



**"AS GOOD AS YOU NEED IT"**



Due to growing demand in rolling stock market, company separated its railway division and Alnal Railway Systems Co. was established in 2009.

Since mid 1990s Alnal Electromechanics Co. succeeded in many railway projects.

In order to be a professional rolling stock supplier, company started quality processes and has been awarded with EN 15085-2 (CL-1) and EN ISO 3834.



## Our Profile

Our firm, established in 1980, not only serves the production sector with its activities in the area of machine production, but it has also come to be renowned in the metal sector for its department of sheet metal processing set up in 1995. **ALNAL**, having transferred its experience to several other sectors, has intensified its activities in the production of auxiliary equipment for the railway sector, which has been evolving rapidly both in our country and the world, under the brand **ALNAL RAILWAY SYSTEMS**.

We have successfully produced vacuum toilet systems, heating units, high voltage and battery boxes, chassis for air conditioning units, boxes for distribution of electrical energy, all of which have proven to be pretty important for the leading firms specialized in the production of railway equipment.

With its qualified, knowledgeable and dynamic workforce and its quality management specifics continuously aiming for the better, **ALNAL** is determined not to deviate from the course of its projects described above and to contribute to the synergy of the railway sector.



## PRM Vacuum Toilet System



### About Vacuum Toilet Systems

- The Vacuum Toilet System is comply with TSI PRM Standards
- ALNAL produce European Style & Oriental Style & Prm (Disabled persons) European Style Vacuum Toilet Systems
- Toilet module's interior and exterior linings are FRP; side and ceiling FRP panel's thickness of wall is minimum 3 mm.
- Manual Or Electromechanic Operated Door Systems



# European Vacuum Toilet System

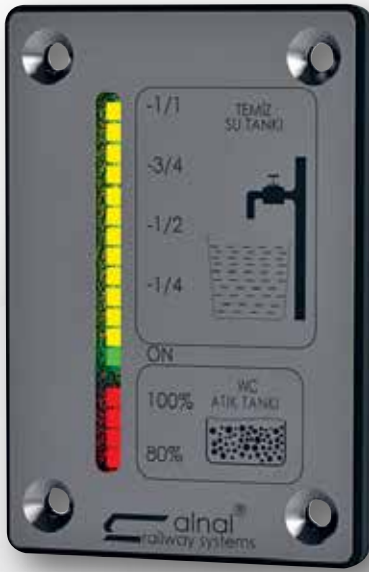




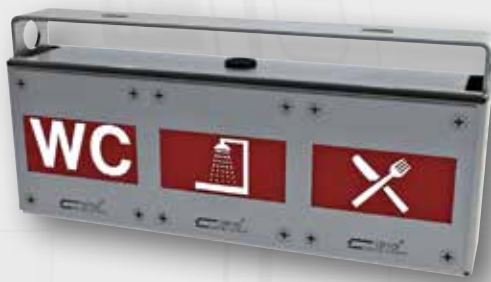
# Oriental Vacuum Toilet System



## Level Indicator



## Warning Lights



## Fresh Water Level Sensor



## Level Sensor



## Vacuum Toilet Alafranga



### Vacuum Toilet System

The vacuum toilet system is a type of hygienic toilet, which has turkish style and europen style models, which collects the wastes at the storage in its body and prevents significantly the environmental pollution, which can clean it self with its economical water, which runs with vacuum and pressure system, and which is suitable for using in the rail, air, maritime and road sectors.

Applying the vacuum toilet system needs compressed air, 24V DC energy and water that are present in all possible transportation vehicles.

The system is formed by being combined the pneumatic, hydraulic and electronic systems.

Water consumption of average 10 liters for single use in the normal system falls to 0.5 liters in the

system that we've created, including cleaning the toilet bowl.

For the hygienically reasons, all metal equipments to be used was manufactured from AISI 316 quality stainless steel.

#### Major Advantages;

- Low water consumption
- Sensitivity to the human health and environmental pollution
- To be the original design of the project
- Compliance with islamic rules with its bidet system
- To be the only domestic production in our country and to prevent import
- Easy availability of spare parts.



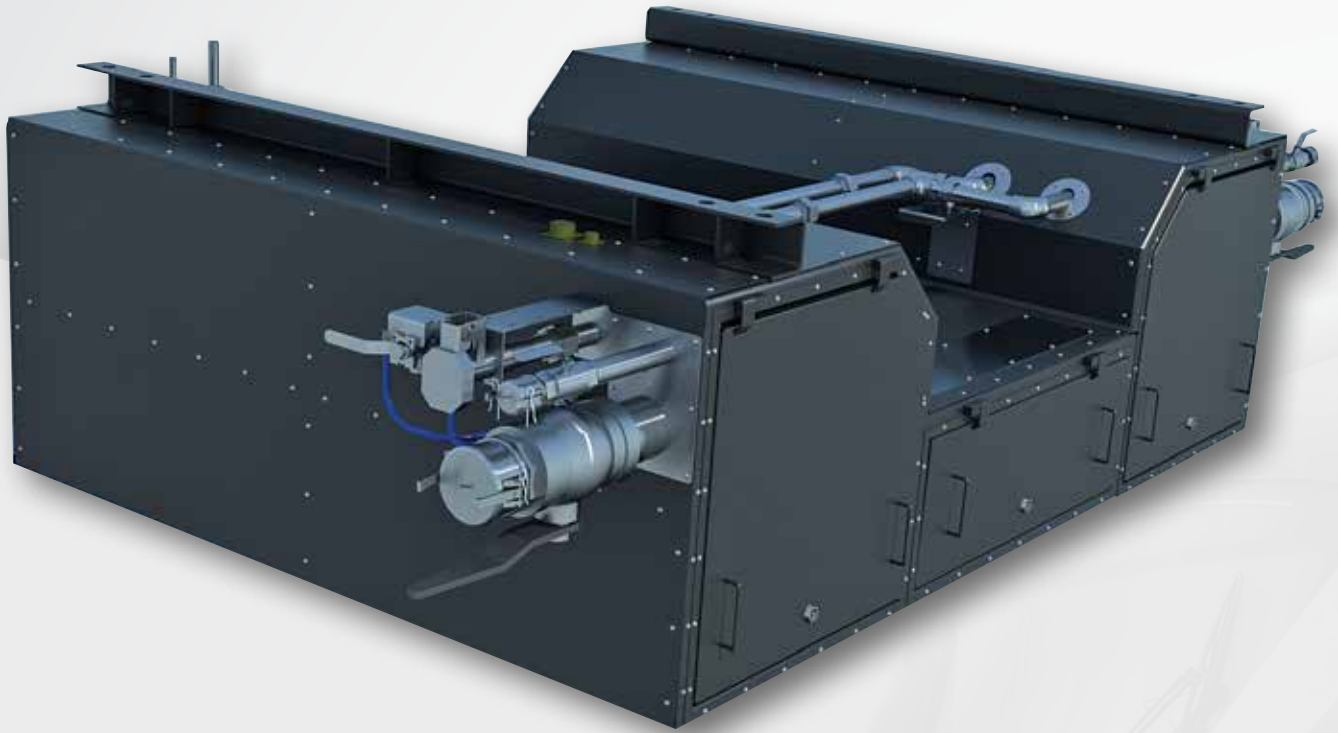
# Vacuum Toilet Alaturka



## Main technical parameters

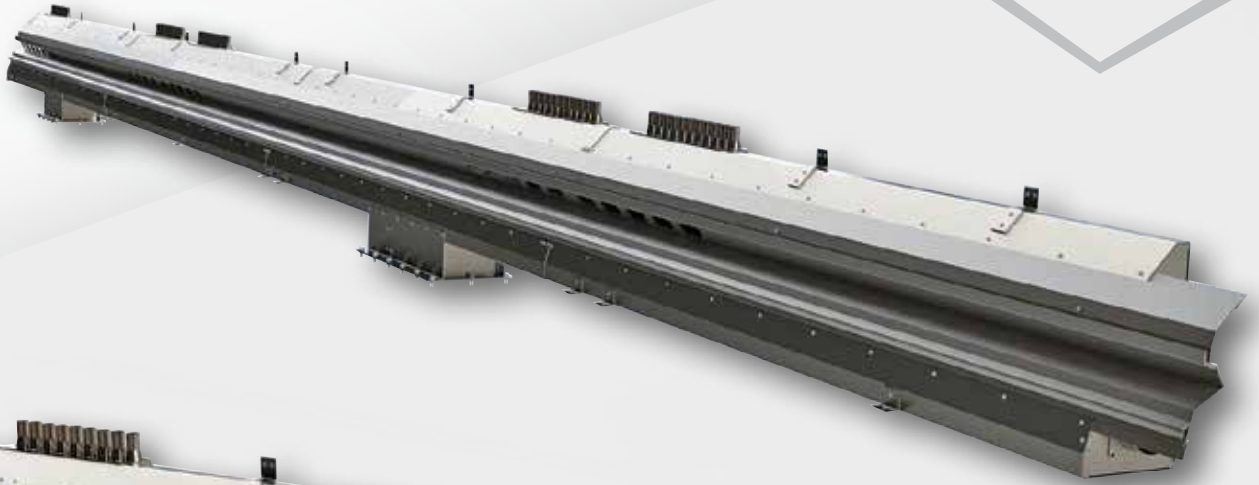
Air Supply Pressure	5 to 10 bar
Working Water Pressure	0.1 to 1.5 bar [bidet function min. 1 bar]
Number of Release Nozzles	3
Vacuum	~0.6 bar
Overpressure	~1.5 bar
Air Consumption	~20 liters / cycle
Water Consumption	0.25 to 0.5 liter / cycle
Weight	~21 kg
Dimensions	531x459x367
Interface	Water :Ø8mm tube coupling - Air : Ø10mm tube coupling - Water outlet : Ø41mm
Electric Power Supply	16.8-32V DC
Electric Power	~20W [~5W standby]
Temperature	-20°C to +60°C
Working Temperature	2°C to +60°C
Valves	Pinch Valves
Casing, Seat and Cover	Antiseptic Laminate
Control System	Dispersed Module + Main Controller
Intermediate Tank	AISI 316 acid resistant steel
Lavatory Pan	AISI 316 acid resistant steel
Mounting	Screws M6x15

# Water & Sewage Tanks

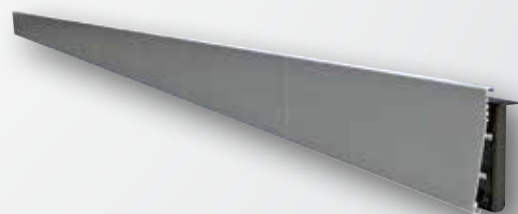
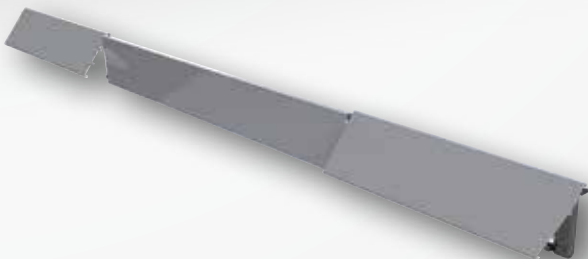
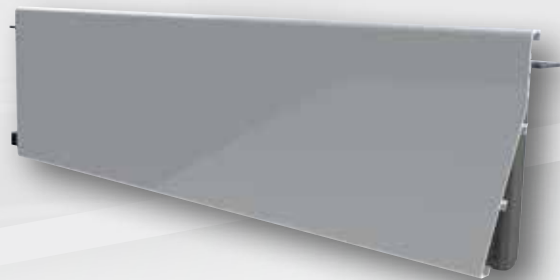




# The Air Condition Duct Of Compartment



## Skirt Panel

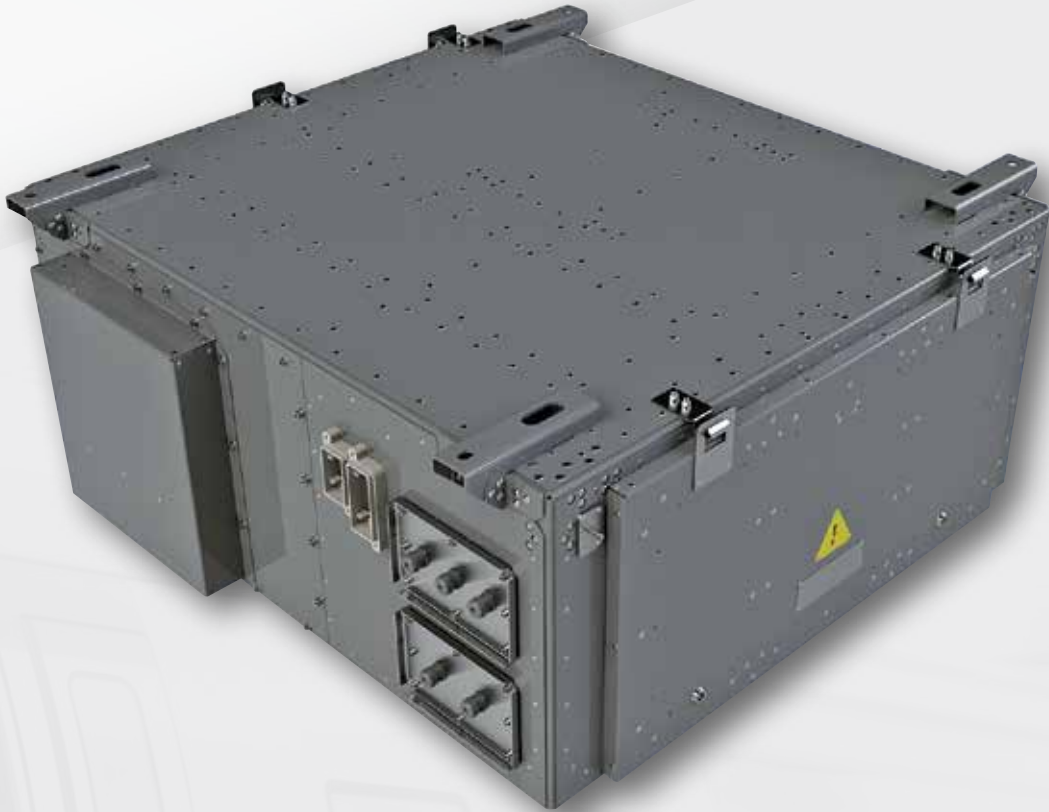


# Battery Box





## Converter Box



## Converter Box



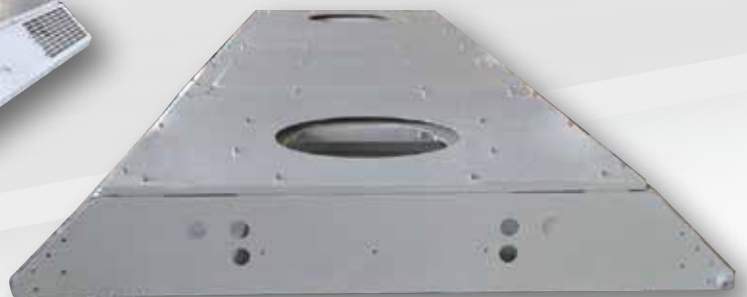


"AS GOOD, AS YOU NEED IT"

## Converter Box



## Hvac Air Condition Chassis





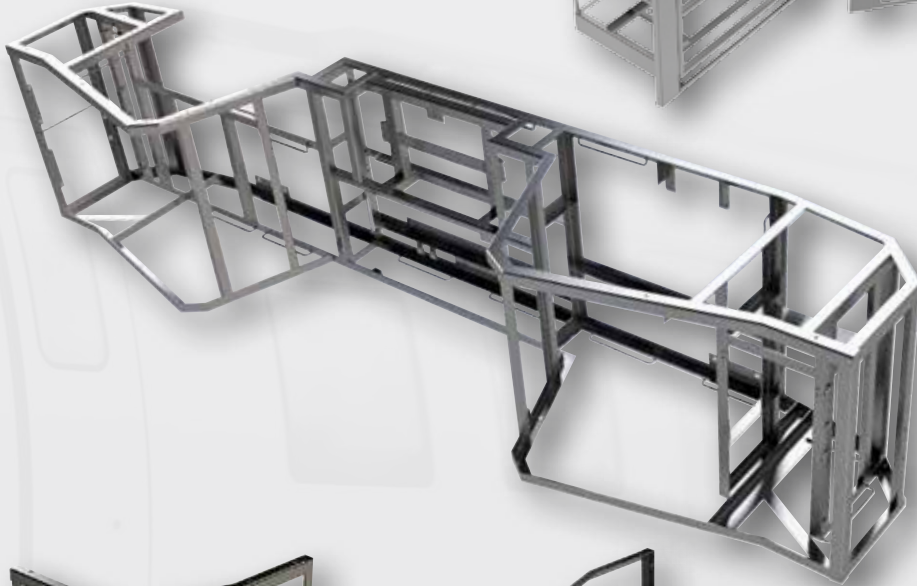
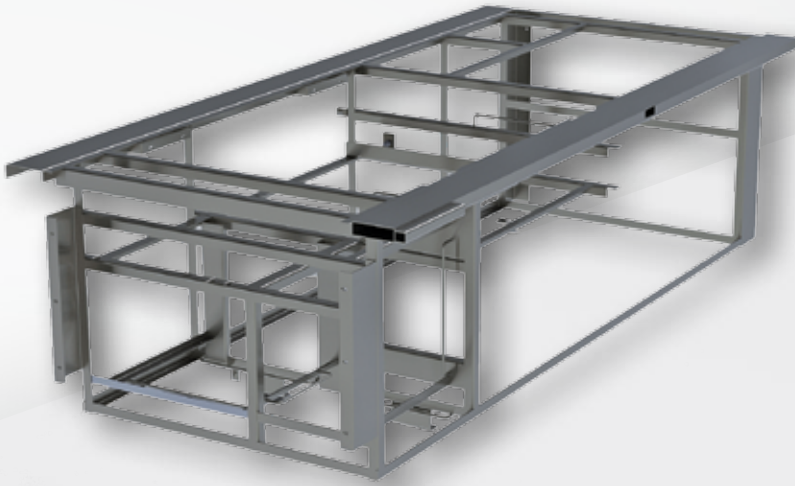
## Hvac Air Condition Chassis



## Cable Duct & Extension Supply Receptacle Box

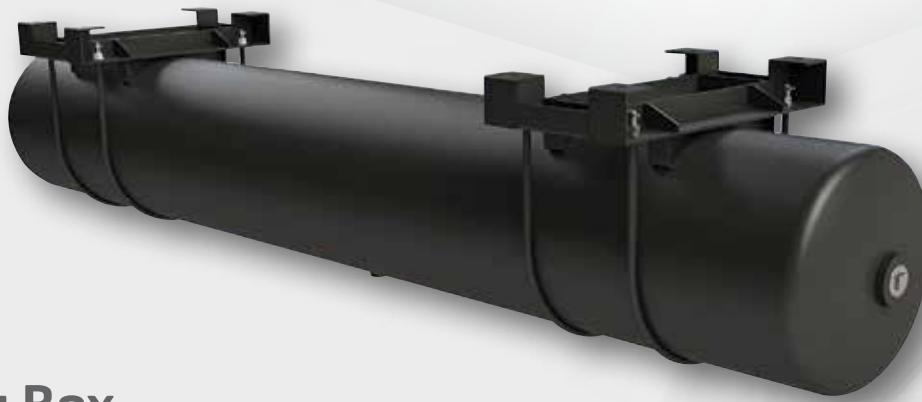


## Interior Frames





## Compressed Air Tank



## Sanding Box



## High Voltage Control Box



## Hvac Underframe Heating Unit



## Our Certificates



# C E R T I F I C A T E

awarded to

**ALNAL ELEKTROMEKANİK SANAYİ ve TİCARET ANONİM ŞİRKETİ**  
**YEŞİLTEPE MH.8030.SOKAK NO:14-21**  
**54200, ERENLER/SAKARYA**  
**Turkey**

**Certification Association "Russian Register"**

confirms, as an IRIS Certification™ approved certification body, that the Management System of the above organization has been assessed and found to be in accordance with the

**IRIS Certification™ rules:2017**  
**and based on**  
**ISO/TS 22163:2017**

for the activities of Design and Development and Maintenance and Manufacturing  
for the scopes of certification: 07 (Interiors), 15 (Lighting)  
of toilet system and lighting systems

Certificate valid from: 22/07/2018

Certificate valid until: 21/07/2021\*



**IRIS**<sup>TM</sup>  
**Certification**

Current date: 16/07/2018  
Certificate-Register-No: 18.1102.026

\* Providing that the subsequent surveillance audits are successful before the validity date of the previous audit.  
Certification body address: 45/8 A, office 6N, Liteynyi prospect, 191014 Saint Petersburg, Russian Federation

©2018 UNIFE. All rights reserved.  
1/1

RUSSIAN REGISTER ПУССКНИЙ РЕГИСТР



## Our Certificates



### IRIS CERTIFICATE

- ISO 9001 : 2018
- ISO 14001:2015
- DIN EN 15085-2 CL-1
- DIN EN ISO 3834-2
- EN 286-3 : 1997
- EN 286-1 : 1998



Yeşiltepe Mahallesi  
8030 Sokak No.21  
Erenler / Sakarya  
Tel : 264 291 36 80 + 81  
Fax : 264 275 80 34  
info@alnai.net  
[www.alnai.net](http://www.alnai.net)



yilkografik

KOSGEB  
[www.kosgeb.gov.tr](http://www.kosgeb.gov.tr)

05.04.2014 / 1000 Adet basılmıştır.