

OutD „V” Series – EVO

New release of common OutD family



OutD „V” Evo - general information



OutD „S”



OutD „V”

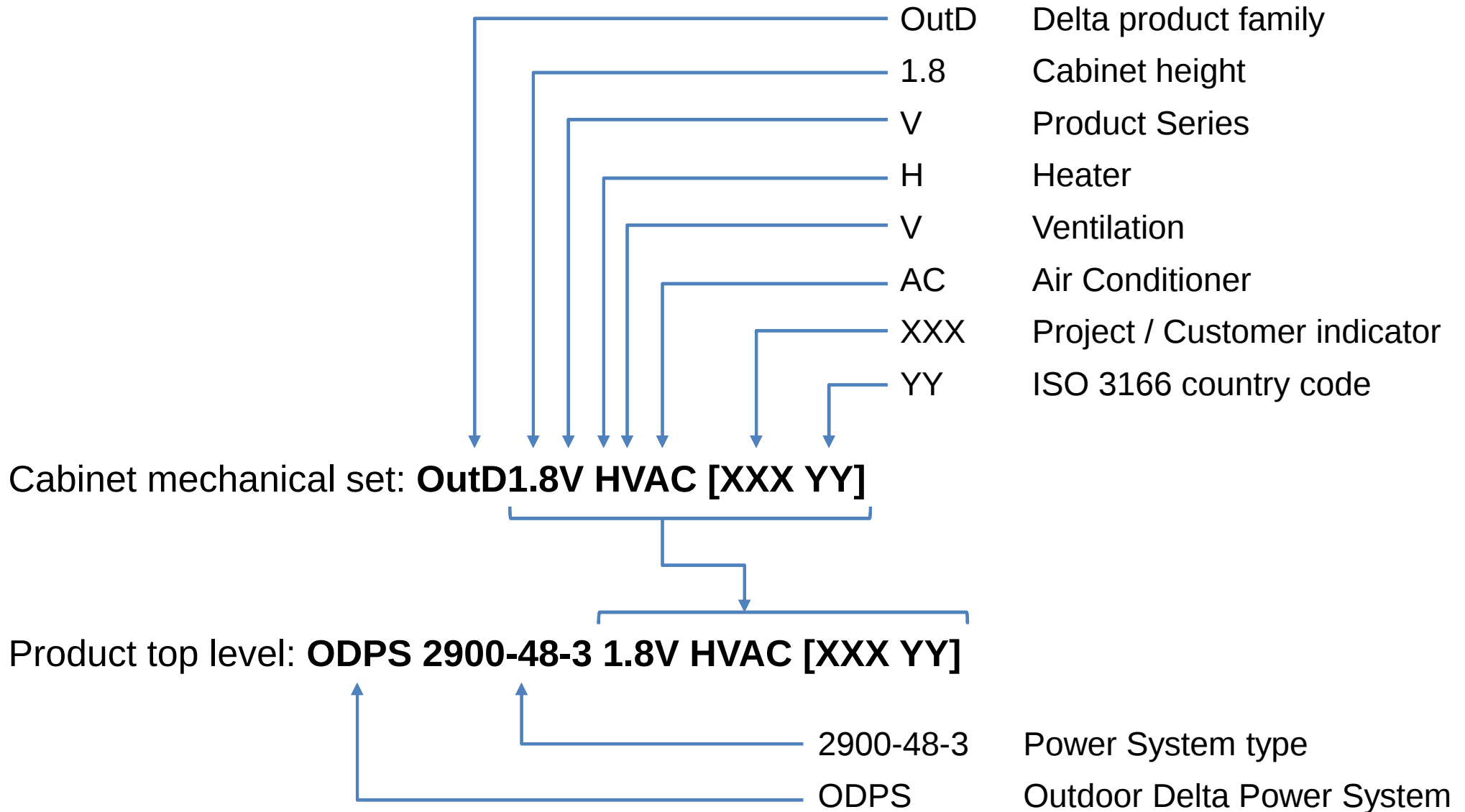


OutD „V” Evo

- Next step of standardization – one common family to replace:
 - OutD S (Aluminum)
 - OutD V (HDG Steel)
- Combines all improvements and past development
- Combines all customer suggestion and requests
- Corrects all claims and problems
- DFM&A Design. Design for:
 - Manufacturing - Mechanical vendors cooperation to simplify process and improve quality
 - Assembly – simpler assembly, less parts
 - Quality – problems corrected, parts simplified, poka-yoke
 - Maintenance – service peocedures simplified by easy or tool free access to replaceable parts



OutD Products Naming Rules





OutD „V” Evo – available versions

Available versions and dimensions:

Type	V – ventilation 250W/K	A/C – Stulz 1400W/2000W Vac	A/C – Delta 1600W Vdc
OutD 1.8V	HGD Steel only W708 x D752 x H1857 mm Available space: 35 U	HGD Steel only W708 x D960 x H1857 mm Available space: 35 U	n/a
OutD 2.0V	HGD Steel / Aluminum W808 x D752 x H2057 mm Available space: 39 U	HGD Steel / Aluminum W808 x D960 x H2057 mm Available space: 39 U	HGD Steel / Aluminum W808 x D885 x H2057 mm Available space: 39U

Material summary:

Parts	HGD Steel thickness	Aluminum thickness
Enclosure / Door / Roof	1.25 mm	1.5 mm
Plinth	2 mm	2.5 mm



OutD „V” Evo – family members



OutD1.8V V



OutD1.8V VAC



OutD2.0V V



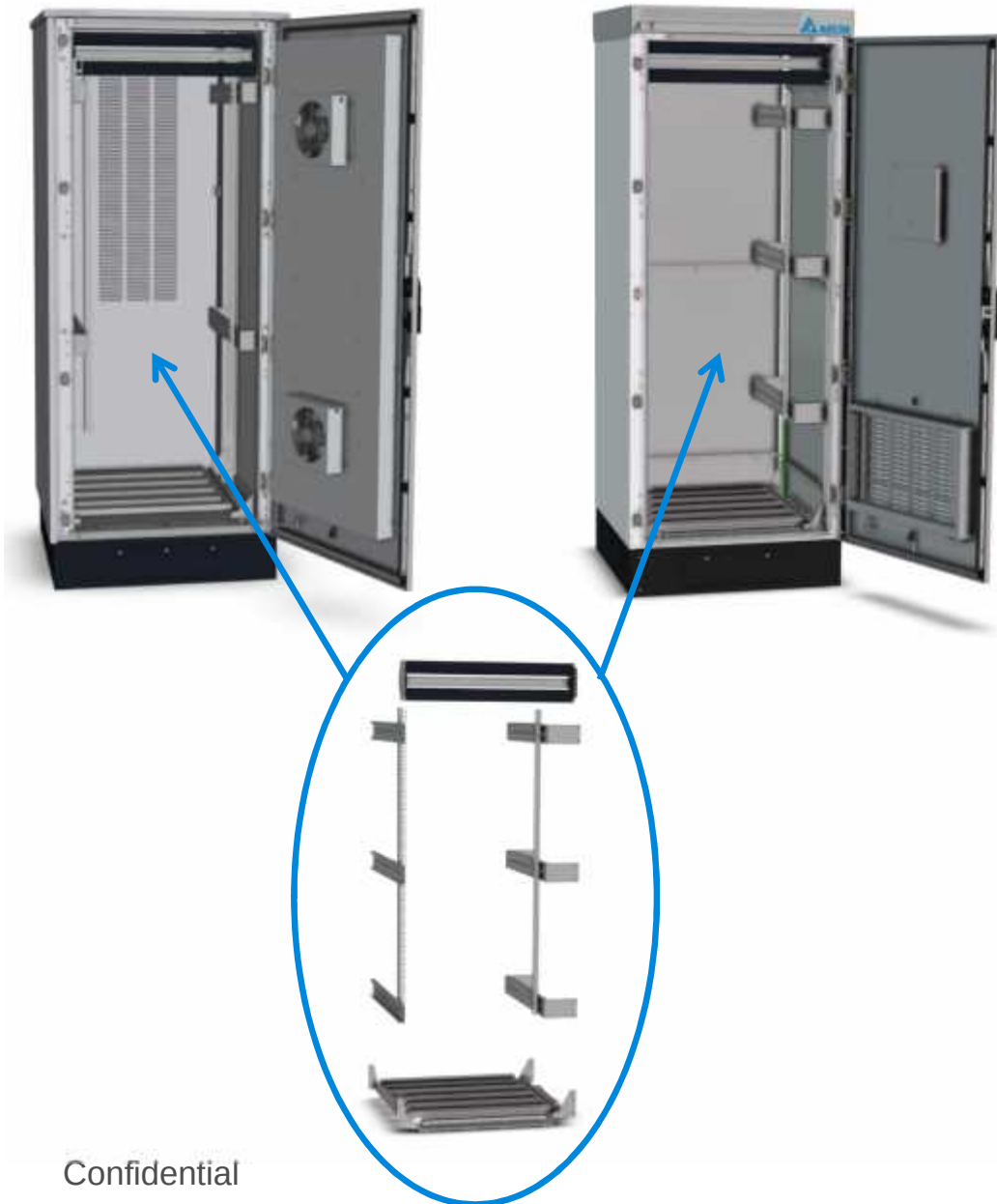
OutD2.0V VAC
Stulz (Vac)



OutD2.0V VAC
Delta (Vdc)

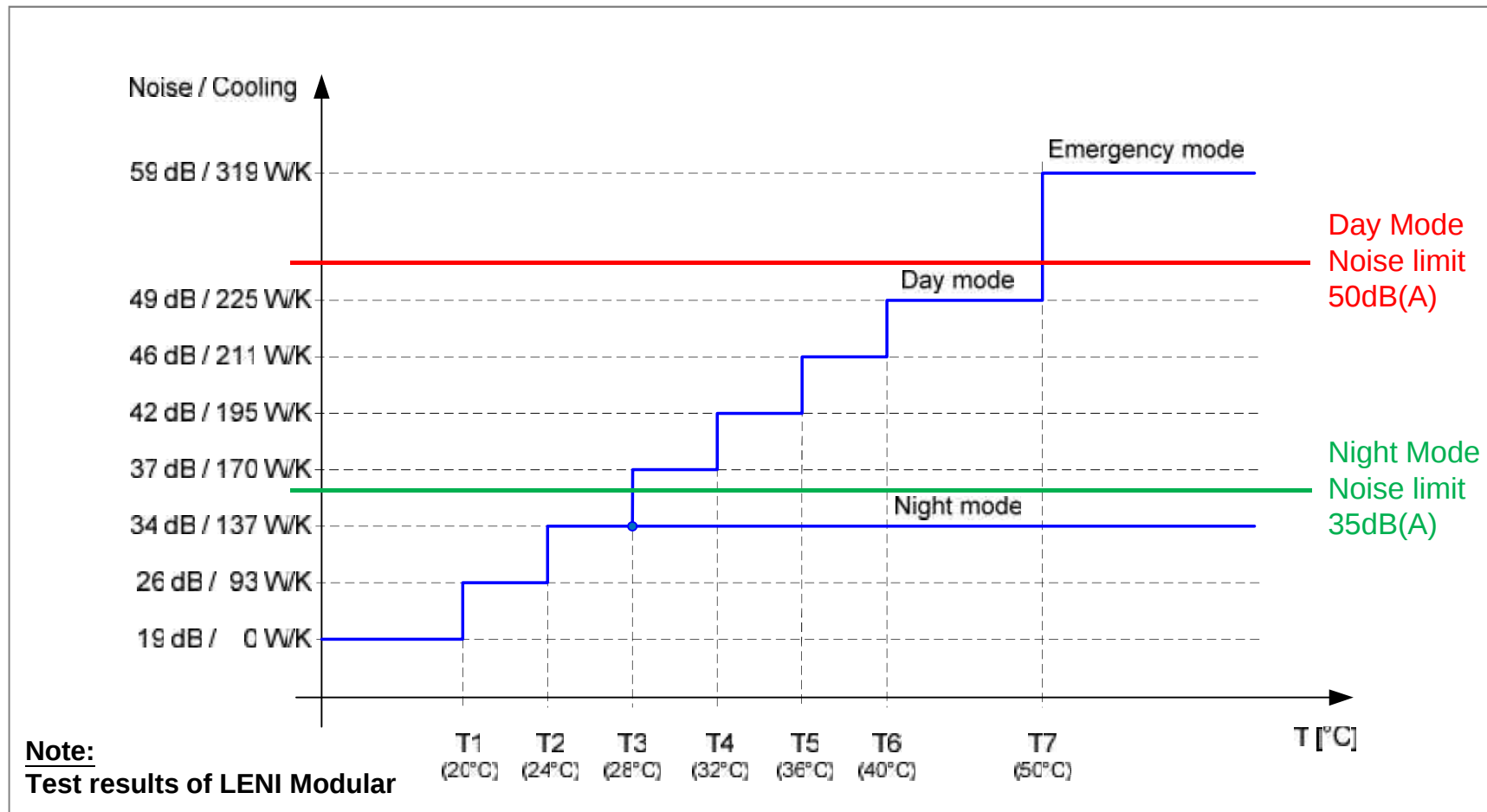


OutD „V” Evo ↔ OutD „M”



- LENI Modular (based on OutD „M” series) success story in Vodafone Germany
- Common internal parts gives next step of standardization
- Same components like: Heater, smoke, breakers, terminals as on previous OutD families.
- Low noise cooling concept can be used in OuD „V” Evo (new PWM-CTRL-8S control card released)

New PWM-CTRL-8 steps fan control



- Day mode noise limit - 50dB(A)@1m
- Night mode (20:00-8:00) noise limit - 35dB(A)@1m
- Emergency mode available during day time (8:00-20:00) only (extremely hot weather)
- Emergency mode will never run during night mode

General outlook - Air Ventilated type



OutD „S”



OutD „V”



OutD „V” Evo

Differences:

1. Modified roof
2. Door external skin
3. Higher plinth
(→ 50mm higher)



General outlook (Hybrid cooling Vac) example: Orange Romania



Current solution
(OutD V)



Solution based on
OutD V Evo





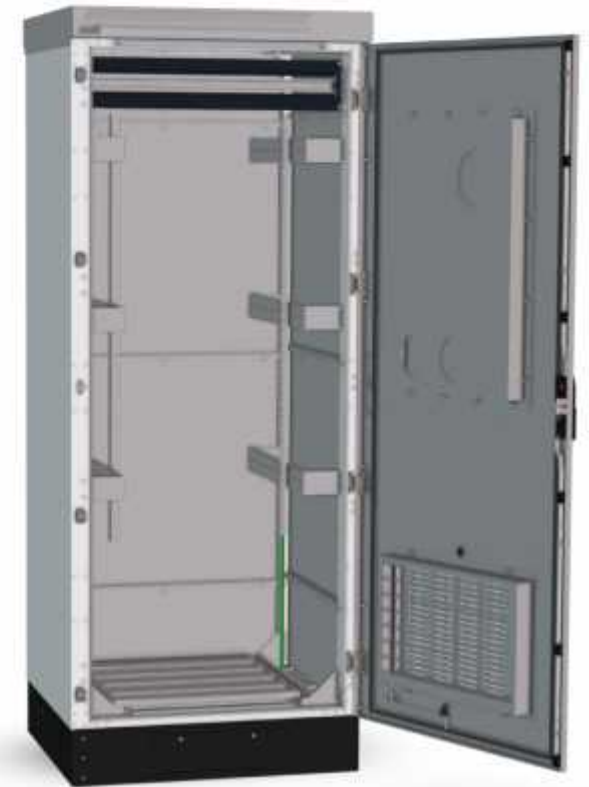
General outlook (Hybrid cooling Vdc) example: Ooredoo



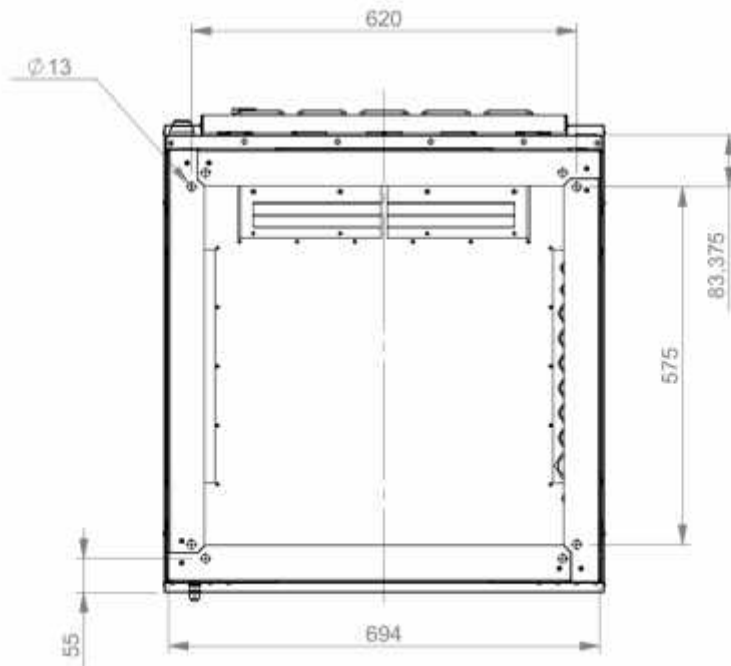
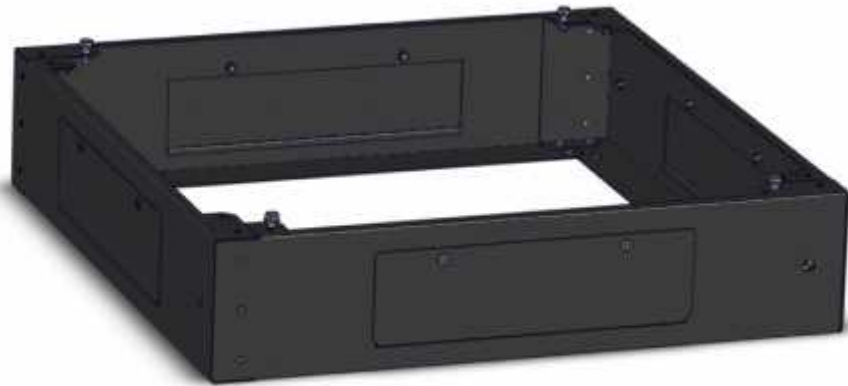
Current solution
(OutD V)



Solution based on
OutD V Evo

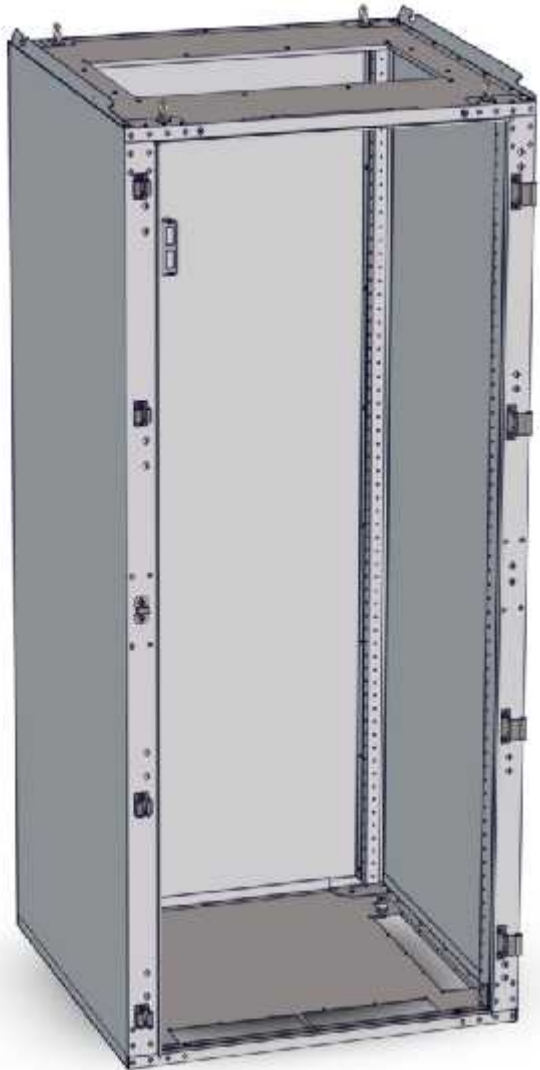


Design details - Plinth



- Much more stiff design assures enough stability for sites with narrow installation base frame
- Mounting holes - Nokia standard (W620 x D575)
- 150mm height – more space for cable routing and bending
- 4 sides access windows
- Earthing screw can be mounted on each side
- Top access to screws for installations with front access only (in between 2 other cabinets close to the wall)

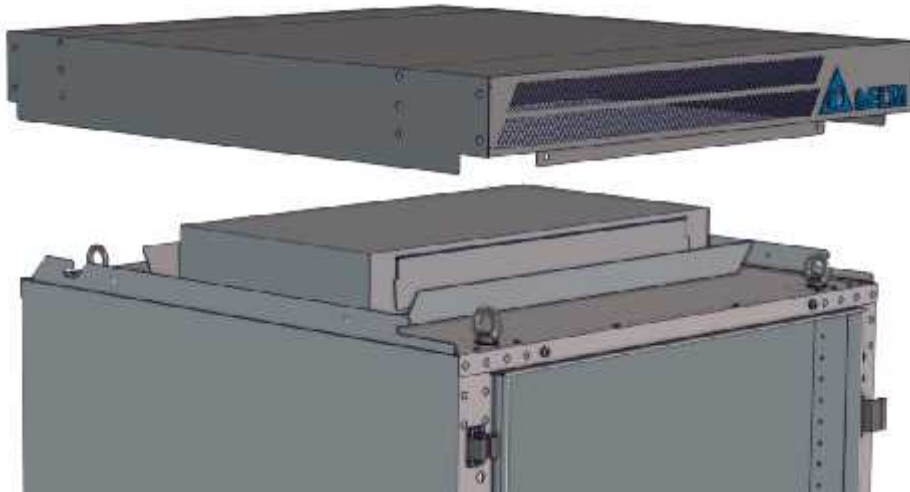
Design details - Enclosure



- Better stiffness / Repeatability in manufacturing (squareness)
- Stiffer main pillars (heavy battery) with more mounting positions
- Simpler thermal isolation
- Easier assembly of internal wall layer
- Better access for plinth mounting screws
- Same cable gland panels as in the past for OutD S / V / M series
- Locking guide
- Pressure sensor ready
- Separate earthing cable gland
- Bigger air outlet for future development of cooling system based on bigger fans or roof mounted heat exchanger/active cooling



New Cabinet Roof



Closed – fans OFF



Open – fans ON

- Light weight (7kg)
- Moveable louvers open able by air flow
- Reduction of chimney effect when fans OFF
- Improved dust protection IP5x
- Improved water protection IPx5+
- In build insect protection
- Protection against wind driven rain, sand and snow storms



Design details - Door



- Unified design between Ventilated and Hybrid cooled version gives more space (depth) for batteries
- Simplified design - 3 sheetmetal parts only
- Improved water and dust protection (Form In Place gaskets)
- Full double layer - better thermal insulation and improved vandal resistance
- Optional strengthened locking system based on stainless steel components
- Hinges with fixed position for better gasket alignment (specially designed for Delta)

Other modifications

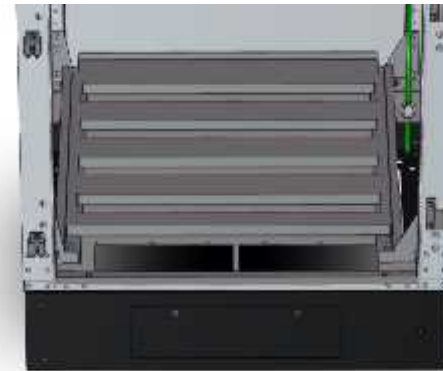
- Unified screws sockets to Torx
- Robust open door position lock (wind resistant)
- New „one piece” shelf for battery up to 190Ah
- Reinforced 19” rack rail side supporters without sharp edges
- AC distribution with recessed breakers position to prevent accidental switch-off.
- Stable door switch holder
- Cable routes with tie bridge hooks preventing usage of self adhesive cable tie holder

Comming development:

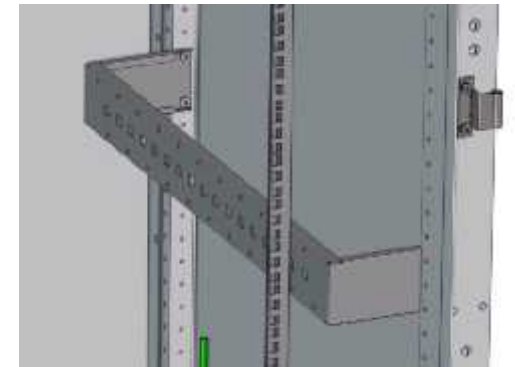
- 19” rack rails: Reinforced shape for equipment slides / Threaded mounting holes vs 9.5mm square perforation



AC distribution panel



Battery shelf



19” rails side supporter



Door switch holder

Cable Glands (Sides)

*Cable glands combined as a panels are located on the bottom part of the cabinet (cabinet floor).
Cable glands panels are located on the left and right side as well on front part of the cabinet floor*

Front cable glands panels:

1xPG29, 6xPG21, 2xPG16



Left and Right cable glands panels:

2 x Multigate 25



Universal



Thank you !

To learn more about Delta,
please visit www.deltaww.com

