KÄRCHER

futuretech

Product Group 1
Protection Systems

ISO 9001 Certified Quality Assurance System No. FM 12810

AQAP 110

1.5.2 MPDS

Multi Purpose Dcont System



Diesel-powered Multi-Purpose Decontamination System (MPDS)

The MPDS module is a follow-on development of the NATO high-pressure cleaning and decontamination system "KÄRCHER HDS 1200 BK" which is being used worldwide by more than 40 armed forces, 12 of these appertaining to NATO-countries. Due to modular construction, it is of universal use, either as an independent single unit or incorporated in a more complex system.

■ The MPDS module operates at temperatures from -30°C to +60°C. For optimal functioning under arctic conditions, oil and air are preheated. The water supply functions in a self-sucking way up to 5 m height: from creeks, rivers, hydrants or water tanks. As to the navy, operation with sea water is also granted (sea-water-resistant high-pressure pump).

■ According to military requirements with a high degree of interference suppression. Diesel supply for burner and Diesel engine is done from an exchangeable can. The supply with chemicals via the high-pressure pump is infinitely variable up to 60 l/h.

■ All functions are controlled by a central control panel. Temperature is infinitely variable from cold water, hot water and hot steam to dry steam (from 0°C to 210°C).



KÄRCHER, the most important producer of high-pressure cleaning systems in the world has furnished landforce air force,navy, civil protection and disaster control organizations for more than 25 years with steam cleaners, high-pressure cleaning systems and decontamination systems.

Universal use due to high technology

MATERIAL DECONTAMINATION

Deradiation

Hot-foam treatment ensures safe deradiation. Hot foam is sprayed onto the surface at a temperature of 80°C by means of the MPDS and a foam nozzle. The agent contained in the foam (RM54 and inhibitor) complexes the radioactive particles. After a reaction time of approximately 10 minutes the fallout and other particles (e.g. dirt, pollution) are rinsed with the highpressure jet (only MPDS)' without foam nozzle. Only hotfoam treatment ensures full deradiation of material.





Disinfection

Fast disinfection can be solved with or without specific agents. The scope of temperatures of the MPDS is adjustable up to 210°C. Exterior disinfection is done at 140ºC using a disinfecting agent (RM35, quarternary ammonium compounds) if required. Interior disinfection of buildings, vehicles, etc., is done at 210°C dry steam.



Decontamination

Sensitive military systems, e.g. planes, helicopters, etc are decontaminated by high-pressure hot-water spray jets (80°C) and non-aggressive decontamination agents. For helicopters it is recommended to apply the preventive NBC hot-wax coating system by the MPDS so as to avoid penetration of chemical agents into the varnish.

■ As to material decontamination, e.g. tanks, vehicles, etc., the MPDS is used for pre-treatment (cold-water high-pressure cleaning).

■ To optimize the decontamination result, follow-on with steam (140°C) is required.





DECONTAMINATION OF CLOTHING AND EQUIPMENT

■Decontamination of clothing and equipment by hot-gas/hot-steam treatment. in case of breathable protective clothing (Overgarments) proper and deliberate full decontamination is granted through this treatment. Wash-out treatments are not suitable for full decontamination. Protective masks, weapons and rubber-made protective masks are decontaminated in the evaporating container. Over-garments, weapons, etc. are decontaminated in the decon-tamination tent.







PERSONNEL DECONTAMINATION

Soldiers of NBC-defence units decontaminate their protective suits before taking them off by means of the steam spray jet, thus avoiding self-contamination when undressing.
The MPDS is perfectly suitable for field-shower operations (e.g. in reconstitution and relief areas/facilities). The high-performance high-pressure pump ensures continuous and independent supply of the field shower from wells, hydrants, water tanks, etc.

INTERIOR DECONTAMINATION

Interior decontamination of buildings, shelters, etc. is effected at the 210°C dry-steam stage.

TERRAIN DECONTAMINATION

For a great number of decontamination tasks, a 10 percent mixture of water and chlorine solution is sufficient. This task is solved by a high-pressure injector (extra accessories).



Multi-purpose system for daily use

It was developed for many maintenance and repair tasks at vehicles, tanks, helicopters, airplanes and ships.

High- pressure cleaning of weapon systems

For cleaning tasks the MPDS can independently be used with high-pressure cold water, hot water, steam and dry steam for any maintenance and repair tasks equal to the NATO high-pressure cleaning system HDS 1200 BK (Diesel engine) or HDS 1200 EK (electric engine). According to the maintenance instructions a comprehensive range of cleaning agents is available. Military special tasks in the frame of repair works are solved by especially developed accessories.

- Fast and safe tank/container degassing with the tank/container degassing kit.
- Safe bomb-disposal with the EOD (explosive ordnance disposal) kit.
- Economic airplane cleaning of stable value with the cleaning, preservation and auxiliary de-icing kit for aircraft.
- Removing corrosion from vehicles with the sand-blasting set.
- Hot-wax preservation for storing weapon systems so as to reduce stationary damages with the MPDS and KÄRCHER hot-wax.
- De-icing of missile systems.







Technical data:

Dimensions and weight:

Length:	1250 mm	49.21 in
Width:	575 mm	22.65 in
Height:	850 mm	33.47 in
Weight with battery:	about 220 kg	about 485 lt

Performance data:

	Operating-pressure bar	psi	Flow rate l/h	gal(US)h	Jet temp. °C	°F
High-pressure stage	60	870	1450	383	cold water	
High-pressure stage	60	870	1450	383	80	176
Steam stage	19	276	740	195	140	284
Dry-steam stage	18	261	330	87	210	412
Engine	4-stroke Diesel engine, 4,2 kW at 3000 rpm					
High-pressire pump, self-sucking Max. sucking height				5 m		17ft
Fuel consumption: Diesel engine Burner				max.1.2kg/h 11.5 kg/h		27lb/h 25.0lb/h
Heating performance/burner:				420,000 kJ	398,083 BTU	
Fuel:	summer diesel /winter diesel (Alaska Diesel)					
Agent consumption:				0-60 1/h	0-16 gal(US)h	
Voltage:					12V	

Technical description:

The air-cooled Diesel engine drives the high-pressure pump, supplying the module with electric energy via a topped generator. The Diesel engine has a performance of 4.2 kW at 3000 RPM. The engine is automatically started by a maintenance-free battery. If necessary, it can also be started manually. The Diesel engine is connected with the pump through an electromagnetic clutch. If the spray gun is shut off, engine and pump are disconnected from each other by the pressure switch. In operation, when the spray gun is open, the pressure switch starts the electromagnetic clutch. This is energy-saving, protects the engine and considerably increases the lifetime of the entire system.
The special burner system is marked by its high heating performance, its simple but fully automatic operation and its environmental features. The burner system operating at reverse current is heated by Diesel fuel.

The temperature control regulates the burner. The Diesel consumption is controled by a circuit system. For water heating, Diesel is injected into the burner. When the burner is out of operation, the Diesel flows back into the fuel can. The burner has a heating performance of 420,000 kJ consuming 11.5 kg Diesel/h. The above-mentioned heating performance is sufficient to increase the water temperature supplied by the high-pressure pump up to 210°C thus being in a position to generate dry steam. The flame is controlled by a photoelectric monitor. In case the flame extinguishes due to failure, Diesel supply is automatically stopped and the disturbance is indicated at the control board. The main components of the module are integrated in an aluminium frame. These are: driving engine, high-pressure pump, heat exchange unit and control board.

NATO Supply No.
4940-12-322-1731

MPDS with standard accessoires, Order no. 1.704-130

Standard accessories:

	Part NumbEer
High-pressure hose, 10 m, NW 10	6.388-814
Hand spray gun	4.775-010
Spray lance 1040 mm	4.760-049
Nozzle holder	4.764-012
Nozzle 0°	6.415-299
Nozzle 25°	6.415-172
Calcium inhibitor, 5 1	2.780-003
Can, 20 l (for fuel)	6.393-010
Dry-steam safety valve	4.749-040
Suction hose, 7.5 m, NW 19	4.440-297
Suction basket	4.734-010

Extra accessories:

	Part Number
Steam hose, 9.2 m, NW 13	4.440-219
Hedgehog nozzle	5.763-002
Wheel set	2.637-377







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Please contact us for further information:

- Protection Systems
- Cleaning and Environmental Protection Systems
- Mobile Catering Systems
- Water Purification

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