

The laboratory automated Inert Gases Extraction System (IGES-2018) designed and produced by SimulTek for extracting inert gases from various types of sample water. The device is capable of extracting, purifying and concentrating the inert gases including He, Ne, Ar, Kr, Xe etc. from the sample water by serial methods of evaporating, concentrating and sublimating under a high vacuum condition, for scientific experiment and analytical measurement purpose.

IGES-2018 Technical Specification

Concentration of mixed inert gases (after purifying)	98.9%
Amount of water sample	2 ml – 40 ml
Number of inert gas evolution stages	2
Number of vacuum chambers in the device	2
Extreme vacuum rate in the "wet" chamber	$\leq 1 \times 10^{-8}$ Torr
Extreme vacuum rate in the "dry" chamber	$\leq 9 \times 10^{-10}$ Torr
Preparation time for the device (including baking out of both chambers)	10 h – 12 h
Full scale flow range (N2 equivalent)	5 sccm
Cooling liquid	LN ₂
Supply voltage	~ 220 V
Number of phases	2
Current per phase	20 A



Inert Gases Extracting Device IGED-2018 System



The noble gas
purification
chamber



The Argon Filter Device
(AFD-2018)

The Argon Filter Device (AFD-2018) is an experimental technique and methodology developed and produced by SimulTek for purification from Argon of a mixture of inert gases using physical adsorption (physisorption) principle at cryogenic temperature by means of activated carbon. The Argon Filter Device (AFD-2018) is an auxiliary device of the Inert Gas Extraction Device (IGED-2017) applies to separating the Argon, the largest proportion of mixed inert gases extracted from the Inert Gas Extraction Device (IGED-2017). The device is capable of separating the Argon from mixed inert gases by method of condensation under a high vacuum condition.