OMNIA RESINA MAZZOTTI

DEPURAZIONE ACQUE E SERBATOI

USE AND MAINTENANCE MANUAL

CONTENTS

CE

DICHIARAZIONE DI CONFORMITA'

DECLARATION OF CONFORMITY

Il Fabbricante *The Manufacturer*
Omnia Resina Mazzotti S.r.l.
Via Molinello, 10/B - 48010 Bagnara di Romagna (RA) - ITALY

dichiara che la macchina INTERCETTORE PER ACQUE DI PRIMA PIOGGIA
declares that the machine FIRST RAIN INTERCEPTOR

Modello	*Model*
Anno di costruzione	*Year of manufacture*
N° di matricola	*Machine number*

È conforme a:

- UNI EN 858-1 Impianti di separazione per liquidi leggeri (per esempio benzina e petrolio) - Parte 1: Principi di progettazione, prestazione e prove sul prodotto, marcatura e controllo qualità
- 89/106/CE Direttiva Prodotti da Costruzione
- 2006/42/CE Direttiva Macchine
- 2004/108/CE Direttiva Compatibilità Elettromagnetica
- 2006/95/CE Direttiva Bassa Tensione

As per standards

- *UNI EN 858-1 Separator systems for light liquids (e.g. oil and petrol)–– Part 1: Principles of product design, performance and testing, marking and quality control*
- *89/106/EEC Construction Products Directive*
- *2006/42/EC Machine Directive*
- *2004/108/CE Electromagnetic Compatibility Directive*
- *2006/95/CE Low Voltage Directive*

Bagnara di Romagna, lì _____

O.R.M. OMNIA RESINA MAZZOTTI S.R.L.
LEGALE RAPPRESENTANTE
Giambattista Mazzotti

IDENTIFICATION PLATE

Omnia Resina Mazzotti S.r.l.
Via Molinello, 10/B
Bagnara di Romagna - RA - ITALY

EN 858-1
(89/106/CEE)

2006/42/CE
2004/108/CE
2006/95/CE

Tipo *Type*	**INTERCETTORE ACQUE DI PRIMA PIOGGIA** ***FIRST RAIN INTERCEPTOR***
Modello *Model*	
Anno di costruzione *Construction year*	
Matricola n° *Serial no.*	
Tensione *Voltage*	**230 Vac**
Frequenza *Frequency*	**50 Hz**

Class	**I**
Nominal size	**NS ≤ 3**
Material	**GRP**

MANUFACTURER'S IDENTIFICATION DATA
ORM Omnia Resina Mazzotti s.r.l.
Via Molinello 10/b 48010 Bagnara di Romagna (RA) ITALY
Tel.: +39 0545 76037 Fax: +39 0545 76539
E-mail: omniares@orm.it Web: www.orm.it

You must always be able to read the identification plate; if it deteriorates request a new one to the manufacturer and keep the original one. For any information about the interceptor always refer to the manufacturer ORM reporting the plate identification data.

2. GENERAL WARNINGS

The system must be used in agreement with what specified in these instructions: **it is recommended therefore to read the instructions carefully** without leaving out anything of what it is written and illustrated. The mentioned instructions and recommendations allow the operator to use the system in the way and methods permitted by the manufacturer.

If the operator were to detect discrepancies between what is written in this document and the system, he must immediately inform the manufacturer without using the plant. **Mishandling** may be source of danger for operator's health and/or people standing near the unit.

WARNING!
Operating instructions are integral part of the plant. It is therefore necessary to keep them in good state and in a safe place. They must be at disposal of the user or the operator (or anyone authorized to use the plant who requires them). The operating instructions must be kept as long as the productive life of the plant.

In case of sale, rent, lease or right to use the plant, the instructions should go with.

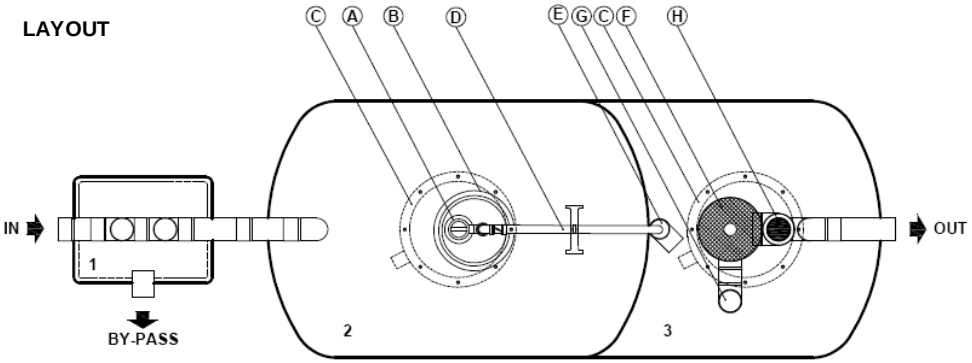
YOU MUST READ THE MANUAL
The employer (or his representative) must read the contents of these instructions to the operators. Not knowing the **information** contained in this manual may generate a **risk situation** and may **endanger the operator's health.**

These instructions are written to give all necessary information to the operator's proper training, in order to prevent improper and dangerous use of the plant.

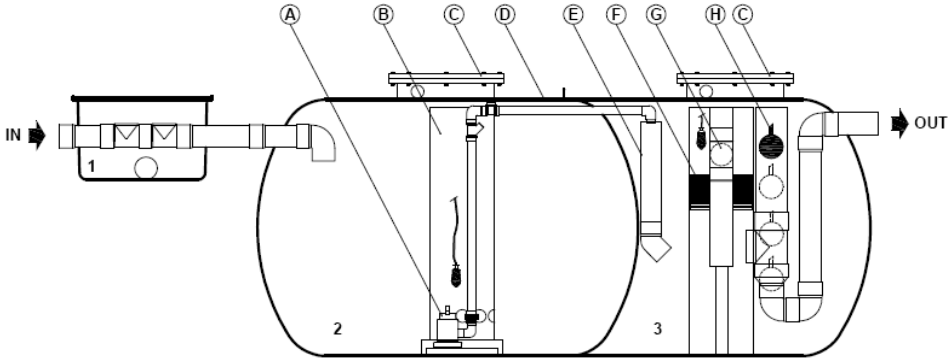
Use of the plant for purposes other than those provided, or otherwise improper use of the same invalidate any liability of the Manufacturer Omnia Resina Mazzotti.

WARNING!
Tampering, replacement, modification not authorized by the Manufacturer Omnia Resina Mazzotti of one or more parts of the plant cause decline of any Manufacturer's liability.

LAYOUT



LONGITUDINAL SECTION



LEGENDA

1 Overflow pit
2 Accumulation
3 Deoiling
A Motor pump
B Motor pump protection grid
C Inspection manhole with air valve
D Lifting hooks
E Quietness pipe
F Coalescence filter
G Filter inlet
H Floating block valve

4. HANDLING AND TRANSPORTATION

HANDLING

The tank must be lifted using means of appropriate load capacity (i.e cranes and mobile cranes) using:

- ropes to be set in the tank hooks
- slings (i.e. textile fiber bands)

WARNING!

Slinging operations must be carried out using only appropriate means in order to avoid that the tank falls or gets displaced from its original anchorage position. Slinging means must be chosen with great care, taking into consideration weight and characteristics of the tank as well as the strain the slings must bear , their angle and the slinging system. Check carefully the integrity of the ropes, belts ect. and their loading capacity related to the tank.

WARNING!

People in charge of these operations must be first well instructed: they must know how to fix loads correctly, they must know what slings to use and they must know how to operate in the highest safety way.

WARNING!

Before any handling operation check carefully that the tank is empty of any kind of material (i.e. rain water).

Make the slinging, check the good load balance lifting the load slowly and little.
Once the slings are checked, lift the load vertically and take care of its balance. Avoid dangerous leaning that may change load balance and give strain to the slinging means.
If these operations are carried out with more than one operator, make sure that only one of them is the leader of the instructions.
All lifting and handling operations must be carried out in a gradual way and never sudden.
Do not use hands to move the lifted tank, but use hooks and ropes. Tank must be only pulled never pushed. Avoid to stop under the lifted tank.

WARNING!

At the end of all the above mentioned operations check integrity of the tank in each of its parts and components.

TRANSPORTATION

Tanks must be transported on trucks of suitable dimension and load capacity. The tank must be placed horizontally, on a floor which must be smooth and free of bumps that may damage the tank walls. Use anti-rolling means (such as wedges, stoppers, wooden boards) that cannot damage the tank. Fix the tank on the floor with fabric slings.

GENERALITY
The installation of an underground tank - especially of big sizes - is classified as high risk and therefore it must be performed by experienced staff and overseen by a qualified technician as per provided security plan.
The way of laying must also minimize the pressure of the soil and the overloads on the tank walls, as the tank is structurally suitable to withstand external lithostatic pressure caused by a 30 cm earthfill (measured at the top of the cylinder generatrix) and the above pedestrian traffic.
Heaviest load conditions (for more earthfill and /or overload) require the realization of structural containment and support works which must be duly calculated by a qualified technician.
The following guidelines are intended for guidance only on the installation of underground tanks. Responsibility for any choice of action remains to the installer also in relation to the various possible real situations (soil type, stratum level, overloads).

EXCAVATION
Make an excavation of appropriate size (100 cm more than the maximum sizes of the tank) with the necessary embankment slopes to ensure stability.

FOUNDATION
Make a 20÷30 cm concrete slab (in case of need slightly reinforce it) at the bottom of the excavation. Level and remove any bump to ensure a good tank stability and protection and then lay 15÷20 cm sand.

TANK PLACEMENT
Place the tank perfect horizontally and anchor it to the slab with straps made of a material suitable for this use.

WARNING!
Do not use any anti-rolling means (wedges, stoppers, wooden boards) that may damage the tank during abutment and filling operations.

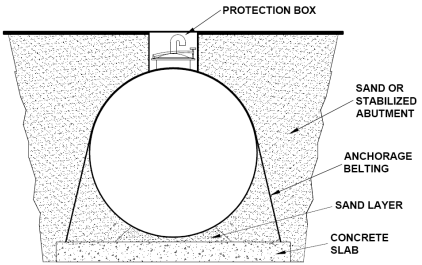
PARTICULAR CONDITIONS
PRESENCE OF A WATER BED - In case the tank is installed under a water bed level which cannot be permanently lowered throughout drainage operations, it is necessary to consider the upward pressure suffered by the floating empty tank by sizing appropriately the anchorage bands, the underneath concrete slab and any other protection operation.

PRESENCE OF CLAY SOIL - Line the excavation walls with a cloth made of filtering material a “nonwoven material “to prevent the clay from seeping into the interstices of the carrying drainage.

ABUTMENT
PEDESTRIAN TRAFFIC

WARNING!
The tank must not be digged at a depth deeper than 30 cm.
Lay the tank on a sand layer not less than 15÷20cm.

Start to fill gradually both tank chambers with clean water and **at the same time** make the abutment using sand or wet stabilized appx. 30 cm thick. Make sure to compact each layer before proceeding to next stratification.



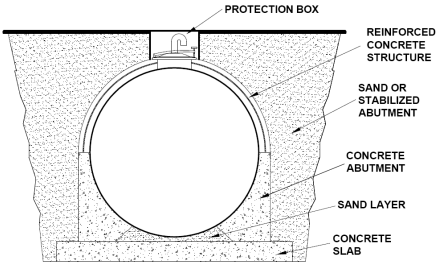
WARNING!
Once the filling operation is accomplished, make the electrical connections and then empty the accumulation chamber. Check up pump capacity and make sure that the minimum level switch works correctly.
Place the floating valve, anchoring the recovery extraction cable.

Backfilling completed, close the hole with max. 30 cm thick ground.
For bigger backfillings proceed as follows:

- up to 50 cm bury the upper part with leightweight material such as expanded clay;
- more then 50 cm proceed as mentioned in **"VEHICLE TRAFFIC".**

VEHICLE TRAFFIC

Fill the tank up to 1/2 of its capacity and at the same time make a concrete abutment.
Build a concrete vault or slab structure (see Fig.) that transmits loads from the top directly to the concrete abutment keeping in this way tank undamaged.



FINAL SETTINGS
INSPECTION HATCHES - use boxes made out of plate or other similar materials to protect the inspection hatches and make them accessible. If you use heavy material for the inspection hatches such as concrete or cast iron avoid direct load charge on the tank. Mark the presence of the underground tank on the surface.
CONNECTIONS - make connections using elastic joints or flexible pipes to favour ground settling.

6. ELECTRICAL CONNECTION AND USE IN SAFETY

The electrical connection must be in accordance with good practice and safety regulation standards, use an electric board or a plug/socket combination.
The operator must arrange an industrial socket with a padlock switch and a fuse base for the connection of the plug equipment and install a suitable knife switch at the electrical line upstream, furthermore suitable protection means must be used against overcurrent and indirect contacts.
Effective protection means against overcurrents are: fuses, automatic circuit breakers, magnetothermal circuit breakers.
Effective protection means against direct contacts are: differential switches, fault sensor (light and/or noise warning).
While connecting, check that the power network voltage corresponds to the voltage and to the frequency indicated on the identification plate (a wrong voltage can damage the equipment) and that the power network is well ground equipped.
Units have **"spillway wells"** able to avoid sewage overflow in case of temporary power interruption and/or electric pump malfunction.

The operator will have to check all equipment before using it and be sure of all safe conditions to avoid accidents.
Furthermore:

- he must not tamper or alter the functioning or efficiency of the protective devices placed on the electromechanical equipments.
- he must always be alerted , have quick reflexes and be in perfect mental and physical health.

Pre-starting checks to verify safety conditions are:

- carefully read instructions:
- check that the equipment is connected to the power source which the Manufacturer has indicated and also check the indicated voltage;
- the equipment must be connected to a network set up with a sectioning unit installed upstream of the line and to effective means of protection against overcurrents and indirect contacts;
- power network must have a good earthing system;
- use the equipment only in the configuration provided by the Manufacturer;
- follow all instructions and warnings printed on the pictograms of the equipment.

ELECTROCUTION DANGER
Do **NOT** connect equipment to other power source other than that indicated by the Manufacturer. May you have doubts about connections to make, **DO NOT CONNECT EQUIPMENT**.

EMERGENCY STOP
In case of an emergency situation, the operator can stop the equipment switching OFF the system or disconnecting the plug.

PLANT SWITCH-OFF AND ABANDONMENT
In order to switch off the plant, disarm the lock switch on the socket and lock it.
Rearrange the workplace, in order that there are no tools or other equipment in precarious stability that might be dangerous and close the technical room.

7. MAINTENANCE PRECAUTIONS

For all repairs better use only original materials to ensure the safety of the plant.
In case of extra instructions or in case of special problems, do not hesitate to contact the Manufacturer.
Please always read the instructions given with the plant. This will avoid system malfunctioning which could cause direct or indirect danger to you.
Carefully check that the tools at your disposal are suitable. Do not use tools in an improper manner.

WARNING!
The Manufacturer **forbids** the execution of extraordinary maintenance and maintenance not indicated in the instructions.

It is necessary to comply with the given instructions, starting with maintenance general instructions.

WARNING!
Operations of extraordinary maintenance of the plant must be carried out only by authorized ORM Service Centres.

No admittance is allowed to unauthorized or unqualified personnel to the plant working area when this is under maintenance.

All maintenance operations must be carried out when the plant is switched off, that is no power on.

Because the plant is outside, maintenance operations must be carried out with good light and suitable weather conditions.

Operator must always take into consideration that:

- maintenance operations that require power, such as searching for equipment failure must be carried out by qualified personnel;
- operator must use protection tools (safety shoes, face mask, gloves and protective clothing) as per instructions.

It is forbidden to use the plant before reading and understanding all the instructions.

8. MAINTENANCE

ORM Interceptor needs regular checks and maintenance operations if you want it to work correctly.

1. GENERAL INSPECTION

A general inspection can be carried out by simply opening the inspections manholes. Check at least every 3 months that hydraulic levels are normal: when intercepted waters have been discharged the accumulation chamber must be empty (except for a minimum quantity of water at the bottom to protect the submerged pump), while the deoiling chamber must have water to the level of the bottom pipe of the pipeline output. Check that no bad odor of organic nature comes out from none of the two compartments. All machicolations, channels and wells where water flow going to be treated goes through must be well inspected with the same time frequency. Their perfect cleanliness - with particular care to the removal of sands and solid bodies - organic and inorganic - is an essential condition for the unit well running.

2. ACCUMULATION CHAMBER MAINTENANCE

Even if this chamber is only for the accumulation and discharge of first rain water, it is mostly likely that at the bottom of this chamber solid materials of various nature - mainly inorganic (sand and clay) - but also organic (food, vegetables, animal dejections) can be found. To verify this and also because of bad smell, just use a simple bar to check the mud in the water left after having discharged it.

Carry out the maintenance of the chamber before the muddy mixture overcomes the protection level of the lifting pump (40 cm from bottom). This operation consists in removing the mud until the chamber is fully empty and pressure wash it. (This can be easily done by a drainage company).

The periodicity of the above described cleanliness changes according to the level of cleanliness of the yards and the efficiency of the mechanical intercepting devices (channels, machicolations, wells).

In case of mechanical maintenance to the lifting pump, take care to reinstall the float level switch to its original position , also checking that it works properly.

3. DEOILING CHAMBER MAINTENANCE

The maintenance of the deoiling chamber is very important for the unit good running. Remove the intercepted oil before an excessive quantity starts the emergency stop device. Check carefully whenever it is necessary quantity of floating oils you find in the different rising points and in particular:

in the cylinder containing the floating valve;

in the cylinder containig coalescence filters;

in the remaining chamber surface.

The removal of the floating oil - operation you can easily carry out with drainage methods – is by no means imperative when its level at eye overcomes 10cm - it is nevertheless recommended to remove oil at 6-7 cm

Oil levels inside the coalescence filter cylinder and the floating valve cylinder must be kept at minimum levels. To do this you can proceed manually. When you use a cleaning company remove all kind of material at the bottom of the chamber and when necessary also proceed with a complete cleanliness and a pressure washing.

4. COALESCENCE FILTER MAINTENANCE

Extract filter, after having carefully removed all the oil inside the cylinder, and pressure wash it until oil has been completely removed. Better do this operation together with the oil removal one; this operation must be done in case of filter obstruction and consequent oil loss increase during filtration. You will note an anomalous increase of oil level in the deoiling chamber during the intercepted water discharging phase.

5. FLOATING BLOCK VALVE MAINTENANCE

Extract it and in case empty it. Pressure wash it inside and outside and reinstall it checking that the floating level is the one indicated during testing. The maintenance must be done every time the device works (when it sinks and blocks the outlet). You remove it with its recovery cable after you have removed the oil from the pipe which was the cause of its sinking. This operation is recommended also when you remove the floating oil. During device cleanliness the pump must be off. In case you fully empty the deoiling chamber you must reset the hydraulic level for 2/3 of the operating level before reinstalling the device.

6. ALARM DEVICE

Inside the deoiling chamber you can find a floating high level alarm switch which warns you of the following critical conditions:

- coalescence filter is obstructed;
- floating block valve is working.

When the level alarm switch is running the drain pump stops immediately and light and noise warnings start. In case the alarm starts because of partial obstruction of the coalescence filter, the spontaneous sinking of the hydraulic level will allow the pump to start again, although the light warning will be still on to remind you that maintenance is to be done (see point 4). In case the alarm starts because of the floating block valve, maintenance will anyway be necessary (see point 5).

9. EXTRAORDINARY MAINTENANCE

SUBMERGED MOTOR PUMP REPLACEMENT
Submerged motor pump replacement (do not use plant when the pump is out of service):

- disconnect power cable
- open inspection cover and lift motor pump clutching at the delivery pipe;
- replace the motor pump with another one with all same characteristics and reinstall it inside the protection grid;
- connect power cable and close tank cover.

LOSSES AND LEAKAGE BETWEEN PLANT CHAMBERS
In case of settling or break contact ORM authorized Service Centres.

PLANT EMPTYING
Empty the plant in case of full plant cleanliness or leakage/loss.

WARNING!
All unit emptying operations must be done by a specialized cleaning company.
You must clean both chambers in the same way to avoid pressure counterforce on the partition.

10. DEMOLITION AND WASTE DISPOSAL

The plant is made of materials that do not present for their demolation particular dangerous aspects for the operator (i.e. GPR commonly called Fiberglass, steel, plastic).
In case of plant demolition and waste disposal, the operator must take all necessary precautions to avoid risks related to the dismantling operations.
In particular, take precautions during the plant dismantling and material separation.
The operator/operators shall handle all waste (objects or substances that must be or need to be dismantled) as per existing legislations so that waste must be recycled or dismantled without any danger to human's health and without using procedures or methods that may harm the environment and in particular:

- no harm for water, air, soil, fauna and flora;
- no odors or noise;
- no harm to landscape or sites of particular interest protected by existing legislation.

(*) Waste code: CER 160304 inorganic waste, different from those mentioned in 160303.

11. WARRANTY AND CLAIM

ORM warrants its products according to the existing legislation. This warrants is voided by improper use of the plant, in case that unauthorized people intervene on the supply, or in case modifications - altering the system features- are made without ORM's authorization and failure to comply with the operating limits.

Interceptor operating limits are: unspecified behaviour to fire reaction, installation on protected area, in case of installation on pedestrian or driveway areas, inspection manholes are to be protected by suitable metal boxes and covered by manholes made according to existing legislations, effluent discharge delivery into public sewer and not on surface waters.

ORM shall be deemed released from any liability relating to the safety of persons and malfunction of the supply, in case all maintenance operations are carried out not accordingly to the given instructions. If spare pants are not original do not install then without ORM's written authorization, and/or in any matter prejudical to the plant integrity, or changing its features.

NOTES TO THE SERVICE CENTRE

Certified company UNI EN ISO 9001:2008
Certificate n. IT03/0137 SGS Italy

ORM® OMNIA RESINA MAZZOTTI
DEPURAZIONE ACQUE E SERBATOI

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