

# RAPTOR®

MOUNTED PLOUGH FOR ON LAND & IN FURROW OPERATIONS WITH  
HYDRAULIC OR MECHANICAL FURROW WIDTH ADJUSTMENT



*Made in Italy  
since 1957*



**MORO**  
**ARATRI** 



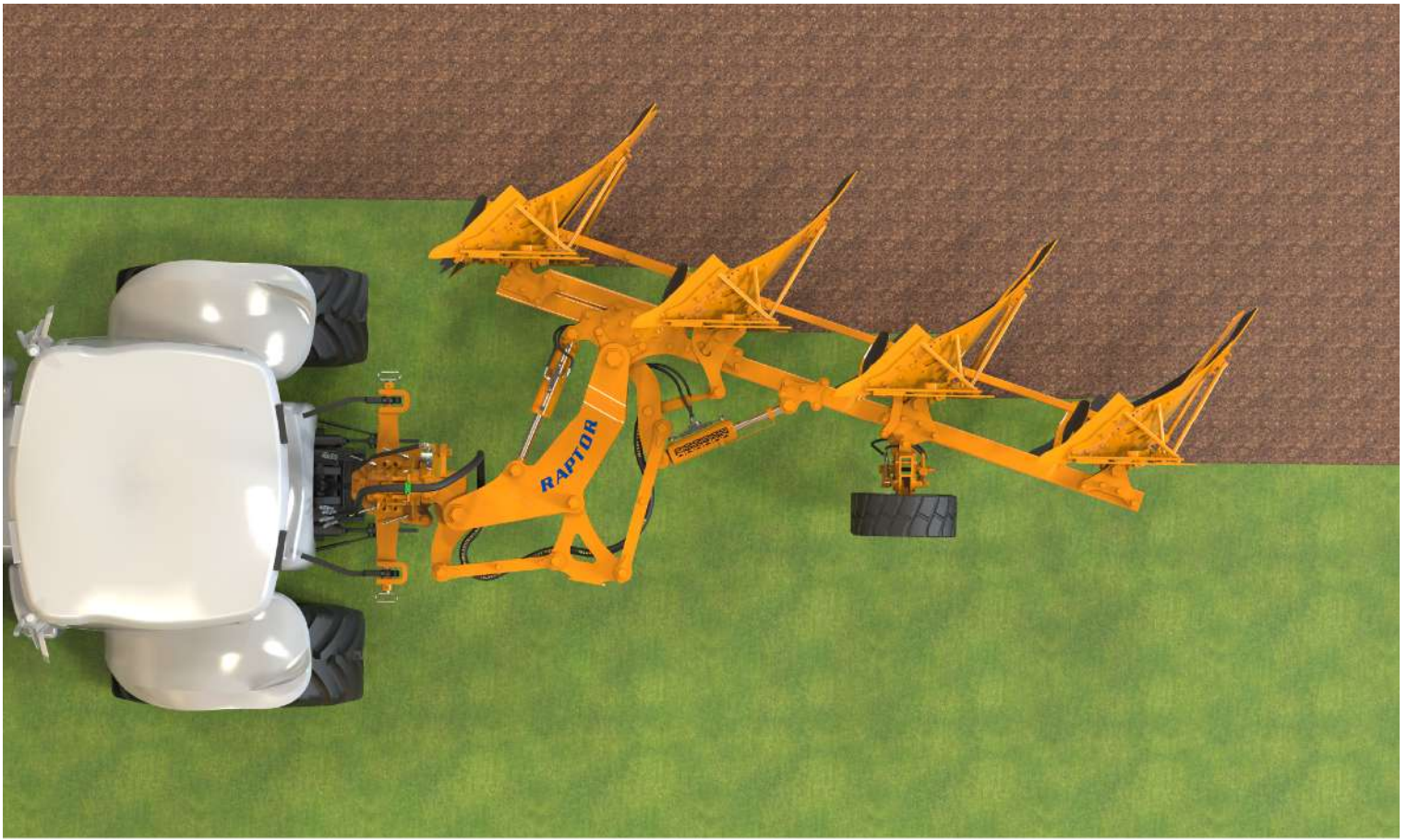
# ***RAPTOR***

It is the new generation of mounted plough for on land and in furrow operations, available in versions with 2 to 7 bodies. Characterized by an innovative and lightweight structure, but reliable at the same time, the Raptor allows both on land and in furrow ploughing, keeping a short distance from the tractor. All of this is possible due to an extraordinary geometry and the use of top raw materials.



## IN FURROW AND ON LAND

Advanced CAD software is used for design and structural analysis of these machines, with simulated performance and fatigue testing. The chassis of the Raptor plough, like all the other structural parts, is made of special steel, with a very high yield load. Coupling of the elements are made by bolts, avoiding welded joints, and all the movements are made with pins and bushing with special anti-wear treatment.

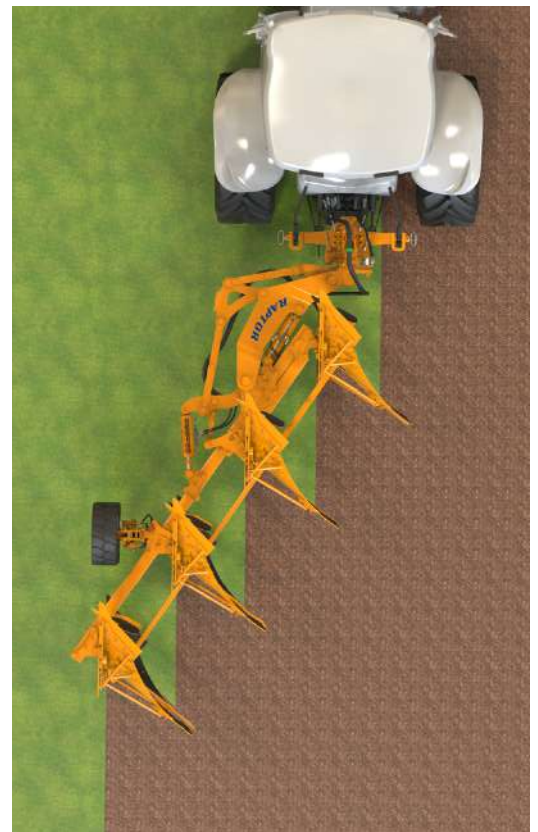


### ON LAND

The conversion from “in furrow” to “on land”, is fast and without frictions; the working width is adjustable via hydraulic actuator, and the first body re-alignment is automatic. The parallelogram geometry allows an effective lateral movement, optimizing the distribution of the forces and reducing the problems of wear of the mechanical parts. The wide excursion permits a considerable distance from the furrow and so, it is possible to work with large tractors.



**IN FURROW**



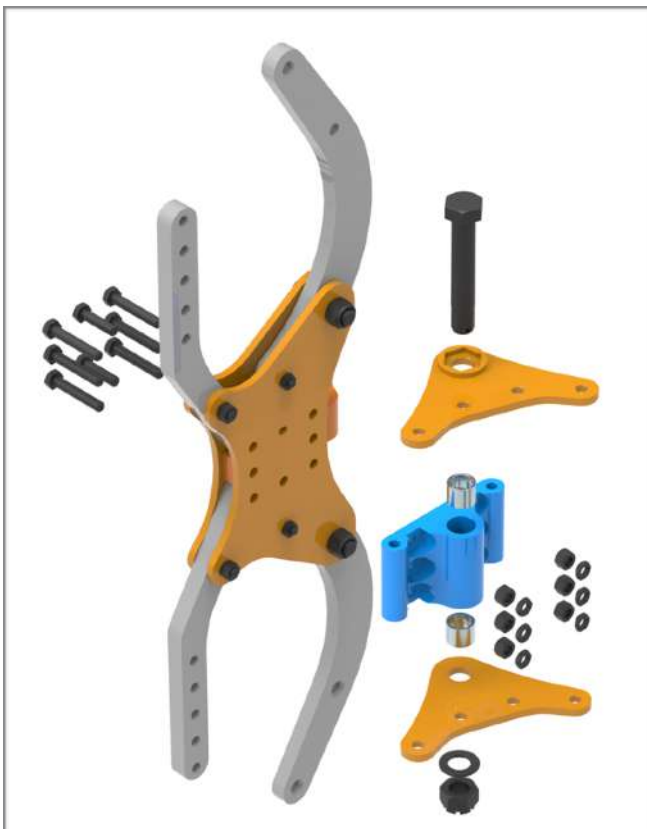
**FINISHING**



### SMOOTH WIDTH ADJUSTMENT :

By means of a double acting hydraulic cylinder, it is possible to adjust the working width continuously while working, remaining comfortably seated in the driver's seat.

On request, it is available the system with two memory functions: automatic alignment of the frame during the turn over and adjustment of the working width. The frame is pivoted and rotated, then re-adjusted to the pre-selected furrow width.



### THE CORE OF THE ADJUSTMENT:

The rotating movement of the system is entrusted to special mono-blocks in steel, without joints or welds, which hold special anti-wear bushings, ensuring high durability.



# TECHNOLOGY

**SS** STONE SYSTEM<sup>®</sup>

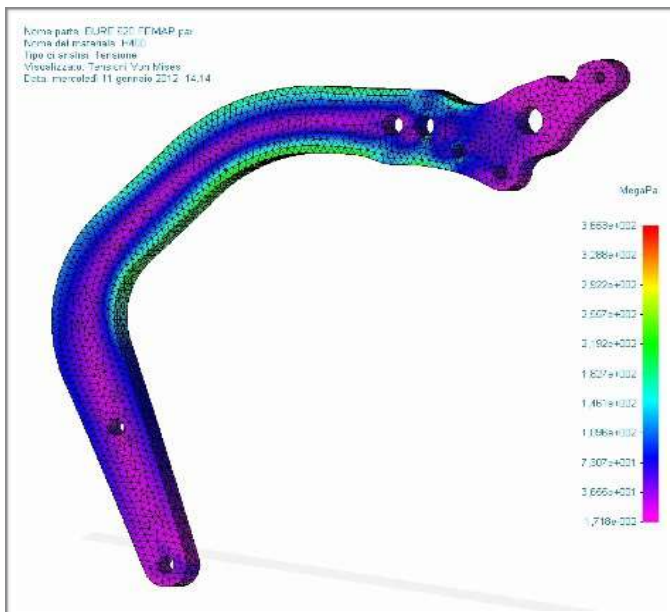
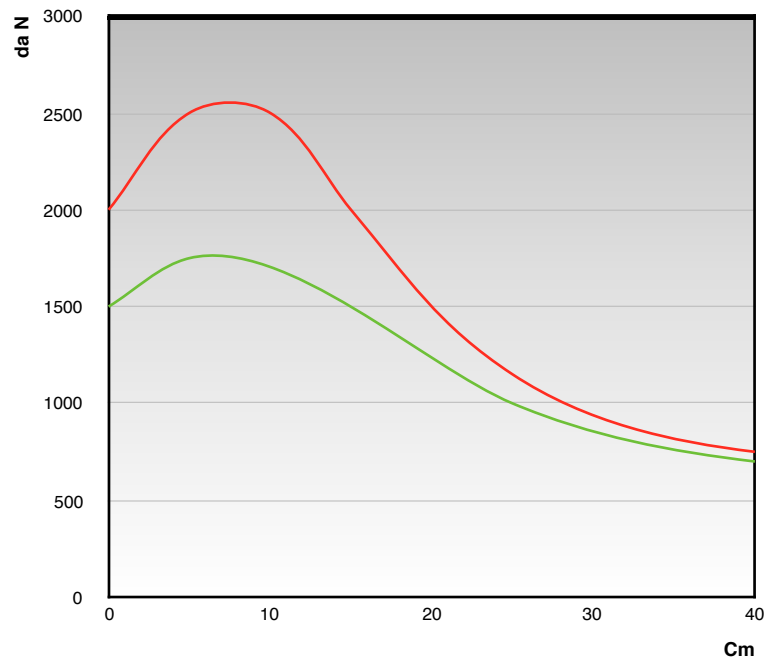


## STONE SYSTEM

The MORO Aratri non-stop security system, protects the plough from damages when a body encounters an obstacle. This ensures a safe ploughing in stony soils.

The release is soft and without shocks, with a reduction of force as the leg rises.

The triggering pressure is adjustable, thus allowing the ploughing both in tenacious and light soils, avoiding the extraction of stones.



## UNIQUE

The special shape of the leg guarantees the optimal kinematic: in case of impact, the body is quickly guided outside of the soil, overcoming the obstacle.

Special elastic steels enables also lateral movement: the STONE SYSTEM is able to absorb all the stresses and to ensure reliability and durability.



## PATENTED

Each STONE SYSTEM body is provided with a couple of hydraulic jacks which allow the system to work. Bodies are fixed with bolts to the chassis, avoiding joints and connecting rods that could affect the reliability of the plough.



STONE SYSTEM element in working position and in simulation of obstacle



The constructive solution to entrust the delicate task of safeguarding the structure to a battery of accumulators, in comparison to a single accumulator, represents an important advantage in terms of reliability. The RAPTOR STONE SYSTEM is able to continue ploughing even in case of failure of one or more accumulators. Moreover, it is possible to exclude the hydraulic device and add a couple of shear bolt.

# TECHNOLOGY

**SWHEEL  
SYSTEM**



## WHEEL SYSTEM

It is the working and transport system patented by MORO Aratri.

While converting from working to transport position and vice versa, the wheel keeps its position perpendicular to the ground. The system does not require any manual operation and, at the end of cycle, the hydraulic locking system ensures the wheel position.

Also the working depth adjustment does not require any manual operation, since it is hydraulic controlled via actuator.



The wheel can be mounted in 2 different positions:

- At the end of the plough: on each model.
- On the side: on the 3rd, 4th or 5th body.



# TECHNOLOGY

**TS** SYSTEM<sup>®</sup>  
TRANSPORT



## TRANSPORT SYSTEM

The patented working and transport system for ploughs which definitively resolves the problem of road safety.



Movements from working to transport position and vice versa, are hydraulically actuated. Due to the unique steering head, during transport the plough acts like a tractor-trailer.



TRANSPORT SYSTEM is available both hydraulic or mechanical.



## TRANSPORT SYSTEM

Designed, built and patented by MORO Aratri, TRANSPORT SYSTEM is highly regarded for its exceptional functionality.

Easy road transport, safety and quick conversion from working to transport position, are the characteristics that make this system unique.

Tested by many farmers, TRANSPORT SYSTEM is not just a trailing system, but a real working tool that allows to carry and use the plough at its best.

It is provided with the MORO Aratri special and patented steering head.



# MOULDBOARDS



## STEEL

Boron steel mouldboard extremely wear resistant, for a precise and low power absorption ploughing.

Various models for a working depth ranging from 16 cm to 100 cm. Also available in multi layer steel plate.

( [For further information please contact the sales network](#) )



## SLATTED

Boron steel slatted mouldboard for sticky soils. Excellent crumbling. Various models for a working depth ranging from 26 cm to 50 cm.

Synthetic version available.

( [For further information please contact the sales network](#) )



## SYNTHETIC

Plastic mouldboard for wet and sticky soils without stones. It allows the soils to flow with less effort.

Various models for a working depth ranging from 16 cm to 100 cm.

( [For further information please contact the sales network](#) )



## SCANDIC

Helicoidal mouldboard for a low power absorption ploughing. Specifically designed for the north european markets and for rice fields. Various models for a working depth ranging from 16 cm to 30 cm.

Synthetic version available.

( [For further information please contact the sales network](#) )

## SKIMMERS

Rice field - Synthetic - Steel



# EQUIPMENTS



## TRASHBOARDS

Available on all the plough bodies, for ploughing without skimmers.

## SHARES

High quality boron steel shares, heat treated and wear resistant. MORO shares provide an excellent penetration in any soil.

Available with reversible and interchangeable point.

## DISC COULTER

Smooth or scalloped coultter disc, 500 or 580 mm diameter.

Easy to set in every soil condition.

Non-stop version available.

## KNIFE COULTER

Available on all the plough bodies

## PRECISION JOINT

On request, it is possible to add a precision joint which allows the addition or the removal of the last plough body, making the plough extremely versatile.



### **SINGLE DEPTH WHEEL**

Depth wheel with hydraulic shock absorber, adjustable via turnbuckle. Positioned on the last body and mountable on every plough model.

### **DUAL DEPTH WHEEL**

Adjustable dual depth wheel. Positioned on the penultimate or last body and mountable on every plough model.



### **TRANSPORT AND DEPTH WHEEL**

Depth wheel with hydraulic shock absorber, adjustable via turnbuckle. Positioned on the last body, can be used as a transport wheel.

On 4 furrow ploughs upwards, it may be positioned on the penultimate body.



### **STANDARD HEADSTOCK**

Each MORO plough is equipped with an hydraulic headstock with a double acting reversing cylinder. Vertical tilt can be adjusted independently via 2 turnbuckles.

On request, for the reversing unit it is possible to mount a memory cylinder.

### **DETACHABLE COUPLING YOKES HEADSTOCK**



**T**SYSTEM<sup>®</sup>  
**R**ANSPORT

**S**WHEEL  
**S**YSTEM

### **TRANSPORT & WHEEL SYSTEM HEADSTOCK**

Patented and designed by MORO ARATRI, this exclusive headstock is available with the TRANSPORT SYSTEM & WHEEL SYSTEM and it is equipped with a steering axle. During transport, the axle can be unblocked, allowing the plough to act as a tractor trailer.



**S**FAST  
**S**YSTEM

### **ARTICULATED TOP LINK**

Patented and designed by MORO Aratri, the special FAST SYSTEM accessory is available on the TRANSPORT SYSTEM & WHEEL SYSTEM headstock.

During the conversion from working to transport position, the top link is freed without detaching it from the plough.

# SPECIFIC VERSIONS



## **RAPTOR 5**

### RAPTOR STEP

The Raptor is also available with the mechanical furrow width adjustment. ( Only in versions with 2,3 or 4 bodies ).



4 FURROW							<b>Rs4</b>	
MODEL	BODY SPACING cm	WORKING WIDTH cm	WORKING DEPTH cm	UNDERBEAM CLEREANCE cm	BEAM CROSS SECTION mm	WEIGHT kg	POWER	
							HP	MAX *
QRV 12A Raptor step	95-100	33/37/42/47	22-28	84	120x120	1540	150-180	200
QRV 10A Raptor step	90-95	31/36/40/45	22-28	80	120x120	1400	130-160	170
3 FURROW							<b>Rs3</b>	
MODEL	BODY SPACING cm	WORKING WIDTH cm	WORKING DEPTH cm	UNDERBEAM CLEREANCE cm	BEAM CROSS SECTION mm	WEIGHT kg	POWER	
							HP	MAX *
TRV 12A Raptor step	100-105	34/39/44/49	30-35	84	120x120	1340	120-140	150
TRV 10A Raptor step	95-100	33/37/42/47	25-30	80	120x120	1240	100-120	130
2 FURROW							<b>Rs2</b>	
MODEL	BODY SPACING cm	WORKING WIDTH cm	WORKING DEPTH cm	UNDERBEAM CLEREANCE cm	BEAM CROSS SECTION mm	WEIGHT kg	POWER	
							HP	MAX *
BVM 12A Raptor step	100-110	36/41/46/52	30-35	84	120x120	1140	100-120	130
BVM 10A Raptor step	95-105	34/39/44/49	25-30	80	120x120	1060	85-100	110

# TECHNICAL DATA

7 FURROW							<b>R7</b>	
MODEL	BODY SPACING cm	WORKING WIDTH cm	WORKING DEPTH cm	UNDERBEAM CLEREANCE cm	BEAM CROSS SECTION mm	WEIGHT kg	POWER HP	MAX *
EPT 18A Raptor	100-105	25-65	18-30	84	200x120	4100	400-600	650
EPT 16A Raptor	90-100	25-65	18-30	84	150x120	3800	300-400	450
EPT 14A Raptor	90-95	25-65	18-30	78	150x120	3600	200-300	320
6 FURROW							<b>R6</b>	
MODEL	BODY SPACING cm	WORKING WIDTH cm	WORKING DEPTH cm	UNDERBEAM CLEREANCE cm	BEAM CROSS SECTION mm	WEIGHT kg	POWER HP	MAX *
EXA 20A Raptor	110	25-70	40-45	87	200x120	3900	420-600	650
EXA 18A Raptor	100-110	25-70	30-40	83	200x120	3500	380-420	450
EXA 16A Raptor	100	25-65	25-30	78	150x120	3100	300-350	370
EXA 14A Raptor	90-95	25-65	22-28	78	150x120	2900	230-290	320
5 FURROW							<b>R5</b>	
MODEL	BODY SPACING cm	WORKING WIDTH cm	WORKING DEPTH cm	UNDERBEAM CLEREANCE cm	BEAM CROSS SECTION mm	WEIGHT kg	POWER HP	MAX *
PNT 22A Raptor	110-120	25-70	40-55	94	200x200	3900	450-600	650
PNT 20A Raptor	100-110	25-70	40-45	89	200x120	3400	390-500	600
PNT 18A Raptor	100-110	25-70	30-40	89	200x120	3100	300-390	400
PNT 16A Raptor	100-105	25-65	25-35	84	150x120	2800	230-290	310
PNT 14A Raptor	95-100	25-65	22-28	84	150x120	2600	190-230	240
4 FURROW							<b>R4</b>	
MODEL	BODY SPACING cm	WORKING WIDTH cm	WORKING DEPTH cm	UNDERBEAM CLEREANCE cm	BEAM CROSS SECTION mm	WEIGHT kg	POWER HP	MAX *
QRV 22A Raptor	110-130	25-70	40-55	94	200x200	3500	400-600	650
QRV 20A Raptor	100-120	25-70	40-45	94	200x120	3000	360-420	450
QRV 18A Raptor	100-120	25-70	30-40	89	200x120	2700	300-360	400
QRV 16A Raptor	100-110	25-70	25-35	89	150x120	2450	240-280	320
QRV 14A Raptor	100-105	25-65	25-30	84	150x120	2250	180-240	260
QRV 12A Raptor	95-100	25-65	22-28	84	120x120	1700	150-180	200
QRV 10A Raptor	90-95	25-65	22-28	80	120x120	1550	130-160	170
3 FURROW							<b>R3</b>	
MODEL	BODY SPACING cm	WORKING WIDTH cm	WORKING DEPTH cm	UNDERBEAM CLEREANCE cm	BEAM CROSS SECTION mm	WEIGHT kg	POWER HP	MAX *
TRV 24A Raptor	120-130	25-70	50-60	99	200x200	3200	360-450	470
TRV 22A Raptor	120-130	25-70	45-60	94	200x200	2950	300-400	420
TRV 20AP Raptor	110-130	25-70	40-55	94	200x120	2700	260-310	330
TRV 20A Raptor	110-120	25-70	40-50	89	200x120	2450	200-260	280
TRV 18A Raptor	110-115	25-70	35-45	89	200x120	2200	180-210	220
TRV 16A Raptor	100-115	25-70	30-40	89	150x120	1950	160-190	200
TRV 14A Raptor	100-110	25-65	30-40	84	150x120	1750	140-170	180
TRV 12A Raptor	100-105	25-65	30-35	84	120x120	1500	120-140	150
TRV 10A Raptor	95-100	25-65	25-30	80	120x120	1350	100-120	130
2 FURROW							<b>R2</b>	
MODEL	BODY SPACING cm	WORKING WIDTH cm	WORKING DEPTH cm	UNDERBEAM CLEREANCE cm	BEAM CROSS SECTION mm	WEIGHT kg	POWER HP	MAX *
BVM 26A Raptor	120-140	25-70	70-80	108	200x200	2800	350-400	500
BVM 24A Raptor	120-140	25-70	60-70	102	200x200	2550	280-360	400
BVM 22A Raptor	120-140	25-70	50-60	97	200x200	2300	240-300	320
BVM 20AP Raptor	110-130	25-70	50-60	91	200x120	2100	180-240	250
BVM 18AP Raptor	110-130	25-70	45-50	94	150x120	1800	140-180	190
BVM 16AP Raptor	100-120	25-70	35-45	89	150x120	1600	130-150	160
BVM 14A Raptor	100-120	25-65	30-40	84	150x120	1400	120-140	150
BVM 12A Raptor	100-110	25-65	30-35	84	120x120	1300	100-120	130
BVM 10A Raptor	95-105	25-65	25-30	80	120x120	1150	85-100	110

The data indicated in this folder are approximate. The models described here can be subjected to modifications without any notice by the manufacturer. The drawings and photos may refer to equipment that is either optional or intended for other countries. Please apply to our Sales Network for any further information.

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