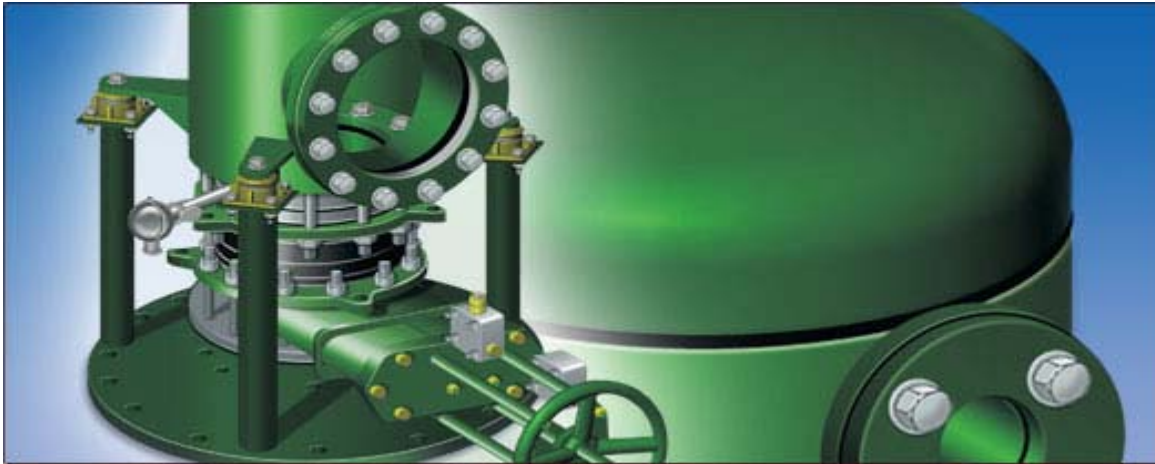




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## Transformer Protector™ Technology

The only proven solution to transformer explosions and fires

Transformer Protector Corp (TPC) is the exclusive Original Equipment Manufacturer (OEM) in the USA of TRANSFORMER PROTECTOR technology. 10 years of extensive high-level mechanical research and tests were necessary to design the TRANSFORMER PROTECTOR; the sole technique that avoids transformer explosions and fires that follow low impedance short-circuits. The TRANSFORMER PROTECTOR can be applied to all oil-filled transformers with ratings of 0.10 MVA to over 1000 MVA.

Given that transformer explosions and fires are costly and create serious disruptions for factories and communities, this technology is crucial to any comprehensive Risk Management Program. Contrary to one's belief, age is not a primary factor in determining the explosion risk of the transformer. Each transformer varies in quality and may rupture during the initial energizing and commissioning. Recently there have been many instances of new transformers exploding as they were being energized and commissioned.

### Increase of transformer explosion and fire incidents

A one-year research project led to the discovery of 730 transformer explosions in the USA only. Many experts anticipate that the number of failures will increase significantly in the near future, from 1% in 2001 to 2% in 2008. In addition, the shorter lifetime of new transformers will sharply increase above this rate after 2008.

**Please contact us for an onsite presentation of the TPC Technology  
and its many proven benefits today**

**1 800 668-6053**

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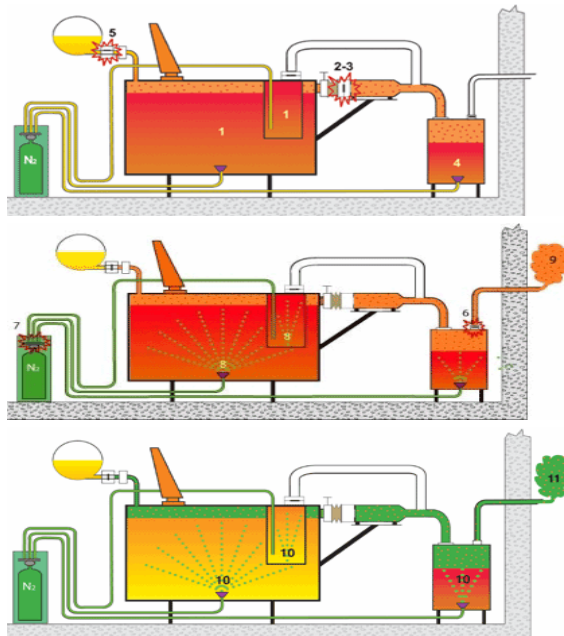
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## How the Transformer Protector™ Works



### Principle

1. Pressure rises
2. Depressurization Set activation
3. Instantaneous Depressurization
4. Oil-Gas mixture evacuation to the Oil-Gas Separation Tank.
5. Conservator Shutter closes.
6. The Air Isolation Shutter prevents oxygen from coming in contact with the flammable oil-gas mixture.
7. Nitrogen injection may be initiated either manually or automatically when the Control Panel receives indication that the Depressurization Set rupture disc has burst and that the transformer has been de-energized.
8. To protect personnel from fire and explosion before opening of the transformer after an incident, manual or automatic nitrogen injection ends explosive gas generation.
9. Explosive and flammable gases open the Air Isolation Shutter and are channeled to a *remote area or outside the building*.
10. The protected oil capacities are immediately confined under a safe nitrogen atmosphere.
11. Nitrogen injection continues for 45 minutes to ensure the cooling of the protected oil capacities.
12. Damaged parts can be repaired safely as the tank is free from explosive gases.

### Explosion Incident Risk Factors

- **Power plant incidents** result in very high loss of revenue and can lead to company bankruptcies if not insured. For insurers, the projected cost reference can approach \$500,000 per MVA.
- **Transmission substation incidents** can result in the complete blackout of a region or a country. Several well-known cases have been recorded recently (USA, UK, Italy, Spain, etc.).
- **Distribution transformer explosions** in urban areas can have disastrous financial consequences approaching \$1 billion in related pollution and litigation costs. Transformer Protector™ acts before any damage is done

RCC has served the Canadian Power Utility Industry for over 25 years. We provide Test & Measurement solutions for Generation, Distribution, & Substation systems.

RCC is located at 1515 Matheson Blvd. E., Unit #210 in Mississauga Ontario L4W 2P5

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