

*Aquamot*



Professional

# Aquamot Professional

TOUGH  
NOISELESS  
OPTIMIZED

For commercial applications and heavy-duty operating conditions

## **UNIQUE ROBUSTNESS OF THE MOTOR SYSTEM**

Usually housings of electric motors for boats are made from a less sturdy plastic or are simple welded constructions which aren't often seawater resistant. All housings of the Aquamot Professional line are casted with a permanent seawater resistant aluminum and are coated with 6-layer additionally. Furthermore an extra anode protects the motor against corrosion. All other components of the motor (suspension, etc.) are also manufactured from the same material. The propeller shaft is designed with a solid stainless-steel material and also the propeller is made from brazen. All other components (lever, controller, etc.) are produced from a high-strength and very light aluminum which is also used in the aircraft industry. All of this is the result that Aquamot Professional motors are one of the most stable and durable motors in market.

## **WELL THOUGHT OUT**

Only AC asynchronous motors (=brushless motors) are used at the Aquamot Professional Line. Conventionally a lot of unnecessary electronics as sensors, PCB board inside the motor housing, etc. is needed for the operation. It is well known that water and electronic components don't operate together in a harmony and therefore this can often lead to troubles. All Aquamot motors are designed without any electronics components inside the motor housing. This looks simpler but is much more difficult and complex. This system has been well used in industry and commercial shipping for several years.

## **SUPERIOR SMOOTH OPERATION**

For reaching an acceptable rpm for an electric boat motor it is often used a gearbox. The losses of these gearboxes reach up to 30% and are very loud. Aquamot only use direct drives with a low rpm for a superior smooth operation.



#### **FLOW-OPTIMIZED DRIVES**

Customary underwater drives are often simple plastic or welded constructions which are not flow-optimized. The result is a high resistance, a bad steering characteristic of the motor if the propeller is not rotating and a bad upstream flow to the propeller. All these things are considered during the development of Aquamot motors through an exact computation of the streaming. This computation has been also used at the commercial shipping for several years.

#### **INCOMPAREABLE CONTROLLERS**

Controllers and electronic components (contactors, fuses, etc.) are often mounted thoughtlessly at a metal board and don't afford any protection against spray water or wet fender. Aquamot controllers are integrated in compact and high-quality aluminum housing with Plug & Play connections. Furthermore additional master switches are not necessary due to the intelligent circuit. Therefore the Aquamot controllers provide the max. safety and ensure an easy installation.

#### **SINGULAR FULL-COLOR ON-BOARD COMPUTER**

Conventionally it is used monochrome displays for electric motors for boats in sport and leisure boating industry or very expensive color screens. Aquamot is the first producer of electric motors for boats who offers a full-color on-board computer. All important information (battery and motor status, etc.) will be displayed. Some adjustments can be changed through an intelligent BUS system.

#### **MASTERFULLY SAFETY FUNCTIONS**

Aquamot propulsion system has several safety functions. Mechanical protections like a predetermined breaking point at the fin and electronic protections like over- and under-voltage for avoiding a deep-discharge of the batteries, overcurrent, etc. are standards at Aquamot Professional line.

# Outboard motors



## Benefits

- » Unique efficiency
- » Max. smooth running
- » Flow-optimized drive enclosure with a minimum drag and optimal flow conditions at the motor housing and propeller
- » Clean solution
- » Permanent useable for salt- and sweet water through the use of an seawater-resistant aluminium alloy



## Model overview

Model	A10e	A20e	A30e	A41e	A80e	A100e	A110e	A150e	A200e	A250e
Output power	1.000 W	2.000 W	3.000 W	4.100 W	8.000 W	10.000 W	11.000 W	15.000 W	20.000 W	25.000 W
Input power	1.090 W	2.180 W	3.260 W	4.450 W	8.690 W	10.870 W	11.950 W	16.300 W	21.690 W	27.080 W
Efficiency	92 %	92 %	92 %	92 %	92 %	92 %	92 %	92 %	92 %	92 %
Voltage	24 V	24 V	36 V	48 V	48 V	72 V	48 V	48 V	96 V	96 V
Current	45 A	87 A	89 A	93 A	178 A	151 A	249 A	339 A	225 A	281 A
Weight	19 kg	27 kg	28 kg	29 kg	42 kg	44 kg	55 kg	56 kg	58 kg	59 kg
Motor type	sensorless AC-motor									
Suspension	with star nubs and optional fixed screwed									
Trim mechanism	4-steps adjustable by hand									
Warranty	2 years									

## Serial components



Battery cables



Battery monitor



Lever



Key switch



Motor controller

### CONNECTION FOR MONO-CABLE-STEERING SYSTEM

The connection is made for a rope steering as standard.

Additional the installation kit for the mono-cable-steering system which is also useable for a hydraulic steering can be added.

As a consequence the motor is useable for every steering system.

### HIGH-ADJUSTABLE SHAFT

The shaft of Aquamot outboard motors isn't profiled purposely. The reason is the streaming speed at the eddy is roughly zero.

It is more important in our opinion for having the right immersion depth.

This can be achieved easily with the high-adjustable shaft.

### SUSPENSION WITH TILTING AND STOW MECHANISM

The robust suspension is made from seawater resistant aluminum. So you can put the motor four-step in the correct position for optimal propulsion.

Optional you can tilt the motor permanent with a tilting lever.

### OPTIMIZED ANTI-CAVITATIONS PLATE

The anti-cavitations plate prevent the air-drawing of the propeller and therefore it is needed a minimum immersion depth.

### INTEGRATED ANODE PREVENTS CORROSION

The anode is integrated in the motor system and prevents the corrosion at the housing.

### SOLID, FLOW-OPTIMIZED HOUSING

The housing is cast of a seawater resistant aluminum alloy. The result is a remarkable robustness.

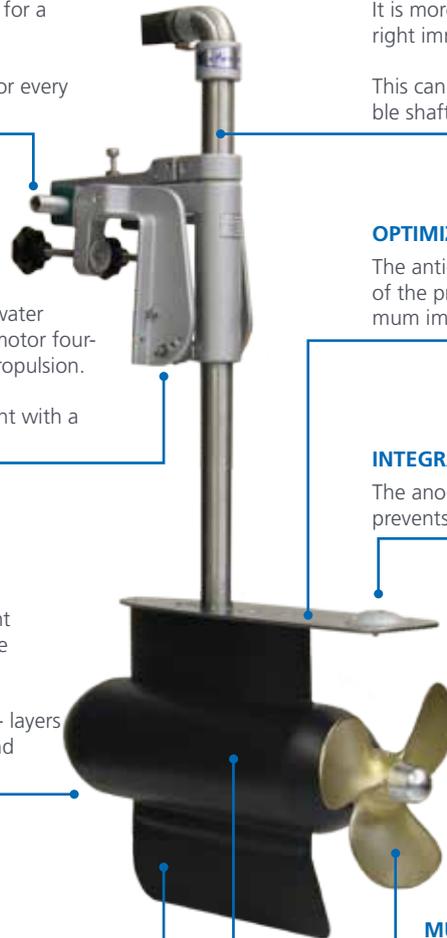
In addition the motor is painted with a 6- layers coating which projects against fouling and corrosions.

### MULTI-DIMENSIONAL OPTIMIZED PROPELLER AT A SOLID MOTOR SHAFT

This solid brazen propeller is used in professional shipping and gives you max. thrust.

### HIGHLY-EFFICIENT MOTOR

The main part of the electric propulsion is inside the housing. The motor with a low rpm turns the propeller through a solid shaft of stainless steel directly without a gearbox.



### FLOW-OPTIMIZED FIN

The boat can be also steered very well through this fin during the propeller doesn't operate. Therefore it isn't necessary to use additional rudder blades.

Furthermore the fin has a predetermined breaking point for break down when the motor touch on the ground.

## Optional



Full-Color bordcomputer



Suspension for fix mounting

# Fixed pod motors



## Benefits

- » Unique efficiency
- » Max. smooth running
- » Flow-optimized motor housing with a minimal drag and optimal flow conditions at the motor housing and propeller
- » Also available with a folding and feathering propeller for optimize the drag additionally
- » Permanently useable for salt and sweet water
- » Custom-made compensation wedge to the boat hull for having ideal flow-conditions at the propeller and maximum thrust as standard
- » Integrated Anode
- » Maintenance-free



## Model overview

Model	F10e	F20e	F30e	F41e	F80e	F100e	F110e	F150e	F200e	F250e
<b>Output power</b>	1.000 W	2.000 W	3.000 W	4.100 W	8.000 W	10.000 W	11.000 W	15.000 W	20.000 W	25.000 W
<b>Input power</b>	1.090 W	2.180 W	3.260 W	4.450 W	8.690 W	10.870 W	11.950 W	16.300 W	21.690 W	27.080 W
<b>Efficiency</b>	92 %	92 %	92 %	92 %	92 %	92 %	92 %	92 %	92 %	92 %
<b>Voltage</b>	24 V	24 V	36 V	48 V	48 V	72 V	48 V	48 V	96 V	96 V
<b>Current</b>	45 A	87 A	89 A	93 A	178 A	151 A	249 A	339 A	225 A	281 A
<b>Weight</b>	12 kg	19 kg	20 kg	21 kg	33 kg	35 kg	46 kg	47 kg	49 kg	50 kg
<b>Motor type</b>	sensorless AC-motor									
<b>Compensation wedge</b>	yes- custom-made as standard									
<b>Warranty</b>	2 years									

## Serial components



Battery cables



Battery monitor



Lever



Key switch



Motor controller

### MOUNTING

The fixing of the motor is done by 2 or 4 stay bolts. The length will be produced custom made.

### CUSTOM-MADE AND VIBRATIONS-DUMPING COMPENSATION WEDGE

In order that having a optimal thrust the motor should be mounted parallel to the water-line.

Therefore the compensations wedge is also custom-made by Aquamot. Due the special material of the Aquamot compensation wedge the vibrations will be damped.

This gives you an unrivaled smooth running.

### HIGHLY-EFFICIENT MOTOR

The main part of the electric propulsion is inside of housing. The motor with a low rpm turns the propeller through a solid shaft of stainless steel directly without a gearbox.

The bearings and seals are also designed for a long service life consequently.

### SOLID, FLOW-OPTIMIZED HOUSING

The housing is cast of a seawater resistant aluminum alloy. The result is a remarkable robustness.

In addition the motor is painted with a 6- layers coating which projects against fouling and corrosions.

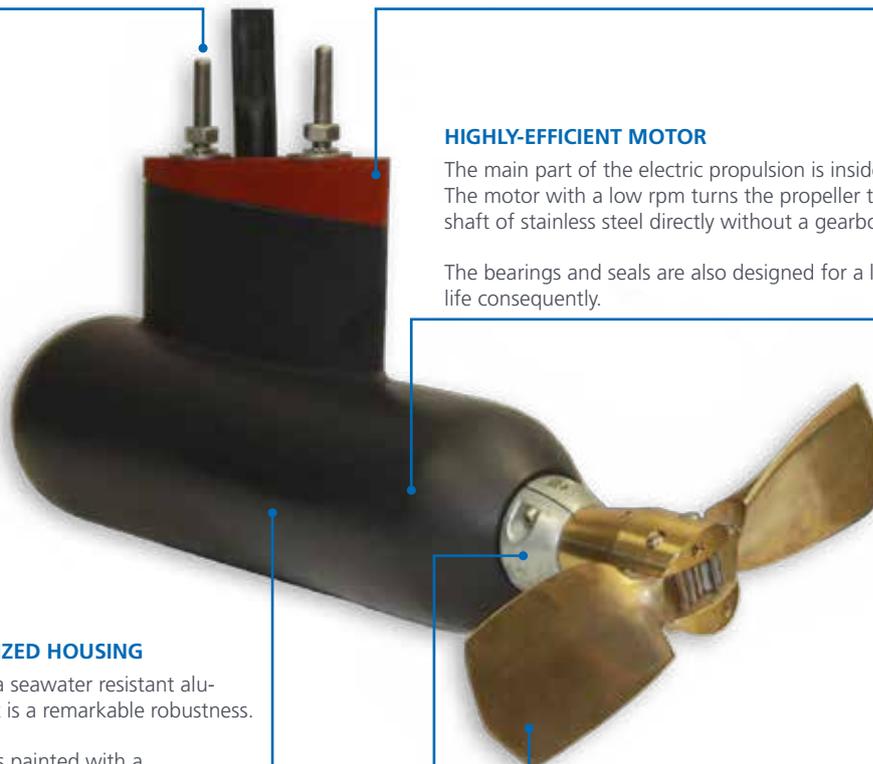
Through a special viscose flow-calculation the motor has a minimum of drag and moreover the propeller is also streamed very well.

### INTEGRATED ANODE

The anode prevents corrosion at the housing and propeller.

### MULTI-DIMENSIONAL OPTIMIZED PROPELLER AT A SOLID MOTOR SHAFT

This solid brazen propeller is used in professional shipping and gives you max. thrust.



## Optional



Full-Color bordcomputer



Feathering propeller

# Steerable pod motors



## Benefits

- » Unique efficiency
- » Max. smooth running
- » Incomparable, vibration-dumping suspension system for a maximum of smooth running
- » Permanently useable for salt and sweet water
- » Optimized anti-cavitations plate



## Model overview

Model	UF10e	UF20e	UF30e	UF41e	UF80e	UF100e	UF110e	UF150e	UF200e	UF250e
<b>Output power</b>	1.000 W	2.000 W	3.000 W	4.100 W	8.000 W	10.000 W	11.000 W	15.000 W	20.000 W	25.000 W
<b>Input power</b>	1.090 W	2.180 W	3.260 W	4.450 W	8.690 W	10.870 W	11.950 W	16.300 W	21.690 W	27.080 W
<b>Efficiency</b>	92 %	92 %	92 %	92 %	92 %	92 %	92 %	92 %	92 %	92 %
<b>Voltage</b>	24 V	24 V	36 V	48 V	48 V	72 V	48 V	48 V	96 V	96 V
<b>Current</b>	45 A	87 A	89 A	93 A	178 A	151 A	249 A	339 A	225 A	281 A
<b>Weight</b>	19 kg	25 kg	26 kg	27 kg	40 kg	42 kg	53 kg	54 kg	56 kg	57 kg
<b>Motor type</b>	sensorless AC-motor									
<b>Suspension</b>	A brazen rudder gland as stanard, optional vibration-dumping suspension system									
<b>Warranty</b>	2 years									

## Serial components



Battery cables

Battery monitor

Lever

Key switch

Motor controller

**CONNECTION FOR MONO-CABLE-STEERING SYSTEM**

The connection is made for a rope steering as standard.

Additional the installation kit for the mono-cable-steering system which is also useable for a hydraulic steering can be added.

As a consequence the motor is useable for every steering system.

**HIGH-ADJUSTABLE SHAFT**

The shaft of Aquamot outboard motors isn't profiled purposely. The reason is the streaming speed at the eddy is roughly zero.

It is more important in our opinion for having the right immersion depth.

This can be achieved easily with the high-adjustable shaft.

**SOLID, FLOW-OPTIMIZED HOUSING**

The housing is cast of a seawater resistant aluminum alloy. The result is a remarkable robustness.

In addition the motor is painted with a 6- layers coating which projects against fouling and corrosions.

**FLOW-OPTIMIZED FIN**

The boat can be also steered very well through this fin during the propeller doesn't operate. Therefore it isn't necessary to use additional rudder blades.

Furthermore the fin has a predetermined breaking point for break down when the motor touch on the ground.

**INCOMPARABLE, VIBRATION-DUMPING SUSPENSION SYSTEM**

For not having any vibrations in the boat hull we decided to develop a incomparable suspension for fiberglass boat which will be laminated in the boat hull.

This damps vibrations up to 5 times better than conventional suspensions which can be came up due hydrodynamic processes.

It is a normal ruder gland available as well.

**OPTIMIZED ANTI-CAVITATIONS PLATE**

The anti-cavitations plate prevent the air-drawing of the propeller and therefore it is needed a minimum immersion depth.

**INTEGRATED ANODE PREVENTS CORROSION**

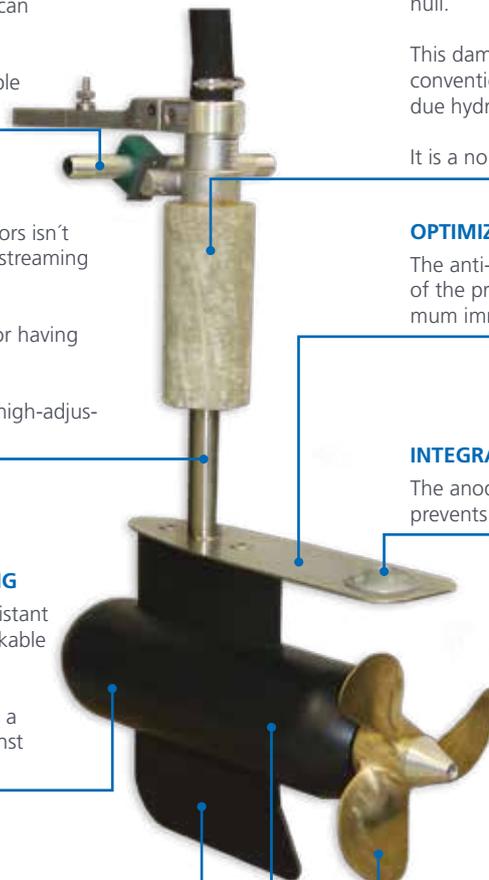
The anode is integrated in the motor system and prevents the corrosion at the housing.

**MULTI-DIMENSIONAL OPTIMIZED PROPELLER AT A SOLID MOTOR SHAFT**

This solid brazen propeller is used in professional shipping and gives you max. thrust.

**HIGHLY-EFFICIENT MOTOR**

The main part of the electric propulsion is inside of housing. The motor with a low rpm turns the propeller through a solid shaft of stainless steel directly without a gearbox.



Optional



Full-Color bordcomputer

# Inboard motors



## Benefits

- » Advanced motor technology
- » 3-dimensional adjustable suspension system
- » Masterfully safety features
- » Large-dimensioned thrust bearing
- » Max. smooth running



## Model overview

Model	MA25	MA35	MA43	MA70	MA110	MA160	MA300
<b>Output power</b>	2.500 W	3.500 W	4.300 W	7.000 W	11.000 W	16.000 W	30.000 W
<b>Input power</b>	2.800 W	3.960 W	4.830 W	7.860 W	12.350 W	17.970 W	32.600 W
<b>Efficiency</b>	89 %	89 %	89 %	89 %	89 %	89 %	89 %
<b>Voltage</b>	24 VDC	36 VDC	48 VDC	48 VDC	48 VDC	72 VDC	96 VDC
<b>Current</b>	114 A	108 A	99 A	161 A	240 A	239 A	330 A
<b>Motor type</b>	sensorless AC MOTOR						
<b>Suspension</b>	3-D adjustable suspension system						
<b>Warranty</b>	2 years						

## Serial components



Battery cables

Battery monitor

Lever

Key switch

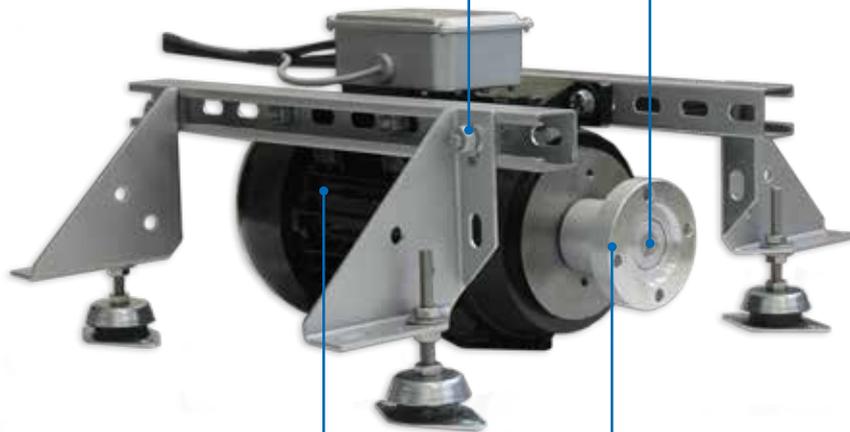
Motor controller

### 3-DIMENSIONAL ADJUSTABLE SUSPENSION SYSTEM

The installation situation is in several boats quite different. Therefore the axis of the motor should be in the same line as the axis of the propeller shaft for having an ideal smooth running.

Therefore we developed a special 3-dimensional adjustable suspension system which is very easy adaptable. Also it is easier to install due this system. In addition it can absorb the thrust from the propeller shaft.

The optimized mounting brackets damp the vibrations.



### POWERFUL AND HIGHLY-EFFICIENT MOTOR

The highly-efficient air-cooled motor is characterized by a superior power structure.

Furthermore it has no sensors inside.

The large-dimensioned thrust bearing can absorb the thrust of the propeller without problems.

### SOLID DRIVESHAFT

Giving enough torque to the propeller shaft during absorb max. thrust the shaft of the motor has to be sufficiently robust.

The large-dimensioned stainless steel shaft conform our quality standards exactly.

### COUPLING

The coupling is the connection of the power transmission between from the motor shaft to the propeller shaft.

The motor can be adapted to many different shaft types.

The high-end solution is flexible couplings which can be easily compensate axial, radial and angular misalignments.

Also the vibrations and noise will be decrease with this coupling.

## Optional



Full-Color Bordcomputer



Homokinetic coupling

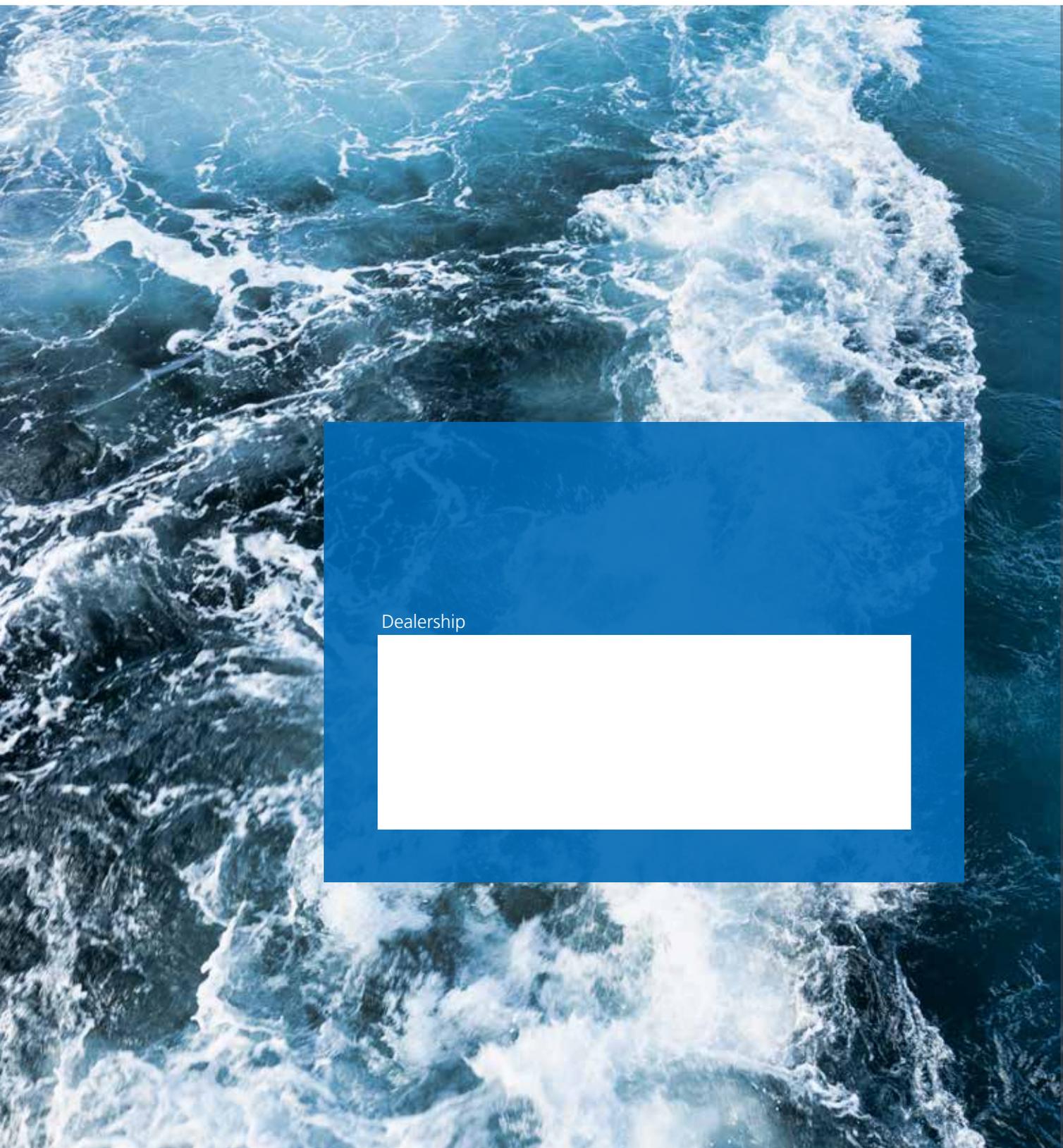


Heroalstrasse 5 • A-4870 Voecklamarkt  
Phone: +43 (0) 7682 - 85 35 • Fax: +43 (0) 7682 - 85 35 - 15  
Mail: [office@aquamot.com](mailto:office@aquamot.com) • Web: [www.aquamot.com](http://www.aquamot.com)

Company registration number: 328503v  
VAT - No: ATU 64982709 • Landesgericht Wels



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