



# DE-MINING



# Company profile

- TEAM defense industry related holdings have been in existence since 1962
- International leader in design and manufacturing of leading edge technologies including un-manned ground vehicles
- Complete production facility operated in USA , Mexico, Croatia, Columbia, Egypt, Jordan, UAE in total larger than 200,000 m2
- NATO and USA NSN Certification
- More than 450 employees in TEAM Group
- Products based on our own innovations, development and advanced military and security technologies
- Present in more than 25 countries worldwide

# Operational Methodology

- Demining tasks are carried out through the next basic activities:
- Technical Survey
- Mine Clearance
- Battle Area UXO Clearance
- Internal Quality Control
- Removal and Disposal of Mines and UXO
- Marking
- With implementation of different methods:
- Manual Mine Clearance
  - Searching with Metal Detectors
  - Prodding
  - Excavating
- Mechanical Mine Clearance
- Clearance with Mine Detection Dogs
- Combination of all of Methods above

# Core Business



- **Mine Clearance Systems and Mine Clearance Tools Production**
  - VF-100
  - VF-101
- **Demining and Decontamination Services and Training**
  - Military and Special Forces Personnel Croatia and USA

# Company Demining Capabilities

## Mechanical de-mining machines on hand

Quantity	Name	Size	Type	Capacity sq m/day	Country of origin
1	VF-001	Medium	Flail/Tiller	20.000	Germany/Croatia
3	VF-100	Heavy	Flail/Tiller	20.000	Germany/Croatia
2	MV-10	Medium	Flail/Tiller	20.000	Croatia
1	Bozena 5	Medium	Flail	12.000	Slovakia
2	MV-4	Light	Flail	5.000	Croatia
1	Bozena 4	Light	Flail	5.000	Slovakia
1	Hydrema M1520	Bagger	Flail/Brush Cutter	2.500	Germany

# Mine Detection Dog Capacity

- List of MDDs

• Vucko	Chip No.	191100000173392	German shepherd
• Vipi		985100005320752	German shepherd
• Money		191100000155818	German shepherd
• Magnum		191100000180419	German shepherd
• Belot		191100000031424	Labrador
• Beagle		191100000044676	Labrador
• Aba		191100000194720	German shepherd
• Aska		191100000212726	German shepherd
• Leidi		191100000208343	German shepherd
• Lana		191100000207541	German shepherd

- List of MDD Handlers

• Mladen Lujic	License No.	0518
• Jurica Tomljenovic		0515
• Stjepan Galic		0513
• Mihael Josipovic		0091
• Bozidar Puskaric		0129

- Capacity

- All dogs above are certified by CROMAC, more 10 dogs are prepared but not certified. Present capacity satisfies our needs in Croatia, but could be increased for other countries.
- Capacity per team is 1.500 sqm. per day.

# Key products VF-100



# Technical Data VF-100 and VF-101 (without cab)

• Length		4,825 mm	
• Length with working tool		6,630 mm	
• Width with working tool		3.080 mm	
• Height		3,150 mm	
• Weight with working tool		22,000 kg	
• Engine type		300kW	DEUTZ BF6M101
• Fuel			Diesel
• Fuel tank capacity		760 l	
• Average fuel consumption			42 l/h
• Working tool			flail/tiller
• Width			2600 mm
• Rotor diameter			1100 mm
• Number of diggers			64
• Diggers type	lion's paw		
• Space between diggers		40 mm	
• Weight			4000 kg
• Power transmission			PTO
• Transportation speed		6 km/h	
• Working speed		0.8-1.5 km/h	
• Working efficiency		2500 sqm/h	
• Depth of digging		200-400 mm	
• Direction of rotation			clockwise
• Operational method			remote control
• Ability of suppressing alongside elevation		45°	
• Ability of suppressing horizontal elevation		45°	



# Comparison chart

TECHNICAL DATA	TEAM Demining TVF001	DOK-ING MV-10	AARDVARK	HYDREMA
Country of origin	Germany/Croatia	Croatia	United Kingdom	Denmark
Design	Construction Machinery	Enlarged smaller MV-4	Construction Machinery	Construction Machinery
Description	Medium to large- scale machine combining flail or tiller options For AP and AT mines (up to 10 kg TNT)	Double tool mine clearance system For AP and AT mines	Medium flil machine	Medium flail machine
<b>a. Dimensional Data</b>				
Dimesions without flail head (L x W x H), mm	5940 x 2600 x 3795 mm (remotely operated)	4607 x 2240 x 2100 mm	3607x8400x3500	
Dimensions with flail unit (L x W x H), mm	7820 x 3610 x 3795 mm	7232 x 2975 x 2181 mm		
Weight of prime mover, kg	19,150 kg	14,000 kg	15,300 kg	
Weight of units, kg	4,800 (flail) 4,580 (tiller) 2,650 (cabin)	Flail/Tiller: 4,680 Blade/Gripper: 1,340 kg Roller: 3,730 kg		
Total weight, kg	22,600 kg (flail) 22,300 kg (tiller)	Approx. 19.000 kg	15.300kg	18.000 kg
<b>b. Driving Specifications</b>				
Transmission	Tracked	Tracked	Tracked with two wheels	Wheeled
Ground pressure, kg/cm2	0.7 (with 600 mm plates)	0.47 kg/cm2		
Hill climbing ability, °	40°	Longitudinal 37° Transversal 25°		
<b>c. Clearance performance</b>				
Number of chains/Chisels/Tools	Flail: 72 chains Tiller: 64 chisels	Flail: 44 chains Tiller: 60 chisels	Flail:72chains with striker tips	
Type of flails		More durable hammers made of Swedish HARDOX		
Working clearing speed, m2/hr: - Medium soil & vegetation - Heavy soil/dense vegetation	Light soil: 3,800 m2 Medium Soil: 2,500 m2 Heavy Soil: 1,200 m2	N/A		
Control of clearing depth	YES	Automatically adjusted	Automatically adjusted	Automatically adjusted
Depth of ground penetration, mm	AVG 350 mm - 600 mm +	Average: 350 mm Max: 600 mm	Average:200mm Max:500mm	Average:200mm Max:300mm

# VF - 101 unmanned demining machine



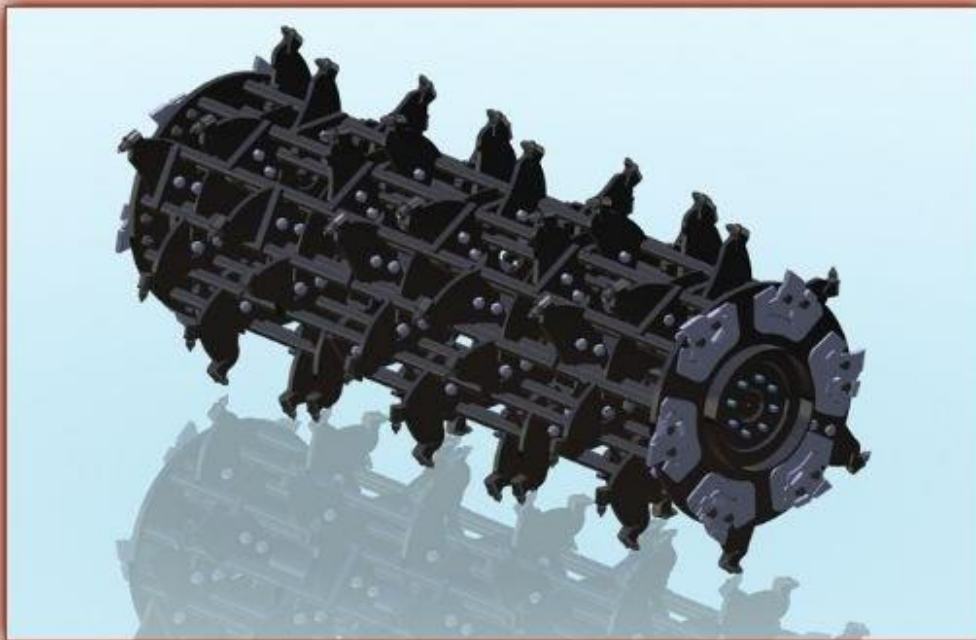
# Tool attachments



**Hard surface tiller to  
rupture and detonate**



# Tiller detail



## CURL - TYPE 2

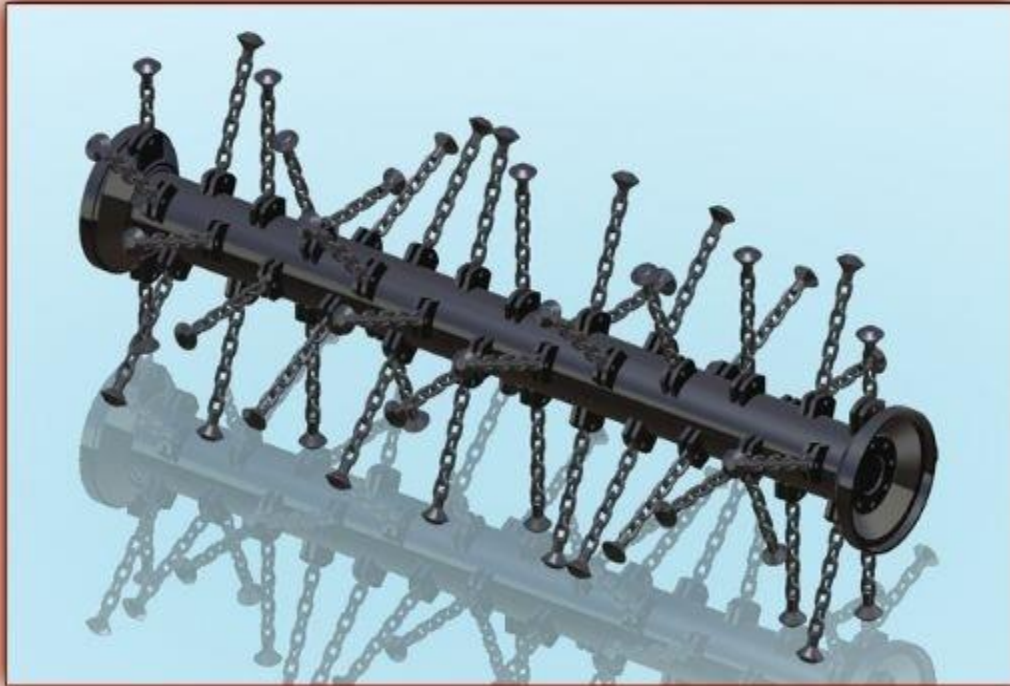
Working width: 2410 mm

Curl diameter: 1090 mm

Number of tips: 61

Space between tips: 40 mm

# Additional tool attachment



## CURL - TYPE 3

Working width: 2410 mm

Curl diameter: 1090 mm

Number of bells: 54

Space between bells: 50 mm

- FLAIL TOOL

# TEAM DE mining



- Clearing capacity of 1 000 000 m<sup>2</sup> per month



# TEAM De mining Methodology

- TEAM Demining complies to highest standards in all areas of its work. Whether you choose our company to produce demining machines for you, along with specialty tools (flails and tillers), maintenance of your demining machines or as a private contractor for mine clearance and demining jobs, we guarantee company's **responsibility, consistency, reliability and trust**.
- Our specialty is mechanical demining with demining machines from our own production – remotely controlled **VF-001** and **VF-100** with dual control (from the cabin and with the remote control system).
- Low maintenance and repair costs, reliability and rare failures guarantee effectiveness and efficiency at the lowest cost.

# Environmental and Quality Controls

## To carry out its Environmental Quality Policy, TEAM Demining:

- Ensures that our products, packaging, and operations are safe for our employees, consumers, and the environment.
- Reduces or prevents the environmental impact of our products and packaging in their design, manufacture, distribution, use, and disposal whenever possible. We take a leading role in developing innovative, practical solutions to environmental issues related to our products, packaging, and processes. We support the sustainable use of resources and actively encourage reuse, recycling, and composting. We share experiences and expertise and offer assistance to others who may contribute to progress in achieving environmental goals.
- Meets or exceeds the requirements of all environmental laws and regulations. We use environmentally sound practices, even in the absence of governmental standards. We cooperate with governments in analyzing environmental issues and developing cost-effective, scientifically based solutions and standards.
- Continually assesses our environmental technology and programs, and monitors progress toward environmental goals. We develop and use state-of-the-art science and product life cycle assessment, from raw materials through disposal, to assess environmental quality.
- Provides our consumers, customers, employees, communities, public interest groups, and others with relevant and appropriate factual information about the environmental quality of TEAM Demining products, packaging, and operations. We seek to establish and nurture open, honest, and timely communications, and strive to be responsive to concerns.
- Ensures that every employee understands and is responsible and accountable for incorporating environmental quality considerations in daily business activities. We encourage, recognize, and reward individual and team leadership efforts to improve environmental quality. We also encourage employees to reflect their commitment to environmental quality outside of work.



# TEAM DEmining results

• Cleared Area as contractor or leading partner	15,879.726 square meters
• Mine Clearance	10,743.698
• Technical Survey	5,136.028
•	
• Cleared Area as subcontractor or partner	5,314.749 square meters
• Mine Clearance	4,108.125
• Technical Survey	1,206.624
•	
• Cleared Area in total	21,194.475 square meters
•	
• Mines removed and disposed	2,741 pieces
• UXO	53,381 pieces
• Other, unidentified ERW	76 pieces

**Thank you for your attention!**