

INDUSTRY BROCHURE

Installation Products

Water and wastewater treatment industry



Installation Products Division

- Wire and cable management
- Cable protection systems
- Boxes and fittings
- Connectivity and grounding
- Medium voltage

Thomas & Betts is now part of ABB's Installation Products Division, but our long legacy of quality products and innovation remains the same. From connectors that support wire buildings on Earth to cable ties that help put machines in space, we continue to work every day to make, market, design and sell products that provide a smarter, safer and more reliable flow of electricity, from source to socket.

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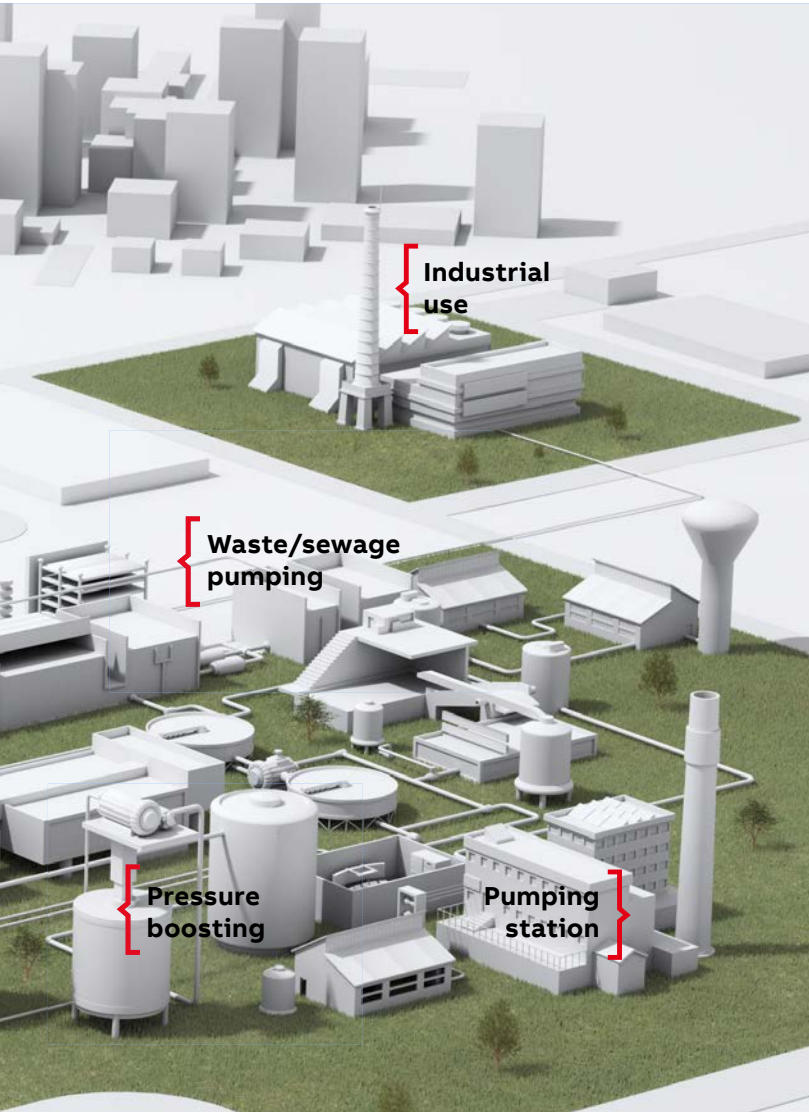
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Designed to perform

Water and wastewater treatment facilities



ABB understands the challenges faced in water and wastewater treatment facilities and is committed to providing innovative electrical solutions that not only reduce overall project costs, but also increase safety, promote sustainability and even improve cash flow.



Installation Products

for water and wastewater treatment facilities:



Corrosive & harsh environment protection



Power quality, efficiency & reliability



Continuous operation & sustainability



Hazardous location protection



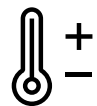
Grounding & bonding



Liquid ingress protection



Safety



Extreme temperature protection



Services & training

Whether it's labor-saving rough-in components, custom-designed electrical prefabrication systems, online cloud-based design tools or even our world-class logistics, ABB can help bring water and wastewater treatment projects in on time, within budget and profitably.

Product selection guide

for water and wastewater treatment facilities



Product selection guide

Product description	Corrosive & harsh environment protection	Power quality, efficiency & reliability	Continuous operation & sustainability
Kopex-Ex™			
Flame-proof cable protection systems for IEC applications	-	-	-
Ocal®			
Ocal-Blue® PVC-coated conduit and fittings	•	-	•
Ocal-Blue® PVC-coated type 4X form 8 conduit bodies and liquidtight conduit fittings	-	-	-
PVC-coated XJG expansion couplings and XD expansion/deflection couplings	-	-	•
PMA®			
Flexible nylon cable protection systems	•	-	•
Red-Dot®			
Code Keeper® weatherproof while-in-use covers	•	-	-
Russellstoll®			
MaxGard® and DuraGard® pin-and-sleeve connectors	•	-	•
MaxGard® explosion-proof interlocked receptacles	-	-	-
Sta-Kon®			
Corrosion-resistant, nickel-plated wire terminals	•	-	-
Crimped wire termination systems	-	-	•
High-temperature wire joints and terminals	-	-	-
Luminaire disconnects	-	-	-
Dragon Tooth® insulation-piercing wire connectors	-	-	-
Shield-Kon® coaxial grounding connectors	-	-	-
Shrink-Kon® heat-shrink insulation and self-fusing insulation tape	-	-	-
Steel City®			
Grounding pigtailed, clips and mud rings	-	-	-
T&B® Cable Tray			
Cable support systems	•	-	•
T&B® Fittings			
ATX high-/low-temperature liquidtight conduit and fittings	-	-	-
Bluekote® LU® universal conduit elbow	-	-	•
Wire-mesh strain-relief cord and conduit grips	-	-	•
CorroStall® aluminum conduit boxes, Silver Grip® stainless steel tray cord fittings, stainless steel and aluminum hubs	•	-	-
Liquidtight cord and conduit fittings	•	-	•
Revolver® grounding fittings, Blackjack® grounding bushings and bonding locknuts	-	-	-
Star Teck XP® fittings and XP explosion-proof flexible couplings	-	-	-
Type A liquidtight flexible conduit and fittings	-	-	-
Xtra Flex® non-metallic liquidtight conduit, tubing and Bullet® fittings	•	-	-
XD expansion/deflection couplings for rigid conduit	-	-	-
Bonding and grounding wedges and grounding hubs	-	-	-
XJG expansion couplings with internal bonding jumper	-	-	-
Ty-Rap®			
Stainless steel cable ties and Deltec® outdoor fastening system	-	-	-
Extra-high temperature and flame-retardant UL94V-0 nylon cable ties	-	-	-
Ty-Rap Tote® cable tie dispensers and ergonomic installation tools	-	-	-



Hazardous location protection

Grounding & bonding

Liquid Ingress Protection

Safety

Extreme temperature protection

Services & training

Hazardous location protection	Grounding & bonding	Liquid Ingress Protection	Safety	Extreme temperature protection	Services & training
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Adaptaflex

Ocal

PMA

redodot

Russellstoll

Sta-Kon

Steel City

T&B Cable Tray

T&B Fittings

Ty-Rap

elastimold

HOMAC

Kindorf

Challenge and commitment

The world has plenty of fresh water – just not in the right place or at the right price. In the decades to follow, water, along with energy, will become one of the most sought-after basic commodities.

The water industry consists of the following segments:

- **Water** – Sourcing and treatment before distribution, and network distribution to customers, including pump stations
- **Wastewater** – Treatment plants and collection and transport to treatment, including lift stations
- **Industrial** – Factory wastewater treatment
- **Agricultural** – Irrigation district

These segments include the following activities (listed alphabetically):

- Coagulation
- Desalination plant
- Incineration
- Industrial use
- Irrigation and water transfer
- Pressure boosting
- Pumping station
- Rain water pumping
- Residential
- Sedimentation
- Substation
- Treatment plant inlet
- Waste/sewage pumping
- Water intake

The following four principals are strategically involved in water and wastewater ecosystems:

- Design and build firms, including consulting engineering and construction companies
- Utilities and other treatment operators
- Water and wastewater equipment vendors
- Water and wastewater funding sources

The key indicators and business drivers are a response to:

- EPA regulations and enforcement
- Housing market starts and conservation initiatives
- Weather, specifically effects of drought and floods
- Aging infrastructure
- New technology, such as membranes and disinfection processes

ABB understands the challenges and provides a set of solutions to be used in the water/wastewater industry. When you need to connect, terminate, fasten or protect, plug into the power and innovation of ABB. Our goal is to be the brand of choice for our products' end users.

ABB is committed to developing solutions for the water industry, staying current with the latest available technology and remaining competitive. Our electrical solutions:

- Feature built-in safeguards to protect your workplace
- Reduce installation and electrical system changeover and downtimes by 40–50%
- Extend the life of electrical systems by up to 300%
- Safeguard your infrastructure from the consequences of unpredictable power
- Provide the latest technology to connect and protect your electrical systems

Water industry applications



Water



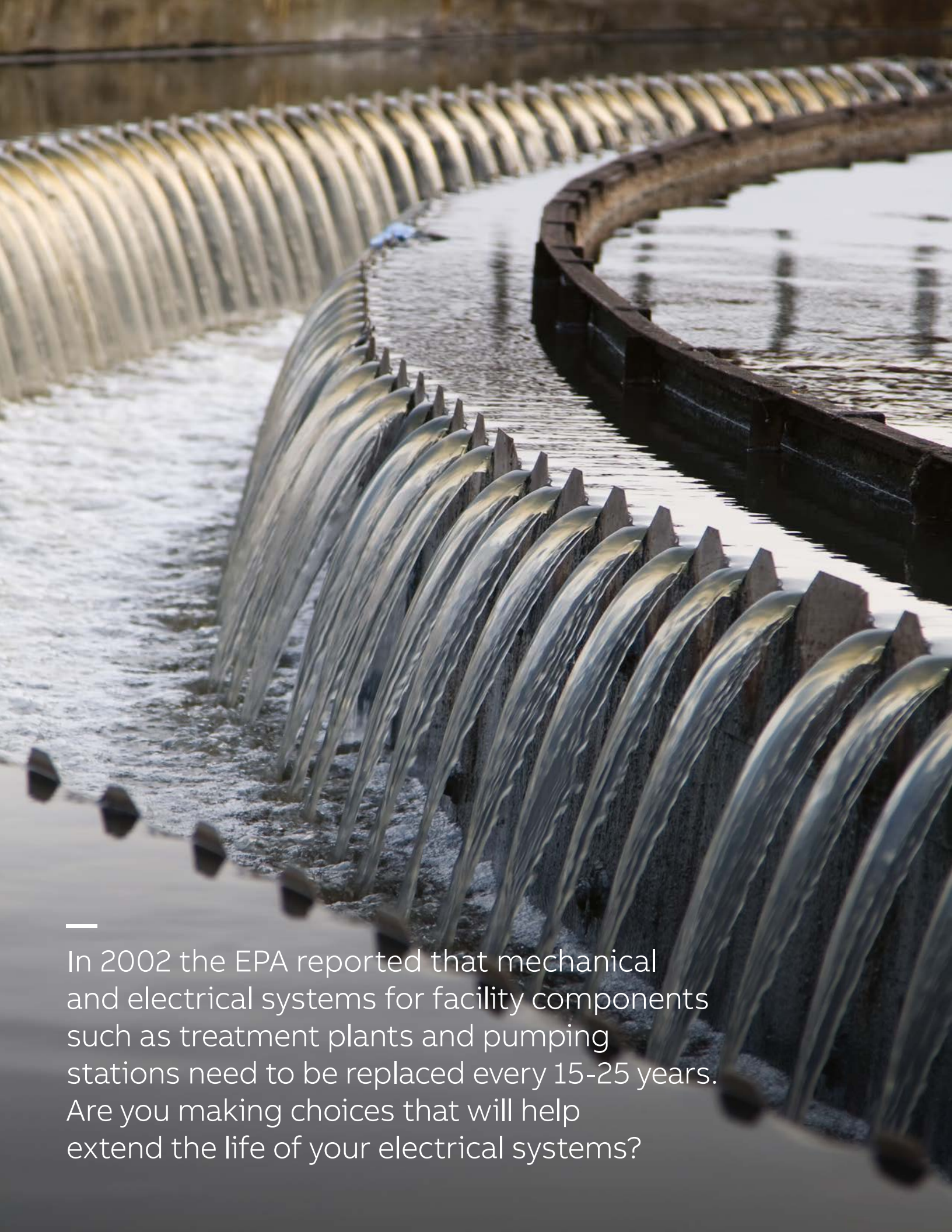
Wastewater



Industrial



Agricultural



In 2002 the EPA reported that mechanical and electrical systems for facility components such as treatment plants and pumping stations need to be replaced every 15-25 years. Are you making choices that will help extend the life of your electrical systems?

Does corrosion cause your plant to operate ineffectively or inefficiently? The proper conduit and fitting system solution can extend the life of your electrical system by up to 300%.



Corrosive & harsh environment protection

Corrosion is the enemy of electrical systems. According to NACE International, corrosion costs the U.S. water/wastewater processing industry an estimated \$1.3 billion annually.

01 Kindorf®

- Stainless steel and non-metallic modular framing system.

02 Ocal®

- OCAL-BLUE® PVC-coated conduit and fittings.

03 T&B® Cable Tray

- Stainless steel, aluminum and non-metallic cable support systems.

04 T&B Fittings®

- Stainless steel form 8 and BlueKote® conduit bodies.
- XTRA FLEX® non-metallic liquidtight conduit, tubing and BULLET® fittings.
- Stainless steel and aluminum hubs.
- Stainless steel and aluminum liquidtight conduit fittings.
- Ranger® Series stainless steel and non-metallic liquidtight cord connectors.
- Silver Grip® stainless steel tray cord fittings.
- CorroStall® aluminum conduit boxes.
- STAR TECK® stainless steel and aluminum fittings for jacketed metal-clad and teck cable.

Sta-Kon®

- Corrosion-resistant, nickel-plated wire terminals.

Ty-Rap®

- Stainless steel cable ties.

Kynar is a registered trademark of ARKEMA, Inc.

Problems caused by corrosion include:

- Equipment failure and shortened life
- Poor electrical system reliability caused by high-resistance connections
- Long maintenance repair time due to corroded parts
- Safety hazards at the grounding level and from product contamination
- Added labor expenses

Ocal® – OCAL-BLUE® PVC-coated conduit and fittings

- PVC-coated, hot-dipped galvanized conduit and threads
- Provides superior corrosion protection against many harmful elements
- Interior blue urethane provides corrosion protection around cables

Kindorf® – Stainless steel and non-metallic modular framing system

- Modularity reduces installation time
- Available in Type 316 stainless steel or non-metallic for the most corrosive environments
- Trapnut® strut fastener features a unique scissor action that closes at any point on the threaded rod, taking up to 43% less time to install than standard nuts and bolts

Adaptaflex®

- Stainless steel flexible conduit systems

T&B® Cable Tray – Stainless steel, aluminum and non-metallic cable tray

- Available in stainless steel, aluminum and non-metallic materials
- Alternating “strut” rungs allow for supported mounting

T&B® Fittings – Stainless steel liquidtight conduit and cord fittings

- Continuous sealing ring ensures a liquidtight seal
- Gland nut deflects water away from connector

ABB – Jokab safety stainless steel safety sensors, switches, rope pulls and E-stops

- Type 316 stainless steel construction
- IP69K washdown protection
- Designed to withstand prolonged exposure to caustic chemicals and extreme temperatures

PMA®

- Flexible nylon cable protection systems

Red-Dot®

- Code Keeper® weatherproof while-in-use covers

Russellstoll®

- MaxGard® and DuraGard® pin-and-sleeve connectors



Kindorf®

01



Ocal®

02



T&B Cable Tray

03



Ty-Rap®

04

Power quality, efficiency & reliability

Electrical equipment must be reliable and operational 24 hours a day, seven days a week, with protection from surges, line surges, voltage spikes and power interruption.

01 ABB

- AF series contactors.
- Tmax and Emax circuit breakers.
- Pro M miniature circuit breakers and surge protection devices.
- ProLine touch safe panel boards.
- SMISLINE modular power distribution system.
- Terminal blocks.

02 Elastimold®

- Distribution switchgear.
- Molded cable accessories.
- Molded vacuum interrupters.
- Molded vacuum reclosers.

03 Joslyn®

- Surge protection devices.

04 Joslyn Hi-Voltage®

- VBM switching systems.
- Capacitor and air disconnect switches.
- Load interrupter attachments.

For water treatment, maintaining service to motors, pumps and monitoring equipment is the difference between a smooth operation and a visit from the EPA. In this critical industry, the need for stable power is paramount. ABB products and systems maximize uptime and control by:

- Detecting faults and protecting against overcurrent and voltage drops
- Preventing damage due to power quality disturbances
- Eliminating underperformance, minimizing system losses and increasing usable power

Joslyn® – VBM Switching Systems

- Vacuum interruption and solid dielectric insulation for gas-free, oil-free operation
- Provides up to 100,000 maintenance-free operations, depending on operating mechanism and control voltage selection

Elastimold® – Distribution switchgear

- Solid EPDM insulating media makes it maintenance-free and environmentally friendly – no oil, no gas
- Compact, modular, field-upgradable design enables smaller footprint and field assembly inside tight vaults

Joslyn® – Surge protection devices

- Multiple voltage configurations with available surge ratings of 25kA to 400kA
- Listed to UL® 1449 3rd Edition that ensures proper connections

ABB

• AF series contactors

- Provides continuous reliable operation, even with voltage fluctuation
- Modular accessories for reduced downtime
- Full range up to 2,050A; NEMA, IEC and horsepower rated

• Tmax and Emax circuit bBreakers

- True RMS-sensing electronic-trip units for system coordination
- Fuseless 200kAIC versions available
- UL® Listed up to 6,000A molded case and power circuit breakers
- UL® current-limiting versions for superior equipment protection

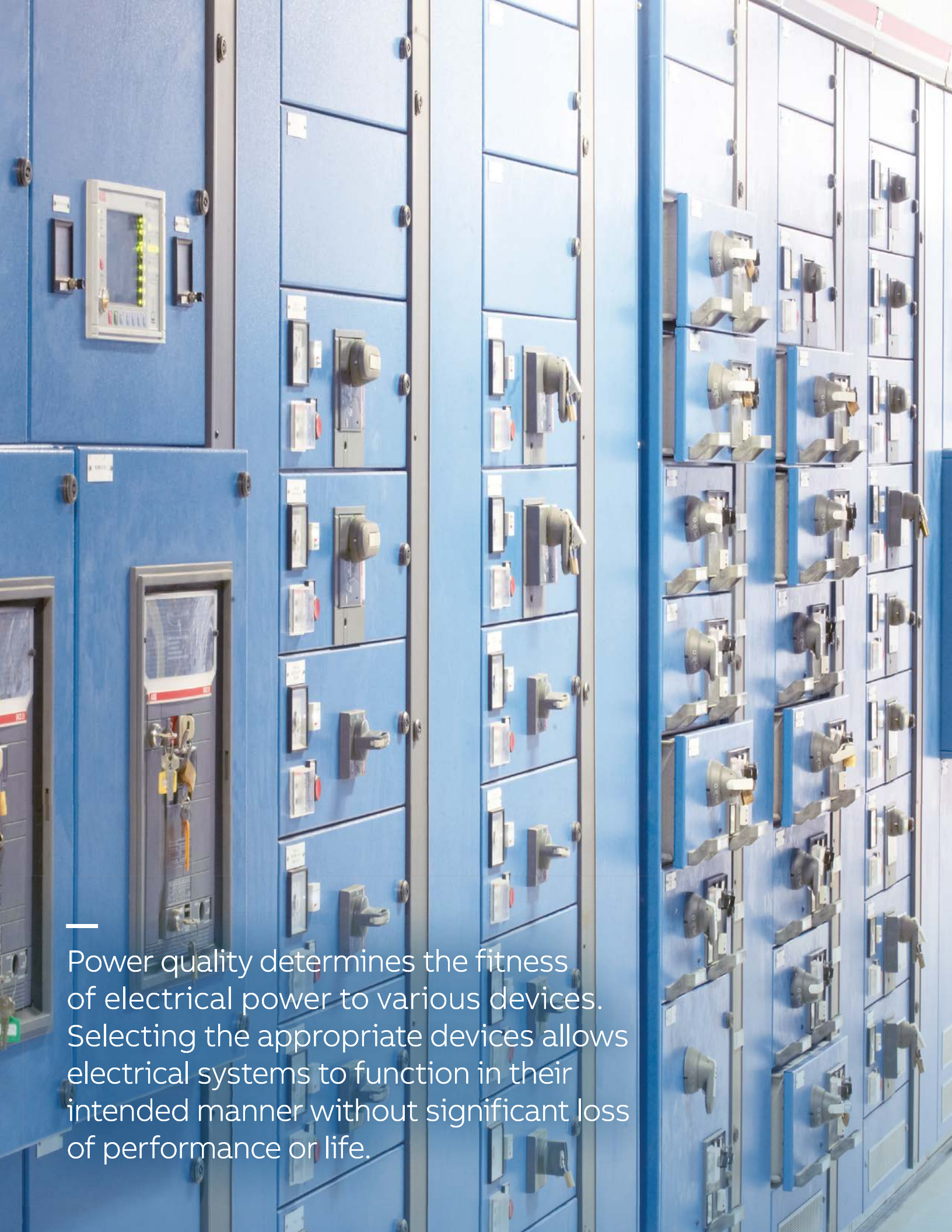
Fisher Pierce®

- Capacitor controls and relays
- Faulted circuit indicators
- Current sensors

Homac®

- Substation connectors





Power quality determines the fitness of electrical power to various devices. Selecting the appropriate devices allows electrical systems to function in their intended manner without significant loss of performance or life.



ABB products are designed to perform consistently and withstand the forces of nature, requiring less field service.

Continuous operation & sustainability

The production and fines associated with downtime in water/ wastewater operations can be substantial. Lost power can mean overflows and contaminated water released into the environment.

01 **ABB**

- Jokab safety Eden E category 4/PLE safety sensors.
- Jokab safety vital 1 safety controllers.
- Jokab safety rope pulls and E-stops.
- Terminal blocks.

02 **Blackburn® compression**

- Motor lead disconnects.
- Compression lugs and splices.

03 **Elastimold®**

- Distribution switchgear.
- Molded cable accessories.
- Molded vacuum interrupters.
- Molded vacuum reclosers.

04 **Sta-Kon®**

- Crimped wire termination systems.

Homac®

- Substation connectors.

Joslyn®

- Surge protection devices.

Joslyn Hi-Voltage®

- VBM switching systems.
- Capacitor and air disconnect switches.
- Load interrupter attachments.

Kindorf®

- Modular framing system.

PMA®

- Flexible nylon cable protection systems.

Kindorf®

- Modular framing system.

Russellstoll®

- MaxGard® and DuraGard® pin-and-sleeve connectors.

T&B Cable Tray®

- Cable support systems.

T&B Fittings®

- BlueKote® LU® universal conduit elbow.
- Ranger® cord fittings
- Liquidtight conduit fittings.
- Wire-Mesh Strain-Relief Cord and Conduit Grips.

To prevent such problems, plants need solutions that ensure:

- Superior product engineering
- Quality product construction
- Accurate product selection
- Availability on demand
- Proper installation

In the single most demanding, non-stop operating environments, one single point of failure can lead to costly – or even disastrous – results.

Blackburn® compression

• **Motor lead disconnects**

- Minimize motor downtime by eliminating the need for bolting and taping during motor change-out
- Offer a quick, snap-together assembly that is insulated with a slide-on cover
- Featuring the Color-Keyed® compression system that ensures proper connections

• **Compression connectors**

- Boost efficiency with fewer crimps that yield superior terminations
- Featuring the Color-Keyed® compression system that ensures proper connections

Ocal®

- PVC-coated conduit, fittings and accessories
- PVC-coated XJG expansion couplings
- PVC-coated XD expansion/deflection couplings

Sta-Kon® – Crimped wire termination systems

- Complete line of rings, forks, splices, disconnects, pin terminals and wire ferrules, built with materials for high-performance applications
- Longer, selectively annealed barrel for increased pull-out strength and lowered crimping force, with funneled terminal barrel entry for faster installation
- Nylon terminals feature metal insulation grip sleeve for strain relief
- All Sta-Kon® terminals are UL® Listed and CSA certified
- Shrink-Kon® wire insulation products provide superior conductor, connection and termination protection, thus helping to ensure reliable, continuous operations

ABB

• **Jokab safety Eden E category 4/PLE safety sensors**

- LED diagnostic indication
- High misalignment tolerances (12mm ±2mm)
- Non-contact, non-mechanical and non-magnetic to reduce mechanical failure and downtime

• **Terminal blocks**

- DIN-rail modular mounting
- Layered for higher density capacity
- Vibration-resistant IDC technology – 80% faster than screw connections



01



02 **Blackburn®**



03 **elastimold®**



04 **Sta-Kon®**

Hazardous location protection

There is always a concern at water/wastewater treatment facilities about the significant presence of gases and vapors in certain areas.



01 ABB

- Jokab safety explosion-proof safety switches, sensors, rope pulls and E-stops.
- Jokab safety intrinsically safe 3-position enabling devices.
- Explosive-environment terminal blocks (UL® Class I, Zone 1, ATEX 95).

02 Kopex-Ex™

- Flame-proof cable protection systems for IEC applications.

03 Russellstoll®

- MaxGard® explosion-proof interlocked receptacles.

04 T&B Fittings®

- STAR TECK XP® stainless steel and aluminum fittings.
- XP explosion-proof flexible couplings.

Typical hazardous locations include:

- Water/wastewater plant process areas
- Booster stations and valve areas along pipelines
- Loading and unloading areas in terminals
- Storage areas for tanks, barrels and trucks

Russellstoll® – MaxGard® explosion-proof interlocked receptacles

- Copper-free, cast-aluminum, epoxy-coated housing
- O-ring-sealed interior components ensure watertight protection whether connections are mated or not
- Explosion-proof systems for 30A, 60A and 100A

T&B® Fittings – STAR TECK XP® stainless steel and aluminum fittings

- High-quality fittings for jacketed metal-clad and teck cables
- Suitable for use in hazardous locations
- Class I Division 2, Class II Division 2 and Class III

Kopex-Ex™ – Flame-proof cable protection systems for IEC applications

- Designed to meet UL®, CSA, IECEx and ATEX standards for hazardous environments
- Approved for use in Zones 1, 2, 21, 22, Class I Division 1 and Class II Division 2 hazardous locations
- Complete system includes conduit, fittings, stopping plugs, thread converters and accessories

ABB – Jokab safety explosion-proof safety switches, sensors, rope pulls and E-stops

- For use in hazardous locations: IECEx and ATEX EExd IIC T6 (Gas and Dust)
- Die-cast and Type 316 stainless steel housings

Emergi-Lite®/Lightalarms®

- Emergency exit lighting

Ocal®

- PVC-coated conduit and fittings for hazardous areas

PMA®

- ATEX flexible non-metallic cable protection systems



01



02

KOPEX-Ex

03


Russellstoll®

04


T&B® Fittings

Do you have explosion risks from chemicals used or gas being produced? Count on ABB to provide electrical solutions designed to satisfy your facility's needs for protection in hazardous areas.





Reducing the potential for electric shock and equipment failure results from following the National Electrical Code®. Turn to ABB for the grounding and bonding solutions to meet NEC® requirements.

Grounding & bonding

Grounding the electrical system provides a means in which conductive equipment is connected to an earth potential via the grounding electrode.

01 ABB

- Pro M residual-current circuit breakers.
- Tmax and Emax equipment ground fault circuit breakers.
- Grounding terminal blocks.

02 Blackburn® grounding

- EZGround™ compression and mechanical grounding systems.
- High-quality flexible braid connectors.

03 Steel City®

- Grounding pigtails, clips and mud rings.

04 T&B® Fittings

- Revolver® liquidtight grounding fittings.
- Blackjack® grounding bushings.
- Bonding locknuts.
- XD expansion/deflection coupling for rigid conduit.
- STAR TECK® fittings for jacketed metal-clad and teck cables.
- Bonding and grounding wedges.
- Grounding hubs.
- XJG expansion couplings with internal bonding jumper.

Fisher Pierce®

- Faulted circuit indicators.

Homac®

- Flood-Seal® compression splice kits.

Kopex-Ex™

- Flame-proof cable protection systems for IEC applications.

NEC and National Electrical Code are registered trademarks of the National Fire Protection Association, Inc.

This prevents potential differences and sparking between conductive equipment and grounded structures. Together, proper grounding and bonding will:

- Ensure personnel safety
- Eliminate lighting interruptions
- Protect critical equipment
- Meet IEEE, UL® and CSA requirements
- Provide electrical continuity and reliability

ABB durable, code-compliant systems, onsite grounding and bonding training and installation support are designed to ensure the safe and reliable operation of your plant's electrical systems and increase overall equipment effectiveness.

Blackburn® grounding

- **EZGround™ compression and mechanical grounding systems**
 - EZGround™ connectors use standard compression installation tools and techniques
 - Full range of mechanical grounding components also available
- **High-quality flexible braid connectors**
 - Extra-flexible links for heavy-duty applications up to 3,600A
 - Standard flexible links for medium-duty applications up to 2,350A

Sta-Kon® – Dragon Tooth® insulation-piercing wire connectors

- Provide continuity without the need to remove insulation
- Designed to splice, tap and terminate magnet wire

T&B® Fittings

- **Revolver® liquidtight grounding fittings**
 - Designed for use where an external bonding jumper is required for liquidtight flexible metal conduit
 - Revolving grounding ring provides flexibility in positioning for ease of installation
- **Blackjack® grounding bushings**
 - Dual rated for grounding and bonding of threaded and unthreaded conduit, aluminum and copper wire
 - Speeds installation and improves aesthetics

Steel City® – Grounding pigtails, clips and mud rings

- Solid and stranded grounding pigtails and grounding clips for easy attachment of ground wires to electrical boxes
- Steel City® Adjustable Mud Rings pass the standard UL® Grounding Continuity test

ABB – Pro M residual-current circuit breakers

- UL® 1053 equipment ground fault protection
- 0–500mA trip range for equipment protection flexibility

Elastimold®

- Molded separable connectors and solid-dielectric switchgear

EZCODE®

- Danger/warning labels and signs, industrial/wire markers and barricade/burial tapes



Liquid ingress protection

A single drop of oil seeping into an electrical control box is all it takes to knock out your production line for days. And a faulty fitting can be the culprit causing that failure.

01 ABB

- Compact IP69K pilot devices.
- Stainless steel disconnects and safety switches.
- Jokab safety light curtains.
- Jokab safety switches, sensors, rope pulls and E-stops.

02 Homac®

- Flood-Seal® products.

03 PMA®

- Flexible nylon cable protection systems.

04 T&B Fittings®

- XTRA FLEX® non-metallic liquidtight conduit, tubing and BULLET® fittings.
- Type A liquidtight flexible conduit and fittings.
- ATX high-/low-temperature liquidtight flexible metal conduit and fittings.
- Liquidtight conduit fittings
- Ranger® series liquidtight cord connectors.

Adaptaflex®

- Stainless steel flexible conduit systems.

Russellstoll®

- MaxGard® and DuraGard® pin-and-sleeve connectors.

At ABB, we realize that while most of our products are small, the jobs they do are big. And big jobs demand the right product engineering, testing and quality control. That's what you get with ABB. Selecting proper equipment to battle liquid ingress helps to:

- Ensure electrical safety
- Prevent corrosion
- Avoid system degradation
- Minimize costly downtime

Homac® – Flood-Seal® products

- Make water-tight connections quickly and easily with Homac® Flood-Seal® splice kits and multi-tap connectors
- Flood-Seal® technology eliminates the need for time-consuming tapes and shrinks – no heat guns or pull cords
- Range-taking designs provide flexibility in the field and minimize the number of SKUs you have to manage

T&B® Fittings – Stainless steel liquidtight conduit and cord fittings

- Continuous sealing ring ensures a liquidtight seal
- Gland nut deflects water away from connector

PMA® – Flexible nylon cable protection systems

- Ingress protection conforms to recognized test methods
- Connectors are commonly rated IP66, IP68 or IP69K
- Offer excellent resistance to lubricants and highly corrosive chemicals; also resistant to weather

Red-Dot® – Code Keeper® weatherproof while-in-use covers

- Alloy A380 aluminum construction and stainless steel springs provide increased corrosion resistance
- Complies with National Electrical Code® Extra-Duty requirements

Sta-Kon® – Shrink-Kon® self-fusing insulation tape

- Easy-to-install insulation for harnesses, wires or cables – no heat or adhesive required
- Just two layers form a moisture-proof, abrasion-resistant dielectric seal for low- or high-voltage applications (600V max.)

ABB

- **Compact IP69K pilot devices**
 - Integrated design speeds installation
 - Universal mounting for 22mm and 30mm entrances
 - NEMA 4X rated
- **Terminal blocks**
 - DIN-rail modular mounting
 - Layered for higher density capacity
 - Vibration-resistant IDC technology – 80% faster than screw connections

Ocal®

- OCAL-BLUE® PVC-coated type 4X form 8 conduit bodies
- PVC-coated liquidtight conduit fittings



—
Water, water everywhere, except in your connections.
ABB solutions provide superior liquid ingress protection.
Our products help to keep your electrical equipment –
and those who use it – safe.



Safety failures bring increased scrutiny in an already strictly regulated industry. Have you implemented both active and passive safety measures to ensure the safety of your plant and personnel?



Safety

The goal of safety practices is zero accidents, zero injuries and zero deaths.

The major stakeholders in safety solutions are:

- The community
- The state
- The business/organization
- The employee(s)
- The environment/society

No one is immune to safety and contamination concerns. Contamination and safety concerns are not market specific. They affect workers, production schedules and the bottom line across a broad spectrum of industries.

EZCODE® – Safety labels, tags, signs and barricade tapes

- Help to ensure personnel and workplace safety, as well as regulatory compliance
- Visible and long-lasting materials
- Custom labels, tags and signs available
- Barricade and burial marking tapes in a variety of materials and colors

ABB

- **Arc Guard arc flash mitigation system**
 - Non-contact arc flash detection
 - Easily retrofitted to any electrical system
 - Reduces energy during arc flash event
- **Jokab safety products**
 - Safety relays and PLCs
 - Safety sensors, switches, rope pulls and E-stops

Elastimold®

- High-voltage separable connectors
- High-voltage solid-dielectric switchgear
- Fused loadbreak elbows
- Molded canister fuses
- Molded current-limiting fuses

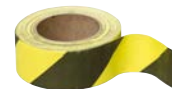
Ty-Rap®

- Extra-high temperature and flame-retardant UL94V-0 nylon cable ties
- Ty-Rap Tote® cable tie dispensers and ergonomic installation tools

Kindorf®

- Seismic bracing system

- **01 ABB**
 - Arc Guard arc flash mitigation system.
 - Arc-resistant low voltage switchgear and motor control centers.
 - ProLine touch-safe panel boards.
 - Jokab safety relays and PLCs.
 - Jokab safety sensors, switches, rope pulls and E-stops.
 - Jokab safety light curtains.
- **02 EZCODE®**
 - Barricade and burial marking tapes.
 - Danger and warning signs.
 - Electrical and cable markers.
 - Machine warning labels.
 - Reflective industrial markers.
- **Blackburn® compression**
 - Ergonomic compression tools.
- **Blackburn® grounding**
 - EZGround™ compression and mechanical grounding systems.
- **Kindorf®**
 - Seismic bracing system.
- **Red Dot®**
 - Code Keeper® weatherproof while-in-use covers.
- **Sta-Kon®**
 - Luminaire disconnects.



Extreme temperature protection

Electrical systems need to perform consistently in boiler rooms and around furnaces and evaporators. Many of these processes require heat tracing to maintain elevated temperatures throughout water/wastewater processing systems.

01 ABB

- Tmax and Emax circuit breakers.
- AF series motor control and electronic overload relays.

02 Sta-Kon®

- High-temperature wire joints and terminals.

03 T&B® Fittings

- ATX high-/low-temperature liquidtight conduit and fittings.

04 Ty-Rap®

- Extra-high temperature nylon cable ties.
- Flame-retardant UL94V-0 nylon cable ties
- Stainless steel cable ties.
- Deltec® outdoor fastening system.

Excessive heat or cold can wreak havoc on an electrical system, potentially causing critical components to fail. Operations are challenged to:

- Prevent premature material aging due to prolonged heat
- Avoid material contraction and expansion due to ground frost
- Protect against physical damage from hail

ABB offers numerous electrical systems and devices that are designed to withstand and insulate against severe temperatures.

T&B® Fittings

- **52® Series high-temperature flexible metal liquidtight fittings**
 - Handle temperatures up to 150°C
 - Steel or malleable iron construction, electro-zinc plated and chromate coated for corrosion protection
 - Available in 45°, 90° and straight versions
- **ATX Liquidtight flexible metal conduit**
 - Performs in extreme temperature environments up to 150°C
 - Conduit sizes from 3/8" to 4"

ABB – Tmax and Emax circuit breakers

- Electronic trip mechanism, unaffected by ambient temperature fluctuations
- 100% rated versions available
- 0–6,000A current range

Ty-Rap®

- **Extra-high temperature nylon cable ties**
 - For use in temperatures from -40°C to 150°C
 - Smooth body sheds contaminants
- **Heavy-duty stainless steel cable ties**
 - For use in temperatures from -80°C to 538°C
 - Available in both Type 304 and Type 316 stainless steel

Sta-Kon® – High-temperature wire joints and terminals

- Wire joints and fluoropolymer-insulated terminals rated for temperatures up to 150°C, 600V maximum
- Wire joints include a molded, one-piece nylon insulator, rated UL94V-2
- Wire joints feature brazed copper sleeves that prevent separation of connection during crimping
- Wire joints' internal serrations enable cold flow for increased conductivity and pull-out strength

Adaptaflex® – Stainless steel flexible conduit systems

- Supports temperatures of -50°C to 350°C for static applications and -45°C to 250°C for moving applications
- Corrosion-resistant stainless steel construction
- Offers high flexibility and fatigue life

PMA®

- Flexible nylon cable protection systems



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Sta-Kon®



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T&B® Fittings



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Ty-Rap®



Water treatment is sometimes performed at extreme temperatures in terms of both equipment and environment. Selecting the correct ABB temperature solution system and components will extend the life of your electrical system and reduce the frequency of corrective maintenance.



ABB provides training for many of our products. We make sure that our clients understand how our versatile solutions will work with their electrical systems.

Services & training

ABB has more than 200 direct representatives in the field, ready to instruct and train you on the proper use of products, tools and recommended installation practices.

Our services

As a full-service provider, ABB offers product training, installation training and certification, application support, technical support, field engineering and onsite troubleshooting to ensure successful plant operation and maintenance.

Blackburn® compression / mechanical / grounding

- The QTP program provides a guaranteed two-week shipment of select Blackburn® products
- Cloud-based Product Configurator enables online design of custom connectors
- Product specification specialists available nationwide to train in the proper use and installation of Blackburn® products
- Inside Tech Support group provides 24/7/365 expertise for Blackburn® compression, mechanical and grounding products
- Full tool service, plus loaner and tool rental programs

ABB

- Warranty extension for breakers and switches
- Preventive, predictive and corrective maintenance
- Field retrofit services

Ocal®

- Onsite installation training provides hands-on practice of clamping, cutting, threading, assembling and repairing the Ocal® PVC-coated conduit system and extends warranty from 2 to 5 years on a system installed by a certified contractor

Additional services & training

- Online CAD Library
- Tool services
- Tool rental programs
- Mobile solutions team
- Onsite NEC® update training
- Onsite grounding & bonding training
- BIM-compatible floor box and poke through system data
- Regional product specification specialist teams

01 ABB

- Warranty extension for breakers and switches.
- Preventive, predictive and corrective maintenance.
- Field retrofit services.

02 Blackburn® compression

- Quick turnaround program (QTP) for power connectors.
- Product configurator.

03 T&B® Tools

- Tool service, loaner and leasing programs.

NEC® and National Electrical Code® are registered trademarks of the National Fire Protection Association, Inc.



Installation Products for applications

- 01 Continuous operation and sustainability.
- 02 Corrosion and harsh environment protection.
- 03 Safety and contamination.
- 04 Emergency electrical solutions.
- 05 Total project cost reduction.
- 06 Liquid ingress protection.
- 07 Extreme temperature protection.
- 08 Grounding and bonding.
- 09 SKU Reduction.

ABB

APPLICATION BROCHURE
Installation Products
 Continuous operation and sustainability



② Installation Products Division
 • Wire and cable management
 • Cable protection systems
 • Boxes and fittings
 • Connectivity and grounding
 • Medium voltage

01

ABB

APPLICATION BROCHURE
Installation Products
 Corrosion and harsh environment protection



② Installation Products Division
 • Wire and cable management
 • Cable protection systems
 • Boxes and fittings
 • Connectivity and grounding
 • Medium voltage

02

ABB

APPLICATION BROCHURE
Installation Products
 Safety and contamination



② Installation Products Division
 • Wire and cable management
 • Cable protection systems
 • Boxes and fittings
 • Connectivity and grounding
 • Medium voltage

03

ABB

APPLICATION BROCHURE
Installation Products
 Emergency electrical solutions



② Installation Products Division
 • Easy-clearing cable and cable protection for each-down areas
 • Supporting and diverting power to temporary structures
 • Cable bundling/strapping and identification components
 • Temporary power systems

04

ABB

APPLICATION BROCHURE
Installation Products
 Total project cost reduction



② Installation Products Division
 • Wire and cable management
 • Cable protection systems
 • Boxes and fittings
 • Connectivity and grounding
 • Medium voltage

05

ABB

APPLICATION BROCHURE
Installation Products
 Liquid ingress protection



② Installation Products Division
 • Wire and cable management
 • Cable protection systems
 • Boxes and fittings
 • Connectivity and grounding
 • Medium voltage

06

ABB

APPLICATION BROCHURE
Installation Products
 Extreme temperature protection



② Installation Products Division
 • Wire and cable management
 • Cable protection systems
 • Boxes and fittings
 • Connectivity and grounding
 • Medium voltage

07

ABB

APPLICATION BROCHURE
Installation Products
 Grounding and bonding



② Installation Products Division
 • Wire and cable management
 • Cable protection systems
 • Boxes and fittings
 • Connectivity and grounding
 • Medium voltage

08

ABB

APPLICATION BROCHURE
Installation Products
 SKU Reduction



② Installation Products Division
 • Wire and cable management
 • Cable protection systems
 • Boxes and fittings
 • Connectivity and grounding
 • Medium voltage

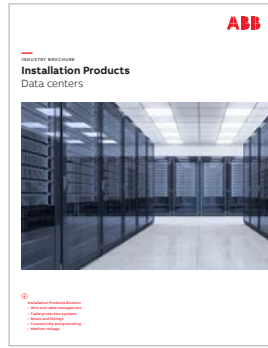
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Installation Products for industries

- 01 Commercial and institutional buildings.
- 02 Data centers.
- 03 Food and beverage industry.
- 04 Food and beverage industry - plant assessment.
- 05 Utility industry.
- 06 Power generation industry.
- 07 Chemical industry.
- 08 Oil and gas industry.
- 09 Wind power industry.
- 10 Renewable energy industry.
- 11 Water and wastewater treatment industry.
- 12 Single and multi-family housing industry.
- 13 Rail industry.
- 14 Civil infrastructure industry.
- 15 Metals and mining industry.



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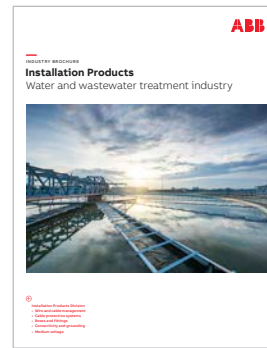
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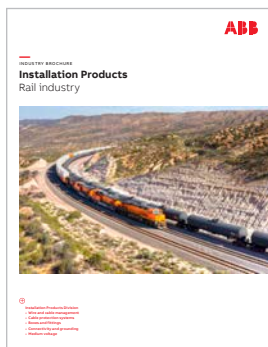
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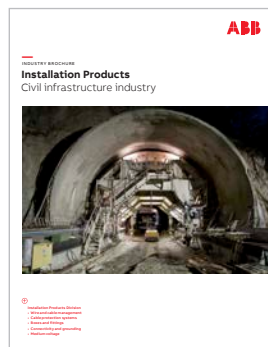
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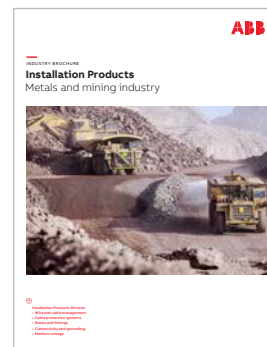
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ABB understands the challenges and provides a set of solutions to be used in the water/wastewater industry. When you need to connect, terminate, fasten or protect, plug into the power and innovation of ABB.







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US

ABB Installation Products Inc.

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