

ACC PLUS

Non Toxic Cleaner for Air Coolers and Turbochargers

Product Description

ACC Plus is a powerful cleaning agent for cleaning of diesel engine air coolers, scavenging air systems and the compressor side of turbochargers. ACC Plus is a microemulsion type cleaner, where a synergistic blend of biodegradable surfactants and low toxicity solvents replace the use of the harmful solvents traditionally used in air cooler cleaners, without reducing the cleaning performance. It is formulated to meet the latest environmental standards, and is non toxic both to the environment and to persons handling it. ACC Plus contains no chlorinated or aromatic hydrocarbon solvents, nonyl phenol ethoxylates or other substances harmful to the environment.

Directions for Use

Recirculation method in-situ

For this cleaning procedure the engine needs to be stopped and secured. Permanently installed spray nozzles in combination with a cleaning solution tank and pump, such as the Unitor Chemical Cleaning Unit should be used. It is advised to blind off the cooler outlet. Properly mix water and 10-30% ACC Plus, depending on the severity of the contamination, in the tank. Connect the pump's outlet to the nozzle assembly and the air cooler drain to the tank. Start the pump and spray the solution through the nozzles over the entire surface of the cooler and drain back to the tank. Circulate the solution for a period of 1 to 6 hours. After cleaning, rinse with fresh water. Remove the outlet blind and disconnect the pump and tank loop.

Soaking Method In-situ

For this cleaning procedure the engine needs to be stopped and secured. Blind off the cooler outlet and flood the cooler with a solution of 10-30% ACC Plus in water depending on the severity of the contamination. Soak for a period of 1 to 6 hours and drain to slop tank. Agitation by means of steam or compressed air will improve the cleaning effect. After cleaning, rinse with fresh water. Remove outlet blind and close drain.

Out of Service Cleaning:

Soak bath method

Remove the cooler from the engine and place in a soak bath filled with a solution of 10-30%

ACC Plus in water for a period of 1-6 hours. Agitation by means of steam or compressed air will improve the cleaning effect. After cleaning rinse with fresh water and reinstall the cooler. This method is also suitable for machine parts with stubborn carbon deposits.

Hand Spray Method

For this cleaning procedure the engine needs to be stopped and secured. Open the inspection cover on top of the cooler and the drain valve. Spray undiluted ACC Plus into the tube nest, with e.g. a Unitor Jet Spray Unit, and allow to penetrate into the deposits for a minimum of 1 hour. Rinse thoroughly with a high pressure jet such as a Unitor High Pressure Machine. Close inspection cover and drain.

In-service Cleaning

The general principle is to inject a solution of ACC Plus into the air trunking upstream of the charge air cooler followed by a clean water rinse. For efficient cleaning of air coolers, it is necessary to use correctly installed dosing and injection equipment. To calculate the amount of solution required to clean an air cooler, calculate or find the cross-sectional area of the cooler and use 3 litres of cleaning solution per square metre or as table below:

Engine HP.	Solution mix. with 25% ACC Plus
6,000 to 12,000	3 litre mix
12,000 to 24,000	4.5 litre mix
24,000 or more	6 litre mix

For in-service cleaning of air coolers and the air-side of turbochargers, a solution of 25% ACC Plus in freshwater is recommended. The appropriate dosage of cleaner is then placed in the dosing pot and injected up stream of the air cooler for a period of 10 minutes. After a further 10 minutes, a similar quantity of fresh water is injected to rinse off the emulsified deposits. Rate and frequency of application depends mainly on the condition of the air coolers. However when starting with the use of ACC Plus, recommended injection is every 24 hours. After the initial cleaning period, the cleaning effect should last for 48 hours of operational time. Although frequency of cleaning may vary, the calculated cleaning dose should remain the same. This cleaning method is only recommended when approved by the engine manufacturer!

Unitor Air Cooler Cleaner Injection System

Tests show that vessels correctly using this type of injection equipment with chemical cleaners such as ACC Plus, suffer no degradation of cylinder liner lubrication and liner wear rates are not increased. As the Air Cooler size and position, (baffle plates etc.) vary from engine to engine, the engine manufacturer should be consulted before installation. Large engines will normally require two injectors per cooler, but one injector is usually sufficient for medium and small engines.

See also next page

Product Properties

APPEARANCE: Pale yellow liquid

DENSITY, in g/cm³ at 15°C: 1.0

FLASH POINT, (PMCC) in °C: Above 61

pH, in conc: 9

COMPATIBILITY:

Metal: No effect

Rubber: May swell

Synthetic rubber: May swell.

PACKAGING: Product No.	Size (in litres)	Container
651 698704	25	Plastic

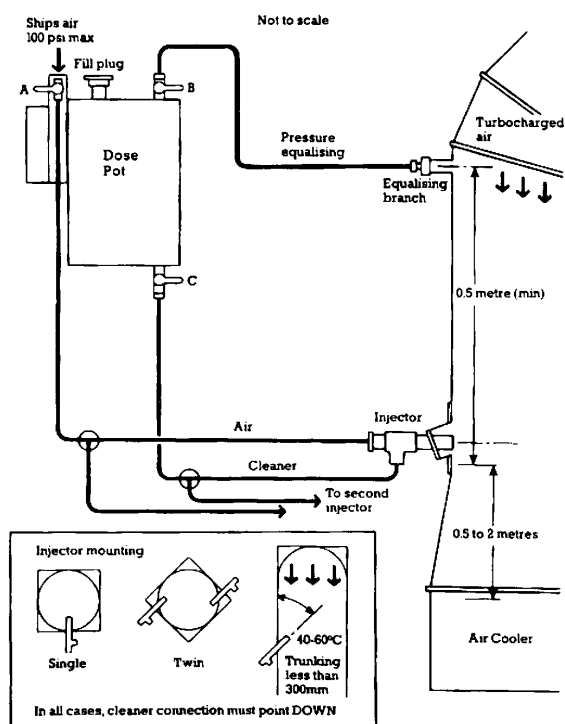
Features, Benefits and Applications

- Meets the latest environmental standards
- Equal cleaning performance to traditional cleaners based on harmful chlorinated solvents
- Low toxicity, low evaporation and pleasant smell
- Formulated to remove oil, grease and carbon deposits from air coolers and scavenging systems
- Efficient and economical
- Maintains, stabilises and maximises air cooler efficiency
- Leaves no residue and has no harmful effect on engine.
- Can be used for handspray cleaning while diesel engine is stationary
- Ideal for use in soak bath or cleaning tanks, such as the Chemical Cleaning Unit and the Ultrasonic Bath

Read the Material Safety Data Sheet before using this product

For detailed information on safety and health, please refer to Material Safety Data Sheet and/or Product Label

Wilhelmsen Ships Service or any associated or subsidiary company's warranties of fitness and merchantability, if any, as well as any expressed warranties regarding this product shall not be effective or actionable unless the goods are used as directed herein and in no other manner due to potential hazards from improper use of the goods described herein.



NOTE: Always consult the engine manufacturer before installing the injectors.