

Concrete spraying machine

MEYCO Potenza



Solutions for tunneling and mining

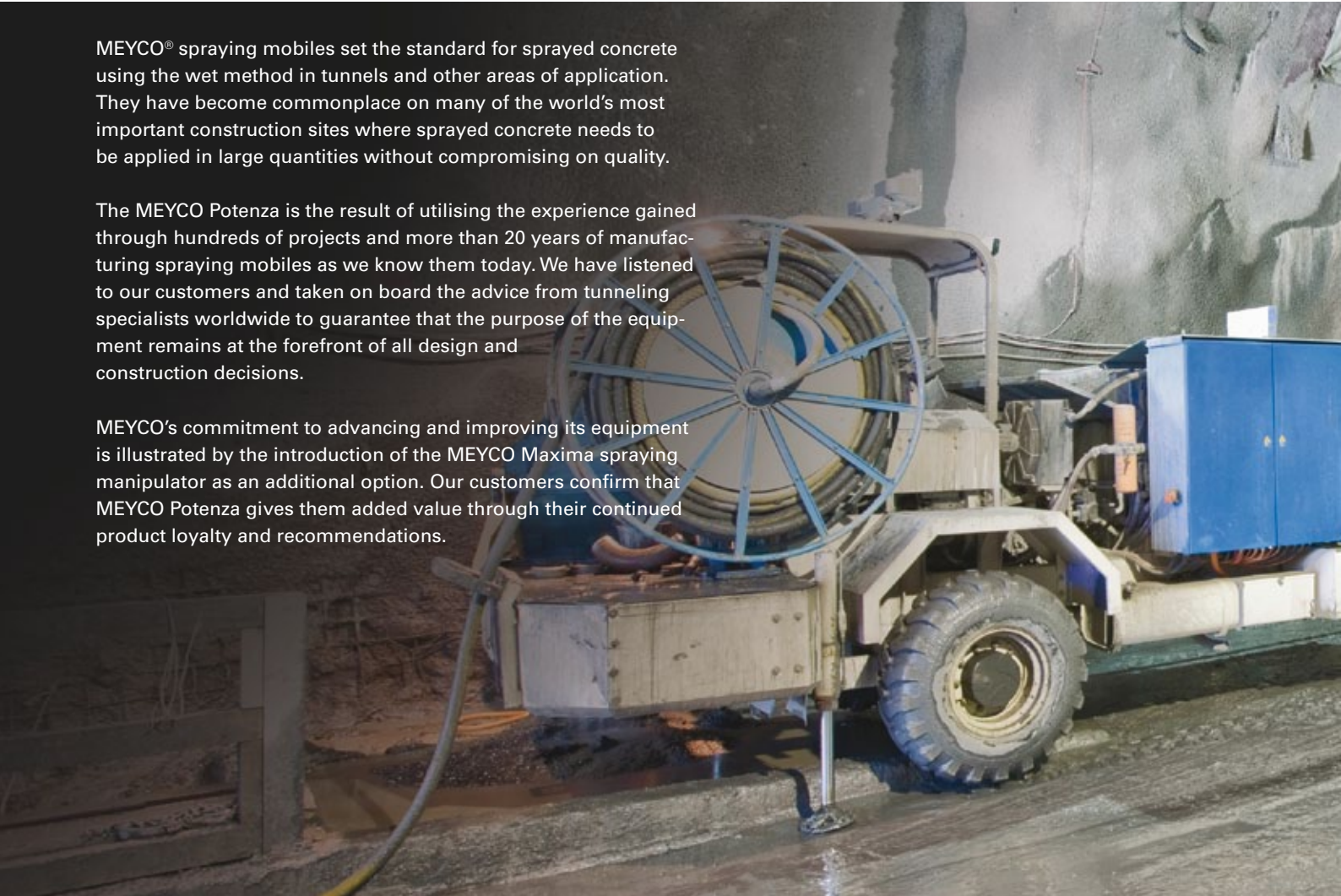
MEYCO

Overview

MEYCO® spraying mobiles set the standard for sprayed concrete using the wet method in tunnels and other areas of application. They have become commonplace on many of the world's most important construction sites where sprayed concrete needs to be applied in large quantities without compromising on quality.

The MEYCO Potenza is the result of utilising the experience gained through hundreds of projects and more than 20 years of manufacturing spraying mobiles as we know them today. We have listened to our customers and taken on board the advice from tunneling specialists worldwide to guarantee that the purpose of the equipment remains at the forefront of all design and construction decisions.

MEYCO's commitment to advancing and improving its equipment is illustrated by the introduction of the MEYCO Maxima spraying manipulator as an additional option. Our customers confirm that MEYCO Potenza gives them added value through their continued product loyalty and recommendations.





Standard components

- MEYCO Robojet spraying manipulator
- MEYCO wet-mix spraying machine
- Integrated MEYCO Dosa TDC dosing system for liquid admixtures
- MEYCO Data, performance monitoring system
- Cable remote control
- Chassis, 4-wheel drive and steer, with stabilisers
- Cable reel with hydraulic drive
- Electric supply cable
- MEYCO nozzle system
- Liquid admixture tank
- Water storage tank
- Working lights
- Water pump
- High-pressure water cleaner with hose reel
- Release oil pump
- Portable fire extinguisher

Options

- Air compressor (rotary vane or screw type)
- Central lubrication
- Radio remote control
- MEYCO Compacta or Maxima spraying manipulator
- Other voltage supplies are also possible
- Diesel particulate filter system
- Fire suppression system
- High pressure water system for surface cleaning/scaling
- Water hose reel with hydraulic drive
- Heating for liquid admixture tank

For further description please refer to the technical specifications.

Features



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Manipulator

- MEYCO Robojet with parallel spraying action and 8 fields of movement ensures the perfect spraying pattern.
- Control through the remote panel is quickly learnt due to simple spraying action.
- Very strong construction for high volume spraying and 80 mm /3.25" hoses.
- Option: MEYCO Maxima for extreme spraying reach, and both Maxima and Compacta with ability to extend from, and retract to the compact transport position without turning. See Compacta and Maxima description for full details.

Central Lubrication

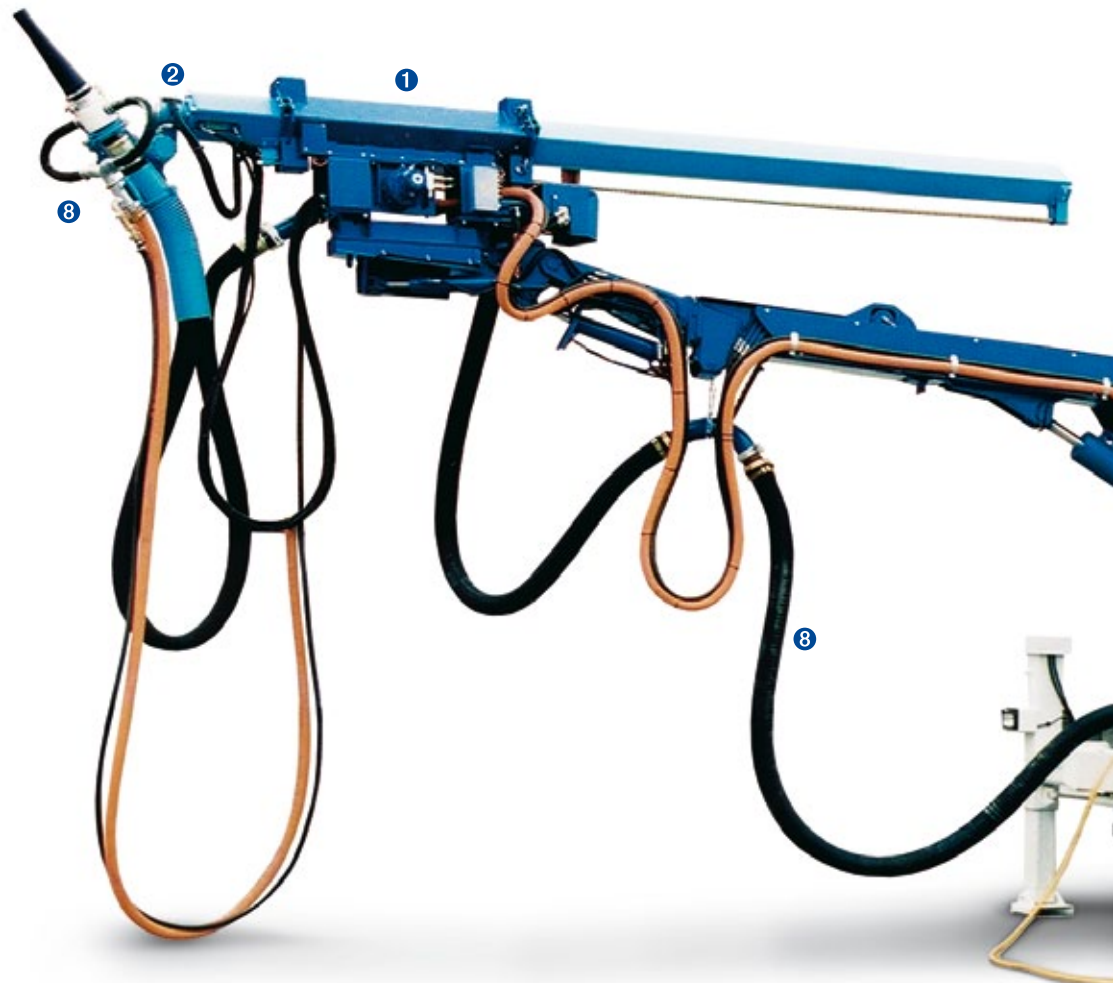
- Option: 47 lubrication points distributed over the entire machine and supplied automatically reduce maintenance and increase the life and value of the machine. More of a must than an option!

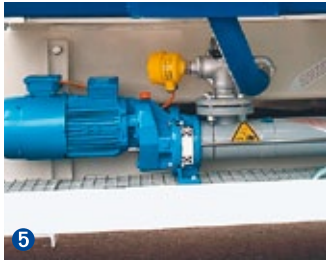
Sprayed concrete pump

- Double-piston pump with 30 m³/h capacity*.
- Complete pumping system is designed for low-pulsation spraying.
- Tough hopper and grill constructed for concrete containing steel /PP fibers.

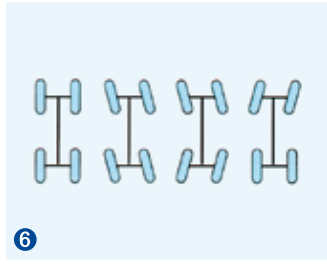
Operation

- Operator terminal near the nozzleman allows complete control of spraying mobile and components.
- Cable remote control for all movements and other major operation functions.
- Option: Radio remote offers a lighter and more mobile alternative.
- Display shows all details necessary for an overview of spraying operation and permits quick and easy alteration of dosing.





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MEYCO TDC dosing system

- Total Dosing Control: functions by using the interaction of frequency-controlled dosing pump drive, concrete volume and flowmeter.
- Very accurate dosing adjustment with simple control features.
- PLC unit coordinates rapid automatic adjustments of dosing according to prevailing conditions.
- Low maintenance, low-pulsation pumping.
- Ideal for alkali-free accelerators.

Chassis

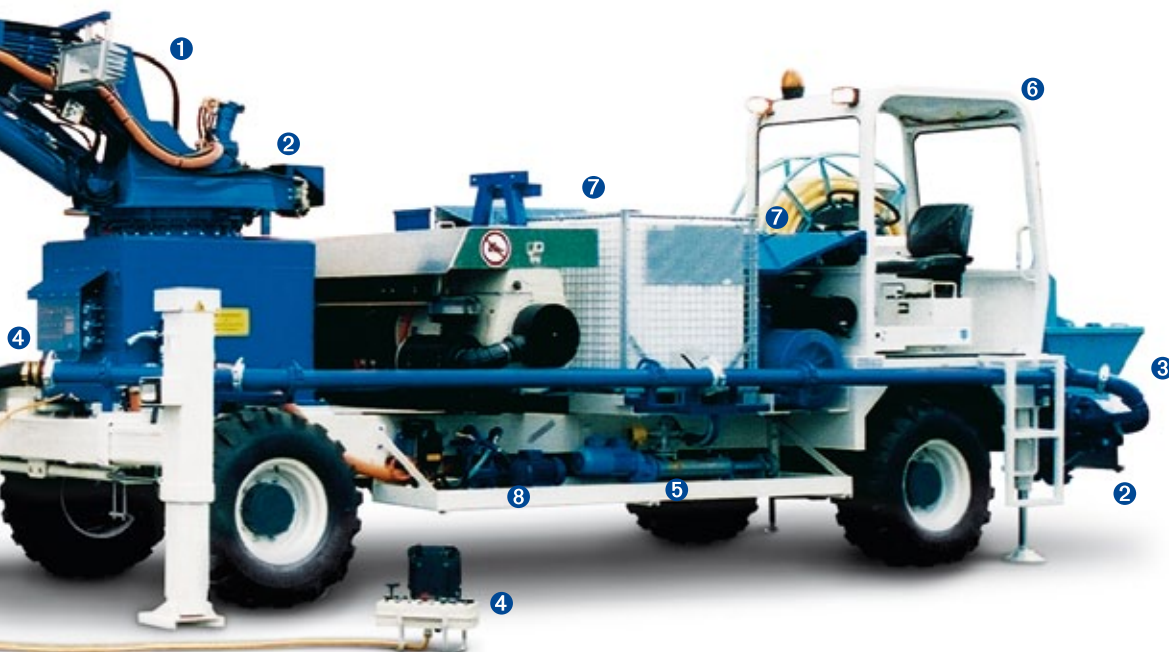
- Robust site-proven chassis with powerful diesel motor.
- 4-wheel drive and 4-wheel steer including crabwalk for maneuverability in tight situations.
- Cabin FOPS certified with turnable driver's seat and controls.

Power and control unit

- One central electric control box and electro-hydraulic unit improves efficiency and aids easy maintenance.
- Reliable, site-proven PLC system provides complete system management.

Accessories

- All necessary accessories for cleaning the manipulator, wet-mix spraying machine and nozzle system are fitted as standard for a fast clean-up and to prevent downtime.
- MEYCO 100 mm /4" concrete delivery lines with 80 mm /3.25" nozzle system reduce the occurrence of blockages with stiff and fibre-filled mixes. Low material speed leads to lower wear costs.
- MEYCO Data for compiling and extracting of performance data, transferring to PC for processing and evaluation.
- Fire extinguisher fitted as standard provides greater safety.



Applications



On large construction sites such as tunnels, it is imperative that the spraying set-up is installed and ready to start performing within minutes. As soon as the spraying operation is finished, the equipment has to be removed so that the next work cycle can begin immediately. In addition, it is common practice to execute different jobs simultaneously, which demands complete, self-contained equipment. For instance, the central air supply is rarely large enough to supply all demands, so the complete mobile therefore carries its own compressor.

The MEYCO Potenza is the ideal machine to use anywhere where large quantities of sprayed concrete are to be applied in the fastest and most efficient manner possible.

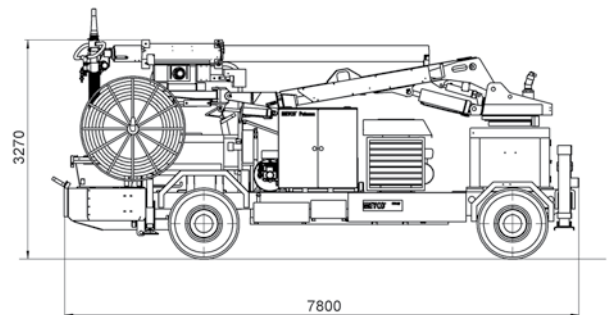
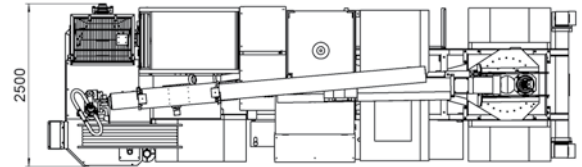
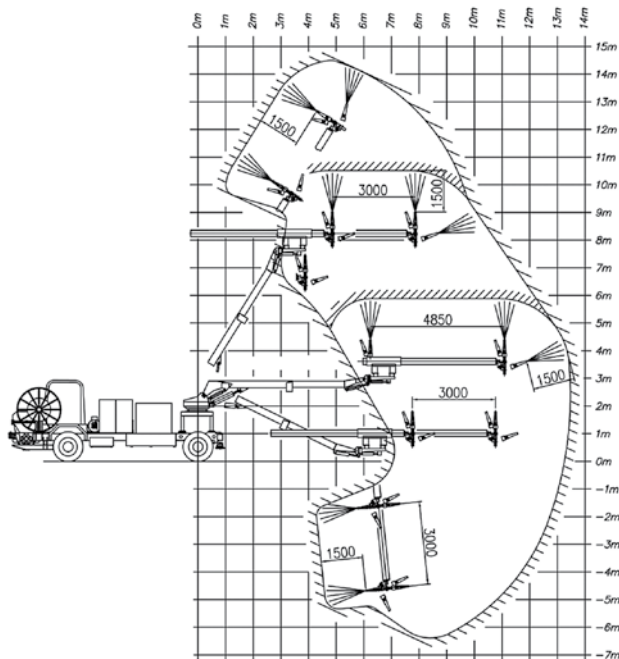
Typical areas of work for the MEYCO Potenza are:

- Tunneling
- Slope stabilization
- Building pits
- Mining operations
- Hydropower



Technical specifications

Spraying range of MEYCO Robojet manipulator



MEYCO Potenza with MEYCO Robojet

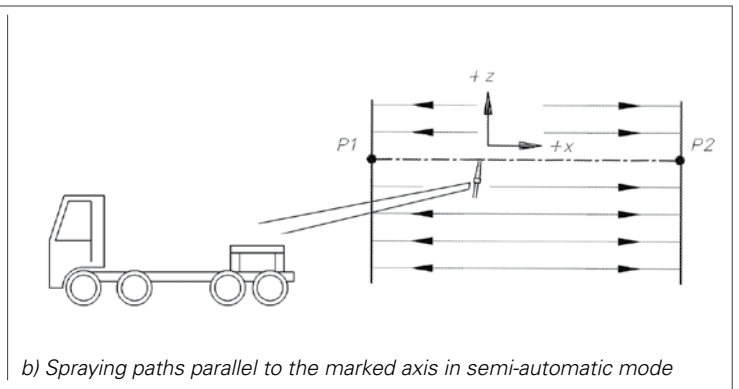
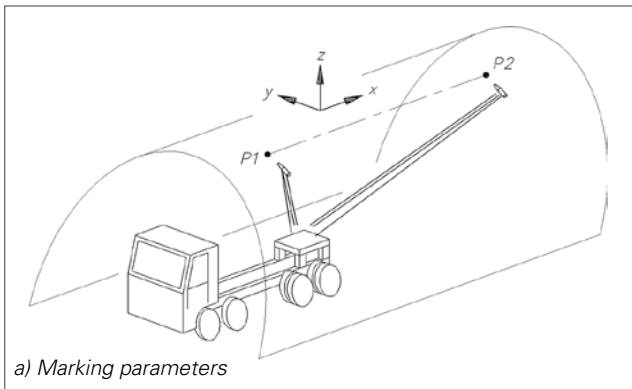
| | | | |
|---|--|----------------|----------------------|
| Dimensions | Minimum transport measurements | 7.8x2.5x3.27 | m |
| | Width with delivery line | 2.85 | m |
| | Weight with compressor | 14 400 | kg |
| | Weight without compressor | 12 500 | kg |
| Power | Input supply voltage | 3x400/50 | V/Hz |
| | Potenza with compressor | 135 | kW |
| | Potenza without compressor | 60 | kW |
| Spraying Range MEYCO Robojet manipulator | Max. height | 14.5 | m |
| | Max. height – lance parallel | 10.5 | m |
| | Max. width | 26 | m |
| Capacity | Concrete pump at constant pressure of 5 MPa* | 30 | m ³ /h |
| | Dosing pump max. at 0.8 MPa | 20 | l/min |
| Chassis | Dieci Chassis, 4-wheel drive and steer, stabilisers front and rear, Iveco water-cooled diesel engine | 74 | kW |
| Air compressor | Power | 75 | kW |
| | Capacity | 11.5 | m ³ /min. |
| | Pressure | 0.7 | MPa |
| Accessories | Electric cable min. length | 80 | m |
| | Delivery/nozzle system | 100/80, 4/3.25 | mm, " |
| | Admixture tank | 1 000 | l |
| | Water storage tank | 430 | l |
| | Working lights | 2x 1 500 + 500 | W |
| | Water-pump pressure | 1.2 | MPa |
| | Water-pump volume | 1 000 | l/h |
| | High-pressure water cleaner | 1.0-15.5 | MPa |
| | Hose reel | 15 | m |
| | Release-oil pump | 5 | l |

Important | * Pump performances including maximum volumes are based on theoretical, 100 % filling capacities. Delivery heights and distances are based on experience but are highly dependent on the granulometry, cement content and plasticity of the concrete.

Option – MEYCO Maxima Spraying Manipulator

The MEYCO Maxima is completely unique! Designed and constructed using MEYCO's extensive experience in the field of spraying manipulators, it is now available as an option for the MEYCO Potenza. It has, among other important features, an indisputable spraying range advantage and can also be extended in any tunnel profile that the MEYCO Potenza can fit into!

Only having three main fields of movement, guided using an ergonomically designed joystick as well as the two spraying head movements and nozzle oscillation, the Maxima is very simple to use, with a short learning curve for operators. Automatic movement speed is also adjustable from the joystick. The system has a full Graphic User Interface (touch-screen), made possible through the use of a reliable industrial computer as its controlling unit. This allows the MEYCO Maxima to incorporate advanced attributes valuable to the operator, such as a virtual parallel lance movement, through computer-controlled nozzle position compensation. There is also the ability to mark a spraying range and then, in semi-automatic mode, the operator can easily spray along paths parallel to the predefined axis.



1 Modified MEYCO spraying head for 80 mm hoses and all required nozzle angles.



2 Ingenious construction allowing boom to be easily retracted for transport and extended for spraying.



3 Cable remote control with only two joysticks (radio remote also available).



4 Control panel with GUI, positioned near the nozzleman/operator.

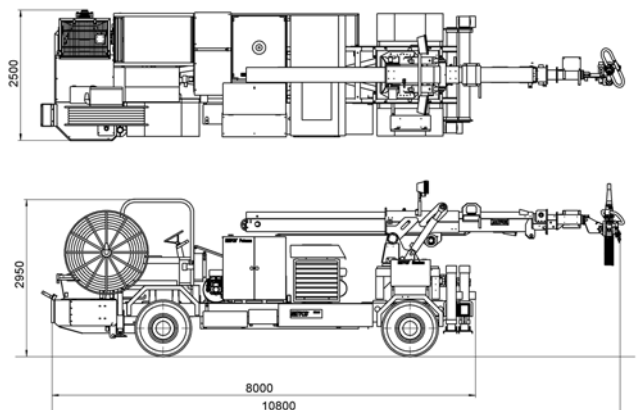
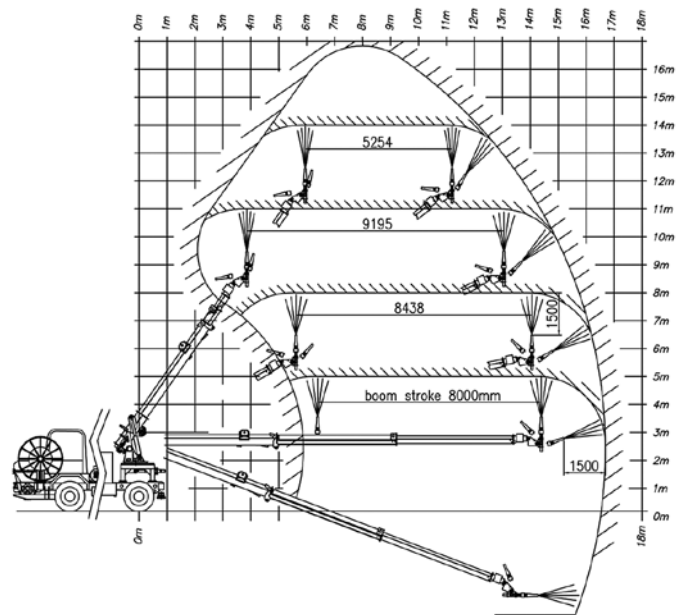




Added value of MEYCO Maxima

- Large reach enables not just a greater spraying area from a single vehicle location but also generates significant time savings in vehicle repositioning.
- Smooth and simple operational control with only two joysticks and speed control.
- Long «virtual» parallel movement, a nozzleleman's favourite function.
- Computer-managed positional sensing, allowing semi-automatic mode.
- Comprehensive self-diagnosis of faults is also possible using network connection remotely.
- Fewer joints than a conventional manipulator, reducing wear costs.
- Proportional valve control, soft movement (anti-bounce system).
- Maximum reach of > 16 m height allows spraying of caverns/galleries that no other spraying boom is capable of.

Spraying range of MEYCO Maxima manipulator



Option: MEYCO Compacta Spraying Manipulator



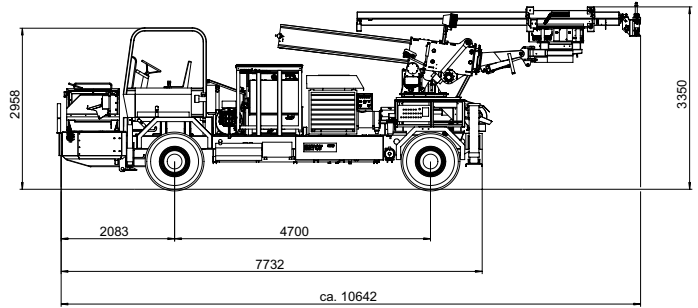
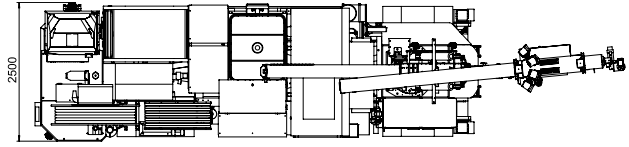
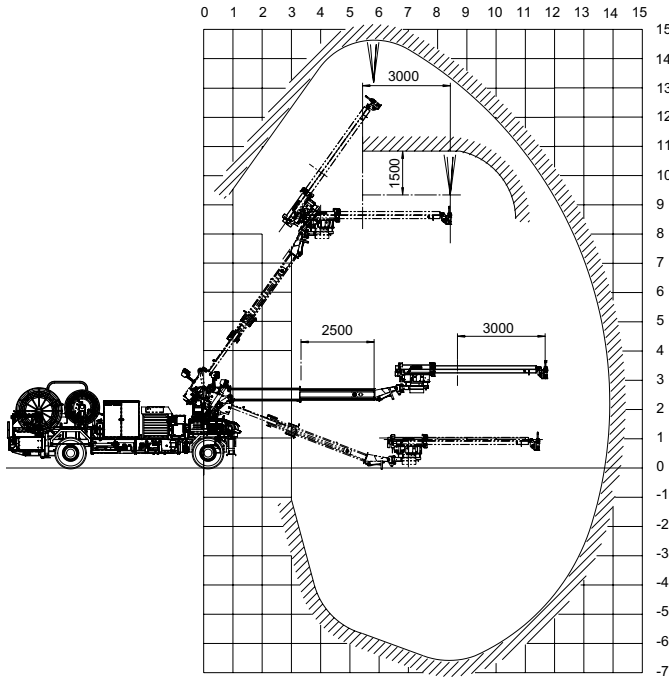
Added value of MEYCO Compacta

The MEYCO Compacta incorporates the long term experience gained with the Robojet but adds a distinct advantage in the retraction possibility for tramming. Combined with the same movement functions as the Robojet boom, it makes the Compacta the most versatile spraying manipulator for today's tunneling works. Retracting the boom when tramming avoids unnecessary forces applied to the boom structure because of bouncing effect when driving on uneven jobsite ground. The extra sturdy design is unmatched and guarantees highest possible spraying output and the modular design allows to install it on different carriers and platforms.

- Extends from parked position into spraying position in small tunnel profile.
- Packs away very compactly for driving.
- Modified MEYCO spraying head to cover all the angles.
- 80 mm heavy-duty, high-pressure concrete delivery hoses for large volume spraying.
- Central lubrication, reducing both wear and maintenance time (option).

Technical specifications

Spraying range of MEYCO Compacta manipulator



MEYCO Potenza with:

| | | MEYCO Maxima | MEYCO Compacta |
|-----------------------------------|--|---------------------------|---------------------------|
| Dimensions | Minimum transport measurements | 10.7x2.5x3.10 m | 10.7x2.5x3.40 m |
| | Width with delivery line | 2.85 m | 2.85 m |
| | Weight with compressor | 14 750 kg | 14 600 kg |
| | Weight without compressor | 12 850 kg | 12 700 kg |
| Power | Input supply voltage | 3x400/50 V/Hz | 3x400/50 V/Hz |
| | Potenza with compressor | 135 kW | 135 kW |
| | Potenza without compressor | 60 kW | 60 kW |
| Spraying Range Manipulator | Max. spraying height | up to 17 m | up to 14.6 m |
| | Parallel spraying length at 7 m height | up to 8.40 m | 5.30 m |
| | Parallel spraying length at 11 m height | up to 9.20 m | 2.90 m |
| | Parallel spraying length at 14 m height | up to 5.25 m | 1.50 m |
| | Max. spraying height - lance parallel | | up to 10.8 m |
| | Max. spraying width | up to 30 m | up to 26 m |
| Capacity | Concrete pump at constant pressure of 5 MPa* | 30 m ³ /h | 30 m ³ /h |
| | Dosing pump max. at 0.8 MPA | 20 l/min | 20 l/min |
| Chassis | Dieci Chassis, 4-wheel drive and steer, stabilisers front and rear, Iveco water-cooled diesel engine | 74 kW | 74 kW |
| Air compressor | Power | 75 kW | 75 kW |
| | Capacity | 11.5 m ³ /min. | 11.5 m ³ /min. |
| | Pressure | 0.7 MPa | 0.7 MPa |
| Accessories | Electric cable min. length | 80 m | 80 m |
| | Delivery /nozzle system | 100/80 mm | 100/80 mm |
| | Admixture tank | 1000 l | 1000 l |
| | Water storage tank | 430 l | 430 l |
| | Working lights | 2 x 1500 + 500 W | 2 x 1500 + 500 W |
| | Water-pump pressure | 1.2 MPa | 1.2 MPa |
| | Water-pump volume | 1000 l/h | 1000 l/h |
| | High-pressure water cleaner | 1.0-15.5 MPa | 1.0-15.5 MPa |
| | Hose reel | 15 m | 15 m |
| | Release-oil pump | 5 l | 5 l |

Important | * Pump performances including maximum volumes are based on theoretical, 100 % filling capacities. Delivery heights and distances are based on experience but are highly dependent on the granulometry, cement content and plasticity of the concrete.



Certified quality

ISO 9001
ISO 14001
BUREAU VERITAS
Certification
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Our products conform
to EU standards



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9851 3214 01a 07/2013

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