates solvent from contact water.

Contact Water Decanter

This device cleans the water coming from the separator during the working day. It works on overnight decantation.

Pre-Separator

This device has the function of collecting solvent condensates coming both from the cleaning chamber and the still and interrupt automatically the cycle of the vacuum pump and permit to discharge the contents inside the main separator.

Evaporator

A cold exchanger from the refrigerator condenses solvent during drying.

Motor Reducer

On the back of the washing chamber is the motor reducer through which the rack support is moved.

Slag Filter

This device, located behind the washing chamber, collects all the metal slag released by solvent in circulation.

It is located upstream of the solvent pump for functional reasons, and retains residues released by washed metal pieces in a rack so that they will not cause malfunctioning of the solvent pump during operation.

Electrical Panel

The electrical panel contains electrical and electronic components necessary for operation of the machine. The electrical panel is wired inside a sheet metal structure installed on the right side of the machine.

Drying Tunnel

Vacuum Pump

The vacuum pump (1) operates on the principle of the liquid ring. The whirlpool created for the extraction of the solvent, pulls in air from the suction channel thus achieving vacuum into the washing chamber of the machine.

Note: the vacuum pump's cooling is affected by the freezer.

Liquid Ring tank

The liquid ring (2) tank constitutes the solvent reserve indispensable for operation of the vacuum pump.

Evaporator

A cold exchanger from the refrigerator condenses solvent during drying and collects the liquid produced from the drying air.

When the level of solvent reaches a certain level, a float switch trips, which operates the pneumatic valves of the pre-separator, stopping the cycle of the corresponding vacuum pump and enabling the discharge of the liquid to the corresponding separator.

Washing Chamber Pre-separator

The pre-separator (4) collects the liquid produced from the drying and distillation.

When the level of solvent reaches a certain level, a float switch trips, which operates the pneumatic valves of the pre-separator, stopping the cycle of the corresponding vacuum pump and enabling the discharge of the liquid to the corresponding separator.

PPM Meter

The ppm meter (5) detects the concentration of solvent particles inside the wash chamber.

If this concentration exceeds the threshold admitted by relative standards, the PPM meter triggers and blocks the machine (PAUSE) in the purification phase.

The reading detected by the PPM METER inside the wash chamber is shown on the display of the actual device.

Control Panel

The control panel is located on the front of the machine and enables the user to carry out the various wash cycles and

monitor the functions of the machine.

The control panel has three components:

1. Computer (Main Panel)
2. Additional Keyboard
3. Additional Control Panel

Computer is a powerful and versatile control computer for washing machines at perchlorate and hydrocarbons. It is made to be mounted on the electrical panel, it has a display at LCD with graphical capacities and a keyboard with switches at tactile sensation and with a very powerful lighting.

Computer offers a menu guided functioning, in order to facilitate its use. It has several options, for example the possibility to chose the language among a choice of five different languages, according to the country of destination. The supported languages are the following: Italian, French, English, German and Spanish.

Computer can memorize up to 20 programs, which can be set out directly through the keyboard or collected through serial Memory Card, avoiding in this way to waste time in programming.

Computer easily connects to a wide range of accessories by using a standard bus cable. It has a serial port RS485 to connect one or more inverters or to monitor through PC.

Moreover, it uses a Flash memory, which enables to easily update the machine firmware without replacing EPROM and E²PROM of program and data: this memory is guaranteed for at least 10 millions writings.

Technical Features

Outlets: 48, at relay of 5 A 250 VCA on resistant load.

Digital Inlets: 39 inlets + outlet Vcc common to all inlets.

Feed: 12 Vca 50/60 Hz

Display: LCD high contrast, retro illuminated.

Manual switches: 36 yellow when not activated and red when activated, with a pocket to insert symbols or writings.

Digital switches: in double function, from 0 to 9 through yellow switches form 1 to 10. Function switches: 8, among whose 4 illuminated when activated.

Programs: 20 programs, each with 39 steps. Connector for Memory card.

Step time: 0-255 seconds or 0-255 minutes.

Fixing: Aluminium panel board on the electrical panel.

Fuse protection: Protection of the inlets logic card through delayed fuse 5mm x 20mm at 2AT.

Service and support available from original supplier:

Standard Industrial Cleaning Systems Ltd, Kintrave, Mollington, Chester, CH1 6NR
Tel. 01244 851652

Includes:



ICS TAE EVO 251 MTA Chiller

The ICS TAE 251 with its small package size offers a cooling efficiency of 81 kW @ 15°cwt in an ambient air temperature of 27°C. With Triple axial condenser fans.

Minimum/Maximum Incoming Temperature: 40°C - 65°C

Internal Tank Capacity: 400 litres

Year of Manufacture: 2007

Serial No: 2200107076

Capacity: 27kW

Refrigerant: R407c

Refrigerant charge: 14,200kg

Sound level: <70Db

Nominal Flow Capacity: 6.3m³/hr

Water Connection: 2"BSP

Overall Size 860mm x 2200mm x 2060mm (w x d x h)

Weight: 830kg

Electrical Supply: 415v / 38amp

Photographs taken prior refurbishment. Our refurbishment service is not available on all machines.