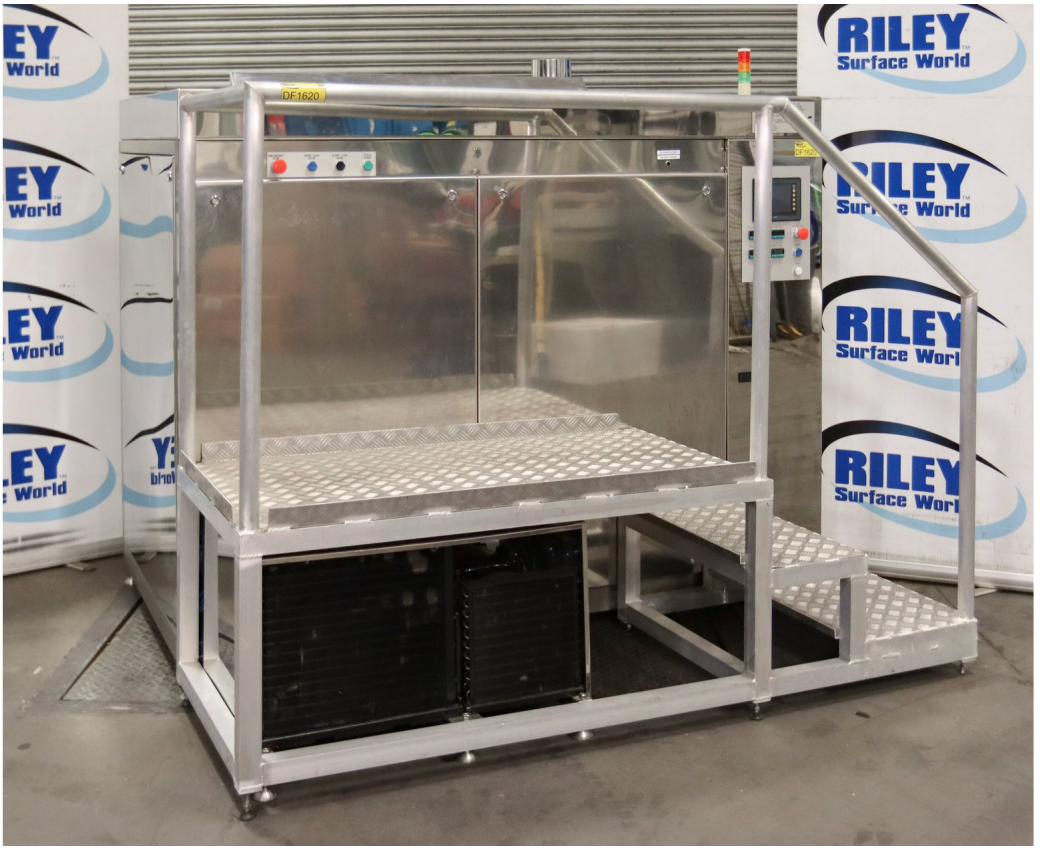
Layton Low Emission Solvent Cleaning System.



Stock No	DF1620
Manufacturer	Layton
Model	Bluestone HFE-72DE
Year of Manufacture	2011
Serial	MAC 101728
Condition	From a working environment, Excellent Condition
Work Envelope (WxDxH mm)	Carrier sizes 425 x 425 Depth SWL 10Kg's
Process Stages	Ultrasonic Immersion, Vapour Rinse & Dry
Other Info	HFE 72DE Solvent. 231 litre capacity
Location	Our Central Warehouse, Aldridge, UK
External Dimensions (WxDxH mm)	2050 x 1150 x 1800mm

Description

Layton Solvent Degreaser Bluestone HFE-72DE

System Overview

High quality three stage solvent degreasing machine.

Stage one: Immersion with Ultrasonic

Stage two: Vapour Rinse
Stage three: Free board dry

Constructed with Stainless Steel Grade 304

The unit consists of two tanks separated by a weir and air gap containing a quantity of solution up to the level of the float switches. The fluid is heated via immersion heaters situated in the base of the tank.

The cleaning tank is housed in a stainless steel box section framework which also houses the electrical control panel, pump and heaters etc. There are 'slip out' removable panels to all sides secured with quarter turn locks to allow access to interior components.

The system incorporates a refrigerated cooling zone, consisting of two cooling plates which are used to cool the area directly above the fluid level and reduce emissions from the unit. The system incorporates a refrigeration unit, sited exterior to the main machine.

The fluid in the process tank is re-circulated to an exterior particle filter to maintain fluid cleanliness. The rear side wall has a baffle fitted to force fluid down toward the tank base. An ultrasonic unit running at 40kHz is situated in the base of the process tank to aid final cleaning.

The tank is filled using a pneumatic fill pump and drained using a pneumatic drain pump to eliminate the necessity for fluid handling by operators. Fill and Drain ports are provided to the exterior of the machine frame to facilitate bulk filling and draining of the solvent.

An automatic lift / lower mechanism presents the work in the tank to the various dwell positions, moving at a predetermined rate. The work dwells at these positions for set periods of time determined and set by the end user. The top of the system has an automatic lid which seals both during the process and whilst the machine is not in operation. A rubber seal housed on the underside of the lid is compressed via clamping cylinders situated at each corner of the sliding mechanism.

An extraction system is incorporated in the counter top section. This is designed to be in continual operation whilst the machine is running or in standby mode to reduce operator exposure to emissions. A suitable fan or main extraction system should be connected to the rear spigot and ducted to atmosphere as required.

The level of fluid in the tank is continually monitored. The tank has predetermined set levels i.e. low, and high. If the fluid reaches the add level the equipment can continue to function normally as this is only a pre-warning that the fluid needs replenishing. If the fluid reaches the low level the heating system and pump will automatically switch off and the unit will go into fault mode. If this occurs the fluid will have to be replenished before the unit can be reused to process components.

Main Power Isolator

The main power door interlocked isolator, a red turn switch, is fitted to the electrical control enclosure door, The isolator can be padlocked in the OFF position for additional safety during maintenance or overhaul operations_

Operator Interface

This is used to monitor and control the equipment The station is situated at the right hand side of the unit on the hinged panel. All of the relevant 'dwell' times can be changed from this station and the LCD display will also notify the operator of any problems with fluid levels, alarms etc. The various screens are designated and accessed as described below, The station also includes all relevant temperature monitors and controls, mains on indicator, emergency stop and reset pushbuttons: -

Operator Interface Controls

EMERGENCY STOP When pressed switches off all outputs from the PLC thus stopping the unit The unit will remain in the stopped position until the button is turned to release. Once released the reset button must be pressed to return the unit to the DEFAULT POSITION (see definition).

RESET Must be pressed on start up or after emergency stop has been pressed to return the unit to the DEFAULT POSITION

MAINS When lit indicates main power is on.

Temperature Controls

The digital thermostats incorporated in the machine give a constant, accurate read-out of the temperature at the various probes. Each unit serves to control or monitor an individual temperature as follows: -

Process Tank Temperature
This indicator displays the temperature within the process tank fluid. Its function is to notify the PLC if a pre-set temperature is exceeded. This would be a result of process solution reaching the desired process temperature. When the temperature is reached the heaters will be deactivated.

Boil Tank Temperature
This indicator displays the temperature within the boil tank fluid. Its function is to notify the PLC if a pre-set temperature is exceeded. This would be a result of the fluid within the boil tank becoming over contaminated. Should this occur the PLC would immediately shut down all systems and display an alarm message. The boil tank should then be drained and cleaned out.

Vapour Monitor Temperature
This indicator displays the temperature within the upper zone above the fluid level. Its function is to notify the PLC if a pre-set temperature is exceeded. This would be a result of process vapour being cooled to the desired process temperature. When the temperature is reached the heaters will be deactivated via solid-state control.

Vapour Safety Temperature
This indicator displays the temperature within the upper zone above the fluid level. Its function is to notify the PLC if a pre-set temperature is exceeded. This would be a result of the primary cooling failing to contain the vapours due to cooling plant failure. Should this occur the reason for failure should be investigated immediately? If activated, the PLC will immediately shut down all systems and display an alarm message.

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