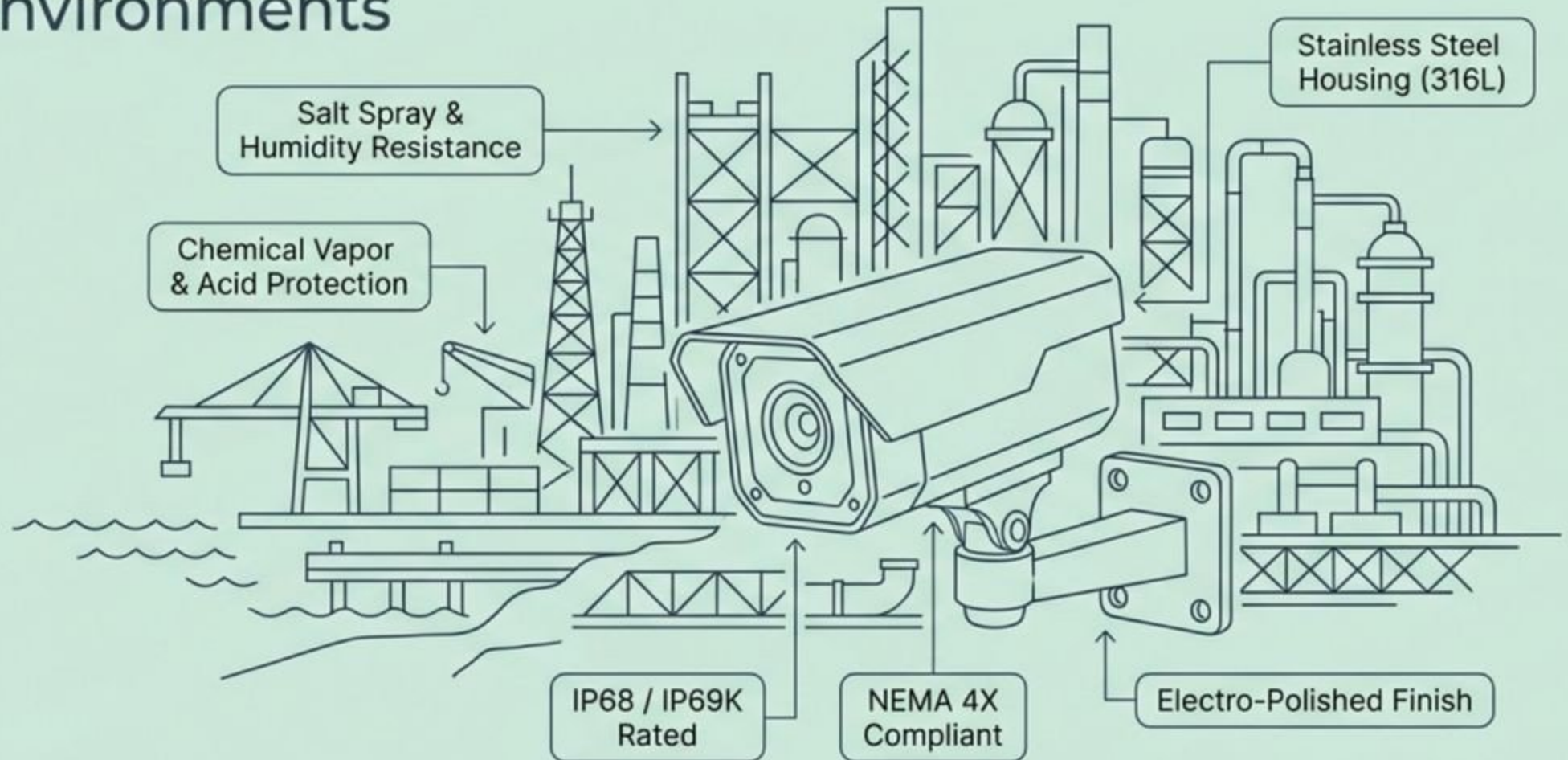


Anti-Corrosion Design

High-Durability Surveillance for Coastal, Industrial, and Chemical Environments



Overview

Environmental Threats and Failure Modes in Standard Security Equipment



Saltwater /
Sea Spray
(Accelerates
oxidation,
pitting, galvanic
corrosion)



Chemical
Atmospheres
(Acid gases,
sulfur, chlorine,
 H_2S)



Humidity,
Condensation
& Fog
(Promotes
micro-crack
corrosion)



Abrasive
Particles &
Pollution
(Mechanically
damages
protective)

Housing shell & structural parts
(Aluminum, steel, fasteners)

Connectors, cable
glands, J-boxes

Window, dome,
lens barrel &
sealing interfaces

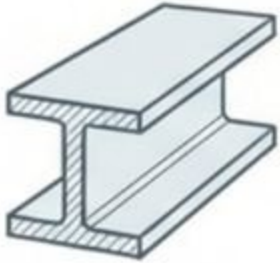
Internal
brackets &
mounting rails

Optical surfaces &
reflective coatings

Without protection, failure modes include coating delamination, rusting, **seal leakage, optical haze**, and mechanical binding.

Features

Multi-Layered Protection and Design Strategies



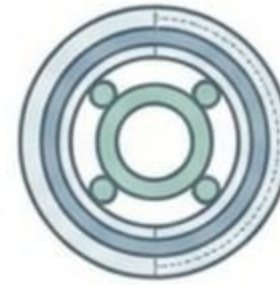
Material Selection & Structural Design

- Corrosion-resistant metals (Stainless steel 316L, Aluminum alloys 6061/5052).
- Low galvanic potential differentials (Insulating barriers to prevent galvanic corrosion).
- Robust structural design (Minimized sharp edges and crevices).



Protective Coatings & Platings

- Anodizing or hard anodic oxide coatings for aluminum.
- Powder coating or epoxy coatings for thick barrier layers.
- Special anti-corrosion coatings (Dacromet, zinc-nickel, passivated treatments).



Seals, Gaskets & Isolation

- High-performance O-rings & gasket materials (EPDM, FKM/Viton, silicone).
- Double-lip seals or labyrinth designs.
- Corrosion-resistant fasteners.



Connectors, Cable Entry & Optics

- Corrosion-resistant glass / Sapphire / Robust AR coatings.
- Locking sealed connectors (M12, MIL, marine-rated).
- Potting or gel-filled cable glands.

Architectures

Internal and External Structural Isolation

Isolated Mounting Frames

Internal subframes are isolated from the outer shell, drastically reducing mechanical stress on sealing interfaces.

Advanced Sealing Architecture

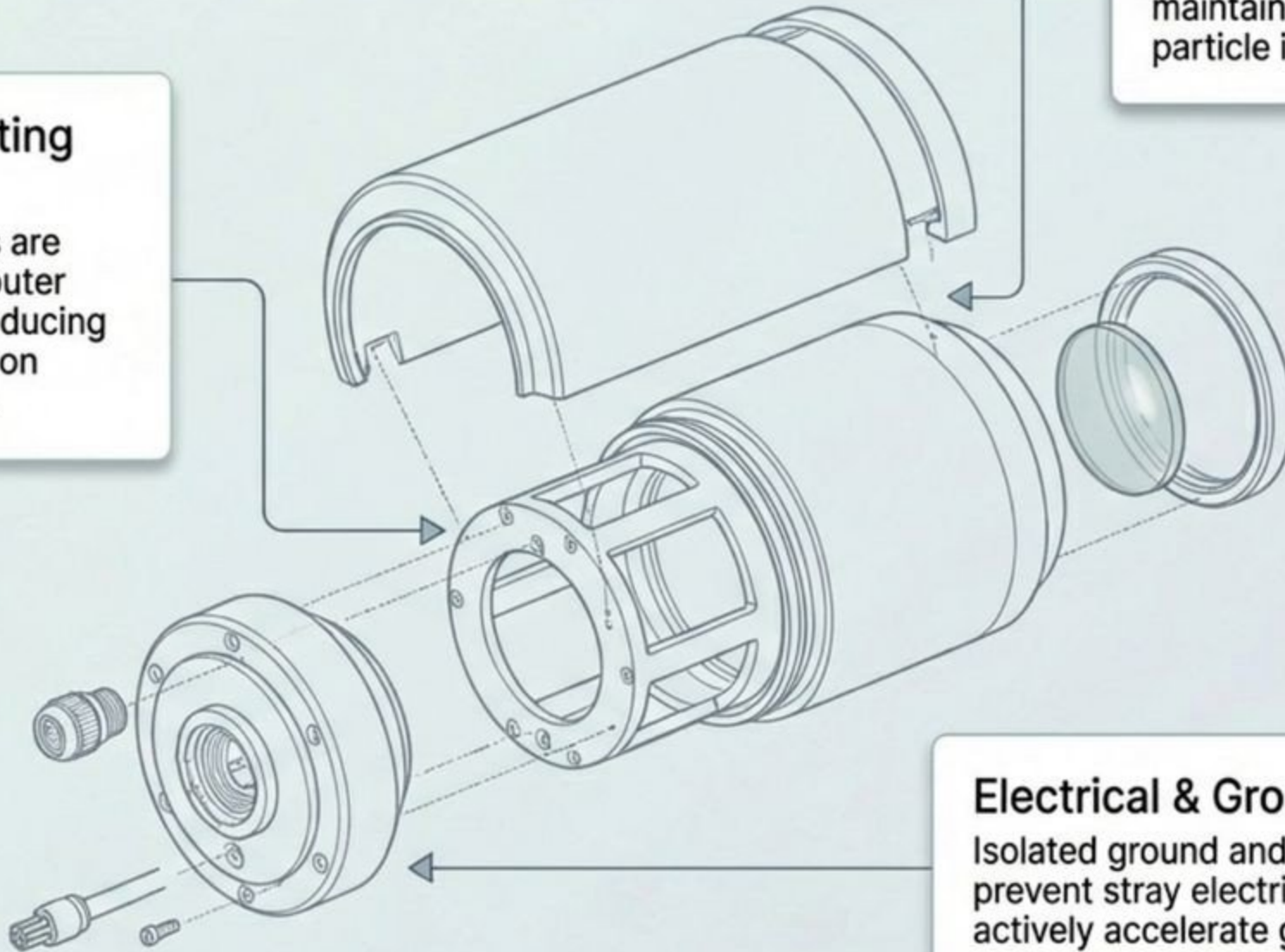
Labyrinth designs and double-lip seals maintain an impenetrable barrier against salt particle intrusion and moisture ingress.

Flush & Sloped Window Surfaces

Engineered angles reduce the physical accumulation of salt, condensation, and pollutants on optical surfaces.

Electrical & Ground Isolation

Isolated ground and shielding designs prevent stray electrical currents that actively accelerate galvanic corrosion.



Applications

Optimal Vertical Markets for Anti-Corrosion Deployments



Coastal Surveillance & Ports

Ideal for docks, breakwaters, and marine terminals facing constant salt spray and storms.



Chemical / Petrochemical Facilities

Reliable video in zones exposed to acidic gases, chemical leaks, or corrosive vapors.



Offshore Platforms & Wind Farms

Built for permanent stressors including harsh marine conditions, high humidity, and salt breezes.



Wastewater Treatment & Mines

High resistance to harsh gases like hydrogen sulfide (H_2S) using specialized sealed systems.



Urban Coastal Structures

Ensures decades of longevity for public safety cameras on bridges, promenades, and coastal rail lines.

Solutions

Deployment Rules and Maintenance Protocols

Hardware & Mounting Integrations



- **Direct Surface Mount:** When cameras are directly surface-mounted, no additional accessories are needed.



- **Special Brackets:** If deployment requires standoff or specialized mounting, all brackets and secondary mounts must be strictly rated as anti-corrosion to prevent galvanic transfer or structural failure.



- **Orientation:** Always carefully select orientation to avoid water/chemical pooling on the housing.

Lifecycle Maintenance Planning



- **Periodic Cleaning:** Implement scheduled fresh water rinsing to remove accumulated salt deposits.



- **Inspection Protocols:** Routinely inspect seals and monitor surface treatments.



- **Recoating:** Plan for targeted recoating maintenance in extremely abrasive environments to preserve structural integrity.

Product Introduction

The ACTi Anti-Corrosion Lineup



Thermal Bullet Cameras

Models: A375, A375-P1,
A375-P2

Specs: 4MP Resolution | Day/Night | Adaptive IR | Superior WDR
| Superior Low Light Sensitivity | Built-in Analytics



Zoom Bullet Cameras

Models: I42-K1

Specs: 2MP Resolution | Day/Night | Extreme WDR | Extreme Low
Light Sensitivity | Built-in Analytics | 36x Optical Zoom



Outdoor PTZ (Speed Dome) Cameras

Models: B915-K1, I915-K1,
I98-K1

Specs: 2MP & 3MP Resolutions | Day/Night | Adaptive IR
(B915-K1) | Extreme WDR | Superior & Extreme Low Light
Sensitivity | Built-in Analytics | 33x and 36x Optical Zoom
capabilities

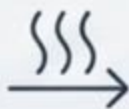
Product Matrix

Comprehensive Technical Specifications

Product Type	Model	Resolution	Day / Night	IR	WDR	Low Light	Analytics	Lens/Zoom
Thermal Bullet	A375	4MP	Yes	Adaptive	Superior	Superior	Yes	-
Thermal Bullet	A375-P1	4MP	Yes	Adaptive	Superior	Superior	Yes	-
Thermal Bullet	A375-P2	4MP	Yes	Adaptive	Superior	Superior	Yes	-
Zoom Bullet	I42-K1	2MP	Yes	-	Extreme	Extreme	Yes	36x optical
Outdoor PTZ	B915-K1	3MP	Yes	Adaptive	Extreme	Superior	-	36x optical
Outdoor PTZ	I915-K1	2MP	Yes	-	Extreme	Extreme	Yes	36x optical
Outdoor PTZ	I98-K1	2MP	Yes	-	Extreme	Extreme	Yes	33x optical

Comparison

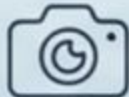
Selecting the Right Model for Your Project



The Thermal Advantage (A375 Series)

The only models featuring 4MP Thermal imaging and Superior WDR.

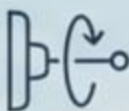
Best for zero-light perimeter detection in heavy fog or chemical vapor environments where standard optical visibility fails.



Optical Zoom & Resolution (PTZ Series)

B915-K1 offers higher resolution (3MP) with Adaptive IR, whereas I915-K1 trades down to 2MP but gains Extreme Low Light Sensitivity and Built-in Analytics. Both feature 36x optical zoom.

B915-K1 for general sweeping overviews; I915-K1 for intelligent tracking in near-pitch-black harbor settings.



Form Factor Flexibility (36x PTZ vs 36x Bullet)

I915-K1 (PTZ) vs. I42-K1 (Zoom Bullet). Both share 2MP, Extreme WDR, Extreme Low Light, and 36x optical zoom.

Choose I42-K1 for fixed-corridor targeting (e.g., along a specific pipeline or perimeter fence); choose I915-K1 for 360-degree active operational monitoring.

Summary

The Value of ACTi Anti-Corrosion Design

Extended Service Life

Multi-layered protective coatings, 316L stainless steel, and isolated internal frameworks prevent early degradation in the most punishing marine and industrial environments.

Minimized Maintenance Costs

Engineered flush windows, double-lip seals, and labyrinth designs drastically reduce the frequency of physical repairs, seal replacements, and manual interventions.

Uncompromised Image Reliability

Extreme WDR, Superior Low Light sensitivity, and specialized optical glass ensure that critical security footage remains pristine, regardless of salt spray, chemical haze, or humidity.

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