

Explosion and Fire Safety: Become an Insider.

IND EX® Intercontinental Association of Experts for INDUSTRIAL EXPlosion Protection e. V.

We are IND EX®.

IND EX®, the “Intercontinental Association of Experts for INDUSTRIAL EXPLOSION PROTECTION e. V.”, was established in 2009 in Frankfurt am Main as an association of experts for industrial explosion protection. The members come from science and research, as well as from industry.

IND EX® stands for

- ✓ A strong community of international experts
- ✓ Decade-long experience in explosion and fire safety
- ✓ An international exchange of experiences
- ✓ Training in industrial explosion and fire safety

Scientific and Technical Committee

Dr. Kees van Wingerden	
Prof. Ulrich Krause	
P. Eng. Hugues Châteauneuf	
Dr. Georg Suter	
Marius Bloching, M.Sc.	
Ursula Aich	

IND EX® Ambassadors

Nalini Krishnan Republic of India	
Niklas Kitzhoefer China	
Stefano Cavallin Republic of Italy	
Univ. Prof. Dr.-Ing. Uli Barth D-A-CH Region	

Full Members







For more information, please visit www.ind-ex.info



Associated Members

Markus Eckert Karsten Frese František Krejčí

Honorary Members

Dr. Dirk Oberhagemann Wolfgang Schubert Chris Cloney Ron Sinclair

Accompanying Members

		
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IND EX® gets involved.

IND EX® members get involved in projects and activities in order to enhance industrial explosion safety and a common safety standard.

IND EX® offers

- ✓ Standardization of the different worldwide norms and safety standards for implementation in the praxis
- ✓ Research of concepts for the development of new technologies and innovative processes
- ✓ Further development of standards in industrial explosion protection
- ✓ Information transfer to operators in handling with explosive media

IND EX® Students

IND EX® gets involved with students for their theses. For this, topics related to explosion protection are advertised. Additionally, it is possible to propose one's own topic via email.

Email address: info@ind-ex.info.
For more information, please visit www.ind-ex.info



IND EX® connects.

IND EX® gets involved in knowledge transfers with international congresses and symposiums. Events are organized several times a year.

Events

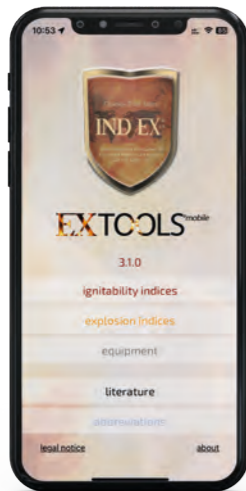
- ✓ IND EX® Safety Congress
- ✓ IND EX® Safety Symposium
- ✓ German Fire and Explosion Protection Congress



Know-how available everywhere at any time.

EXTOOLS^{®mobile} and EXTOOLS^{®pro} are the universal tools in explosion safety e.g. for safety officers, experts and technical consultants, etc. who must deal extensively with the topic of explosion protection. They based on EN-, IEC- and ISO-Standards as well as on VDI Guidelines and reports, research work, theses, publications and technical books.

EXTOOLS^{®mobile}



EXTOOLS^{®mobile} is separated in five categories: „ignitability indices“, „explosion indices“, „equipment“, „literature“ and „abbreviations“. Since the indices are obtained under standard laboratory conditions, it is important to know how they depend on factors such as temperature, pressure, particle size of the process and plant under consideration. The basic transformation rules for gases/vapours and dusts are applied. EXTOOLS^{®mobile} also estimates the degree of ignition hazard and the energy of various ignition sources and calculates equipment-related parameters such as maximum experimental safe gap, circumferential speeds or determines the permissible type of filter fabric for dust collectors. In the „literature“ you will find the information on which EXTOOLS^{®mobile} is based. The category abbreviations explains the meaning of the used acronyms. EXTOOLS^{®mobile} runs on all iPhones[®], iPads[®] with iOS 9 or higher and Android.

For more information, please visit <http://www.extools.eu>



EXTOOLS^{®pro}



EXTOOLS^{®pro} is divided into eleven categories: „Fuel“, „Explosive Atmosphere“, „Ignition Hazards“, „Protective Systems“, „Equipment“, „Volumes and Surfaces“, „Miscellaneous“, „Database“, „Converter“, „Abbreviations“, „Literature“. With the help of this app, both preventive and constructive explosion protection can be analyzed, determined or calculated in detail. Various equipment-specific parameters for e.g. rotary valves, screw conveyors, mixers can also be determined. Furthermore, release rates of liquids / gases and the degree of ventilation of gases / vapours can be determined. The safety parameters of numerous gases and liquids are summarized in the database. EXTOOLS^{®pro} runs on all modern Windows[®] 7 or higher.

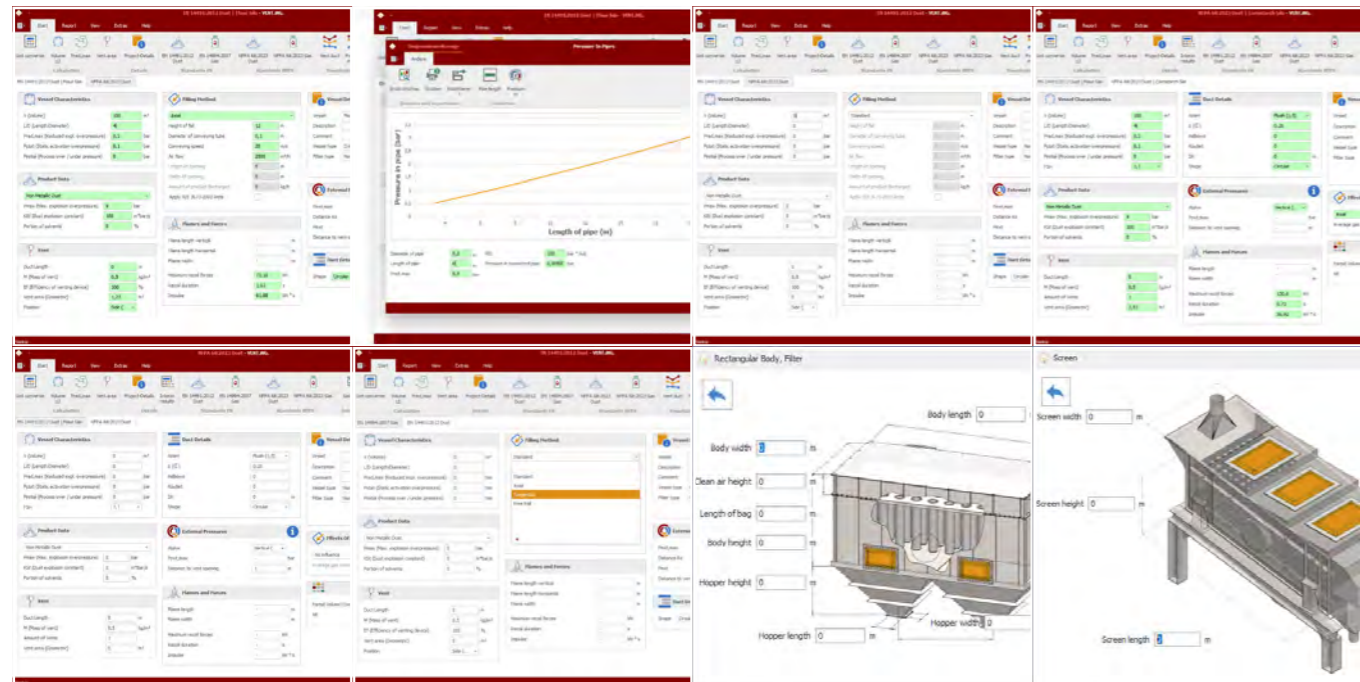
For more information, please visit <https://www.extools-pro.eu>



IND EX® presents: VENT.iNG

Extensive research has been conducted over the last decades, enabling experts worldwide to establish standards and guidelines to deal with the hazard of gas and dust explosions. Besides preventive measures to avoid explosions, explosion protection techniques were developed to protect process equipment such as dust collectors, silos, dryers and or cyclones and many others.

One of the most common explosion protection measures is explosion venting, to reduce occurring explosion pressures in the equipment to an acceptable minimum. In a globalized world, equipment manufacturers are forced to know about many standards and guidelines present in their destination country they are going to supply to. This sometimes can be overwhelming. With VENT.iNG., a software is available which supports the explosion protection expert to apply the two most common explosion VENT.iNG approaches in the world, following EN and NFPA.



VENT.iNG. in its different versions is essentially based on

European Standards / Guidelines

- ✓ EN 14491-2012 "Dust explosion Venting protective systems"
- ✓ EN 14994-2007 "Gas explosion Venting protective systems",
- ✓ Guideline VDI-3673, Part 1-2002 "Pressure release of dust explosions"
- ✓ NFPA standard
- ✓ NFPA 68:2023 "Standard on Explosion Protection by Deflagration Venting".

Additional features

- ✓ Explosion pressure calculation in pipes
- ✓ Exception calculation for explosion isolation
- ✓ Multiple calculations in one file for larger projects containing multiple equipment such as Spray Dryer-Cyclone-Filter combinations

Future features

- ✓ DIN CEN TR 16829
- ✓ Calculation of bucket elevators following NFPA 68:2023

For more information, please visit <https://ind-ex-venting.de>



e-learning a new IND EX® Service

Technical explosion protection measures are always related to organizational measures. The qualification of personnel is therefore an important element of explosion protection. International standards and national laws define the high requirements for persons working in potentially explosive atmospheres, but also for those who plan, install, or maintain explosion-proof installations.

IND EX® therefore provides web-based e-learning units. They cannot replace the attendance of conventional continuing education events, but they can be used as basic training for people who are new to the topic of explosion protection or who want to periodically refresh their knowledge.

IND EX® e-learning units

- ✓ ATEX Basics
- ✓ Avoiding ignition sources
- ✓ Static Electricity
- ✓ Maintenance of ATEX Equipment
- ✓ Key elements of safe warehousing

In Preparation

- ✓ Explosion Protection of Small Mills and Sieves
- ✓ Safety Characteristics of Dust Clouds
- ✓ Safety Characteristics of Flammable Gases and Vapours

Starter Package with 5 units (2023)

	1d / 30d	7d / 90d	30d / 180d
IND EX® Full members	free	free	free
All other IND EX® members	free	free	fee-paying
No IND EX® member	fee-paying	fee-paying	fee-paying

1d / 30d: 1 day (24 h) access during 30 calendar days



In preparation:
Details and ordering
options will follow at
the end of 2023.

Your e-learning benefits:

✓ Flexibility

e-learning enables learners to access educational content at their own convenience and pace, so they can study anytime, anywhere.

✓ Continuous learning and updates

Online platforms can be easily updated with new content, ensuring learners have access to the latest information and resources in a rapidly changing world.

✓ Tracking and assessment

e-learning tools provide tracking and assessment features, allowing learners and educators to monitor progress, identify areas for improvement, and provide timely feedback.

✓ Cost Effectiveness

e-learning eliminates the need for physical classrooms, reducing costs associated with travel, accommodations, and infrastructure. It also enables reuse and scalability of digital content.

✓ Global reach

e-learning breaks geographical boundaries, enabling learners to connect with experts and educators worldwide, fostering cross-cultural learning experiences.

✓ Environmental sustainability

e-learning reduces the need for printed materials and commuting, contributing to a more sustainable and eco-friendly approach to education.

Become an Insider.

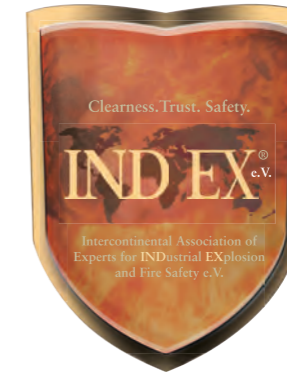
With your membership, you become an insider of a top-class group. You are active by improving worldwide safety standards in explosion protection and fire safety. IND EX® offers you the possibility of full or associated membership.

Types of membership

	full	associated
Codetermination in selection and implementation of research projects	✓	
Access to complete research reports	✓	
Presentation of your products during the IND EX® Safety Congress	✓	
Access to our complete database per member-login at ind-ex.info	✓	
Having your organisation named in relevant IND EX® publications	✓	
Submission of possible research topics	✓	
Profile page at ind-ex.info linked to your homepage	✓	✓
Strengthening the international reputation of your organisation	✓	✓
Direct access to an international network of experts	✓	✓
Free update for EXTTOOLS® <i>pro</i>	✓	✓
Free participation and free performance at IND EX® Safety Congress	✓	✓*

* after 3 years of membership.

IND EX® membership: Application



full

€ 5000 5 votes

associated

€ 400* 1 vote
 800 1 vote
 2000 2 votes
 3000 3 votes
 4000 4 votes

* for private individuals only

name

organisation

industry

VAT ID

street

post code | city

country

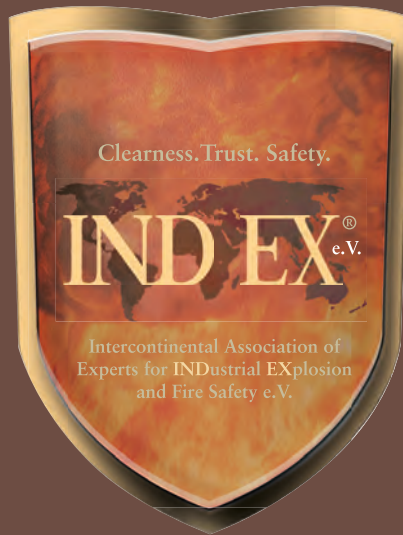
phone

e-mail

date

signature

Please fill in + send to
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**Shaping the future of
industrial explosion protection.**



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