

Explosion-proof ...

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... Heating and drying ovens series VTUW
In compliance with ATEX guidelines

The solution for reliable heat treatment ...

The problem

During many heat treatment processes, flammable substances (solvents, gases etc.) are emitted that can result in an explosive mixture when combined with air. In order to prevent this mixture from causing an explosion, special precautions must be taken.

The solution

Vötsch Industrietechnik has developed special concepts for a variety of requirements to prevent risks of explosion.

For critical conditions as they occur, e.g. in the chemical, pharmaceutical and electronics industry, the heating and drying ovens of the VTUW series have been designed to fulfil considerably higher requirements than conventional dryers for coating materials.

Special measures of protection against explosion prevent the dangerous explosive atmosphere from igniting and ensure safe and reliable heat treatment processes.

The VTUW series is a combination of safety, reliability and sophisticated functionality. A well thought out concept, high-quality materials and components plus accurate production ensure fail-safe, reliable heating and drying ovens.

The advantages

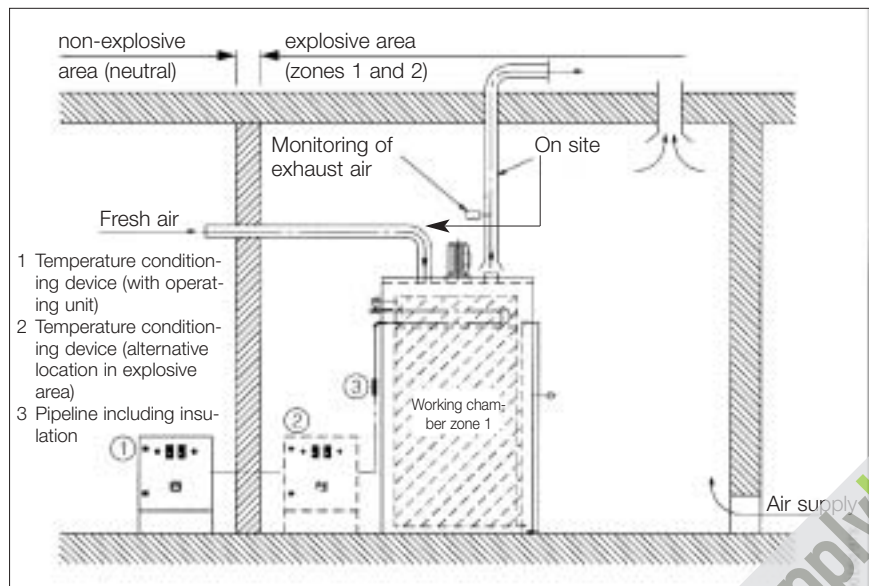
- **safe**
The volume of flammable substances that can be introduced is virtually unlimited. The heating and drying ovens comply with category 2 devices and can thus be installed in zones 1 and 2 of areas where there is a danger of explosion.
- **flexible**
Design in compliance with device group II, i.e. suitable for solvents of temperature classes T1, T2, T3, T4 and explosion groups IIA and IIB.
- **economic**
Warm water or steam emitted from processes can be introduced as a heating medium. Low energy consumption and short process times thanks to circulating air with low fresh air volume.
- **precise**
High constancy of temperature in the entire working chamber.
- CE-compliant as per 94/9/EU



Installation

For installing in explosive zones, all components are explosion-proof according to the respective zone.

Fresh air required for safe and reliable operation must be supplied from a neutral zone.



Temperature conditioning

Heating power is provided via heat gained from technical processes (vapour, water, temperature, thermal oil) or via a separate temperature conditioning device.

For economic reasons, the temperature conditioning device is usually located in the neutral zone. If required, the temperature conditioning device can be designed for installation in explosive areas!



Special constructions

- Heat treatment processes in inert gas atmosphere
- Processes under clean room conditions
- Drying of explosive substances
- Solvent recovery

Accessories

- Temperature conditioning devices
- Fresh air grid
- Exhaust air fan
- Door window
- Shelves and grids
- Charging trolleys
- Flow control valves
- Condensate collector

Temperature classes and explosion groups

Temperature class	T1	T2	T3	T4
Ignition temperature	> 450	450 – 300	300 – 200	200 – 135
Explosion group	Selection:			
IIA	Acetone Ethane Ammonia Benzene Acetic acid Methane Propane Toluene	n-Butane n-Butyl alcohol Natural gas Vinyl chloride	Benzene Diesel Heating oil n-Hexane	Ether Ethyl ether
IIB	Hydrogen cyanide Town gas	Ethyl alcohol Ethylene Isoprene	Dimethyl ether	
IIC ¹⁾	Hydrogen	Acetylene		

1) On request: Specially designed equipment is required for substances of explosion group IIC.

Technical data of standard devices⁴⁾

Series		VTUW 75/100	VTUW 100/150	VTUW 125/200	
Inner dimensions	Width	mm	750	1000	1250
	Height	mm	1000	1500	2000
	Depth	mm	750	1000	1250
Approx. outer dimensions	Width	mm	1270	1520	1770
	Height	mm	1850 ¹⁾	2400 ¹⁾	2900 ¹⁾
	Depth	mm	1035	1285	1535
Volume of working chamber	Liter	700	1500	3125	
Heating capacity – standard	kW	9	18	18	
Working temperature	°C	Ambient temperature + 30 K ... 200 °C ²⁾			
Temperature deviation ³⁾ (spatial) at T = 200 °C		±2.5 K	±4.0 K	±5.5 K	
Temperature class		T1, T2, T3, T4			

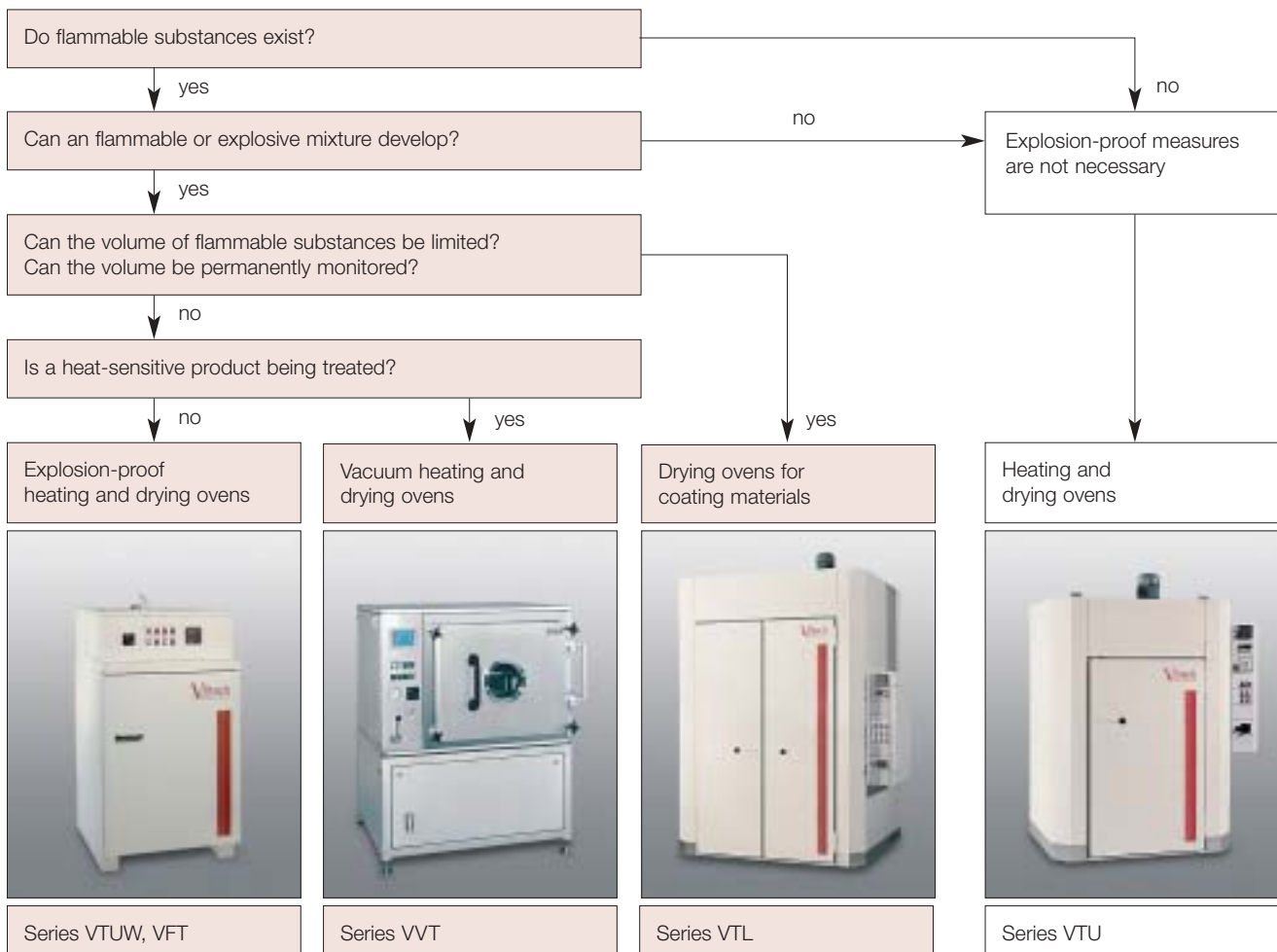
1) Incl. circulating air fan

2) Depending on the ignition temperature of the solvent and heating medium

3) Measurement according to DIN 12880

4) Further sizes on request

The right solution to your drying problems ...



What we offer:

- Support in all issues concerning safety and risks
- Planning and compilation of safety concept
- Individual solutions for your heat treatment process
- Competence, experience and know-how
- After sales service
- Further information: www.voetsch.info

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