ABOUT US

Palmieri’s determination to achieve the diverse requirements of clients worldwide is parallel with its advancing technological resources.

The use of FEA methods for structural design of machine elements, combined with the most advanced CAD/CAM software for work-cycle planning and NC for precision machining, are all proofs of Palmieri’s full commitment for high quality product standards and manufacturing efficiency.

Palmieri uses only the finest European steel, robotic material handling systems and ultra modern CNC (computer numerical controlled) milling machines.

Now the Company is one of the world leaders in the production capabilities and its successful corporate image is built wholly on its abilities to provide a quality product with delivery times that are amongst the shortest in the industry and on our back up service and support to anywhere in the world.

MISSION & VISION

In the last 40 years we have never stopped to learn, to search for new and better materials, to study and develop new designs and concepts, to improve our manufacturing capability and technology. And we have kept learning from you, our main strength, our customers.

Whenever you are, whatever your job is, no matter how hard it is, or which kind of ground conditions you have to deal with, we don’t just work for you, we work with you, so we well know what you need. We are aware that the present situation requires you to keep your costs down, therefore we are searching for solutions in order to help you.

- We use the most advanced technology in order to provide you with the best quality tools.
- We have been improving in the metallurgy choices and hardening processes to add strength and endurance.
- We select both the very best tungsten carbide quality to make our products tougher and extremely resistant to wear and the most appropriate grade to fit any specific job.
- Proven brazing methods prevent carbide inserts dropping or damaging.
- Our tools are user friendly, so you can experience how a short change-over time can improve your daily production and see how much you can save with minimal downtimes.
- We do our best to keep short delivery times, so that you can avoid long waits or very expensive warehouse stocks.
- Proven brazing methods prevent carbide inserts dropping or damaging.
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- We do our best to keep short delivery times, so that you can avoid long waits or very expensive warehouse stocks.

This catalogue is focused on a specific range, but we would like to remind you that we are involved in all the following sectors, so if you don’t find here what you are looking for, please visit our web site, or contact us and we will provide you with dedicated documentation.

• Tunnelling
• Road Milling
• Mining & construction
  - Raise Boring
  - Surface & Underground Mining
  - Stabilizing & Trenching
  - Directional drilling
• Drilling
  - Foundation drilling
  - Diaphragm wall cutters
• RCD-HDD
• Microtunnelling & No Dig
• Recycling & Forestry

COMPANY

Tunnelling for road, railways, sewer and storm water infrastructures, hard rock and coal mining, foundation drill and raise boring. These are just some of the areas where Palmieri organisation have become successful with the involvement of our custom designed and wholly in house products to the complete satisfaction of some of the most respected contractors worldwide. From the modest beginning in the yearly 1970s with limited activities Palmieri was able to overcome many difficulties with onwards courage and determination leading to quality and innovative products. Initially as a manufacturer and supplier of spare parts, Silvano Palmieri was determined to have his company become an international leader in products designed and manufactured wholly in house. The result of such continued efforts have culminated in major equipment manufacturers stipulating and incorporating Palmieri components in their new products.

In 1987 further expansion resulted in the investment in a specialist forging and mechanical factory. The new company provides a century of experience in hot steel transformations and is capable of forging over 1.000 tons of blank steel per month. Latest development is new assembly and maintenance centre opened in 2015. All of the Palmieri Group companies support the main world tunnelling contractors by providing first class components and equipment thus making state-of-the-art technology and cutting edge designs their own distinctive mark.

PRODUCTION

Palmieri uses only the finest European steel, robotic material handling systems and ultra modern CNC (computer numerical controlled) milling machines.

Now the Company is one of the world leaders in the production capabilities and its successful corporate image is built wholly on its abilities to provide a quality product with delivery times that are amongst the shortest in the industry and on our back up service and support to anywhere in the world.
**RCM - REMOTE CONTROL MACHINE**

Equipment for the excavation of small tunnels for utilities and pipes with circular cross section (inner or i.d.) diameter between 800 and 3,500 mm, for all types of grounds, even in the presence of water. The machine is pushed forward thanks to the thrust force provided by an adequately sized power unit placed on board the control container located outside the tunnel. During the advance, concrete (or other materials) pipes are inserted from the outside also transmitting the thrust from the pushing unit to the machine, in addition to their obvious lining purposes.

A cutterhead is attached to the machine; this is conceived and accurately designed both according to the specific geology of the ground to be excavated and to the main machine specifications in such a way to obtain the best possible advance rates with minimal cutting tools replacements.

The whole equipment is monitored by a control and guidance container placed outside the tunnel. The excavation accuracy is controlled by a laser and laser target system which is continuously monitored and calibrated by the machine operator seated in the container with the aid of a PLC computer and its control monitor.

The equipment is available in two different types depending on the patterned spoil removal system, which is selected in advance according to the geological conditions to be encountered during the drive; the commonly used "slurry" system, and the screw conveyor system.

**O.M.M. OPEN MICRO MACHINE (OPEN FACE EXCAVATION MACHINE)**

Equipment for boring (internal I.D.) diameter circular section for pipes and tunnels between 1,200 and 3,500 mm, in a dry soft or soft and semi-stable or stable soils. The machine is pushed forward thanks to the thrust force provided by an adequately sized power unit placed on board the control container located outside the tunnel. During the drive, concrete (or other materials) pipes are inserted from the outside also transmitting the thrust from the pushing unit to the machine, in addition to their obvious lining purposes.

The spoil is removed by a conveyor belt placed in proximity of the excavation face and is then collected and transported from there to the back of the machine, where appropriate muck skips are loaded and then hoisted to the surface.
REMOTE CONTROL MACHINE

MICROTUNNELLING TRENCHLESS TECHNOLOGY FOR NON-MAN ENTRY TUNNELLING, HIGHLY ACCURATE FOR 600 MM AND UP TO 3,500 MM DIA. (NOMINAL).

Main applications
- Fresh & waste water trenchless works
- Pipeline installation
- Cable tunnels
- Gas pipelines
- Utilities

Features
- Electric-hydraulic drives for high efficiency in long distance pipe-jacking
- Highly accurate guidance systems
- Small equipment footprint for minimal impact in urban areas
- Custom designed cutting wheel to suit soil-specific conditions resulting in the right tool for the fastest excavation
- Compact jacking equipment for fast site set-up
- Suitable for all types of pipes, RCP, steel, GRP
- Machine Diameter can be easily increased with simple bolted extension kits

HIGH ADVANCE RATES IN ALL SOIL CONDITIONS MAKE PALMIERI YOUR PARTNER FOR SUCCESSFUL PROJECT COMPLETION ON TIME AND ON TARGET

ADVANTAGES OF USING MICROTUNNELLING

Minimal disruption in urban areas as well as slow impacts on environment, thanks to the biodegradable oils that are used in the systems.

Additional items can be added, such as soil separation systems, bentonite systems to ensure efficient operations in all site conditions whether in cities or countryside.

<table>
<thead>
<tr>
<th>MACHINE MODEL</th>
<th>RCM 800</th>
<th>RCM 1000</th>
<th>RCM 1200</th>
<th>RCM 1500</th>
<th>RCM 1600</th>
<th>RCM 1800</th>
<th>RCM 2000</th>
<th>RCM 2500</th>
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<td>1500</td>
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<td>560</td>
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<tr>
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<td>no</td>
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<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
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<td>160</td>
<td>250</td>
<td>300</td>
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<td>4</td>
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<td>4</td>
<td>8</td>
<td>8</td>
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<tr>
<td>Jacking capacity (Standard) kNm</td>
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<td>3500-4000</td>
<td>4000-6000</td>
<td>6000-8000</td>
<td>6000-8000</td>
<td>6000-8000</td>
<td>12000</td>
<td>12000-15000</td>
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<tr>
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<td>50</td>
<td>50</td>
<td>80</td>
<td>80</td>
<td>80</td>
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<td>Slurry line diameter mm</td>
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<td>150</td>
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<td>5.5-6</td>
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<td>9X5</td>
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</table>
OPEN MICRO MACHINE

OPEN TRENCHLESS ECONOMICAL TECHNOLOGY FOR EASY-TO-OPERATE TUNNELLING, HIGHLY ACCURATE FOR 1.200 MM AND UP TO 3.500 MM DIA. (NOMINAL).

Features
- Small equipment footprint for minimal impact in urban areas
- Custom designed cutting booms to suit soil-specific conditions resulting in the right tool for the fastest excavation
- Compact jacking equipment for fast site set-up
- Suitable for all types of pipes, RCP, steel, GRP
- Machine Diameter can be easily increased with simple bolted extension kits

Main applications
- In homogenous and almost stable ground with no groundwater:
  - Fresh & waste water trenchless works
  - Pipeline installation
  - Cable tunnels
  - Gas pipelines
  - Utilities

Besides ordinary and conventional Microtunnelling units equipped with soft or hard rock grounds heads, we can offer pipe-jacking machines and auxiliary equipment, such as jacking stations, as well as Open face Excavation Machines in a very wide range of sizes, such cost-efficient and easy-to-operate machines can be equipped with interchangeable cutting booms fitted with hammers, radial cuttingheads or excavator buckets so to perfectly adapt to the geology to be encountered.

Main applications
In homogenous and almost stable ground with no groundwater:
- Fresh & waste water trenchless works
- Pipeline installation
- Cable tunnels
- Gas pipelines
- Utilities

ADVANTAGES OF USING OPEN FACE EXCAVATION MACHINES
Minimal disruption in urban areas as well as slow impacts on environment, thanks to the biodegradable oils that are used in the systems.

These low budget products can help smaller companies to be active and competitive by adopting mechanized tunnelling/boring solutions, even for those small jobs which would not justify the financial efforts as required for more expensive full face equipment.

<table>
<thead>
<tr>
<th>MACHINE MODEL</th>
<th>OMM1200</th>
<th>OMM1500</th>
<th>OMM1600</th>
<th>OMM1800</th>
<th>OMM2000</th>
<th>OMM2000</th>
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<tbody>
<tr>
<td>Pipe ID</td>
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<td>1500</td>
<td>1600</td>
<td>1800</td>
<td>2000</td>
<td>2000</td>
<td>2500</td>
</tr>
<tr>
<td>Pipe OD</td>
<td>mm</td>
<td>1490</td>
<td>1820</td>
<td>1940</td>
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<tr>
<td>Machine OD</td>
<td>mm</td>
<td>1505</td>
<td>1850</td>
<td>1970</td>
<td>2150</td>
<td>2450</td>
<td>2550</td>
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<tr>
<td>Face access</td>
<td></td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<td>100</td>
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<td>6000</td>
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<td>Steering cylinders direct</td>
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<td>4</td>
<td>4</td>
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<td>8</td>
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<td>Launch shaft diameter</td>
<td>m</td>
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<td>5,3-6</td>
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<td>6-9x5</td>
<td>9x5</td>
<td>9x5</td>
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</tbody>
</table>
INTERMEDIATE JACKING STATIONS

When boring drives exceed 100/150 linear metres, very often the main jacking station alone is not powerful enough to provide the machine (either RCM or OMM) with the necessary thrust as required to advance. The maximum drive length that can be obtained by only using the external main jacking station is not constant and cannot be precisely predicted, due to the presence of several factors such as the pipes frictions, the pushing force and the pipes diameters.

In such a case, when the pipe diameter is large enough to allow the entrance of an operator, the adoption of intermediate jacking stations is recommended.

Such devices (operated by the machine operator via the on board PLC computer located inside the container’s cabin) are located between the boring lining pipes at pre-determined intervals according to the job specifications and provide the additional pushing force to advance. Palmieri Group can supply a wide range of intermediate jacking stations, all tailor made and designed in accordance with the specific jobs and machinery features.

EXTENSION KITS

One of the biggest microtunneling’s technique’s advantages (Either for RCM or OMM type machines) is the possibility, within a certain diameter range, to easily increase the machine boring diameter by simply installing a removable “Upsizing Kit” which is easily bolted onto the original machine can. By using the same main jacking station and the same machine body, clients can widen their machines boring diameter range with minimal investments and a very simple technology.

Palmieri Group can supply a wide range of microtunneling equipment related components and auxiliary parts, (either for Palmieri’s original design machines and for some of our most respected competitors ones) and services, such as, for instance:

- Brand new Upsizing Kits either for RCM and OMM machines complete with adequately sized cutterheads specifically conceived for the specific soil conditions.
- Refurbishment and/or alterations of used Upsizing Kits either for RCM and OMM machines and their used cutterheads with possibility to make modifications to better suit the specific soil conditions.
- Rental of Upsizing Kits and full refurbished machines and auxiliary equipment.

Thanks to its 40 year experience in the tunnelling industry, the Palmieri group is extremely active in the business as listed above as well as in the design and manufacture of special cutting tools and cutterheads that are, in most of the cases, specifically custom-made to clients’ needs, machine’s specifications and job peculiarities so to make sure our clients are always supplied with what we deem to be the most suitable and successful solution available on the market.

TOP SERVICE SUPPORT WITH A 24-HOUR HOTLINE SERVICE FAST SPARE PARTS AVAILABILITY RESULTING IN MINIMAL DOWNTIMES.