

# MINOR 2

## DETERMINATION OF THE MINIMUM IGNITION ENERGY OF DUST/AIR MIXTURES

Model: MINOR 2.4

ver. 1.2, 2022

### STANDARD REFERENCES:

- EN 13821 Potentially explosive atmospheres. Explosion prevention and protection. Determination of minimum ignition energy of dust/air mixtures
- ASTM E 2019: Standard Test Method for Minimum Ignition Energy of a Dust Cloud in Air
- IEC 61241-2-3 replaced by ISO/IEC 80079-20-2:2016.
- ISO/IEC 80079-20-2:2016 Explosive atmospheres. Material characteristics. Combustible dusts test methods

### MINOR 2.4 SPECIFICATION:

Test vessel	Hartmann glass tube
Ignition delay time	available range: 20-350 ms real time measurement - from dust injection to spark ignition
Spark energy control	built-in
Electric connectors	gold plated
Energies:	1, 3, 10, 30, 100, 300, 1000 mJ 2000 (or 3000) mJ - optional
Pressure control gauges	inlet pressure gauge dispersion pressure gauge
Body	stainless steel safety glass sash equipped with 4 wheels
Software:	ANKOdustMIE® program
Dimensions: WxDxH	1200 x 800 x 2765 mm (48 x 32 x 110 in)
Power:	maximum 800 W
Compressed air supply:	ø6mm, ø ¼", quick connector pressure 8-10 bar
Weight:	320 - 400 kg (depends on configuration)
Mains:	230VAC or 110 VAC
Outlet diameter:	160 mm (6,3 in) or 200 mm (8 in)



## MINOR 2.4 UNIQUE FEATURES:

Extremely safe-in-operation fume-hood body.  
MINOR 2.4 is designed as a one-piece device.  
The housing is entirely made of stainless steel.

The device can be equipped with a block of particulate filters, including a HEPA grade.  
Optionally, ATEX filters are also available.

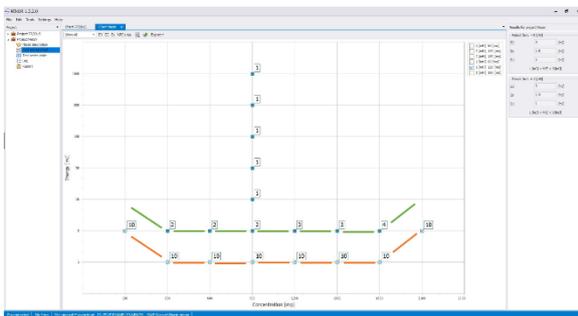
The necessary accessories can be placed in the working chamber for the duration of the test.

The space is large enough to accommodate the laboratory balance and prepare the samples.

Mains sockets, inlet pressure gauge, dispersion pressure gauge, and lamp switch are installed in front panel.



## ANKOdustMIE® COMPUTER PROGRAM:



Provides procedures compliant with EN, ASTM, IEC, ISO standards.  
The test report includes data, results and graphs.  
The MIE procedure can be performed with or without inductance.  
The actual ignition delay time is measured and shown in the report.  
The spark energy is measured with each test.  
Attempts inconsistent with the permissible spark energy and delay time variations are automatically rejected.  
Data can be exported to many formats, including txt, Excel.

## AIR VELOCITY MEASUREMENT AND CONTROL:



The device is equipped with an air velocity measuring and control system.

Maintaining the required air flow velocities in the combustion chamber allows the testing of potentially hazardous substances and toxic reagents. Solid particles do not escape when the glass sash is closed and open.

Optionally, it is possible to control an external ventilation fan in the extraction system from the LCD touch panel.

It is possible to make a complete exhaust extraction system connected to an ATEX fan and to be controlled directly by MINOR 2.4.

Measurement of air velocity in the ventilation duct ensures control of filter contamination, without the need to open it.

The information given in this document represents the state of engineering at the time of publishing. We reserve the right to make modifications to above specifications.



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