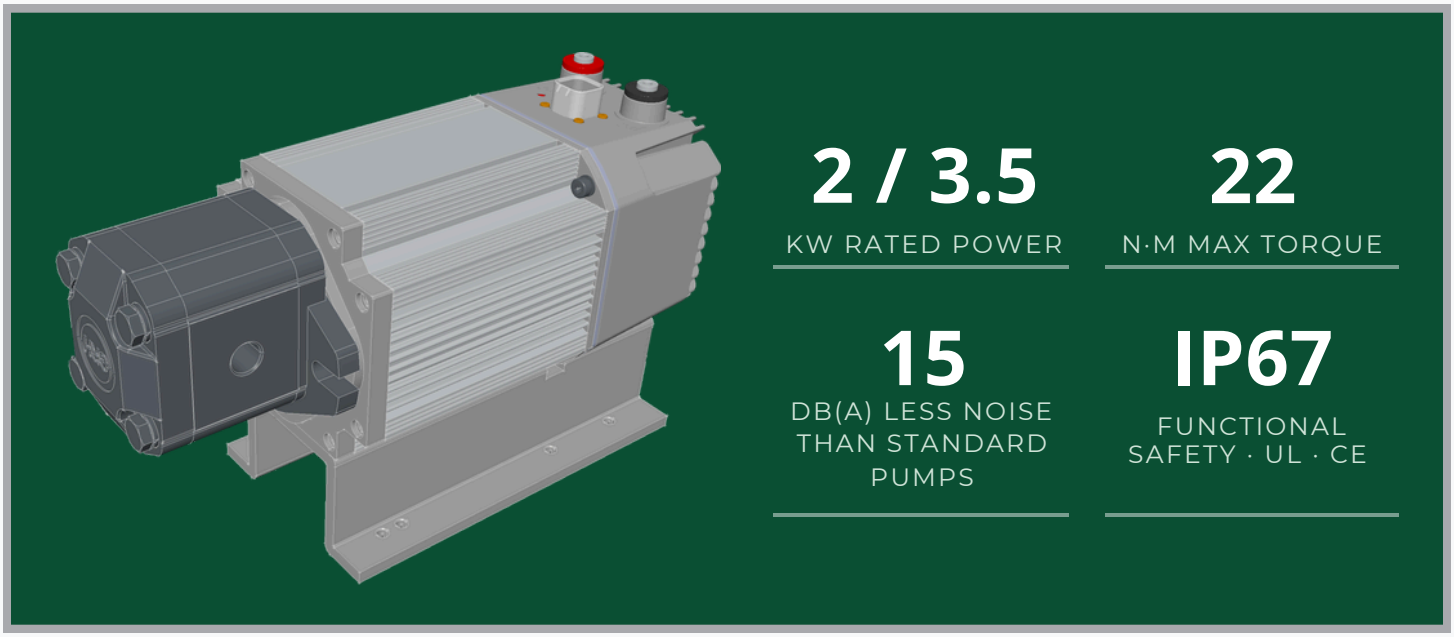
CZ MOBILITY

Electrified System Solutions

PRODUCT DATASHEET · ESTEERING SOLUTION FOR TRANSPORTATION

CZ1300 Integrated eSteering

Integrated Inverter / Motor with a no-noise helical rotor gear pump—one compact electro-hydraulicsteering unit, tuned and calibrated as a single assembly.



The CZ1300 Series is an integrated electric drive system that combines a permanent magnet synchronous motor (PMSM) and motor controller in a single compact unit. A dedicated thermal management design and an optimised compact structure give highly efficient system operation, and the series can be matched to different gear pumps to improve hydraulic system performance.

CZ MOBILITY MÜHENDISLIK VE DANISMANLIK HIZMETLERI

BARBAROS MAH. KARDELEN SK. PALLADIUM TOWER NO: 2
IÇ KAPI NO: 41 ATASEHIR / ISTANBUL

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SCAN FOR FULL DETAILS

Features — Motor

- Equipped withhigh-performance permanent magnets, the permanent magnet synchronous motor achieves enhanced efficiency and reduced operational losses
- High-efficiency ratio exceeds 85 %
- Smooth and reliable operation
- Built-in permanent magnet structure, makes the motor run more stable and the weak magnetic range wider
- Unique motor design, stable temperature resistance characteristics up to 105 °C, and maintain the stability of permanent magnet and control stability

Features — Complete machine

- External connectiononlyrequires thepowercable, CAN or throttle cable
- Standard spline design allows for quick adaptation to standard gear pumps
- Protection level is IP67
- Free configuration of parameters to ensure maximum system efficiency
- Advanced AC vector control technology to ensure the efficient operation of the motor
- Professional algorithms to ensure the efficient use of batteries, reduce the loss of motor and torque conversion
- Optimized structural design to ensure the temperature difference between the motor and the control part
- Customization of the mounting base according to user needs; support for the users to specify the integrated hydraulic pump
- Each unit is individually tuned for optimal performance, guaranteeing high-efficiency output

No noise helical rotor pump

- Special rotors profile avoids oil encapsulation
- No noise — average 15 dB (A) — less noise compared to standard gear and vane pumps
- Extremely low vibrations and pulsations
- Very high efficiency for a wide range of speeds

SAFETY

In the event of a CAN communication loss or timeout, the drive is configured as a safety measure to automatically operate the motor at the predefined maximum speed.

Product lineup

Model	Rated voltage	Current 24 V / 48 V
CZ1300-2410*	24 V	200 A / 80 A
CZ1300-2418*	24 V	250 A / 100 A

*The current of this series is bus current.

Complete machine

Rated voltage	24 V / 48 V
Operating voltage	13 V – 32 V
PWM frequency	10 kHz
Control mode	CAN / throttle
Drive matching	Calibrated vector control
CAN-bus	125 / 250 / 500 kbps
Protection rating	IP67
Storage temperature	−40 °C ... +85 °C
Operating temperature	−40 °C ... +55 °C
Cer tif ications	Functional Safety, UL, CE
Dimensions	269 × 140 × 228 mm
Weight	14.5 / 10 kg ± 0.01 kg

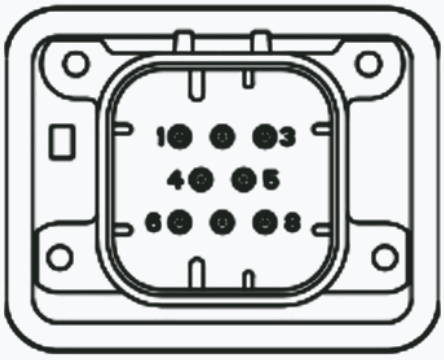
Motor

Rated power	2 kW / 3.5 kW
Rated speed	2600 rpm
Maximum speed	3500 rpm
Maximum torque	22 N·m
Rated torque	12.9 N·m
Number of poles	8 / 10
Cooling method	Natural air cooling
Insulation rating	F
Protection rating	IP67
Temperature sensor	Built-in
Speed sensor	Built-in
Efficiency ratio	> 85 %

Connector & pin definition

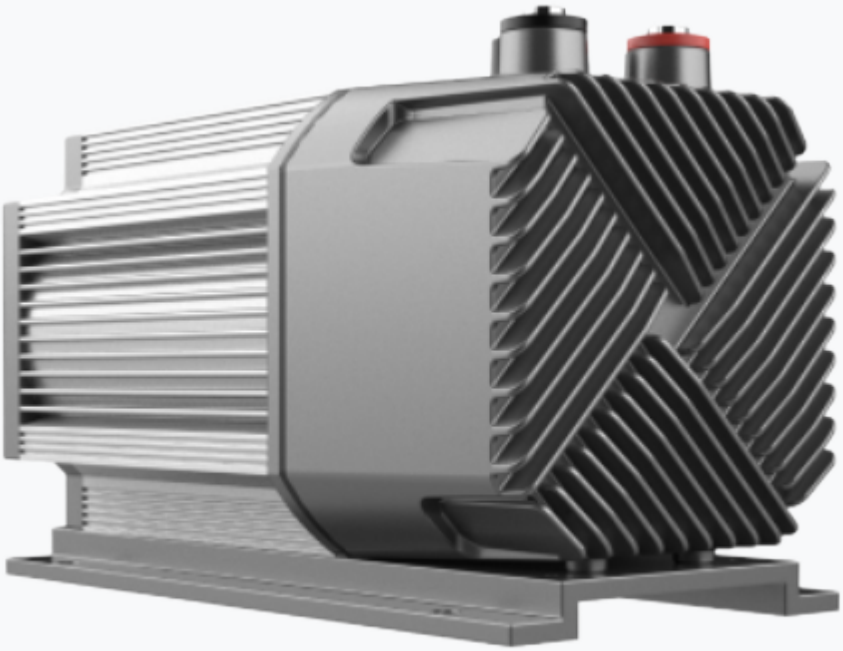
Connector: TE776276-1 · Mating connector: TE776286-1

Pin	Description
1	Relay, max current 4.5 A, low side drive
2	KSI, key switching power supply
3	Pot wiper, throttle (0–5 V analog)
4	Enable, enable signal
5	Dir, directional signal
6	CAN H
7	CAN L
8	GND, IO ground



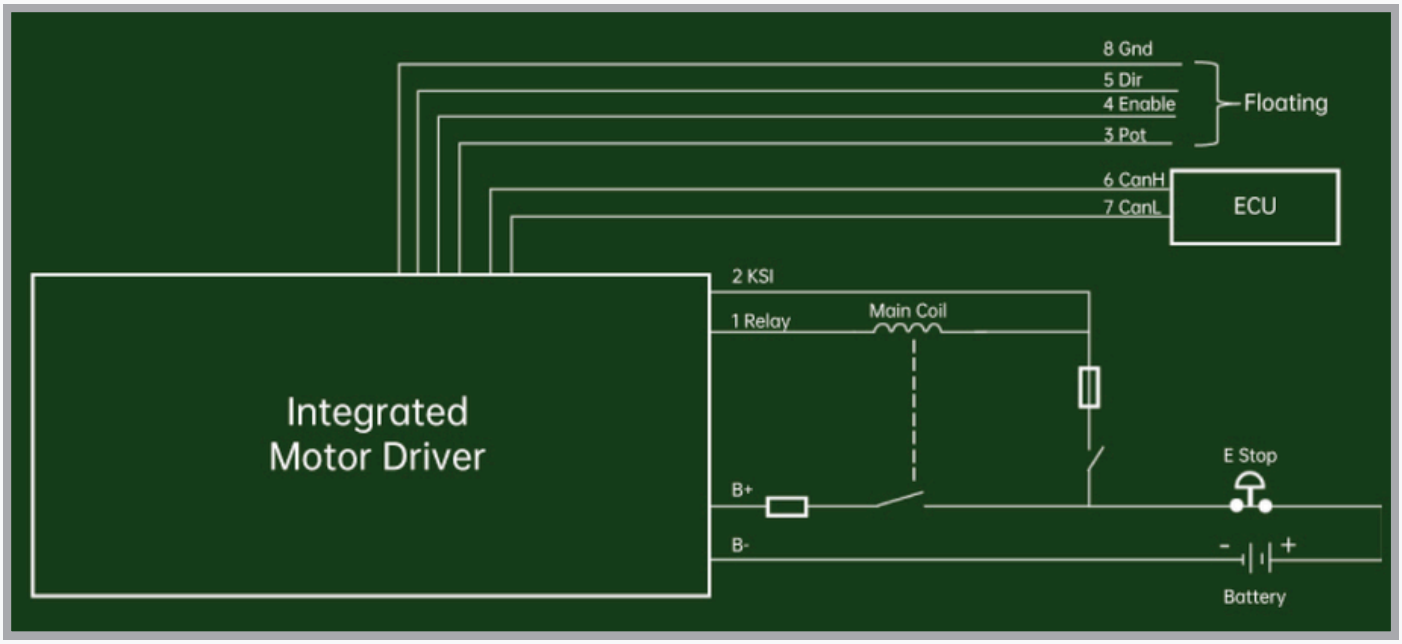
Terminal block & motor shaft

B+	M6×15
B−	M6×15
Shaft extension / spline	SAE A 82.55 / SAE A J498-9T

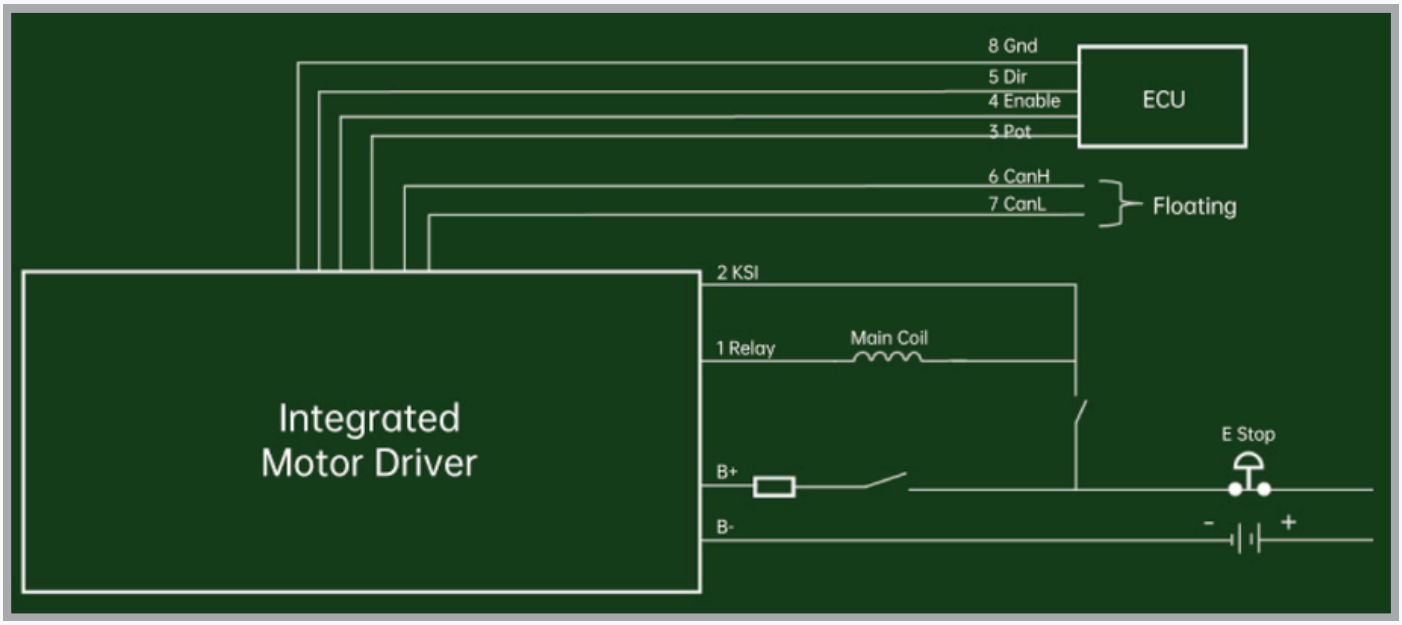


Typical wiring diagrams

CAN BUS CONTROL MODE



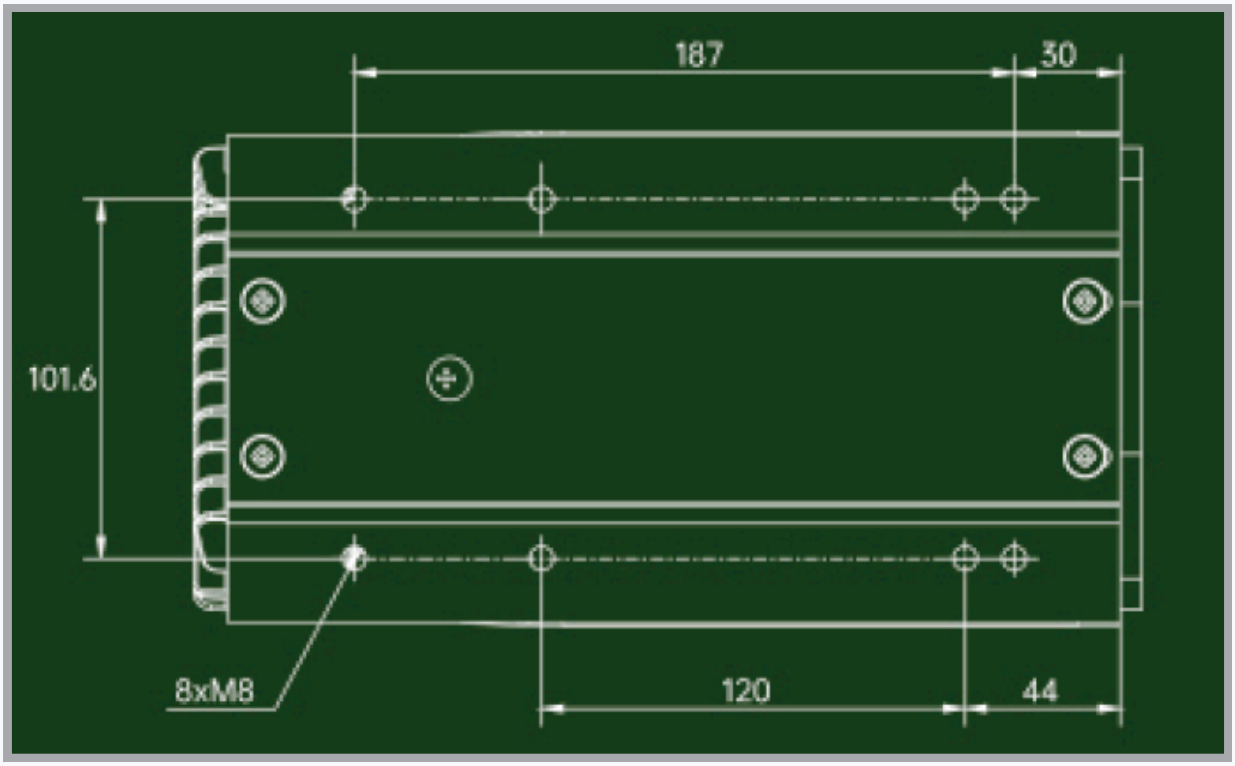
THROTTLE CONTROL MODE



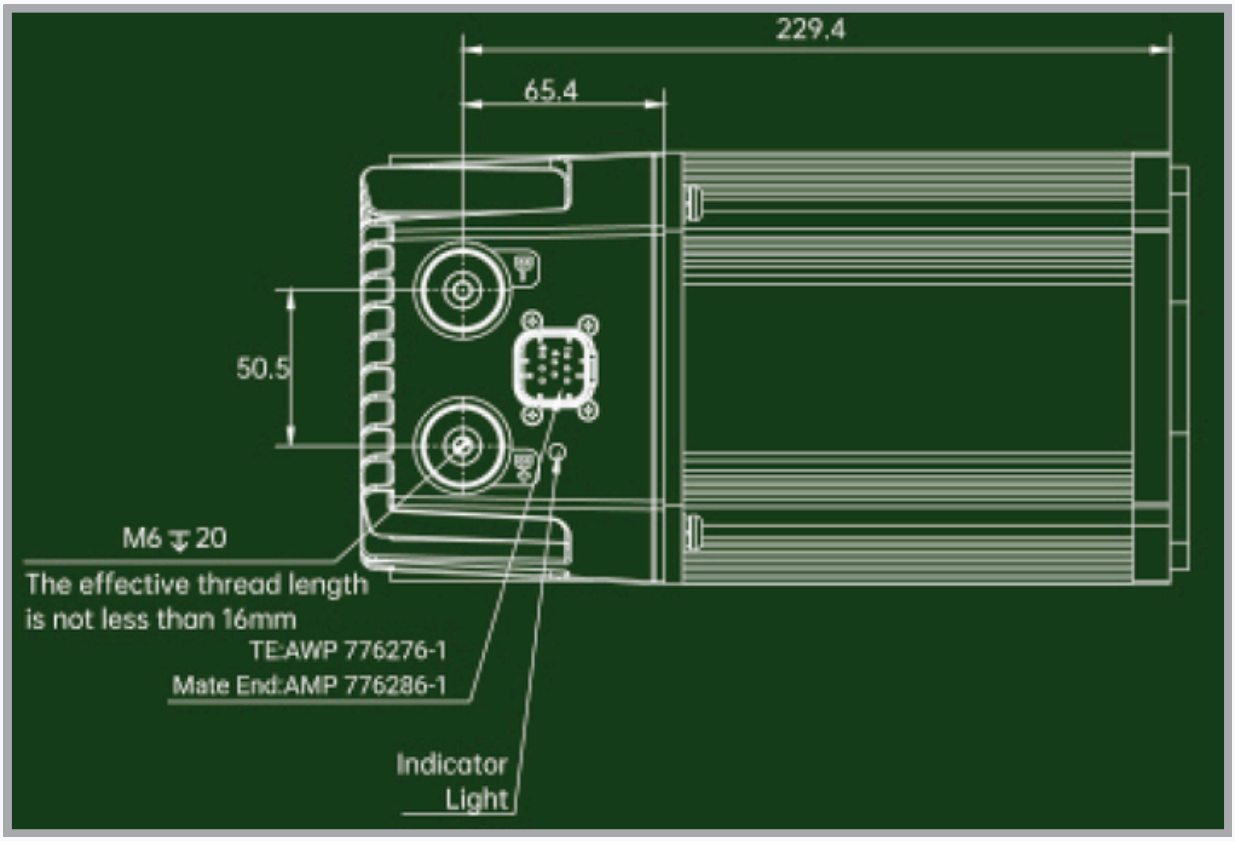
Dimensions — mounting base & connector side

All dimensions in millimetres.

MOUNTING BASE, TOP VIEW

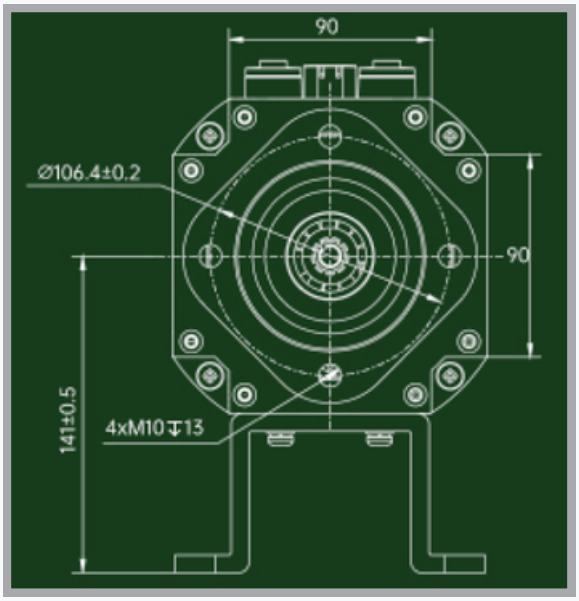


CONNECTOR SIDE, WITH THREAD AND INDICATOR LIGHT DETAIL

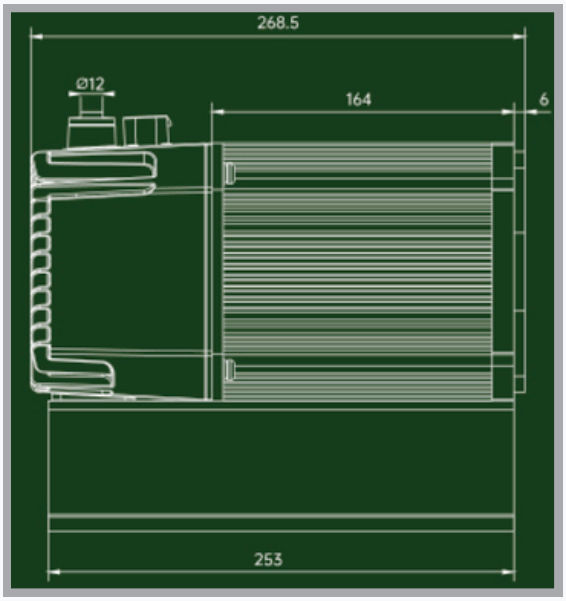


Dimensions — orthographic views

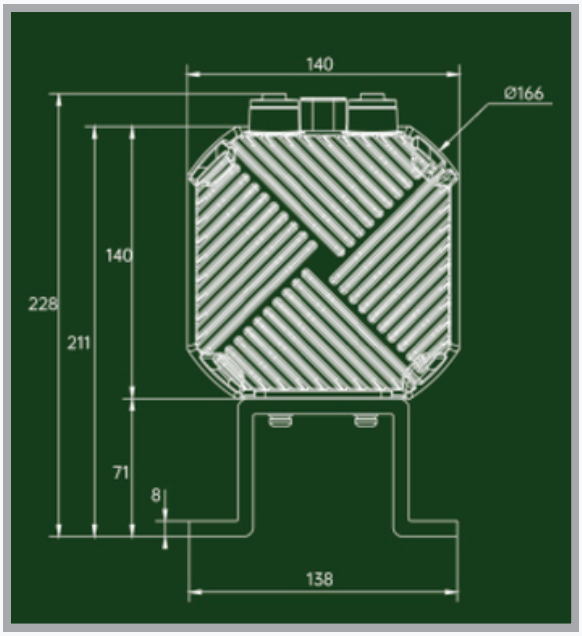
PUMP FLANGE SIDE



LONGITUDINAL SECTION



REAR VIEW



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Product specifications are based on information available at the time of publication. Specifications, technical data and functions are