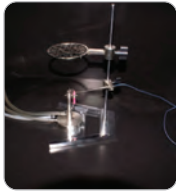


Naval Engineering Standard 713 Toxic Chamber

독성지수 시험기, Toxicity Index Test Chamber, 7TC-710, NES 713



Introduction

FESTEC's Naval Engineering Standard 713 Toxic Chamber measures the Toxicity Index by ppm in Naval Engineering Standard chamber when complete combustion occurs by burner.

FESTEC's NES 713 TOXIC Chamber meets the standard of NES 713 and is used to measure combustion characteristics about materials.

FESTEC's NES 713 Toxic Chamber measures Toxicity Index after perfect combustion by burning 100g of specimen.

Standard

- NES 713 : Determination Of The Toxicity Index Of The Products Of Combustion From Small Specimens Of Materials

Feature

- Observation window made in reinforced plastic allows easy observation of combustion conditions during the test
- Chemical reaction with gaseous materials generated in combustion is minimized by treating the inside of Chamber with Teflon Coating
- Door locking device designed for easy opening/closing
- Specimen Support for Burner to be located in the center of the combustion mass and for test specimen to be easily loaded
- Designed for testing in Auto/Manual Mode
- Auto Ignition for controlling ignition and extinguishment of Gas Burner by Time Device
- Auto Vent Mode allowing auto release of combustion gases generated in combustion by Time Device
- Auto Stirrer Mode for complying with conditions of combustion gas stirrer by Time Device specified in the standard Time Device
- Automatic vacuum pump for sampling combustion gas (automatic sampling by setting times)

Toxicity Constitution & Concentration (ppm)

Carbon dioxide(CO ₂)	100,000	Sulphur dioxide(SO ₂)	400
Carbon monoxide(CO)	4,000	Nitrogen oxides(NO+NO ₂)	250
Carbon monoxide(CO)	750	Phenol(C ₆ H ₅ OH)	250
Ammonia(NH ₃)	750	Hydrogen cyanide(HCN)	150
Formaldehyde(HCHO)	500	Hydrogen bromide(HBr)	150
Hydrogen chloride(HCl)	500	Hydrogen fluoride(HF)	150
Acrylonitrile(CH ₂ CHCN)	400	Phosgene(COCl ₂)	25

Test Result

- If 100g of material is burned and the material is diluted in the air of chamber, concentration of each generated gas is given by the following equation.

$$C_8 = \frac{C \times 100 \times V}{m} \quad (\text{ppm})$$

C = concentration of gas in test chamber (ppm)

m = fire test mass (g)

V = volume of test chamber (m³)

Toxicity Index

$$\text{Toxicity Index} = \Sigma \frac{C_{81}}{C_{f1}} + \frac{C_{82}}{C_{f2}} + \frac{C_{83}}{C_{f3}} + \frac{C_{8n}}{C_{fn}} + \dots + \dots$$

1, 2, 3, ... indicates each found Gas.

C_f = concentration of the gas considered fatal to man for a 30 minute exposure time (ppm)

Specification

Model	FT-7TC-710
Size	1,185 × 700 × 2,100
Power	AC 220V , 50/60Hz, 10A
Weight	150kg
Exhaust	Min. 10 m ³ /min
Utilities	Methane Gas, Propane Gas(Optional), Compressed Air, Hood, Duct, Dust Collector