

## OUR MISSION

The theme of SUSTAINABILITY is one of the pillars of ITR business philosophy, OMAR's division dedicated to recycling.

Environmental sustainability, or rather preserving the biophysical conditions of the Earth, with a strong focus on the use made of its resources; resources that cannot be exploited indefinitely.

Social sustainability, through the respect and protection of life and the commitment to our internal and external stakeholders.

Economic sustainability that is to say promoting dedicated systems that guarantee greater production efficiency in order to make our customers increasingly competitive, adding value to their production processes and at the same time reducing the emissions.

On these simple but basic concepts, ITR and OMAR create their mission by producing high-efficiency recycling plant for municipal solid waste, ferrous and non-ferrous metal scrap, air purification and pollutants filtration systems, considerably contributing to the reduction of CO2 emissions.

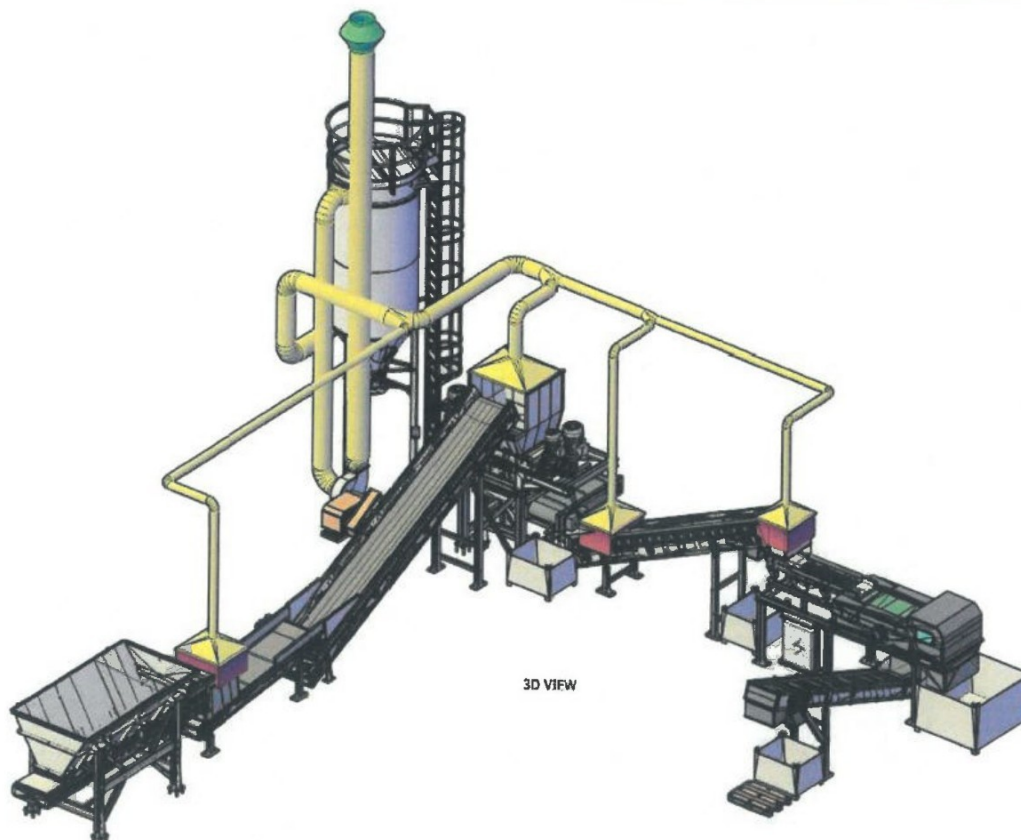
O.M.A.R.'s consolidated know-how offers safe, highly efficient plant solutions specifically designed for each customer.

This has been O.M.A.R.'s commitment for people and environment since 1978.

The full satisfaction of our customers is O.M.A.R.'s main goal. O.M.A.R. works according to the ISO 9001-2008 quality management and certification system, and is certified SOA OS 14 class V in order to attend at community tenders.

**02.00 ITEM OF THE PLANT**

| Item | Description                                                                                                           |
|------|-----------------------------------------------------------------------------------------------------------------------|
| 1    | Feeding bunker mod. ITR TND 0855                                                                                      |
| 2    | Conveyor belt for manual selection – 1.000x4.000 mm<br><i>With no. 1 sorting step</i>                                 |
| 3    | Conveyor belt to load four-shaft shredder – 1.000x8.000 mm                                                            |
| 4    | Four-shaft shredder mod. ITR FSS 130 – 2x15 kW + 2x30 kW electric                                                     |
| 5    | Vibrating table ITR VTR 1030 for material extraction                                                                  |
| 6    | Magnetic separator overbelt, with support structure                                                                   |
| 7    | Conveyor belt for non-ferrous material output, with magnetic pulley for small iron components recovery – 800x6.000 mm |
| 8    | Eddy current separation system mod. ITR SCP 080                                                                       |
| 9    | Conveyor belt for inert material output, with magnetic pulley neodimium – 600x6.000 mm                                |
| 10   | Electrical cabling and wiring of the line                                                                             |
| 11   | Air filtration system 10.000 m <sup>3</sup> /h                                                                        |
| 12   | Engineering                                                                                                           |

**03.00 LAYOUT**




|   |       |                                                                           |
|---|-------|---------------------------------------------------------------------------|
| 3 | No. 1 | <b>CONVEYOR BELT TNR1080 TO LOAD FOUR-SHAFT SHREDDER – 1.000x8.000 mm</b> |
|---|-------|---------------------------------------------------------------------------|

| Pos | Q.ty | Width                              | Wheel base drums | Type of rubber belt                                             | Pow. | Ø Transmissi on drum | Note                        |
|-----|------|------------------------------------|------------------|-----------------------------------------------------------------|------|----------------------|-----------------------------|
|     | n    | mm                                 | mm               | °                                                               | kW   |                      |                             |
| 3   | 01   | 1.000<br>Useful: 900<br>Cleat: 850 | 8.000            | Chevron<br>With cleats<br>Double covered<br>Anti-oil, anti-wear | 4    | 203                  | To load four-shaft shredder |

|   |       |                                                                            |
|---|-------|----------------------------------------------------------------------------|
| 4 | No. 1 | <b>FOUR-SHAFT SHREDDER mod. ITR FSS 130 – 2x 15 kW + 2x 30 kW electric</b> |
|---|-------|----------------------------------------------------------------------------|

*The four-shaft shredder is a machine suitable to the processing of different types of materials as well as urban waste, tyres, wood, plastic, electronic materials, etc. The special feature of the machine and the strength of the structure, referred to the model and dimension of the machine, allows the volumetric reduction and the rough off of the material for the following recycling and valorisation processes. The material is conveyed, through conveyor belts or loaders inside a hopper properly designed for each application. Below the hopper it is situated the proper working chamber. This is composed by four contra-rotating shafts with cutting blades. For different applications, different type of blades and configurations are foreseen according to the material to be treated.*



|   |       |                                                                                      |
|---|-------|--------------------------------------------------------------------------------------|
| 5 | Nr. 1 | <b>VIBRATING TABLE ITR VTR 1030 for material extraction, made of stainless steel</b> |
|---|-------|--------------------------------------------------------------------------------------|

Vibrating table for material conveying, with support structure, electro-welded sheet, with vibration dampers, **made of stainless steel.**

Dimensions:

1.000 x 3.000 mm



- transport speed: 1m/s;
- worm screw gearmotor, 4 poles;
- 400V - 50Hz three-phase / installed power: see following table;
- motorization on the left side, unless otherwise specified;
- no. 2 front supports adjustable by threaded rod for centering;
- no. 2 adjustable threaded bar slide tensioner supports;
- lateral containment sides in bent sheet metal, in the quantities and dimensions necessary for the correct functioning of the line;
- material unloading and conveying hoppers, in the quantities and dimensions necessary for the correct functioning of the line;
- support structures, adjustable to compensate for the slight unevenness of the support floor.

| Pos | Q.ty | Width                            | Wheel base drums | Type of rubber belt                                             | Pow. | Ø Transmissi on drum | Note                                                                                                                     |
|-----|------|----------------------------------|------------------|-----------------------------------------------------------------|------|----------------------|--------------------------------------------------------------------------------------------------------------------------|
|     | n    | mm                               | mm               | °                                                               | kW   |                      |                                                                                                                          |
| 7   | 01   | 800<br>Useful: 700<br>Cleat: 650 | 6.000            | Chevron<br>With cleats<br>Double covered<br>Anti-oil, anti-wear | 4    | 203                  | Non-ferrous material output<br><br>Stainless steel hopper<br><br>With magnetic pulley for small iron components recovery |



|   |       |                                                                                                                                   |  |  |  |  |  |
|---|-------|-----------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|
| 8 | No. 1 | <b>EDDY CURRENT SEPARATION SYSTEM mod. ITR SCP 080, WITH LOADING VIBRATING TABLE SUPPORT STRUCTURE AND ELECTRIC CONTROL PANEL</b> |  |  |  |  |  |
|---|-------|-----------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|

Technical characteristics of non-ferrous metal separator:

- Structure in 8 mm thick carbon steel sheet
- Stainless steel protections
- Stainless steel casing
- Useful belt width: 800 mm
- PVC tape

|  |  |  |  |                     |  |  |                              |
|--|--|--|--|---------------------|--|--|------------------------------|
|  |  |  |  | Anti-oil, anti-wear |  |  | With special magnetic pulley |
|--|--|--|--|---------------------|--|--|------------------------------|

|    |   |                                                  |
|----|---|--------------------------------------------------|
| 10 | - | <b>ELECTRICAL CABLING AND WIRING OF THE LINE</b> |
|----|---|--------------------------------------------------|

|    |       |                                                     |
|----|-------|-----------------------------------------------------|
| 11 | No. 1 | <b>AIR FILTRATION SYSTEM 10.000 m<sup>3</sup>/h</b> |
|----|-------|-----------------------------------------------------|

|  |                               |
|--|-------------------------------|
|  | <b>GENERAL SPECIFICATIONS</b> |
|--|-------------------------------|

|                                                                    |                                                                        |
|--------------------------------------------------------------------|------------------------------------------------------------------------|
| Final destination of the system                                    | See above                                                              |
| Temperature of the external environment                            | -10 / +35 °C                                                           |
| Height above the sea level                                         | To be checked m                                                        |
| Voltage and Frequency                                              | 400 Vac – 50 Hz                                                        |
| Auxiliaries voltage                                                |                                                                        |
| • PLC and sensors                                                  | 24 V ac/dc                                                             |
| • Level control and filtering bags' cleaning                       | 110/220 V ac                                                           |
| Painting cycle for non-galvanized and non stainless steel material | 60 µ primer+ 60 µ synthetic enamel                                     |
| Colour used for non-galvanized and non stainless steel elements    | RAL 7005 ducts, filter and centrifugal fan<br>RAL 2004 protection case |

|  |                    |
|--|--------------------|
|  | <b>VENDOR LIST</b> |
|--|--------------------|

|                            |               |
|----------------------------|---------------|
| Electric motors            | Siemens IE3   |
| Gear units                 | Sew           |
| Electrical cabinets        | Zanardo / CEB |
| Main switch with door lock | ABB / Socomec |
| Inverter / soft start      | ABB / Siemens |
| Pneumatic components       | Univer        |

NB: Vendor list to be confirmed based on market availability

|  |              |
|--|--------------|
|  | <b>DUCTS</b> |
|--|--------------|

| Galvanized ducts        | Thickness (mm) | Type of junction |
|-------------------------|----------------|------------------|
| from Ø 0 to 240 mm      | 0,6            | rings            |
| from Ø 260 to 600 mm    | 0,8            | rings            |
| from Ø 640 to 840mm     | 1              | rings            |
| from Ø 900 to 1.000mm   | 1,2            | rings            |
| from Ø 1.000 to 1.450mm | 1,2            | flanges          |
| from Ø 1.500 to 1.800mm | 1,5            | flanges          |

|                                       |                                                                                                                                  |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Type of filtering bags installed      | Polyester needle felt on polyester reinforcement with low filtering threshold, average permeability, high resistance to traction |
| Treatment                             | Antistatic with stainless fibres                                                                                                 |
| Weight                                | 500 gr/m <sup>2</sup>                                                                                                            |
| Maximum operating temperature         | 130 / 150 °C                                                                                                                     |
| No. of filtering bags                 | 88                                                                                                                               |
| Dimensions of the filtering bags      | Ø 123 x h 3.000 mm                                                                                                               |
| Maximum consumption of compressed air | 17÷30 Nm <sup>3</sup> /h(**)                                                                                                     |
| Maximum pressure drop at the filter   | 800 Pa                                                                                                                           |

### CENTRIFUGAL FAN

|                         |                                                       |
|-------------------------|-------------------------------------------------------|
| Type of centrifugal fan | Centrifugal fan, high efficiency with reversed blades |
| Centrifugal fan power   | 15 kW                                                 |

\*\* The compressed air consumption value, which has to be supplied filtered and dehydrated by the customer (free from water and oil condensations), with pressure regulator, is calculated with an operating pressure of 6 bar.

### SCOPE OF SUPPLY

- |    |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01 | n° 4 | SUCTION HOODS to be positioned above the pollutant development area, made of galvanized steel plate thickness 1,2mm, properly dimensioned:<br>1.500 x 500 mm to be positioned on the conveyor belts                                                                                                                                                                                                                                                                                                                              |
| 02 | n° 6 | CONNECTIONS from the main duct to the suction points indicated in the project data paragraph.<br>- Made of galvanized spiral steel plate;<br>- Manual exclusion/adjusting dampers;<br>- Flexible connection tubes.                                                                                                                                                                                                                                                                                                               |
| 03 | n° 1 | MAIN DUCT for the connection of the various suction points to the filter.<br>- Made of galvanized spiral steel plate, inclusive of bends, bifurcations and connecting ducts;<br>- Made of painted carbon steel plate, inclusive of bends, bifurcations and connecting ducts;<br>- Diameter of 400 mm;<br>- Total length of about 20 m;<br>- Sectional bends spot welded and/or crimped.<br>- no. 4 supports on the ground for the duct, made of painted steel profiles.                                                          |
| 04 | n° 1 | SELF-CLEANING BAG FILTER, with filtering bags upstream cleaning through compressed-air impulses, our model PJC 2000, <b>circular section filter with oversized hopper to create a cyclone effect</b> . It is basically composed of:<br>- body of filter, circular section, diameter of 2.000mm, total height of 8.000mm, made of more stages among them flanged. Made of painted carbon steel plate, thickness 2,5mm, with bags' holding plate;<br>- pipe against fire;<br>- access ladder to the roof inclusive of protections; |

- Sampling port/s for the analysis, fabricated and positioned according to the UNI EN 15259:2008 Regulation.

- 11      n° 1      DUSTS DETECTION SENSOR triboelectric, to install at the expulsion chimney of the bag filters with pneumatic cleaning. It is a compact device inclusive of a probe able to measure dust particles of size  $\geq 0,5 \mu\text{m}$  with a concentration of 0,1 mg/m<sup>3</sup>. Inclusive of 4-20mA outlet.

|                                   |  |  |
|-----------------------------------|--|--|
| <b>ACCESSORIES FOR THE SYSTEM</b> |  |  |
|-----------------------------------|--|--|

- 12      n° 1      ELECTRIC SWITCHBOARD to manage and control the plant, to be placed in a neutral area without dusts and not exposed to atmospheric agents, degree of protection IP55. The switchboard will be supplied with electrical drawings and CE conformity declaration, supposed with the cables entry from the top, unless otherwise specifically requested by the Customer. The switchboard will control:
- start-up of 15 kW fan motor in star/triangle;
  - power supply of the control panel for the filtering bags' cleaning;
  - direct start-up of the discharging valve from the filter;
  - safe management of the level control;
  - power supply of the spark detection system's control unit and dust detection probe;
- 13      n° 1      MATERIALS FOR THE ELECTRICAL CONNECTIONS OF THE SUCTION POINTS ABOVE INDICATED, starting from the switchboard. The maximum distance between the Switchboard and the suction points is set approximately within 10 meters. Any other request will be subject to specific quotation. Eventual materials for the wiring work of the exclusion / inclusion solenoid valves at the service of the machines placed on the connection are excluded.



|    |   |             |
|----|---|-------------|
| 12 | - | ENGINEERING |
|----|---|-------------|

- The customer also declares to acknowledge the specific risks induced by the activity of the contractor, as specified in the "Construction site safety plan", that declares to have received with the signing of this contract.

"Plant" means the supply of the components listed in this offer.

Therefore, it is not part of the Article 2 Co. 2 Lett. A) point 4 of Legislative Decree no. 17 of 27/01/2010, which defines a set of machineries arranged and managed in such a way as to have an integral functioning.

If the electrical and / or hydraulic and / or pneumatic connections are excluded from this contract, but directly commissioned to other suppliers, the commissioning of the plant must in any case be carried out at the presence of an O.M.A.R. technician.

Otherwise, O.M.A.R. will not be liable for any damage due to malfunctions or problems occurred during the commissioning.

|              |                                                                  |
|--------------|------------------------------------------------------------------|
| <b>07.00</b> | <b>TECHNICAL CRITERIA FOR THE DESIGN OF MACHINES AND SYSTEMS</b> |
|--------------|------------------------------------------------------------------|

The design of the system is done following the regulations and the decrees in force in the field:

- *UNI EN ISO 12100: 2010 - Safety of machinery - General design principles - Risk evaluation and risk reduction;*
- *UNI EN 12779: 2016 (Fixed extraction systems for chips and dusts);*
- *LEGISLATIVE DECREE 27 January 2010, n. 17 Fulfillment of the Directive 2006/42 / EC, regarding the machineries (GU General Series n.41 of 19-02-2010 - Ordinary Supplement n. 36).*

In addition, in the design are observed the requirements imposed by:

- *Regulation UNI EN 15259: 2008 Air quality - Measurement of emissions from fixed source - Requirements of the calculations and measurement sites and of the purpose, of the plan and of the measurement ratio;*
- *LEGISLATIVE DECREE. 9 April 2008, n. 81 Text coordinated with the Legislative Decree 3 August 2009, n. 106 (SINGLE TEXT CONCERNING HEALTH AND SAFETY AT WORK);*
- *LEGISLATIVE DECREE 3 April 2006, n. 152 Environmental regulations and subsequent changes TUA 2020;*
- *LEGISLATIVE DECREE 4 March 2014, n. 46. Criteria on the applicable methods of the regulation in relation to integrated prevention and reduction of pollution in view of the changes introduced by the decree.*

*As an indication, not entirely exhaustive and not binding, the noise levels of the machines are indicated in the offer. What is indicated in the offer reflects the Customer's requests, but cannot in any way be understood or being a substitute for an Acoustic Assessment, which remains the Customer's responsibility as per Directive 2003/10 / EC of 6 February 2003.*

Following the Regulation UNI EN ISO 19353:2019 Safety of the machinery - Fire prevention and protection, all OMAR's self-cleaning bag filters are equipped with a 1 ½ "diameter drowning duct placed in the filtered air outlet room, with a connection point on the filter head. Its function is to introduce into the filter a quantity of water greater than 10 liters / minute per square meter of surface in case of fire inside the filtering system.

If, according to your observations and on the basis of your fire prevention plan, this needs to be modified, it will be your responsibility to inform us in advance in order to provide for the required changes.

The connecting duct, which is chargeable to the user, must include an interception valve with manual control positioned at a distance of about 5 meters from the filtering system, following the decrees of the UNI EN 12779: 2016 regulation.

It should be noted that the eventual presence of an automatic spark detection and extinguishing system on the main connecting duct to the filter, is not yet regulated in Italy since the spark detectors on the suction duct and the control unit are not included in the regulations.

|              |                                                           |
|--------------|-----------------------------------------------------------|
| <b>09.00</b> | <b>INCLUSIONS AND EXCLUSIONS FROM OUR SCOPE OF SUPPLY</b> |
|--------------|-----------------------------------------------------------|

**OUR SUPPLY INCLUDES**

- Survey on site.
- Basic engineering, meant as:
  - Drawings necessary to build and install the plant, inclusive of indications for civil works (structural calculations are excluded).
  - Basic specifications needed to project the electric switchboards (when these are excluded from our scope of supply).
  - Copy of instruction manual of use and maintenance with conformity declaration DIRECTIVE 2006/42/CE all. IIB for all the supplied machines, in Italian/English (English abroad) on digital format.
- Assembly of the products and/or the plant.
- Start-up and/or supervision of the plant start-up.
- Any travel expenses of our personnel.
- Electric switchboards and wiring diagrams, unless otherwise indicated in the supply.

**Except for what explicitly mentioned in the offer, OUR SUPPLY EXCLUDES**

- Transport of the supplied equipment to the Customer's site, unless it is specifically mentioned in the offer.
- VAT, duties and customs' charges.
- Personnel and lifting equipment for the goods unloading and the assembly.
- Building works foundations and structural calculations.
- Drilling operations for making the holes in which the ducts will pass through and flashing for the holes' plugging.
- Disassembly and disposal of materials that must be replaced.
- Disposal of Products' packagings and any residual materials.
- Low voltage power supply system to the electric switchboards and relative differential magnetothermic protection to protect the electric switchboard.
- Raw materials needed for the products testing.
- Connections from the electric switchboards to the various suction points unless expressly indicated in the scope of supply.
- Equipotential connections of the suction lines, the equipments' earthing and the connections to the factory network.
- Hydraulic and pneumatic connections with relatednpressure regulation devices.
- Hydraulic oil.
- Wiring and network connections (Ethernet).
- Thermal and acoustic insulations where not specified.
- Accessibility to the pipe union for taking the samples and doing the analysis.
- Direction of works that go beyond the scope of the supply.
- Electricity (necessary for the assembly) that must be made available by the customer during the works execution.
- Copies of use and maintenance manuals and conformity declarations of the machines supplied, in languages different from those specified in the previous paragraph.
- Plant manual and / or plant's certifications as "set of machineries or partly completed machineries which, to achieve the same result, are arranged and controlled in such a way as to have a solid functioning" (as defined by Directive 2006/42 / EC).
- Technical and practical reports for the atmospheric emissions required by the Authorized Institutions.
- Translations of any other documentation.
- Emissions' sample at the exhaust hood and Certifications for the Emissions in the atmosphere.
- Hydraulic and fireproof project carried out by a qualified technician.
- Phonometric surveys and / or further soundproofing works due to environmental conditions or requests from Authorities and not included in this offer.
- Interventions for checking of correct installation or commissioning of the electric components (inverter, probes, sensors, spark detectors, etc.) not wired by O.M.A.R.'s staff.
- Specialized and non-specialized personnel for assistance to the Seller's technicians during the works execution, including interpreter if necessary.
- In general anything else not expressly indicated in the scope of supply.