

Operating instructions

Chapter 1 Technical data

1.2 Technical data

The product meets the specific requirements for tunnel work. The machine is not suitable for use in explosion-protected areas.

1.2.1 Measurements, weights, installation

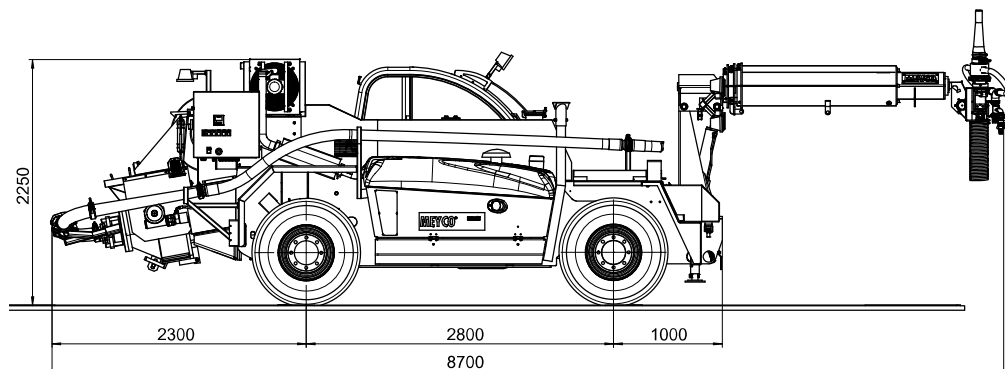


Fig. 1-2 Dimensions

Vehicle width:	2000 mm
Height:	
Minimum transport height:	~2250 mm
Weight of electric version (including 500-litre tank, empty):	~8.0 t
Weight of diesel version (including 500-litre tank, empty):	~7.5 t

Installation, ground conditions: approximately horizontal, on load-bearing ground

1.2.2 Incline, gradient and inclination on site terrain

Travelling mode:

Maximum permitted angle of inclination (upwards and downwards): only with the manipulator parked and on a firm surface!	30% = 17°
Maximum permitted lateral inclination: only with the manipulator parked and on a firm surface!	30% = 17°

Working mode:

Maximum permitted angle of inclination (upwards and downwards): only on a firm surface!	5% = 3°
Maximum permitted lateral inclination: only on a firm surface!	5% = 3°

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1.2.3 Ambient temperatures

Working mode:

The permitted ambient temperature range for working with the Poca spraying mobile is: $0\text{ °C} < T_a \leq 40\text{ °C}$

Storage:

The permitted ambient temperature range for storing the Poca spraying mobile is: $-20\text{ °C} < T_a \leq 55\text{ °C}$

Attention: It is imperative to drain all water and add antifreeze. For this, also see the operating instructions chapter 10: "Decommissioning, storage"

1.2.4 Energy and power connections

1.2.4.1 Spraying mobile with electro-hydraulic drive

Voltage, frequency, rated current: 3x400 VAC/3x460 VAC 50/60 Hz
Total electrical output: 42 kW

Supply cable: 4-pole (3L PE – 3 conductor with ground)
Cross-section/length: 4 x 25 mm², 38 m

For installation operation and emergency operation of the spraying manipulator, electric power is supplied to the hydraulic valves from the vehicle battery from a 12 V/24 V transformer.

1.2.4.2 Spraying mobile with diesel-hydraulic drive Drive via vehicle engine

Diesel-hydraulic generator: 400 V/230 V, 50 Hz, 9.4 A
Total electrical output: 5 kW

1.2.4.3 Air connection

Min. pressure and amount of air 7 bar, 12 m³/min

1.2.5 Drive unit for wet-spraying machine and manipulator

Installed electrical output: P: 37 kW
Installed hydraulic output: P: 37 kW

Axial piston displacement pump; elect.-hydr. pumping volume P_{max}: 200 bar
adjustment
(for the conveying cylinders) Q_{max}: 89 l/min

Axial piston displacement pump; pressure-regulated P_{max}: 190 bar
(for the S-switch and the manipulator) Q_{max}: 46 l/min

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Hydraulic oil:

Ambient temperature 5° to 40 °C
 Ambient temperature –15° to 5 °C
 Tank capacity:

Type: ISO VG 46
 Type: ISO VG 32
 190 litres

Filtering:

Return-flow filtering:

filter mesh size 25 µm

Suction filtering for the steering pump and travelling drive:

filter mesh size 25 µm

1.2.6 Wet-spraying machine

1.2.6.1 Technical data

Cylinders on the conveying unit:

diameter: Ø 150 mm
 stroke: 600 mm

Discharge outlet:

diameter: Ø 100 mm

Hopper volume:

V_{hopper} : ~200 litres

Hopper grill, hinged, with fitted vibrator

mesh width: 33 mm

1.2.6.2 Performance data for the machine

Conveying capacity with hydraulic cylinders Ø 80 and conveying pressure:

Q_{max} 22 m³/h
 p_{max} 50 bar

Conveying distance:* with hydraulic cylinders Ø 80

$S_{\text{horizontal}}$ 150 m

Conveying height:* with hydraulic cylinders Ø 80

S_{vertical} 50 m

* Conveying height and conveying distance are determined to a large degree by the granulometry, cement content and plasticity of the concrete. The distances indicated are approximate standard values.

1.2.6.3 Conveying media

The machine is designed to spray concrete in a wet-spraying process, but it can also be used for pumping a fluid conveying medium. In this case, the medium is fed into the hopper in flowable form and must satisfy the following criteria:

- adequate lubricative properties
- no tendency to clog under pressure
- no large solid bodies, max. 16 mm for concrete spraying, max $\frac{1}{3}$ of the smallest diameter of the conveying lines for pumping
- only a low tendency to sediment/segregate
- corrosive properties: the same as for shotcrete

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1.2.7 Spraying manipulator

1.2.7.1 Technical data

Spraying manipulator with 3 outfeed elements (3150 mm stroke)

Electro-hydraulic activation of the movement functions with valve blocks on the front mounting.

Electric activation of the valves: 24 VDC

Setting the speeds: non-return throttle valves,
flow regulators

Operation: using the cable remote control (standard)
or radio remote control (optional)

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1.2.7.2 Reach

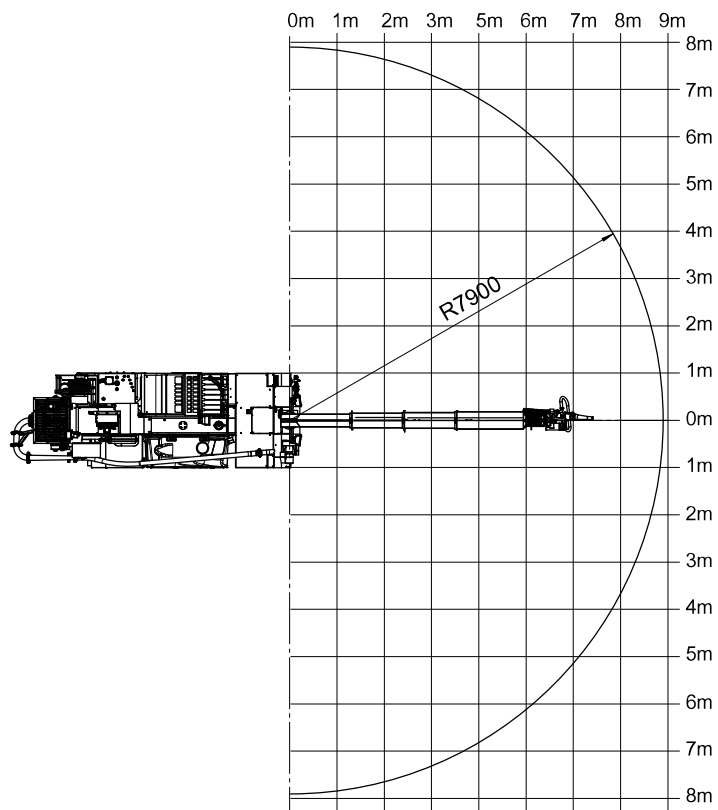
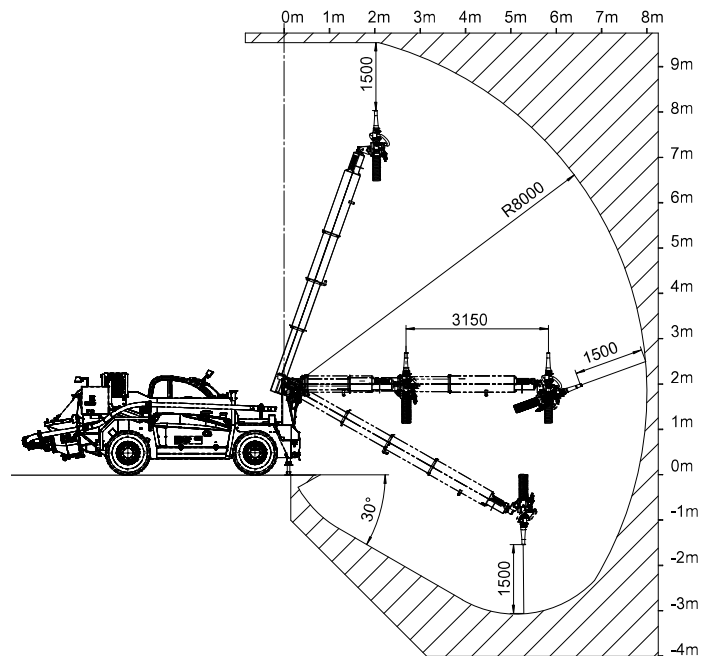


Fig. 1-3 Reach for the Rama 6 carrier boom