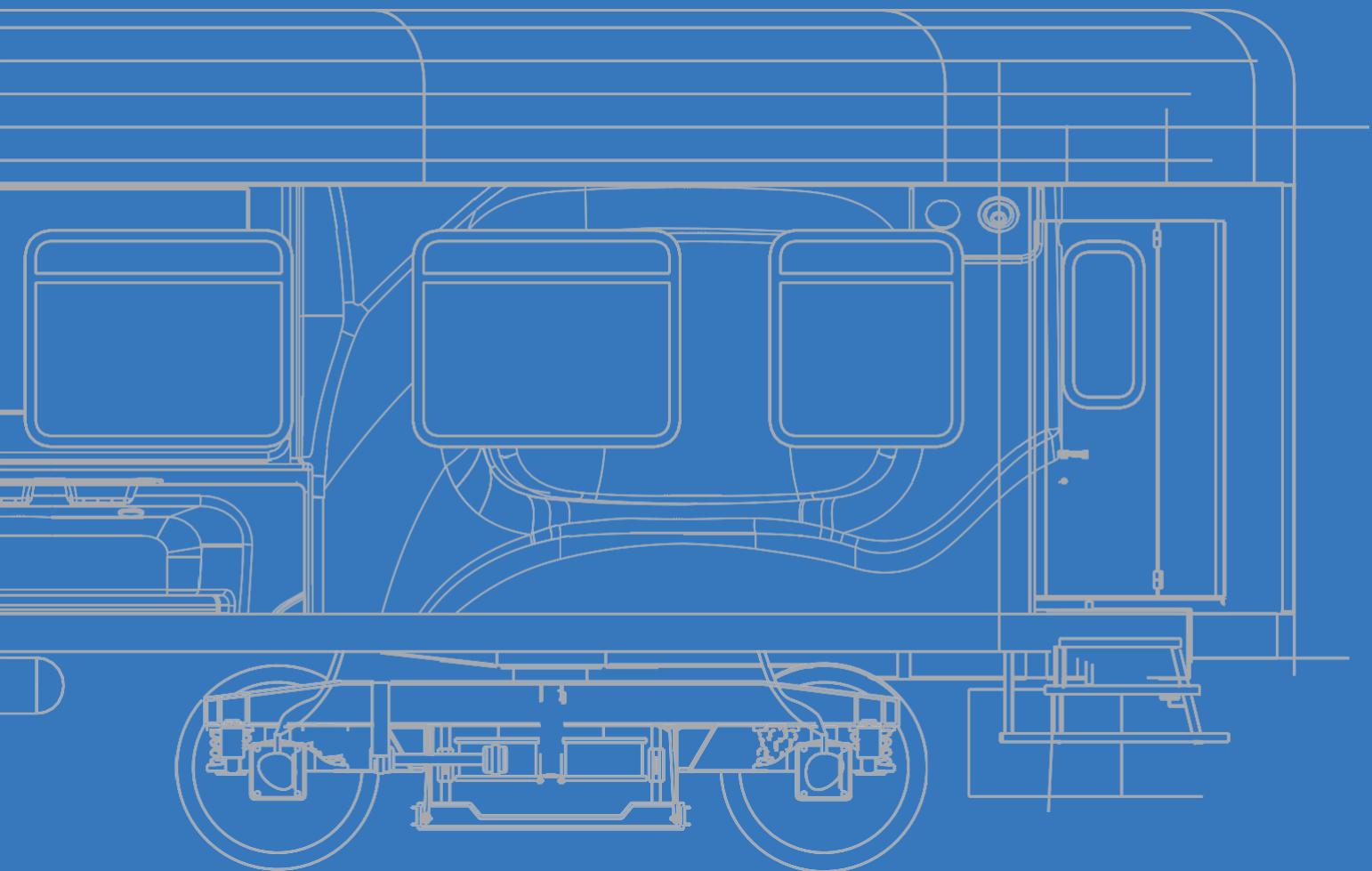


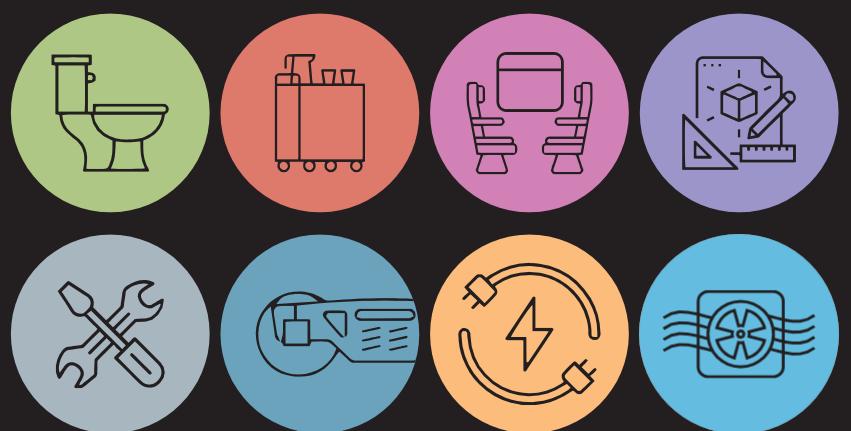
North Shore Rolling Stock Inc.



P A S S E N G E R
R A I L C A R P A R T S
D E S I G N & P R O D U C T I O N

NSRS.CA

**WE PERFORM ALL RAIL FLEET SERVICES FOR
PASSENGER COACHES, METRO & FREIGHT WAGONS.
BEING WELL ACQUAINTED WITH ROLLING STOCK, YOU CAN
HAVE YOUR STOCK WELL DESIGNED IN ACCORDANCE TO
YOUR REQUIREMENTS AND HAVE YOUR NEEDS SATISFIED.**



North Shore Rolling Stock Inc. as a Technical Engineering lever of North Shore Rolling Stock group has been performing all commercial, renovation & maintenance services for the group & also other clients(as a verified contractor) in Canada. North Shore Rolling Stock has more than 500 employees, Our engineering specialists support all criteria's of rolling stock engineering like electrical, mechanical, instrumental, interior decorations, HVAC, etc. Our company services include Engineering, procurement & construction activities (as EPC project), renovation and maintenance in rolling stock industry in order to enhance values, serving the shareholders and strategic partner's right and all other beneficiaries with technological and scientific promotion of rail fleet industry. We rely on our innovation and management capabilities & human resources and also emphasize our social responsibilities.

A Pioneering Brand in Railway Industry

North Shore Rolling Stock is a knowledge-based company which cooperates with young devoted, reliable staff offering the best and highest technical quality services to its customers. All affairs are well programed based on regularity, cooperation and planning. These affairs are all concerned with the latest technical and engineering accomplishments in the current technology. Some inseparable strategies and macro goals of the organization are process oriented and requires systematic thinking and meritocracy through a respectful close working relation.

North Shore Rolling Stock group believes in targeting for completing the strategic Shareholders' satisfaction enhancement and creating profitable aims while considering the beneficiaries. Employees are charged to be engaged with organization values and have promised their hard work on organizational goals. In the North Shore Rolling Stock company our mission is to fulfill current & future expectations of domestic & foreign owners of rolling stock through engineering services, modernization, maintenance and manufacturing rolling stock with the best quality and for maximum customer satisfaction.

Managing Director (CEO)



WE WORK HARD WITH BIG DREAMS



NORTH SHORE ROLLING STOCK SYSTEM

is an experienced passenger rail equipment provider with more than 20 years of knowledge in designing and building rail car vehicles for public transportation authorities. The corporation's path to success comprises commitment to Transparency, Innovation and Quality. We are one of the leading Canadian companies comprehensively focusing on design, manufacture and distribution of equipment in passenger railway industry.

How We Make a Difference

FLEXIBILITY

At NSRS ,there is no such thing as "NOW WE CAN'T DO IT". Our engineers and designers listen to our customers' needs, demands and make the impossible possible.

PARTNERSHIP

From our first interaction to delivery and beyond, we support our customers as a powerful partner.

INNOVATION

Remaining ahead of the technology curve.

RESPONSIBILITY

We are constantly striving to anchor sustainability into our company and to structure our daily activities accordingly.

PAGES 14-20

Passenger Railcar Interior & Industrial Design

Design, Prototype and Mockup



PAGES 14-20

Passenger Railcar Decoration Parts

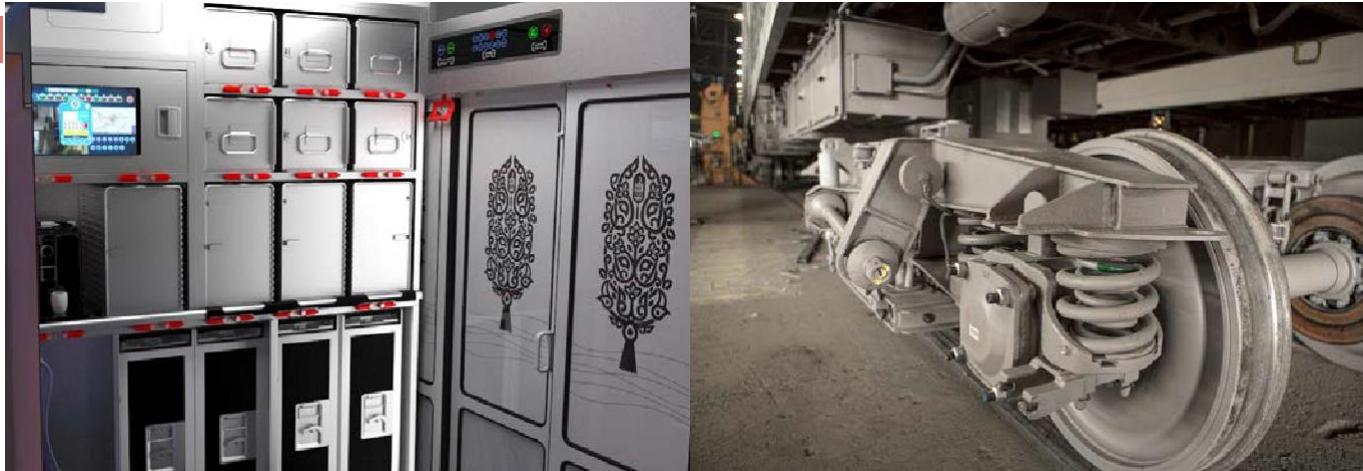
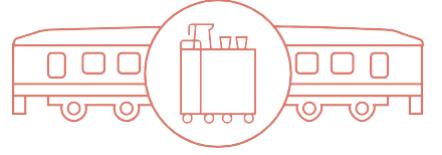
Body, Compartment, Corridor & Vestibule



PAGES 14-20

Passenger Railcar Galley Compartment

Kitchen, Storage and attendant rest seat



PAGES 14-20

Passenger Railcar Toilet System

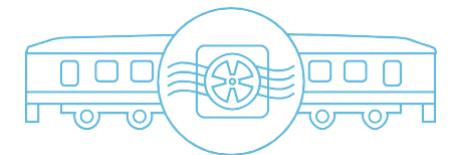
Vacuum toilet system, Washbasin & Facilities



PAGES 14-20

Passenger Railcar Air Conditioning System

Compressor, Condenser, Air Channel & Exchanger



PAGES 14-20

Passenger Railcar Electrical System

Power Transmission, Human Machine Interfaces



PAGES 14-20

Passenger Railcar Rolling Stock

Bogies, Suspension, Wheels and Axles

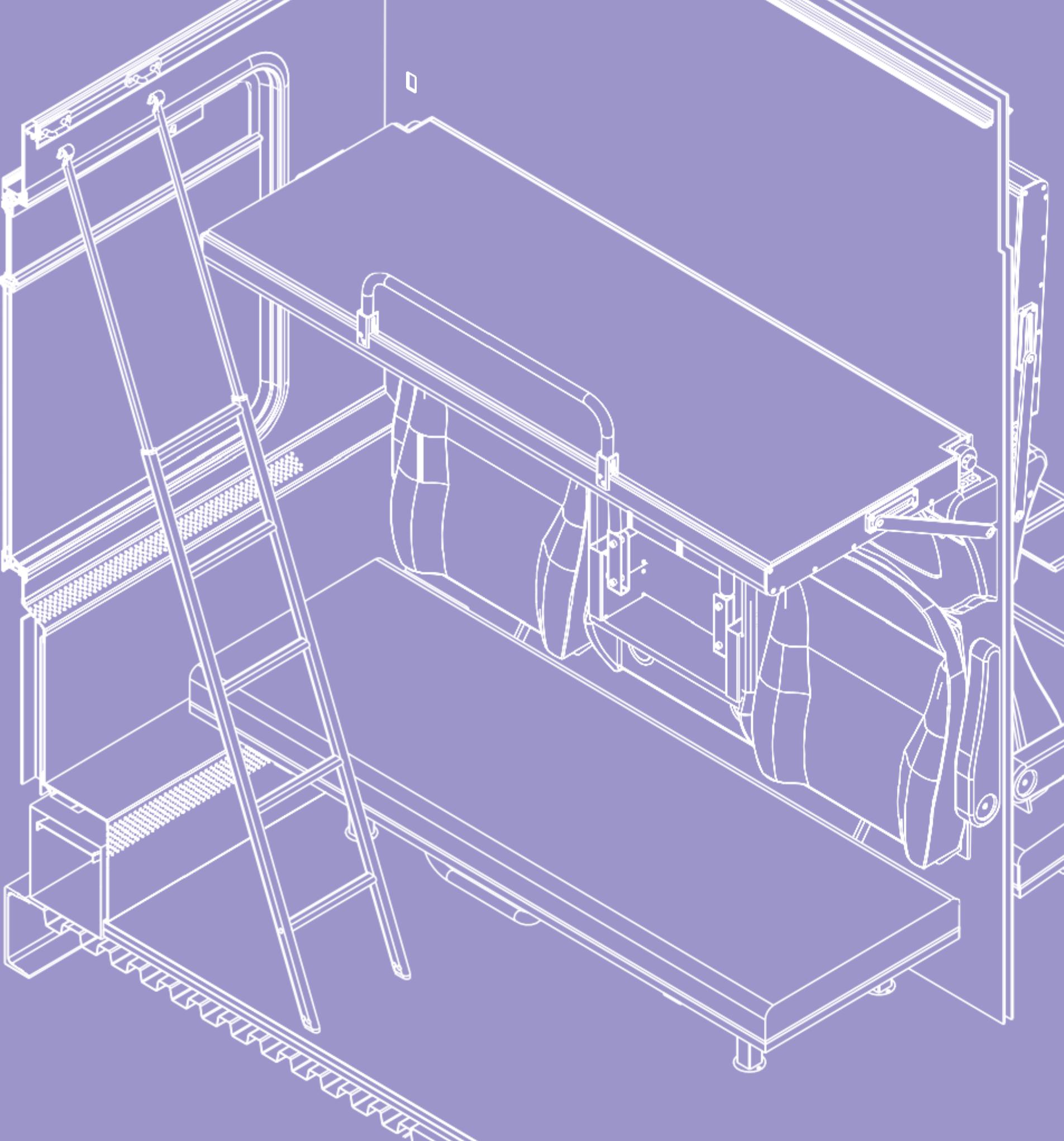


PAGES 14-20

Passenger Railcar Service & Maintenance

Compressor, Condenser, Air Channel & Exchanger





Passenger Railcar Interior & Industrial Design

Design, Prototype and Mockup

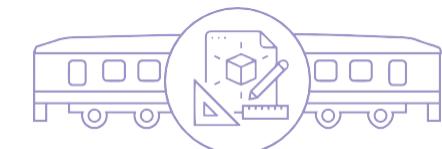
NSRS works with rail operators and manufacturers and delivers new design solutions that have improved rail journeys for millions of passengers every year. We work on every single element of rail design, from industrial design to train interiors and prototyping.



Passenger Railcar Interior & Industrial Design

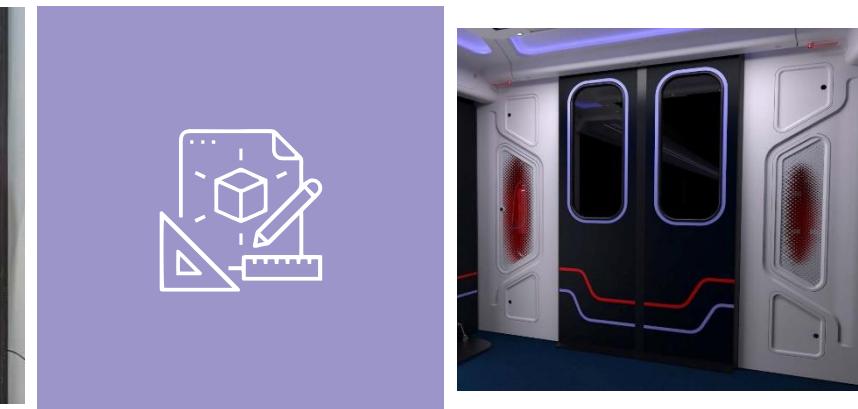
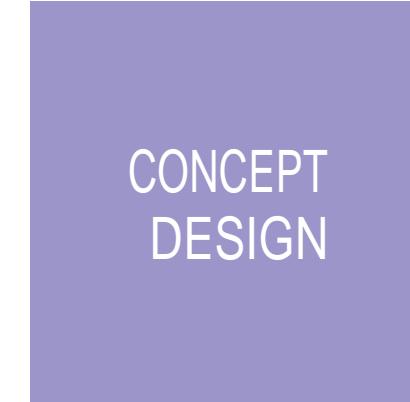
Concept, Design, Prototype and Mockup

NSRS works with rail operators and manufacturers and delivers new design solutions that have improved rail journeys for millions of passengers every year. We work on every single element of rail design, from industrial design to train interiors and prototyping. NSRS has vast experience designing transport interiors both across new trainsets and refurbishment projects. We know how to design interiors that make the best use of space, create an inviting, comfortable and flexible passenger environment for all customers, whilst considering maintenance and in-service use.



Passenger coaches are one of the most important mass transportation vehicles. The proper interior design of the passenger coaches affect both passenger satisfaction and service quality. Defining user expectation and meeting them is vital to solve this problem.

Designing railway interiors is all about creating an efficient and joined-up experience for passengers.



SERVICE
DESIGN



Since we cooperate with a Passenger Railcar company in North Shore Rolling Stock, we can continuously study the traveling passengers satisfaction.

The study aims to maximize the total passenger number with providing higher user satisfaction by designing interior area of passenger coaches. User expectations are gathered and studied by a survey and new designs are defined with respect to anthropometric measures of human body.



Railcar Body Design & Finishing



Trains and rail cars are exposed to harsh environments which affect the paint and finish over time. They require durable and long-lasting paint jobs that can withstand these elements.





MODERN DESIGN TRENDS & LOCAL VISUAL CULTURE

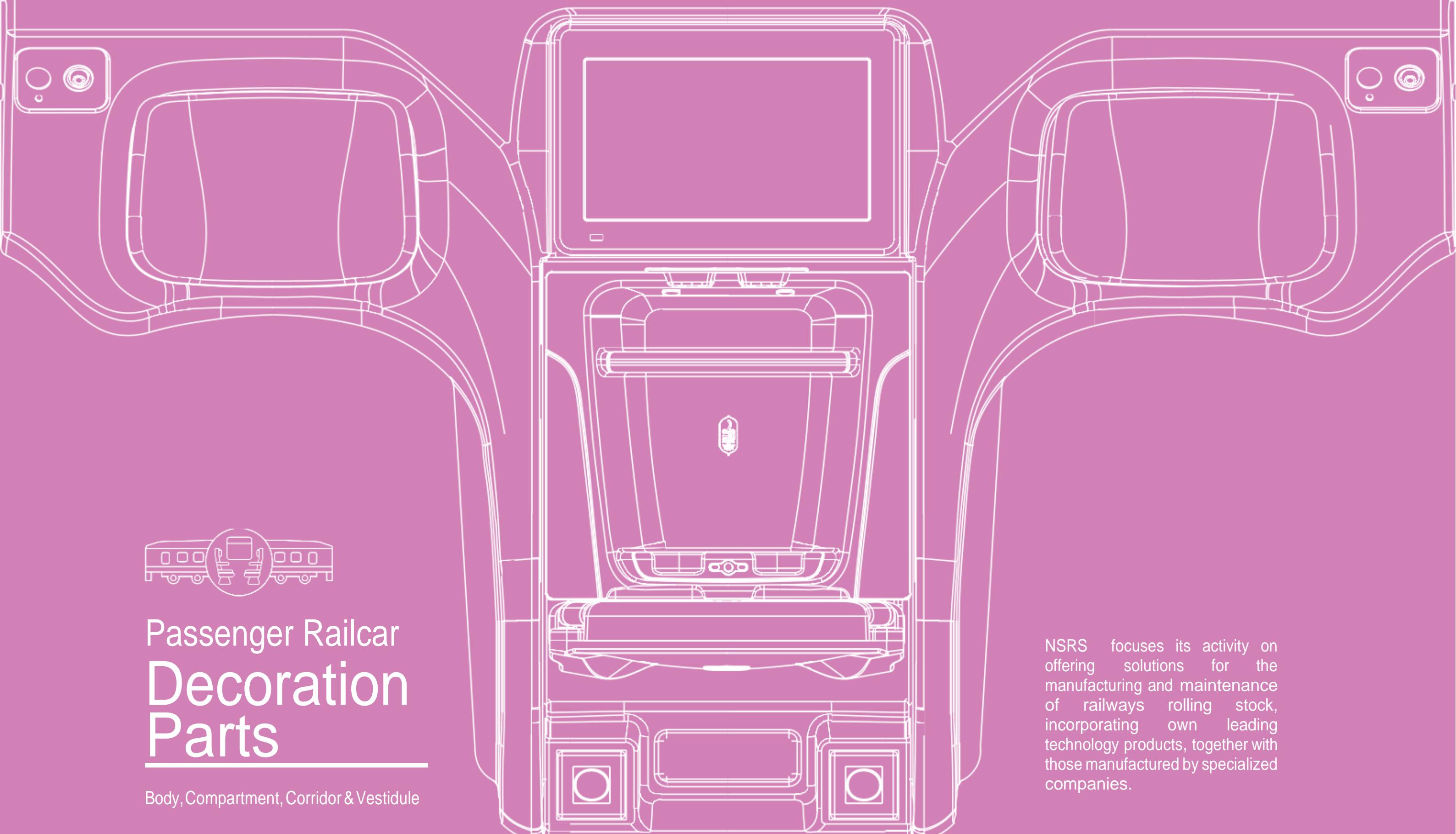
Our train interior designs are aligned with cultural connotation which presents a more artistic touch and is more appealing. The design blends national characteristics and local culture. We improve design concepts and manufacture parts for the interior and exterior surfaces of trains. It is of high importance for us that the execution of our projects resembles our design principles so we pay the most attention to details.





Passenger Railcar Decoration Parts

Body, Compartment, Corridor & Vestidule



NSRS focuses its activity on offering solutions for the manufacturing and maintenance of railways rolling stock, incorporating own leading technology products, together with those manufactured by specialized companies.



CONSOLE HQ01

Panel for Headrest, IPTV & Teatable

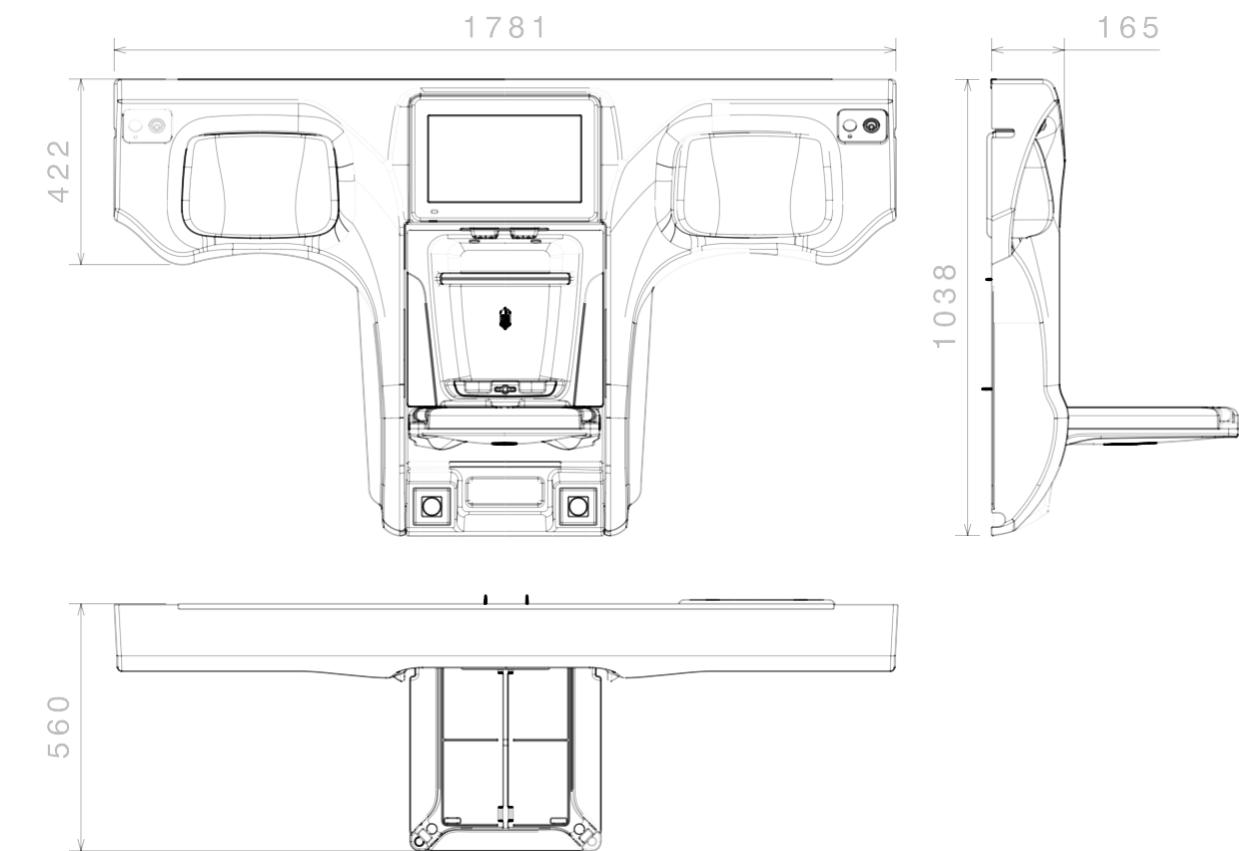


DECORATION
PARTS



Specification

Part No.	DASH-HQ01
Material (Body)	(GRP)Glass-Reinforced Plastic
Dimension (1)	1781 x 422 x 165 mm
Dimension (2)	1781 x 422 x 560 mm
Weight ~	7.896 Kg
Standards	UIC
Assets	Headrest, IPTV, Plugs, Shelf & Teatable
Customization	by the order





CONSOLE HQ01

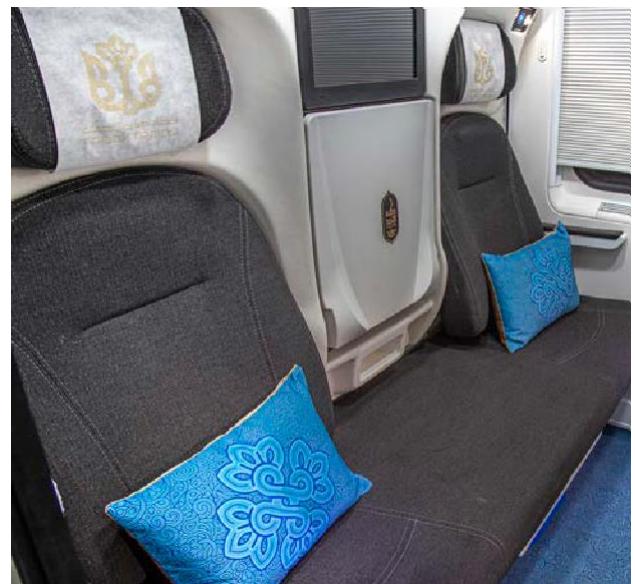
Panel for Headrest, IPTV & Tea table



DECORATION
PARTS



Compartment console is a union surface between upper bed and seats, headrest, monitor, Plugs, reading lamp, headset socket, shelf & tray table. We have designed its form with fluid lines to instill a sense of peace & tranquility in passengers.



SEAT & BED KIT

Suitable for Dashboard HQ01

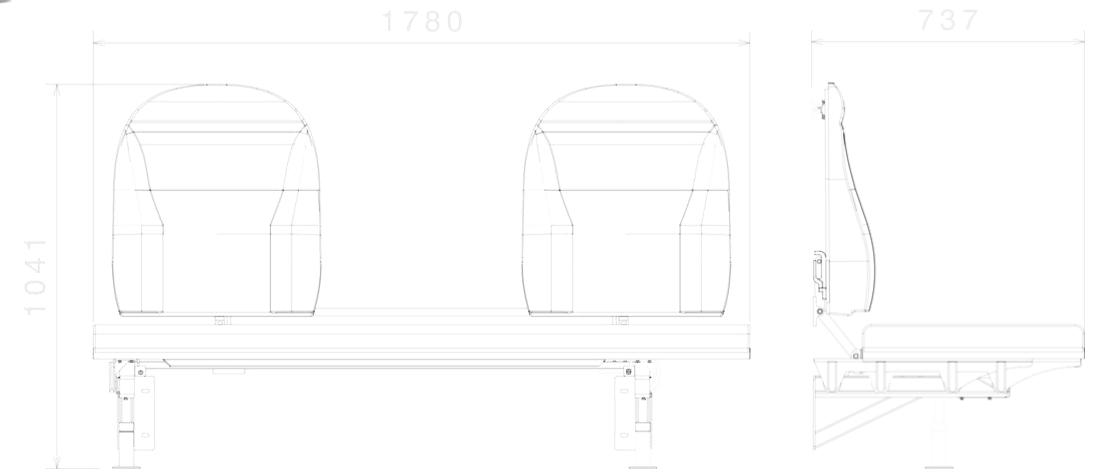


Double Function
This chair can be turned into a bed with a sliding mechanism.



Specification

Part No.	SBK-01
Material (Body)	Steel ST37
Material (Mattress)	Polyurethane Foam
Dimension	1780x1041x737 mm
Weight ~	50 Kg
Weight Limit ~	150 kg
Standards	UIC
Assets	Headrest, Backseat, Underseat, Handle
Customization	by the order





CONSOLE HQ02

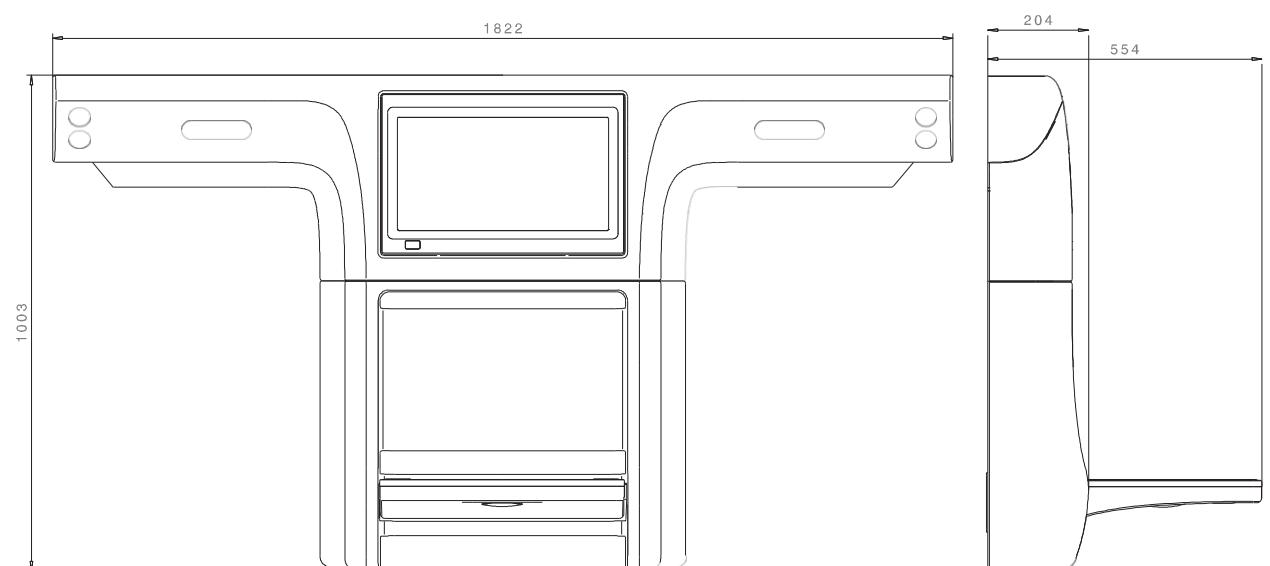
Panel for Headrest, IPTV & Tea table



Specification

Part No.	DASH-HQ02
Material (Body)	(GRP)Glass-Reinforced Plastic
Dimension	1822 x 1003 x 204 mm
Weight ~ ≈	**** gr
Standards	UIC
Assets	Headrest, IPTV, Plugs, Shelf & Tea table
Customization	by the order

Lightweight glass-reinforced Plastic composite construction improves speed, acceleration, braking and allows the interior to be utilized more efficiently.



SEAT & BED KIT

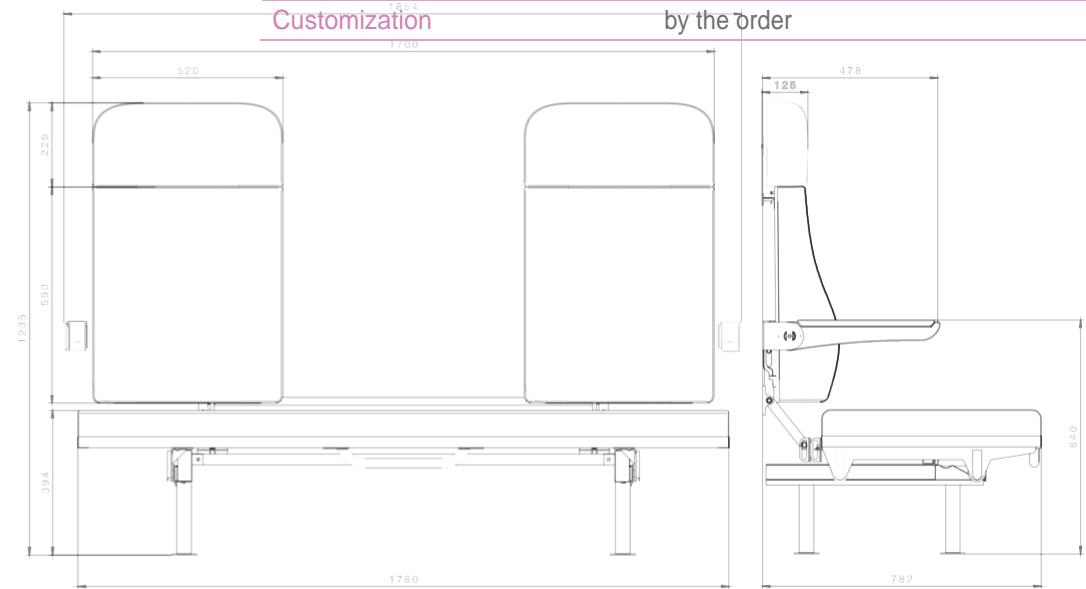
Suitable for Dashboard HQ02

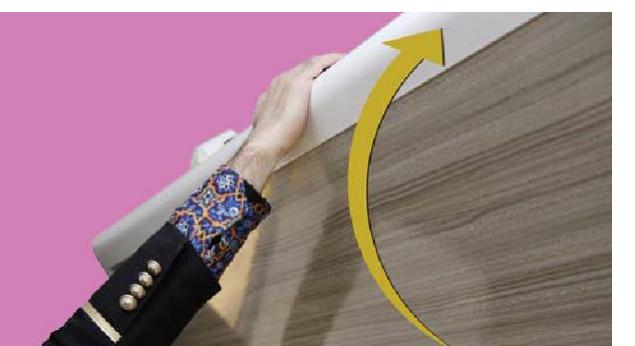
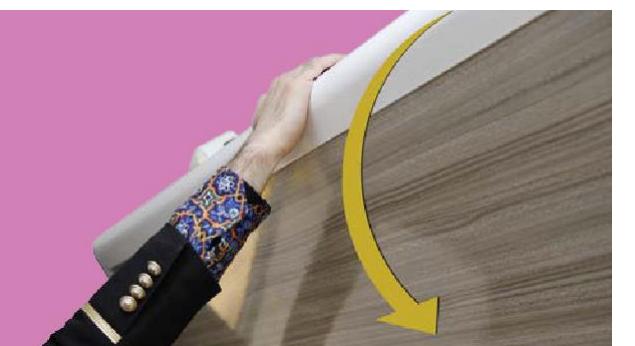
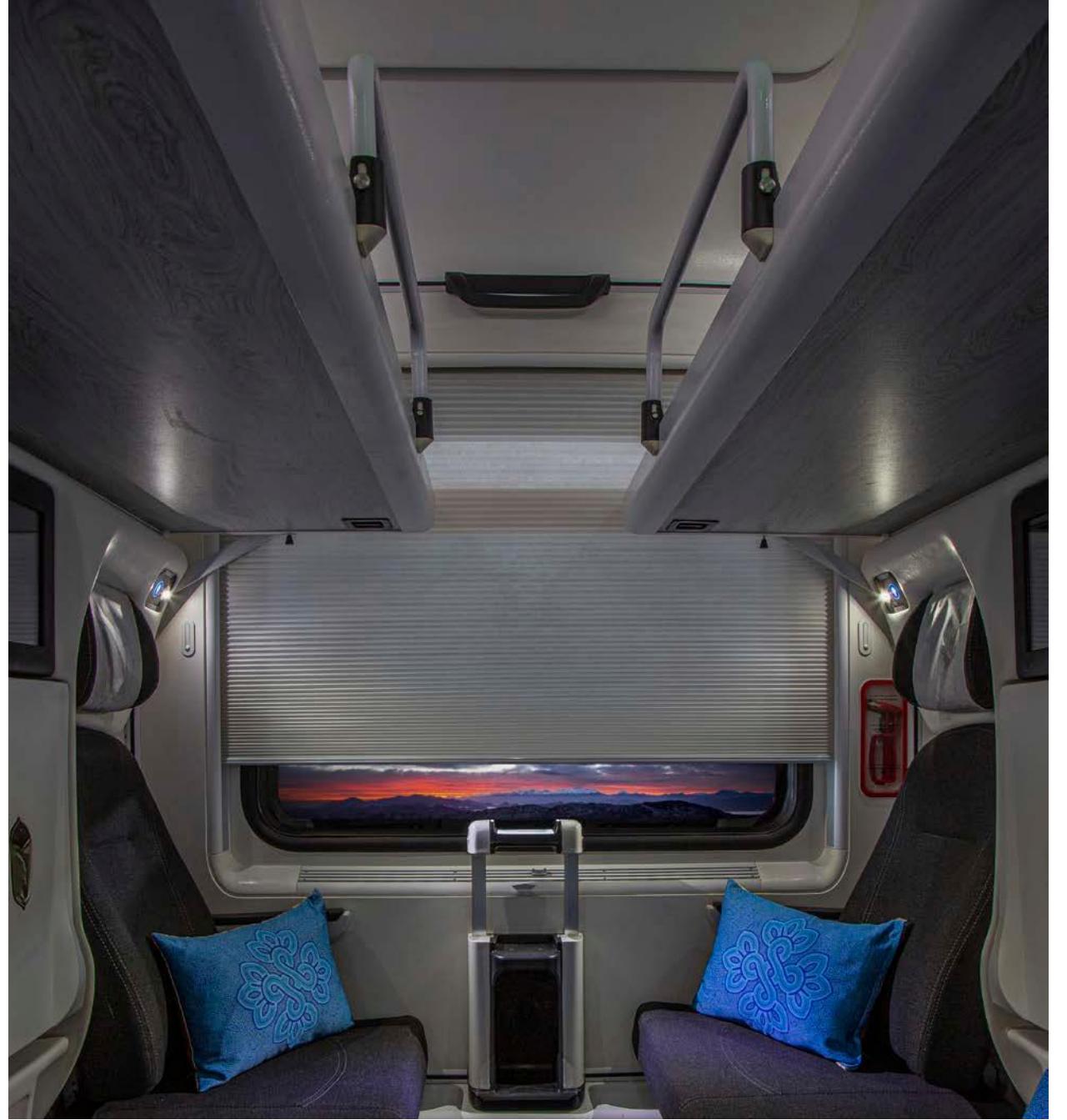


Double Function
This chair can be turned
into a bed with a sliding
mechanism.

Specification

Part No.	SBK-01
Material (Body)	Steel ST37
Material (Mattress)	Polyurethane Foam
Material (Cover)	Fabric or Leather
Dimension	1780 x 1235 x 762 mm
Weight ~	49 Kg
Weight Limit ~	150 kg
Standards	UIC
Assets	Headrest, Backseat, Under seat, Handle
Customization	by the order





UPPER BED KIT

Suitable for Dashboard HQ01



DECORATION
PARTS



Specification

Part No.	SBK-01
Material (Body)	Steel ST37 & 6061 Aluminum
Material (Mattress)	Polyurethane Foam
Material (Cover)	Fabric or Leather
Dimension	1794 x 592 x 696 mm
Weight ~	38.3 Kg
Weight Limit ~	150 kg
Standards	UIC
Assets	Safety Guard Handle
Customization	by the order

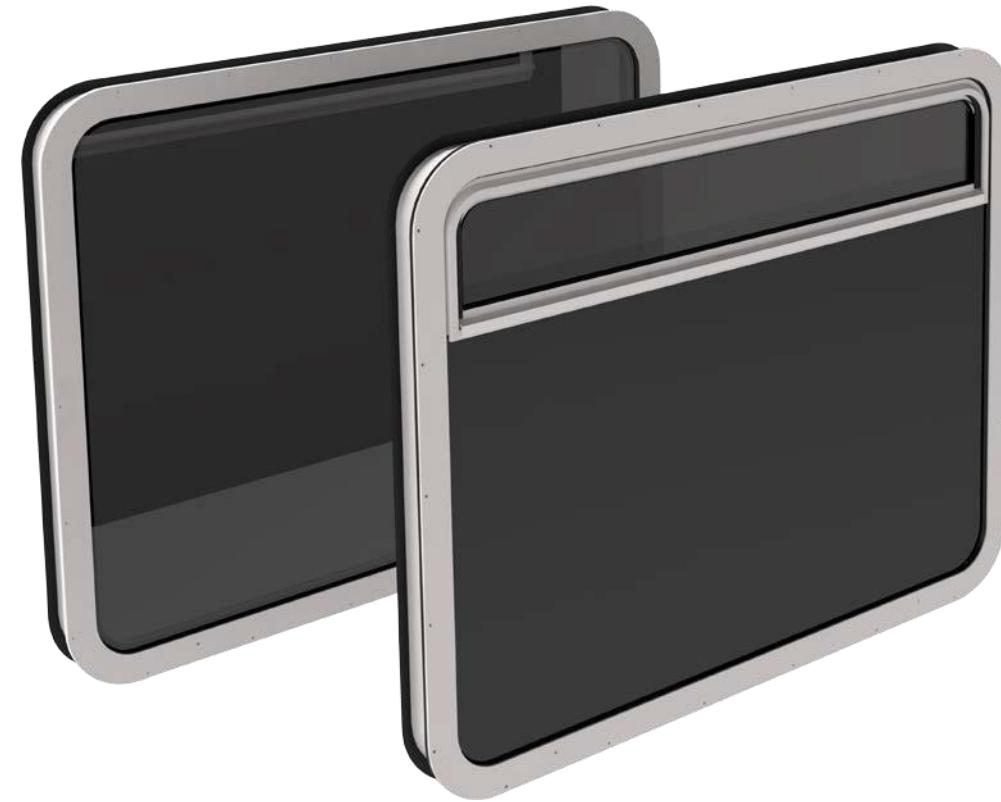


WINDOW

Corridor & Compartment



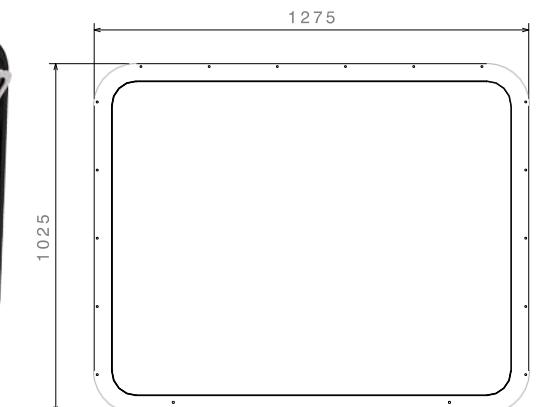
DECORATION
PARTS



Specification

Part No.	WIN6061
Material (Body)	6061 Aluminum
Dimension	1275 x 1025 mm
Compartment Weight ~	44.24 Kg
Corridor Weight ~	39.713 Kg
Glass	High Strength & Double Glazed
*Safe Glass Two sheets of glass with a plastic laminated	
Types	Fixed & Openable window
Standards	UIC
Customization	by the order

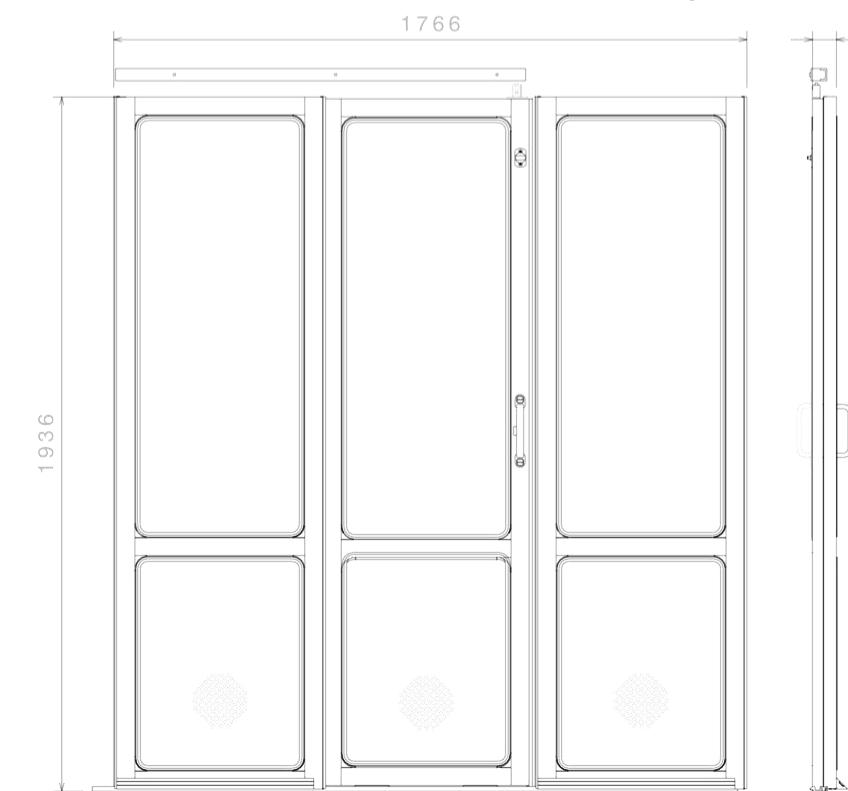
6061 Aluminum is a precipitation-hardened aluminum alloy, containing magnesium and silicon as its major alloying elements. It has good mechanical properties, exhibits good weldability, and is very commonly extruded. It is one of the most common alloys of aluminum for general-purpose use.





Sliding Doors Compartment

DEcoration
PARTS



Specification

Part No.	D01
Material (Body)	6061 Aluminum
*High Strength Profile Frame	
Dimension	1936 x 1766 x 67 mm
Weight ~	84 Kg
Glass	High Strength
*Safe Glass	Two sheets of glass with a plastic laminated
Assets	Door Lock, Stopper
Standards	UIC
Customization	by the order

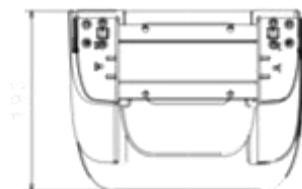
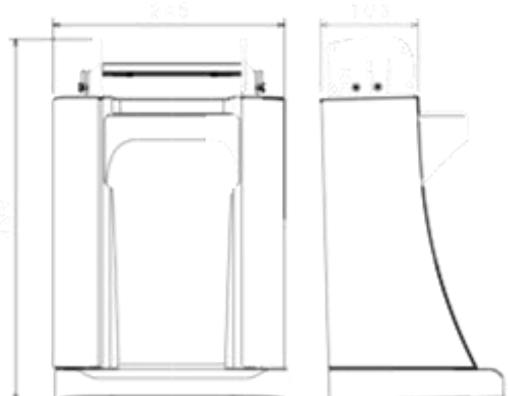
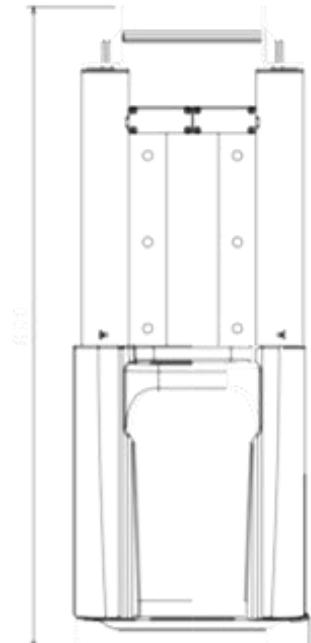
Telescoping Ladder for Upper Bed

Specification

Part No.	****
Material (Body)	Steel ST37
Dimension	1443x308x40 mm
Weight ~	9 Kg
Weight ~ Limit	150 Kg
Assets	Extendable, Hook Kit
Standards	UIC
Customization	by the order



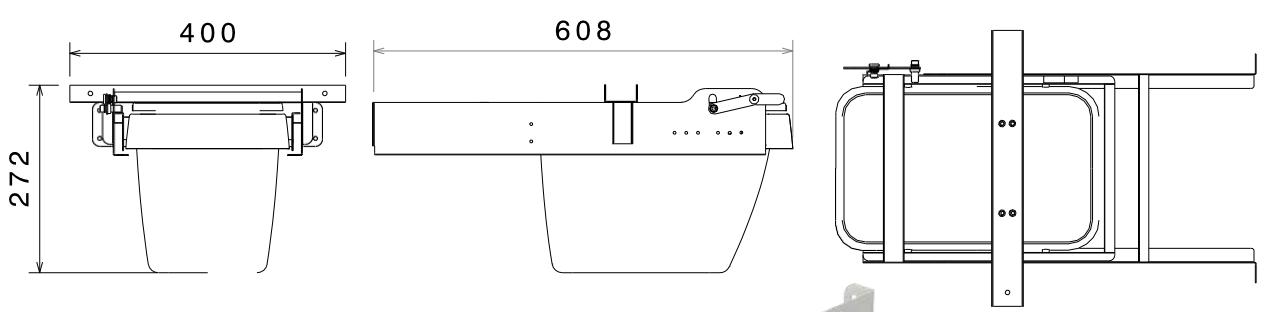
Telescoping Ladder for Upper Bed



Specification

Part No.	****
Material (Body)	Steel ST37 & 6061 Aluminum
Material (Cover)	Acrylonitrile Butadiene Styrene(ABS)
Dimension (1)	245 x 390 x 193 mm
Dimension (1)	245 x 690 x 193 mm
Weight ~	14.043 Kg
Weight ~ Limit	150 Kg
Assets	Toggle handle, Wall hang installation
Standards	UIC
Customization	by the order

We have installed a toggle handle on this ladder to create higher safety.



Hidden Trash for Compartment



DECORATION
PARTS



We have designed the sliding hidden trash to keep the compartment beautiful and clean. The blue detachable frame on the trash you can change the trash bag easily.

Specification

Part No.	****
Material (Body)	Acrylonitrile Butadiene Styrene (ABS)
Material (Frame)	Steel ST37
Dimension	400 x 608 x 272 mm
Weight ~	9.1 Kg
Assets	Slow Down Sliding Rail Holder Frame for Garbage Bag
Standards	UIC
Customization	by the order

Folding Tray Table for Compartment



DECORATION
PARTS

One of the most important compartment equipment is a comfortable and sturdy tray table.



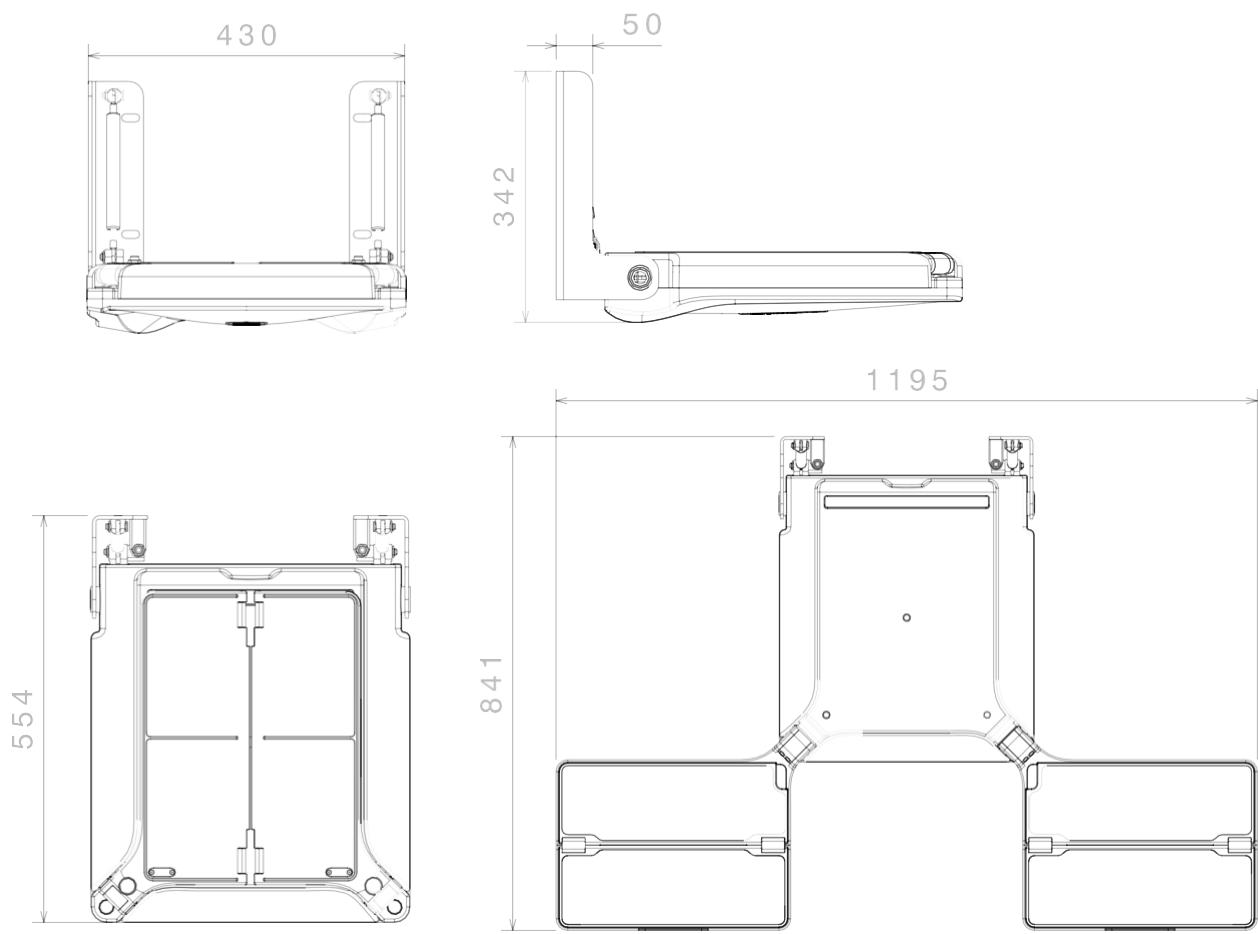
Specification

Part No.	****
Material (Body)	Steel ST37
Material (Cover)	Acrylonitrile Butadiene Styrene (ABS)
Material (Tray)	6061 Aluminum & HPL
Dimension (1)	430 x 554 x 50 mm
Dimension (2)	1195 x 841 x 50 mm
Weight ~	12.8 Kg
Weight ~ Limit	100 Kg for Structure
Weight ~ Limit	15 Kg for Tray
Hinge	Slow Down Drop with Gas Spring
Standards	UIC
Customization	by the order

Folding Tray Table for Compartment



DECORATION
PARTS



Tray tables offers:

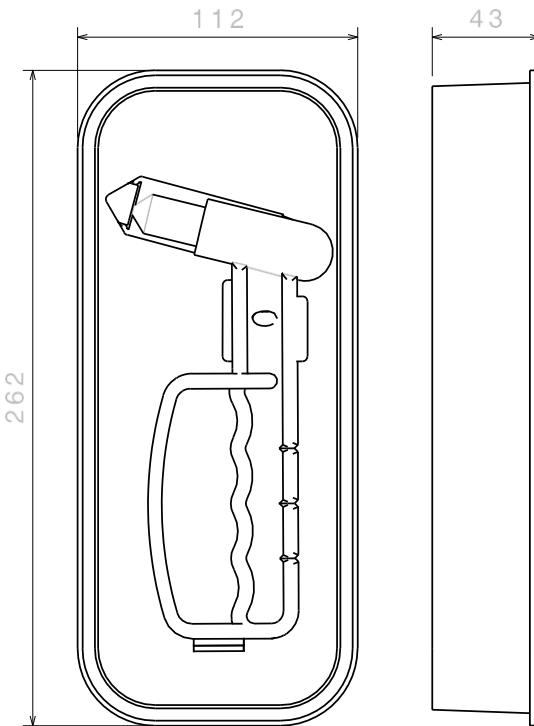
- Superior ergonomics
- Interior management
- Improved comfort
- Convenient location
- Safe and Sturdy
- Slow Down Drop with Gas Spring



Specification

Part No.	***
Material (Body)	Acrylonitrile Butadiene Styrene(ABS)
Material (Bolt)	Steel
Material (Cover)	Plexiglass
Dimension	262 x 112 x 43 mm
Weight ~	1.003 Kg
Function	Smashing of Glass
Standards	UIC
Customization	by the order

We all know the importance of being prepared in case of emergency. Glass breaker is a hand tool designed to break through a window glass in an emergency.



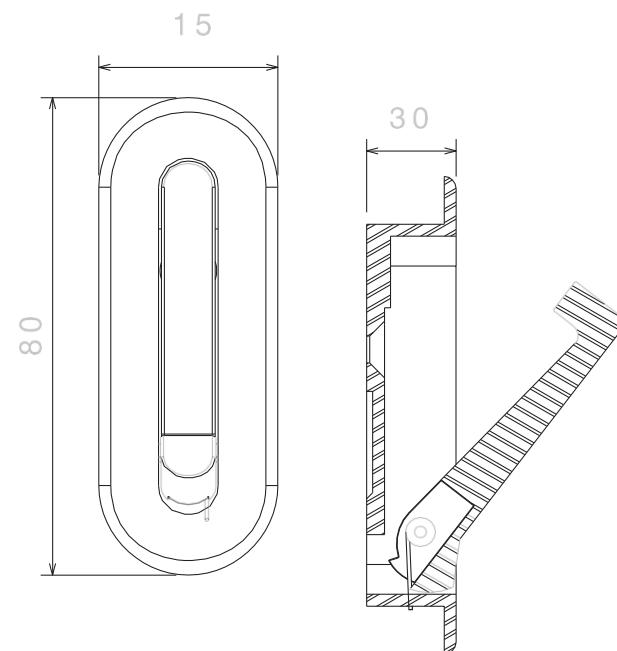
Foldable Wall Hooks for compartment & toilet



- Convenient
- Space-Saving
- Retractable
- Covering sharp edge
- More Safety

Specification

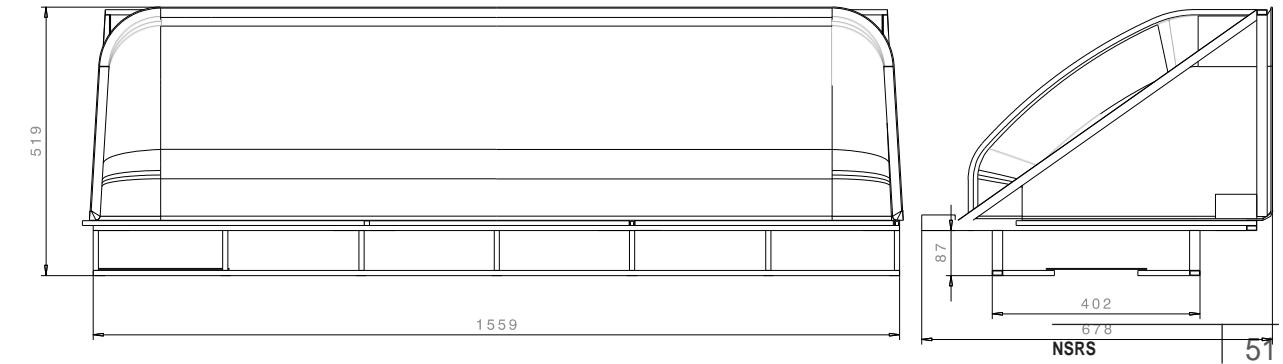
Part No.	****
Material (Body)	6061 Aluminum
Dimension	30 x 80 x 15 mm
Weight ~	0.03 Kg
Function	Retractable, Wall mounted, Build-in
Standards	UIC
Customization	by the order



- Convenient
- Space-Saving
- More Safety

Specification

Part No.	****
Material (Structure)	Steel ST37
Material (Body)	(GRP)Glass-Reinforced Plastic
Dimension	1559 x 519 x 678 mm
Weight ~	33.8 Kg
Weight Limit	150 Kg
Standards	UIC
Customization	by the order



Emergency Brake Handle for compartment

Specification

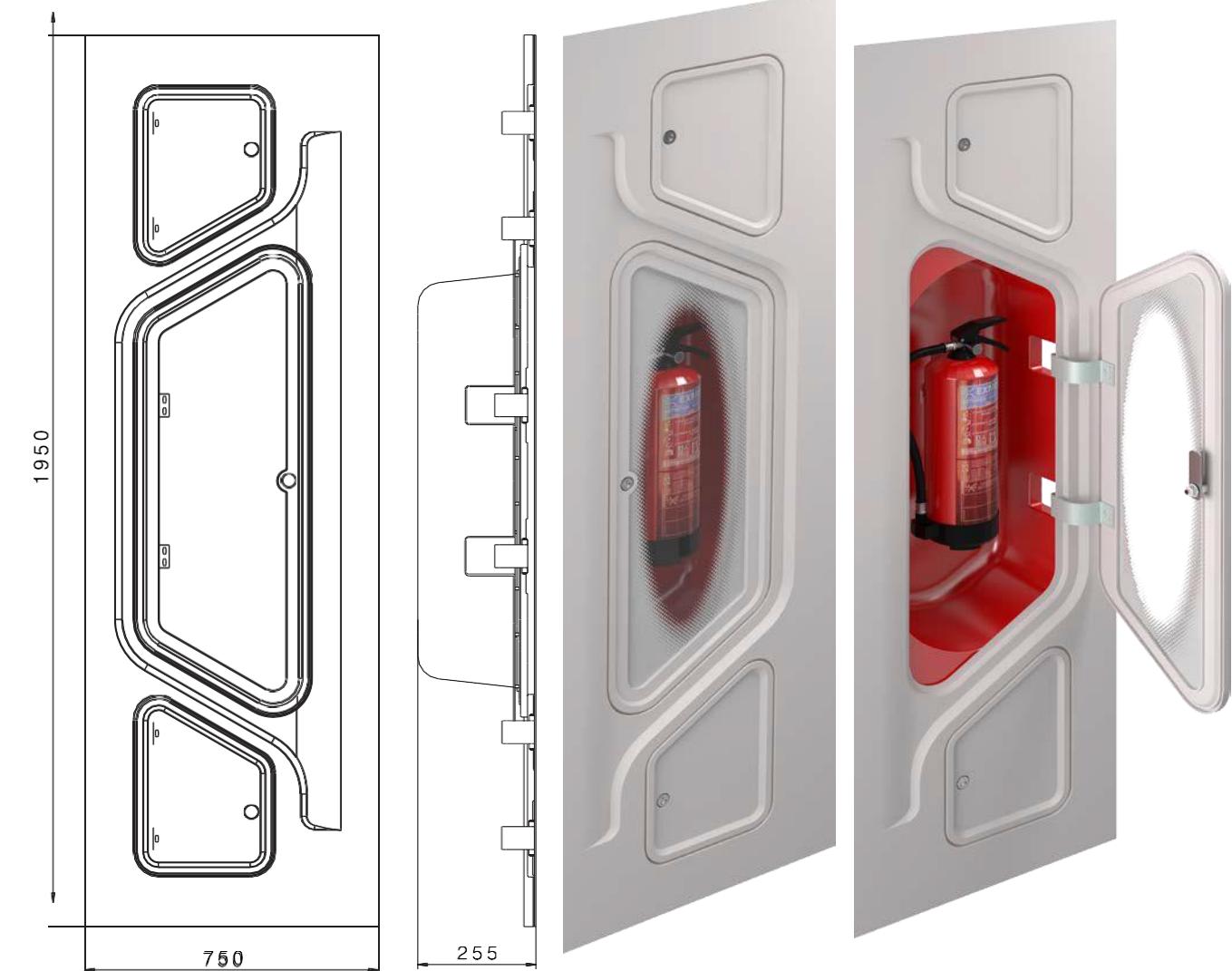
Part No.	****
Material (Body)	Steel ST37
Material (Cover)	Plexiglass
Dimension	**** x **** x **** mm
Weight ~	**** gr
Assets	Compression Lock & Belt
Standards	UIC
Customization	by the order



Extinguisher Capsule Panel for Vestibule

Specification

Part No.	****
Material (Body)	(GRP)Glass-Reinforced Plastic
Material (Cover)	Plexiglass
Dimension	1950 x 750 x 255 mm
Weight ~	16 Kg
Assets	Compression Lock & Belt
Standards	UIC
Customization	by the order





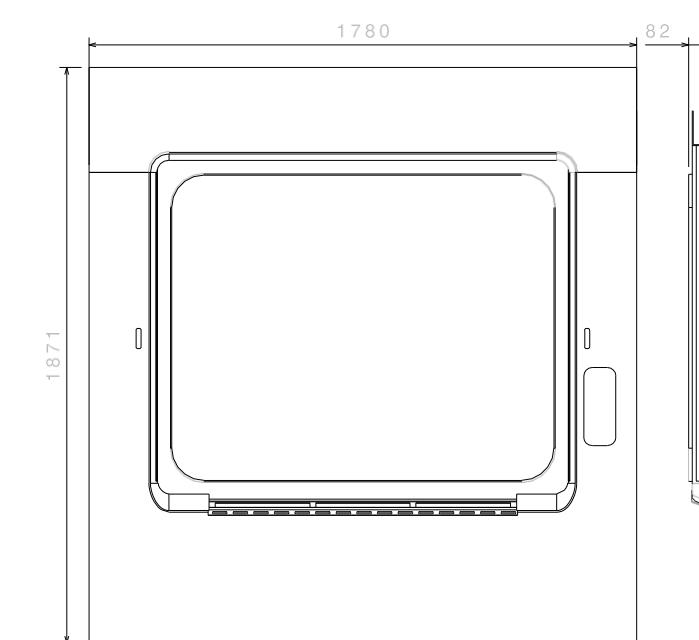
WINDOW PANEL for Compartment



DECORATION
PARTS



Non-Woven Fabric
folding Curtain can
be installed inside the
window rails.



Specificatio

Part No.	****
Material (Body)	(GRP)Glass-Reinforced Plastic
Texture (Body)	Leather
Curtain	Multi Layer Non-Woven Fabric
Dimension	1871 x 1780 x 82 mm
Panel Weight ~	44.24 Kg
Curtain Weight	5.14 Kg
Standards	UIC
Customization	by the order



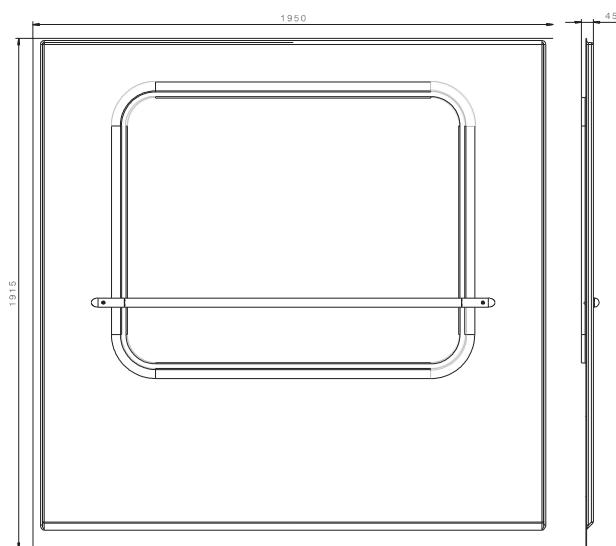
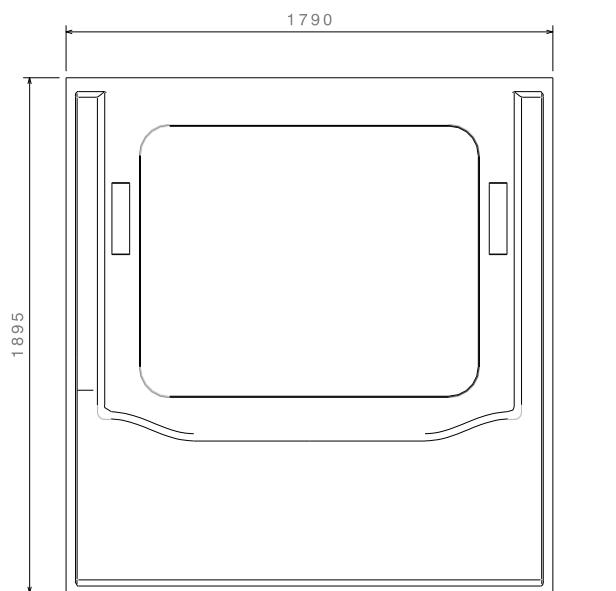
WINDOW PANEL for Corridor



DECORATION
PARTS

Specificatio

Part No.	***
Material (Body)	(GRP)Glass-Reinforced Plastic
Texture (Body)	Leather
Dimension 1	1950 x 1915 x 45 mm
Dimension 2	1790 x 1895 x 45 mm
Weight ~	13.9 Kg / 11 Kg
Standards	UIC
Customization	by the order



Handle Corridor

Specification

Part No. ****

Material (Body) Steel ST37

Material (Head) 6061 Aluminum

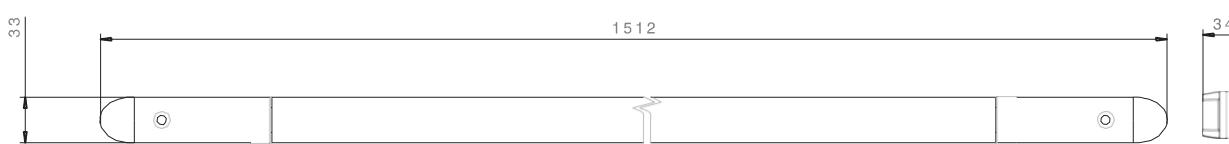
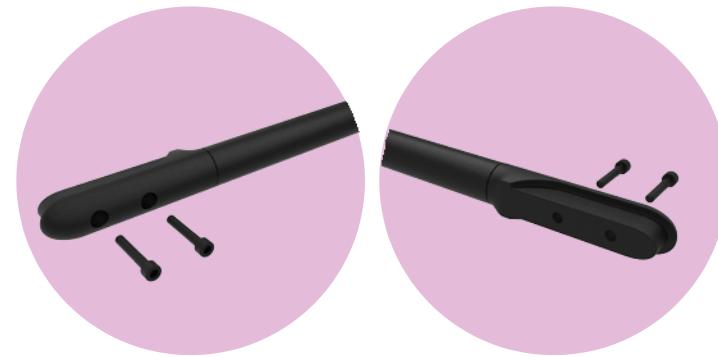
Dimension 1512 x 34 mm

*Horizontal

Weight ~ **** gr

Standards UIC

Customization by the order



Specification

Part No. ****

Material (Body) ABS

Dimension 1512 x 34 mm

Weight ~ 5.5 Kg

Standards UIC

Customization by the order



Specification

Part No. ****

Material (Body) Steel ST37

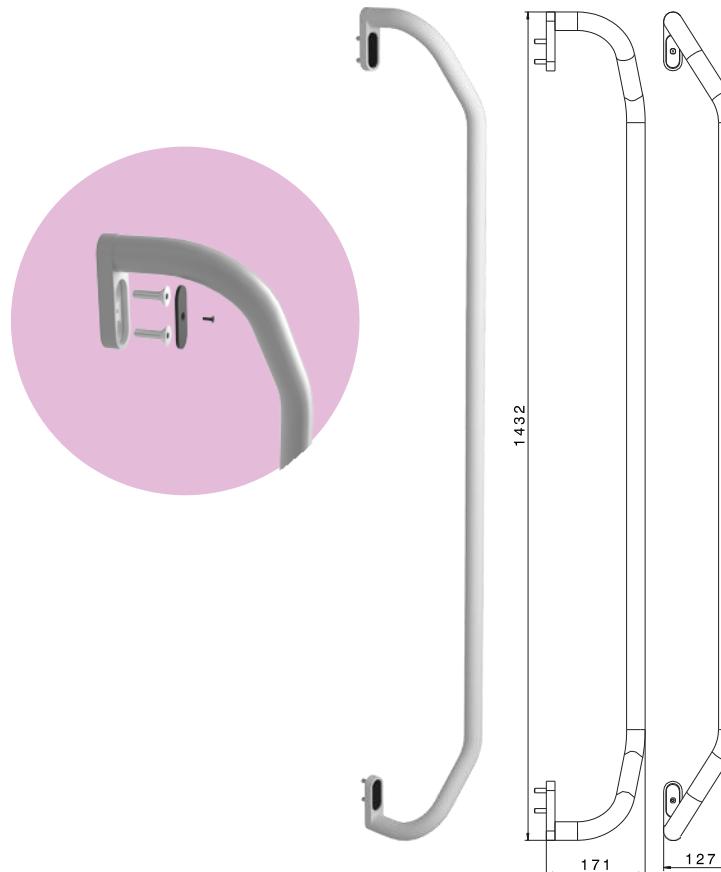
Dimension 1512 x 34 mm

* Vertical

Weight ~ 11.4 Kg

Standards UIC

Customization by the order



Forehead Panel Corridor



Specification

Part No. ****

Material (Body) 6061 Aluminum

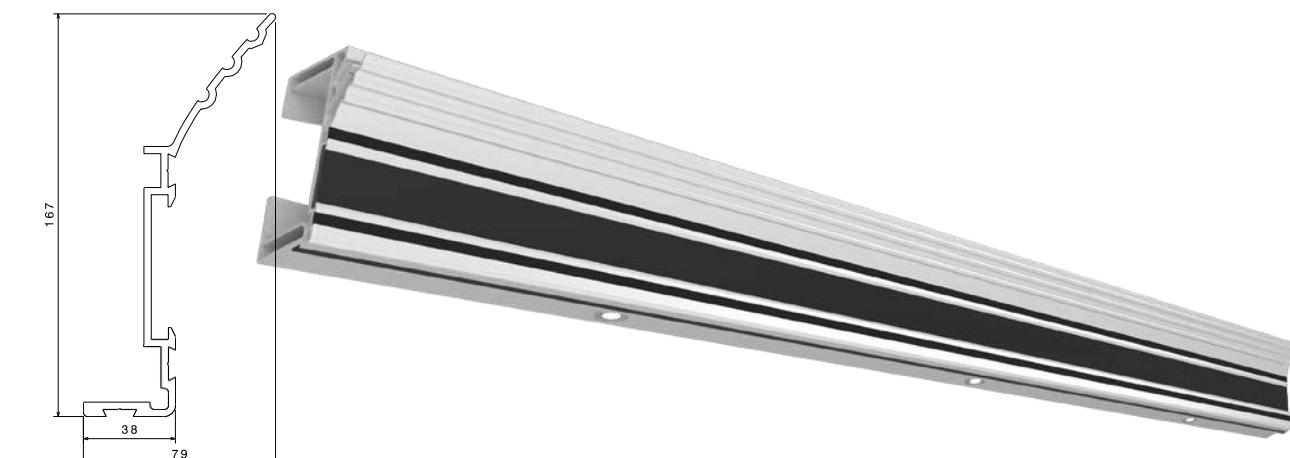
Dimension 149 x 95 mm

Weight ~ 7.58 Kgt

Assets Seat&CompartmentNumberLED

Standards UIC

Customization by the order



Specification

Part No. ****

Material (Body) 6061 Aluminum Profile & Plexiglass

Dimension 167 x 79 mm

Weight ~ 10.4 Kg

Assets Dotted LED Lighting

Standards UIC

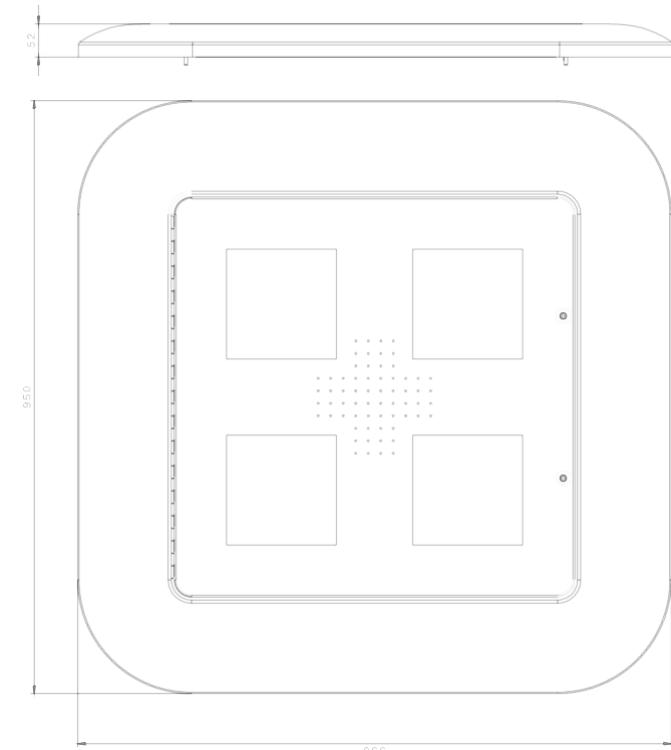
Customization by the order



- Fixed and Moving Part
- Compartment Lighting on Moving Part

Specificatio

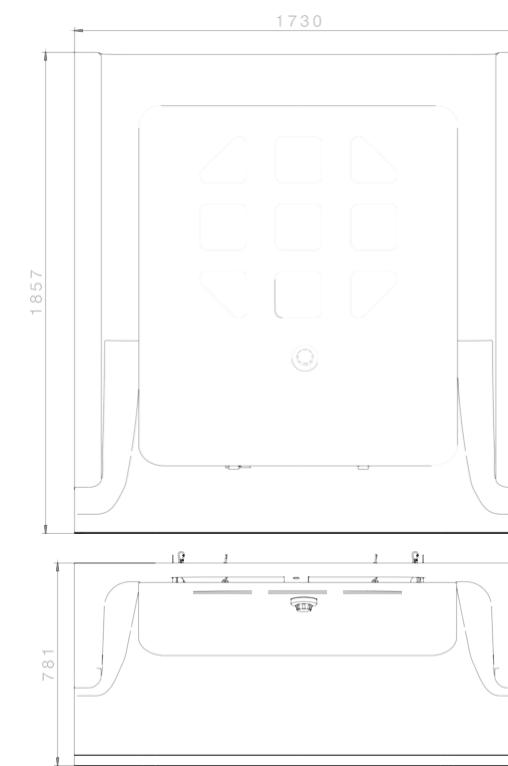
Part No.	****
Material (Body)	(GRP)Glass-Reinforced Plastic
Texture (Body)	Leather
Dimension	950 x 950 x 52 mm
Weight ~	15 Kg
Standards	UIC
Customization	by the order



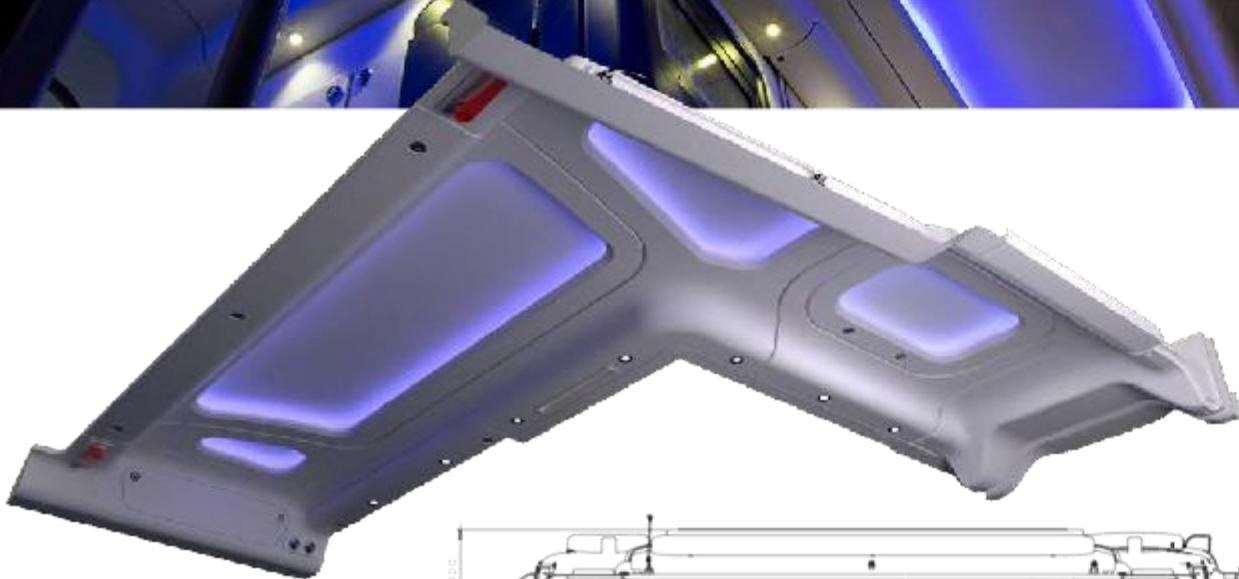
- Fixed and Moving Part
- Compartment Lighting on Moving Part

Specificatio

Part No.	****
Material (Body)	(GRP)Glass-Reinforced Plastic
Texture (Body)	Leather
Dimension	1730 x 1857 x 781 mm
Weight ~	52.5 Kg
Standards	UIC
Customization	by the order



Integrated Ceiling Vestbule



- Repair AccessPanels
- Hidden Lighting
- Spotlights

Specification

Part No. ****

Material (Body) (GRP)Glass-Reinforced Plastic

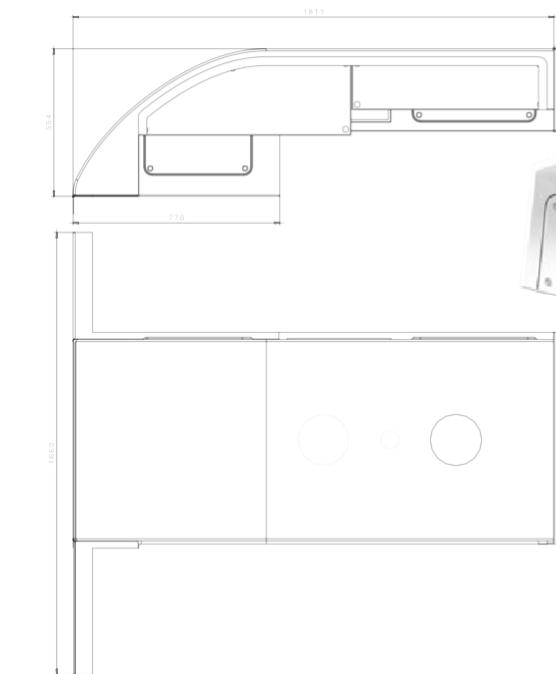
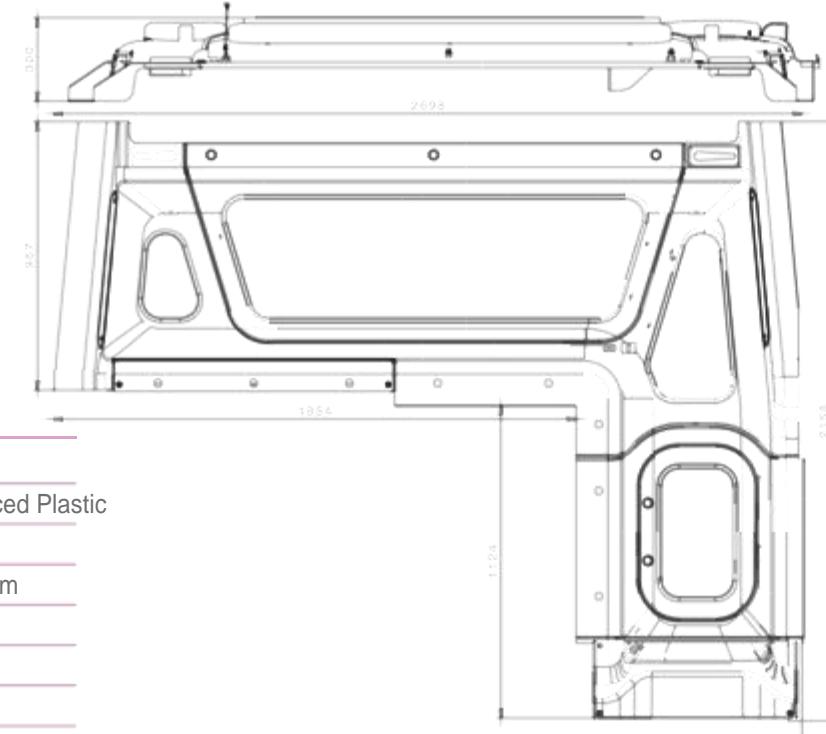
Texture (Body) Leather

Dimension 2698 x 2158 x 300 mm

Weight ~ 32.9 Kg

Standards UIC

Customization by the order



Specification

Part No. ****

Material (Body) (GRP)Glass-Reinforced Plastic

Texture (Body) Leather

Dimension 1660 x 1811 x 554 mm

Weight ~ 13.3 Kg

Standards UIC

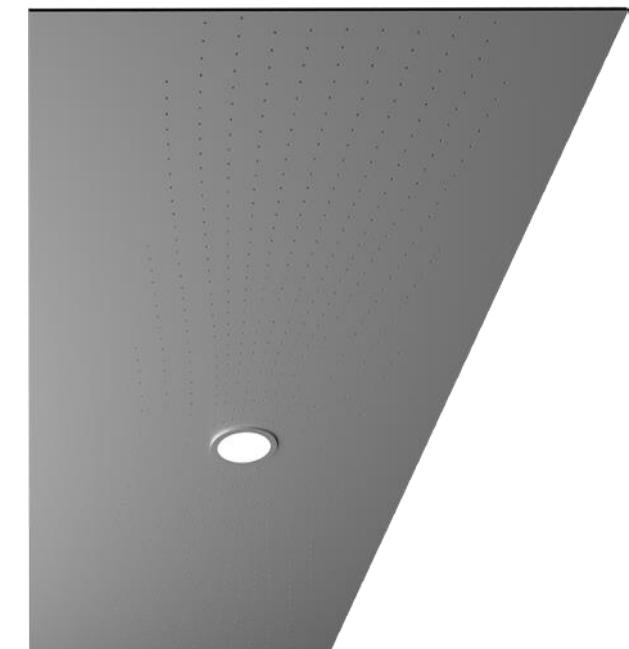
Customization by the order

- Convenient & Safe
- High Strength Glass
- Touchless Hand Sensor
- Optical Sensor
- Motion Detect
- Auto Disconnect system
- Automatic & Manual Mode
- Decorative Sandblast



Specification

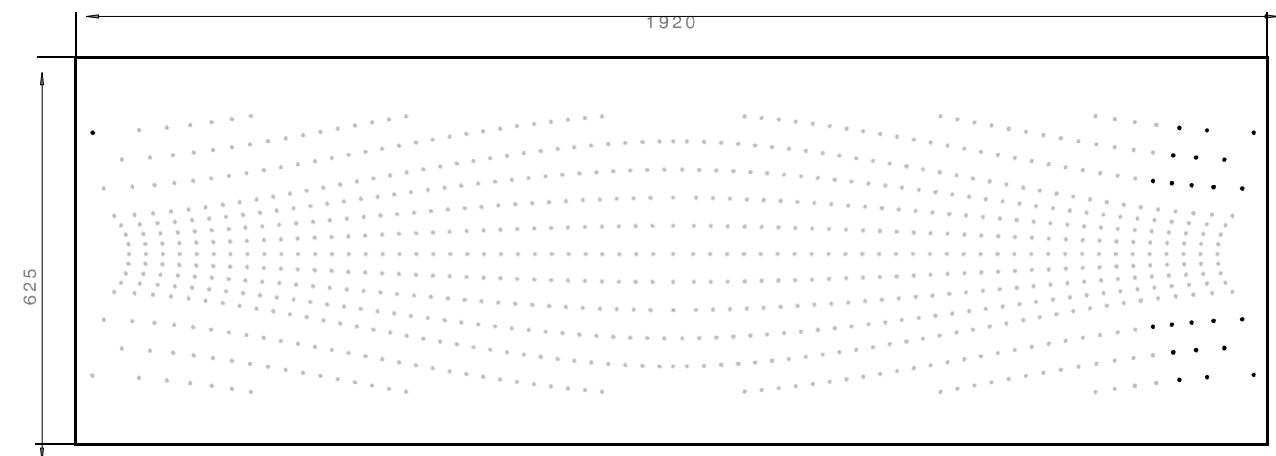
Part No.	****
Material	Frameless Glass
Dimension	1950 x 768 x 48 mm
Weight ~	**** gr
Standards	UIC
Customization	by the order



Specification

Part No.	****
Material	Aluminum Composite Panel
Dimension	1920 x 625 x 5 mm
Weight ~	37.1 Kg
Standards	UIC
Customization	by the order

- Spot Light
- Perforated Pattern Plate



Sliding Door

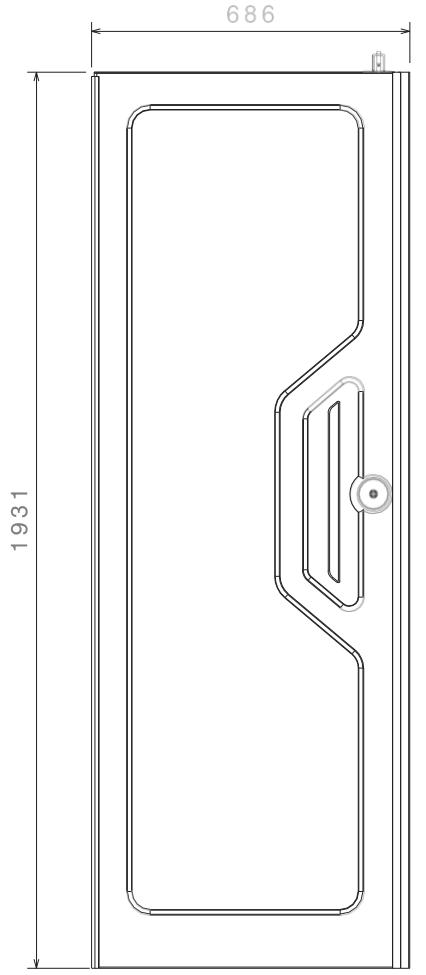
Rest Room



Specification

Part No.	****
Material	6061 Aluminum
Material	(GRP)Glass-Reinforced Plastic
Dimension	686 x 1931 mm
Weight ~	30.7 Kg
Standards	UIC
Customization	by the order

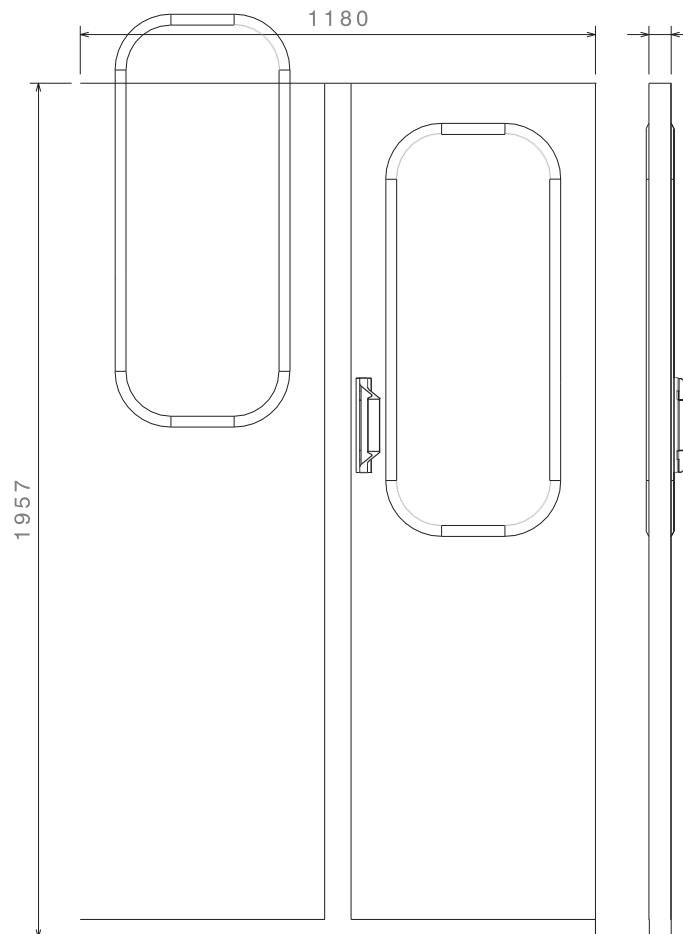
- Slide Ball Rail System
- Built-in Combination Lock



Specification

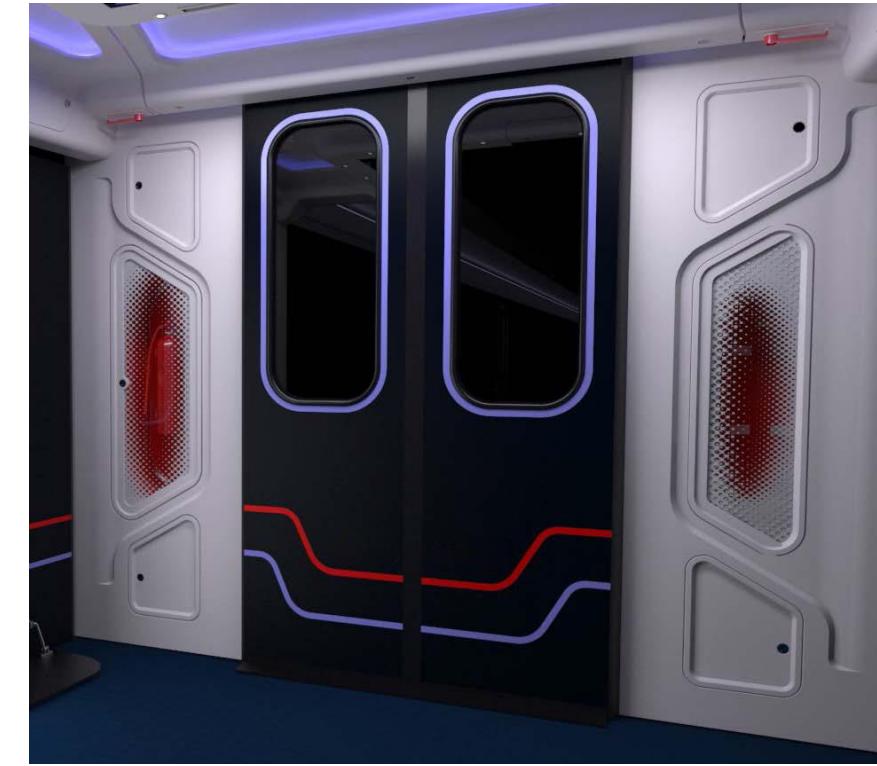
Part No.	****
Material	ST37 Steel
Dimension	1180x1957x51 mm
Weight ~	62.2 Kg
Standards	UIC
Customization	by the order

- Electrical Slide Rail System
- Door Lock Handle
- Auto Disconnect system
- Motion Detect



Sliding Door

Gangway





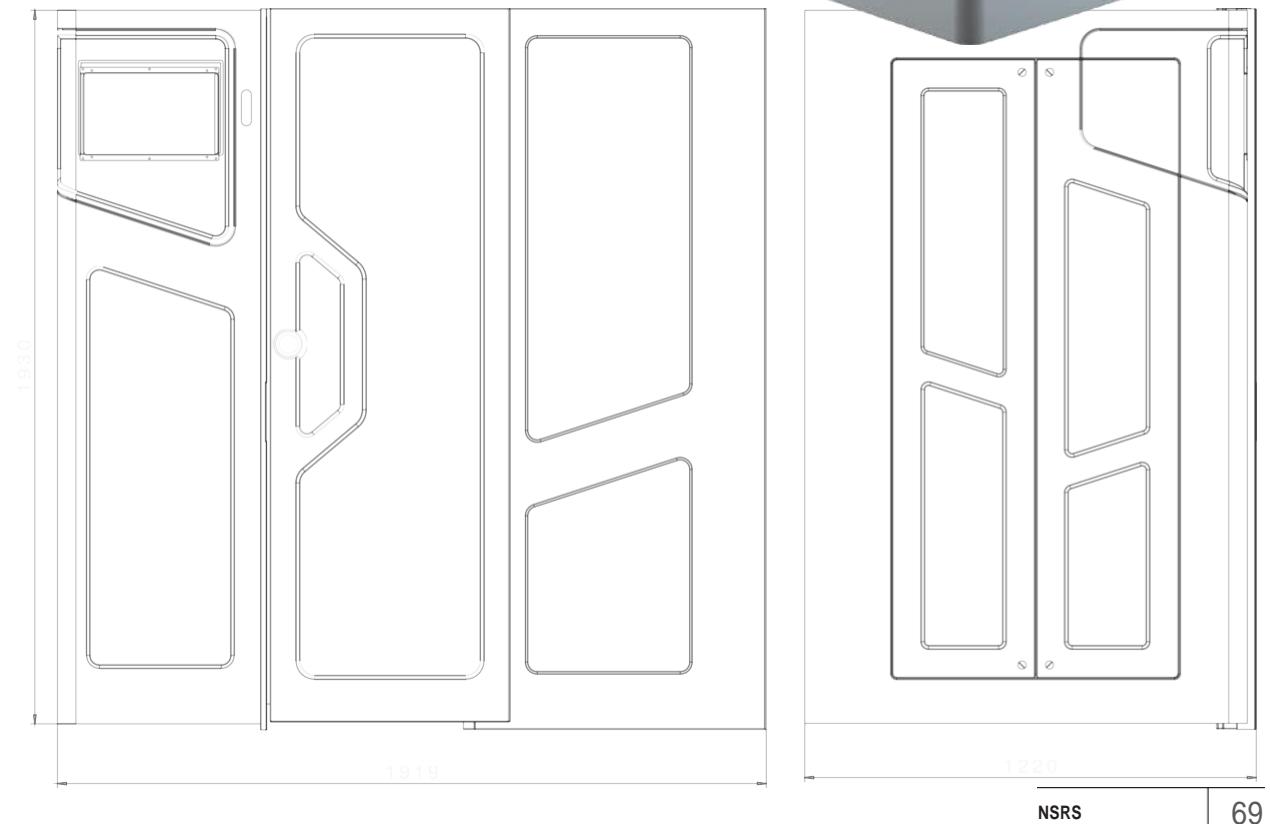
Vestbule Wall L-Shape



- Repair Access Panels
- Integrated design
- Compression Locks

Specification

Part No.	****
Material (Body)	(GRP)Glass-Reinforced Plastic
Texture (Body)	Leather
Dimension	1930 x 1919 x 1220 mm
Weight ~	204.6 Kg
Standards	UIC
Customization	by the order



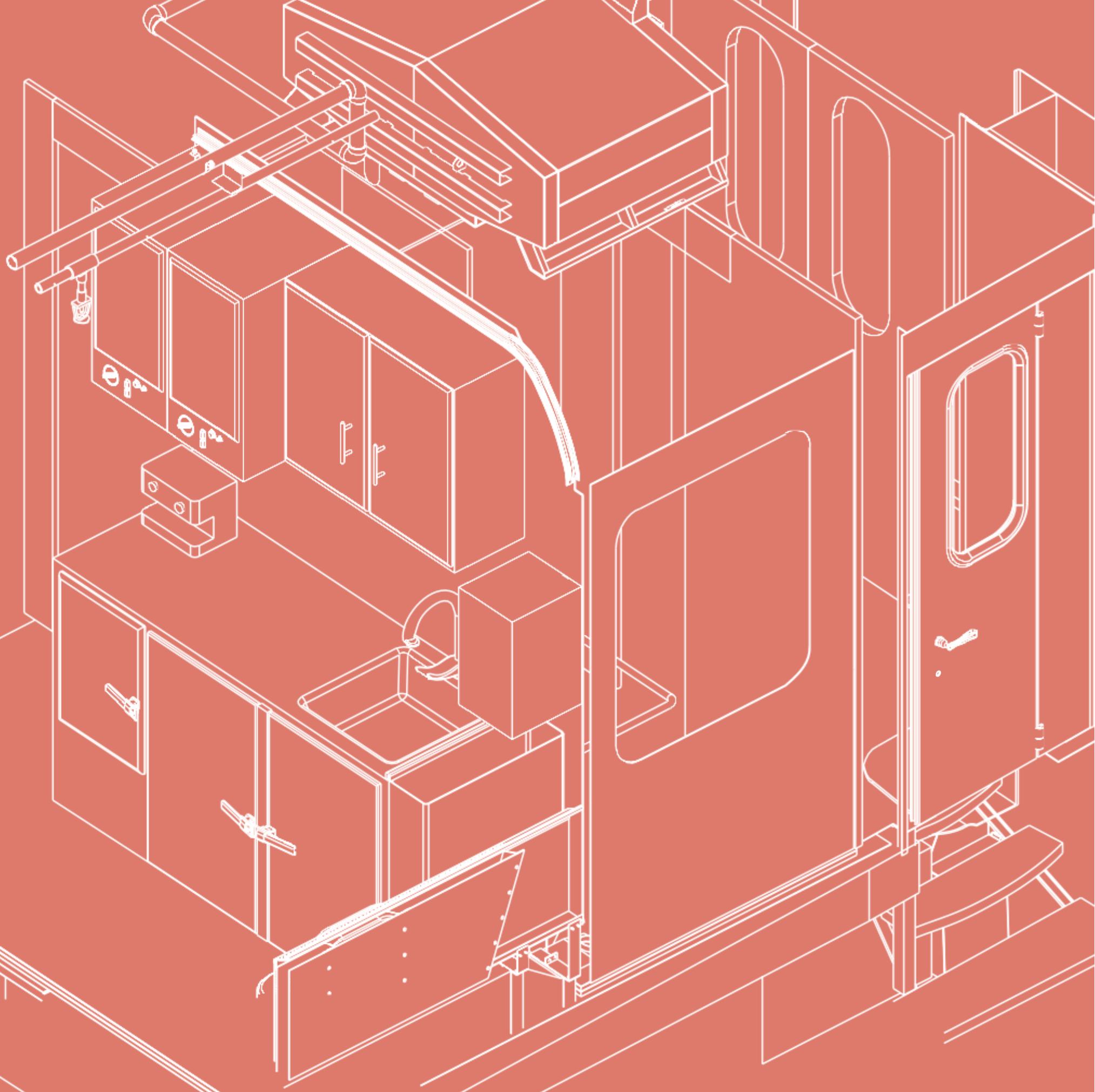


Passenger Railcar

Galley Compartment

Kitchen, Storage and attendant rest seat

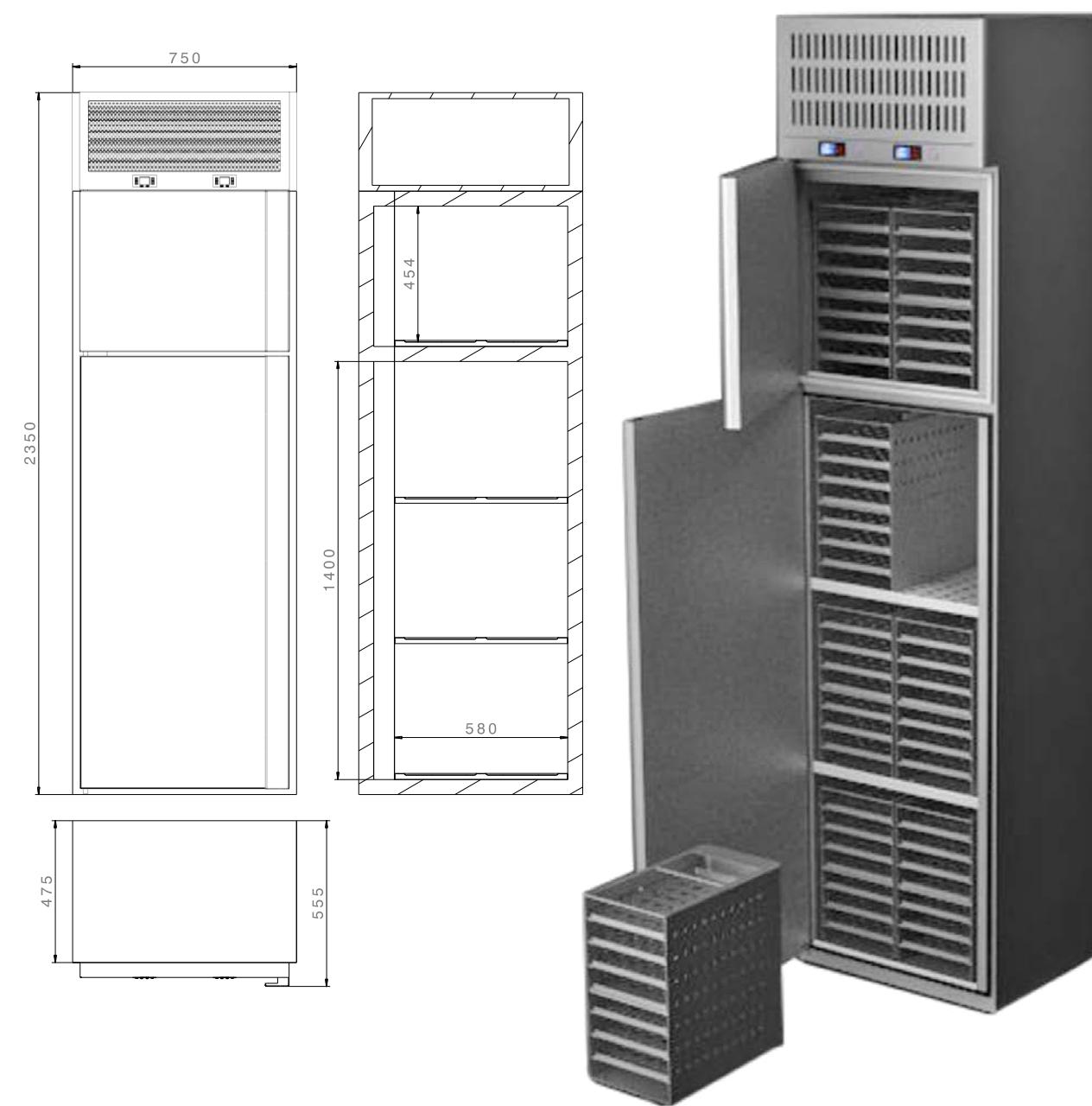
The galley is the compartment of a train where food is cooked and prepared. Galley kitchen is a long, narrow kitchen that has base cabinets, wall cabinets, trolleys, attendant rest seat and other services are located on one or both sides of a central walkway.



Refrigerator-Freeze

Standing

- Separated Function
- Separated Power on/off
- 0°C Fridge
- -18°C Freeze
- Air Circulation Fan
- Full body Stainless Steel
- Insulation With Polyurethane Foam



Specification

Part No.	****
Material	Stainless Steel 304
Dimension	2350 x 750 x 555 mm
Weight ~	141 Kg
Standards	UIC
Customization	by the order





Refrigerator-Freez

Under Sink



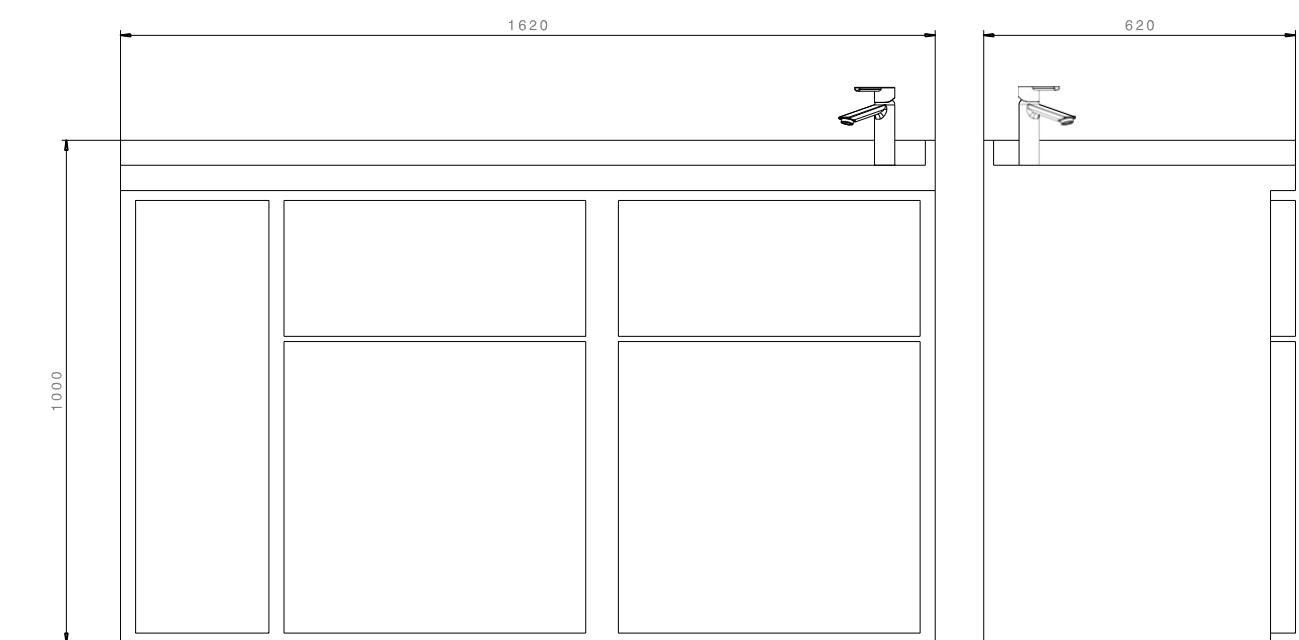
GALLEY
PARTS



- 0°C Fridge
- -18°C Freeze
- Air Circulation Fan
- Full body Stainless Steel
- Insulation With Polyurethane Foam

Specification

Part No.	****
Material	Stainless Steel 304
Dimension	1620x1000x620 mm
Weight ~	100 Kg
Standards	UIC
Customization	by the order





- Temperature Volume
- Power Button
- Safety Fuse
- Drain Valve
- Thermostatic Sensor
- Full Body Stainless
- Steel Water level indicator
- Large water addition door
- Insulation with Polyurethane Foam

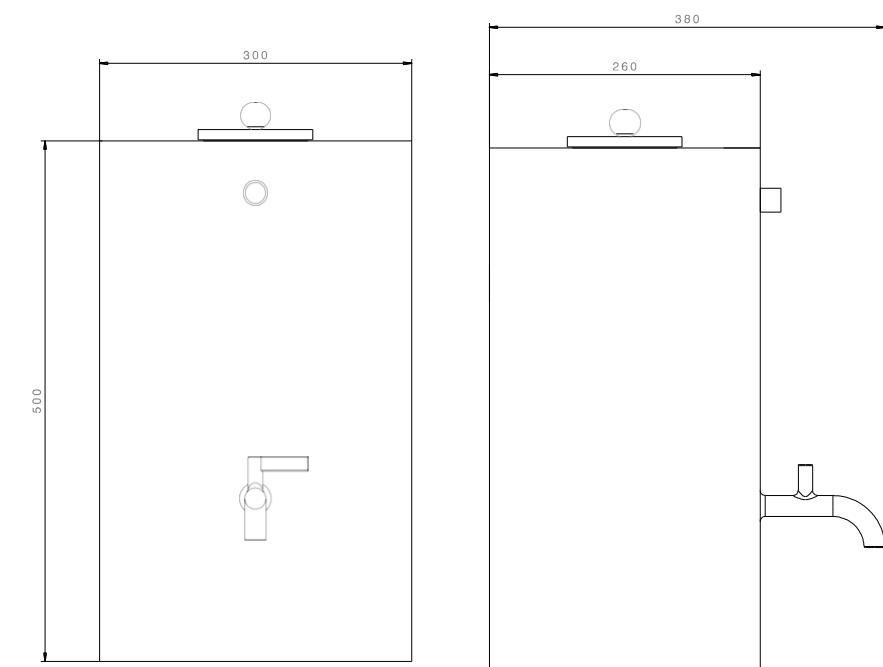
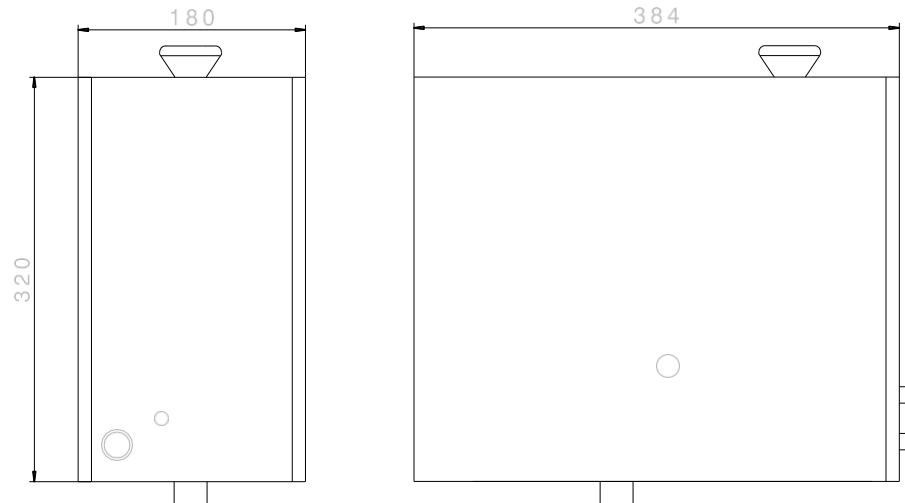
Specification

Part No.	****
Material	Stainless Steel 304
Dimension	320 x 384 x 180 mm
Weight ~	13.2 Kg
Standards	UIC
Customization	by the order

Specification

Part No.	****
Material	Stainless Steel 304
Dimension	500 x 300 x 360 mm
Weight ~	15 Kg
Standards	UIC
Customization	by the order

- Temperature Volume
- Power Button
- Safety Fuse
- Drain Valve
- Thermostatic sensor
- Full body Stainless Steel
- Water level indicator
- Large water addition door
- Insulation With Polyurethane Foam





Fresh and Hot Meals with Professional Galley Equipments



Oven
Galley

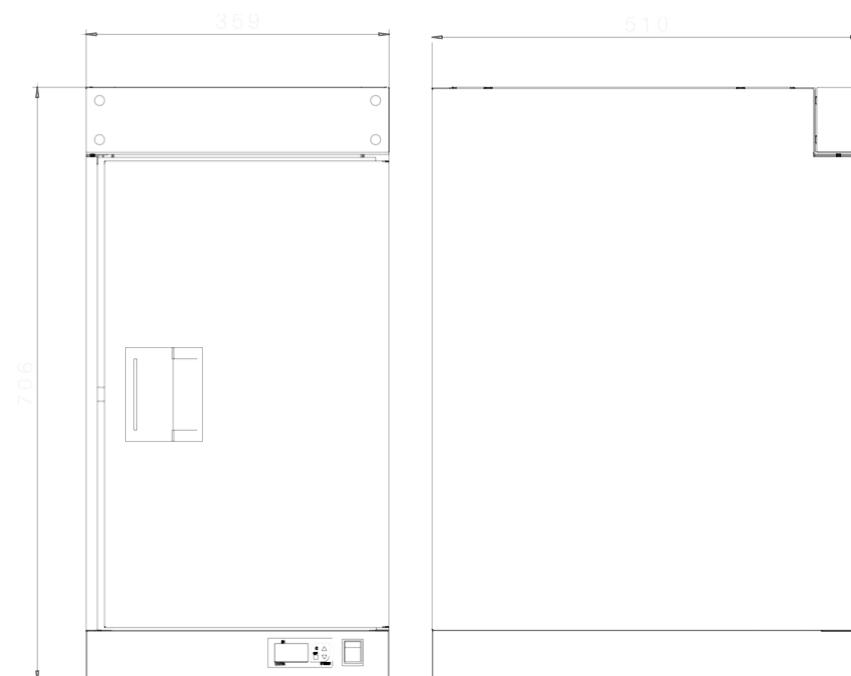


GALLEY
PARTS

Specification

Part No.	****
Material	Stainless Steel 304
Dimension	706 x 510 x 359 mm
Weight ~	36 Kg
Standards	UIC
Customization	by the order

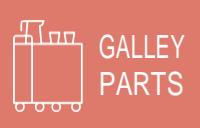
- Centrifugal Fan Impeller
- Temperature Volume
- Power Button
- Lockable handle
- Full body Stainless Steel
- Insulation With Polyurethane Foam



Centrifugal fans use the kinetic energy of the impellers to move the air stream. Our oven uses convection to circulate heated air within the chamber. High-temperature process airstreams are conveyed using specially designed high-temperature centrifugal fans that can handle temperatures up to 1800 degrees.

Cabinet & Locker

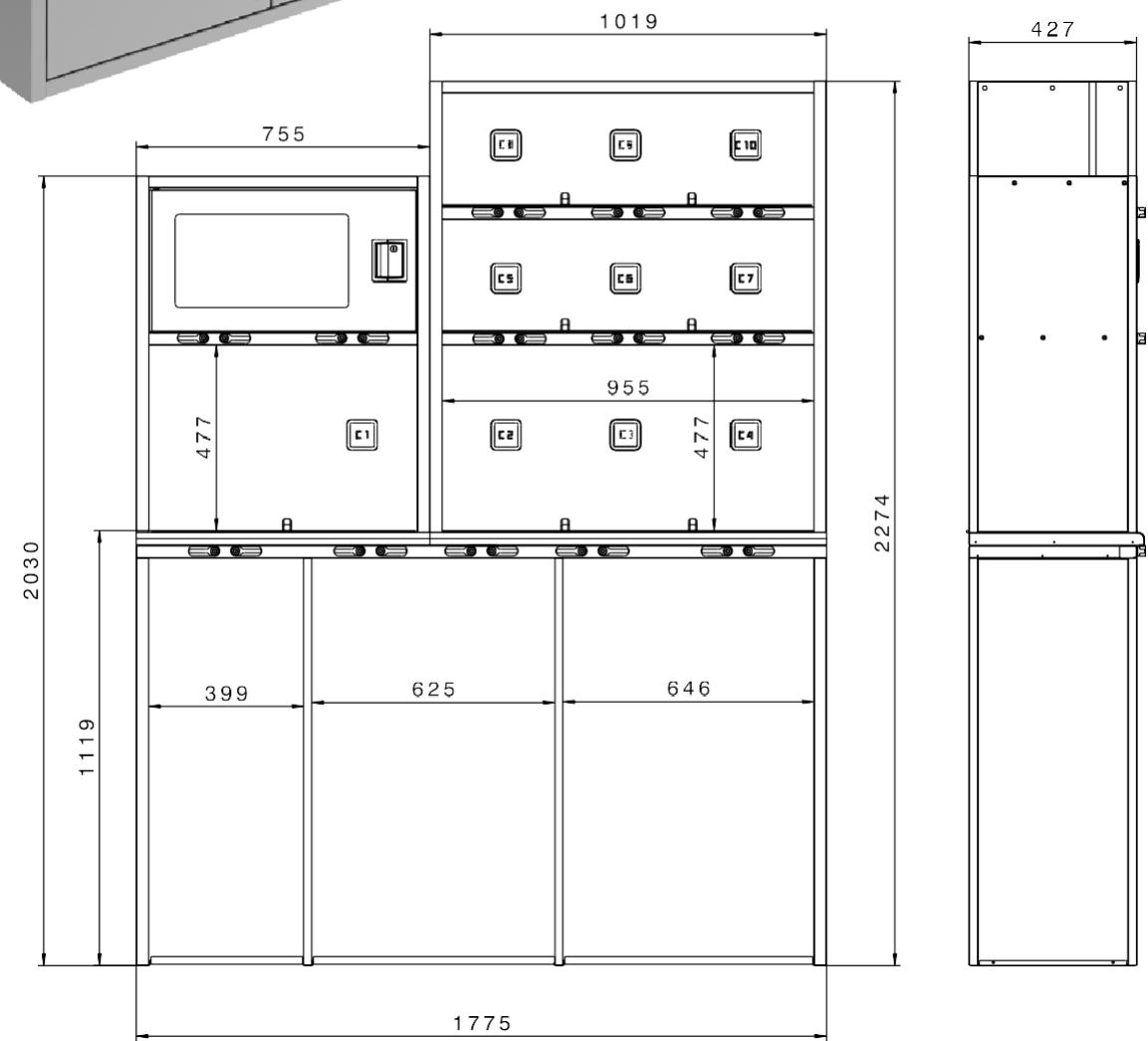
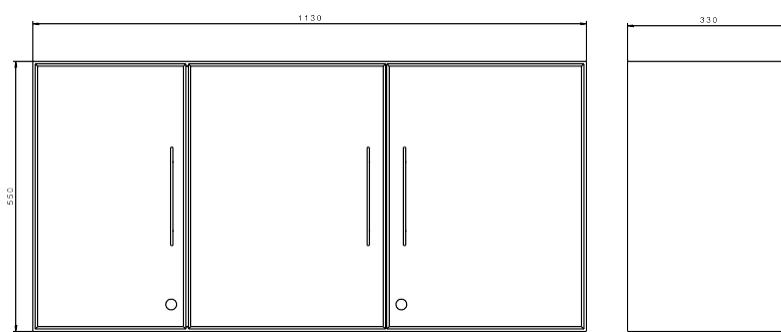
Galley



GALLEY
PARTS

Specification

Part No.	****
Material	Stainless Steel 304
Dimension	1130 x 550 x 330 mm
Weight ~	5.5 Kg
Standards	UIC
Customization	by the order



Specification

Part No.	****
Material	Stainless Steel 304
Dimension	706 x 510 x 359 mm
Weight ~	390 Kg
Standards	UIC
Customization	by the order



- Canton Locker
- Trolley Locker
- Sliding Trash
- Lockable handle
- Stainless Steel
- Convenient
- Space-Saving
- More Safety
-



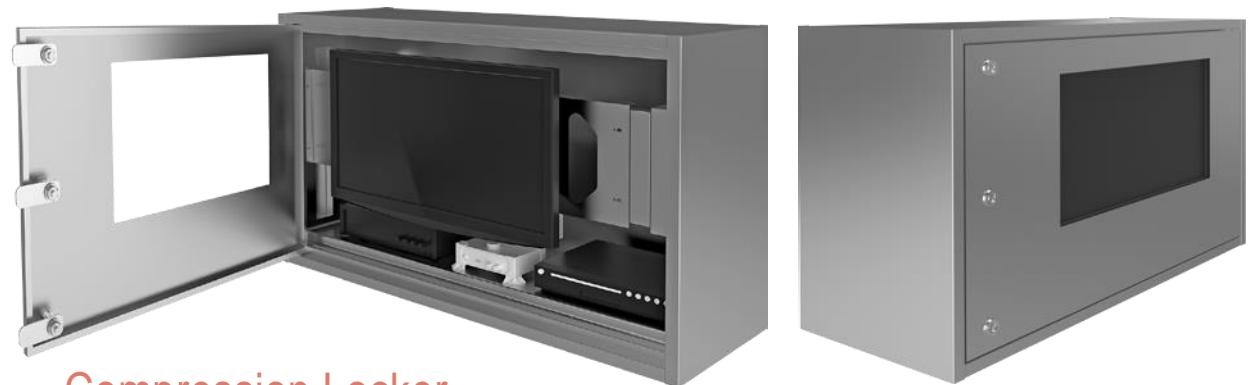
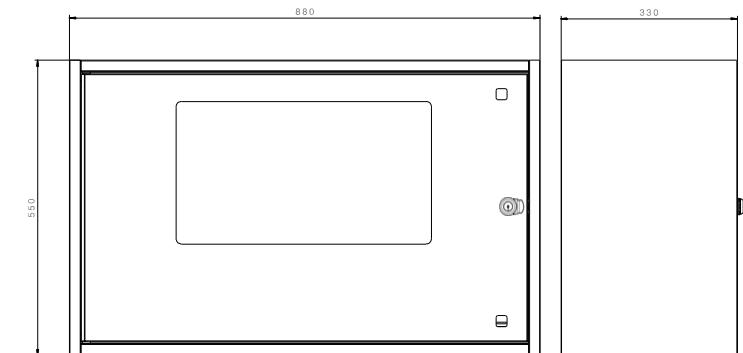
Cabinet Galley Server & Monitor



GALLEY
PARTS

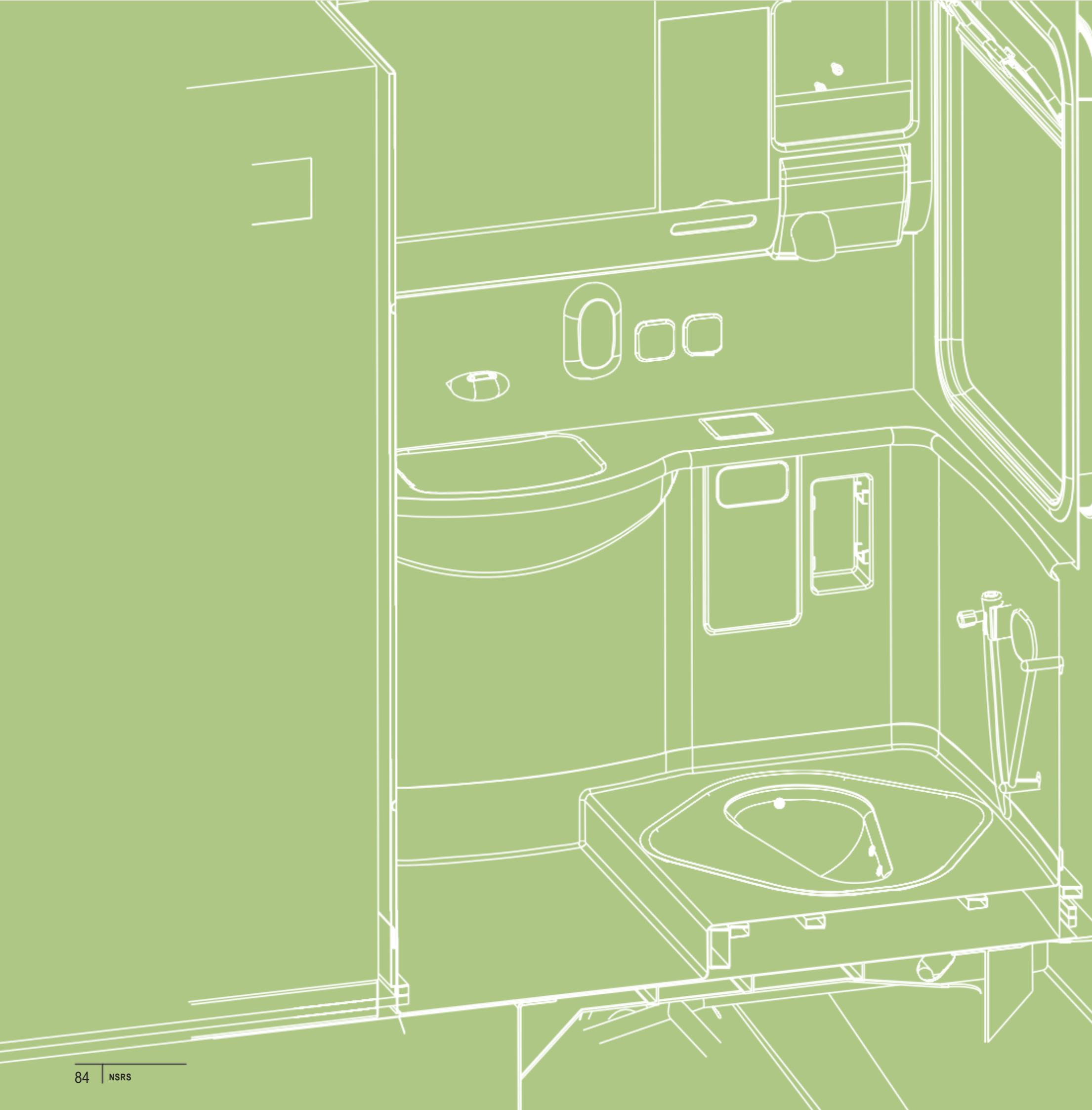
Specification

Part No.	****
Material	Stainless Steel 304
Dimension	880 x 550 x 330 mm
Weight ~	**** gr
Standards	UIC
Customization	by the order



- Compression Locker
- Monitor, Amplifier, Modulator, DVD Player Placement





Passenger Railcar

Toilet System

Vacuum toilet system, Washbasin & Facilities

The vacuum toilet system enables the highest level of train compatibility. This system is designed to enable rapid replacement of the complete toilet assembly in the case of corrective or preventative maintenance needs. The system has been proven to perform excellently in every aspect, including reliability and availability. Its features are fully proven and validated. It complies with the latest standards and requirements.



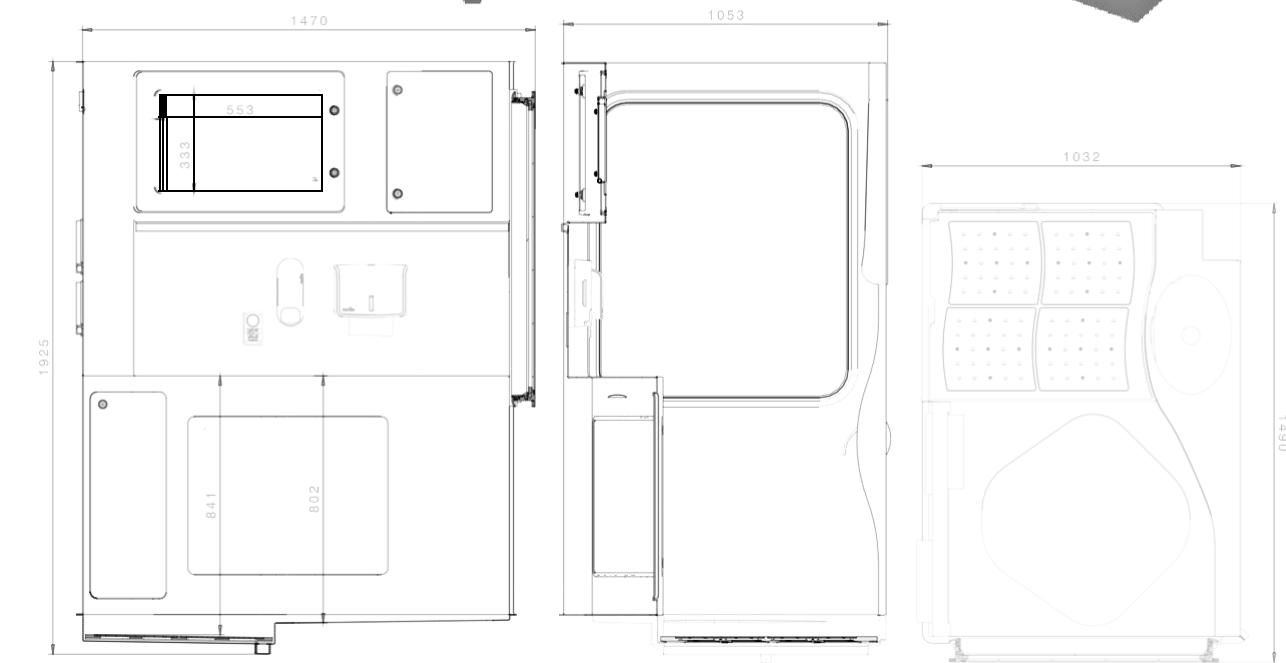
- Built-in Hidden Trash
- Hidden Lighting in Mirror
- Air Condition System
- Hidden Lighting Surface
- Smart Automatic Water Tap

Squat Toilet Cabin



Specification

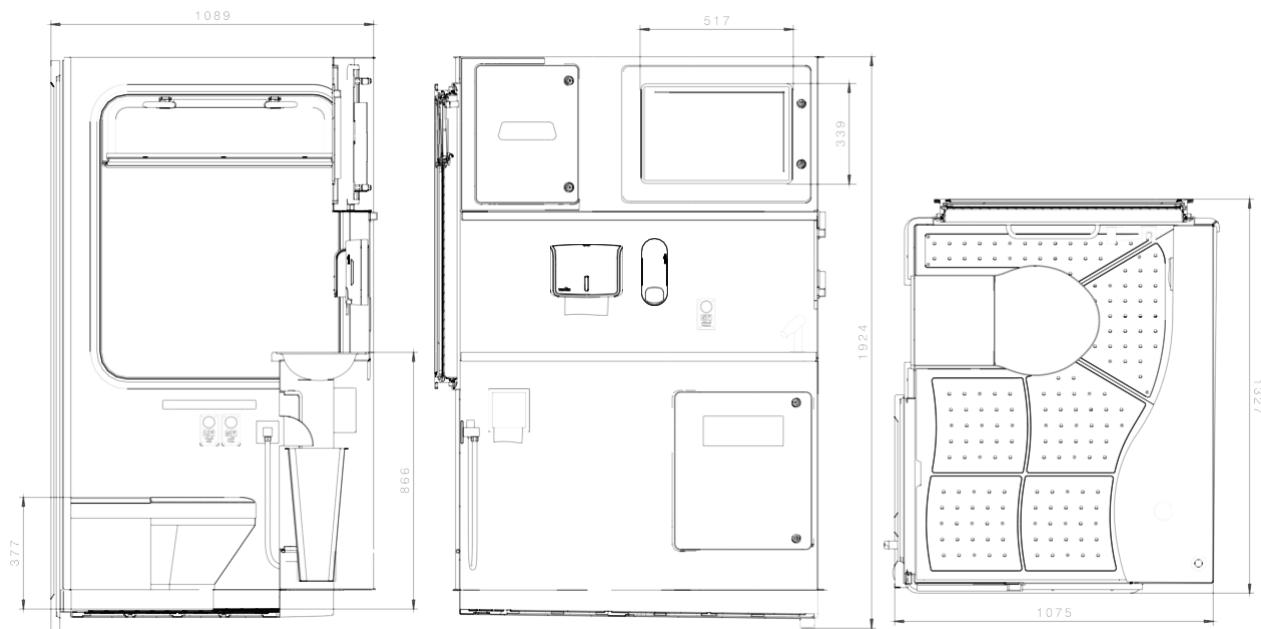
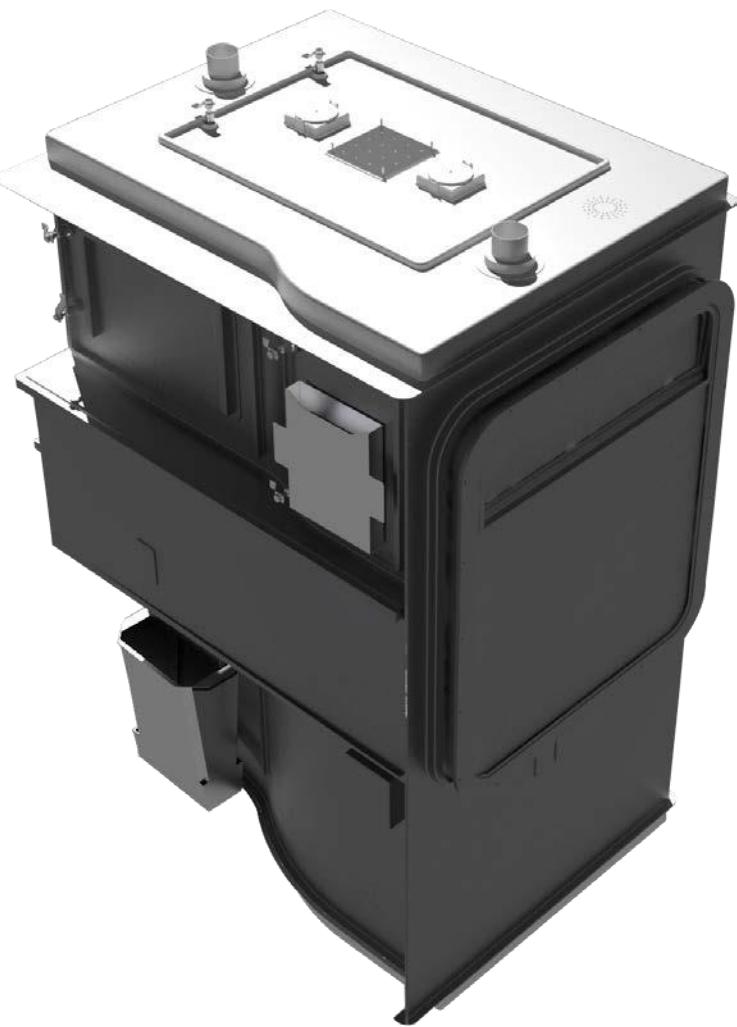
Part No.	****
Material	(GRP)Glass-Reinforced Plastic
Dimension	1925 x 1470 x 1032 mm
Weight ~	174 Kg
Standards	UIC
Customization	by the order



Specification

Part No.	****
Material	(GRP)Glass-Reinforced Plastic
Dimension	1924 x 1327 x 1089 mm
Weight ~	118.3 Kg
Standards	UIC
Customization	by the order

- Built-in Hidden Trash
- Hidden Lighting in Mirror
- Air Condition System
- Hidden Lighting Surface
- Smart Automatic Water Tap
- Sealed Steel Floor
- Separated Floor



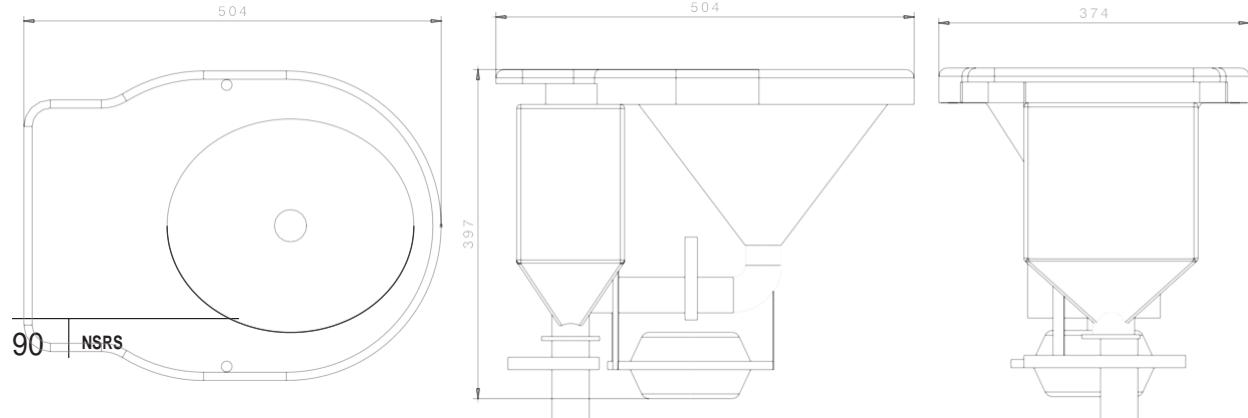
Washout Vacuum System

European Toilet

- Saving Water
- Sewage Level Control
- Prevent Spread of Infections
- Antifreeze Tank
- Washing Nozzle

Specification

Part No.	****
Material	Stainless Steel 304
Dimension	500 x 300 x 360 mm
Weight ~	18.4 Kg
Standards	UIC
Customization	by the order



Washout Vacuum System

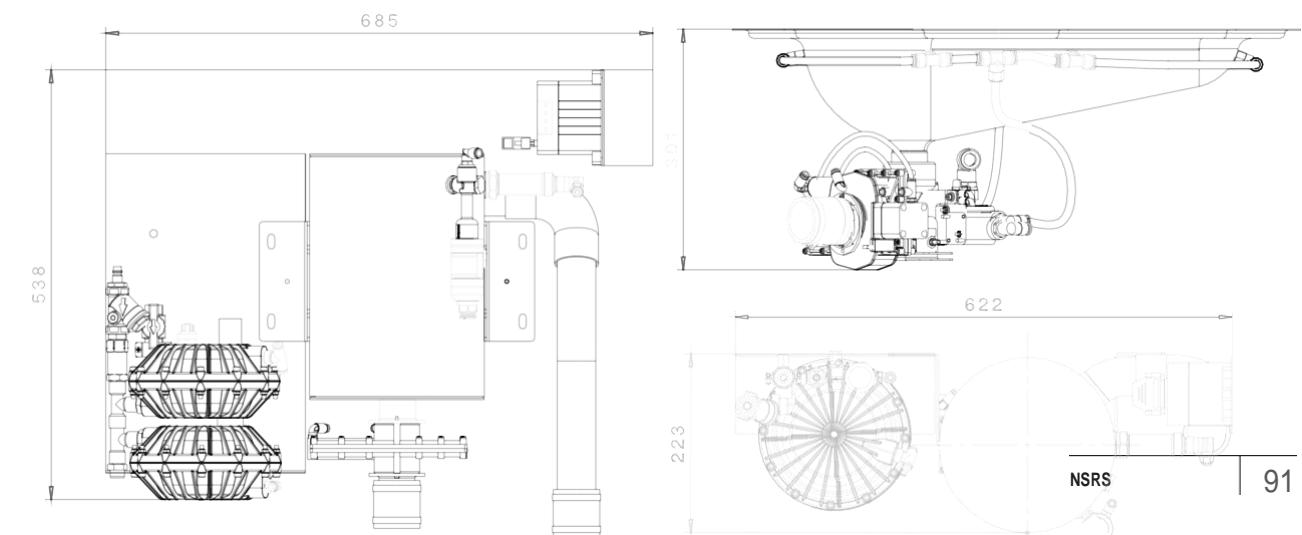
Squat Toilet



Specification

Part No.	****
Material	Stainless Steel 316
Dimension	685 x 538 x 223 mm
Weight ~	50 Kg
Standards	UIC
Customization	by the order

- Saving Water
- Sewage Level Control
- Prevent Spread of Infections
- Antifreeze Tank
- Washing Nozzle



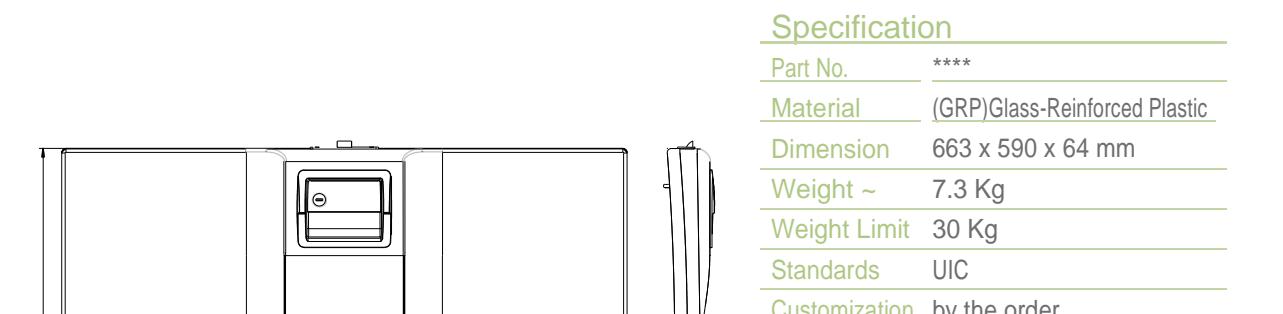
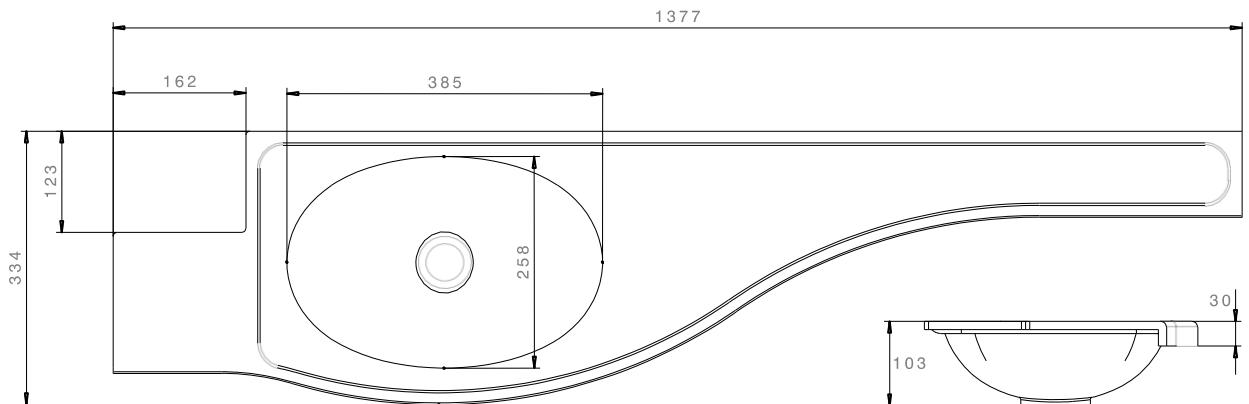


- Integrated Surface
- Casting Production



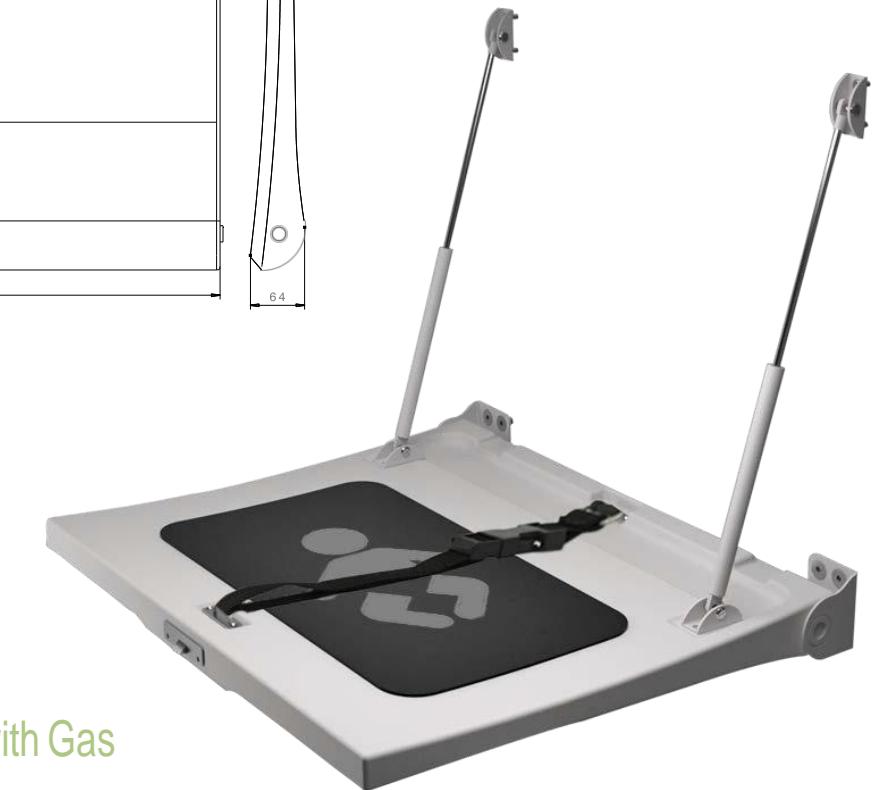
Specification

Part No.	****
Material	Granite
Dimension	1377x334x103 mm
Weight ~	7 Kg
Standards	UIC
Customization	by the order

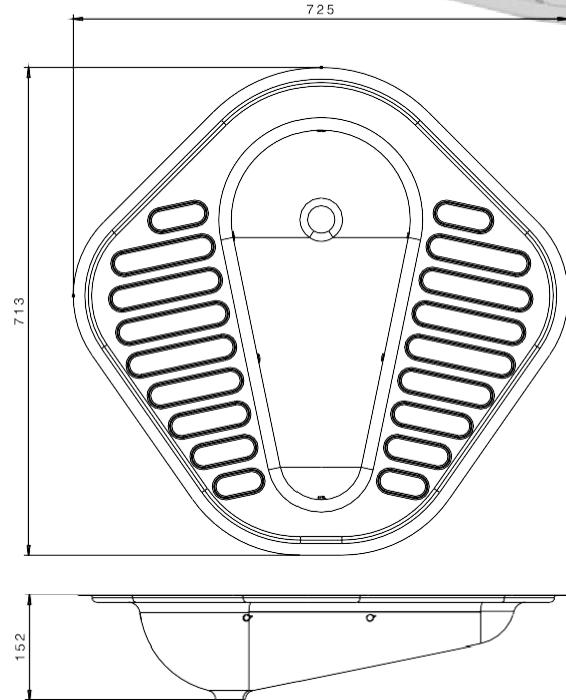
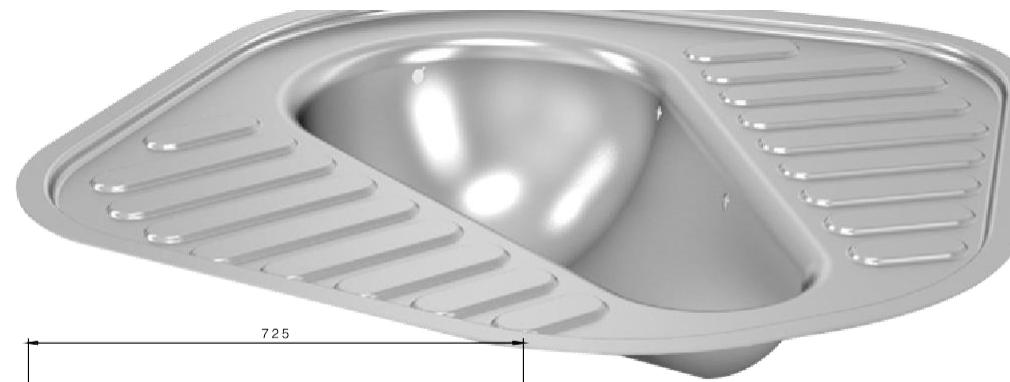


Specification

Part No.	****
Material	(GRP)Glass-Reinforced Plastic
Dimension	663 x 590 x 64 mm
Weight ~	7.3 Kg
Weight Limit	30 Kg
Standards	UIC
Customization	by the order



- Baby Safety Belt
- Slow Down Drop with Gas



Specification

Part No. ****

Material Stainless Steel 316

Dimension 713 x 725 x 152 mm

Weight ~ 5.2 Kg

Standards UIC

Customization by the order

- Deep Bowl
- 2mm Thickness

- Double-Shell Tank
- Indoor Clean up
- Antifreeze Tank
- Sewage Level Control

Specification

Part No. ****

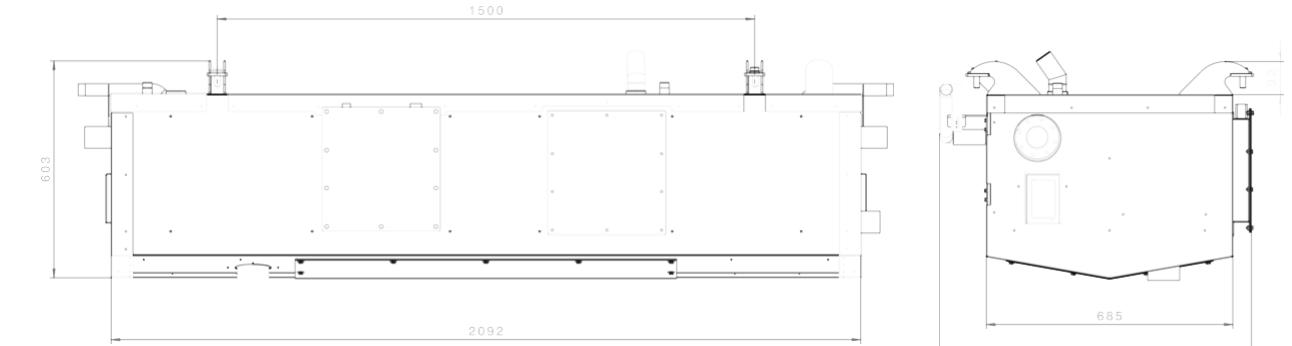
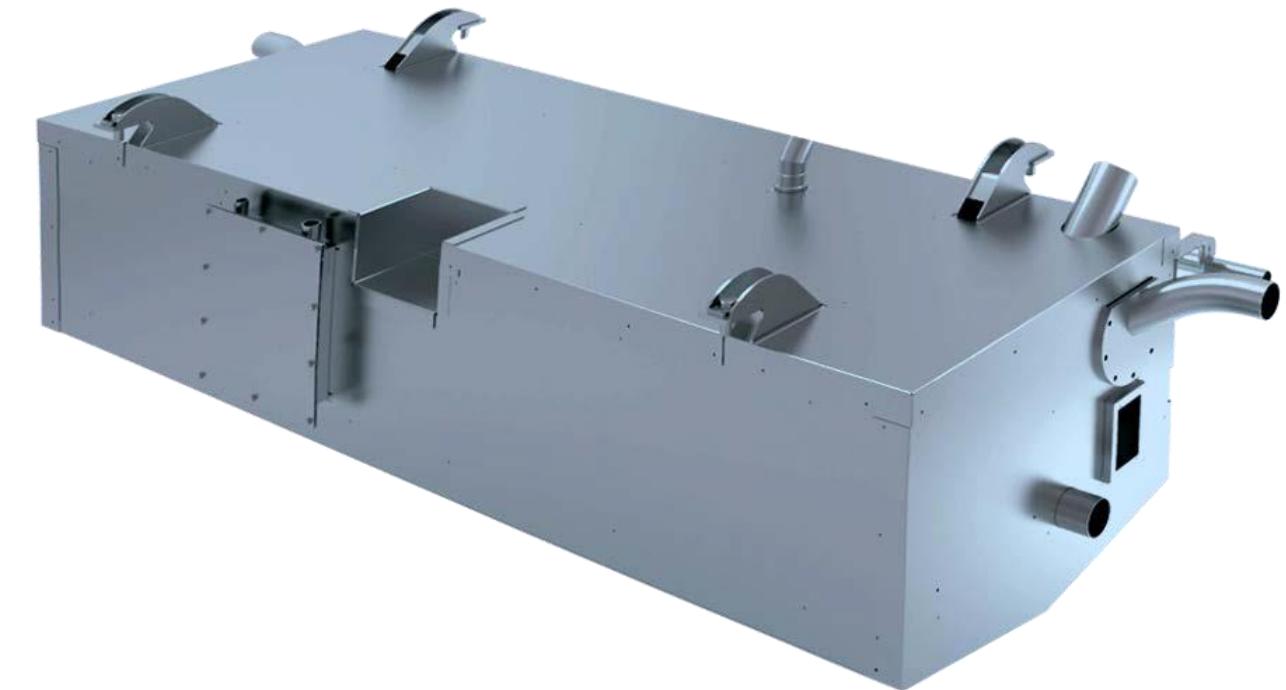
Material Stainless Steel 316

Dimension 2092 x 603 x 868 mm

Weight ~ 311 Kg

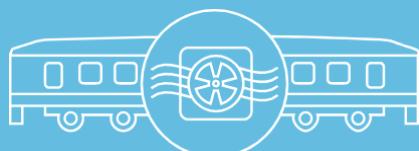
Standards UIC

Customization by the order

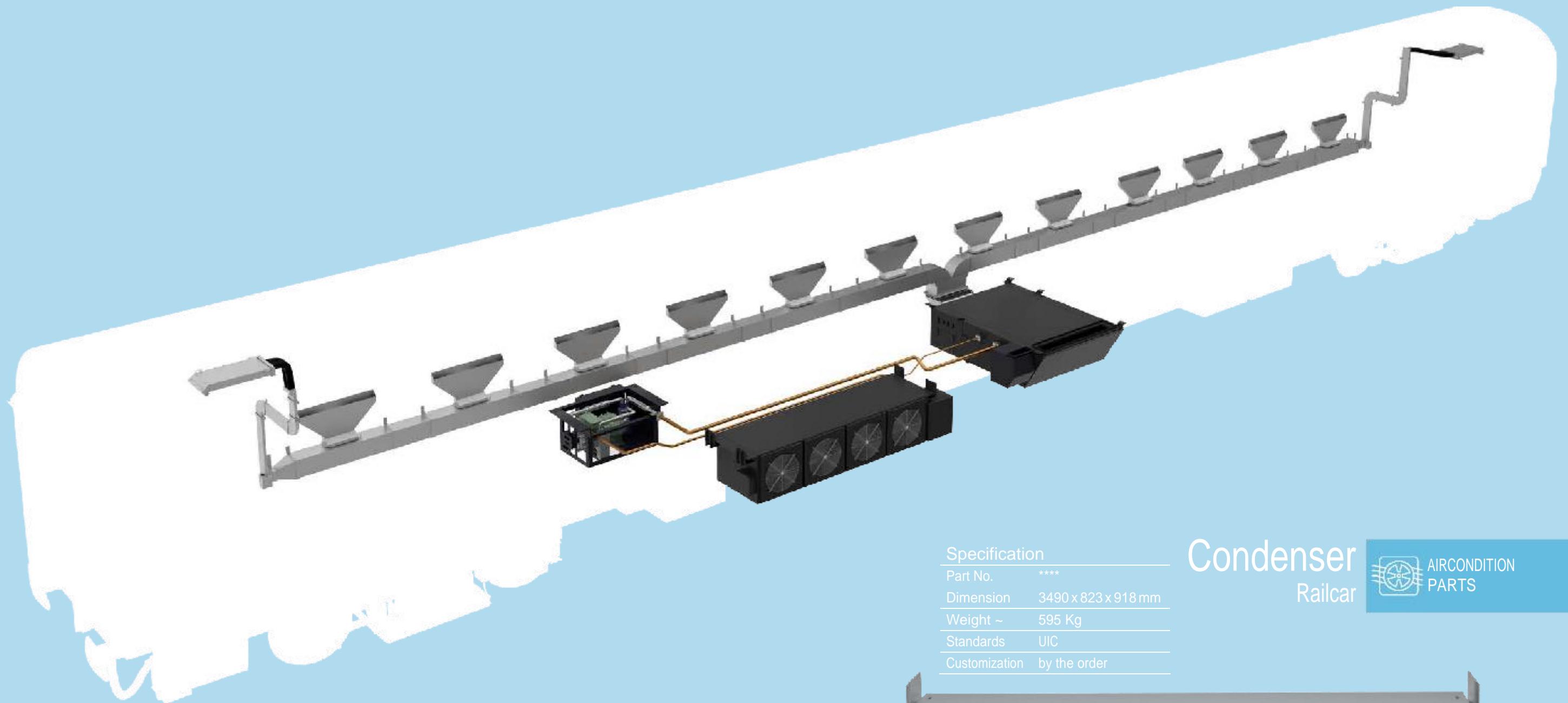


Passenger Railcar Air Conditioning System

Compressor, Condenser, Air Channel & Exchanger



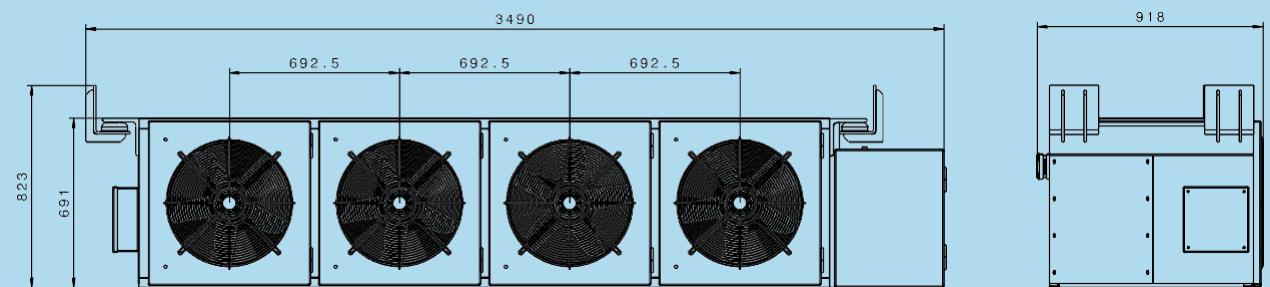
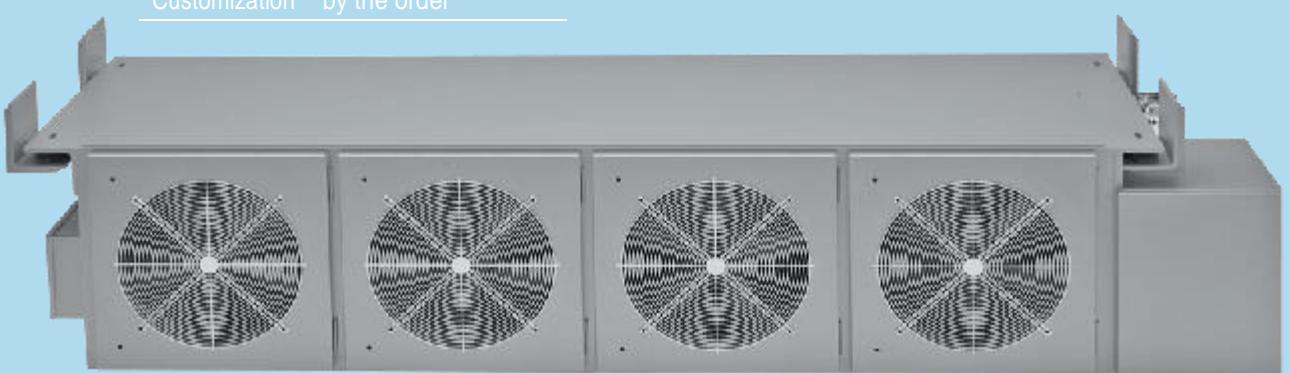
North Shore Rolling Stock-conditioning systems to optimize passenger comfort. We can support detailed requests for the air-conditioner power, installation method and configuration. It is worthy of mentioning that, each air-conditioner is compact and they are benefitly from low vibration and noise.

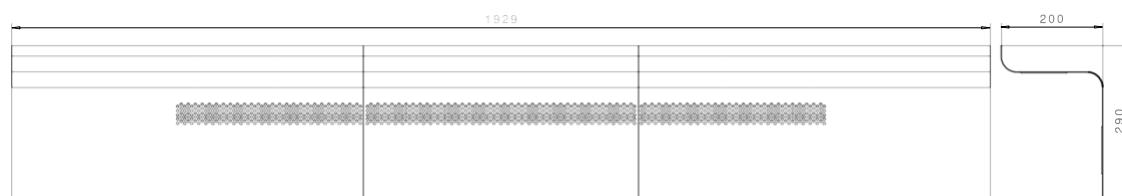
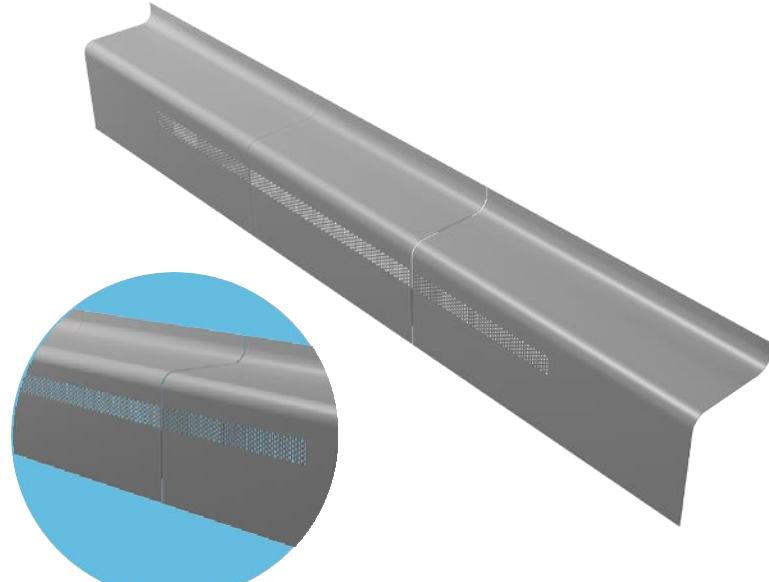
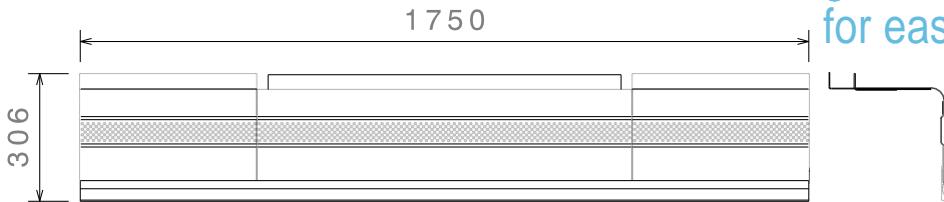
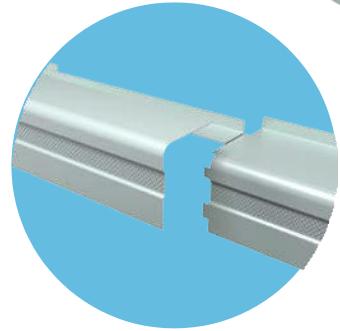
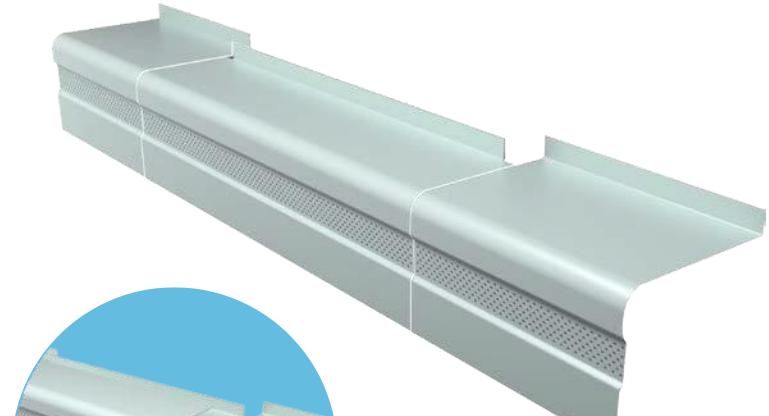


Specification

Part No.	****
Dimension	3490 x 823 x 918 mm
Weight ~	595 Kg
Standards	UIC
Customization	by the order

Condenser Railcar





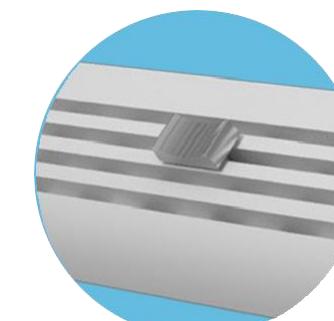
Specification

Part No.	****
Material	Steel ST37
Dimension	1750 x 306 mm
Weight ~	15.3 Kg
Standards	UIC
Customization	by the order

- Air Circulator Under Bed
- Middle Detachable part for easy access to heater

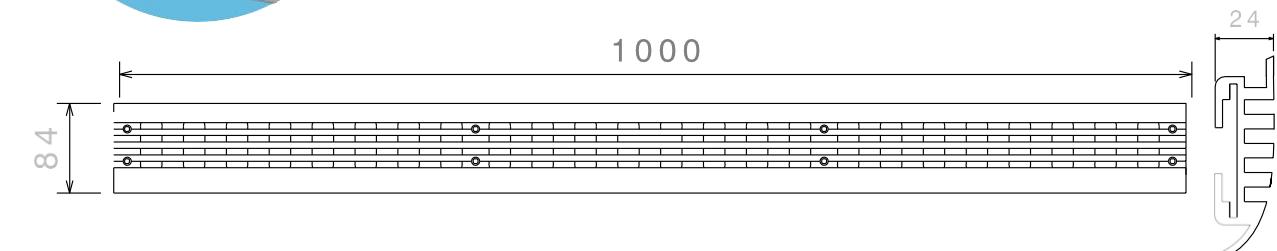


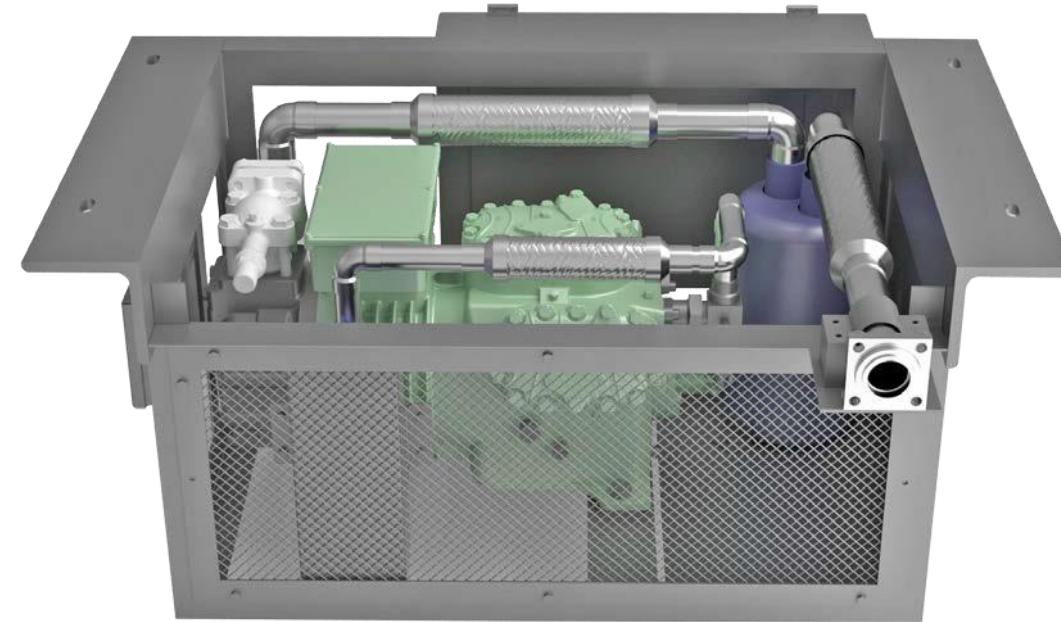
- Adjustable Air Vent



Specification

Part No.	****
Material(Body)	6061 Aluminum
Material(Window)	Steel
Dimension	1000 x 84 x 24 mm
Weight ~	1.163 Kg
Standards	UIC
Customization	by the order

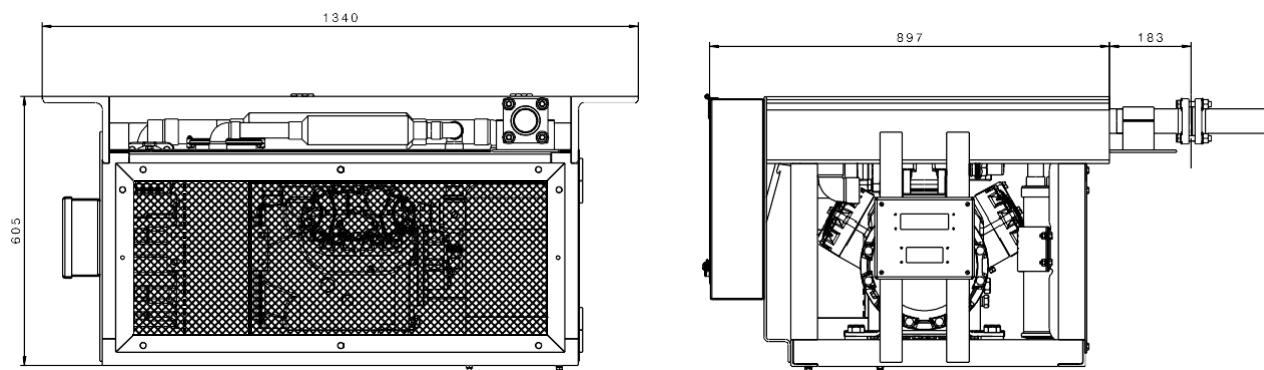




Specification

Part No.	****
Dimension	1340x897x605 mm
Weight ~	317 Kg
Standards	UIC
Customization	by the order

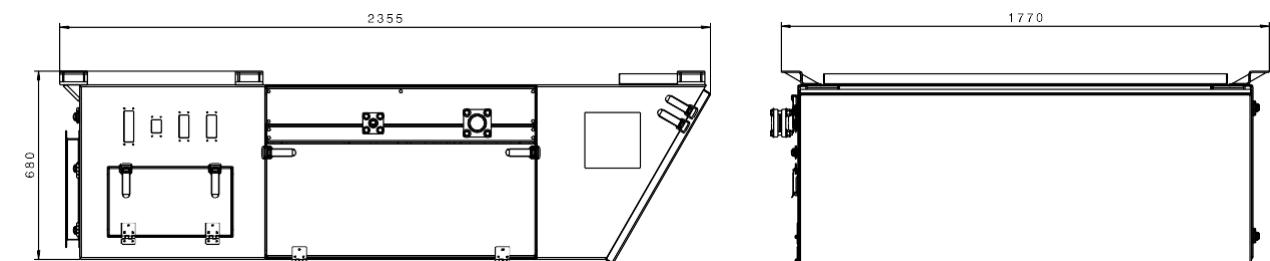
- Compressor with Bitzer brand, German model 6JE-33Y, with the ability to control the capacity in 3 stages 30%-60% -100%
- vibration absorber American packless brand
- All valves and pressure switches from the most reputable European brands
- Equipped with oil separator system with glass site to see the return of oil
- Equipped with oil pressure control system
- Ability to be designed, built and assembled based on the needs of the client



Specification

Part No.	****
Material	Steel ST37
Heating capacity	24 Kw
Cooling capacity	144034 BTU per hour
Dimension	1750 x 306 mm
Weight ~	325 Kg
Standards	UIC
Customization	by the order

- Air Circulator Under Bed
- Middle Detachable part for easy access to heater
- Use of forward centrifugal fan with technical brand of fan with aeration capacity
- The inner wall of all steel seals is very high
- All doors are hinged for easy repair
- Use a 5-layer metal filter
- Connector jacks from the German Harting brand
- The air conditioner has 6 hooks for restraint under the wagon
- All valves from the most reputable European brands
- Ability to design, build and assemble based on the needs of the client

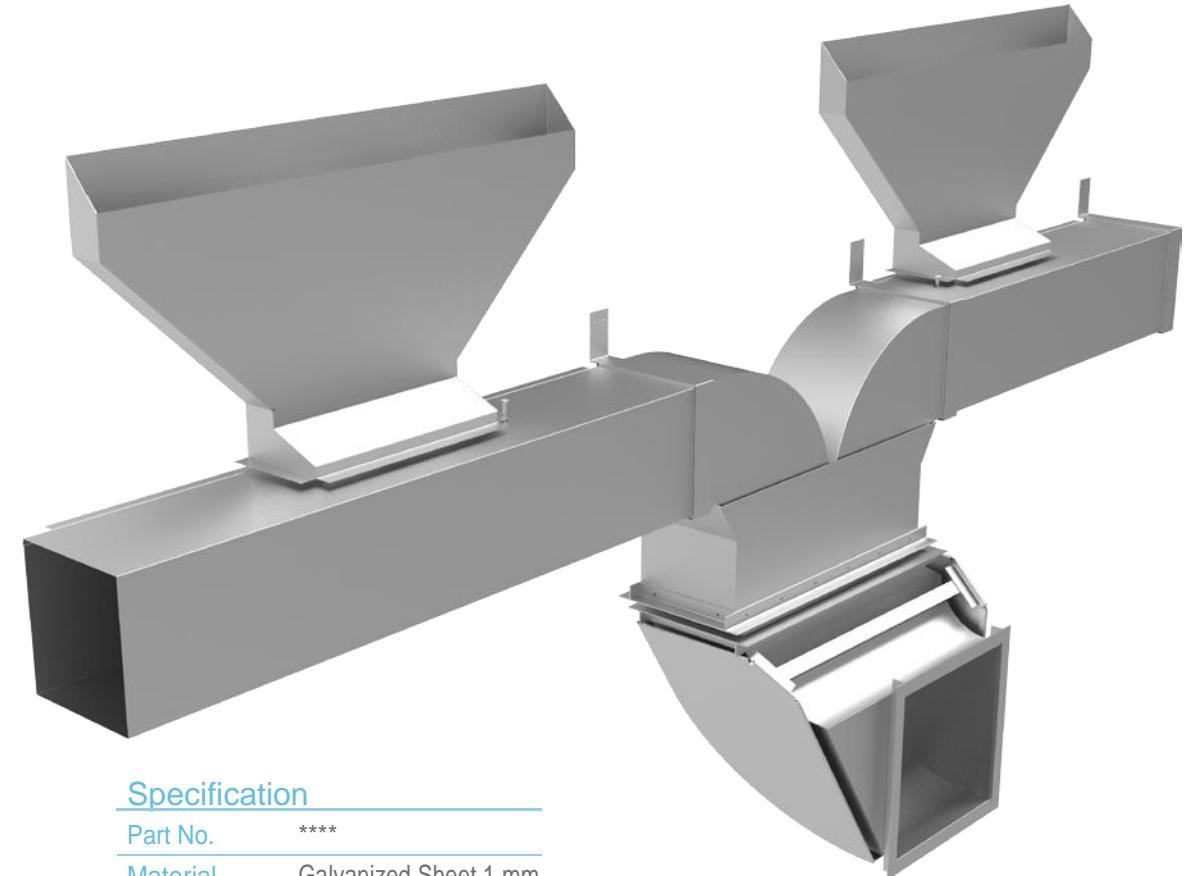
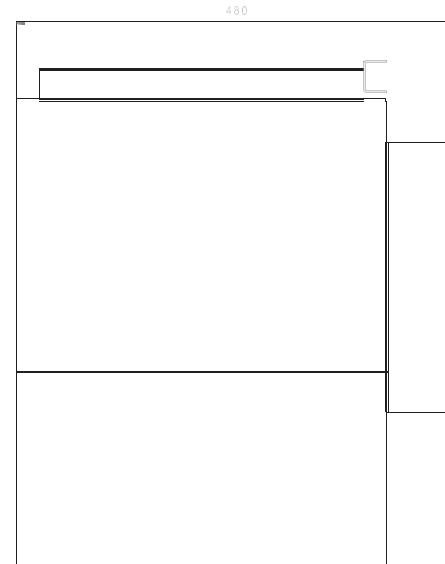
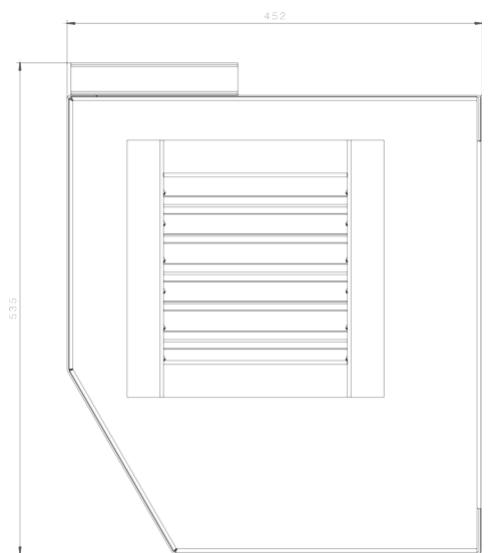




Specification

Part No.	****
Material	Galvanized Sheet 1 mm
Dimension	452 x 535 x 480 mm
Weight ~	55 Kg
Standards	UIC
Customization	by the order

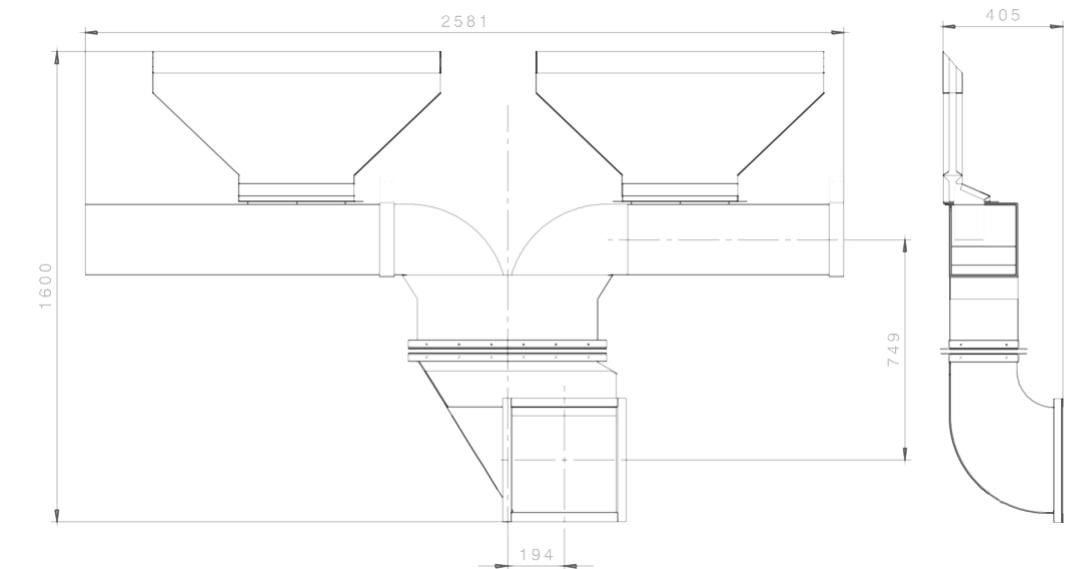
- Rotary air damper actuators 2 Nm, with spring return
- Single-blade air inlet and outlet valve with silicone rubber
- Commandability by PLC
- Design, build and assemble based on the order

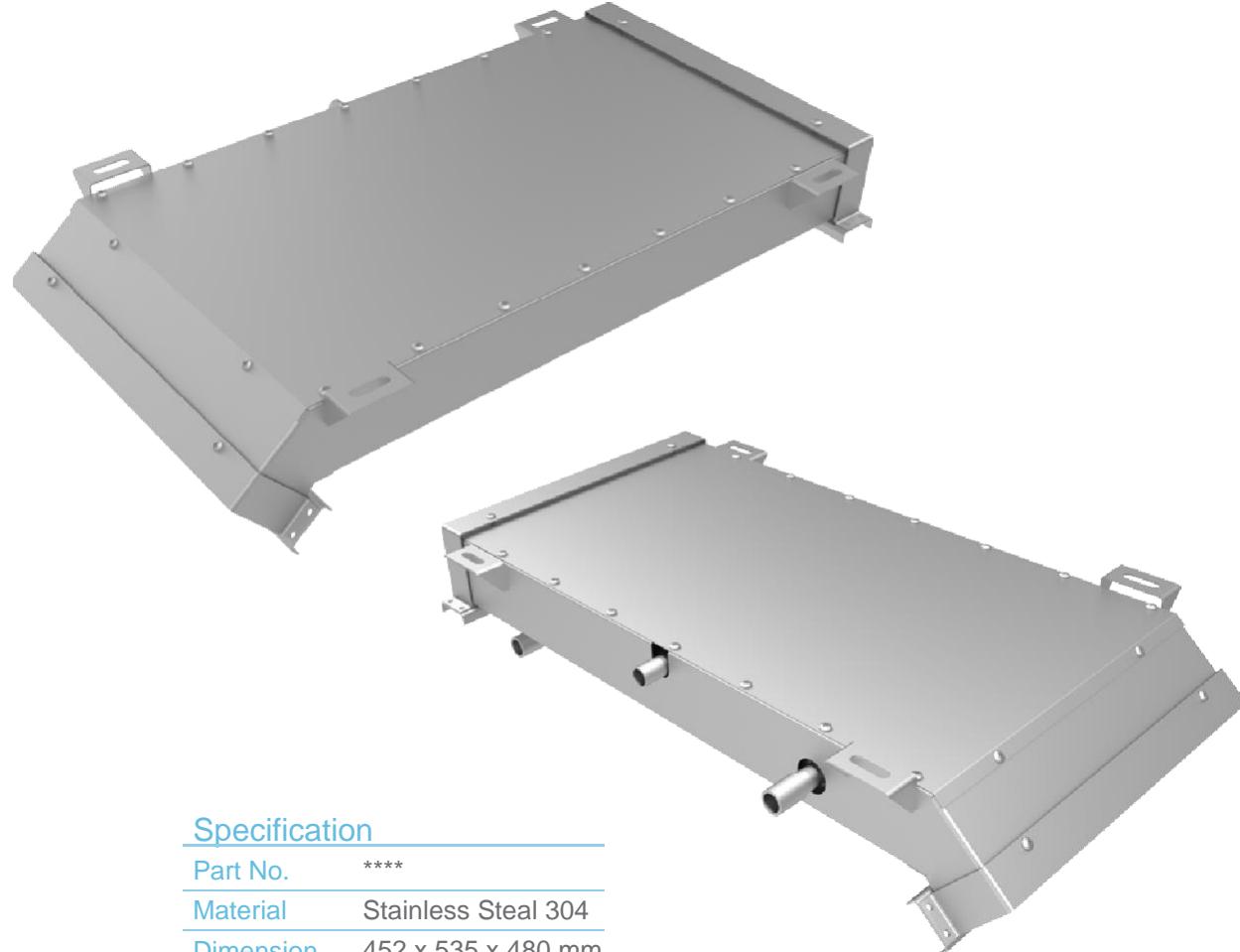


Specification

Part No.	****
Material	Galvanized Sheet 1 mm
Dimension	2581 x 1600 x 405 mm
Weight ~	80 Kg
Standards	UIC
Customization	by the order

- Totally Sealed
- Air Channel Separator

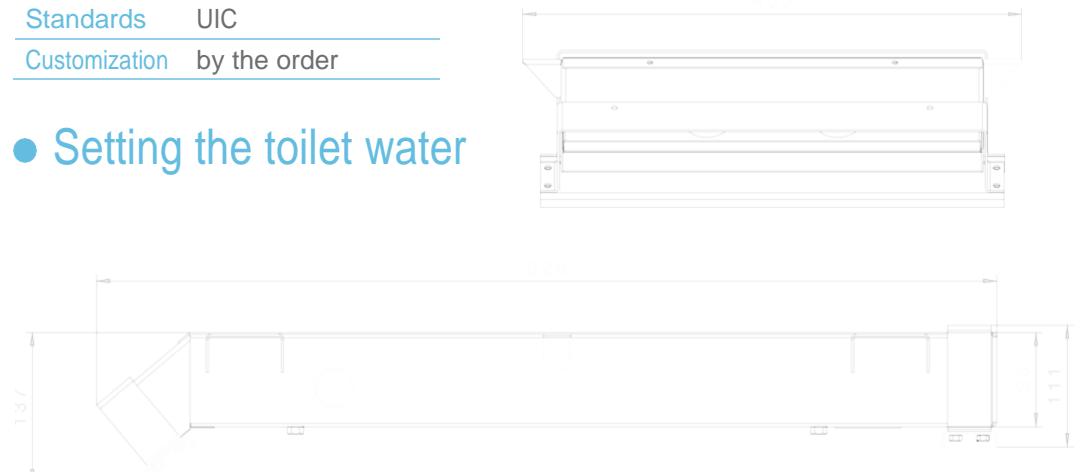




Specification

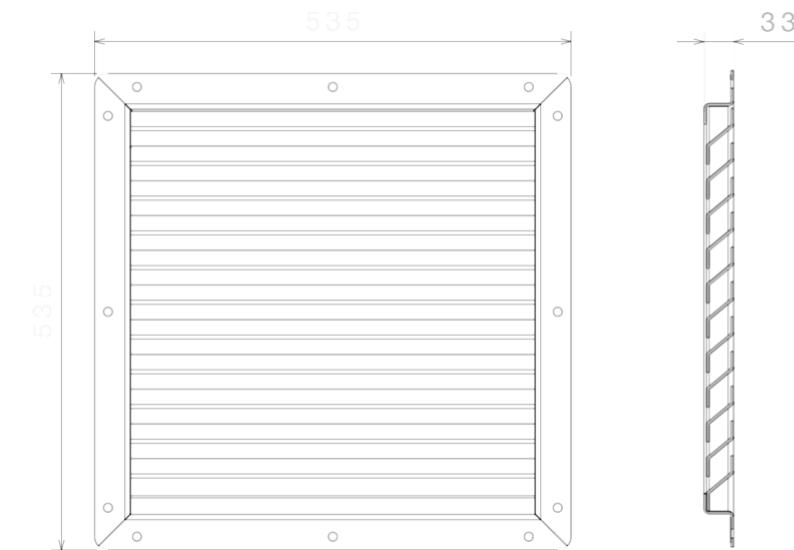
Part No.	****
Material	Stainless Steel 304
Dimension	452 x 535 x 480 mm
Weight ~	30 Kg
Standards	UIC
Customization	by the order

● Setting the toilet water



Specification

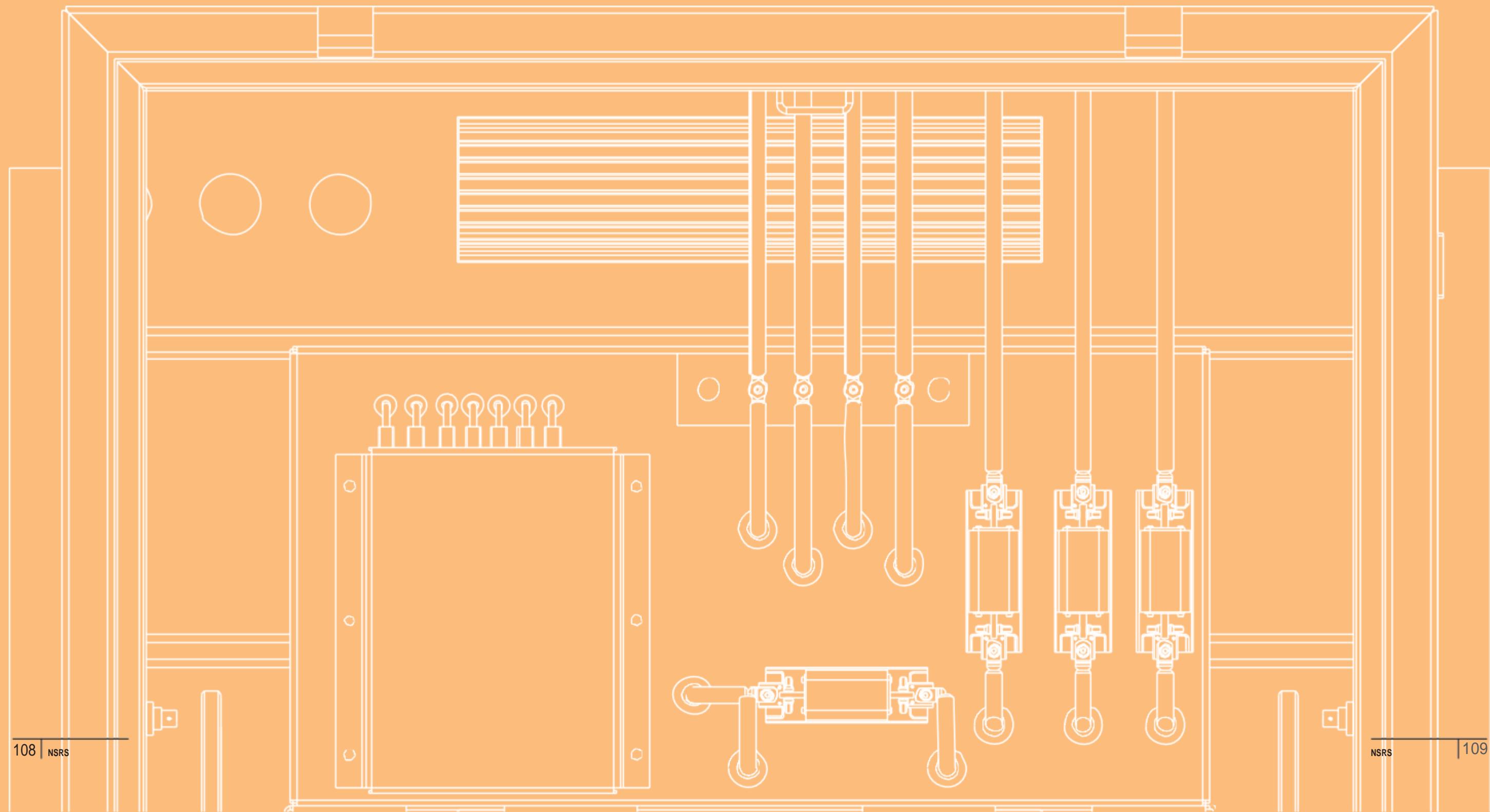
Part No.	****
Material	ST 37 Steel
Dimension	535 x 535 x 33 mm
* Electrostatic Finishing	
Weight ~	12.584 Kg
Standards	UIC
Customization	by the order

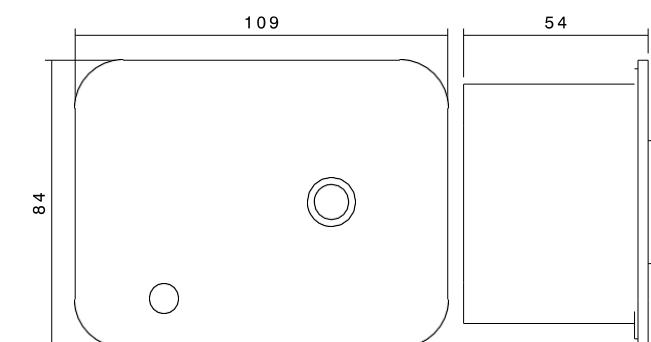




Passenger Railcar Electrical System

Having an intuitive and proper Human Machine Interface (HMI) is essential for users to get insights and manage their systems efficiently. Its importance relies on the benefits of better diagnostics and monitoring. Therefore, HMI should be on the priority list of operating companies. The Human Machine Interface (HMI) is a touchscreen mounted in the cab or other staff areas. It controls and monitors your on-board systems.





Specification

Part No.	****
Material(Body)	ABS
Material(Cover)	Plexiglass
Dimension	109 x 84 x 54 mm
Weight ~	0.088 Kg
Standards	UIC
Customization	by the order



LED Board

Origin and Destination

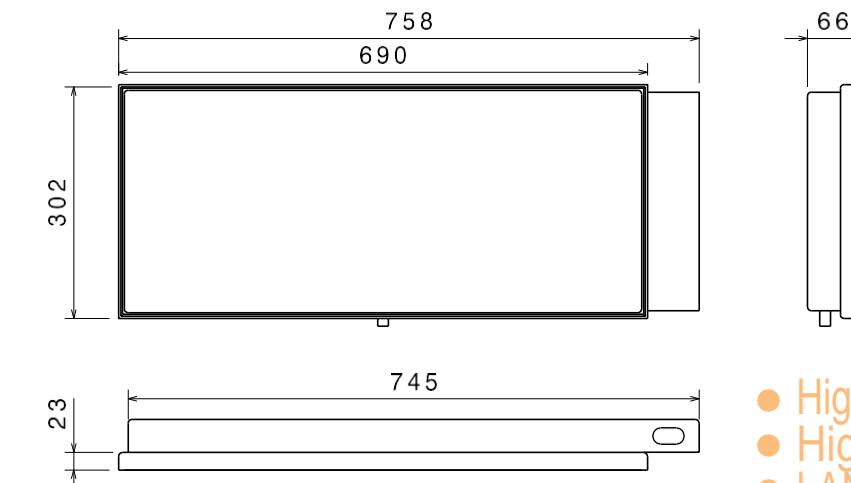


ELECTRICAL
PARTS



Specification

Part No.	****
Material	LED
Dimension	758 x 302 x 66 mm
Weight ~	10.814 Kg
Standards	UIC
Customization	by the order



- High Resolution
- High Clarity
- LAN Connection
- Multi Lingual Support

Smart Network Display System

SERVICE . ENTERTAINMENT . NAVIGATION . ATTENDANCE

We have designed and developed software and hardware with modern smart displays to provide passengers' entertainment and comfort. Each compartment has two 15" full-HD monitors.



sena, as a smart network display system, is exclusively designed and developed for passenger railcars. This system includes various software and hardware components, provides both passengers and attendants with different services such as entertainment, departure information, and communication facilities.

Some of the services of the system are as follows:

- Playing movies & music
- Average speed
- Displaying prayer times
- Weather information
- Intranet access
- Itinerary on the map
- Distance to the destination
- Opinion poll
- Distance to the next station
- Travel info
- Current and next station
- Attendant call



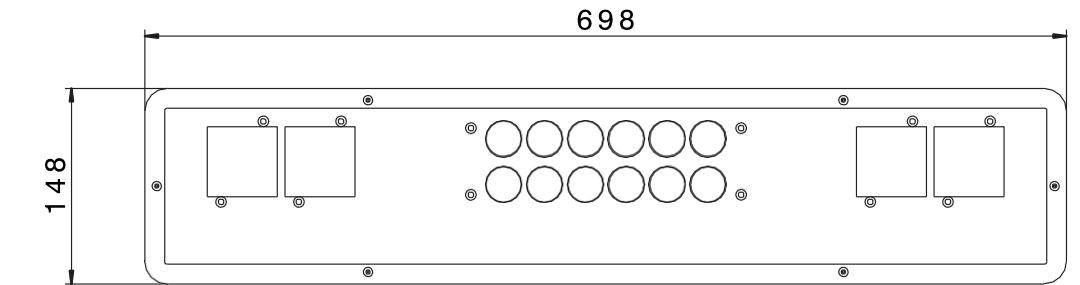
Passengers are provided with a remote control for monitors which offer audio-visual features under SENA network platform. SENA control dashboard is at the disposal of the attendant inside the half-compartment and is controlled using a touch screen, enabling them to communicate with and receive orders from the passengers and to monitor wagon security using the installed CCTVs.



Display Panel Corridor



Control Panel Galley





Upper Bed Reading Light & Plug

4° Temperature Control

WC Status Indicator

Attendant

Lightings

Control Panel Compartment

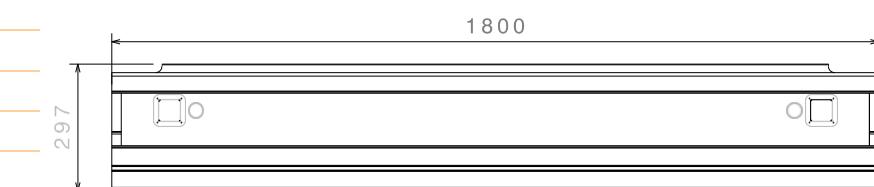


ELECTRICAL PARTS



Specification

Part No.	****
Material(Body)	6061 Aluminum
Material(Panel)	Plexiglass
Dimension	1800 x 297 mm
Weight ~	13.22 Kg
Standards	UIC
Customization	by the order



Control Panel Compartment



ELECTRICAL PARTS

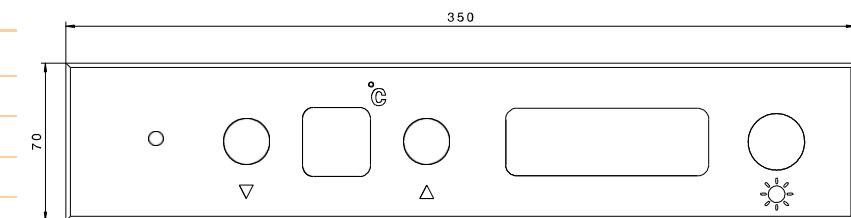


- 4° Temperature Control
- Lightings



Specification

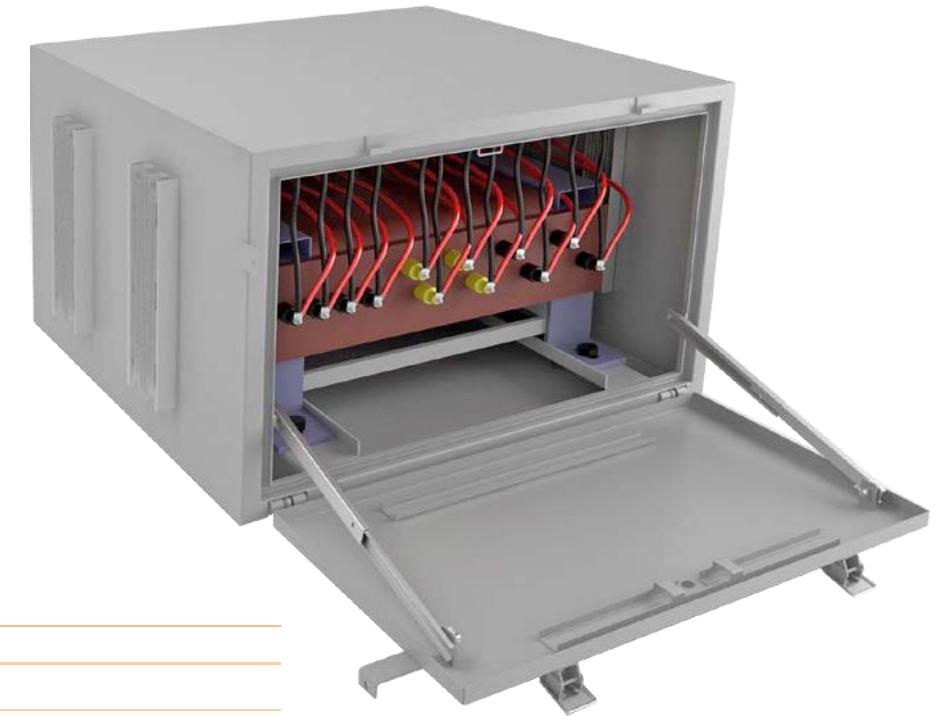
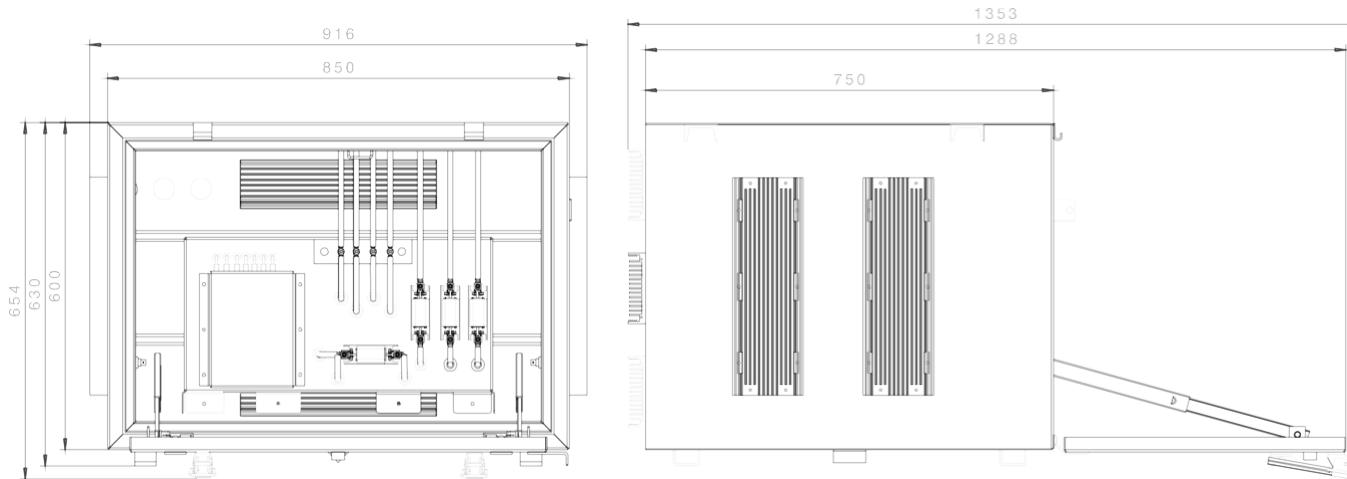
Part No.	****
Material(Body)	6061 Aluminum
Material(Panel)	Plexiglass
Dimension	350 x 70 mm
Weight ~	**** Kg
Standards	UIC
Customization	by the order





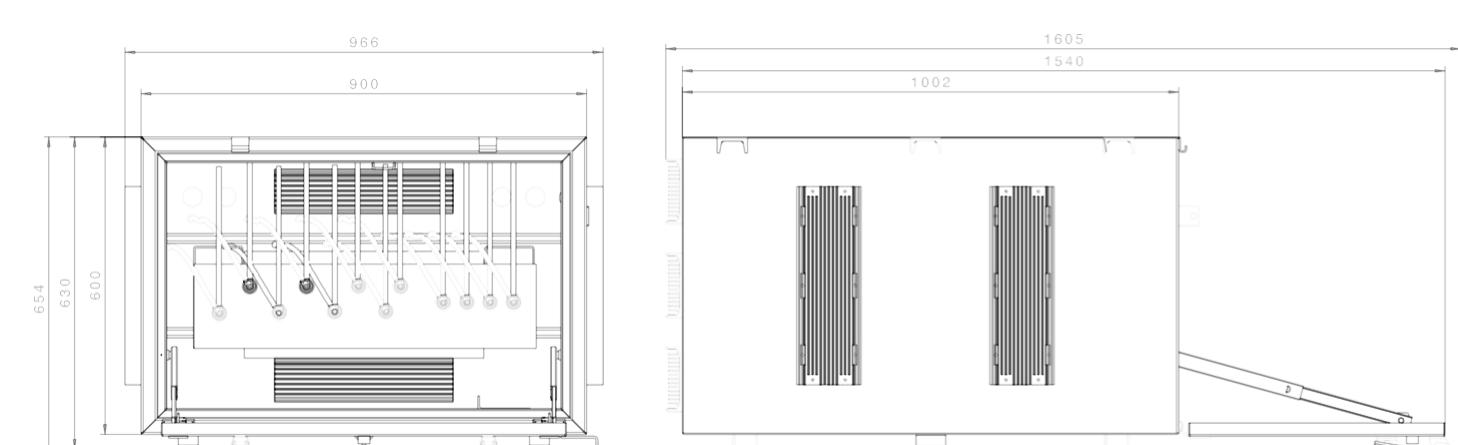
Specification

Part No.	****
Material(Box)	ST37 Steel
Dimension	850 x 654 x 750 mm
Weight ~	142 Kg
Rated Power	7.5 kva
Input Voltage	3 x 27 v AC
Adjustable output voltage (For batteries)	24-29 v dc /40A
Constant output voltage	24 v dc /160A
Operating temperature	-20 -+60
Standard	IEC-UIC



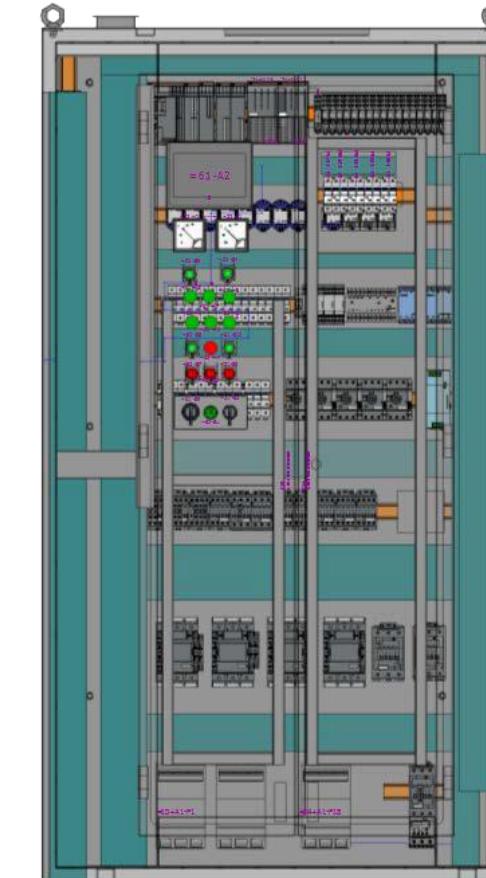
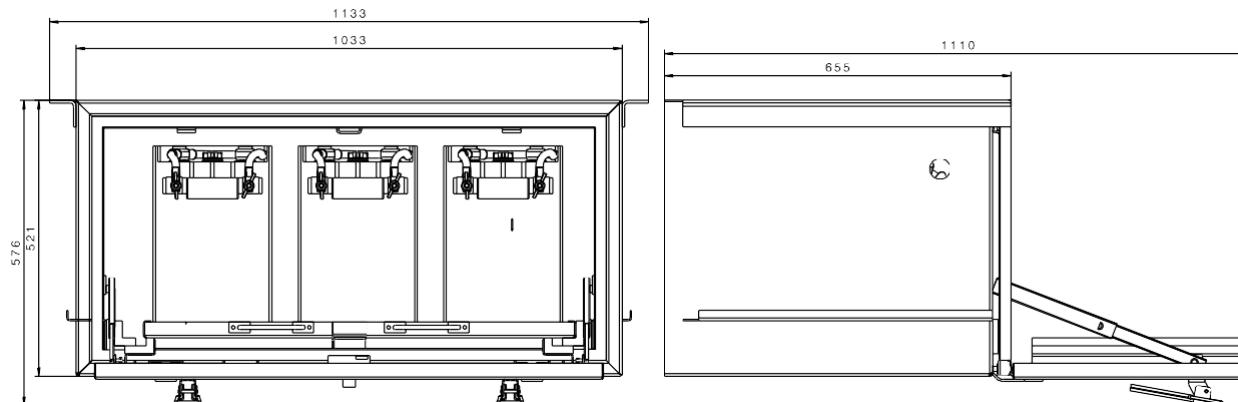
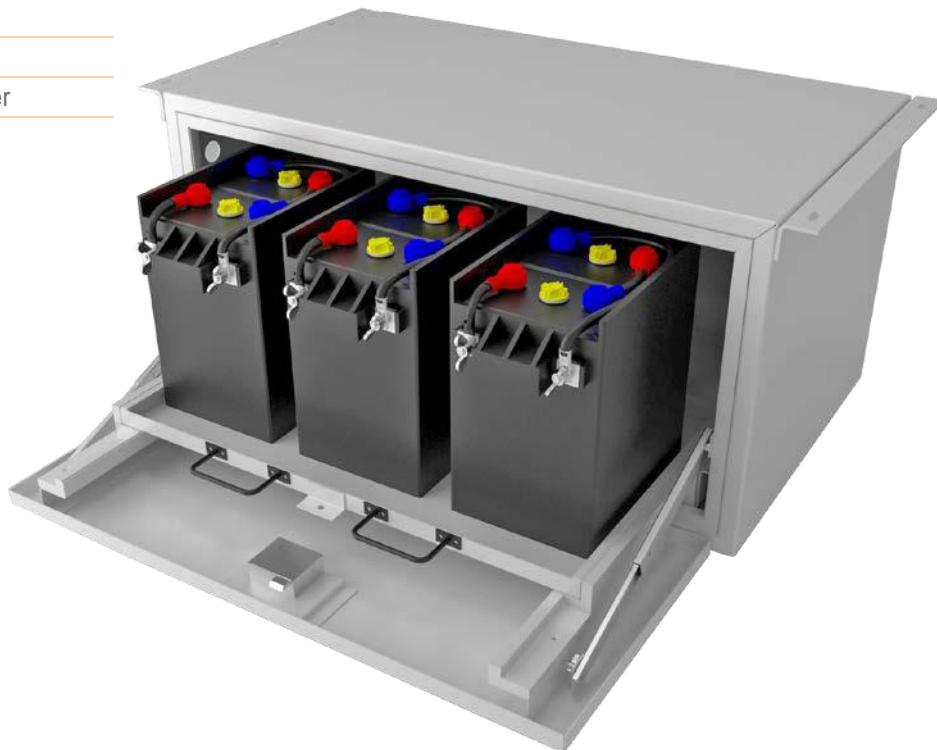
Specification

Part No.	****
Material(Box)	ST37 Steel
Dimension	966 x 654 x 1002 mm
Weight ~	540 Kg
Total Rated Power	55 kva
Frequency	50 Hz
Rated Voltage	input:380/660 output:380/27
Kind of Service	CONT
Insulation Class	H
Operating temperature	
Standard	IEC-UIC



Specification

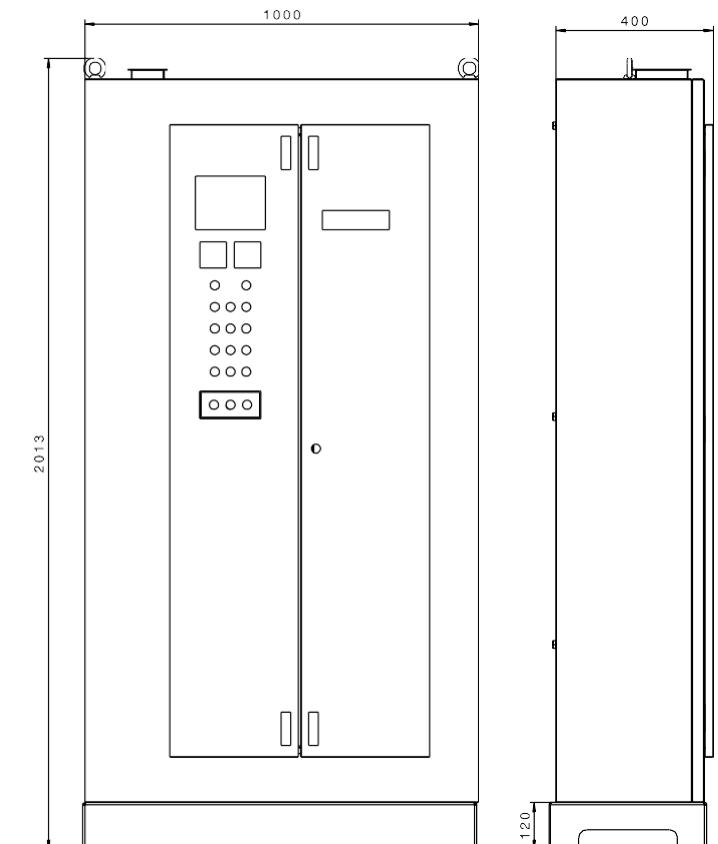
Part No.	****
Material(Box)	ST37 Steel
Dimension	1113x576x655 mm
Weight ~	315 Kg
Standards	UIC
Customization	by the order



- IEC Standard Design
- HMI & PLC Automation
- Designed by the Order
- Standard Electrical Equipment, Wires and Cables

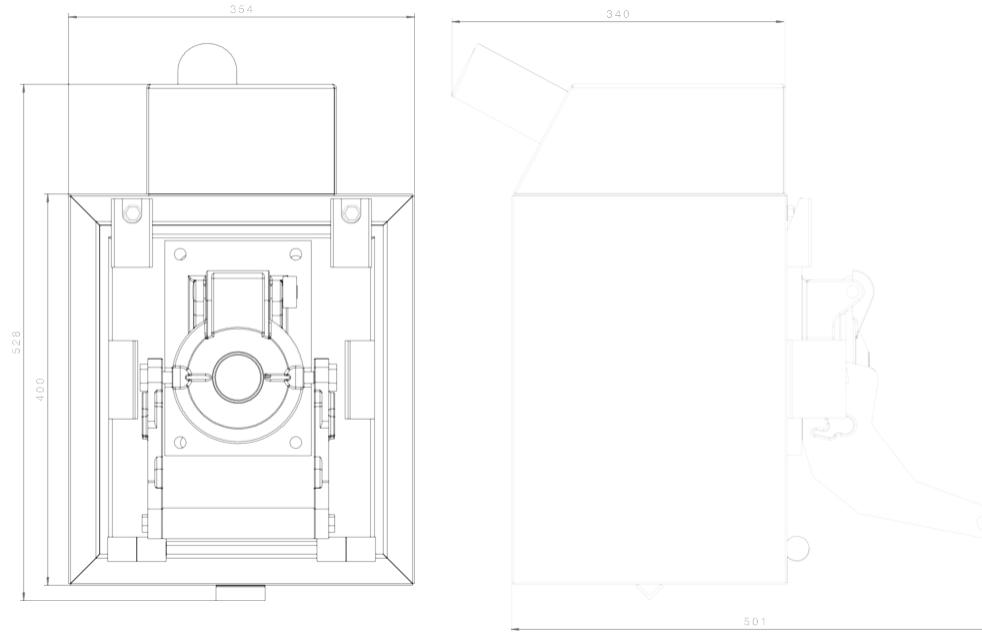
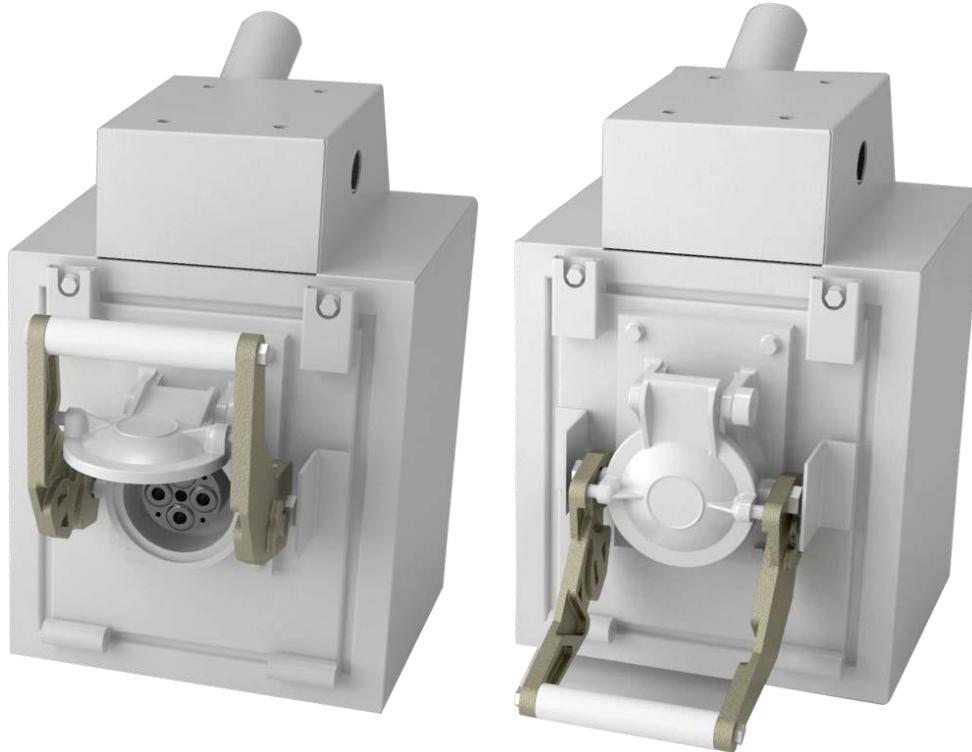
Specification

Part No.	****
Material(Box)	ST37 Steel
Dimension	2013x1000x400 mm
Weight ~	250 Kg
Standards	UIC
Customization	by the order



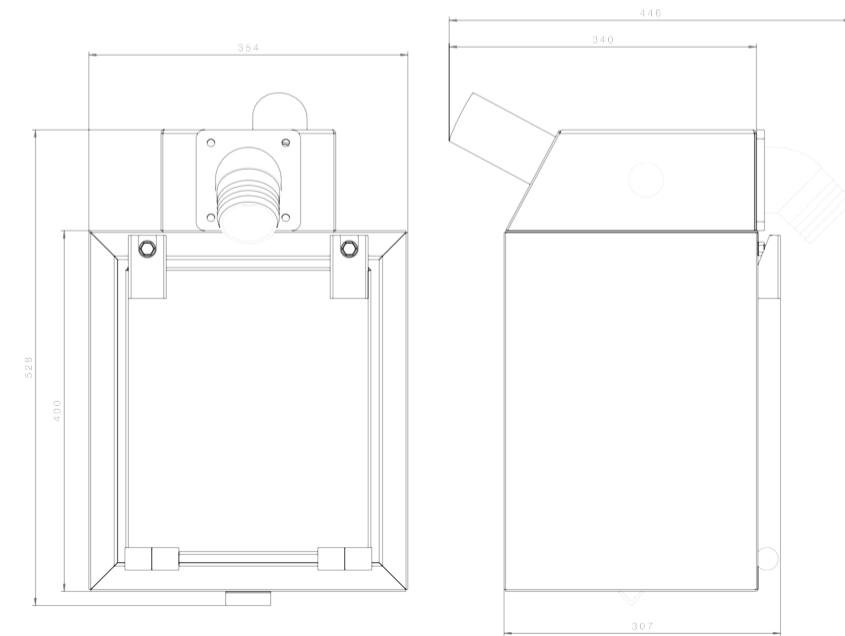
Specification

Part No.	****
Dimension	528 x 354 x 340 mm
Weight ~	30 Kg
Standards	UIC
Customization	by the order

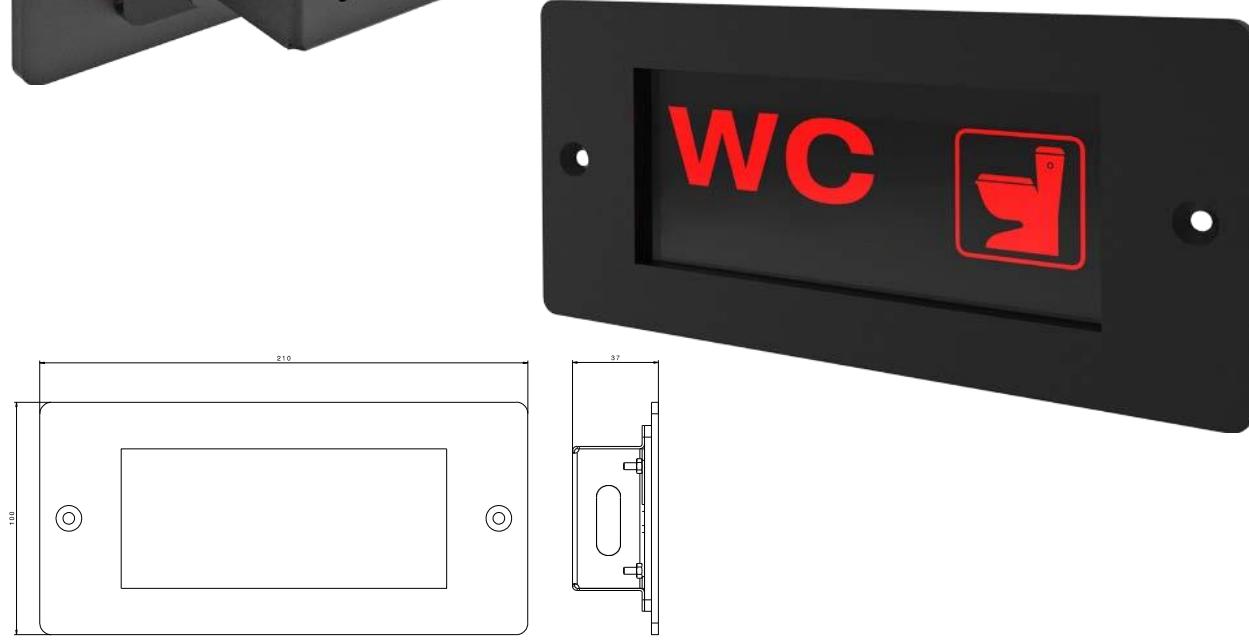
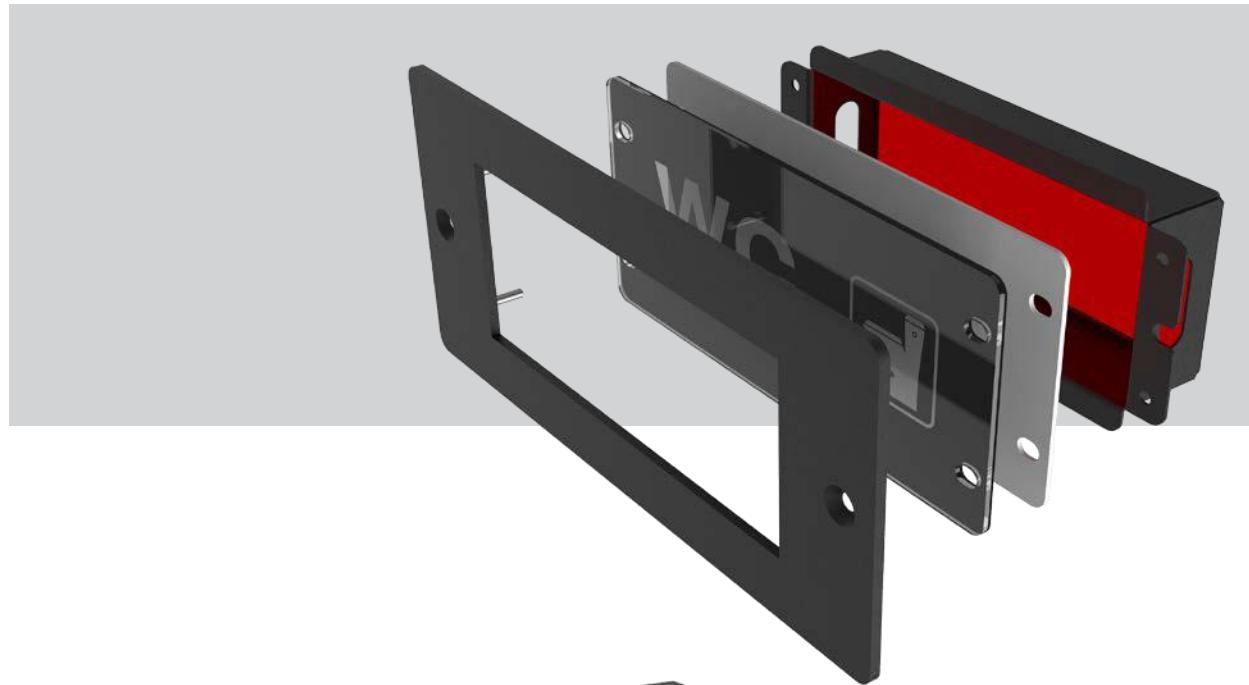


Specification

Part No.	****
Material (Box)	ST37 Steel
Dimension	966 x 654 x 1002 mm
Weight ~	36 Kg
Standards	UIC
Customization	by the order



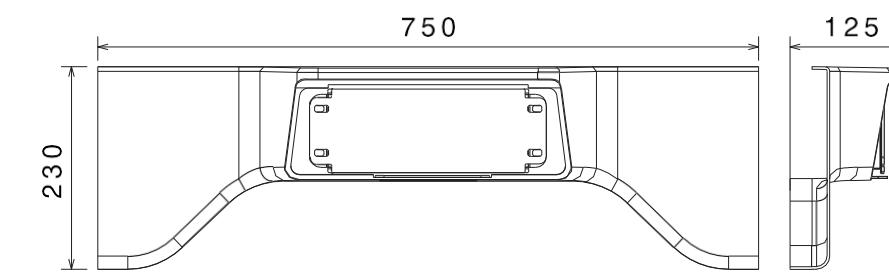
WC Status LED Corridor



Specification

Part No.	****
Material(Body)	Steel ST37
Material(Panel)	Plexiglass
Dimension	210 x 100 x 37 mm
Weight ~	1.7 Kg
Standards	UIC
Customization	by the order

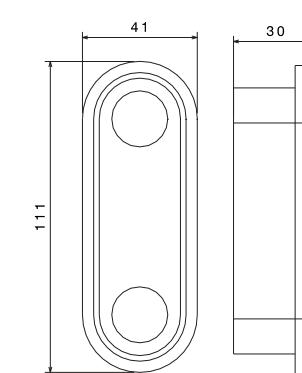
WC Status Indicator Corridor



Specification

Part No.	****
Material(Body)	GRP
Material(Panel)	Plexiglass
Dimension	750 x 230 x 125 mm
Weight ~	0.64 Kg
Standards	UIC
Customization	by the order

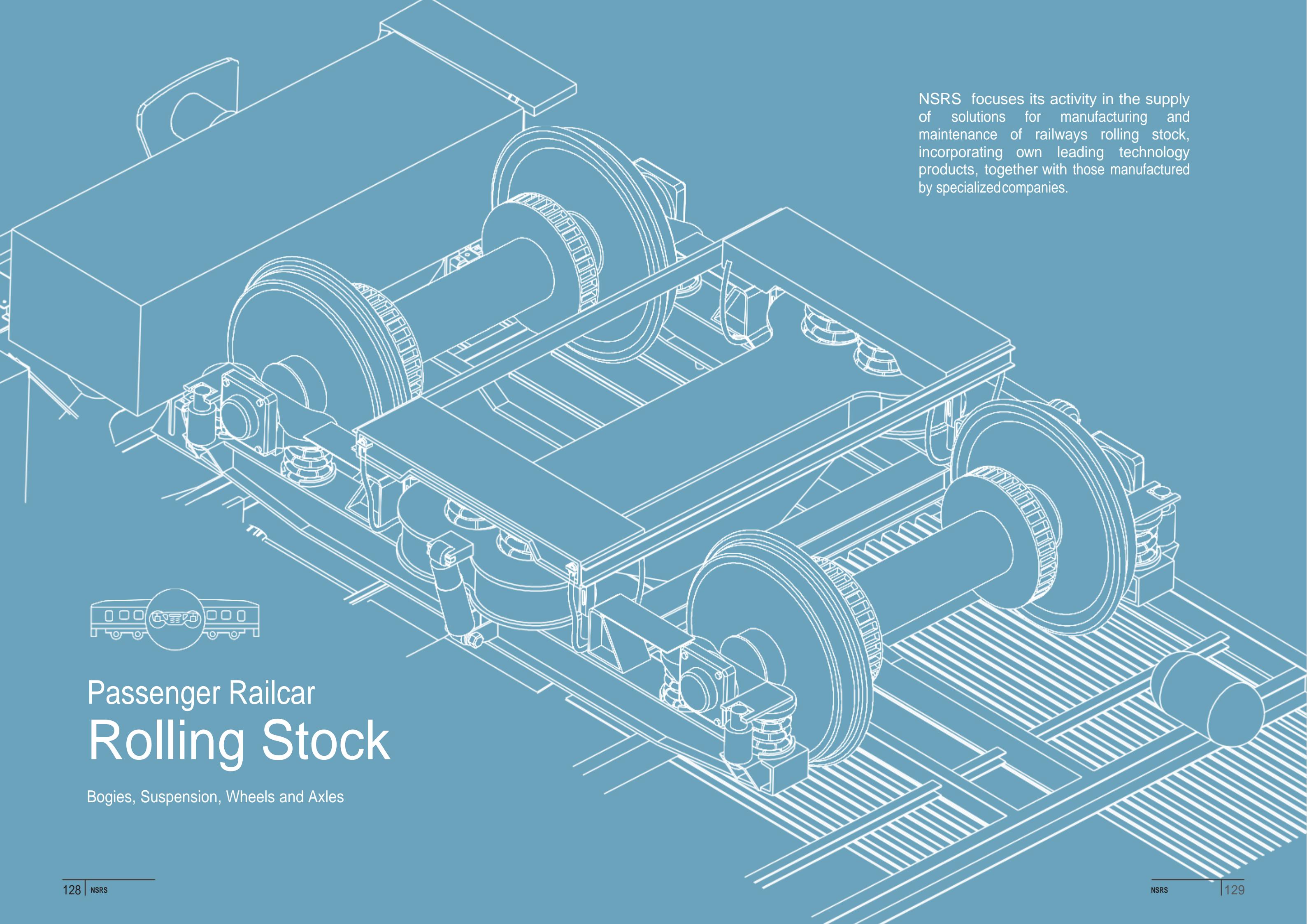
WC Status Indicator Visibile Wall



Specification

Part No.	****
Material(Body)	Aluminium
Material(Panel)	Plexiglass
Dimension	111 x 41 x 30 mm
Weight ~	0.6 Kg
Standards	UIC
Customization	by the order





NSRS focuses its activity in the supply of solutions for manufacturing and maintenance of railways rolling stock, incorporating own leading technology products, together with those manufactured by specialized companies.

Passenger Railcar Rolling Stock

Bogies, Suspension, Wheels and Axles



Bogie Gp200S-Mg
for passenger coaches

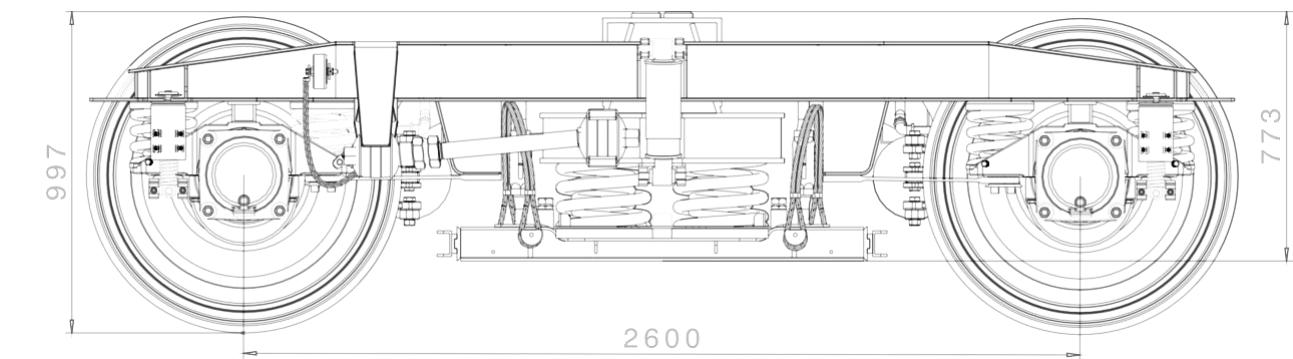
130 NSRS

Bogie Gp200S-Mg for passenger coaches

 ROLLING
STOCK

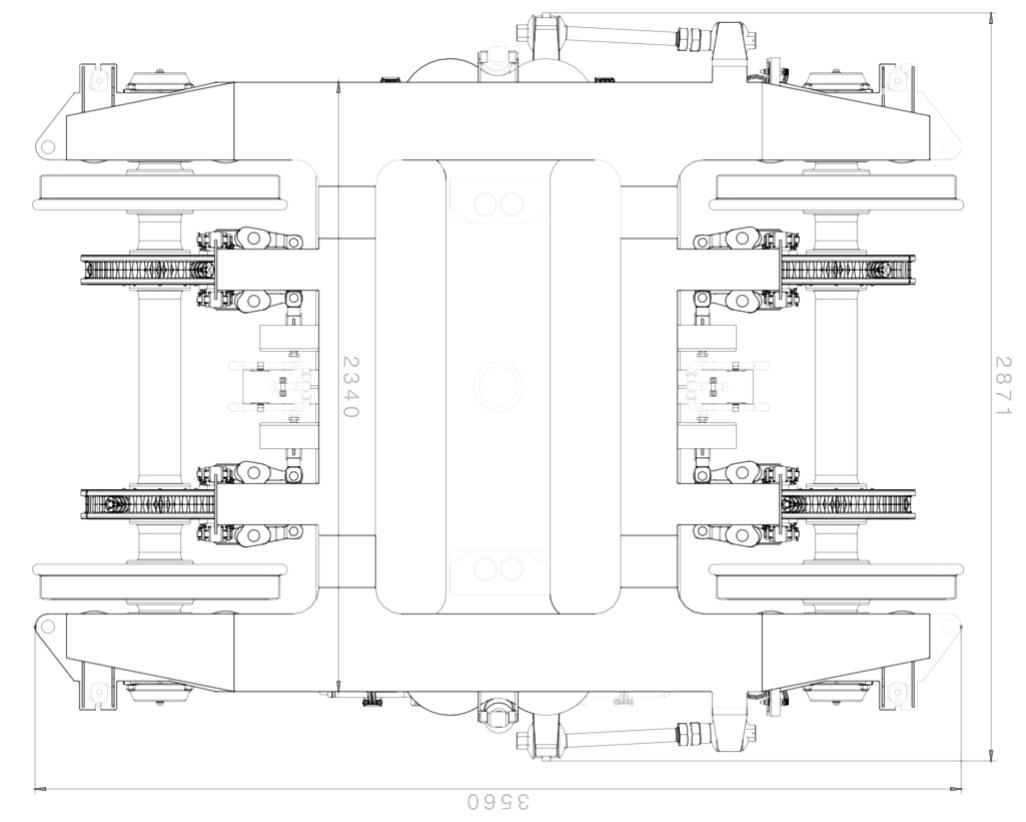
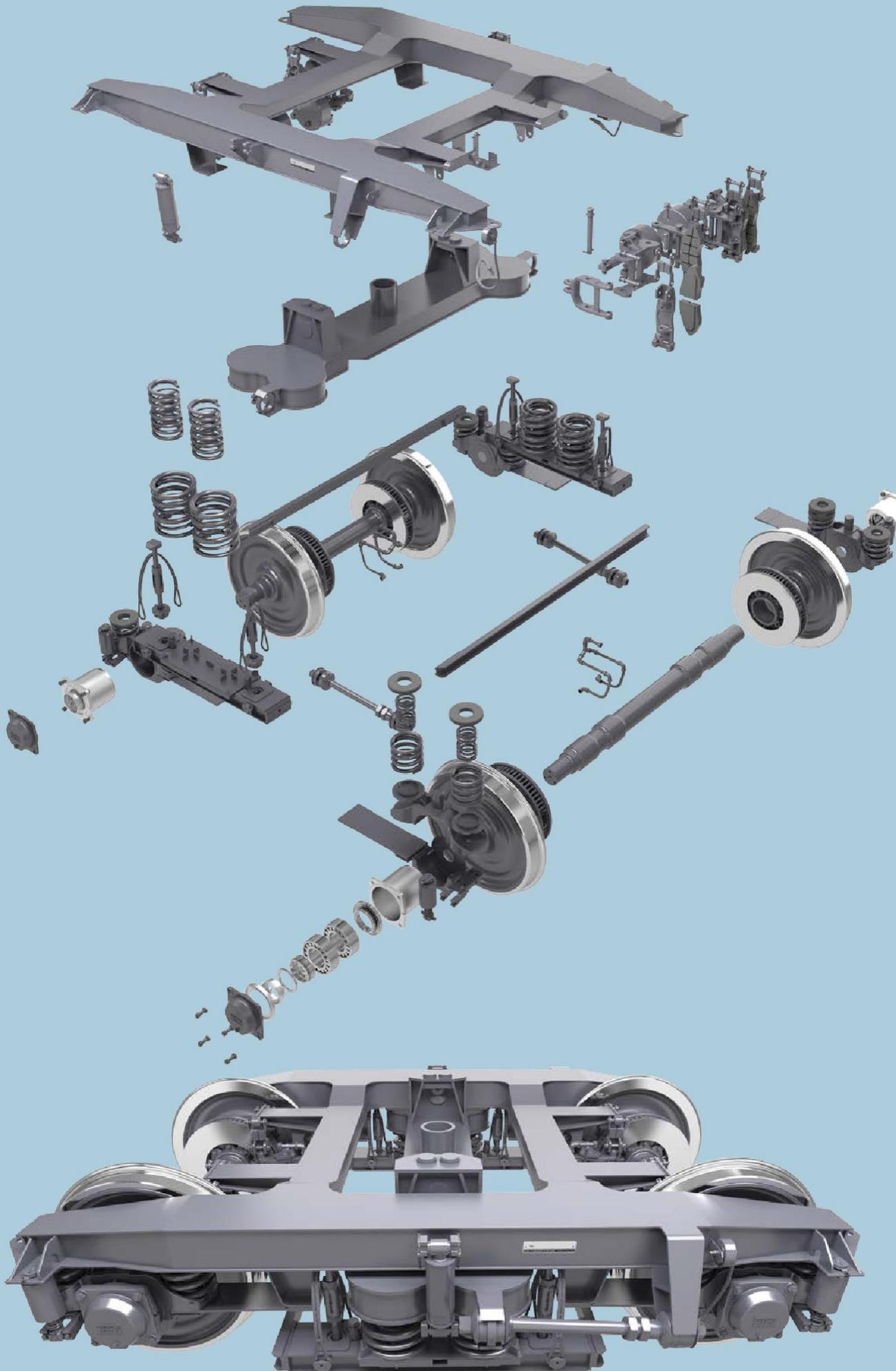


Running gear	Two-axle
Gauge	1435 mm, modification 1520 mm
Running speed	200 km/h
Braking speed	200 km/h
Tare Weight ~	5,6 t
Material for main supporting components	TSt E 355, St 52-3
Range of load-carrying capacity	20,5 t, 23,5 t, 25 t, 28 t
Guidance	Non-wearing guiding of wheelset and bolster by guiding rods
Car body support	By side bearer, guiding by centre bogie pin
Primary suspension	Screw spring sets
Secondary suspension	Screw spring sets
Brakes (optionally)	GP 200 S: disc brake
GP 200 S (Mg): disc brake and prepared for electromagnetic rail brake	
GP 200 S Mg: disc brake and electromagnetic rail brake	
Standard	UIC-Code 515
Use	Saloon coaches, compartment coaches, couchettes, sleeping cars, dining cars

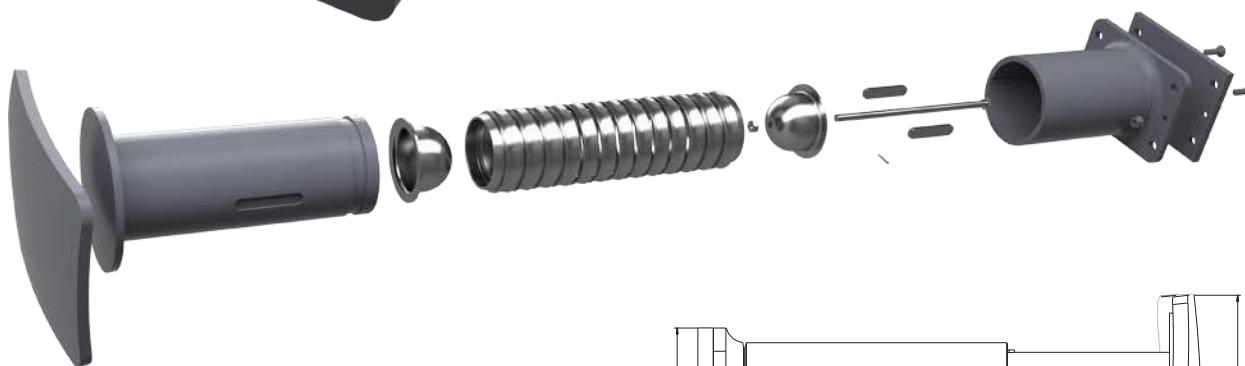


NSRS

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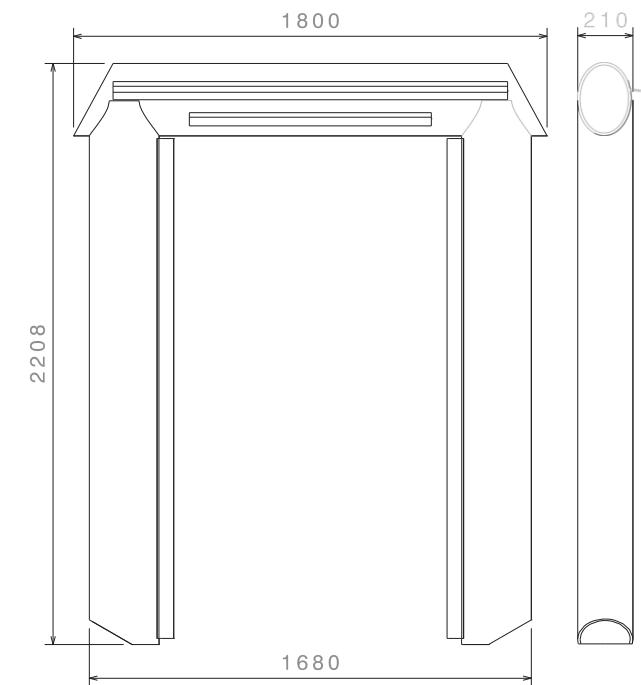
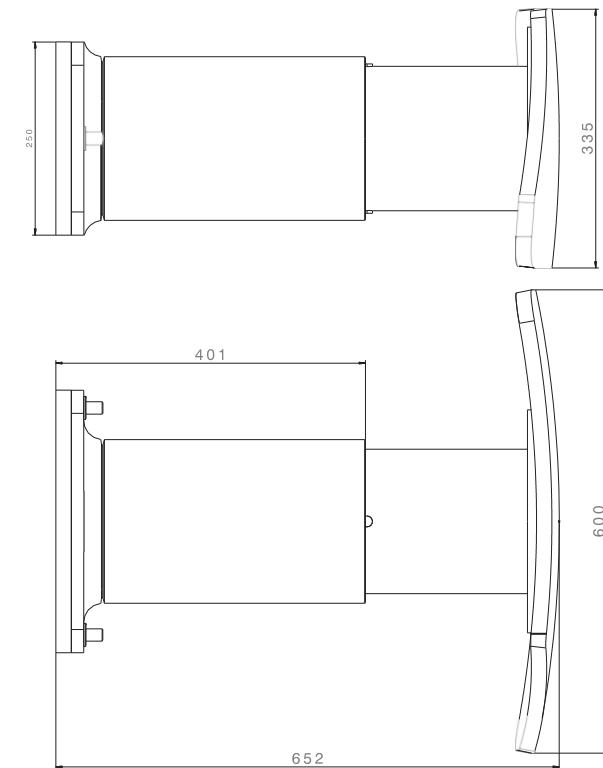
- Course 110
- 150 Kj Damper



Specification

Part No.	****
Material	TStE355, St52-3
Dimension	652 x 600 mm
Weight ~	122 Kg
Standards	UIC
Customization	by the order

A passenger car buffer that meets the requirements of the EN15551 standard, the UIC 528 leaflet as well as the related leaflets. The buffer is characterized by good working parameters and operational reliability within the temperature range from -40°C to +50°C The buffer disk's surface is hardened.



Specification

Part No.	****
Material (Body)	Styrene-Butadiene Rubber (SBR) Nitrile-Butadiene Rubber (NBR)
*SBR is a rubber made of 75% styrene and 25% butadiene, as a co-polymer. The formula for SBR is C12H14.	
* NBR is a copolymer of butadiene and acrylonitrile used as a general purpose, oil resistant polymer in varying applications.	
Dimension	2208 x 1800 x 210 mm
Weight ~	37.9 Kg
Standards	UIC
Customization	by the order





Passenger Railcar
Services

NSRS is a leading company in train maintenance, flexible with short lead times, expertises in all aspects of rolling stock and is benefiting staff who have many years of experience. This allows us to supply your railway vehicle maintenance needs on a "turnkey" basis including all the elements needed for the customer such as cost, reliability, availability, maintainability and safety. We provide services in accordance with all environmental and occupational safety regulations in international quality standards.



Interiors Assembly

Compartment



RAILCARS
SERVICES



NSRS has developed the Interior Lining Design for Passengers railcars on various railway projects: this activity has allowed the acquisition and application of important experiences in design integrated with the development of structural profiles finalized to the optimization of interiors assembly. For these vehicles, NSRS developed the complete design of interior elements, 3D modelling, prototyping, mockup, user experience and assembly of interior elements. The design of railway interiors is complete with calculations and verifications with simulation of loads according to applicable railway norms.

An innovative fastening system was born out of the experience in design of interior elements and engineering of assembly, a system that used RUBBER NUT, able to "cut" vibrations coming from the coach structure.





Sand Blast Saloon

Huge cast parts like bogies to peening leaf springs

North Shore Rolling Stock offers technology to design clean railway wheelset axles before crack initiation testing and the end control of dimensions. The surface is completely cleaned with all paint and oxide traces removed by means of a shot blasting machine. We have designed the Sand blast saloon to clean parts of the Rail industry.

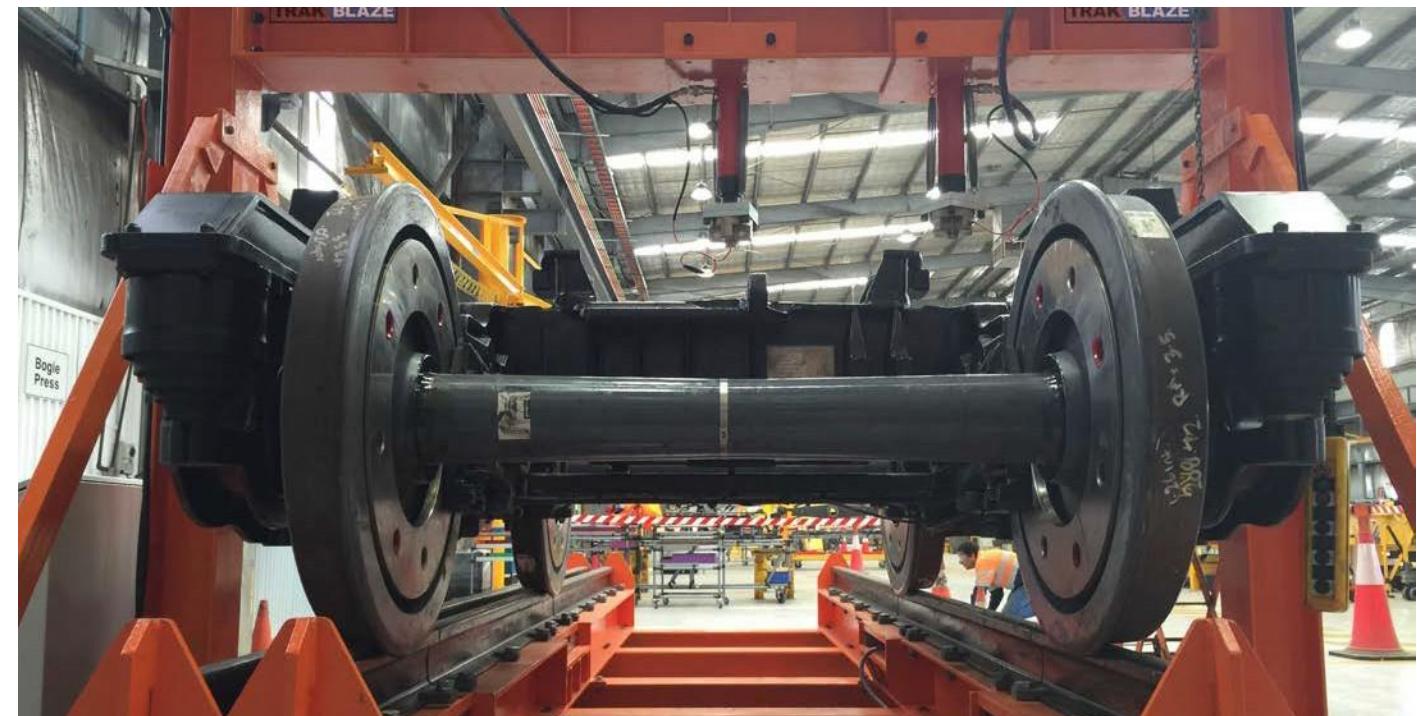


Balancing Systems

Bogie



The most significant cause of derailments is unbalanced loads, and the most efficient way to enhance fuel consumption is to ensure rail bogies are balanced as this creates smoother mobility of rolling stock and locomotives and decreases the risk of rail track infrastructural damage.

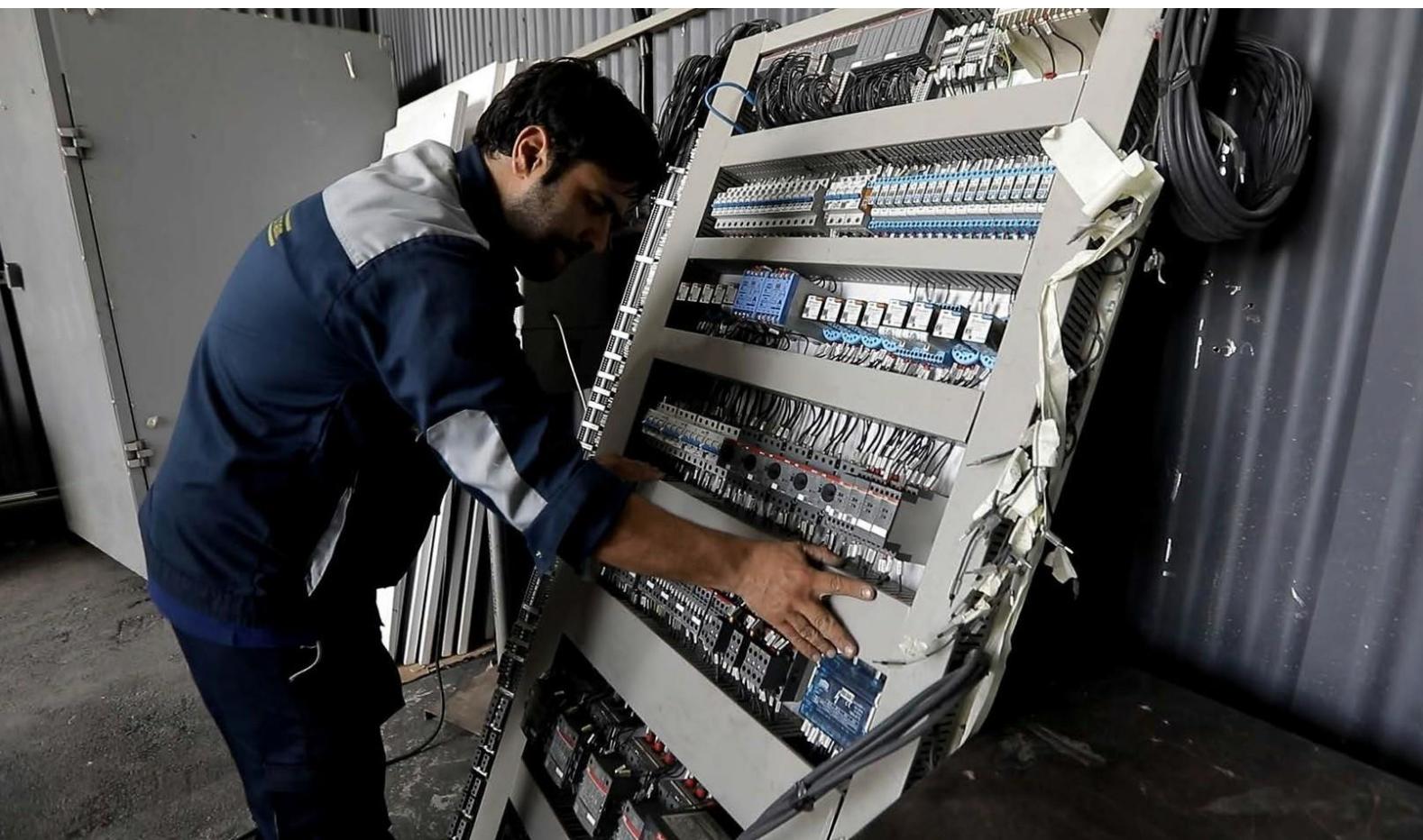


Electrical Control Panel

Design & Assembly



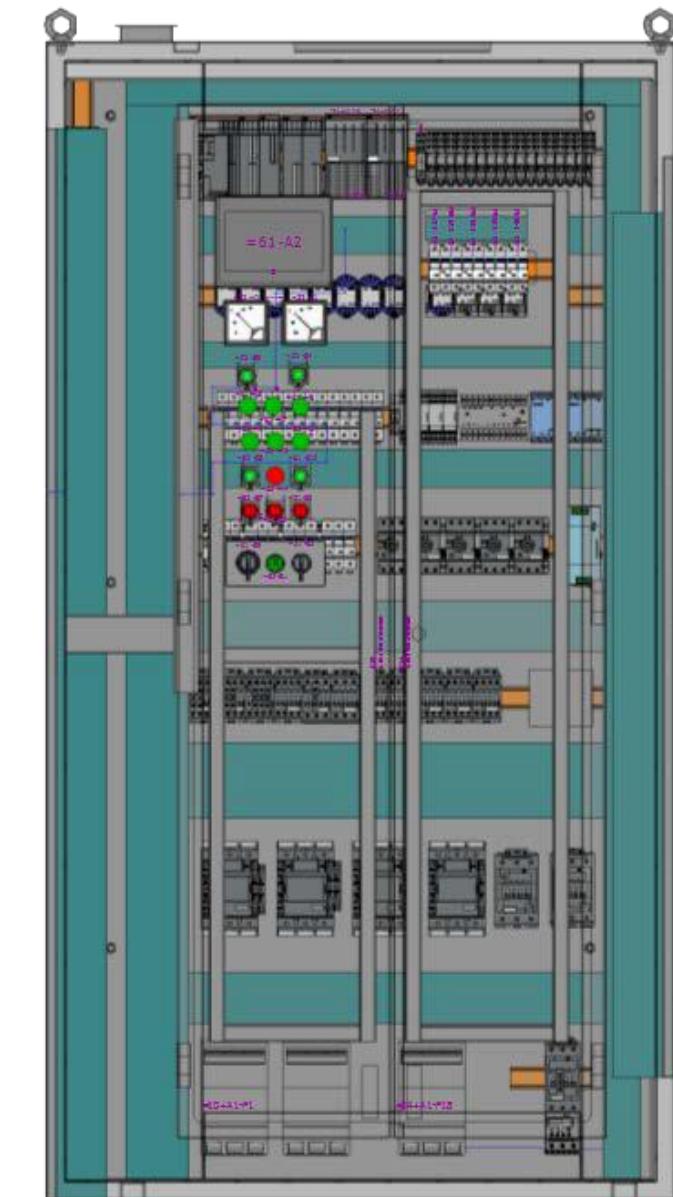
RAILCARS
SERVICES



North Shore Rolling Stock is one of the companies which is specially engaged in electrical and control systems in the fields of passenger railcar.

Assembly & Commissioning of Electrical & Control Systems of passenger railcars.

At this stage some equipments such as control Cable-Duct (wiring, cabling & test) have been assembled separately and are prepared to be used on final assembly. All of the electrical & control equipments and systems have been installed on the railcar and are wired and cabled together. and forms the final productive. at the final stage, the railcar will be tested thoroughly and then are commissioned.



The car body must have good thermal insulation properties. In order to make passengers get on and off the passenger car, the passenger car should have a passing platform at both ends, and through the gangway to prevent wind and cold and cold air from outside. In addition to the doors, windows, seats and sleepers, the car body also needs to be equipped with sanitary equipment, ventilation, water supply equipment, electrical equipment, heating equipment, broadcasting equipment and air conditioning equipment etc. Car body is one of the main parts for bear the load. Car body bear the vertical load, horizontal impact load and side force-in the meantime transfer the draft force and brake force to the coupler so car body structure should have enough strength and stiffness to ensure the safety and stability in the other wise car body as the installation basis for mostly mechanical device electric equipment and electronic equipment should have enough inner space ensure all the equipment are mounted they also should form a friendly and comfortable environment for driver work and passenger stay.

Rail Car Body Structure Reconstruction



RAILCARS
SERVICES

NSRS has the know-how and capabilities to reinstate train body and body structure to the original state. We have performed some services to reinstate train body structure. In order to increase the strength and stiffness of the carbody general adoption to the longitudinal lever cross beam and column has occurred and the stamping wall plate has replaced parts of the lever form a whole structure to bear load.



Paint & Finishing

Railcar Body



RAILCARS
SERVICES



Corrosion in coaches is a significant problem in Railways. It is the main cause for the reduced strength of components and further drastic failures of coaches as well as frequent maintenance and replacements of components. Painting coaches and their components is an important measure to prevent corrosion. Painting of coaches prevent the surface from atmospheric effects i.e. corrosion. It also reduces the wear-tear of surface and protects it from harmful insects. Painting produces an aesthetic look of coaches and increases the life for coaches. NSRS has prepared a great for painting of Coaches.

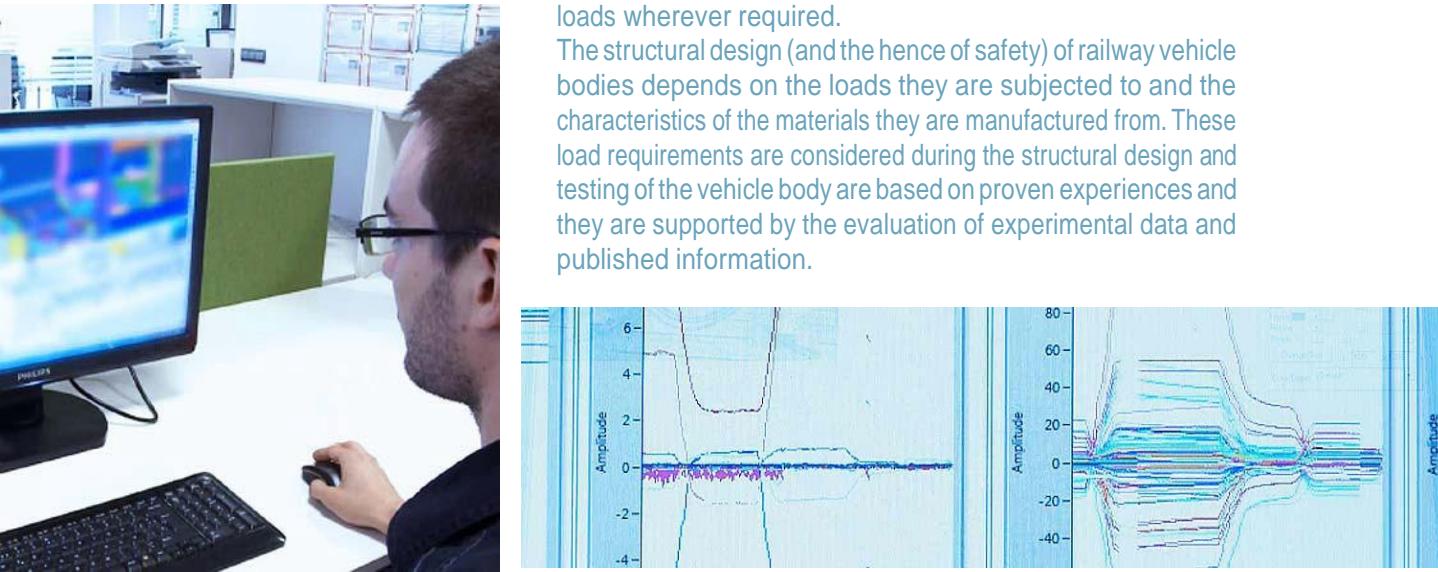


Carbody Structural Test

Railcar

We design, manage and realize structural testing according to international standards. NSRS can also adapt the test design to your specific requirements, including static and dynamic loads wherever required.

The structural design (and the hence of safety) of railway vehicle bodies depends on the loads they are subjected to and the characteristics of the materials they are manufactured from. These load requirements are considered during the structural design and testing of the vehicle body are based on proven experiences and they are supported by the evaluation of experimental data and published information.



Testing Water Sealing

Rain Test Room

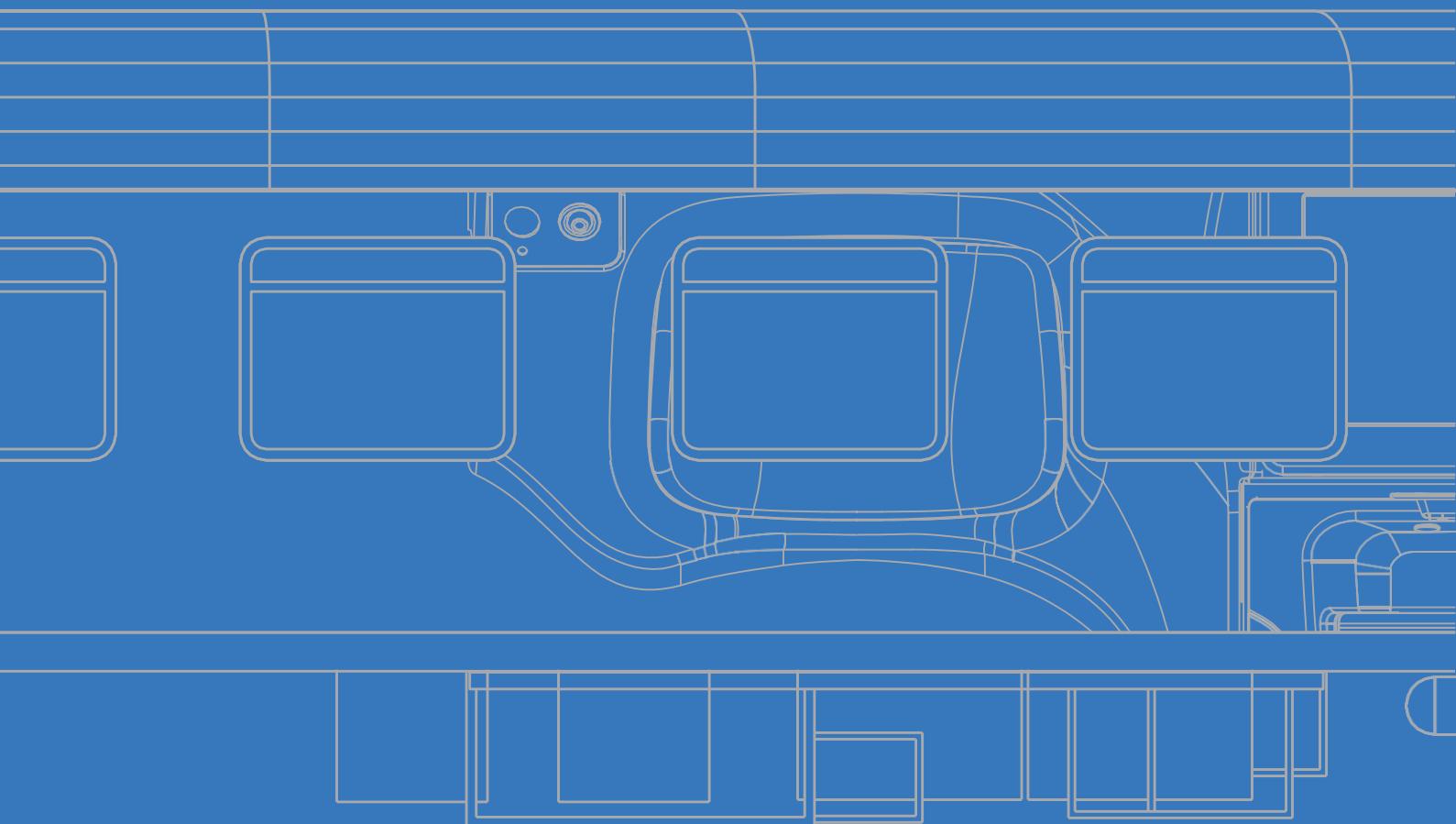
NSRS has developed a rain test device. It's a tunnel-shaped water spraying pipeline, an underground reservoir, a main water pump with a water collecting flume and an underground sedimentation tank, at one end of the main water pump is connected to a suction foot valve to be extended into the underground reservoir, and the other end of the main water pump is connected to the tunnel-shaped water spraying pipeline; the water collecting flume corresponds to the width of a vehicle body of the whole railway vehicle in the tunnel-shaped water spray pipeline and is in fluid communication with the underground sedimentation tank, and the underground sedimentation tank is further in fluid communication with the underground reservoir.





NSRS is a premier supplier of custom interior components to the rail vehicle industry. We thermoform and inject mold functional and aesthetic parts that reduce weight by up to 25%, while also allowing railcar companies to comply with toxicity and environmental regulations. These interior trim and seating components can be formed using a range of materials and are easily integrated into the final build.





NORTH SHORE ROLLING STOCK INC.

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Call: (604) 685 1044

Call: (778) 719 6777

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