COMPLETE PROTECTION
WITH SUPERIOR DESIGN INSIDE & OUT
HIKVISION EXPLOSION-PROOF CAMERAS
Explosion-Proof Materials

Explosive substances and combustion-supporting gases are the external factors that explosion-proof product manufacturers can hardly control. However, manufacturers can control the internal factor – the combustion source. And this can be achieved through the structural design and material selection of the product.

Hikvision explosion-proof cameras are covered by 304/316L stainless steel, and the thickness of the cover is more than 3.5 mm. Using ANSYS for finite element force analysis, the structure can withstand a maximum pressure of 198.36 MPa. No broken or permanent deformation results after the simulated explosion.

Hikvision explosion-proof cameras are customized network cameras inside heavy-duty housings. Certified for explosion-prone applications, they offer high-quality video monitoring and unparalleled smart functions to detect anomalies and protect your staff and properties in the hazardous environments.

HOW TO PREVENT EXPLOSIONS

The Three Elements of Combustion

Explosive substances and combustion-supporting gases are the external factors that explosion-proof product manufacturers can hardly control. However, manufacturers can control the internal factor – the combustion source. And this can be achieved through the structural design and material selection of the product.

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

Explosion-Proof Structure

Hikvision explosion-proof cameras use flame-proof housing and a cylindrical flame-proof joint. The adhesive joint guides internal explosive gases to the conduit to prevent combustion from escaping the camera when an explosion happens.

Explosion-Proof Materials

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**IECEx Authentication**

The IECEx authentication includes 'Gas Explosion-proof' and 'Dust Explosion-proof' certifications.

- **Ex mark**: Equipment with a degree of protection against explosion.
- **Gas explosion-proof designations**:
  - Ex db IIC T6 Gb
  - Ex tb IIIC T80°C Db
- **Dust explosion-proof designations**:
  - Ex tb IIIC T80°C Db

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### Equipment Protection Designation

<table>
<thead>
<tr>
<th>Protection levels</th>
<th>Usage areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>ga</td>
<td>zone 0</td>
</tr>
<tr>
<td>gb</td>
<td>zone 1</td>
</tr>
<tr>
<td>gc</td>
<td>zone 2</td>
</tr>
<tr>
<td>da</td>
<td>zone 20</td>
</tr>
<tr>
<td>db</td>
<td>zone 22</td>
</tr>
<tr>
<td>dc</td>
<td>zone 22</td>
</tr>
</tbody>
</table>

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**Dust Ignition Protection by Enclosure**

- Classification of Electrical Apparatuses for explosive dust atmospheres
- Classification of gases
- Temperature class vs. Maximum surface temperature
  - T1: ≤450°C
  - T2: ≤300°C
  - T3: ≤200°C
  - T4: ≤135°C
  - T5: ≤100°C
  - T6: ≤85°C

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**ATEX Authentication**

- II 2 G Ex db IIC T6 Gb
- II 2 D Ex tb IIIC T80°C Db

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**Gas explosion-proof designations:**

- Ex db IIC T6 Gb
- Ex tb IIIC T80°C Db

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**Ex tb IIIC T80°C Db**

- Protection levels & Usage areas

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**ATEX Authentication**

- II 2 G Ex db IIC T6 Gb
- II 2 D Ex tb IIIC T80°C Db

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**Complete Certification**

IECEx, ATEX, NEMA 4X, CS

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**Adequate Firmness**

IP68, 316L stainless steel

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**Excellent Protection**

TVS 6000 V lightning protection

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**Deep Learning**

Algorithm embedded

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**DarkFighter**

Low-light imaging

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**H.265 / H.265+**

Excellent encoding that vastly reduces bandwidth and storage

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**PRODUCT MATRIX**

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**PRODUCT HIGHLIGHTS**

- Excellent Protection
- Deep Learning
- DarkFighter
- Adequate Firmness
- H.265 / H.265+

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**All Hikvision explosion-proof products have acquired the IECEx and ATEX certifications.**

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**IECEx Authentication**

- Ex mark
- Gas explosion-proof designations:
  - Ex db IIC T6 Gb
  - Ex tb IIIC T80°C Db

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**ATEX Authentication**

- II 2 G Ex db IIC T6 Gb
- II 2 D Ex tb IIIC T80°C Db

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**Mobile Authentication (available for mobile models)**

- 3G/4G/EVDO/UMTS
- Anti-corrosion: CS 121, CS-M, NEMA 6X
- CE / FCC / IC / RCM / KC / REACH / WEEE / UL / C (UL / CSA)

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**Certification Images**

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**Certification List**

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**Optical zoom**

<table>
<thead>
<tr>
<th>Optics</th>
<th>Resolution</th>
<th>IR distance</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>36x / 2.3K</td>
<td>2 / 4 / 8 MP</td>
<td>150 meters</td>
<td>316L stainless steel body available</td>
</tr>
<tr>
<td>23x / 3MP / 4 / 6 / 8 / 12 / 16 mm</td>
<td>2 / 4 / 5 MP</td>
<td>200 meters 200 meters 80 meters 150 meters 10 meters</td>
<td>5.9-137.5 m / 5.7-305 m / 28-12 and 32 mm / 2 / 2 / 4 / 6 / 8 / 12 / 16 / 18 mm lenses available</td>
</tr>
</tbody>
</table>

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**Fixed lens**

<table>
<thead>
<tr>
<th>Optics</th>
<th>Resolution</th>
<th>IR distance</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 / 4 MP</td>
<td>30 meters</td>
<td>4 / 6 / 8 mm</td>
<td>30 / 4 / 6 / 5 / 2.3K</td>
</tr>
</tbody>
</table>
**PRODUCT SHOWCASE**

**DS-2DF4220-DX**
- Network Speed Dome
- 1/2.8" progressive scan CMOS
- 2 MP resolution
- 120 dB WDR
- 3D DNR
- 2x optical zoom, focal length: 4.7 to 94 mm
- G 264.2 mm × 181.8 mm
- Approx. 8 kg (17.6 lb)

**DS-2DF6223-CX/W**
- Network Speed Dome
- 1/1.8" progressive scan CMOS
- 2 MP resolution
- 23x optical zoom, focal length: 5.9 to 135.7 mm
- Min. Illuminations:
  - Color: 0.005 lux (F1.5, AGC ON)
  - B/W: 0.0005 lux (F1.5, AGC ON)
- IR cut filter with auto switch
- 3D DNR, low bitrate, 120 db WDR
- IP68 standard
- Supports three streams simultaneously

**DS-2XE6025G0-I(S)(M)**
- Fixed Lens Bullet
- 1/1.8" progressive scan CMOS
- 2 MP resolution
- 23x optical zoom; focal length: 5.9 to 135.7 mm
- Min. illuminations:
  - Color: 0.005 lux @ (F1.5, AGC ON)
  - B/W: 0.0005 lux @ (F1.5, AGC ON)
- IR cut filter with auto switch
- 3D DNR, low bitrate, 120 db WDR
- IP68 standard

**DS-2XE6045G0-I(S)(M)**
- Fixed Lens Bullet
- 1/1.8" progressive scan CMOS
- 2 MP resolution
- 23x optical zoom, 12x digital zoom
- Digital WDR, 3D DNR, HLC, BLC
- 85 to 245 VAC & PoE+ (IEEE 802.3at class 4)
- Up to 200 m IR distance

**DS-2XE6825G0-IZS**
- Fixed Lens Bullet
- 1/2.8" Progressive Scan CMOS
- Up to 4 MP resolution
- 4 / 6 / 8 / 12 mm lens or 2.8-12 mm lens
- 120 dB WDR
- 6 behavior analyses, 2 anomaly detections, 1 recognition
- Housing material: 316L stainless steel, optional
- IR range: 30 m
- 100 to 240 VAC / PoE
- IP68

**DS-2XE6826FWD-HS**
- Fixed Lens Dome
- 1/2.8" Progressive Scan CMOS
- Up to 4 MP resolution
- 2 / 2.8 / 4 / 6 mm lens, optional
- 120 dB WDR
- 6 behavior analyses, 2 anomaly detections, 1 recognition
- Housing material: Aluminum
- IR range: 30 m
- 24VDC / PoE
- IP68 / IK08

**DS-2XE6126FWD-HS**
- Fixed Lens Dome
- 1/2.8" Progressive Scan CMOS
- Up to 4 MP resolution
- 2 / 2.8 / 4 / 6 mm lens, optional
- 120 dB WDR
- 6 behavior analyses, 2 anomaly detections, 1 recognition
- Housing material: Aluminum
- IR range: 30 m
- 24VDC / PoE
- IP68 / IK08

**DS-2XE6242F-IZS**
- EXIR VF Bullet
- 1/2.8" Progressive Scan CMOS
- Up to 4 MP high resolution
- 4 / 6 / 8 mm lens or 2.8-12 mm lens
- 120 dB WDR
- 6 behavior analyses, 3 anomaly detections, 1 recognition
- IR range: 30 m
- 24VDC / PoE
- IP68 / IK08

**DS-2XE6422FWD-IZHRS**
- EXIR VF Bullet
- 1/2.8" Progressive Scan CMOS
- Up to 8 MP high resolution
- 2.8 to 12 mm or 8 to 32 mm lens
- 120 dB WDR
- 6 behavior analyses, 3 anomaly detections, 1 recognition
- IR range: 30 m
- 24VDC / PoE
- IP68 / IK08

**DS-2XE6825G0-02HFS**
- EXIR VF Deep-Learning Bullet
- 1/2.8" progressive scan CMOS
- Up to 8 MP high resolution
- 2.8 to 12 mm or 8 to 32 mm lens
- 120 dB WDR
- Face detection
- Hardhat detection
- ATEX, EEXE, NEMA 4X and C5 certified

**DS-2XE6826FWD-02HFS**
- EXIR VF Deep-Learning Bullet
- 1/2.8" progressive scan CMOS
- Up to 8 MP high resolution
- 2.8 to 12 mm or 8 to 32 mm lens
- 120 dB WDR
- Face detection
- Hardhat detection
- ATEX, EEXE, NEMA 4X and C5 certified

**DS-2XE626FWD-HS**
- Fixed Lens Dome
- 1/2.8" Progressive Scan CMOS
- Up to 4 MP resolution
- 2 / 2.8 / 4 / 6 mm lens, optional
- 120 dB WDR
- 6 behavior analyses, 2 anomaly detections, 1 recognition
- Housing material: 316L stainless steel, optional
- IR range: 30 m
- 100 to 240 VAC / PoE
- IP68

**DS-2XE6146FWD-HS**
- Fixed Lens Dome
- 1/2.8" Progressive Scan CMOS
- Up to 4 MP resolution
- 2 / 2.8 / 4 / 6 mm lens, optional
- 120 dB WDR
- 6 behavior analyses, 2 anomaly detections, 1 recognition
- Housing material: 316L stainless steel, optional
- IR range: 30 m
- 100 to 240 VAC / PoE
- IP68

**DS-2XE6246FWD-02HFS**
- EXIR VF Deep-Learning Bullet
- 1/2.8" progressive scan CMOS
- Up to 8 MP high resolution
- 2.8 to 12 mm or 8 to 32 mm lens
- 120 dB WDR
- 6 behavior analyses, 3 anomaly detections, 1 recognition
- IR range: 30 m
- 24VDC / PoE
- IP68 / IK08

**DS-2FE6223-CX/W**
- Network Speed Dome
- 1/1.8" progressive scan CMOS
- 2 MP resolution
- 23x optical zoom, focal length: 5.9 to 135.7 mm
- Min. Illuminations:
  - Color: 0.005 lux (F1.5, AGC ON)
  - B/W: 0.0005 lux (F1.5, AGC ON)
- IR cut filter with auto switch
- 3D DNR, low bitrate, 120 db WDR
- IP68 standard
- Supports three streams simultaneously

**DS-2DY9236I-CWX(W/316L)**
- Positioning System
- 1/1.8" @ 30 fps progressive scan CMOS
- 2 MP resolution
- 36x optical zoom, 16x digital zoom
- 120 dB WDR, HLC, BLC, 3D DNR, Defog, EIS, Regional Exposure, Regional Focus
- Up to 150 m IR distance

**DS-2DY9236I-CW00/316L**
- Positioning System
- 1/1.8" @ 30 fps progressive scan CMOS
- 2 MP resolution
- 36x optical zoom, 16x digital zoom
- 120 dB WDR, HLC, BLC, 3D DNR, Defog, EIS, Regional Exposure, Regional Focus
- Up to 150 m IR distance

**APPLICATIONS**

**Oil & Gas**
- From energy extraction to energy consumption

**Oil & gas stations**

**Chemical plants**

**Military factories**

**Powder workshops**

**Oil & gas tankers**

**Relax tank cars**

**Oil depots**

**Example – Oil Depots**

**Oil & Gas**
- Processing plants
- Rail tank cars
- Oil stations

**Oil tanks**
- Chemical plants
- Military factories
- Powder workshops

**Oil & gas tankers**
- Oil stations
- Chemical plants
- Military factories
- Powder workshops

**Oil depots**
- Processing plants
- Rail tank cars
- Oil stations

**Office area**
- HD network cameras

**Area**
- Loading area
- Tank area
- Monitoring area
- Office area

**Recommended Products**
- Explosion-proof bullet, explosion-proof PTZ
- Explosion-proof positioning system, explosion-proof bullet
- Explosion-proof fixed lens dome
- HD network cameras