



BANNARI AMMAN INSTITUTE OF TECHNOLOGY

An Autonomous Institution Affiliated to Anna University Chennai - Approved by AICTE - Accredited by NAAC with "A" Grade

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EMBEDDED SYSTEMS CELL

PROJECT NAME

**ADIABATIC RAPID
CO-COMPOSTER**

MATERIALS REQUIRED

#STAINLESS STEEL :

@ XL[SIZE]-VESSEL == 1

@ L [SIZE]- VESSEL == 1

@ XL[SIZE]-PLATE == 1

@ L [SIZE]-PLATE == 1

@ CLAMP [1 INCH] == 4

@ OUTLET PIPE == 1

#ARDUINO :

@ UNO BOARD == 2

#SENSORS:

@ HUMIDITY SENSOR == 2

@ TEMPERATURE SENSOR == 2

@ BATTERY [5V] == 2

#MINI FAN MOTOR

##AND ALL OTHER MATERIALS REQUIRED FOR DRILLING AND WELDING PURPOSES##

XL – SIZE VESSEL



* THIS XL SIZE VESSEL IS USED FOR THE PROTECTION OF THE COMPONENTS

* WE WILL FIX ALL THE COMPONENTS INSIDE IT

* WE COME UP WITH STAINLESS STEEL DUE TO THE PROPERTIES WHICH IS ALMOST RELATIVE TO THE CONCEPT USED IN THIS PROJECT

CONCEPT : STAINLESS STEEL WILL KEEP THE HEAT INSIDE IT AND IT ALSO NOT RELEASE THE HEAT OUTSIDE OF IT

L - SIZE VESSEL



! IN THIS VESSEL WE ARE GOING TO DRILL 3 HOLES IN THE LEFT AND RIGHT SIDE OF THE VESSEL FOR INSERTING THE CONNECTING WIRES TO THE SENSORS

! WE ALSO CUT THE BASEMENT PART OF THE VESSEL AND WE ARE GOING TO WELD IT WITH L SIZE PLATE

! IN THIS VESSEL ONLY WE ARE GOING TO FIX THE HUMIDITY AND TEMPERATURE SENSORS

! THIS VESSEL ALSO MADE UP OF STAINLESS STEEL

STAINLESS STEEL PLATES:

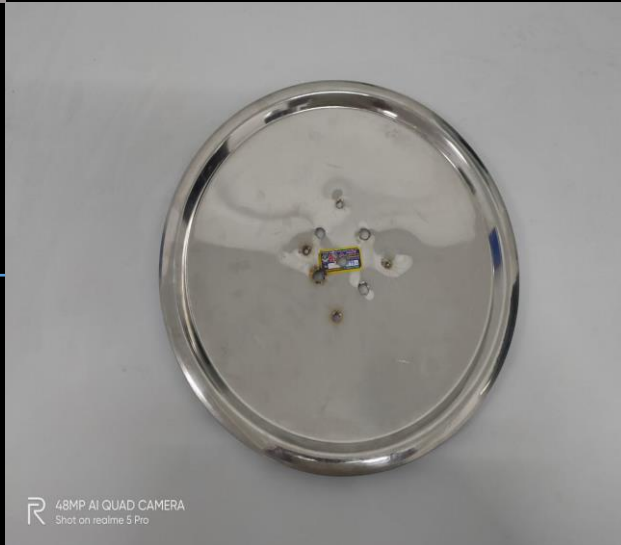


XL-SIZE PLATE

! XL SIZE PLATE IS USED ONLY TO COVER THE TOP OF THE PRODUCT AND TO FIX THE MOTOR WITH IT BY MAKING HOLE IN THE CENTRE

! L SIZE PLATE IS FIXED WITH L SIZE VESSEL WITH 6 HOLES IN IT

L-SIZE PLATE



! HOLES ARE MADE TO COLLECT THE WATER WHICH WILL BE FORMED DURING THE RUNNING PROCESS

CLAMPS & OUTLET PIPE



1 INCH CLAMP

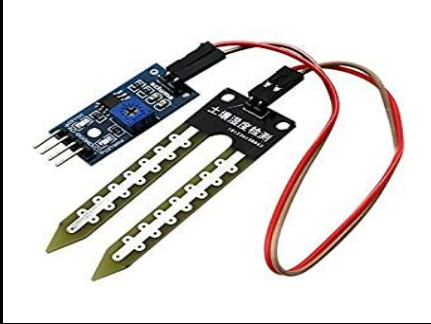
@ 1 INCH CLAMPS ARE USED TO FIX THE XL SIZE VESSEL WITH THE PLATE MEANS TO CLOSE THE VESSEL

OUTLET PIPE

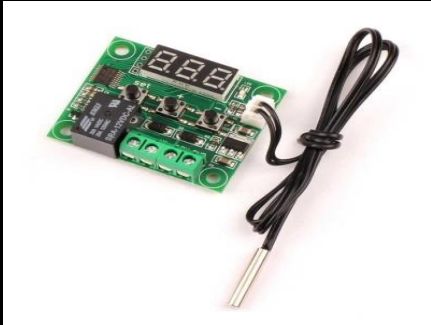


@ OUTLET PIPE IS PLACED IN THE BOTTOM OF THE XL VESSEL TO REMOVE THE WATER FROM THE VESSEL

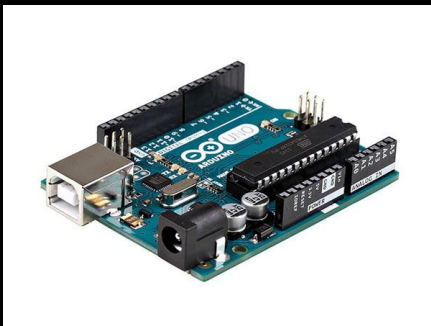
ELECTRONIC ACCESSORIES



@ HUMIDITY SENSOR IS USED TO MEASURE THE HUMIDITY CONTENT OF THE MATTER PRESENT INSIDE IN IT

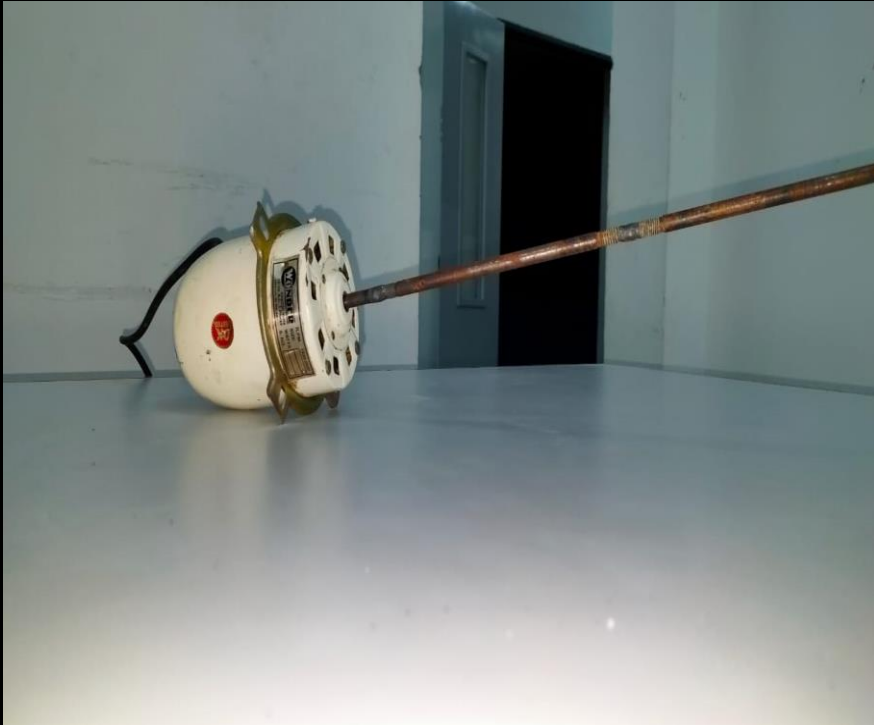


@ TEMPERATURE SENSOR IS USED TO MEASURE THE TEMPERATURE TO MAINTAIN CONSTANT TEMPERATURE INSIDE THE VESSEL



@ ARDUINO UNO BOARD IS USED TO PROGRAM THE BOTH SENSORS AND TO INTERFACE THE DISPLAY WITH IT

MINI FAN MOTOR



@ MINI FAN MOTOR IS USED TO MIX THE MATERIALS THAT CAN BE POURED INSIDE THE VESSEL

@ IT IS USED TO MIX THE MATERIAL EVENLY WHAT WE POUR INSIDE IN THE VESSEL

@ THE BLADES SHOULD BE FIXED WHILE MIXING THE MATERIAL

WASTE THAT CAN BE CONVERTED

KITCHEN WASTE :

- #VEGETABLE WASTES
- #FRUIT WASTES
- #FOOD WASTES
- #PAPER/WOOD/CLOTH

AGRO WASTE:

- #DRY LEAVES
- #LAWN CLIPPINGS
- #GRASS RESIDUES
- #PLANT RESIDUES
- #BUSHES
- #BROWN RESIDUES

INDUSTRY WASTE :

- #SLUDGES
- #FAECAL SLUDGES

CURRENT WASTE MANAGEMENT STATUS OF INDIA

SECURED MANAGEMENT :

COMPOSTING == 10%

INCINERATION == 05%

TOTAL WASTE GENERATED
PER YEAR 243.6 MILLION
TONS

UNSECURED MANAGEMENT :

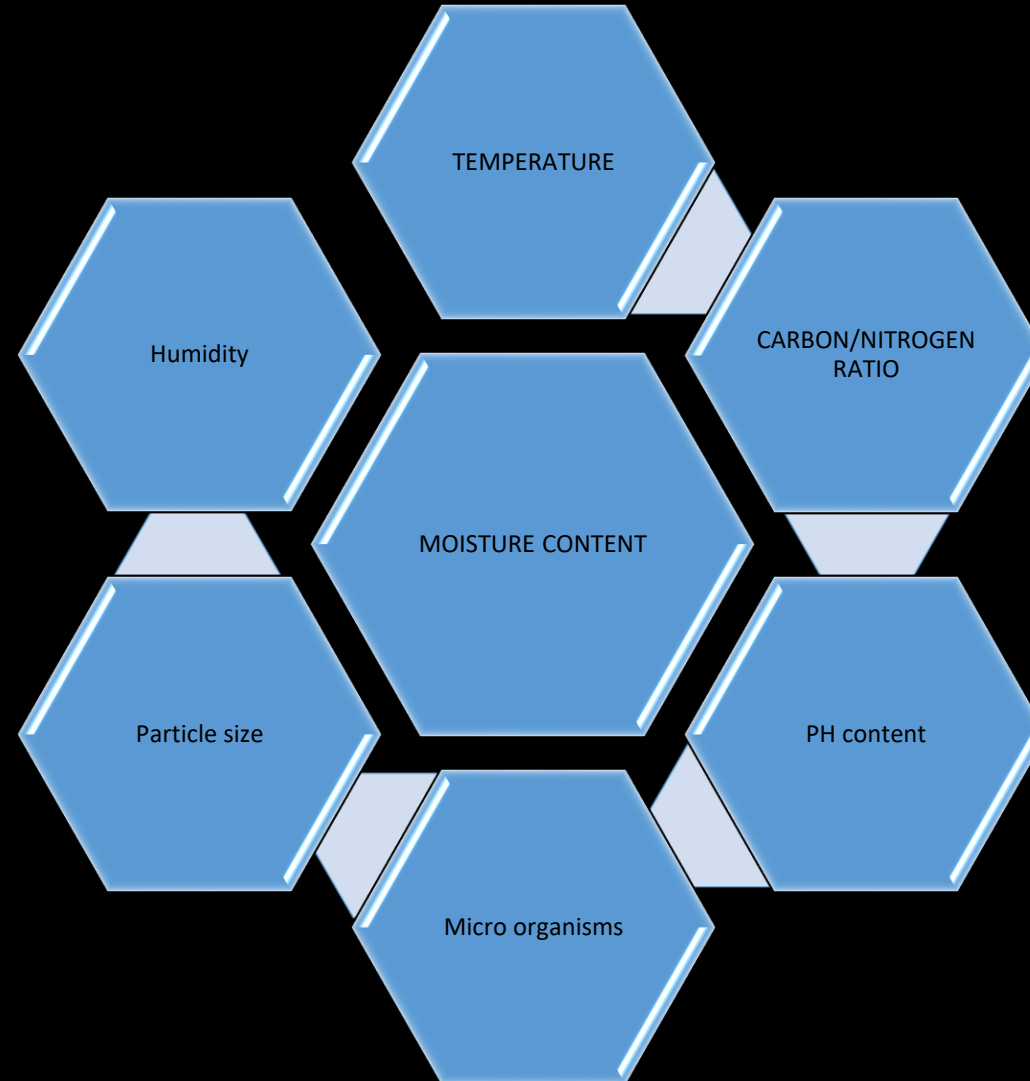
OPEN DUMPING == 60%

UNSANITARY == 15%

LANDFILLING

OTHERS == 10%

FACTORS AFFECTING THE PRODUCT



TARGET MARKET

APARTMENTS/
INDIVIDUAL
HOUSINGS

HOTEL/RESTAURANTS

VEGETBLE
MARKET

FLOWER
MARKET

SMALL
SCALE
INDUSTRIES

UNIQUE FEATURES OF IDEA

SUITABLE
MICROBIAL
CONSORTIUM

PHYSICO-
CHEMICAL
PARAMETERS

RAPID &
COMPACT

AUTOMATION

IOT

ADVANTAGES AND APPLICATION

1. TRANSPORTATION COST REDUCED FOR WASTAGE COLLECTION
2. AVOIDS DUMPING
3. AVOIDS OVERFLOW
4. AUTOMATIC FEED SELECTION
5. PROMOTES LAWN GARDENING
6. PROMOTES TERRACE GARDENING
7. FARMING

TEAM MEMBERS :

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