

Kelvion Mini Desublimator

THE BIG SMALL



DESIGN & FUNCTION

In the Mini Desublimator unit the gas mixture comes into contact with cooled lamella/fins. Here that part of the gas mixture to be separated desublimates either around or below its triple point and adheres to the cold surface in crystalline form. The Pluto unit is split into several sections to achieve an optimum distribution of the product inside the desublimator. This special design feature ensures the highest separation efficiencies and longest loading times.

A range of lamella/fin designs are available for optimum utilization of the heat exchanger surface – and the sectors are adapted individually to each process requirement to achieve superior separation efficiency of over 99.5 percent. The crystalized product is melted off as soon as the desublimator is fully loaded.

Mini Desublimator comes in standard sizes, as well as a wide range of tailored design configurations and internal fittings. Design, manufacturing and testing to the highest international standards prove Mini Desublimator's reliability.

ADVANTAGES

- ▶ **CLEAN PROCESS:
NO CHEMICALS OR SOLVENTS NEEDED**
- ▶ **SEPARATION EFFICIENCY OF 99.5 %**
- ▶ **HIGH PRODUCT PURITY**
- ▶ **MINIMAL SPACE REQUIREMENTS DUE
TO COMPACT DESIGN**
- ▶ **NO MOVING PARTS: LOW WEAR, HIGH
OPERATIONAL RELIABILITY,
VIRTUALLY MAINTENANCE-FREE**
- ▶ **LOW ENERGY CONSUMPTION**

GOOD TO KNOW

Desublimators are not "regular" heat exchangers.

The purpose of desublimators is material separation through phase change.

Desublimation is a thermodynamic material separating process

Desublimation can be an attractive alternative to adsorption, absorption or cyclon separation methods.

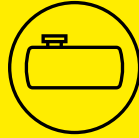
MINI DESUBLIMATOR APPLICATIONS



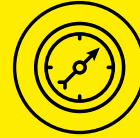
Product separation in chemical & pharmaceutical processes



Environmental protection



Tank venting



Protection of vacuum systems



Recovery of valuable (raw) materials

DESIGN DATA



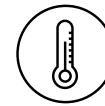
DESIGN PRESSURE

▶ **VACUUM UP TO 50 BAR**



GAS FLOW

▶ **5 - 500 KG / H**



DESIGN TEMPERATURE

▶ **-150 °C TO 350°C**

EFFICIENCY OF...

... POWER PLANTS



40 - 45 %

... HEAT EXCHANGERS



approx. 80 %

... FILTERS / DEMISTERS



approx. 98 %

... MINI DESUBLIMATORS



approx. 99.5 %

EXAMPLES OF SUBSTANCES SUITABLE FOR DESUBLIMATION

- ▶ Aminophenol
- ▶ Amylphenol
- ▶ Chloro aniline
- ▶ Glycolide
- ▶ Iodine
- ▶ Naphthalene
- ▶ Naphtol
- ▶ Oligomers
- ▶ Polymers
- ▶ Phthalic Anhydride
- ▶ Polylactide
- ▶ TDA (diamino toluene)
- ▶ Water
- ▶ Others on request

INTERNATIONAL CERTIFICATION

- ▶ TÜV NORD
- ▶ TÜV Rhineland
- ▶ TÜV Austria
- ▶ Det Norske Veritas
- ▶ Class NK
- ▶ Lloyd's Register of Shipping
- ▶ Bureau Veritas
- ▶ American Bureau of Shipping
- ▶ Germanischer Lloyd
- ▶ Urząd Dozoru Technicznego
- ▶ Inspection and Quarantine of the PRCh
- ▶ Gost – RT
- ▶ U-Stamp acc. ASME Code