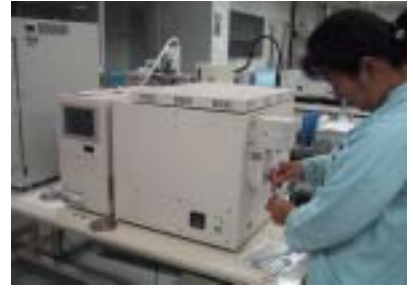


## Sampling & Multi Thermal Desorption System

### MSTD258 / TMD253H



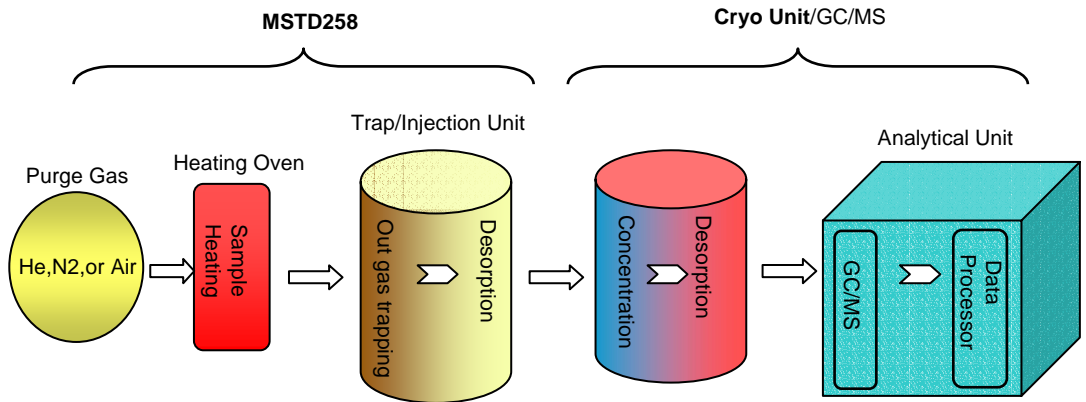
# GL SCIENCES INC.



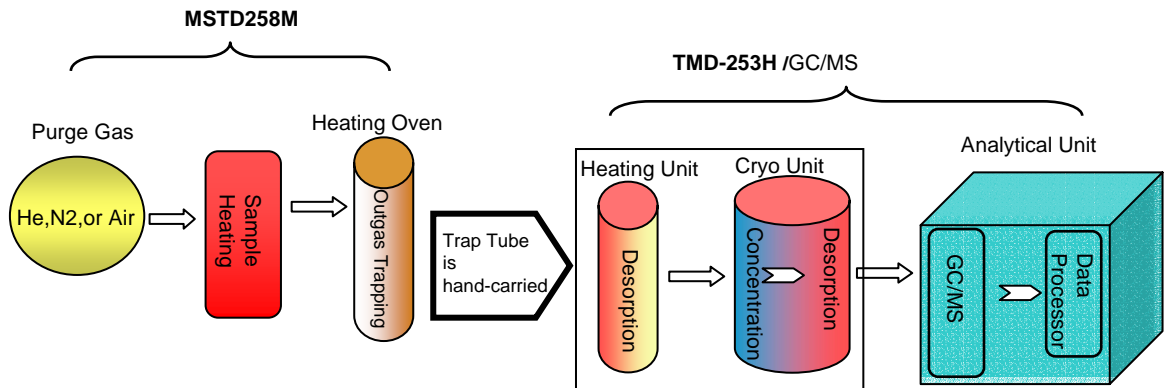
## COMPANY PROFILE

- FEBRUARY, 1968 : FOUNDED AS GASKURO KOGYO INC.
- OCTOBER, 1990 : GASKURO KOGYO CHANGED COMPANY NAME TO GL SCIENCES INC.
- SEPTEMBER, 1995 : GL SCIENCES BECAME A LISTED COMPANY ON JASDAK.
- NUMBER OF EMPLOYEES : 376 (CONSOLIDATED: 650)
- SALES OFFICE IN JAPAN : 11
- ANNUAL SALES IN 2003 : \$110 MILLION (CONSOLIDATED: \$144 MILLION)
- MAIN PRODUCTS : GAS CHROMATOGRAPH, HPLC INSTRUMENTS, CONSUMABLES
- EXPORT INSTRUMENTS : SWA-256 (SILICON WAFER ANALYZER)  
MSTD-258, TMD-253H( SAMPLE PREPARATION INSTRUMENTS  
STC-353 (SAMPLE TUBE CONDITIONER), SP-208 (SAMPLING PUMP)  
LD-229 (HELIUM GAS LEAK DETECTOR)
- ORIGINAL INFORMATION : ADDRESS : 6-22-1 NISHISHINJUKU, SHINJUKU-KU, TOKYO 163-1130, JAPAN  
TEL:81-3-5323-6620, FAX: 81-3-5323-6621 EMAIL: [WORLD@GLS.CO.JP](mailto:WORLD@GLS.CO.JP)  
[WWW.GLS.CO.JP](http://WWW.GLS.CO.JP)

## MSTD Online Process Flow



## MSTD M·TMD-253H Process Flow



# MSTD-258 (Multi Sample Thermal Desorption System On-line type)

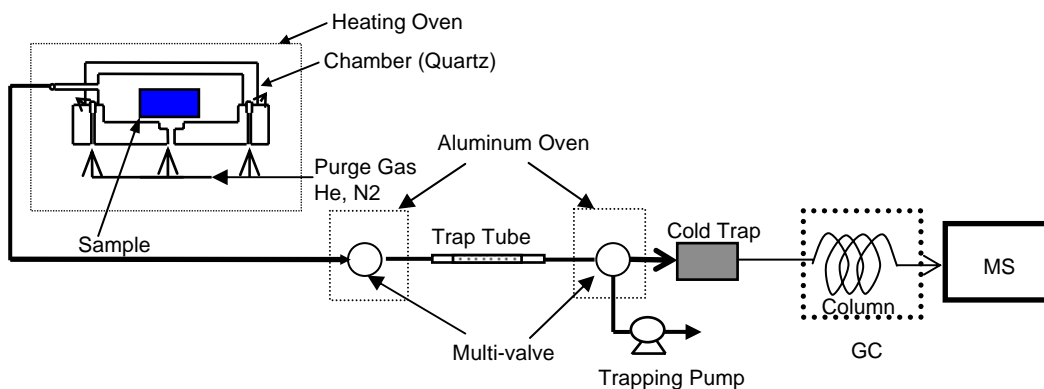
## Outline

It is an measurement system for out gassing from materials of interior, construction, cleanroom, semiconductor, food vessels, or multiple materials which can be a source of indoor air pollution. It is to measure a sample put into a chamber in the oven for heating.

## Features

- If it is sample settled in chamber, it can measure in any form.
- Quartz coated line is used for Sample line not to be decomposed or adsorbed easily. It is maintained at high temperature.
- Since Heater Oven (A type, B type) uses temperature-controlled oven, it is measurable in an accurate temperature atmosphere.
- Sample (solid sample) is put into the heater oven of MSTD258 On-line and press START button switch, then it goes automatically to heat sample, trap outgas from the sample, desorb it into cryo focus and inject it into Gas Chromatograph.
- The operation is very simple and easy, therefore, even beginners can obtain a good reproducibility.

## Flow Chart



### MSTD-258 Oven A type Cat. No. 7510-25800

#### Specifications

Outer Dimensions	: 620x520x430
Inner Dimensions	: 250x160x250mm
Quartz chamber	: 100x2.8, 30, or 50mm
Temp.Range	: Ambient -400c
Power Supply	: AC100v, 40A
Weight	: 120kg approx.
Gas Helium	: 99.995% or higher, 400-600kPa
Nitrogen	: 100-300kPa for LN2)
Installation Space	: 1100(w) x 900 (D) mm



### MSTD-258 Oven B type Cat. No. 7501-25810

#### Specifications

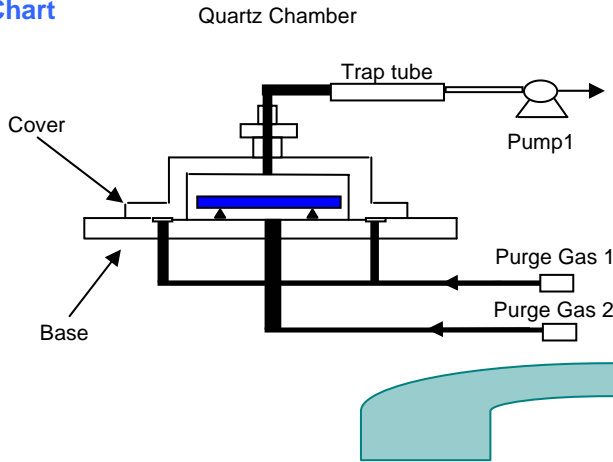
Outer Dimensions	: 500x620x525
Inner Dimensions	: 320x420x190mm
Quartz chamber	: 200x2.8, 30, or 50mm
Temp.Range	: Ambient -300c
Power Supply	: AC100v, 40A
Net Weight	: 125kg approx.
Gas Helium	: 99.995% or higher, 400-600kPa
Nitrogen	: 100-300kPa for LN2)
Installation Space	: 1100(w) x 900 (D) mm

# MSTD-258M (Multi Sample Thermal Desorption System Manual type)

## Features

It is a measurement system for out gassing from materials. Sample (solid sample) is put into the heater oven of MSTD258M Manual type, press START button switch, then it goes automatically to heat sample, trap outgas from the sample. After the sampling, remove the sample tube and attach it to a thermal desorption system TMD-253H or another to measure the tube.

## Flow Chart



### MSTD-258M Oven A type Cat. No. 7510-25801

#### Specifications

Temp. Range	: Ambient -400c
Quartz chamber	: 100x2.8, 30, or 50mm
Weight	: 55kg approx.
Power Supply	: AC100v, 25A
Gas Helium	: 99.995% or higher, 400-600kPa
Installation Space	: 800(w) x 600 (D) mm

### MSTD-258M Oven B type Cat. No. 7510-25811

#### Specifications

Temp. Range	: Ambient -300c
Quartz chamber	: 200x2.8, 30, or 50mm
Weight	: 75kg approx.
Power Supply	: AC100v, 30A
Gas : Helium	: 99.995% or higher, 400-600kPa
Installation Space	: 1100(w) x 650 (D) mm

# TMD-253H (Auto Sampler of Thermal Desorption by tube)

## Features

It is available to continue running 6 sample tubes automatically. It can measure samples in wide range such as measurement of samples trapped into a sample tube from room atmosphere, cleanroom air or measurement of polymer materials put into a sample tube directly.



### TMD-253H Specifications

#### Cat. No. 7510-25300

Sample Tube Dimensions	: 1/4" or 6mm 160(L)mm
Quantity of Sample tube	: 1-6 ea
Desorption Time	: 0.1sec ~ 999hr
Desorption Temperature	: Max 300°C
Pre-Cool Time	: 0.1sec ~ 999hr
Valve Heating	: Min.250°C, Max.300°C Transfer Line
Heating	: Max.270°C
Dimensions	: 430(W)x452(D)x575(H)mm
Power Supply	: AC100v 12A
Gas Supply	: Helium 99.995% or higher, 400 ~ 600kPa
Weight	: 40kg approx.

## Peripheral Devices



### AERO TD GL Tube

#### Empty Tube

3mmID 4ea/pkg  
4mmID 4ea/pkg

#### Cat. No.

1003-71001  
1003-71002

#### Packed with Tenax TA

3mmID 4ea/pkg  
4mmID 4ea/pkg

#### Cat. No.

1003-71102  
1003-71104



### Quartz Chamber

#### For MSTD-258M Oven A type

100 x 1mm(H)  
100 x 30mm(H)  
100 x 50mm(H)

#### Cat. No.

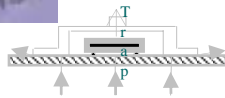
7510-25854  
7510-25855  
7510-25856

#### For MSTD-258M Oven B type

200 x 1mm(H)  
200 x 30mm(H)  
200 x 50mm(H)

#### Cat. No.

7510-25857  
7510-25858  
7510-25859



### Sampling Pump SP208

#### Cat. No.

2702-17575

2702-17580

#### Specifications

100Dual

1000Dual

Suction Flow Rate : 10 - 100mL/min. 100 - 1000mL/min.  
Storage Files : 5  
Flow rate Accuracy : 20-100mL/min. within  $\pm 5\%$   
Dimensions : 275(W) x 46(D)x100(H)mm  
Power Supply : 1.2A (DC12v)  
Weight : 3.5kg approx.

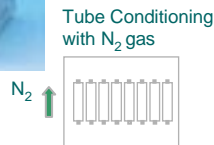


### Sample Tube Conditioner STC353

#### Cat. No. 2701-13070

#### Specifications

Temperature Control Range : Room temp.+15 ~ 450  
Over Heat Protection : Max. Heating Alarm  
Temperature Program : Max 5 steps (Heat/Cool) Sample Tubes  
: 6 ~ 6.35mm(1/4")OD x 35 ~ 178mm(7")  
Numbers of Sample Tubes : Max. 8 ea  
Dimensions : 515(W) x 450(D) x 435(H)mm  
Power Supply : AC100v 12A  
Weight : 33kg approx.



### Helium Gas Leak Detector LD-229

#### Cat. No. 2709-19490

#### Specifications

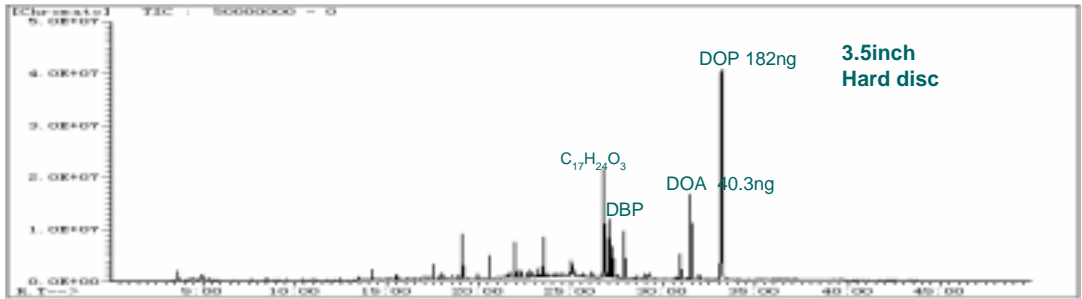
Detection Method : Thermal Conductivity Detector  
Range : High/Low  
Sensitivity : 0.01mL/min. Helium detectable  
Dimensions : 785(W)x40(D)x162(H)mm  
Weight : 330g approx.  
Power Supply : Re-charger AC100v or 220v



## Materials Analysis

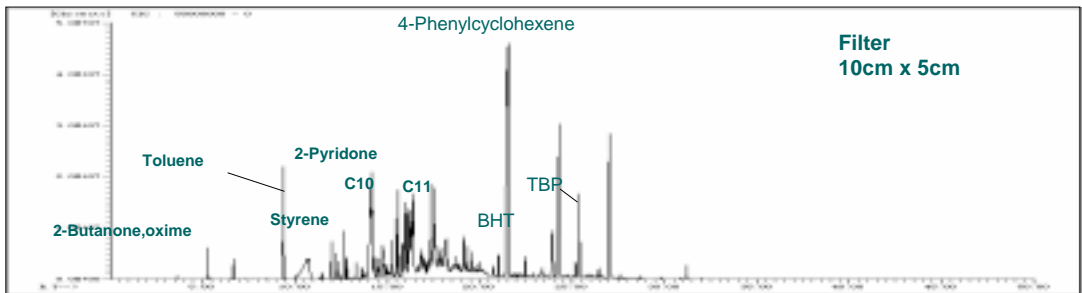
### [Hard Disc]

This is an application data of Hard Disc after leaving it in a cleanroom. DOP is a plasticizer of polymer, and this data shows that hard disc is adsorbed selectively with DOP. Organic matters control will be available by measuring the organic components which is easy to be adsorbed to Devices.



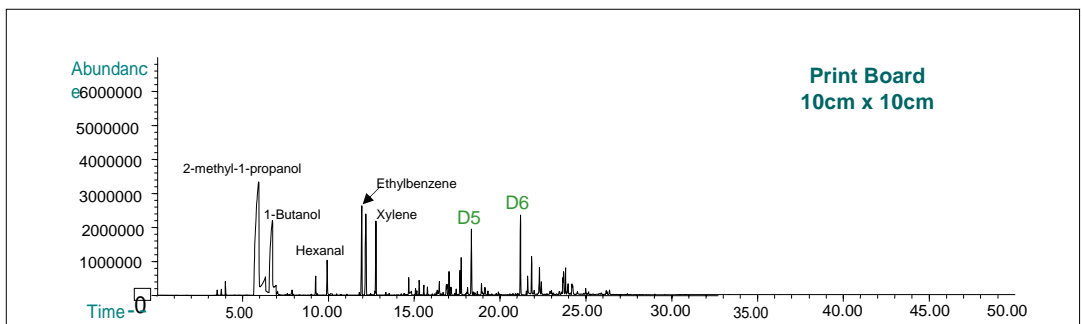
### [Filter]

This is an application of Filter currently used in general Clean room. There are a lot of TBP and BHT came out from the Filter. It is said that an organic matter may affect various Devices. As an example, it is said that TBP or BHT is influenced to the above Hard Discs.



### [Print Board]

D5 and D6 is Siloxane. It can check what tends to adhere to a printed circuit board. It can check that Siloxane of the organic matters in materials is easy to adhere to print circuit board.

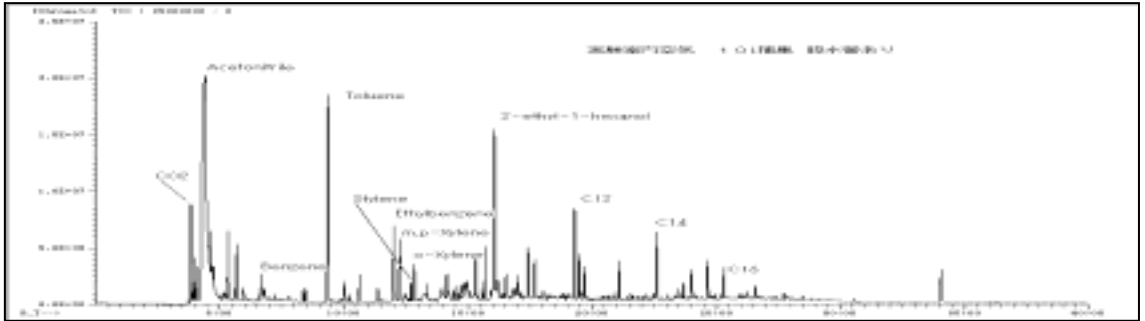


>

## Air Analysis

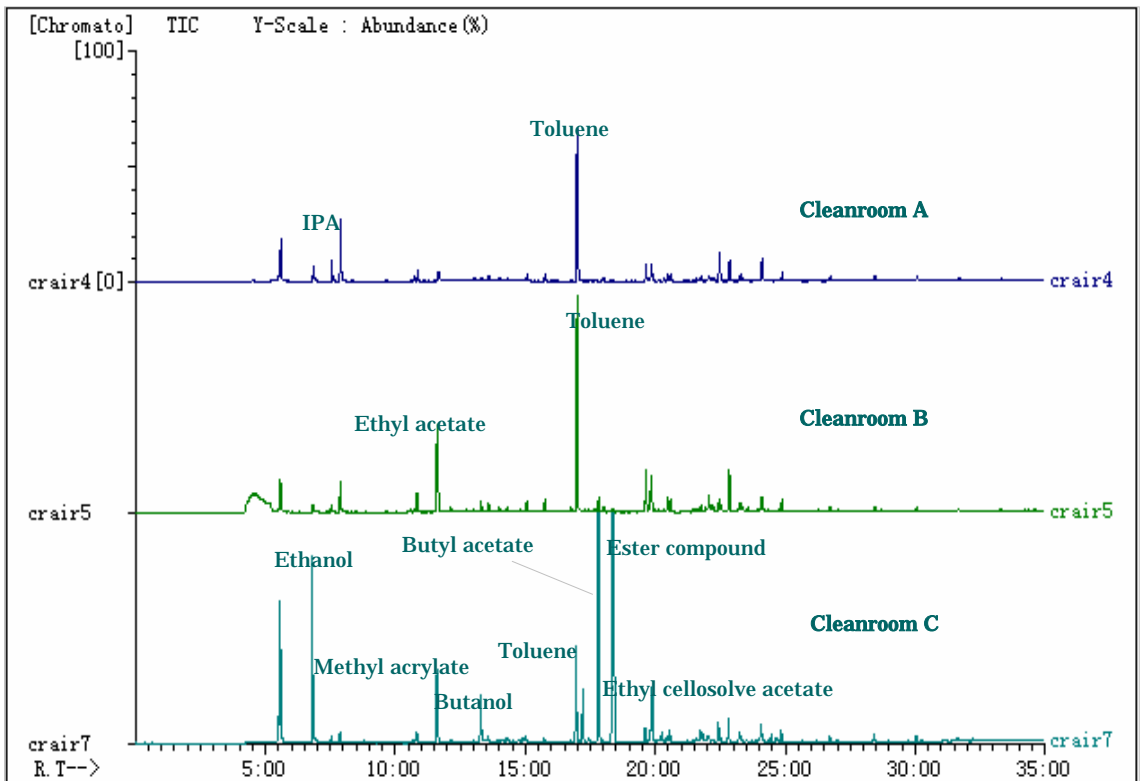
### [Lab. Atmosphere Data (Draining Tube Use)]

This data was measured by TMD253H on Air measurement of general indoor analysis (lab near the R&D lab). Organic matters in air can be measured.



### [Cleanroom Atmosphere Comparison Data]

These three (3) data are air measurements in three different cleanroom air. Each cleanroom obtains different data. Since Data C was a clean room of Photo Resist, the organic matters of solvent group was detected. By using TMD, the organic matters of Cleanroom Air are controlled. The organic matter ingredient which is easy to adhere to devices by this can be specified. The volume can be qualitative and quantitative. This becomes the material for full preparation on organic matters control.



## Silicon Wafer Analyzer SWA-256M



### Specifications Cat. No. 7510-25610

Furnace	: Heater Furnace of the Upper part Opening & Closing
Heater	: Coil Heater
Operation Temp.	: 100- 700°C
Sample Capacity	: 3 – 12 inch
Helium Gas	: 500 – 600 kPa
Air	: 500 – 600 kPa
Power Supply	: AC200v, 40A 50/60Hz
Dimensions	: 990mm(W) x 1030mm(D) x 2130mm(H)
Weight	: 430kg approx.

## Distributors List



### CHINA

TECHNOLOGY KONG KING ELECTRONIC CO.,LTD.  
(SUZHOU OFFICE)

NO.81, SU HONG XI RD., SUZHOU INDUSTRIAL PARK, JIANGSU,  
CHINA TEL: 86-512-6256-0393 FAX: 86-512-6256-0390  
(GUANGZHOU OFFICE)

No. 105, TIAN WEN YUAN, TI-YU WEST ROAD, TIANHO AREA  
GUANGZHOU, P. R. C. TEL/FAX: 86-2038-792329



### KOREA

IPC ENTERPRISE

ILJIN CO-OPERATIVE INDUSTRIAL COMPLEX,450-4 MUSONG-DONG  
HWASUNG CITY, KYUNGKI-DO, KOREA. TEL : 82-31-355-2177



### SINGAPORE

ALPHA ANALYTICAL (S) PTE LTD.

71 TOH GUAN ROAD EAST,#02-01/02, TCH TECH CENTRE  
SINGAPORE 608598 TEL : (65)6567 8885 FAX : (65)6567 2977



### TAIWAN

TAIWAN KONG KING CO., LTD.

NO.75, KUANG-MING 3 ROAD, CHU-PEI CITY, HSIN CHU, 302  
TAIWAN,R.O.C. TEL: 886-3-5530377 FAX: 886-3-5557964



### THAILAND

BARA SCIENTIFIC CO.,LTD.

968 RAMA4 ROAD SILOM, BANGRAK, BANGKOK  
10500 THAILAND TEL: 02-6324300 FAX: 02-6375496-7