

ZE Machinery Equipment Ltd

"High quality Outdoor Cabinets in  
Aluminium double Wall Technology"

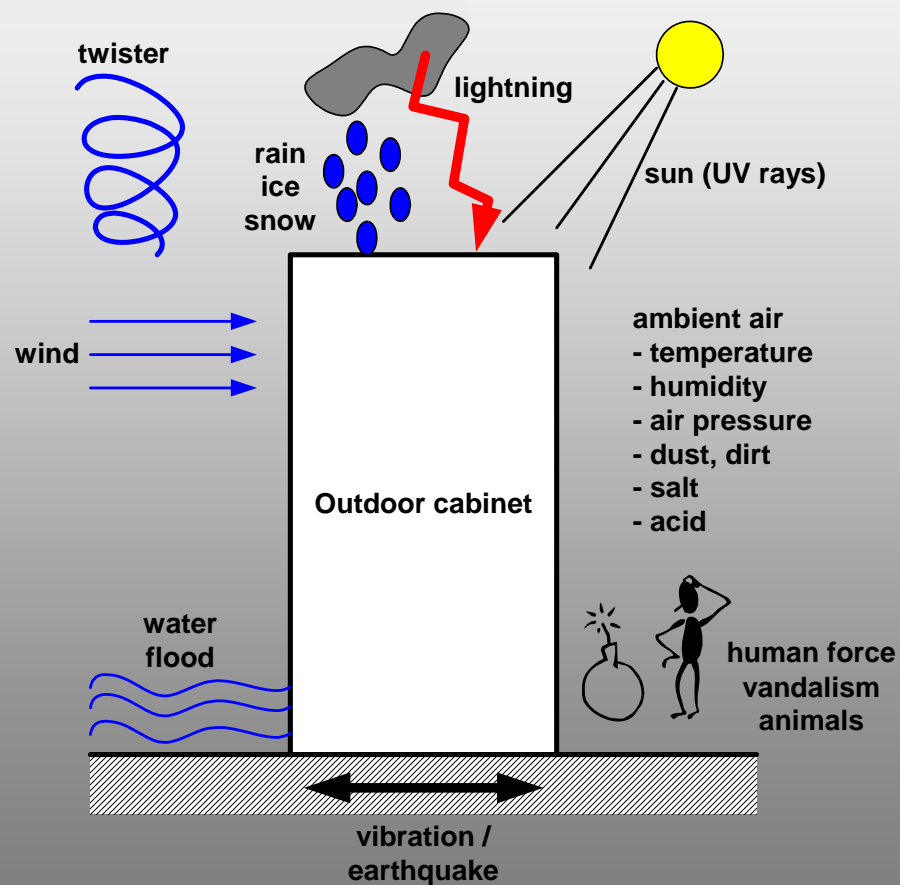
# Worldwide Footprints

- **Main Factory founded 1993 in Shenzhen/PRC. Staff: 2000 people and monthly Capacity of ~3500 Outdoor Cabinets**
- **Manufacturer of Products for Housing of Telecom-Equipment as Outdoor Enclosures, Subracks, Indoor Racks**
- **Worldwide Export through our Sales Office in Switzerland and Hong-Kong started in December 2007**
- **Customers: STM Los Angeles, ECI Telecom, Powertech Lebanon, Primetel Cyprus, OTE Greece (with Link SA) EFACEC Portugal, FPT Vietnam, Decatel Belgium, Quicktel Egypt etc.**

# Technical Features Outdoor Cabinets

- **Double wall aluminium construction**
- **High modularity meets every requirement**
- **Long life time, even under extreme conditions**
- **Fully repairable without disconnect of wires after car accidents etc.**
- **Hinges made of fully Stainless steel Diecast (100% corrosion free)**
- **Strong Profiles with Sliding Nuts for easy fixation**
- **Vandalism Protection IK10 acc EN 62282 and EN 60068-2-75 (Impact Energy 20J)**

# 360° Environmental Protection



# General Description

- **The frame based construction allows the cabinet to withstand even strongest requirements and fulfils related ETSI or Bell Core Standards**
- **The consequent double wall construction over the whole cabinet allows natural ventilation between walls and roof which grants high heat dissipation, stops the sun irradiation and prevents condensation inside cabinet**
- **The design allows high EMC shielding effectiveness**
- **Withstands Flooding Water for long time**
- **The extreme modularity allows great latitude in design, doors on each side in just a part of the wall, free dimensions, clear separation of compartments**

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# Thermal Management

- **Compressor Cooling:**

Required if the temperature inside of the cabinet is below the outside temperature. Systems available in 115 and 230/400 Volt 50/60 Hz

- **Heat Exchanger**

**XD** heat exchanger IP55, with strictly separated airflow (opposite airflow) are available from 25 – 300 Watt/K in 48V/DC and 115/230 V/AC. For door, wall or roof mounting. Inside temperature must be 7-25°C above outside temperature

- **Membrane-Filter Technology:**

This filter type in IP 55 provides a new way of cooling-effectiveness with inside temperature max. 5°C above outside temperature and only one maintenance call/year. Low noise level, no corrosion because there are no fans exposed to outside, Excellent Filtering efficiency with Filter Type F9 acc. EN 779

- **Cooling with forced Air-circulation:**

Fan cooling system inside the Cabinet, improves the Airflow along doors, walls, Roof and allows Heat-dissipation of up to 5,5Wm<sup>2</sup>K. Axial Fans available in 48V/DC and 115/230 V/AC

# Thermal Management II

- **Heaters:**

In order to fulfil „cold start” requirement of ETSI class 4.1.E, to prevent low temperature inside the cabinet and battery-compartments, to avoid condensation. ZE offers a wide range of heaters from 10 to 1200 Watt and 48 V/DC or 115/230V/AC, humidity controllers, Thermostats/Sensors in co-operation with STEGO Electrotechnik GmbH Germany

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# Mechanical Accessories

- **Swing frames and fix frames in 19"/21"/23" and ETSI Metric-Standard**
- **Battery shelves with slides or fix installed**
- **Anti vandalism package for JK10 Protection acc. EN6068-2-75**
- **Windows for metering etc.**
- **Generator cable access slides**
- **MDF and fibre optical support devices**
- **Bases for increased „flooding” level or cable management**
- **Transport support as eyebolts etc.**
- **Cable entry technology**
- **EMC shielding**
- **Earth-bars and bolts**
- **Customer tailored parts**
- **Integration of AC/DC Components**



# Standards

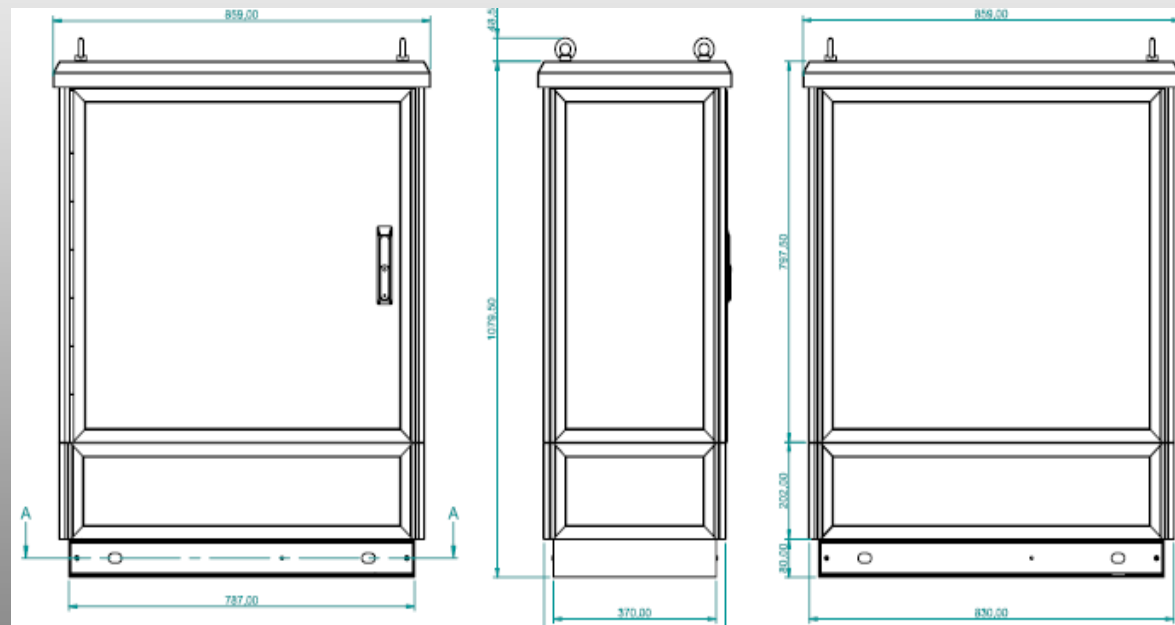
- **The Outdoor Cabinet Fulfils The Following Standards: (can be adapted to your needs)**
  - IP 55 acc. EN 60 529
  - Vandalism protection acc. IEC 62208 IK10 (20 J impact energy) & EN 60068-2-75
  - ETSI 300 019-1-4 in general
  - Earthquake protection acc. ETSI 300 019-1-4 seismic zone 4
  - Climate conditions: ETSI 300 019-1-4 Class 4.1.E requirements
  - EMC shielding acc. IEC 61587-3
  - Noise level ETSI 300 753 table B for rural areas
  - Bell Core GR 487 in general
  - CE-Certification TÜV of 28.11.2008 acc. EN 62208:2003
  - Our outdoor cabinet is able to meet several other requirements or standards, don't hesitate to ask. some Tests and certifications were made with fully equipped Cabinet, such test reports are not available for third parties

# General Specifications

- **Aluminium used for the cabinets is Type 5052-H32 and 1100-H14 (sheet)**
- **All Metal parts except aluminium parts, are made out of carbon steel Trivalent blue passivated and Stainless AISI 304**
- **All aluminium parts are Alodyne passivated acc. DIN 50939**
- **All painted parts are electro static powder coated with Akzo Nobel polyester powder coat, thickness 80-110 microns**
- **All RAL colours are available, standard painting is RAL 7035**
- **Sealing is made out of EPDM**
- **Packaging is suitable for sea-freight or airfreight shipment, made out of extra strong timber-boxes and pallets (Multiple use)**
- **ZE is Certified in ISO 9001-2000 /ISO 14000 by BSI**
- **Our Outdoor Cabinets are fully RoHS compliant**

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# FTTH Cabinets Single Capacity

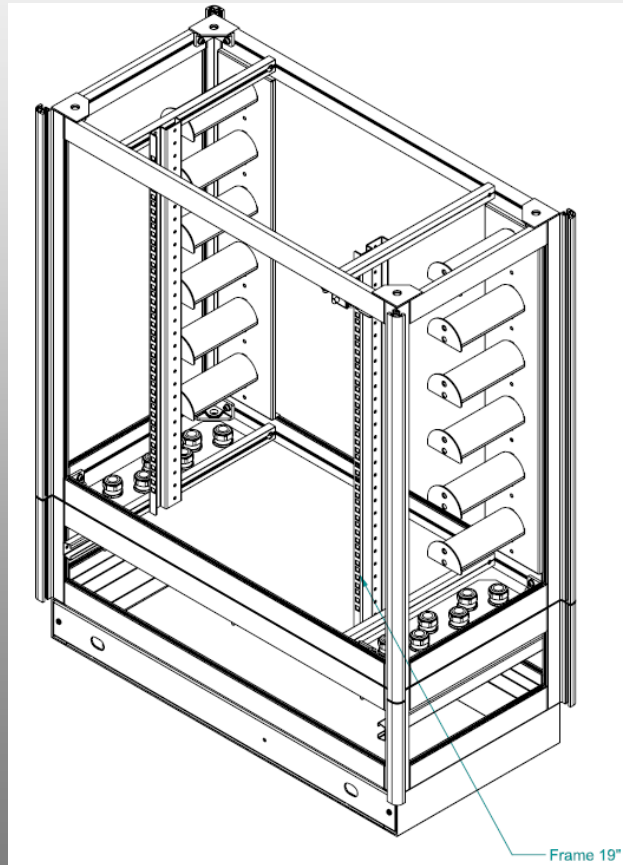


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# FTTH Cabinet Single Capacity

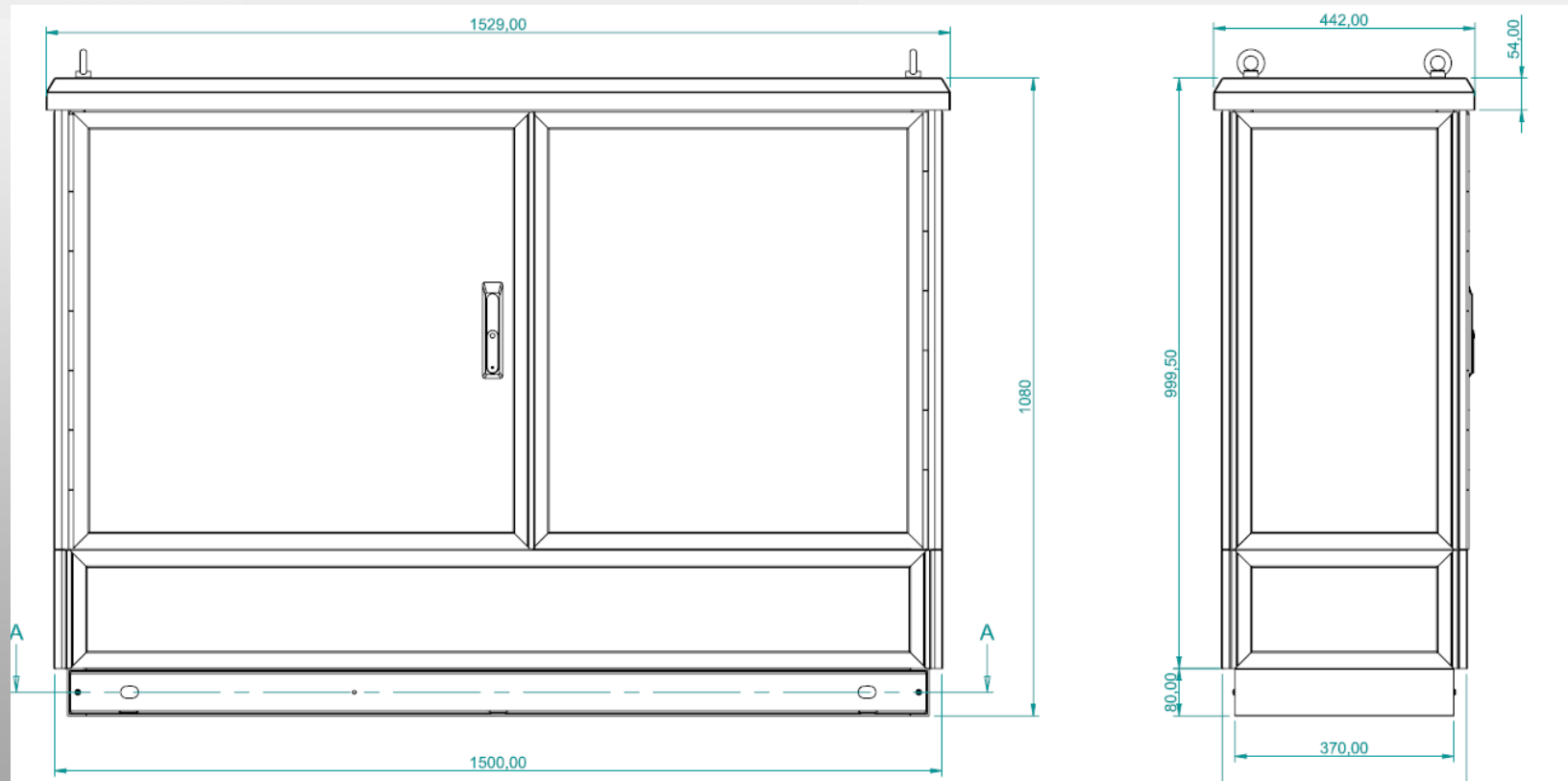


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# FTTH Cabinet (Double Capacity)



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# Concrete Base Field-Preparation



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# Ericsson Greece (Cyta Hellas)



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# Motorola Nigeria (UPS System)



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# Quicktel Egypt (MSAN for Egypt Telecom)



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# Primetel Cyprus (MEF Cooling)



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# EFACEC Portugal (WIMAX)



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# OTE Greece Projects (HEX Cooling)



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Thank You For Your Attention!



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