

UNITOR CHEMICAL CLEANING UNIT
INSTRUCTION MANUAL

UNITOR™

CHEMICAL CLEANING UNIT
Product number: 737189



INSTRUCTION MANUAL

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UNITOR CHEMICAL CLEANING UNIT INSTRUCTION MANUAL

Intro

Chemical cleaning unit

The chemical cleaning unit is a portable integral unit for circulating cleaning solutions within a system. Ideal in areas where cleaning in place (CIP) is applicable.

It is designed for use with acid and caustic based products, for descaling boilers, calorifiers, heat exchangers and other types of equipment where rust and scale form. It is also ideally suited for degreasing or decarbonising contaminated systems. The unit is supplied with a 210 litre stainless steel drum with epoxy coated interior.

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Specification

Mixing tank, 210Ltr

Material:	Stainless steel, interior with heavy duty epoxy coating
Connections:	2 x 2" standard openings in removable lid, 1 x 2" BSP threaded opening for the heating element

Double diaphragm pump, Graco Husky 1050 with powder coated steel frame

Material:	Stainless steel
Max. flow capacity:	189 lpm
Air inlet size:	1/2" NPT
Fluid inlet size:	1" NPT
Fluid outlet size:	1" NPT
Max. size pumpable solids:	3.2 mm
Max. air consumption:	1.9 m ³ /min
Max. pump speed:	280 cpm
Air pressure operating range:	1.4 - 8.6 bar

Heating element for stainless steel drum

Power supply:	230/400 V
Max capacity:	6000 W
Surface loading:	8.7 W/cm ²
Temperature range:	30 °C to 90 °C
Immersion length:	415 mm
Total length:	580 mm

Air regulator

Suction/Delivery hose, 1", supplied in one length that need to be divided

Strainer

Elbow connection

Adapter, m/m, 2pcs

Hose nipples, f/m, 2pcs

Hose clamps, 3pcs

Hex screws, 4pcs

Thumb screws, 2pcs

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Installation

Remove all components from the tank and remove all wrapping.

Heating element

When the heating element is used, remove the 2" plug from the base of the tank. Ensure sealing washer is centrally aligned and insert the heating element. Check for liquid tightness, but do not over tighten. Place heater cover inside the tank positioned over the heater. A full tank will take approximately 2 hours to heat from 20°C to 80°C.

Note: The heating element must be wired by a qualified electrician and must be grounded.

Filling

The tank can be filled either before fitting the lid or afterwards through the suction opening of the lid.

Pump

Fit the lid on the tank and close the clamp.

Insert the suction hose into tank, ensuring strainer is at the bottom of tank. Place the pump assembly onto the tank lid and screw tight the suction connections by the use of the elbow coupling (lower connection port of the pump).

Use the projecting pins in the pump frame and fasten it to the lid by the use of the M8 thumb screws.

Fasten delivery hose to the upper connection port of the pump.

Air supply

Connect the air regulator to the air inlet of the pump and connect the air supply hose.



Figure 1: Pump connection parts

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Installation



Figure 3: Elbow suction connection

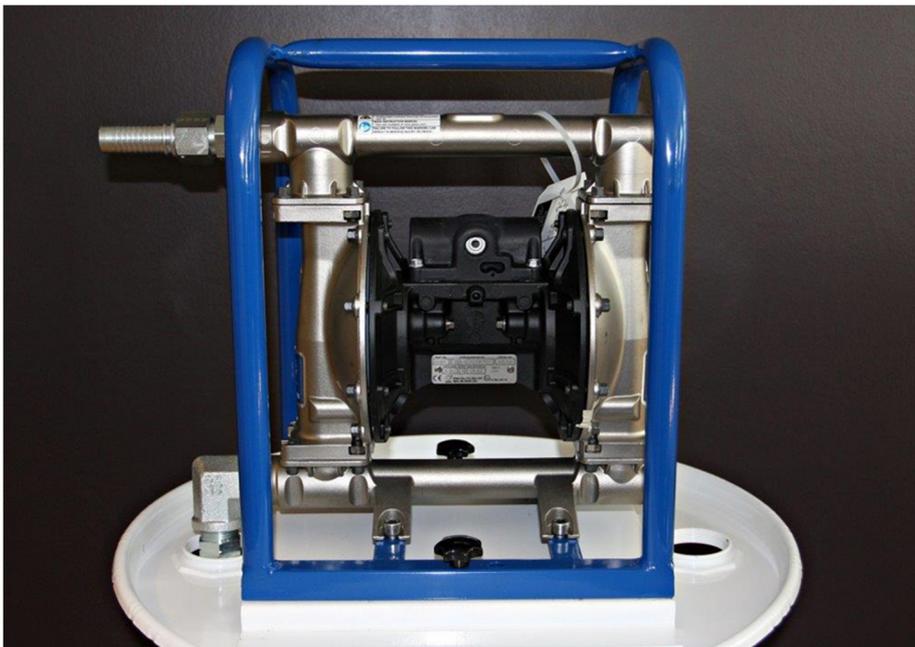


Figure 2: Pump mounted on the tank lid

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Safety Precautions

NOTE! For guidance and handling of chemicals that are being used with the Unitor chemical cleaning unit always refer to the chemical Product- and Safety Data Sheet and wear appropriate personal protective equipment (PPE).

Acidic cleaning chemicals

Acidic cleaners e.g. Unitor Metal Brite, Metal Brite HD, Descalex, Descaling Liquid, Disclean have to be handled with care. Never pour water into the acid. When dissolving or diluting, always add acid slowly to the water, stirring / mixing constantly to avoid splashes and heating of substance.

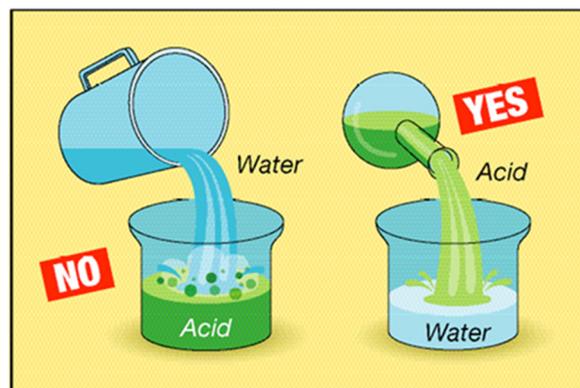


Figure 5: Acid to water

Descaling

Reaction products from acid components in descaling products may include gases like carbon dioxide (**suffocation hazard**) and hydrogen (**explosive atmosphere**)!

NOTE! Handle with care and pay special attention to **Safety Data Sheet** and **product label**.

Use **personal protective** equipment (PPE) as recommended. Reaction products from acid components in **descaling products may include gasses like carbon dioxide and hydrogen**.

Formation of hydrogen gas can be monitored with gas detection equipment on the vents.

To avoid suffocation and potentially explosive atmosphere, gasses should be removed safely by purging system with water after draining the cleaning solution.

Vent of system during descaling operations must be provided for same reason.

Always use gas detection equipment to check that the atmosphere is safe before entering confined spaces for inspection after descaling operations.

When circulating the descaling solution, always circulate with inlet at the bottom to avoid air pockets and potential entrapment of gaseous reaction products.

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Safety Precautions

Solvent based cleaners

Solvent based cleaners e.g. Unitor Seaclean, Seaclean Plus, Coldwash HD, Carbon Clean LT, Carbon Remover or Electrosolv-e have to be handled with care when being heated. The **flash point** is indicated in the relating **Safety Data Sheet** and has to be checked prior commence the heating operation. Heating above or even close to the flash point is a **fire hazard** and must be strictly prohibited.

Maintenance

Cleaning the unit

Subsequently after each use empty the chemical cleaning unit, remove debris from strainer and tank.

Rinse all components with fresh water, flush before fluid can dry in the equipment, when an acid has been used flush all components with a neutralising rinse of 0.5% Alkalinity Control.

Before each use, check all hoses for wear or damage and replace as necessary. Check to be sure all threaded connections are tight and leak-free. Check fasteners, tighten or re-torque as necessary.

NOTE! Never use the Chemical Cleaning Unit for storage of chemicals.

Spares and Accessories

765651	Heating element for Chemical Cleaning Unit
777991	DOUBLE DIAPHRAGM PUMP 1050 Stainless Steel
729461	HOSE NIPPLES F. 1050 AND 1040 PUMPS
778173	SST SEAT FOR 1050 ALU, POLY AND SST
778171	TEFLON BALL FOR 1050 ALU, POLY, SST
191890	40 UPM PLUG 1/2" MALE BSP.T
191692	40 USH SOCKET 1/2" HOSE
671768	AIR HOSE 1/2", RUBBER
671735	AIR HOSE 1", PVC

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UNITOR Chemicals

Cleaning Chemicals

The Unitor Chemical Cleaning Unit can be used in conjunction with the following Unitor chemicals:

571653	DESCALING LIQUID 25 LTR
571687	DISCLEAN 25 LTR
571646	DESCALEX 25 KG
571661	METAL BRITE 25 LTR
571679	METAL BRITE HD 25 LTR
571406	SEACLEAN 25 LTR
654715	SEACLEAN PLUS 25 LTR
571430	COLDWASH HD 25 LTR
575696	CARBONCLEAN LT 25 LTR
571604	CARBON REMOVER 25 LTR
765018	ENVIROCLEAN 25 LTR
575613	AQUABREAK PX 25 LTR
607826	AQUATUFF 25 LTR
756254	ALKLEEN LIQUID 25 LTR
698704	ACC PLUS 25 LTR
764452	AIR COOLER CLEANER 25 LTR
770727	UNITOR ULTRACIP 25 LTR
604389	ELECTROSOLV - E 25 LTR
624932	COMMISSIONING CLEANER 25 LTR
736975	UNIPOL 25 LTR

