# PURIFYING SYSTEMS

## UNIVERSAL CONSTANT FLOW SYSTEMS max. 35 I.E. for the disposal of domestic wastewaters

*rev. 0 15/03/06*

**DESCRIPTION**

Total oxidation, active sludge, biological purification system for the disposal of all kinds of domestic wastewater. Formed of a cylindrical PRFV tank, divided into four compartments.

**Collection:** the entering sewage is equalised and the suspended solids left to settle; an underwater electropump conveys a **constant flow** of oxidising sewage.

**Oxidation:** the pollutant load is transformed into a more stable substance and the nitrogen oxidised. The aeration and mixing of the active sludge occurs through tiny air bubble diffusers fed by a diaphragm-type air compressor.

**Secondary sedimentation:** to separate the active sludge from the waste and sediment the sludge conveyed by means of air-lift to the top of the system.

*Machine marked CE in conformity with the safety provisions of MACHINE DIRECTIVE (98/37/CE).*

## GUARANTEED DISCHARGE LIMITS

Purified sewage conforms to the parameters of Table 3 (Limit wastewater values in surface waters) provided for in Enclosure 5 of Legislative Decree no. 152/1999, and successive amendments and riders.

These limits are guaranteed on the understanding that the system is periodically subjected to maintenance, operates continuously, and the characteristics of the incoming sewage conform with those specified in the project data.

## PROJECT DATA

System sized using the "inhabitant equivalent" (**I.E.**) concept, which defines the specific water and organic load of a typical inhabitant. Calculated according to the maximum loads forecasted.

| | | | |
|---|---|---|---|
| Water load per I.E | l/d 200 | Organic load per I.E. | g$BOD_5$/d 75 |

**DENITRIFICATION MODEL - WASTEWATER DISCHARGED INTO THE SUBSOIL**

*Table 4 (Limit values for waste water discharged into the subsoil) provided for in Enclosure 5 of Legislative Decree no. 152/1999*

Model equipped with an additional blower which feeds the air-lift for re-circulating the sludge, set in the final sedimentation compartment. This makes it possible to time the main blower in order to create those **periods of anoxia** (suspension of the air supply), which aid biological denitrification.

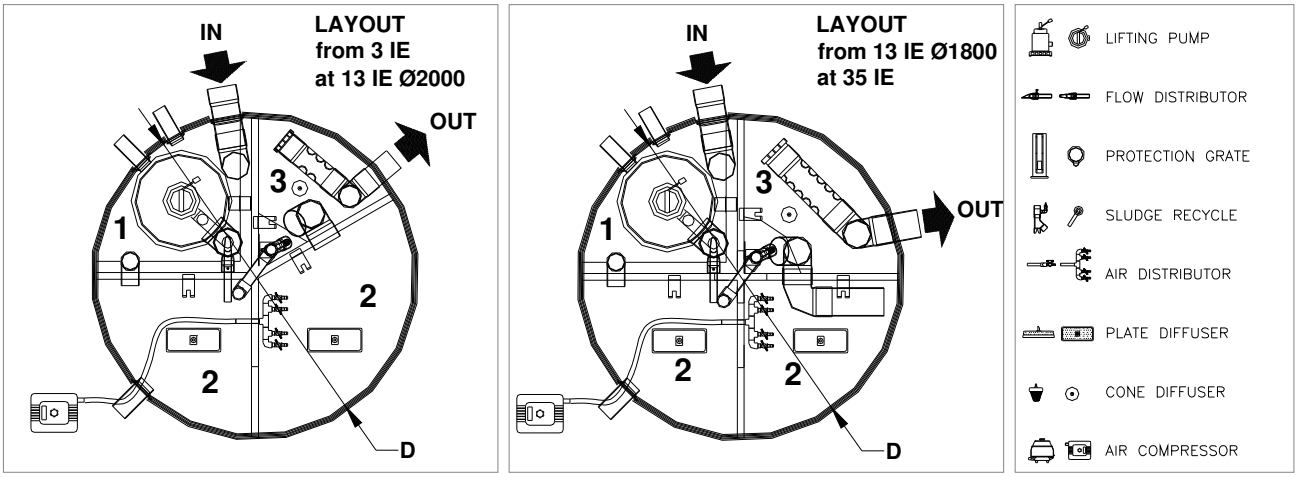
O.R.M. Omnia Resina Mazzotti S.r.l.
Via Molinello, 10/B
I - 48010 Bagnara di Romagna (RA)
tel. +39 0545 76037 fax +39 0545 76539
www.orm.it - omniares@orm.it

# PURIFYING SYSTEMS

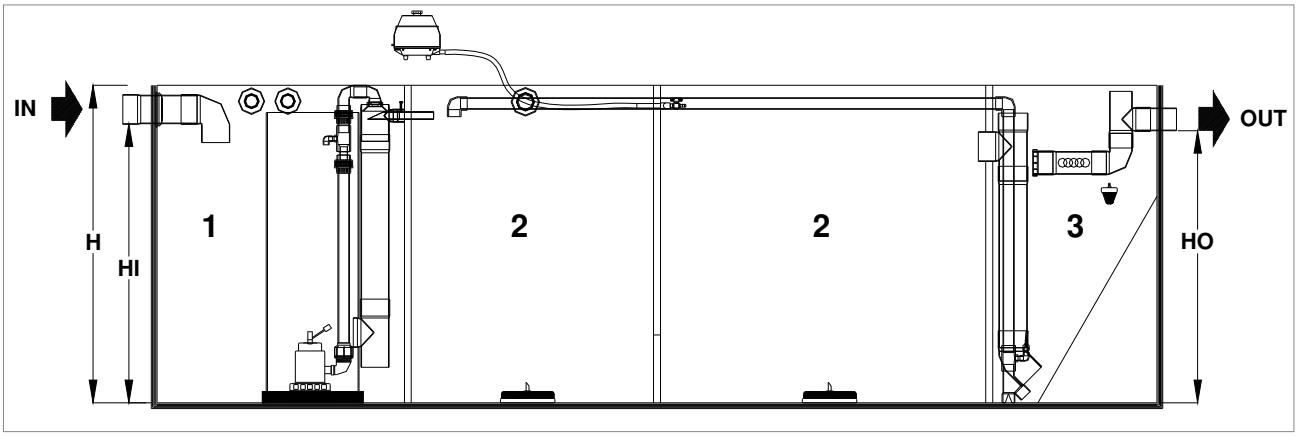
## UNIVERSAL CONSTANT FLOW SYSTEMS max. 35 I.E. for the disposal of domestic wastewaters

| People | D Internal diameter | H Total Height | HI Height at input | HO Height at output | Ø IN | Ø OUT | Capacity | Flow | Weight | Diaphragm-type air compressor Model | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I.E. | mm | mm | mm | mm | mm | mm | lt | lt/min | kg | | (*) |
| 3 | 1200 | 1430 | 1260 | 1230 | 125 | 100 | 1390 | 0.50 | 70 | HP 60 | HP 20 |
| 5 | 1400 | 1400 | 1230 | 1200 | 125 | 100 | 1850 | 1.00 | 160 | HP 60 | HP 20 |
| 7 | 1600 | 1650 | 1480 | 1450 | 125 | 100 | 2910 | 1.30 | 130 | HP 60 | HP 20 |
| 9 | 1600 | 2000 | 1830 | 1800 | 125 | 100 | 3620 | 1.60 | 170 | HP 60 | HP 20 |
| 9 | 1800 | 1700 | 1530 | 1500 | 125 | 100 | 3820 | 1.60 | 170 | HP 60 | HP 20 |
| 11 | 1800 | 2000 | 1830 | 1800 | 125 | 100 | 4580 | 2.00 | 180 | HP 80 | HP 20 |
| 11 | 2000 | 1700 | 1530 | 1500 | 125 | 100 | 4710 | 2.00 | 180 | HP 80 | HP 20 |
| 13 | 1800 | 2600 | 2390 | 2310 | 125 | 125 | 5880 | 2.40 | 200 | HP 80 | HP 40 |
| 13 | 2000 | 1900 | 1690 | 1610 | 125 | 125 | 5060 | 2.40 | 200 | HP 80 | HP 40 |
| 16 | 2000 | 2600 | 2390 | 2310 | 125 | 125 | 7250 | 2.90 | 290 | HP 100 | HP 40 |
| 20 | 2500 | 2100 | 1890 | 1810 | 125 | 125 | 8880 | 3.70 | 330 | HP 150 | HP 40 |
| 25 | 2500 | 2600 | 2390 | 2310 | 125 | 125 | 11330 | 4.60 | 360 | HP 200 | HP 40 |
| 30 | 3000 | 2300 | 2090 | 2010 | 125 | 125 | 14200 | 5.50 | 420 | HP 200 | HP 40 |
| 35 | 3000 | 2400 | 2190 | 2110 | 125 | 125 | 14910 | 6.50 | 430 | HP 200 | HP 40 |

*(*) Additional blower for denitrification model.*
INPUT pipe electrical hose Ø63 mm
INPUT pipe air hoses Ø80 mm
OUTPUT biogas (Ø63 mm from 3 IE at 9 IE tank Ø1600) (Ø80 mm from 9 IE tank Ø1800 at 35 IE)
SLUDGE RECYCLE (1P from 3 IE at 11 IE) (1G from 13 IE at 35 IE)
PLATE DIFFUSER (2P from 3 IE at 9 IE Ø1600) (2M from 9 IE Ø1800 at 16 IE) (2G from 20 IE at 35 IE)




**1 COLLECTION AND EQUALISATION - 2 OXIDATION - 3 FINAL SEDIMENTATION**




*O.R.M. reserves the right to modify the technical features and sizes of its products at any time.*


O.R.M. Omnia Resina Mazzotti S.r.l.
Via Molinello, 10/B
I - 48010 Bagnara di Romagna (RA)
tel. +39 0545 76037 fax +39 0545 76539
www.orm.it - omniares@orm.it