

**Fulg-o-strong®**  
Class Rating > 10000

## OVERCOME THE PRESSURE

**Taking sealing methods  
a decisive step further**

**Product and service becomes completely integrated solutions**

The Fulg-o-strong™ closures are designed, engineered and manufactured according to the most stringent international standards applicable to the Pressure Vessels for Oil, Gas and Petrochemical industry, but the revolution is represented by the integrated services so as to assure the best performance during the entire device life cycle.

### Research and Development

Since 1974 exploring and testing new materials and systems. All class rating devices are fabricated by first choice base materials in their relevant best delivery status, i.e. forged High Strength Carbon Steel in any material type and grade as per service requirements. The sealing element can be Nitrile, Polyurethane, Viton or Fluorocarbon in any shore hardness class. The advance is performed by keeping always into consideration the operability that represent the most subjected characteristic to the policy of the continuous improvement. All the opening and closing activities can be executed by one operator in less than 60 seconds keeping all the efforts well under the 200 Nm.

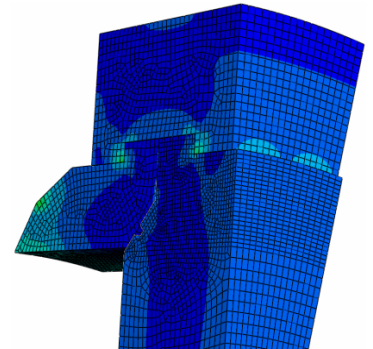


## GROWING IN PROGRESS

### New methods aged certainties

#### FEM - Finite Element Module analysis

All the pressure containing parts are calculated according to the Pressure Vessels international standards such as BS5500, ASME VIII div. 1 & 2, ISO EN 13445 and also Customer's specifications can be met. A purpose designed procedure issued by an international Notified Body allows Fulg-o-strong<sup>™</sup> to be certified according to 2014/68/EU (PED) and 94/9/EC (ATEX) therefore included in CE marking. Each new design is always verified by the Finite Element Module Analysis which evaluate the results based on a huge amount of data that gives precious advices in terms of improvements and generate better chances relevant to the actual project validation.



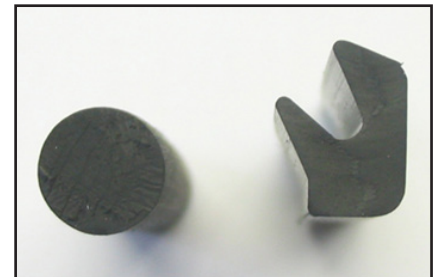
#### 3D drawing & simulations

Always seeking innovative technological solutions aimed at maximizing economic results in the most environmentally friendly and safe way. These advanced tools are in charge of the new level of optimization and precision which cancels the needs of multiple attempts in order to get a perfect real product. Major areas of research and first applications of available new technologies drastically reduce the time between the plan and the objective but cannot substitute the experience on the field.



#### The confidence of the truth

Each new design include in house unique tests of prototypes in both low and high pressure: pneumatic test and hydraulic burst test as well as practical investigations relevant to new solutions in order to get simply a better product, for example, Fulg-o-strong<sup>™</sup> has been positively tested also with a standard O-Ring in place of the proper purpose designed seal ring, this allows our Customers to eventually get rid of an emergency on the field. Last but not least, a direct wire have been linked with some of the most exigent Customers in order to record device's behaviour in extremely severe conditions.



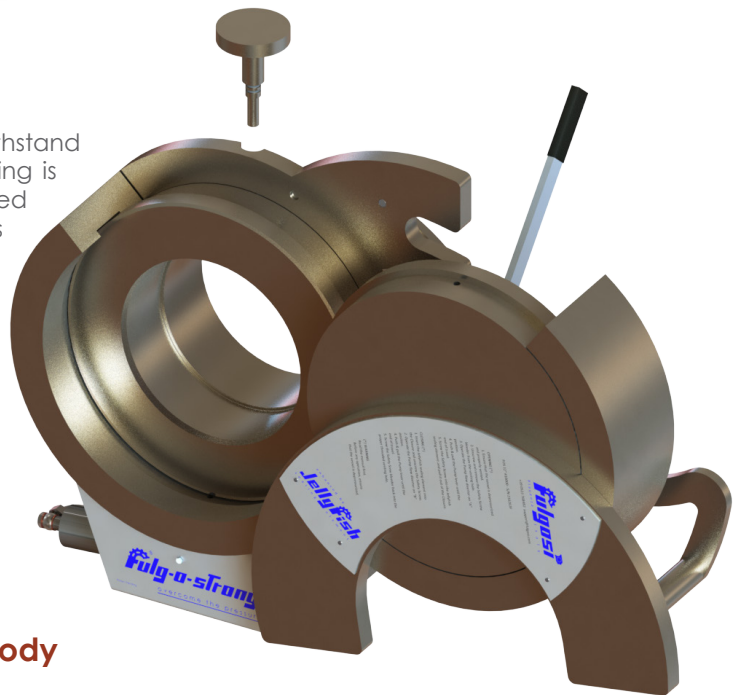


## THE EASIER, THE FASTER, THE SAFER

**The strongest hand to  
handshake with the future**

### Take the advantage

This device is specifically designed in order to withstand at extremely high-pressure challenges, the pressure rating is 10.000 Psi (690 Bar) and above. the state of the art is assured by means of Finite Element Analysis evaluation as well as prototype successful burst test well above the 1000 Bar (100 MPa - 14500 Psi). The newly patented JellyFish™ sealing system consist of a metallic enhanced O-Ring that can be in any type of rubber compound such as NBR, EPDM, Viton, etc. Of course, all the ASME Quick Opening Closures requirements are fully met.



### Safe for everybody



Operate the parts in motion of the Fulgosi™ quick opening closure couldn't be any simpler, therefore, safer:

- **Mechanical safety bleeder interlock Fulg-o-safe™** (Standard) is a safety screw that obstructs an hole placed on the door and, in order to operate the Q.O.C. this screw must be removed, therefore, being directly in contact with the pressure inside the vessel, if there is still pressure a whistle can be heard by the operator due to the fluid bleeding by the unscrewed screw in order to let him stop the opening process and verify the valves again.
- **In pressure locking device Fulg-o-thrust™** (Optional) is a safety system that works with the fluid contained in the vessel like an hydraulic ram in such a way that if there is still pressure inside the vessel, the system stays "extended" in order to lock the door and prevent the opening.
- **Interlock protection** (optional) is a system made by mechanically locking the opening manoeuvres by means of interconnected devices that inhibits wrong sequenced movements, i.e. prior the mechanical unlock of the Quick Actuating Closure the system assures that the valves insulating the affected chamber are in the supposed position.

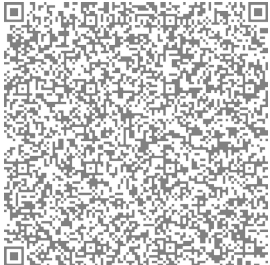
## SETTING A NEW STANDARD

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