



PASS™
Palmieri Advanced Splitting System



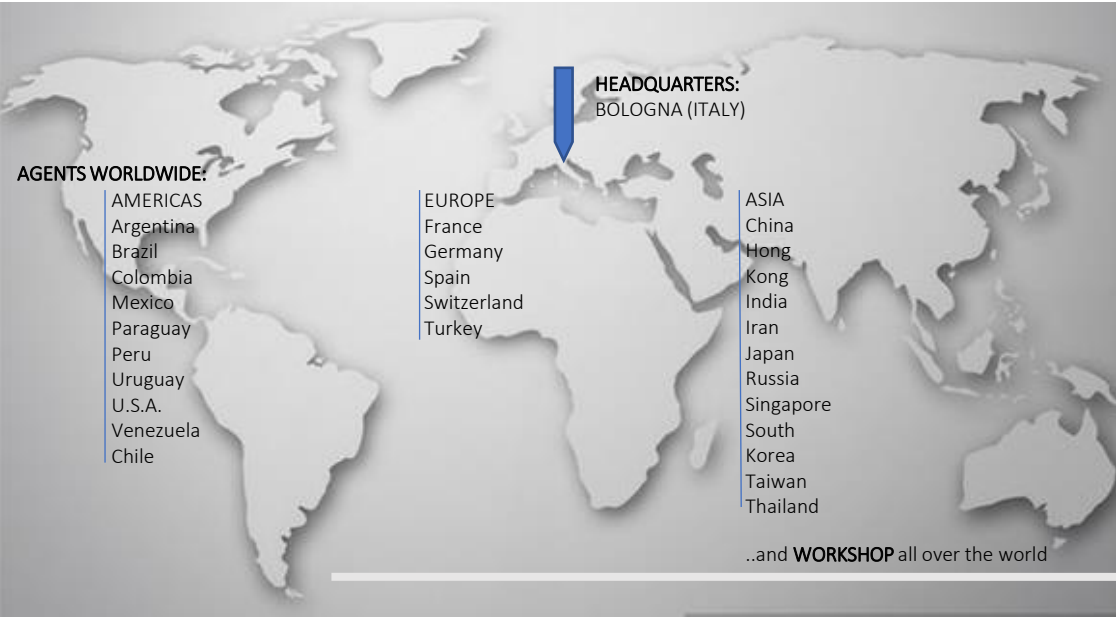
ABOUT PALMIERI GROUP

With over 40 years of experience in the manufacture of parts and consumables related to the Tunneling and Drilling activities Palmieri is nowadays one of the leading and most specialized companies worldwide.

Design and production of either rotating and fixed tools for any type of excavation, from horizontal boring (Tunnels for road, railways and water) to vertical boring and drilling has been Palmieri focus since the very beginning.

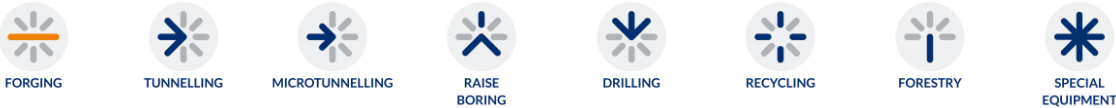
From the initial start with tools as core business, the Company has extended its range of interest to Engineering development, manufacturing, refurbishment and rental of underground equipment such as TBMs, Raise Boring Machines, Microtunnelling / Pipe jacking equipment, Cutterheads, Back-Up systems, Rolling Stock, as well as innovative and non-conventional solutions for all the above mentioned business sectors.

Recycling and forestry have also become an important area where to work offering a wide range of tools and tool holders, that are fully compatible with almost all machineries and equipment on the market.



Nowadays Palmieri Group consists of 2 companies whose respective business and know-how are strategically integrated in order to deliver the most accurate and efficient service on the market.

Palmieri's determination to achieve the diverse requirements of clients world-wide is parallel with its advancing technological resources. The use of CAD/CAM and CNC for design and precision machining are evidence of Palmieri's commitment of extremely high quality and efficient work practices. Palmieri uses only the finest European steel, robotic material handling systems and ultra modern CNC (computer numerical controlled) machines. Thanks to its productive independence, all the Group's products are designed and produced internally, ensuring full control over the entire supply chain. Nowadays the Group Companies are world leaders in production capabilities and can provide all products with delivery times that are amongst the shortest in the industry, followed by first class services all over the world.



PRESENTATION

The PASS technology which has been entirely designed and produced by Palmieri Group, is an Organic Fraction Municipal Solid Waste (OFMSW) pre-treatment solution designed to be used in Biogas plants. The machine, equipped with the most advanced technologies, allows for higher productivity, efficiency and versatility.

PASS DESCRIPTION

The PASS system is composed of three modules: a pre-shredder module located at the top of the System, a squeezer module and an iron remover installed between those two modules.

Pre-shredder Module

The pre-shredding phase is carried out by a slow shredder, loadable from the top, that allows the flow of more suitable and homogenous material to the squeezer. This module is suitable for the shredding of dirty and non-homogeneous waste from urban or industrial collection, as well as being suitable for putrescible organic fractions of agricultural origin, due to its adjustability.

Iron remover Module

The metal separator module is positioned between the pre-shredder and the squeezer modules. By means of a magnetic drum, ferromagnetic materials are separated from non-magnetic ones. The shredded and cleaned up material is carried inside the Squeezer Module, while the ferrous bodies, which could damage parts of the machine, are expelled outside through a slide.

Squeezer Module

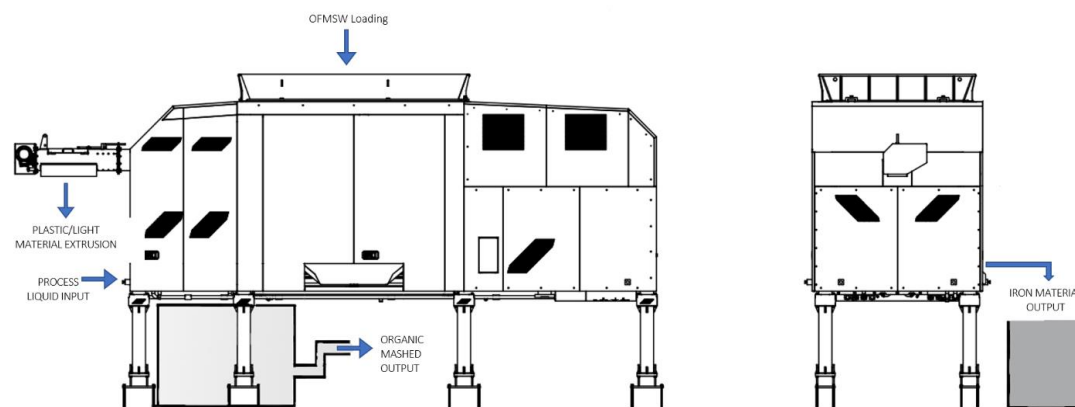
The squeezer module is fed with a screw; it produces an organic mashed waste from the OFMSW and sorts out the solid waste. The end product is suitable for the process of anaerobic digestion.

SYSTEM USE

The machine is fed from above by means of special loading systems; the waste enters a pre-grinding zone, adjustable according to the type of waste, and then it passes in a hopper that feeds the squeezing unit. When in fully operational conditions, the machine has an estimated productivity of 15 t/h.



"with PASS producing Biogas is easier and faster"



SYSTEM ADVANTAGES

PASS is designed to improve operational and productive efficiency of OFMSW treatment plants, with the following advantages:

- **Flexible**

Thanks to its different modules it can be a shredder, iron remover and squeezer.

- **Compact**

It allows the optimization of the occupied spaces and the reduction of the loading passages from one machine to another, rationalizing the workers stations and reducing the maintenance costs of the plant.

- **Resistant**

With the screw seat of the feeding tube and the tanks being made of stainless steel, the machine is particularly resistant to corrosion, especially in the critical parts.

- **Easy Maintenance**

The easy access to almost all parts of the machine through inspection doors, makes maintenance and the evacuation from product and/or possible foreign bodies that enter into the feed tank, significantly easier. The possibility of extracting the feeding screw of the squeezer module from both sides, at the front and at the back, also makes the maintenance work more effortless. Another advantage is that PASS is powered exclusively by electrical motors.

- **High Productivity**

The machine provides high performance in all conditions with high reliability and productivity thanks to its technology.

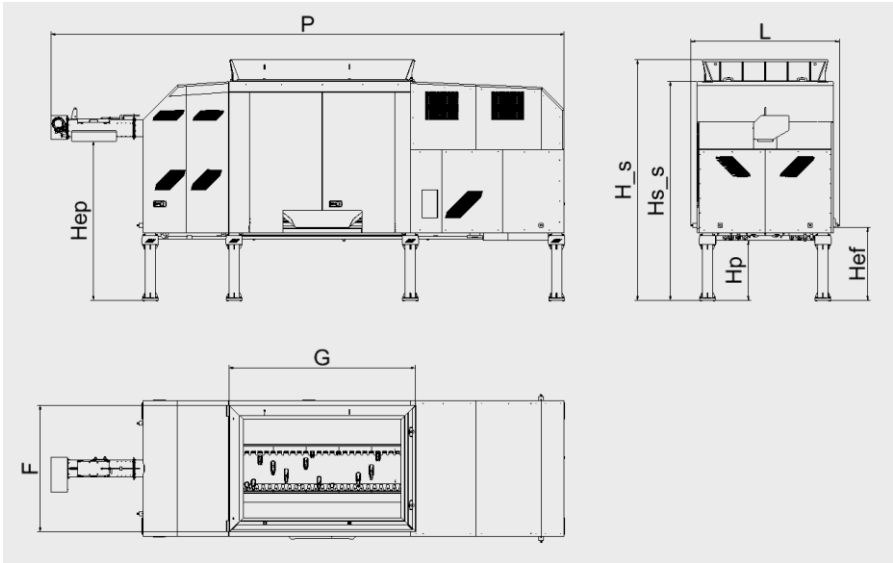


CONTROL and ELECTRICAL DEVICES

Shredder motor with inverter	115 kW
Squeezer feeding screw motor with inverter	7,5 kW
Squeezer motor	55 kW
Plastic screw extruder motor	2,2 kW
Magnetic drum motor with inverter	750 W
Motovibrator unloading ferromagnetic materials	70 W
Antirodents cabling inside the machine	
8 Load cells	
Electrical control panel for remote machine controller with screen	
Software (can be integrated with the plant supervisor)	

OPTIONAL

- Cabling from the machine to the control panel
- Squeezed material collection tank
- Iron material collection tank
- Booster pump
- Lower collection tank level meter



Yield	15 Ton/h
PASS Total weight	27.700 Kg

Dimensions:

Total length - P	9.800 mm
Maximum width - L	2.800 mm
Total height with over hopper - H_s	4.600 mm
Loading section with over hopper - FxG	2.300 x 3.440 mm
Loading section without over hopper	1.990 x 3.100 mm
Total height without over hopper - Hs_s	4.200 mm
Extraction height light materials - Hep	3.035 mm
Iron ejection height - Hef	1.400 mm
Height - Hp	1.150 mm
Squeezer rotor diameter (tools included)	630 mm
Pre-shredder rotor diameter (tools included)	800 mm

Installed powers:

Pre-shredder motor with inverter	115 kW
Squeezer feeding screw motor with inverter	7,5 kW
Squeezer motor	55 kW
Light material extruder screw motor	2,2 kW
Magnetic drum motor with inverter	750 W
Moto vibrator ferromagnetic unloading materials	70 W

Pre-shredder Module:

Bag opener capacity with over hopper	5 m³
Bag opener capacity without over hopper	3 m³

Squeezer Module:

Squeezer hopper capacity	1,7 m³
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* All measures are to be considered indicative. The manufacturer reserves the right to modify them



Enduring Quality and Performance



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