COMPLETE PROTECTION WITH SUPERIOR DESIGN INSIDE & OUT
HIKVISION EXPLOSION-PROOF PRODUCTS
Security cameras and other video surveillance technologies are finding new applications in every sector of science, business, and daily life, providing automated services and data in ways that were only imagined a few years ago. These intelligent functions extend the reach of human capabilities by putting cameras into settings that are often unsafe for people.

As a result, camera designs needed to incorporate protection from the environment for the camera’s safety. And now, in specialized applications such as a chemical plant containing combustible gases, protection from the camera for the environment’s safety has become an important issue. In the event a camera causes some kind of hazard in these areas, that camera must be prevented from causing a larger emergency. This need has given rise to the Explosion-proof Video Surveillance Camera, built to contain a serious malfunction within the camera body so as not to set off a chain reaction.

Continue reading to learn how this technology works.
The Three Ingredients of Combustion

- Explosive substances (Combustible gases & solids)
- Combustion-supporting gases (Oxygen)
- Combustion source (Sparks or flames)

How to Prevent Explosions

We know that there are three ingredients necessary for combustion. The explosive substances and combustion-supporting gas are the external factors we cannot control. But we can control the internal factor: the combustion source.

Flame-Proof Principle

1) Explosion Resistance
Hikvision Explosion-Proof Series Cameras are housed in 304/316L stainless steel, with a thickness of more than 3.5 mm. Using ANSYS for finite element force analysis, the housing can withstand 1.5 times internal explosion pressure. There is no breaking or permanent deformation after an internal explosion.

2) These cameras use flame-proof housing to prevent failure. The cylindrical flameproof joint and adhesive joint face prevent flames or sparks from escaping out of the camera when an explosion happens.

Application Scenarios

Hikvision Explosion-Proof Series Cameras are equipped with explosion-proof housing which is made of Stainless Steel (304/316L stainless steel). It can be widely used in places such as: Oil/Gas fields, wharfs, petrochemical plants, military industries, and more.
Product Features

• Up to 4 Megapixel high resolution
• 4, 6, 8, 12, and 16 mm lens options
• Supports 120 dB Wide Dynamic Range
• Supports H.265, H.265+, H.264, H.264+
• Supports three video streams simultaneously
• Supports 6 behavior analyses, 2 anomaly detections, 1 recognition
• Supports on-board storage up to 128 GB
• Housing material: Stainless Steel 304 (316L: -/316L)
• IR range: 30 m
• 100 VAC to 240V / PoE

• 2 MP /1.8” progressive scan CMOS
• Up to 1920 x 1080 resolution
• 23x Optical zoom; Focal length: 5.9 mm to 135.7 mm
• Min. Illuminations – Color: 0.005Lux @ (F1.5, AGC ON), B/W: 0.0005Lux @ (F1.5, AGC ON)
• IR cut filter with auto switch
• 3D DNR, low bitrate, 120 db WDR
• Explosion-Proofing:
  II 2 G Ex db IIC T6 Gb
  II 2D Ex tb IIIC T80°C Db IP68
• Supports three streams simultaneously

• 2 MP /5MP
• Support H.265/H.265+
• DarkFighter (2 MP), 2.8~12mm, 8~32mm (2 MP)
• Up to 150m (8~32mm) / 80m (2.8~12mm)
• IP68 standard
• 316L stainless steel
• NEMA 4X, C5-M, ATEX/IECEX standard
• R:Wiper

Coming Soon

www.hikvision.com  www.pars-e.com
ATEX Authentication

ATEX Authentication includes "Gas Explosion-proof Sign" and "Dust Explosion-proof Sign".

### Classification of Electrical Apparatus
- **Group I**: Electrical apparatus for mines susceptible to firedamp
  - **Class A**: Example: propane, hexene, benzene, gasoline, ethanol, acetaldehyde, acetone, methylamine
  - **Class B**: Example: ethylene, dimethyl ether, coke oven gas
  - **Class C**: Example: hydrogen, acetylene, carbon disulphide

### Classification of Gas
- **Class I**: Gas and gas atmospheres other than mines susceptible to firedamp
  - **T1**: ≤-50°C
  - **T2**: ≤30°C
  - **T3**: ≤100°C
  - **T4**: ≤180°C
  - **T5**: ≤10°C
  - **T6**: ≤68°C

### Gas Explosion-proof Sign
- **Code of certified body**
- **Ex**: Ex-mark
- **it is conformity to the Ex-mark of ATEX directive**

### Categories of electrical equipment
- **Class I**: Electrical apparatus for coal mine
  - **Class A**: Can be used in zone 0
  - **Class B**: Can be used in zone 1
  - **Class C**: Can be used in zone 2

### Dust Explosion-proof Sign
- **Ex**: Ex-mark
- **tb**: Equipment dust ignition protection by enclosure
- **IIC**: Classes of Electrical apparatus for explosive dust atmospheres IIA, IIB, IIC
- **T80 C**: Maximum surface temperature
- **Db**: Distinction of Equipment protection

### Equipment protection levels & using area
- **Equipment protection levels**
  - **Ga**: Zone 2
  - **Gb**: Zone 1
  - **Gb**: Zone 2
  - **Gb**: Zone 21
  - **Gb**: Zone 22

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Hikvision ATEX authentication

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