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# TMAV

## TACTICAL MULTIMISSION AIR-TRANSPORTABLE VEHICLE

P/N 800010185



## INTRODUCTION

It is a *multi-functional* vehicle able to perform several kinds of operations in “flight-line” and “non-flight line” areas. This flexible multimission platform will allow deployable Decon/Detox missions as well as air-expeditionary combat service support operations.

The whole system is air-transportable with Hercules C130J and comes installed onto a vehicle that can be driven on the road.

It will be suitable to perform the following missions:

- A. CHEMICAL AND BIOLOGICAL DECONTAMINATION/DETOXICATION OF AIRPORT TRACKS/RUNWAYS AND SURFACES IN GENERAL
- B. CHEMICAL AND BIOLOGICAL DECONTAMINATION/DETOXICATION AND RN DECON OF AIRCRAFT, VEHICLES AND STRUCTURES
- C. DECONTAMINATION OF MATERIALS AND EQUIPMENTS
- D. PERSONNEL DECONTAMINATION
- E. DECONTAMINATION OF SENSITIVE EQUIPMENTS AND SURFACES
- F. FIRE-FIGHTING
- G. DEGASSING OF TANKS FROM POL (Petrol Oil & Lubricant) RESIDUES OR POLLUTING EXPLOSIVE GAS
- H. STERILIZATION OF TANKS STORING DRINKING WATER OR FOOD
- I. AIRCRAFT AND AIRPORT TRACKS/RUNWAYS AND CROSSINGS DE-ICING -  
OPTIONAL
- J. AIRPORT TRACKS/RUNWAYS AND CROSSINGS OBSTRUCTIONS REMOVER  
– OPTIONAL

**TMAV - TACTICAL MULTIMISSION  
AIR-TRANSPORTABLE VEHICLE**

**PERFORMANCE A**

**CHEMICAL AND BIOLOGICAL  
DECONTAMINATION/DETOXICATION  
OF AIRPORT TRACKS/RUNWAYS AND  
SURFACES IN GENERAL**

**PERFORMANCE: 10.000 m<sup>2</sup>/h (107.642 SqFt)**

**with standard accessories**



Decontamination speed: 2,5 km/h (1,56 mph)  
Decontamination width: 5 m. (16,4 ft)

# TMAV - TACTICAL MULTIMISSION AIR-TRANSPORTABLE VEHICLE PERFORMANCE B

## CHEMICAL AND BIOLOGICAL DECONTAMINATION/DETOXIFICATION AND RN DECON OF AIRPLANES, VEHICLES AND STRUCTURES

**PERFORMANCE: 3 aircraft/h – 6 vehicles/h + structures  
with standard accessories.**

With the provided accessories logistical operation such as  
sand/salt removal are possible.



Water at 90 bar – 90°C – 1020 l/h  
(1300 psi – 194°F – 270 gph)



**TMAV - TACTICAL MULTIMISSION  
AIR-TRANSPORTABLE VEHICLE  
PERFORMANCE C**

**DECONTAMINATION OF MATERIALS  
AND EQUIPMENTS (BY MEANS OF  
STEAM OR BY CHEMICALS  
MULTIVALENT CBRN DECON/DETOX  
PRODUCT BX 24)**

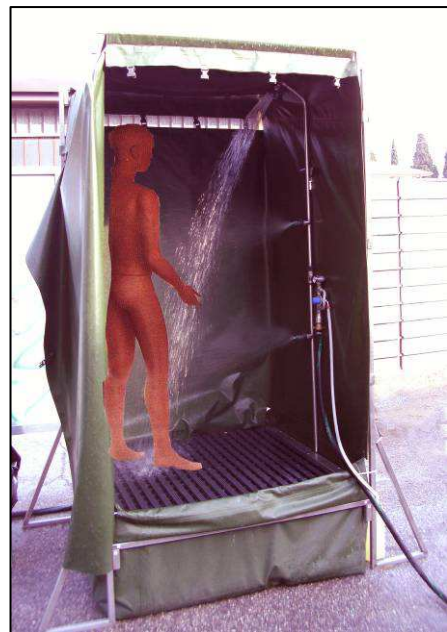
**PERFORMANCE: materials for 80-100 people/h  
with standard accessories**



# TMAV - TACTICAL MULTIMISSION AIR-TRANSPORTABLE VEHICLE PERFORMANCE D

## PERSONNEL DECONTAMINATION

**PERFORMANCE: 30 people/h max.**  
**with standard accessories**



Hot water: 3 bar – 34°C – 3000 l/h

(45 psi – 93-97°F – 793 gph)

with BX 29 decontaminant product or BX 24 detoxificant product.

# TMAV - TACTICAL MULTIMISSION AIR-TRANSPORTABLE VEHICLE

## PERFORMANCE E

### DECONTAMINATION OF SENSITIVE MATERIALS AND SURFACES

**PERFORMANCE: 100 m<sup>2</sup> (1076,42 SqFt) of sensitive surfaces  
with standard accessories**



# TMAV - TACTICAL MULTIMISSION AIR-TRANSPORTABLE VEHICLE PERFORMANCE F

## FIRE-FIGHTING

with standard accessories



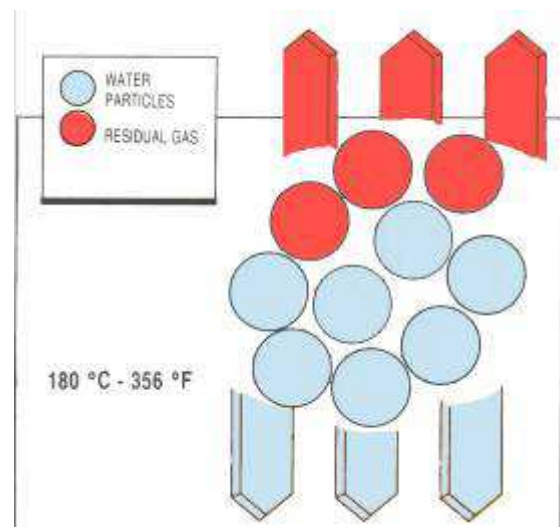
Length of water  
Water output:  
Pressure: 3÷5 l



# TMAV - TACTICAL MULTIMISSION AIR-TRANSPORTABLE VEHICLE PERFORMANCE G

## DEGASSING OF TANKS FROM POL (Petrol Oil & Lubricant) RESIDUES AND POLLUTING EXPLOSIVE GAS

with standard accessories



Saturated steam at 180°C – 368 l/h – 20 bar  
(360°F – 27,33 gph – 290 psi)

# TMAV - TACTICAL MULTIMISSION AIR-TRANSPORTABLE VEHICLE PERFORMANCE H

## STERILIZATION OF TANKS STORING WATER OR FOOD

with standard accessories



Saturated steam at 180°C – 368 l/h – 20 bar  
(360°F – 27,33 gph – 290 psi)



**TMAV - TACTICAL MULTIMISSION  
AIR-TRANSPORTABLE VEHICLE  
PERFORMANCE I  
OPTIONAL  
AIRCRAFT AND AIRPORT TRACK /  
RUNWAYS AND CROSSING DE-ICING -**

**PERFORMANCE: 3 fighters or 1 C130J  
with standard accessories**



Hot water mixed to ADF product:

- Pressure 10 bar (1Mpa – 145 psi)
- Output 30 l/min. (7,92 gpm)
- Temperature 85°C (185°F) max.

The TMAV system guarantees the operational capability, being able to use mixtures of ADF already prepared.

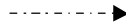
**The Trailer support unit (optional)** with its accessories allows, even when electricity is not available, the preparation of about 600 liters (158.5 US gal) of ADF mixture heated till to 85°C (185°F) to supply the TMAV system.

With the Trailer support unit the TMAV system increases the operational capacity from 1 aircraft C130J till to 3



**TMAV - TACTICAL MULTIMISSION  
AIR-TRANSPORTABLE VEHICLE  
PERFORMANCE J  
OPTIONAL  
AIRPORT TRACK / RUNWAYS AND  
CROSSINGS OBSTRUCTIONS  
REMOVER (e.g. SNOW/SAND REMOVAL)**



**with standard accessories**








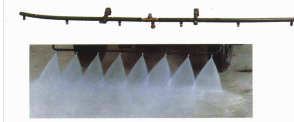


It allows the preparation of the runway and the removal of obstacles.  
This will allow tactical preparation of field runway and related flight operations (e.g. snow removal)

Clearing opening: approx. 2200 mm  
Aileron height (front): approx. 700 mm

**SUMMARY TABLE OF MAIN SUBSYSTEMS AND ACCESSORIES  
FOR MULTIFUNCTIONS USE OF TMAV SYSTEM**







ITEM	Q.ty	COMPONENTS AND ACCESSORIES	P/N NATO Stock Number	IMAGE COMPONENT
1	1	<p><b>VEHICLE</b> Equipped of:</p> <ul style="list-style-type: none"> <li>- Engine: 4 cylinder turbo-diesel common rail, 170 HP (125 KW) - 400Nm (295 lb ft), 3000cc (183 in3), EURO 5</li> <li>- Water cooled;</li> <li>- 6 speed gear, manual, with 2 ratio reduction box, capable of ensuring the manoeuvrability at low speed (up to 33 metre/minute) in airport areas and during aircraft safe approach;</li> <li>- 4x4 wheel drive;</li> <li>- Max. speed: 90 km/h (55,9 mph)</li> <li>- Wheelbase: 3.700 mm (145,67 in)</li> <li>- Max. GVW 6000 kg. (13.224 lb);</li> <li>- Max. payload 3300 Kg (7275,25 lb)</li> <li>- Max. width: 2050 mm. (80,7 in.)</li> <li>- Max. height 256 mm. (8,39 ft)</li> </ul>	---	
2	1	<p><b>AERIAL PLATFORM</b> with the following characteristics:</p> <ul style="list-style-type: none"> <li>- Working height 13÷14 m (45,9 ft)</li> <li>- Basket load capacity: 140 kg. (308,6 lb)</li> <li>- Height of basket floor: 10 m. (32,8 ft) from the ground</li> <li>- Total rotation of boom and basket: + 90° around the vehicle axis</li> <li>- Allows tactical operations of flight support (decontamination, ordinary maintenance as aircraft tactical cleaning, de-icing – optional) with an operator in the basket, also when the vehicle is moving near the aircrafts:</li> <li>- Equipped with devices capable of guaranteeing the safeguard of the aircraft surfaces from eventual accidental collisions and impacts.</li> </ul> <p>Tactical operations are performed with a minimum constant speed of 33 metre/minute (2 km/h – 1,24 mph) and a maximum speed of 41 metre/minute (2,5 km/h – 1,55 mph).</p>	---	



ITEM	Q.ty	COMPONENTS AND ACCESSORIES	P/N NATO Stock Number	IMAGE COMPONENT
3	1	<p><b>TANK</b> Stainless steel with a capacity of 400 l. (105,7 US gal) to contain water to carry out the tactical operations in support of the flight or for the containment of the mixture of ADF, premixed and preheated, for DE-ICER operations. In order to keep ADF mixture hot, the tank is equipped with a suitable heat input system supplied by the components provided on the TMAV system.</p>	---	
4	1	<p><b>MODULE TO DELIVER FLUIDS (E.G.: WATER, ADF MIXTURE, ETC.) FOR AIRCRAFT TACTICAL OPERATIONS</b> With an output of 30 litre/minute (7,9 gpm) at the pressure of 10 bar (1 MPa – 145 psi). ADF specific pumping circuit, able to improve its characteristics.</p>	---	
5	1	<p><b>TRAILER SUPPORT UNIT FOR TMAV SYSTEM (FOR DE-ICER OPERATIONS) - OPTIONAL</b> With its accessories allows, even if no electricity is available, the preparation of about 600 litres (158.5 USgal) of ADF mixture heated till to 85 ° C (185 ° F) to supply the TMAV system. With the Trailer of support the TMAV system increases the operational capacity from 1 aircraft C130J till to 3.</p>	---	

ITEM	Q.ty	COMPONENTS AND ACCESSORIES	P/N NATO Stock Number	IMAGE COMPONENT
6	1	<p><b>SANIJET C. 921</b> SANIJET C. 921 EQUIPMENT OF LARGE CAPACITY, FOR CBRN DECONTAMINATION OF PEOPLE MATERIALS AND VEHICLES.</p> <p>FOR MORE INFORMATION, PLEASE CHECK OUR TECHNICAL DOCUMENTATION UP 948.</p>	<p>800020030 4230-15-157-5553</p>	
7	1	<p><b>SANIJETGUN LANCE.</b> EXCLUSIVE SYSTEM FOR CARRYING OUT THE FOLLOWING OPERATIONS: - PREWASHING - DETOXIFICATION / DECONTAMINATION - RINSING WITH ONLY ONE OPERATOR. IT CAN BE USED WITH DIFFERENT DECONTAMINANT PRODUCTS, INCLUDED OUR BX 24.</p> <p>FOR MORE INFORMATION, PLEASE CHECK OUR TECHNICAL DOCUMENTATION UP 873.</p>	<p>240289 4230-15-116-6386</p>	
8	2	<p><b>SAM 115M</b> Bar for the biological and chemical decontamination of airport tracks with a maximum width of 5 metres (16,4 ft). The system is completed of hydrodynamic MIXER and supplied by SANIJET C. 921 system.</p> <p>FOR MORE INFORMATION, PLEASE CHECK OUR TECHNICAL DOCUMENTATION UP 952.</p>	<p>99065 4230-15-157-8932</p>	
9	1	<p><b>PSDS/10 MIL</b> Portable apparatus for chemical and biological decontamination/detoxification, for immediate intervention.</p> <p>FOR MORE INFORMATION, PLEASE CHECK OUR TECHNICAL DOCUMENTATION UP 979</p>	<p>240407 4230-15-170-4160</p>	
10	1	<p><b>PRNDS/12 MIL</b> Portable system for radiological and nuclear decontamination, for manual use.</p> <p>FOR MORE INFORMATION, PLEASE CHECK OUR TECHNICAL DOCUMENTATION UP 1001.</p>	<p>950090195 4230-15-199-5663</p>	

ITEM	Q.ty	COMPONENTS AND ACCESSORIES	P/N NATO Stock Number	IMAGE COMPONENT
11	1	<p><b>TSDM</b> TACTICAL STEAM DECON MODULE – CAMP SHOWER FOR PEOPLE DECONTAMINATION.</p> <p>FOR MORE INFORMATION, PLEASE CHECK OUR TECHNICAL DOCUMENTATION UP 1226</p>	<p>958090351 4230-15-195-4570</p>	
12	1	<p><b>KIT</b> TO APPLIED TO THE TSDM CAMP SHOWER P/N 958090351, FOR THE DECONTAMINATION/DETOXIFICATION OF MATERIALS AND EQUIPMENTS.</p> <p>FOR MORE INFORMATION, PLEASE CHECK OUR TECHNICAL DOCUMENTATION UP 1226</p>	<p>958090410</p>	
13	1	<p><b>SHOWER MIXER</b> TO SUPPLY THE TSDM – TACTICAL STEAM DECON MODULE SHOWER OR THE FIRE FIGHTING LANCE</p>	<p>240265 4230-15-157-8921</p>	
14	1	<p><b>HOSE</b> WITH A LENGTH OF 15 METRE TO WORK WITH HIGH PRESSURE WATER AT 200 BAR (20 MPa – 2900 psi) AND SATURATED STEAM AT 180°C (356°F) 18÷20 BAR (1,8÷2 MPa - 261÷290 PSI) TO CONNECT ALL ACCESSORIES.</p> <p>THE OPERATOR SHALL NOT CHANGE THE HOSE TO PASS FROM THE HIGH PRESSURE TO THE STEAM, BY ENSURING THE MAXIMUM SAFETY.</p> <p>FOR MORE INFORMATION, PLEASE CHECK OUR TECHNICAL DOCUMENTATION UP 1188.</p>	<p>075010204 4720-15-157-8926</p>	
15	1	<p><b>WATER TANK</b> FLEXIBLE WITH A CAPACITY OF 1000 l. (264,2 USgal) FOR CLEAN WATER.</p> <p>FOR MORE INFORMATION, PLEASE CHECK OUR TECHNICAL DOCUMENTATION UP 1048.</p>	<p>056010506 5430-15-157-8923</p>	



ITEM	Q.ty	COMPONENTS AND ACCESSORIES	P/N NATO Stock Number	IMAGE COMPONENT
16	1	<p><b>SX 34 SYSTEM</b> FOR THE DECONTAMINATION OF SENSITIVE SURFACES.</p> <p>FOR MORE INFORMATION, PLEASE CHECK OUR TECHNICAL DOCUMENTATION UP 1091.</p>	<p>958090183 6850-15-203-0546</p>	
17	1	<p><b>FIRE FIGHTING LANCE</b> OUTPUT 35 LITRE/MINUTE – JET OF 20 M. (9,2 gpm – 65,6 ft)</p>	<p>085010421 9999-15-157-8941</p>	
18	2	<p><b>FIRE EXTINGUISHER</b> ABC of 6 kg. (point 5.9, EN 12.12-6 standard)</p>	<p>240189</p>	
19	1	<p><b>SAM 130M</b> NOZZLE FOR DEGASSING WITH STEAM AT 180°C (356°F) – 18÷20 BAR (1,8÷2 MPa - 261÷290 PSI) TANKS CONTAMINATED BY POL (Petrol Oil &amp; Lubricant) RESIDUES OR POLLUTING EXPLOSIVE GAS. SUITABLE ALSO FOR STERILIZATION OF TANKS STORING DRINKING WATER OR FOOD</p>	<p>240254 4230-15-110-6882</p>	
20	1	<p><b>AIRPORT TRACKS/RUNWAYS AND CROSSINGS OBSTRUCTIONS REMOVER (e.g. SNOW, SAND) - OPTIONAL</b></p> <p>SHOVEL TO BE INSTALLED IN THE FRONT OF THE VEHICLE.</p>	<p>---</p>	
21	1	<p><b>BX 24</b> DECONTAMINATION AND DETOXIFICATION PRODUCT FOR MATERIALS AND VEHICLES. Packing of 25 kg. (55 lb).</p> <p>FOR MORE INFORMATION, PLEASE CHECK OUR TECHNICAL DOCUMENTATION UP 899 – 901 AND 927.</p>	<p>240243 6810-15-149-4789</p>	

ITEM	Q.ty	COMPONENTS AND ACCESSORIES	P/N NATO Stock Number	IMAGE COMPONENT
22	1	<b>BX 29</b> DECONTAMINATION PRODUCT FOR PEOPLE. Packing of 30 l. (66 lb).  FOR MORE INFORMATION, PLEASE CHECK OUR TECHNICAL DOCUMENTATION UP 983.	240240  6850-15-157-8945	
23	1	<b>BX 40</b> DECONTAMINATION PRODUCT FOR AIRCRAFTS. Packing of 30 l. (66 lb).  FOR MORE INFORMATION, PLEASE CHECK OUR TECHNICAL DOCUMENTATION UP 984.	240247  6850-15-157-8946	

**CRISTANINI is available to further customize the vehicle according to specific requirements and needs of its customer / user.**

**IN THE CONTINUAL PURSUIT OF IMPROVING ITS PRODUCTS, CRISTANINI RESERVES THE RIGHT TO CHANGE ITS TECHNICAL CHARACTERISTICS AND SPECIFICATIONS WITHOUT PRIOR NOTICE.**



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