The new EN 14470-2 for gas cylinder cabinets Facts and consequences

The new EN 14470-2
Safety cabinets for gas cylinders

The European harmonisation has now reached fire resistant gas cylinder cabinets. The new Euronorm EN 14470-2 is going to replace DIN 12925-2 upon publication. With publication of the new European norm EN 14470-2 the DIN 12925-2 has been replaced.

Consequences of the EN in Germany and Europe.
Fire resistance is classified into 4 classes from G15 up to G90 (fire resistance of 15 up to 90 minutes)

Each type of cabinet and each cabinet size has to be fire chamber tested. In case of dimensional variation exceed the tolerance, the cabinet has to be tested again. Tests can only be executed by an authorised material testing institute. Cabinets must be tested in a fire chamber as free-standing single cabinets.

In the new EN 14470-2 it is demanded to deliver with the cabinet the declaration of conformity or certificates of conformity.

Complete approval documentation by asecos includes for each safety cabinet:
- a test report of an authorised material testing institute stating/proving the successfully passed fire test.
  (Important: only the test report of an approved material testing institute is proof of a successfully passed fire test!)
- The test certificate by independent testing organisation
- Declaration of CE conformity by the manufacturer.

This means
- Use in accordance with regulations
- Safety for the user
- Clear identification of approval documents with the model of safety cabinet.

Today's DIN 12925-2
Safety cabinets for gas cylinders
Due to the changes and considerably stricter test requirements, safety cabinets in accordance with DIN 12925-2 do no longer comply with the increased safety standard of EN 14470-2. With the publication of EN 14470-2 and a transitional period of 6 months, DIN 12925-2 is replaced.

All manufacturers of safety cabinets have to adapt their cabinet models to the new requirements of construction and each cabinet model has to take the test with the conditions of EN 14470-2.

The user is required by the EN to demand complete approval documentation when obtaining safety cabinets.

Why G90?
For years when storing flammables liquids the classification type 90 for safety cabinets for flammables liquids has established as state-of-the-art in Germany. This has not changed even after publication of EN 14470-1.

Due to the lack of a 90-minutes-classification for gas cylinder cabinets, operators of a plant/facility had different safety level when storing flammables and gas cylinder. Nevertheless the demand for an integrative concept of protection was increasingly demanded. So far the current German norm DIN 12925-2 only had one level. The gas cylinder had to be protected at least 20 minutes from heating-up.

By following up consistantly the strategy of 4 classes, also when working on the norm EN 14 470-2, the operator now has the chance to choose the same standard for the storage and installation of pressure gas bottles as he has chosen for the storage of flammable liquids.
This is more than logical. The danger which comes from gas cylinders is certainly at least comparable to the danger which comes from flammable liquids. By too much heating-up of the bottle and the gas fittings gases can evade which can even be disastrous. Further warming can finally lead to the explosion of the gas cylinder. Such explosion is normally extremely destructive.

Therefor it can be foreseen that after the publication of the new norm many users want to reach the same level of protection when setting up gas cylinders as it has been implemented for many years when storing flammables liquids in type 90 safety cabinets.

asecos Safety cabinets in accordance with EN 14470-2
asecos faces up to the international challenge and with the G90 series it already today offers tomorrows standard.
The latest cabinet range has been type tested and successfully passed the tests with the new, stricter testing conditions of EN 14470-2

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EN 14470-2 - What's new?

Essential	EN 14470-2 NEW
Range of applications	Safety cabinets for the storage of gas cylinder cabinets with a total volume of max 220 liters in laboratories, for free standing single cabinets, for cabinets fixed at walls or those on castors.
Definition of aim of protection	Provision of enough time, in the event of fire, for personel to leave the room and sufficient time for fire service personnel to enter the workplace before the gas cylinders become unstable/instable
Denomination of fire resistance changed to	**G**
Classification expanded from one to four classes (time measured for temperature increase T at the bottle valve bracket by 50 K)	**G90** **G60** **G30** **G15**
Testing conditions	The fire resistance of the cabinet has to be proven by a technical release testing by an authorised testing institute During the fire test the cabinet being tested must be positioned with its rear wall at least 100 mm from the fire chamber wall. The entire cabinet (side walls, door top as well as rear wall) must be exposed to the same heating conditions Changes in dimensions without new test are limited to a reduction of dimension: - height and width by max. 100 mm - depth by max 150 mm **Safety cabinets with a larger reduction of dimension or with 2 changes in dimensions have to be newly tested according to EN 14 470-2** The distance between interior ceiling of cabinet and the highest point of the gas cylinder valve shall not exceed 175 mm. One stainless steel tube, dia 10 mm as well as an electric cable (3x 1,5 mm^2) are lead through the cabinet ceiling. The length of stainless steel tube fixed at the gas cylinder bottle shall not exceed 500 mm when leaving the cabinet.
Information to be delivered	Detailed instruction manual as well as declaration of conformity from the manufacturer or certificate of conformity of a testing institute.