



ST112832-2007

PREPARING FOR ENTRY.
DRÄGER TRAINING FOR CONFINED SPACE WORK.

DETECTION
PERSONAL PROTECTION
DIVING TECHNOLOGY
SYSTEM TECHNOLOGY
SERVICES

Drägersafety



We'll be with you every step of the way, no matter how tight a situation you may find yourself in.

WHICHEVER INDUSTRY YOU WORK IN – CHEMICAL, WASTE WATER TREATMENT, MINING, OFFSHORE OR SHIPBUILDING – THE UTMOST CARE MUST ALWAYS BE TAKEN BY STAFF AND MANAGERS ALIKE WHEN WORKERS ARE REQUIRED TO ENTER CONFINED SPACES.

Confined Space Entry is one of the highest-risk activities around. Because of the limited space available, it is particularly relevant whether hazardous gases are present or could be generated. Even in today's society, the number of accidents which occur in the confined space environment remains alarmingly high. Aging or ill maintained facilities, ignorance and limited budget availability for investment in safety equipment and training give rise to dangerous situations which could otherwise be avoided.

These are exactly the areas requiring proactive and professional attention by employers: every training course is an investment in the safety of workers and the protection of facilities.

We have made it our job to ensure that you are able to correctly implement the legal regulations for confined space entry, by practising and applying these rules in consultation with you. Dräger offers practical training courses to prepare your staff for CSE activities; courses which can be individually

adapted to meet the requirements of your companies operating environment.

To minimize the costs and effort involved for you, we have developed a mobile training gallery. Thanks to our specially designed training module, a wide range of work scenarios can be set up. Therefore hazard situations can be simulated in very little time and all right on site at your company's premises. This reduces the cost of personnel transportation and enables your staff to train using their own equipment (where available).



Mobile and realistic: our CSE training.

Always on hand: our Dräger Academy trainers.

Multiple height safety tripod systems: varying training opportunities.

Following a clearance measurement, the course participant enters the confined space using the necessary height safety equipment. Correct donning of the personal protective equipment is essential.

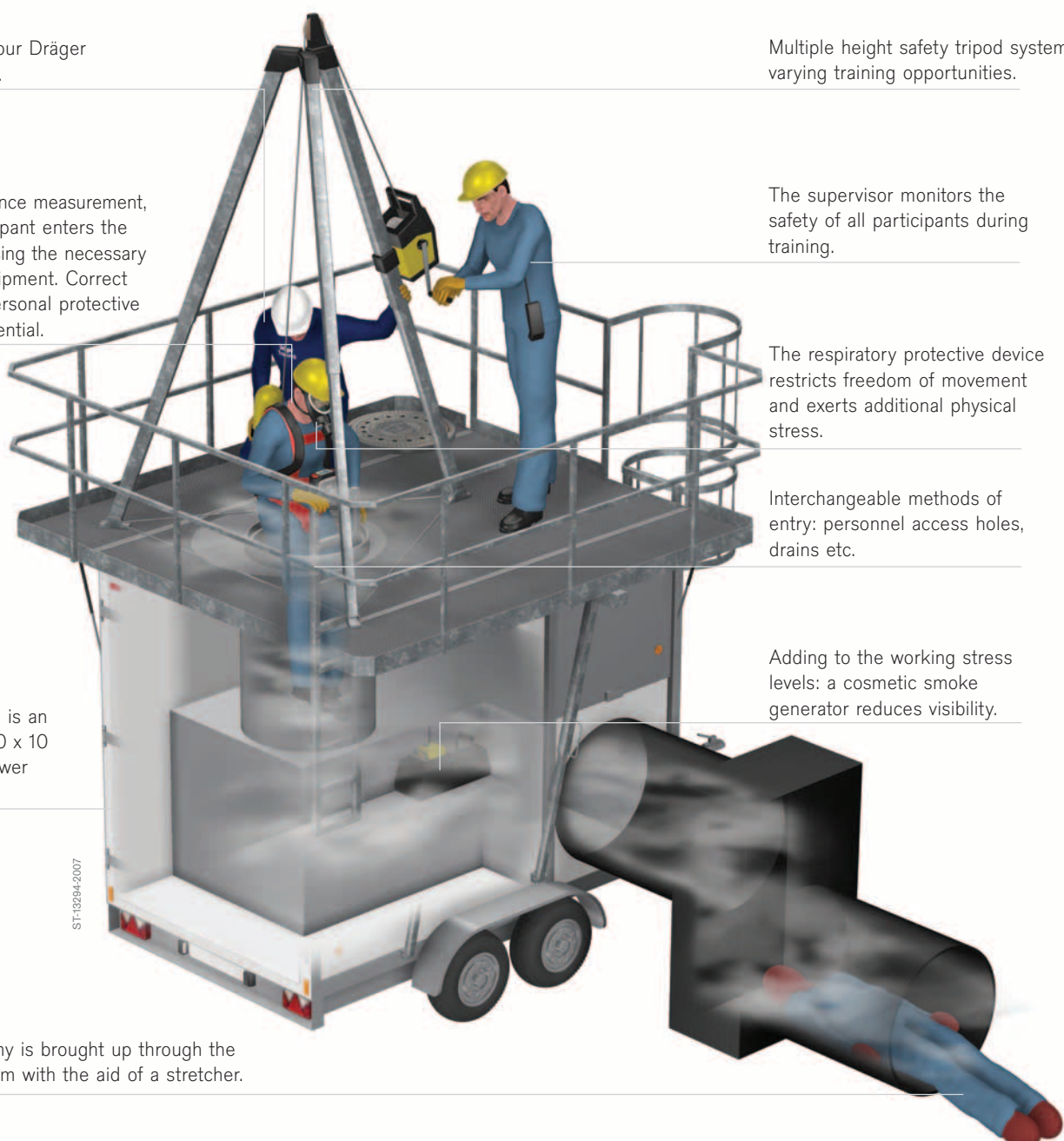
The supervisor monitors the safety of all participants during training.

The respiratory protective device restricts freedom of movement and exerts additional physical stress.

Interchangeable methods of entry: personnel access holes, drains etc.

All that is needed is an area measuring 10 x 10 metres, plus a power source.

Adding to the working stress levels: a cosmetic smoke generator reduces visibility.



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The rescue dummy is brought up through the narrow pipe system with the aid of a stretcher.



Professional training takes place one step at a time.

CONTAINERS, ENCLOSED AND CONFINED SPACES HAVE TO BE ENTERED IN ORDER TO CARRY OUT SERVICING, REPAIR AND CLEANING WORK. ANY INTERRUPTION TO PRODUCTION PROCESSES, HOWEVER, INVOLVES A CERTAIN DEGREE OF RISK.

Training. Confined Space Entry.

System interventions can give rise to hazards which differ from normal operating conditions and may not be recognized by staff that have not been given appropriate training. For this reason, a regular safety briefing is prescribed by current safety guidelines (e.g. at least once a year). Restricted freedom of movement, a lack of adequate lighting, problems with stability, e.g. when working on ladders – work in confined spaces requires absolute attentiveness and, all too often, poses a serious psychological burden on workers. Additionally, leaking gas pipelines can change concentrations of contaminants while work is ongoing. This leads to increased stress and necessitates the use of gas detectors.

Because the only escape route is often through personnel access holes; personnel must make sure that they know exactly where to put their hands and feet during entry, so that they can extricate themselves quickly if required. We use our mobile training gallery to give course participants a one day intensive training in how to enter confined spaces. Following an extensive safety briefing, they are familiarized with typically encountered hazardous situations. A wide range of scenarios, e.g. how to rescue injured personnel, the occurrence of gas hazards etc. can be simulated quickly and flexibly. Afterwards, each operation is debriefed and interactive discussion encouraged.

Detailed course contents

- Theory and practical exercises in the mobile training gallery
- Use of respiratory protective and gas detection equipment is possible
- Use of rescue and safety equipment for containers, shafts and sewers
- Handling of personal protective equipment to protect against accidental fall
- Basic legal principles
- Introduction of rescue techniques

To take part, personnel must have experience of working in confined spaces, and a medical examination is preferred.



In control of the situation at all times.
The supervisor has everything in his hand.

HAVE ALL PRECAUTIONARY MEASURES BEEN TAKEN? HAS A SAFETY BRIEFING TAKEN PLACE, ARE TOOLS AND EQUIPMENT READY FOR USE AND ARE ALL EMERGENCY PROCEDURES KNOWN? THE SUPERVISOR IS RESPONSIBLE FOR MONITORING ALL WORK OPERATIONS.

Training. Confined Space Entry – Supervisor.

The supervisor is the link between workers and the 'outside world'. He is responsible for ensuring that the situation is safe, and must make sure that the required safety measures are implemented.

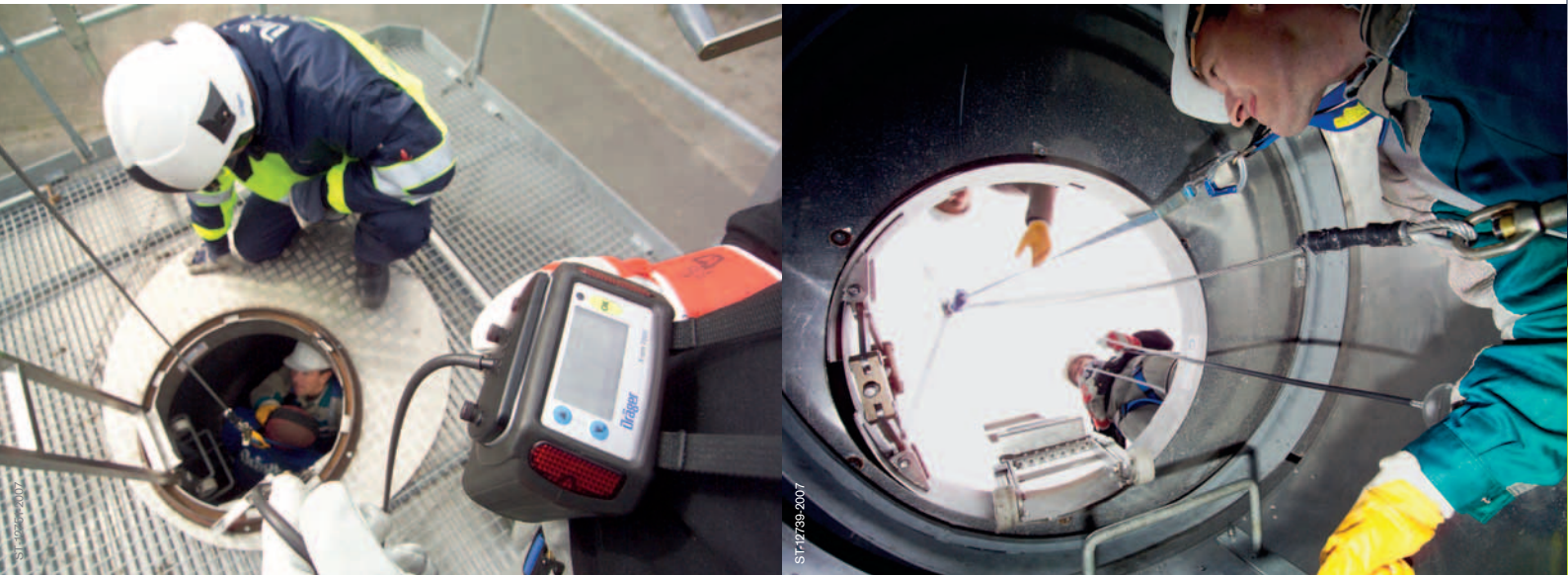
Whatever the scenario – whether gas escapes or a worker is in danger – the supervisor must be prepared to make with critical decisions. It is up to him to ensure that appropriate action is taken. It is with good reason that some guidelines state

that supervisors must perform the necessary checks at appropriate intervals before and during work.

With the aid of the on-site mobile training gallery course participants are given a basic knowledge of the hazards and safety measures involved in confined space entry over the period of two days. They learn how to apply the necessary rescue techniques and are taught about the required safety measures for confined space entry, including clearance measurements.

Detailed course contents:

- One day of practical training in the mobile training gallery
- Performing a hazard assessment
- Organizational measures involved in confined space entry
- Half day of rescue procedures (patient-oriented rescue, risk of orthostatic intolerance)
- Half day of training in the use of gas detection equipment and direct-reading measuring instruments
- Clearance measurements as described in work instructions



Is the air fit to breathe?

TANKS, BOILERS AND SEWERS, MINESHAFTS, TUNNELS, HOLLOW AREAS IN MACHINES: THE LIST OF WORK ACTIVITIES WHICH TAKE PLACE IN CONFINED SPACES IS LENGTHY. THE LIST OF POSSIBLE HAZARDS IS EVEN LONGER.

Seminar. Clearance measurements in facilities

Just how safe a workplace is, and whether any special precautions – such as respiratory protection – are needed, needs to be established before workers enter any sort of confined space.

If performed properly, a clearance measurement shows if toxic or explosive substances are present in the confined space together with the Oxygen content level. When assessing the potential danger, it is crucial to know whether the containers have been completely discharged, whether they contain any impurities which could release gases and whether any hazardous substances could ingress the space.

Clearance measurements in facilities demand specialist knowledge involving the selection and application of suitable measurement methods. Assessment of the measurement results can only be adequately performed if a person has the relevant expertise, meaning that thorough training and understanding of this specialist task is essential.

The two-day seminar prepares participants for this complex and highly responsible task. It is designed for personnel who are required to carry out measurement duties for the protection of personnel and facilities. No particular prior knowledge is required to participate in this seminar.

Detailed course contents

- Treatment of hazardous substances
- Enabling participants to identify and assess hazards posed by toxic and combustible gases and vapours and by a shortage of oxygen
- Selection of appropriate measurement methods
- Practical exercises in the use of different measuring instruments
- Assessment of measurement results



Our courses broaden your training horizon.

WE DON'T OPERATE COURSES WHICH BEGIN WITH THE WORDS: "IMAGINE YOU ARE A ...". SAFETY DEMANDS PRACTICAL TRAINING.

Our customers in fire brigades, industry and local authorities have found that nothing can beat highly realistic training. In real-life situations, simply knowing about the correct procedures is not enough. In your everyday work and, even more importantly, in an emergency, only those skills gained through realistic practice will come naturally.

Nipping hazardous situations in the bud.

To give you the best possible preparation for your work, Dräger has developed a series of training courses for personnel and management

as a key element of hazard prevention in the workplace.

With fire extinguisher training courses and exercises to teach participants how to behave in hazard situations, our aim is to give you highly realistic preparation for emergency scenarios. We can also teach you how to handle measurement equipment and respiratory protective devices, and how to service equipment – giving you so much practice that you'll be more or less able to do the job with your eyes closed!

SUBSIDIARIES

AUSTRALIA

Draeger Safety Pacific Pty. Ltd.
Axxess Corporate Park
Mt. Waverley, Vic 3149
Tel +61 3 92 65 50 00
Fax +61 3 92 65 50 95

MEXICO

Draeger Safety S.A. de C.V.
Av. Peñuelas No. 5
Querétaro, Qro México
Tel +52 442 246 1113
Fax +52 442 246 1114

SPAIN

Draeger Safety Hispania S.A.
Calle Xaudaró 5
28034 Madrid
Tel +34 91 728 34 00
Fax +34 91 729 48 99

CANADA

Draeger Canada Ltd.
7555 Danbro Crescent
Mississauga, Ontario L5N 6P9
Tel +1 905 821 8988
Fax +1 905 821 2565

NETHERLANDS

Dräger Safety Nederland B.V.
P.O. Box 310, Edisonstraat 53
2700 AH Zoetermeer
Tel +31 79 344 46 66
Fax +31 79 344 47 90

UNITED KINGDOM

Draeger Safety UK Ltd.
Blyth Riverside Business Park
Blyth, Northumberland NE24
4RG
Tel +44 1670 352 891
Fax +44 1670 356 266

P. R. CHINA

Beijing Fortune Draeger
Safety Equipment Co., Ltd.
Beijing 101300
Tel +86 10 80 49 80 00
Fax +86 10 80 49 80 05

SINGAPORE

Draeger Safety Asia Pte. Ltd.
67 Ayer Rajah Crescent # 06 03
139950 Singapore
Tel +65 68 72 92 88
Fax +65 67 73 20 33

USA

Draeger Safety, Inc.
101 Technology Drive
Pittsburgh, PA 15275
Tel +1 412 787 8383
Fax +1 412 787 2207

FRANCE

Dräger Safety France S.A.S.
3c, Route de la Fédération
67025 Strasbourg Cedex
Tel +33 388 40 76 76
Fax +33 388 40 76 67

REP. OF SOUTH AFRICA

Dräger South Africa (Pty) Ltd.
P.O.Box 68601
Bryanston 2021
Tel +27 11 465 99 59
Fax +27 11 465 69 53

Dräger Safety AG & Co. KGaA

Dräger Academy
Revalstrasse 1
23560 Luebeck, Germany
Tel +49 451 882 3297
Fax +49 451 882 3729
www.draeger.com