



**Your
Needs
Our
Projects**



**MONTHLY
NEWSLETTER**
2019 / 10

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CONTENT

Special Deep Foundation Equipment and Machine Manufacturer.

It is an international leader in the design, manufacture and distribution of foundation machinery and equipments. Since its inception, it has always developed safe, innovative and state-of-the-art technologies and provided comprehensive equipment solutions in the field of ground improvement. In 2011 he joined the Soletanche Group and has an international vision.

Thanks to its continuously updated, expanding product range and greatly increased production capacity, it has an important place in the international ground sector.

Vision of Z Makina, to follow the latest technologies and apply in our products, to provide a fast and reliable service to our customers, to adopt the philosophy of continuous development in the field of production to be innovative.

01. BG24-H Jet Grouting Kit

Z Makina has developed a jet grouting system with the single stroke columns to depths of 36 m capacity. It was designed which can be mounted on the piling rig used for jet grouting come in a range of different sizes; large ones, making it a perfect technique for improving the foundation of an existing structure.

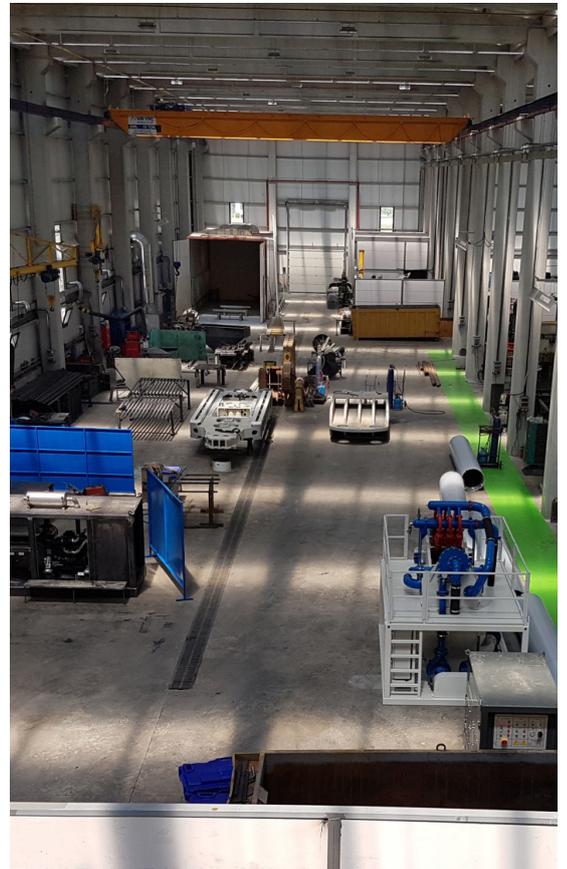
02. Doublewall Casings

Z Makina manufactures casings in various sizes according to customer needs. We are able to produce casings till 2500 mm diameter. The double wall casings are designed especially for high torque drilling machines and casings oscillators with high resistance and easy montage advantages.

03. H90 Grab Jaw Set

As a group member of Soletanche Bachy, Z Makina fullfills the needs of group companies. In this year we manufactured two jaw sets for Soletanche Bachy France.

Our mission is listening to our customers to understand what they need and act in time, to keep customer satisfaction at the highest level and to produce reliable, quality products in a neat, healthy working environment.





**SOLUTIONS
FOR YOUR
SUCCESS**

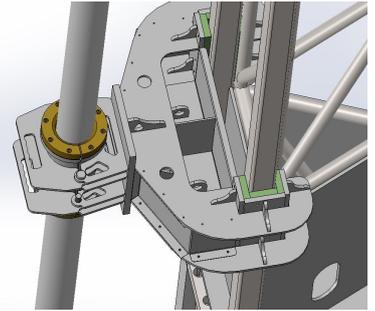
BG24H JET GROUTING KIT

DESIGN CONSIDERATIONS

Our mother company ZETAS has lots of experience on jet grouting projects and has successfully completed many jet grouting projects for over 30 years. ZETAS has extensively and continually boosted our jet grout product and competences through the in house improvement of specialty tools and proprietary datas from the jobsites.

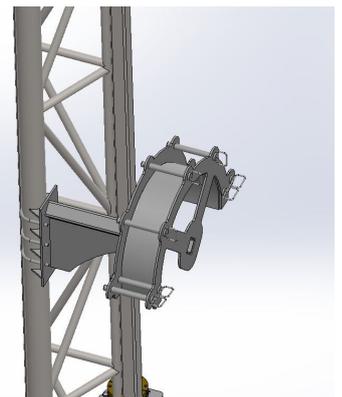
There were several design parameters that can be altered in the kit design. These include geometry, stability and strength, and hydraulic & electrical elements, e.t.c. based on those valuable datas from ZETAS.

Z Makina has developed a jet grouting system with the single stroke columns to depths of 36 m capacity. It was designed which can be mounted on the piling rig used for jet grouting



come in a range of different sizes; large ones, making it a perfect technique for improving the foundation of an existing structure. This flexibility enables the technique to be tailored to meet the specific project requirements in Poland. Currently two Jet Grouting units are running in Warsaw Metro C21 Station.

During the jetting process it is imperative that the desired jetting parameters are maintained. Typically, the DATA Logger system monitors the rotation rate and withdrawal rate, as well as the grout, air, and grout flow. This information is displayed in real time for the operator, and raw data's are transmitted to the DATA Logger database where it is post-processed, stored and reviewed by the project team.

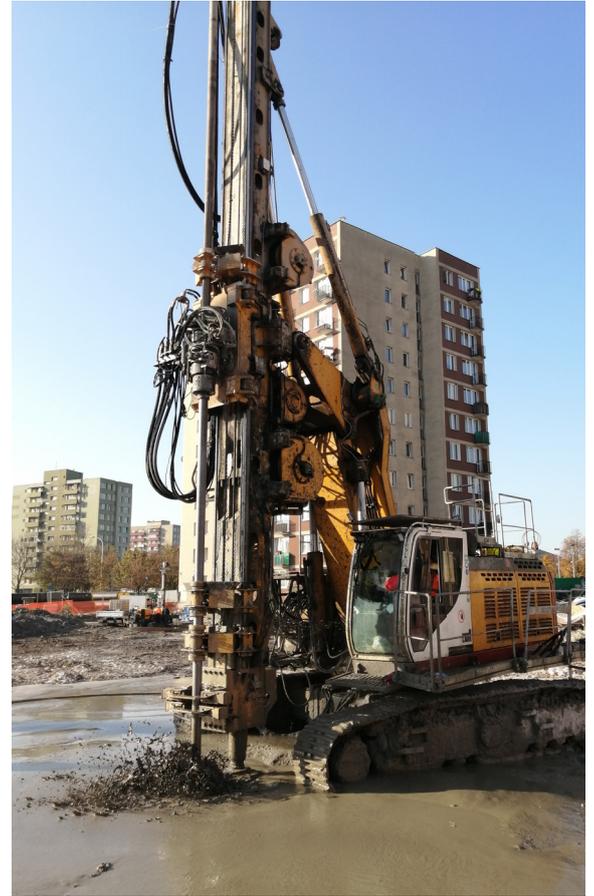


Advancement in technology and a unique degree of our design must comprise the ability of our equipment



TECHNOLOGY & APPLICATIONS

All of our jet grout rigs use our proprietary, in-house built, data acquisition system. These rigs are fully instrumented with an onboard computer to monitor the parameters necessary for the jetting process. DATA Logger System enables the rig operator to accurately control and monitor the jet grout construction parameters, thereby producing a high quality soil-cement column. Optional Operations of the drill can be either automatic (remote controlled) or manual (operator controlled).



Rotary Head

A proper rotary head was used.

Swivel guide

It was designed for the specific swivel.

Rods' guide

Rod guide center is 475 mm.

Revolving Clamp Rack

It was designed for ergonomic operation

Hydraulic System

High standard components and advanced hydraulic circuit design have enabled increased jet grout performance, preserving its reliability.

Electrical System

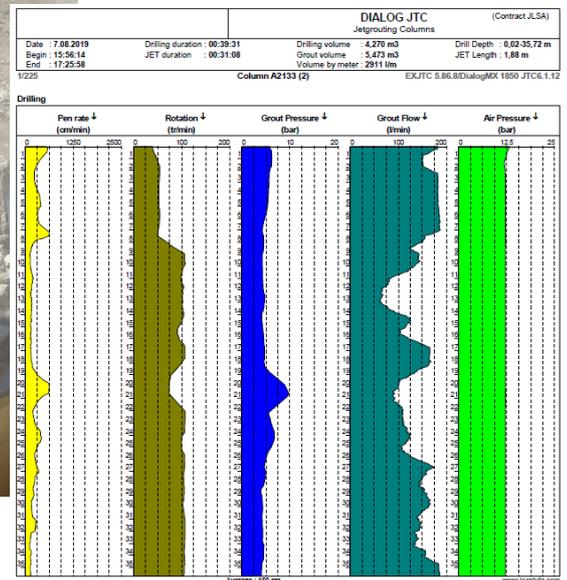
Its smart and compact design gives a smooth operation in withdrawal rate and rotation.

REPORT FOR A JET GROUT COLUMN



With Jean Lutz DATA Logger systems, Z Makina provides live streaming on job site, and data collection of operation.

This system helps the operator to control the machine much more efficiently so that reduces the operation time. Result of that good quality of columns can be made in less time than usual.



Remote Control

Remote control can be used either externally or inside in the cab.

25 Safety Dreads

The following table lists all dreads on the kit.

Symbol	Meaning
	No access to unauthorized staff
	Danger of crushing
	Compulsory use of protective gloves
	Compulsory use of safety shoes
	Compulsory use of dust mask
	Compulsory use of protective goggles
	Compulsory reading of use and maintenance manual
	Lubrication points

Table 23

USE AND MAINTENANCE MANUAL

The Use and Maintenance Manual has been prepared for BG-24H Jet Grouting Kit. This manual includes the instructions:

- Transportation and Storage,
- JG Kit Installation,
- JG Kit Use,
- Commissioning,
- Maintenance,
- Decommissioning,
- Certificates,
- Hydraulic and Electrical Schematics



1 DECLARATION OF CONFORMITY

2 OVERVIEW

2.1 Scope of the manual

This handbook contains guidelines to provide correct installation, adjustment, use and maintenance of the Jet Grout Kit. The instructions herein are for the following process of equipment:

Equipment	BG-24H JET GROUTING KIT
Manufacturer	Z MAKİNA

For this reason, the user is kindly requested to:

- Must only be used by operating staff having a certified training on an appropriate level of skill
- train all staff members in charge of using the Jet Grout Kit Equipment;
- reading this document readily available to the operators;
- handling over this manual to any subsequent owners of the JG Kit.

The manufacturer will not be held liable for any irregular use not envisaged in this handbook.

Notes regarding the manual

This manual contains several danger signals to attract your attention to certain situations which could put the health of the operator at risk or cause serious damage to the revolving change.

	WARNING! Indicates the danger of personal injuries or serious damage to the equipment.
	CAUTION! Indicates the danger of damage to the equipment.

Note: The prices are indicative. They may be different from the actual Jet Grout Kit, without this prejudicing the reliability of the equipment to perform.

WHY CHOOSE US

ADVANTAGES OF Z MAKİNA'S JET GROUTING KIT

In house development of proprietary datas from mother company ZETAS for over 30 years.

DATA Logger system documents performance and provides quality assurance.

Management, design and field staff have experience in nearly all types of jet grouting applications.

Jet Grouting Kit could be a multi-purpose system, it means that can be combined with other applications such as CFA, DSM, FDP to provide a comprehensive and cost-effective geotechnical solution.



YOU HAVE A STRONG PARTNER WITH Z MAKİNA

Z Makina has the experience in foundation equipment technology and innovation to provide the most economical solution that satisfies the requirements of each project, typical or unique. Z Makina, offering the exhaustive and profitable solutions. Headquartered in Kocaeli, Turkey, has expanded to meet the increasingly complex needs of the geotechnical equipment within the group companies.

DOUBLE WALL CASINGS

MANUFACTURING CASINGS

Z Makina manufactures casings in various sizes according to customer needs and able to produce casings till 2500 mm diameter. The double wall casings are designed especially for high torque drilling machines and casings oscillators with high resistance and easy montage advantages.

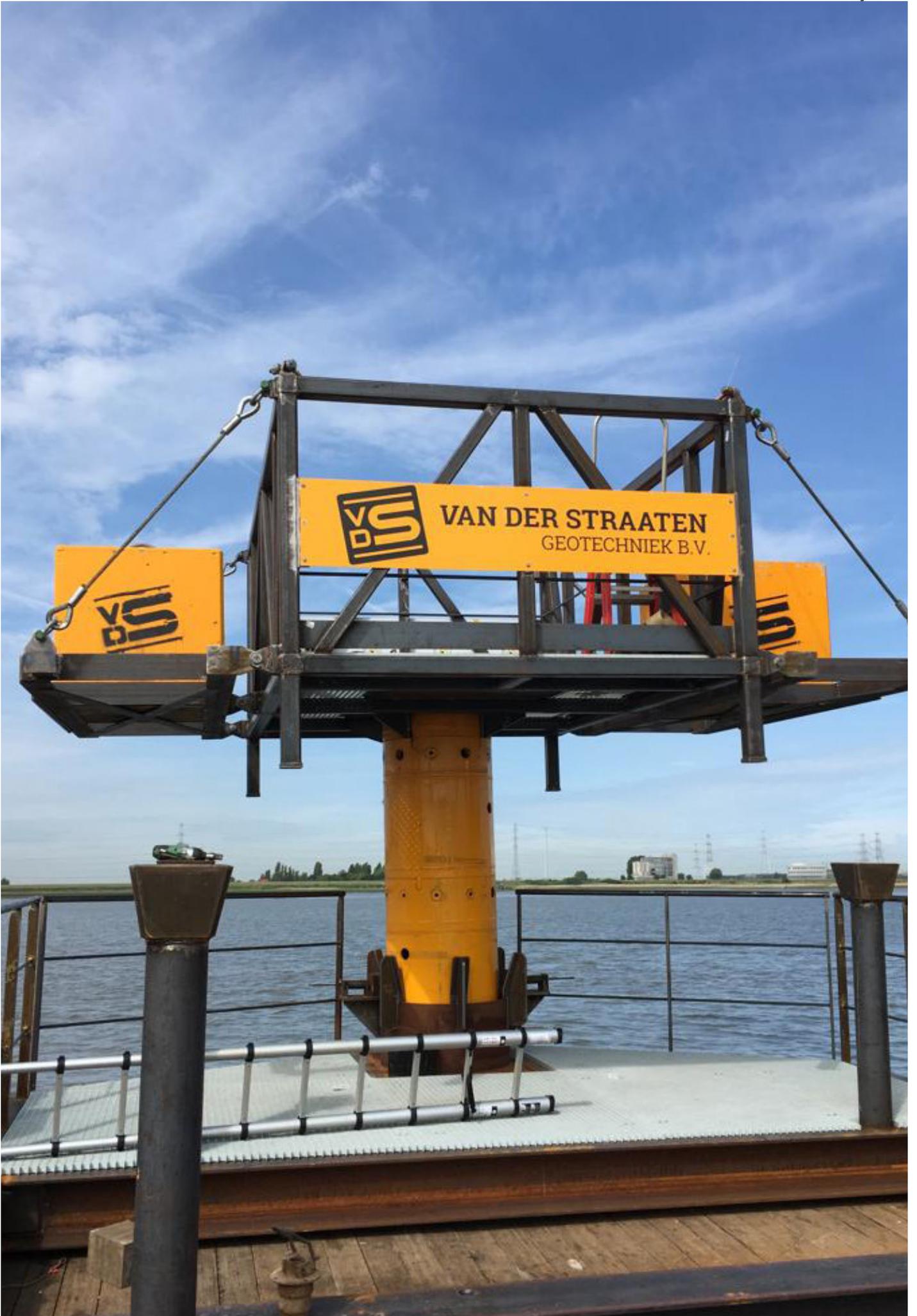
Z Makina casings and casing shoes have high resistance and easy to assemble. So, even in case of oscillator usage, performance of the product does not decrease.

In this project Z Makina produced 800/720 diameter double dall casings for Van Der Straaten Company at Netherlands. They are used on offshore platform.



WS39 drilling teeth preferred to use on casing shoes.





H90 GRAB JAW SET

JAW SETS FOR SOLETANCHE

As a group member of Soletanche Bacy, Z Makina also provides the needs of group companies. In this year we manufactured two jaw sets at Soletanche specifications for Soletanche Bachy France.

H90 1200x2300 Jaw Set was manufactured for France and M8 800x2700 Jaw Set was manufactured for Morocco. Both sets were performed under control of Soletanche Technical Team so as to meet Soletanche specifications.

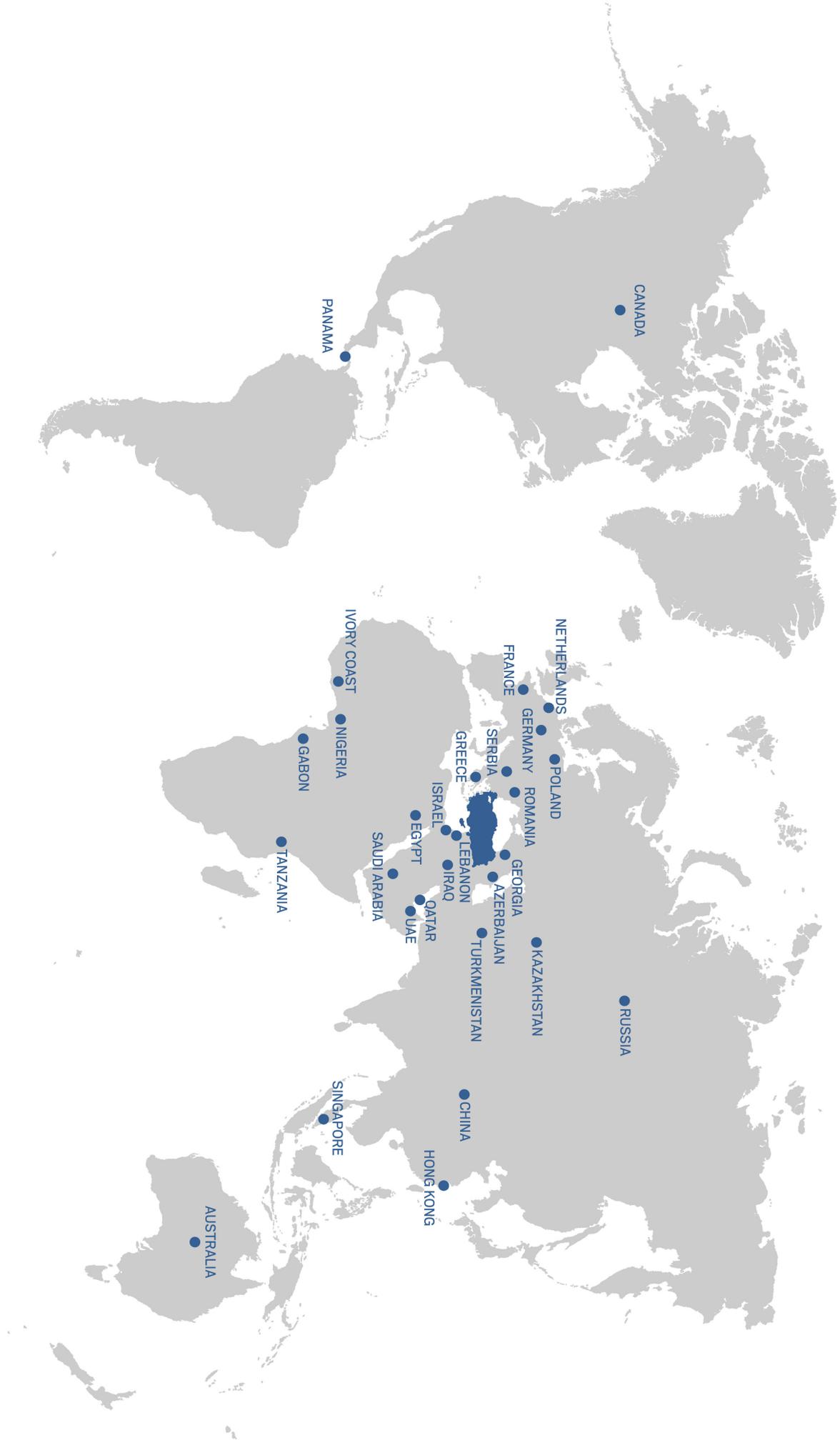
Assembling has been executed by professional team and all materials used have the appropriate quality certificates.

Z Makina quality goal is to provide products with superior quality, reliability and durability.



CONTROL TEMPLATE WAS MANUFACTURED
ALONG WITH THE H90 JAW SET





Z Makina exports its products worldwide.



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