



ANJU TECHNO SERVICES



# OPERATING MANUAL

## LEAKAGE TESTING MACHINE with marking cylinder

ANJU TECHNO SERVICES PVT. LTD.  
7A, HSIDC INDUSTRIAL AREA,  
SECTOR-31 FARIDABAD

# **CONTENT**

1. ABOUT
2. WARRANTY
3. DISCLAIMER
4. SAFETY INSTRUCTIONS
5. MECHANICAL SPECIFICATIONS
6. ELECTRICAL SPECIFICATIONS
7. OPERATING GUIDELINES
8. BASIC ABOUT MACHINE
9. PARAMETRS SETTING

## **ABOUT**

Leakage testing machine is one of the best special purpose machines designed by ANJU TECHNO SERVICES.

This machine is used to check the leakage in rubber pipes and capable to trace minor leakage.

This manual provides the operating & maintenance procedures for convenient and safe operation of the machine. Please read this user manual carefully before operating the machine.

## **WARRANTY**

ANJU TECHNO SERVICES warrants for one year from date of installation and/or purchase any of its products which do not perform satisfactorily due to defect caused by faulty material or workmanship. ATS's obligation under this warranty is limited to the repair or replacement of products which are defective and which have not been misused, carelessly handled, or defaced by repair or repairs made or attempted by others.

## **DISCLAIMER**

**ANJU TECHNO SERVICES DOES NOT ASSUME RESPONSIBILITY FOR ANY DEATH, INJURY OR PROPERTY DAMAGE RESULTING FROM THE OPERATOR'S NEGLIGENCE OR MISUSE OF THIS PRODUCT OR ITS ATTACHMENTS.**

# PRINCIPAL

This Machine works on Differential Pressure principal.

We have a reference tank with series to testing part. Reference tank is fixed in bottom panel.

Same pressure is applied to both part & tank at same time, and after a certain time contact between part & tank is isolated by sol. Valve and then pressure is measured for both parts. if there is leakage, rate (per min.) of change in differential pressure in ref. tank and testing part increases and part is identified by red buzzer as leak part.

If there is no leakage, rate (per min.) of change in differential pressure is under limit and part is identified as O.K. as well as marked with a punch.

## Specification:

Max Pressure: 10 Bar

Voltage: 220-240 VAC

Min. Leakage Capacity: 0.1 CC/m

Accuracy: 0.05%

# **SAFETY INSTRUCTIONS**

Go through these instructions carefully before installing / operating the machine.

1. Inspect Panel Box and machine visually for any damage and immediate inform ATS. No any fixation work should be carried out without permission of ATS.
2. Person operating the machine must be authorized & trained to operate the machine.
3. Before installing please verify the actual and rated parameters for power and pressure.
4. Provide proper earthing before connecting power.
5. Check incoming Pressure before connecting.
6. water or any liquid should not be in contact with Panel box.
7. PLC parameters should be entered by hands only, do not use any pointed or metal surface to enter parameters in HMI.
8. Do not put any weight other than the pipes on testing fixture.
9. In case of any unusual behavior, do not operate the machine.
10. After installing machine at floor, Lockup the wheel Locks.

Please contact ATS for any kind of support.

# BASICS ABOUT THE MACHINE

## FULL ASSEMBLY VIEW:





**Important:**

You can see counter for all o.k. and not o.k. pieces.

You can select recipe as entered in program.

Machine is protected by password for some features, to save unauthorized handling of machine.

To access Control Panel you need to unlock panel door by key.

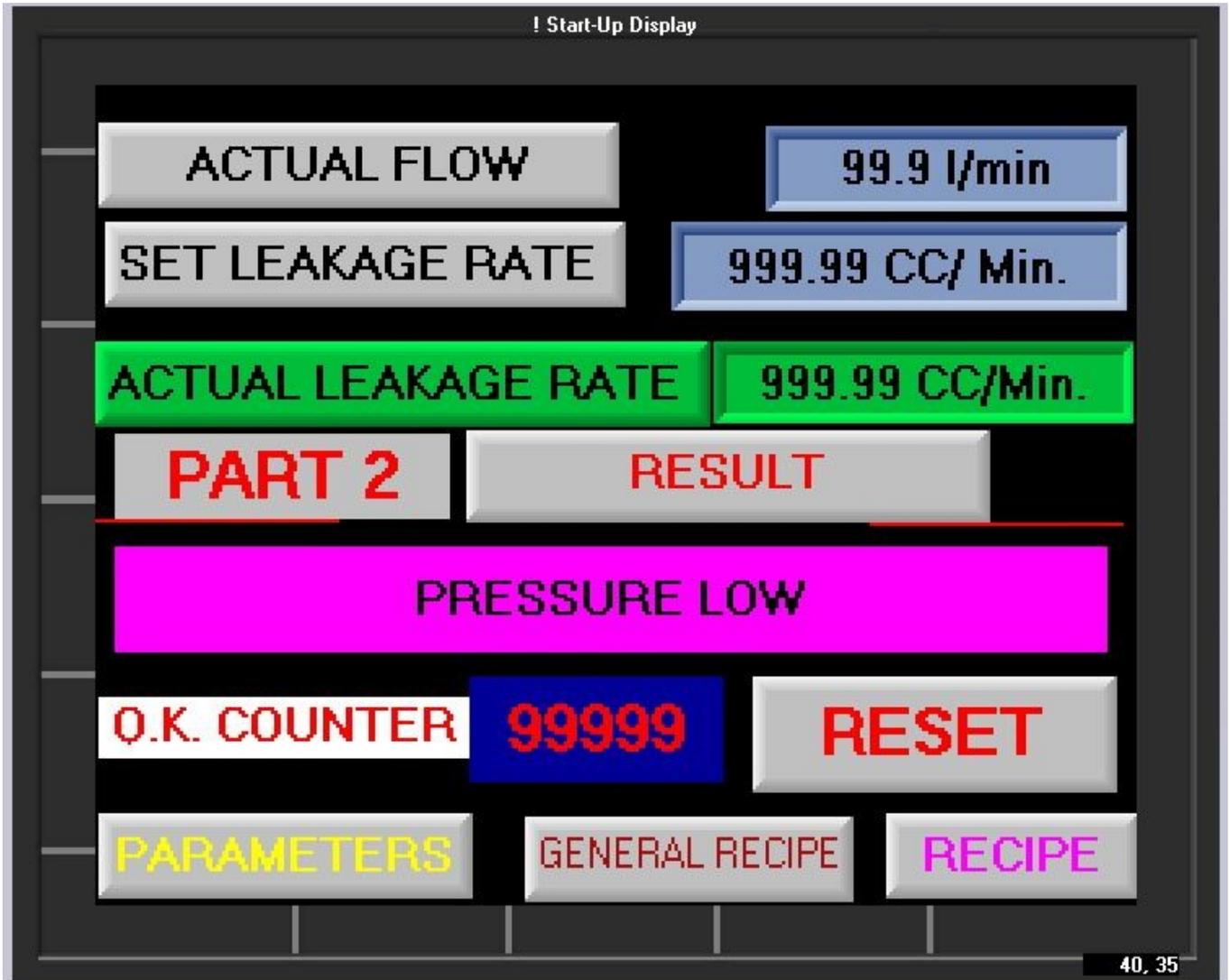
# PANEL DESCRIPTION



Some of main features are described here:

1. O.K.— for O.K. parts.
2. NOT O.K. — for NOT OK parts.
3. START— to start the cycle
4. STOP — to stop the cycle
5. SINGLE/DOUBLE — to select fixture nos.
6. BLOCKAGE BYPASS — to bypass blockage testing
7. POWER ON — Indicates that machine is powered up.

# KNOW YOUR PARAMETERS



## HOME SCREEN

In this screen you will see the machine in Home position.

You can see your actual flow in l/m, this is the flow which is practically being used in testing.

Leakage rate can be set by touching Set Leakage Rate. This is the Leakage rate at which you want to pursue testing. And actual Leakage Rate will be displayed below Set Leakage Rate.

# KNOW YOUR PARAMETERS

In Fourth Line you can see the Result eg. O.K./Not O.K.

In the next line, there is an indication for Low Pressure. If incoming pressure is less than set pressure, machine will not start and this button as an error message will be on screen. As soon as the incoming pressure reach machine can operated.

You can **see Counter for all O.K. parts in next line and also reset counting by touching Reset button next to O.K. counter for 3 seconds.**

If you want to change parameters of your machine for different part, you can touch Parameters button, Which requires password to access the parameter change.

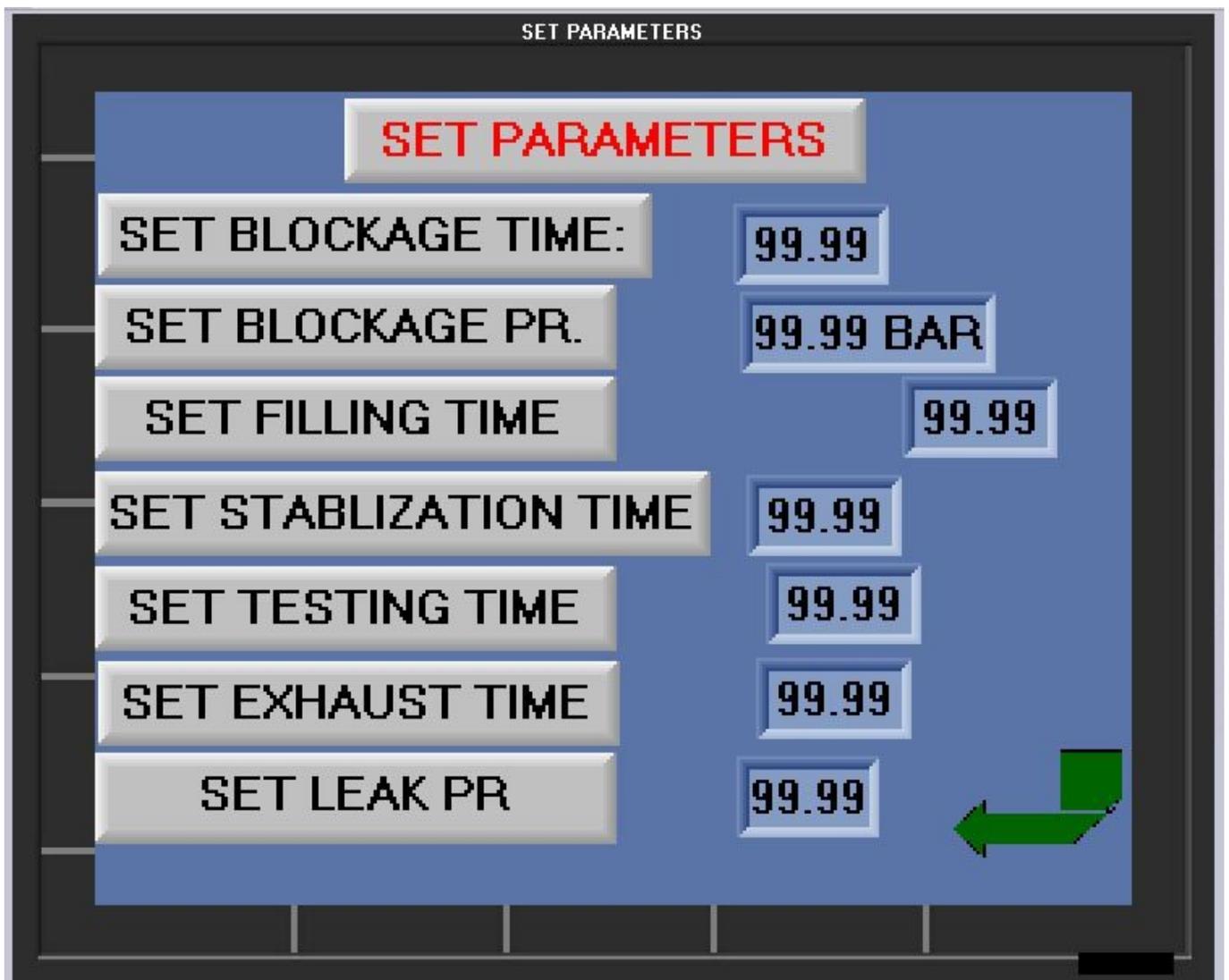


# KNOW YOUR PARAMETERS

Your preset password for Parameters is **123**.

Please note that you can not change your password and you must enter correct password every time to access the parameters setting.

If your password is correct then you will be directed to the next screen which is for parameters setting and look like this.



Please note that unit of time for these setting is second.

In the first line you will set Blockage time in seconds. If you

## **KNOW YOUR PARAMETERS**

In next line you can set Blockage pressure in bar. This is the pressure at which you want to Test Blockage parts.

If you have selected Blockage Bypass from Front Panel selector switch then Blockage time & Blockage pressure also be in-effective automatically.

In next line you can set filling time before testing. For this period of time air supply will continuously supplied to the testing part. After completing filling time, pressure will be stabilize and then start testing.

In next line find setting for stabilization time, time period required to stable the pressure before testing.

In next line, find setting for Testing time, time period required for testing part.

In next line, find setting for exhaust time, time period required for exhaust of filled air after testing.

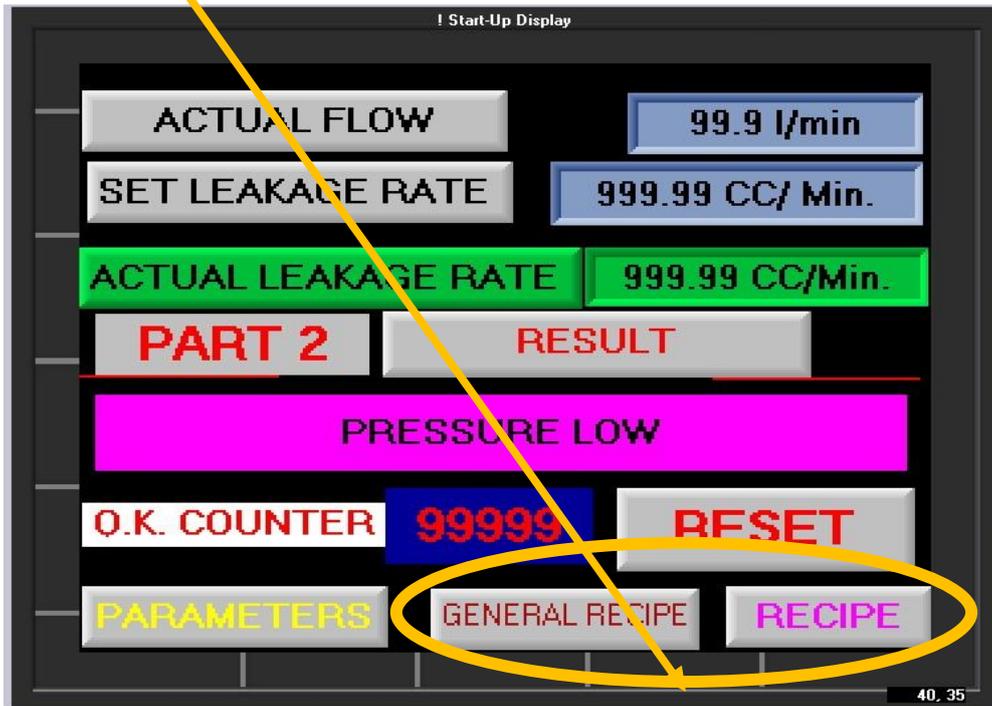
In next line, find setting for Leakage pressure, Pressure required for testing or at which pressure part to be tested. (in bar)

After setting these parameters touch Green arrow key to go back to the home screen.

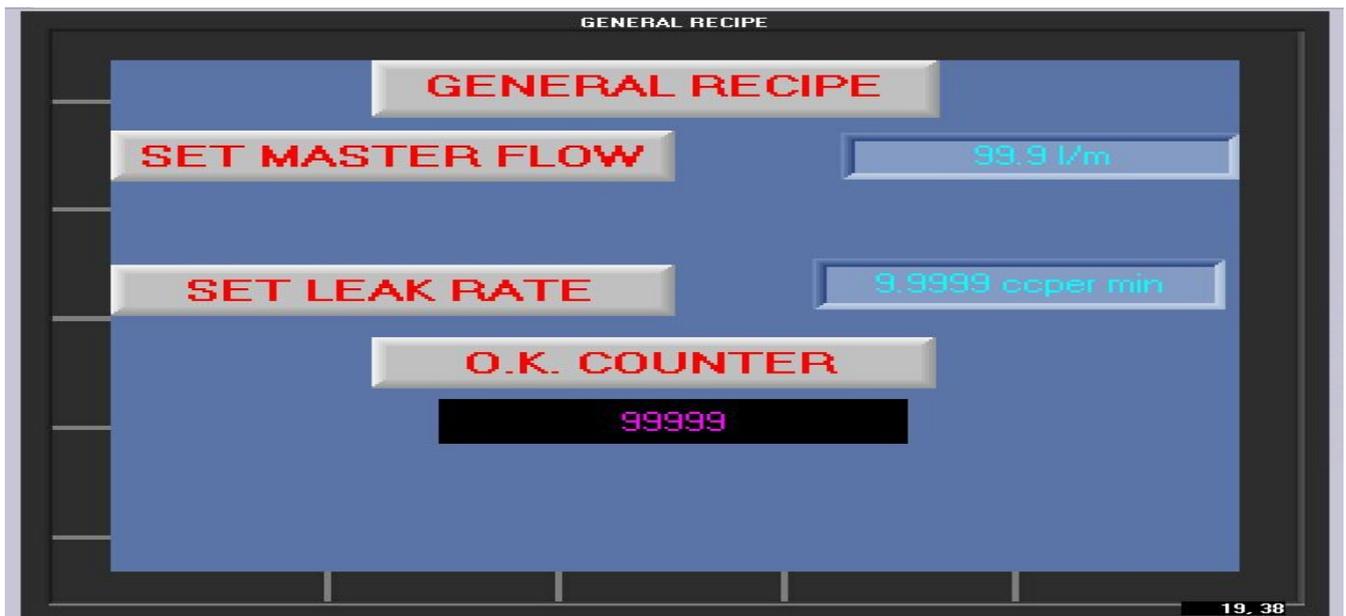
You can start testing now with changed parameters.

# KNOW YOUR PARAMETERS

On Home screen you'll find 2 more buttons as  
General Recipe  
Recipe



General Recipe is accessed without password and is used to change two parameter on existing recipe.



## KNOW YOUR PARAMETERS

1st is Set Master Flow rate in l/min., used for Blockage testing only. It sets the flow rate (master) for blockage testing. Technically if flow is equal at both ends means No Blockage in part if flow being reduced means part is block.

2nd is Set Leak rate in CC/min. In another words this is tolerance of Leakage Rate of part, at what amount of leakage to be considered as actual.

If suppose we set 1.5 CC/min. as Leakage rate and start testing then parts below 1.5 CC/min leakage will be considered as O.K. and parts above 1.5 CC/min will be considered as Not O.K.

3rd screen is for O.K. counter. You can see the counter for all O.K. parts.

Next Button is Recipe as you can see on home screen. This is password protected so you can not access this area without entering correct password.

When you touch button you'll be transported to the password screen. You have to enter correct password to access the settings, if you enter wrong password you'll be back to home screen and again follow the steps to enter the password.

Preset Password is **456**.

When you enter correct password, the next screen appear to choose recipe, as shown:

# KNOW YOUR PARAMETERS



1st button block is heading only.

2nd button is Add New Recipe when you touch this button you'll be directed to Add New Recipe screen. Which is like this:



## KNOW YOUR PARAMETERS

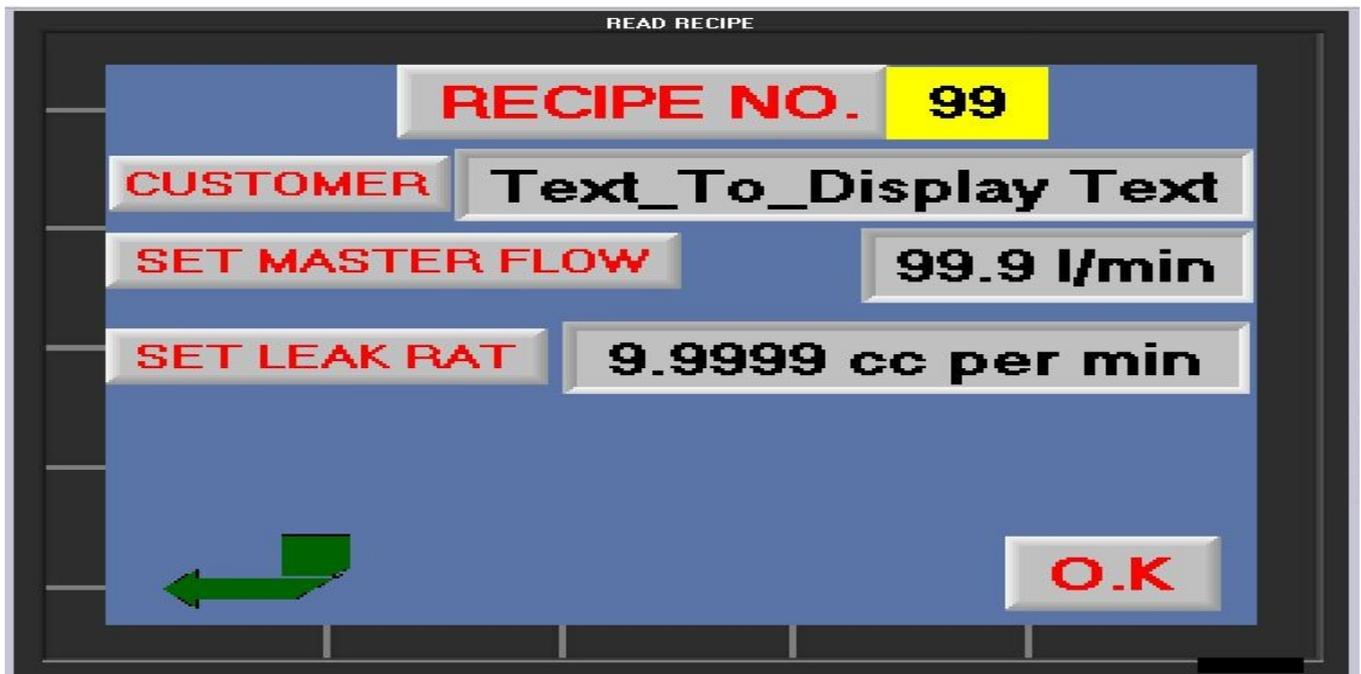
In this screen you can create a new recipe with customized parameters.

First of all enter new recipe no. in screen, then enter customer's name as shown in screen. Next you have to set master flow & leak rate. (Units & procedure as explained earlier.) Then touch save button. If you directed back to recipe menu, you have successfully created & saved a new recipe.

You can see your new recipe by touching select recipe button in recipe menu. You can see recipe list by touching UP or Down arrow keys.

The recipe number and recipe name will be displayed below select recipe as shown in image.

After selecting desired recipe touch RUN button and you'll be directed to next screen where you can see the current recipe as shown in image:

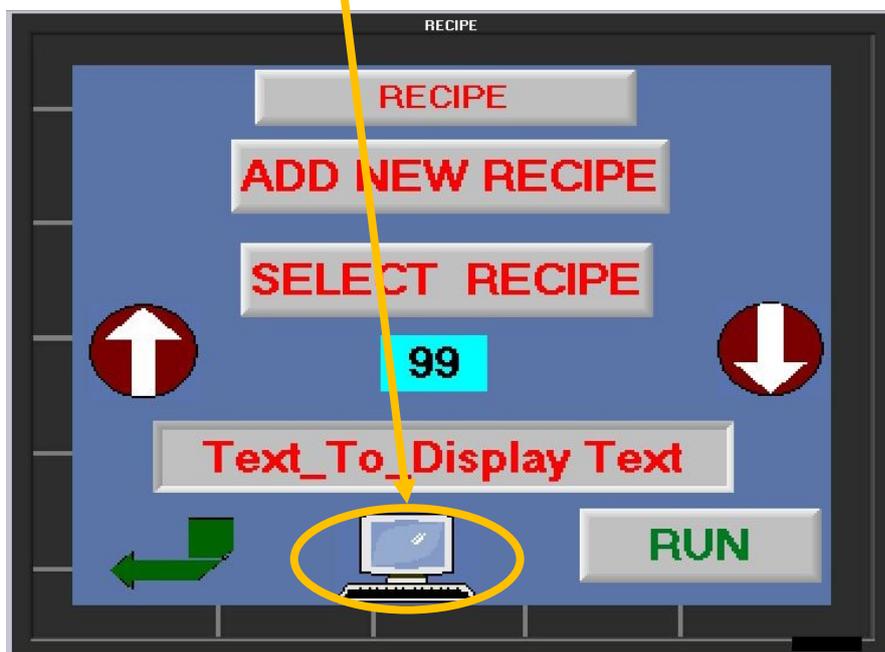


## KNOW YOUR PARAMETERS

In this screen heading as read recipe you can see current recipe number, customer's name, Leak test and flow rate.

There is an important feature added in PLC that you can see and store you hourly data record.

To see hourly data touch this icon in recipe screen.



You will be directed to password screen as earlier.

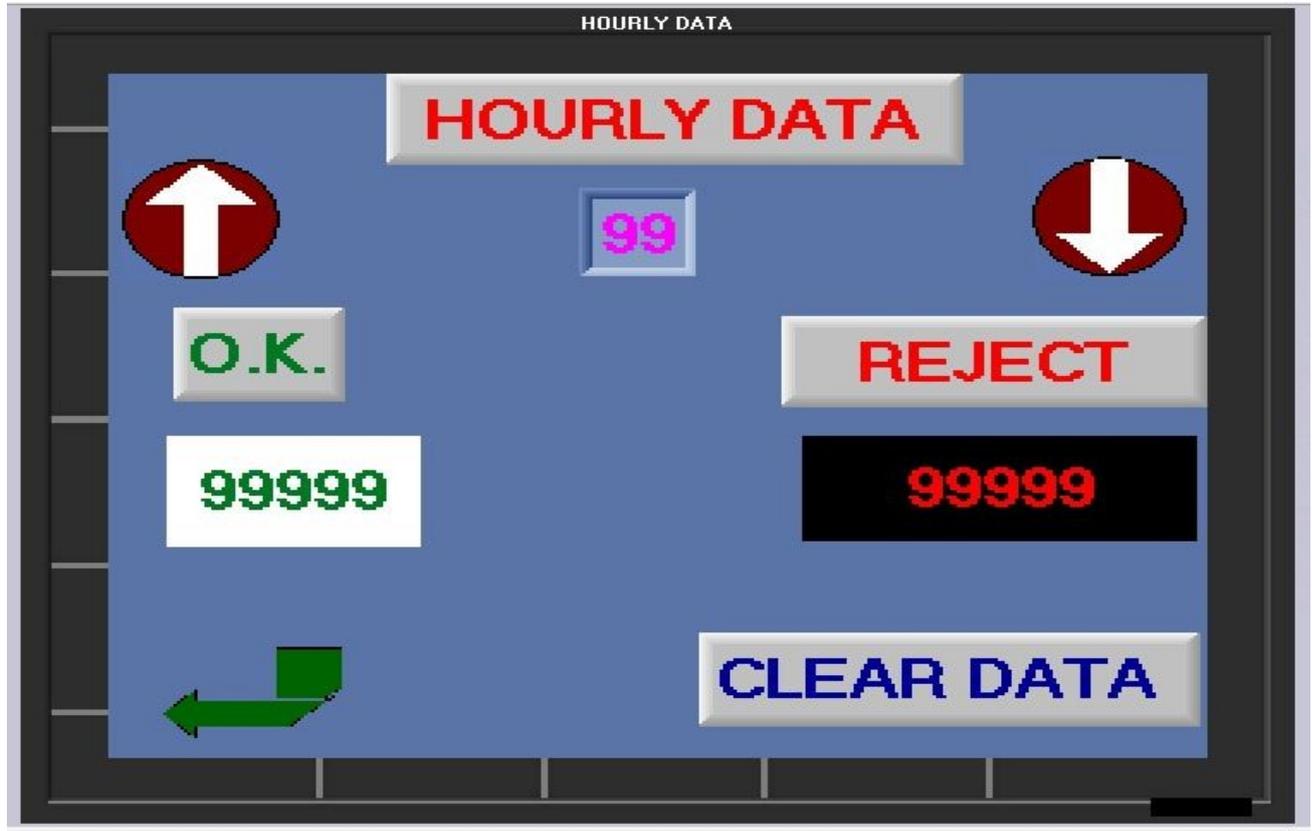
The screen appears as HOUR DATA PASSWORD, Enter correct password succeeding which you'll be directed to the next screen.

Preset Password is **1011**.

You can not change the password and you must have to enter correct password failing which cannot access the data.

# KNOW YOUR PARAMETERS

After entering correct password, you'll be directed to the Hourly Data screen as shown below.



You can see counter for all O.K. and Not O.K. parts on hourly basis upto last 99 hour.

Also data can be clear from this screen. To clear data, touch the CLEAR DATA button and all data (Counter) will be zero.



Designed & Developed by:  
ANJU TEHNO SERVICES  
7A, HSIDC INDUSTRIAL AREA,  
SECTOR-31, FARIDABAD  
Ph. 9310306889-94, 9810306889  
anjutechno.services@yahoo.com  
www.anjutechnoservice.com