

*PRODUCT RANGE*



***ALAMARIN-JET***  
GO WITH THE FLOW

# ALAMARIN-JET NETWORK

Alamarin-Jet Oy are world leading manufacturers of waterjet propulsion units and controls systems. Suitable for input power up to 1500 kW / 2040 HP, Alamarin-Jet are renowned for an innovative, robust and efficient design philosophy.

Alamarin-Jet have been pushing waterjet innovation particularly in the last 10 years introducing technical features such as the patented Combi-Frame, a jet frame design which allows for multiple installation methods in AJ 245 and AJ 285 as well as the patented Dual Angle Shaft recently introduced in the OMEGA SERIES jets which allows 2 different shaft angles without changing jet inclination. Alamarin-Jet see the importance in future technologies within the marine industry and therefore have invested heavily in next generation control and monitoring systems, this includes fully autonomous operations, remote surveillance and remote monitoring. All built on the SIGMA CONTROLS platform.

A RELIABLE AND SKILLED DEALER NETWORK COVERS 50+ COUNTRIES ALL AROUND THE WORLD, PROVIDING RAPID RESPONSE AND DELIVERING SERVICE AND SPARE PARTS WHEN NEEDED THE MOST. ALAMARIN-JET CONSTANTLY WORK ON DEVELOPING THE NETWORK IN ORDER TO MAINTAIN HIGHEST POSSIBLE LEVEL OF SALES AND SUPPORT.

ALMOST 50 YEARS SUCCESSFUL EXPERIENCE IN DESIGNING, MANUFACTURING, AND SUPPLYING WATERJET PROPULSION SYSTEMS AROUND THE WORLD

FINNISH QUALITY. OVER 90% MADE IN FINLAND, 10% REMAINING EUROPEAN UNION

BROAD RANGE OF JET SIZES SUITABLE FOR INPUT POWER UP TO 1,500 KW INPUT

BEST POWER/SIZE/WEIGHT CHARACTERISTICS IN THE MARKET

HIGHLY ACCURATE PERFORMANCE CALCULATIONS USING THE LATEST SOFTWARE COMBINED WITH YEARS OF EXPERIENCE

FASTEST PRODUCTION LEAD TIMES IN THE INDUSTRY

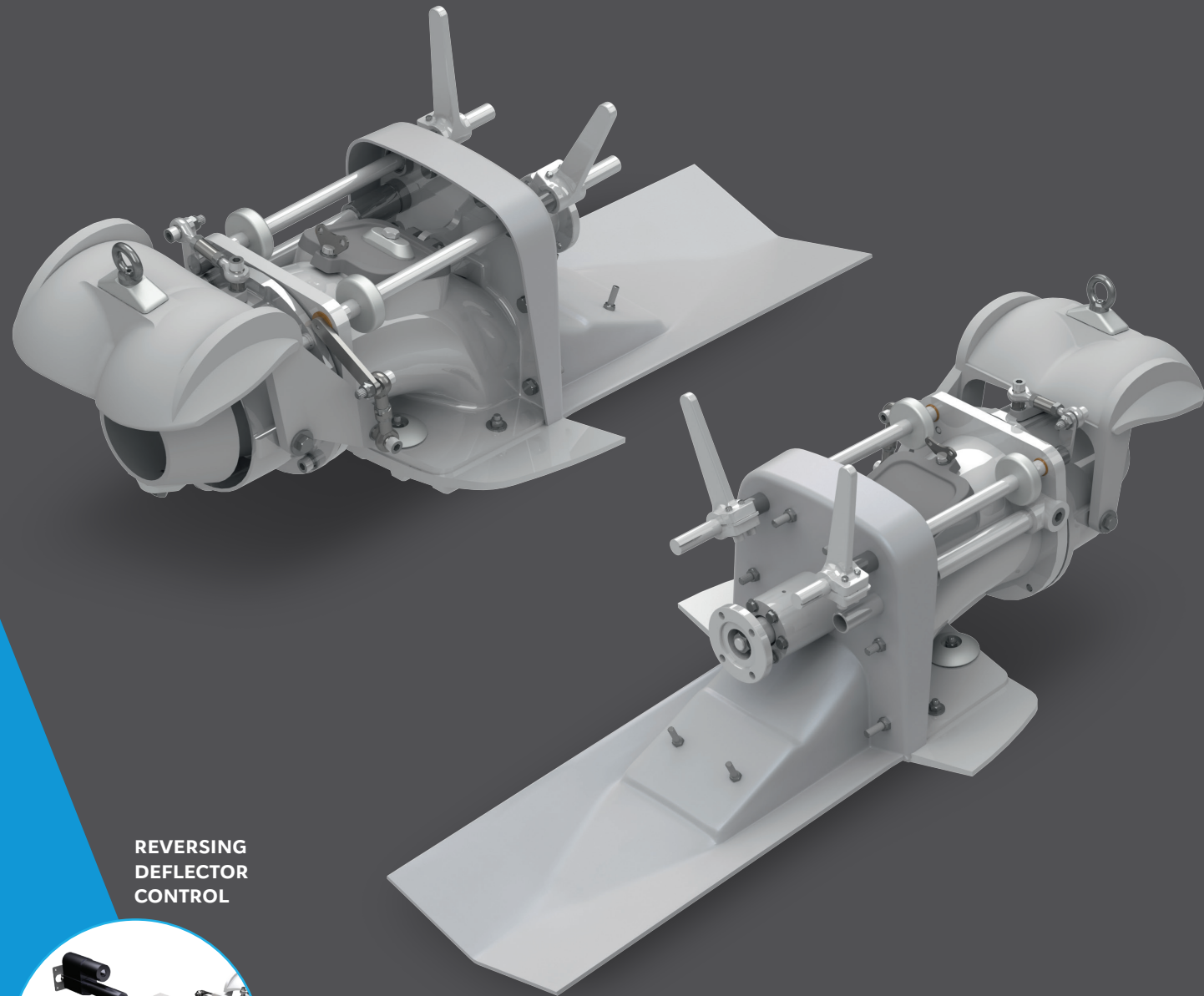
COMPANY DEDICATED TO SERVICE AND SUPPORT

DEALER/SERVICE NETWORK IN 50+ COUNTRIES

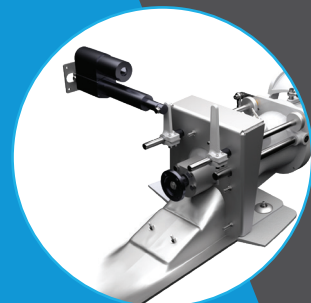
DIRECT FACTORY SUPPORT FOR ALL CUSTOMERS



# A/160



REVERSING  
DEFLECTOR  
CONTROL



## SPECS



**PUMP TYPE**  
MIXED FLOW,  
SINGLE STAGE



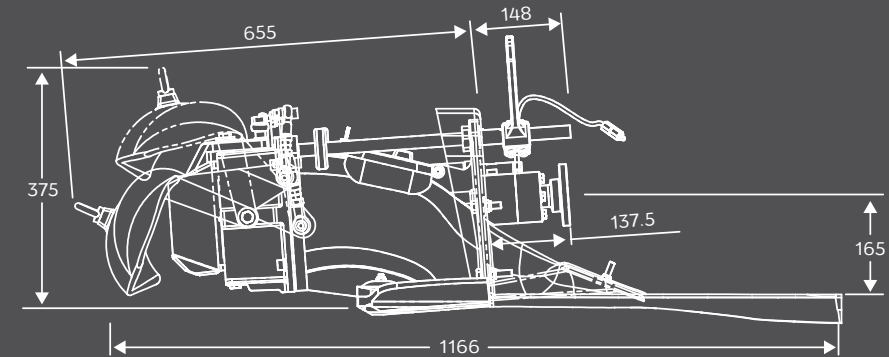
**IMPELLER SHAFT RPM**  
MAX. 5000 1/MIN



**MAX. VESSEL  
DISPLACEMENT**  
1000 KG (2205 LBS)  
PER JET UNIT  
(PLANING VESSEL)



**JET WEIGHT**  
38 KG  
(84 LBS)



**IMPELLER DIAMETER**  
MAX. 186 MM  
(7.3")



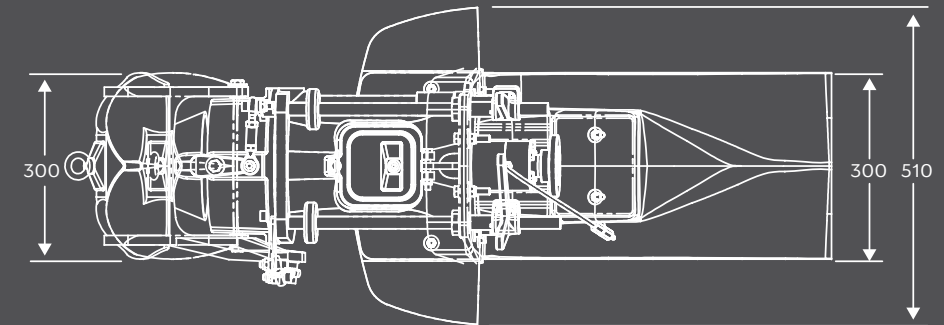
**MAX INPUT POWER**  
100 KW  
(136 MHP)



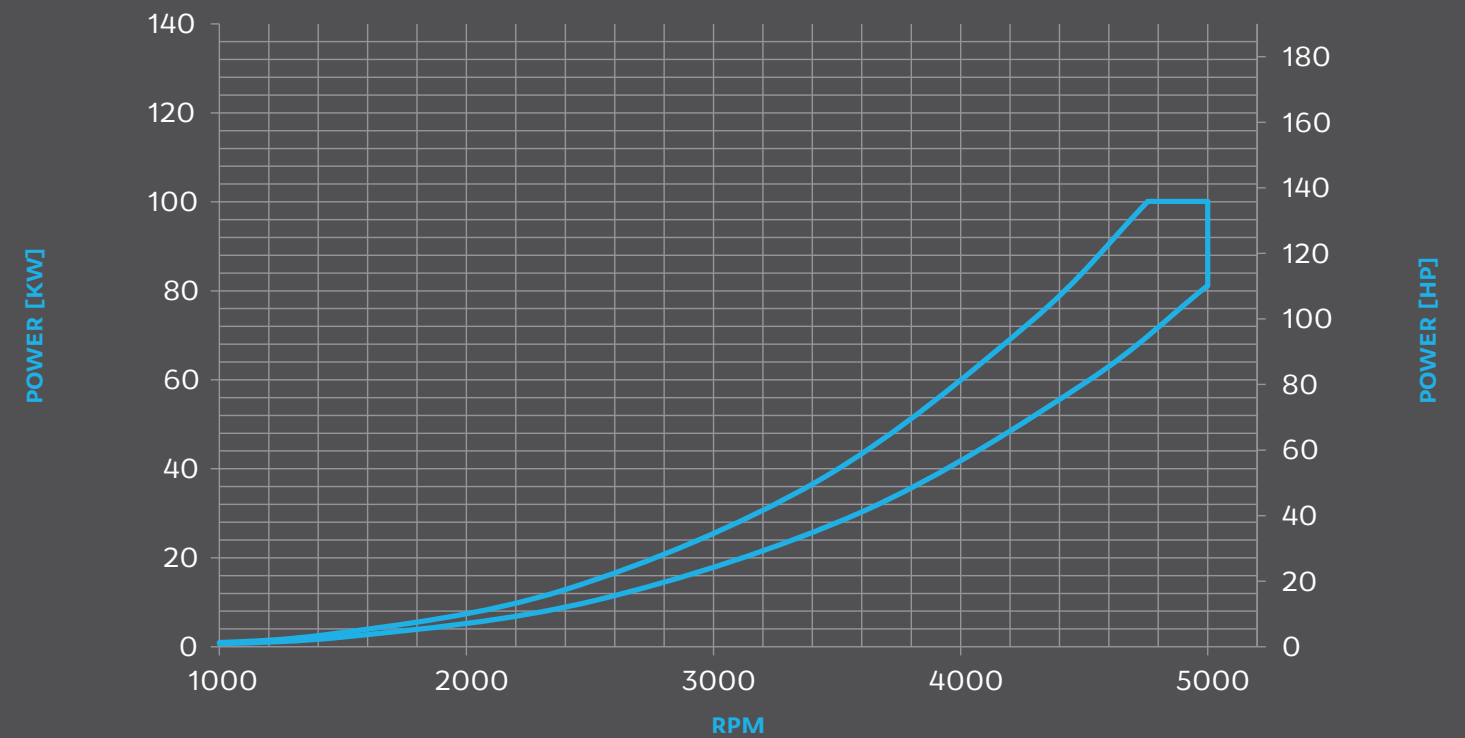
**JET CONSTRUCTION**  
ALUMINIUM,  
STAINLESS STEEL



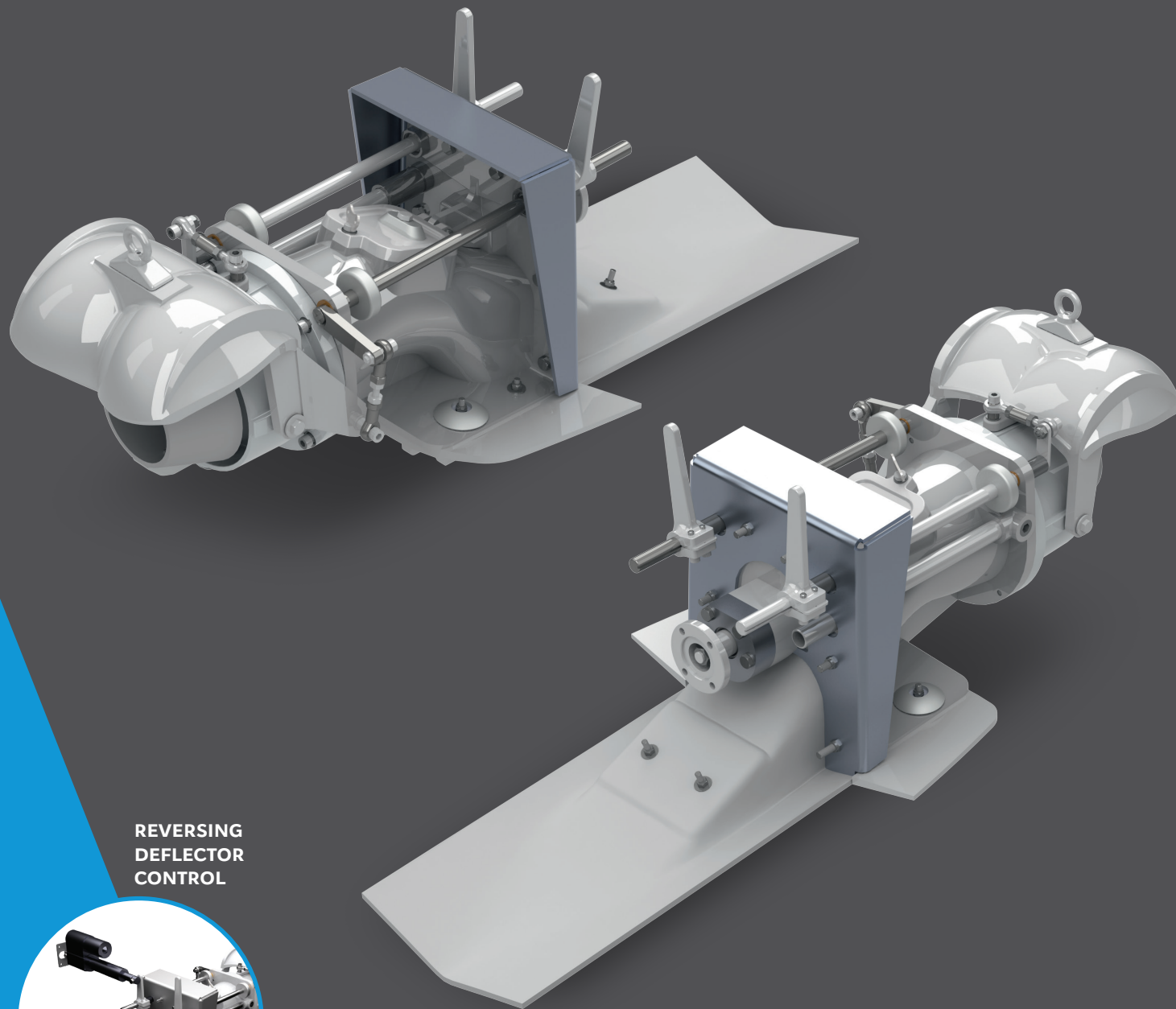
**REVERSE DEFLECTOR  
CONTROL**  
MECHANICAL OR  
ELECTRICAL (ACU)



## AJ 160 POWER/RPM COVERAGE



# A/180/185



## SPECS



**PUMP TYPE**  
MIXED FLOW,  
SINGLE STAGE



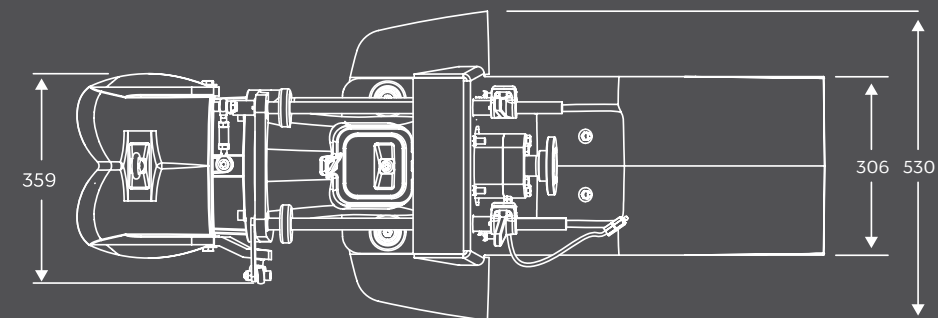
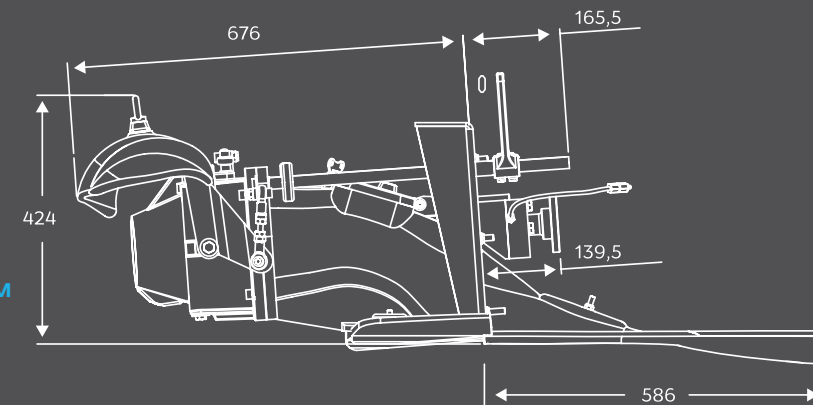
**IMPELLER SHAFT RPM**  
MAX. 5000 1/MIN



**MAX. VESSEL DISPLACEMENT**  
1700 KG (3700 LBS)  
PER JET UNIT  
(PLANING VESSEL)



**JET WEIGHT**  
48 / 50 KG  
(106 / 110 LBS)



**IMPELLER DIAMETER**  
MAX. 192 / 197 MM  
(7.6" / 7.8")



**MAX INPUT POWER**  
120 kW  
(163 MHP)

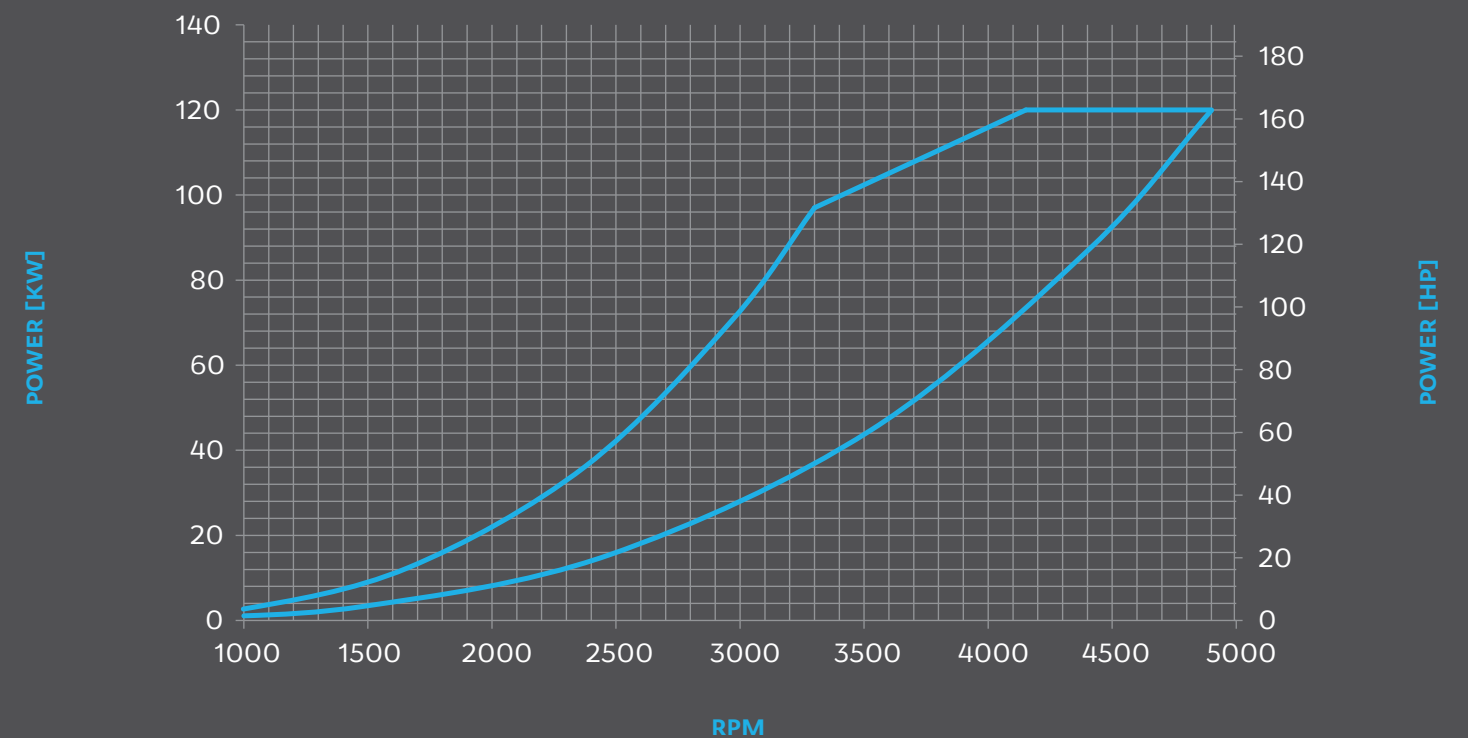


**JET CONSTRUCTION**  
ALUMINIUM,  
STAINLESS STEEL



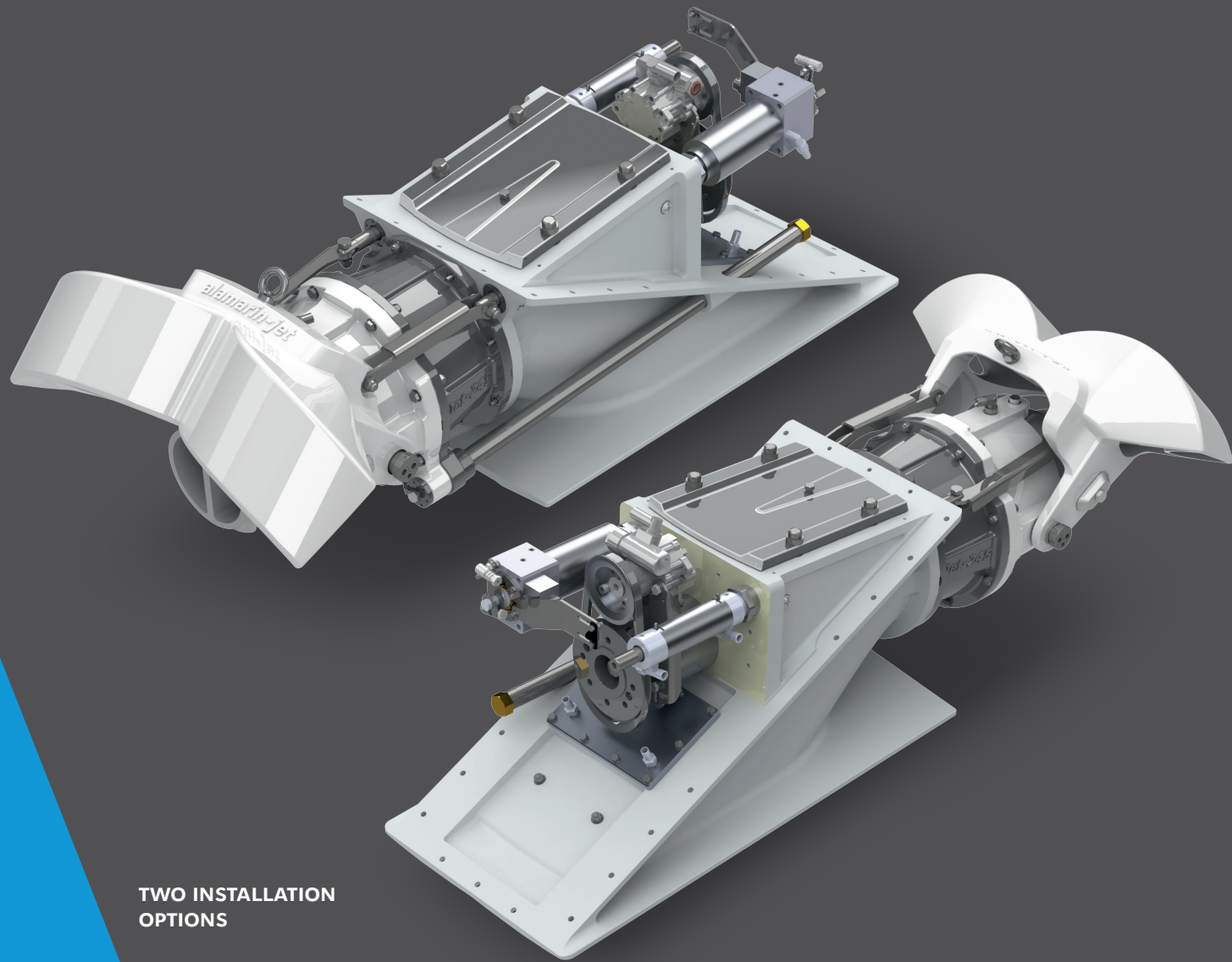
**REVERSE DEFLECTOR CONTROL**  
MECHANICAL OR  
ELECTRICAL (ACU)

## AJ 180/185 POWER/RPM COVERAGE

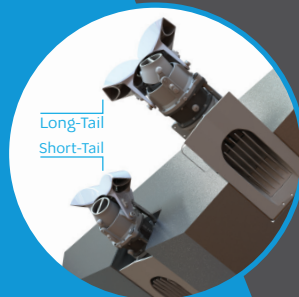




# AJ 245



TWO INSTALLATION  
OPTIONS



PATENTED  
COMBI-FRAME  
TECHNOLOGY

Integrated  
oil cooler  
and steering  
cylinder

## SPECS



**PUMP TYPE**  
MIXED FLOW,  
SINGLE STAGE



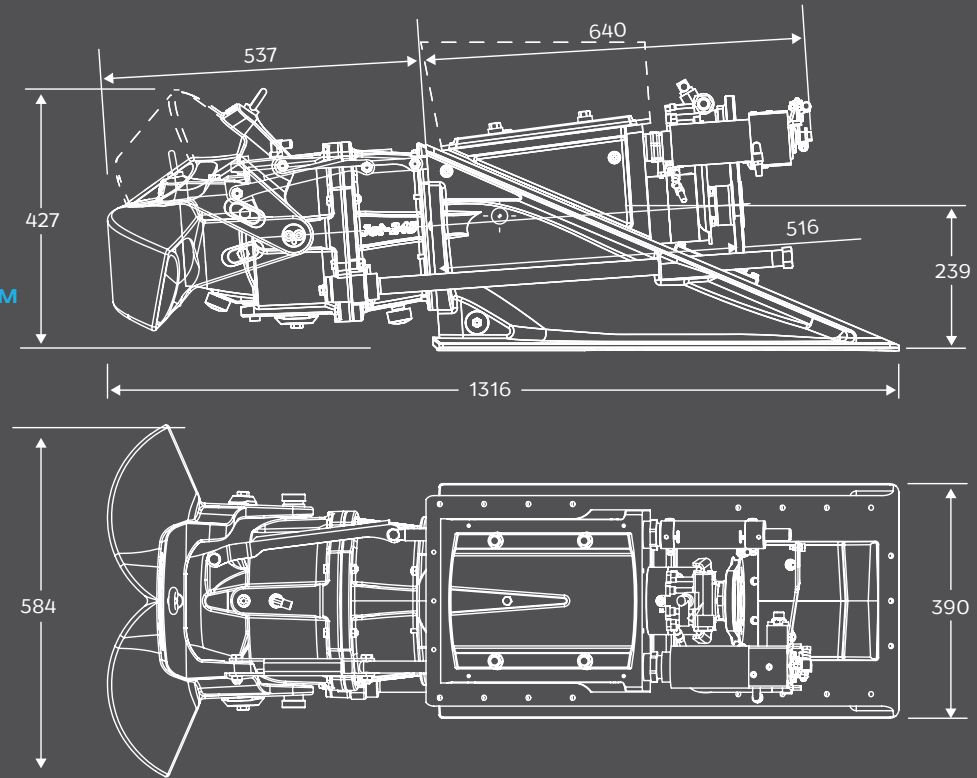
**IMPELLER SHAFT RPM**  
MAX. 4600 1/MIN



**MAX. VESSEL  
DISPLACEMENT**  
3500 KG (7700 LBS)  
PER JET UNIT  
(PLANING VESSEL)



**JET WEIGHT**  
95 KG  
(209 LBS)



**IMPELLER DIAMETER**  
MAX. 245 MM  
(9.6")



**MAX INPUT POWER**  
235 KW  
(320 MHP)

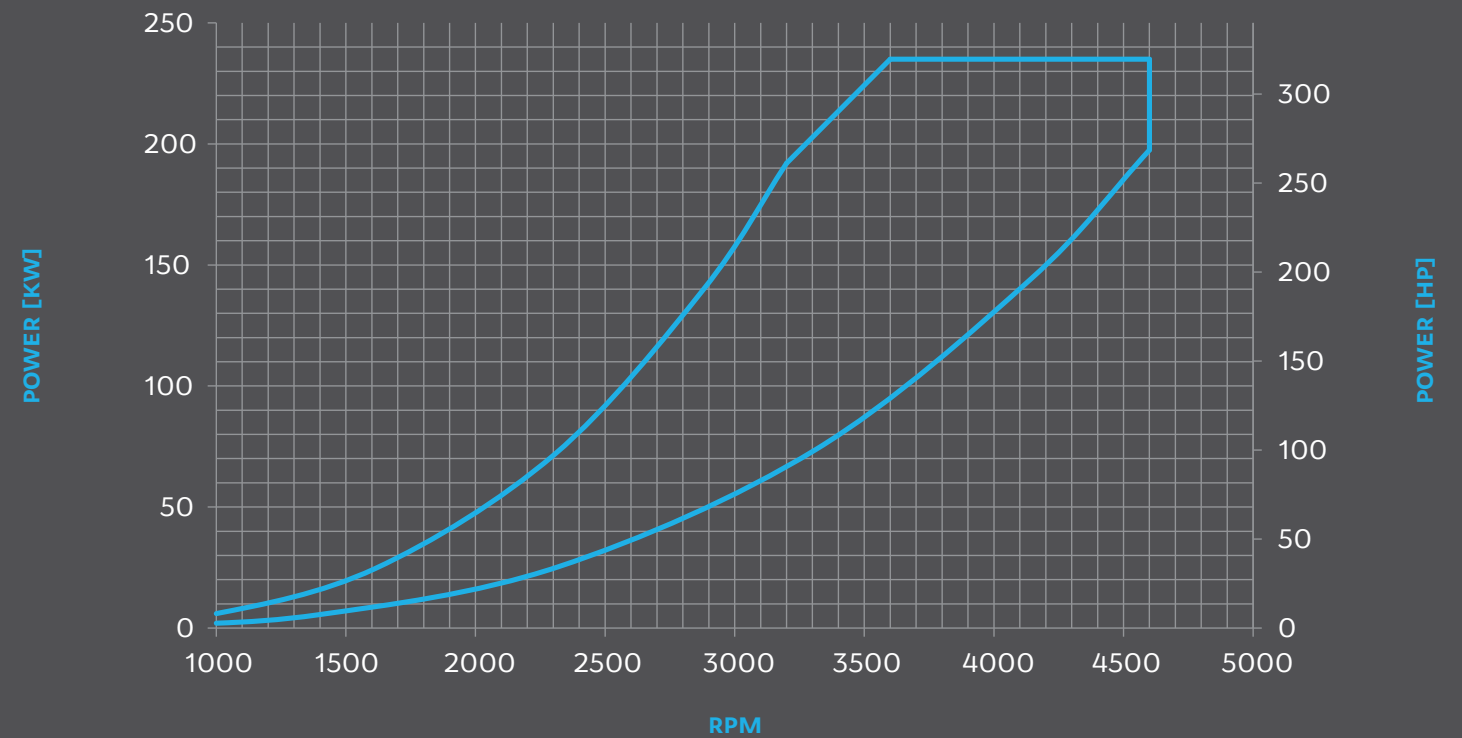


**JET CONSTRUCTION**  
ALUMINIUM,  
STAINLESS STEEL

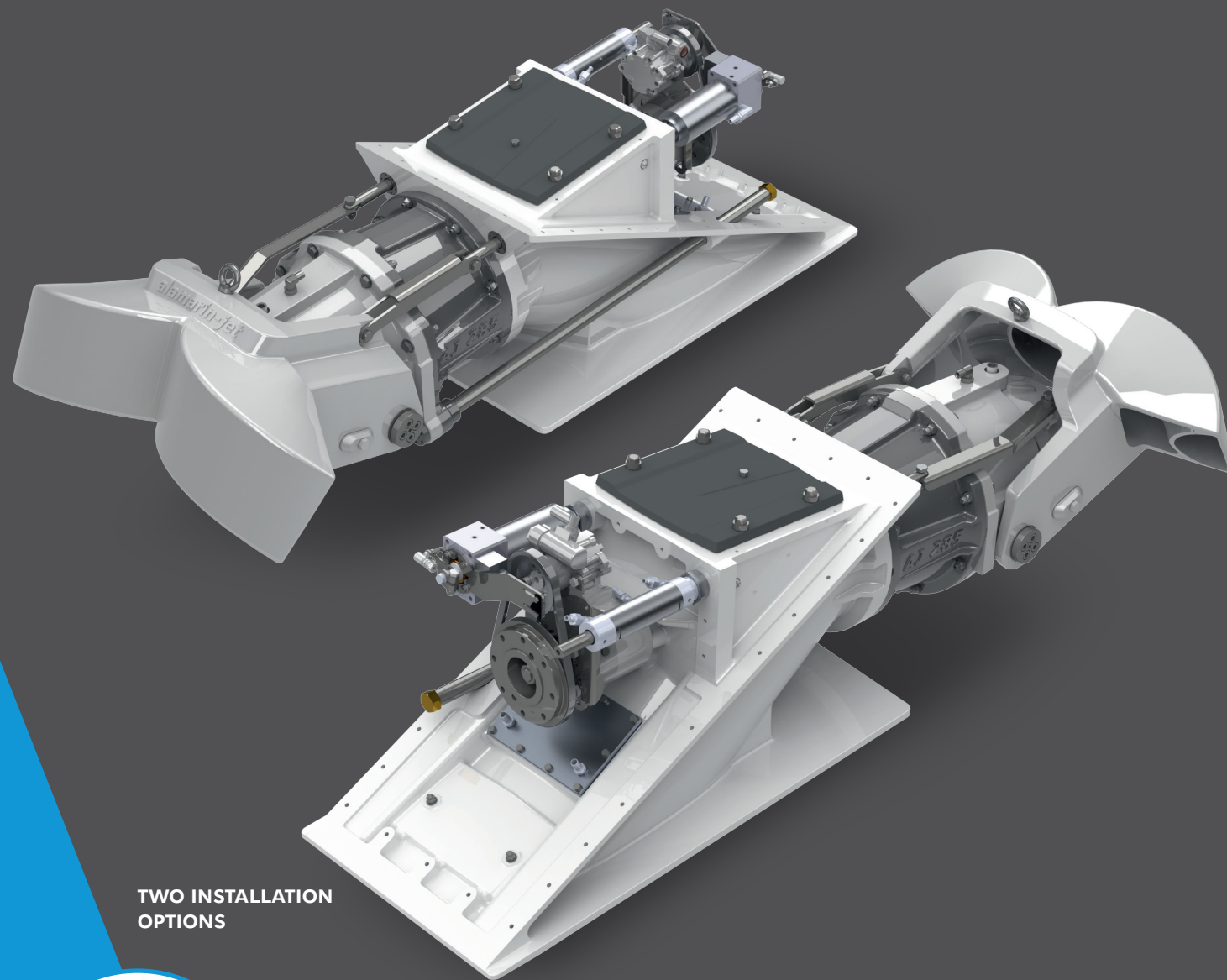


**REVERSE DEFLECTOR  
CONTROL**  
HYDRAULIC OR  
SIGMA CONTROLS

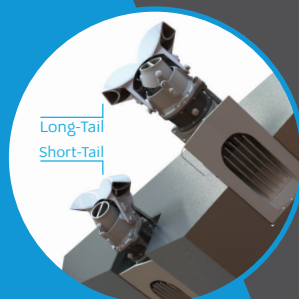
## AJ 245 POWER/RPM COVERAGE



# AJ 285



TWO INSTALLATION  
OPTIONS



PATENTED  
COMBI-FRAME  
TECHNOLOGY

Integrated  
oil cooler  
and steering  
cylinder

## SPECS



**PUMP TYPE**  
MIXED FLOW,  
SINGLE STAGE



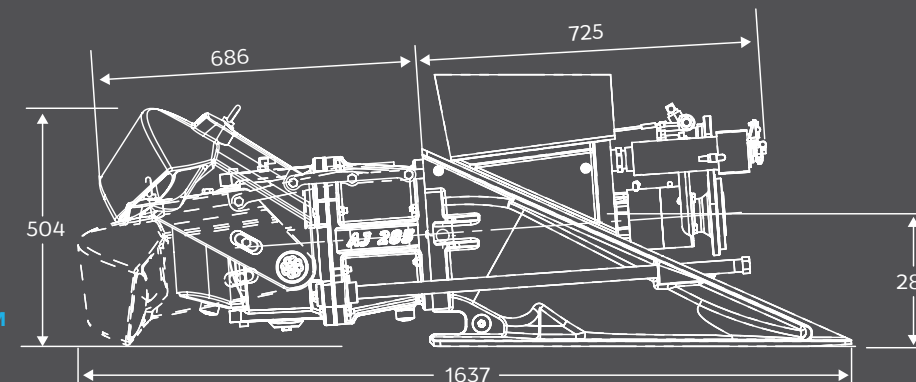
**IMPELLER SHAFT RPM**  
MAX. 3700 1/MIN



**MAX. VESSEL  
DISPLACEMENT**  
5000 KG (11 000 LBS)  
PER JET UNIT  
(PLANING VESSEL)



**JET WEIGHT**  
154 KG  
(340 LBS)



**IMPELLER DIAMETER**  
MAX. 288 MM  
(11.3")



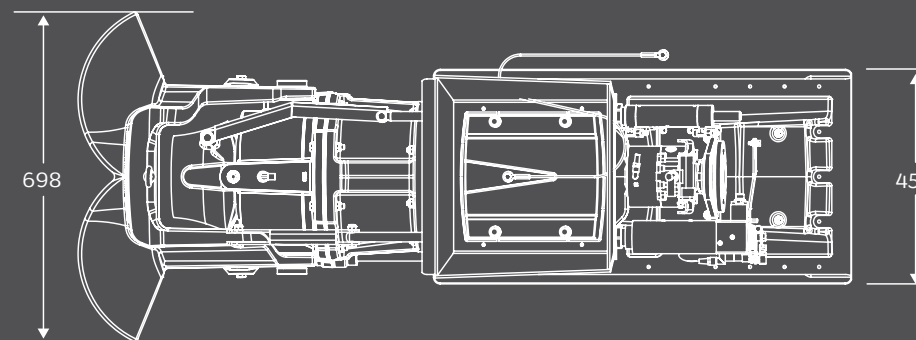
**MAX INPUT POWER**  
370 KW  
(500 MHP)



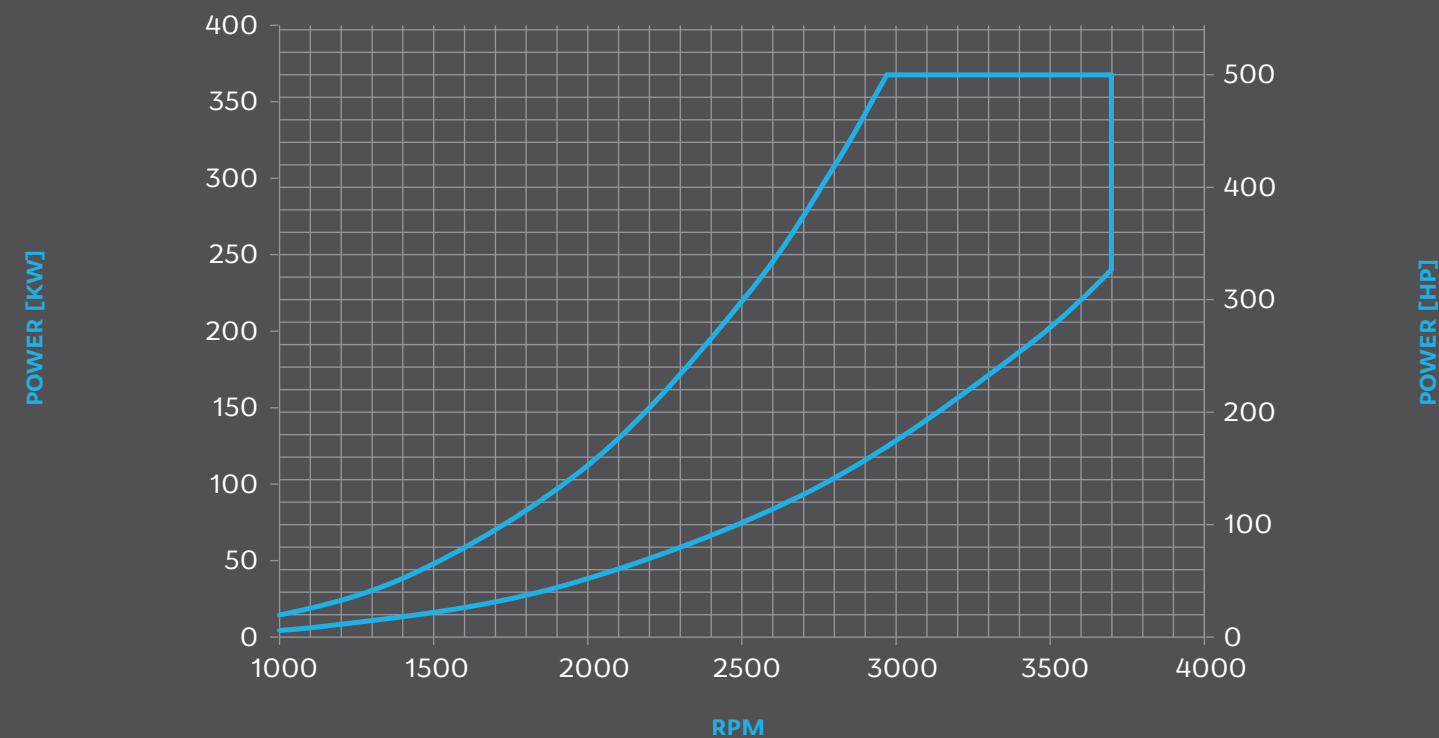
**JET CONSTRUCTION**  
ALUMINIUM,  
STAINLESS STEEL



**REVERSE DEFLECTOR  
CONTROL**  
HYDRAULIC OR  
SIGMA CONTROLS

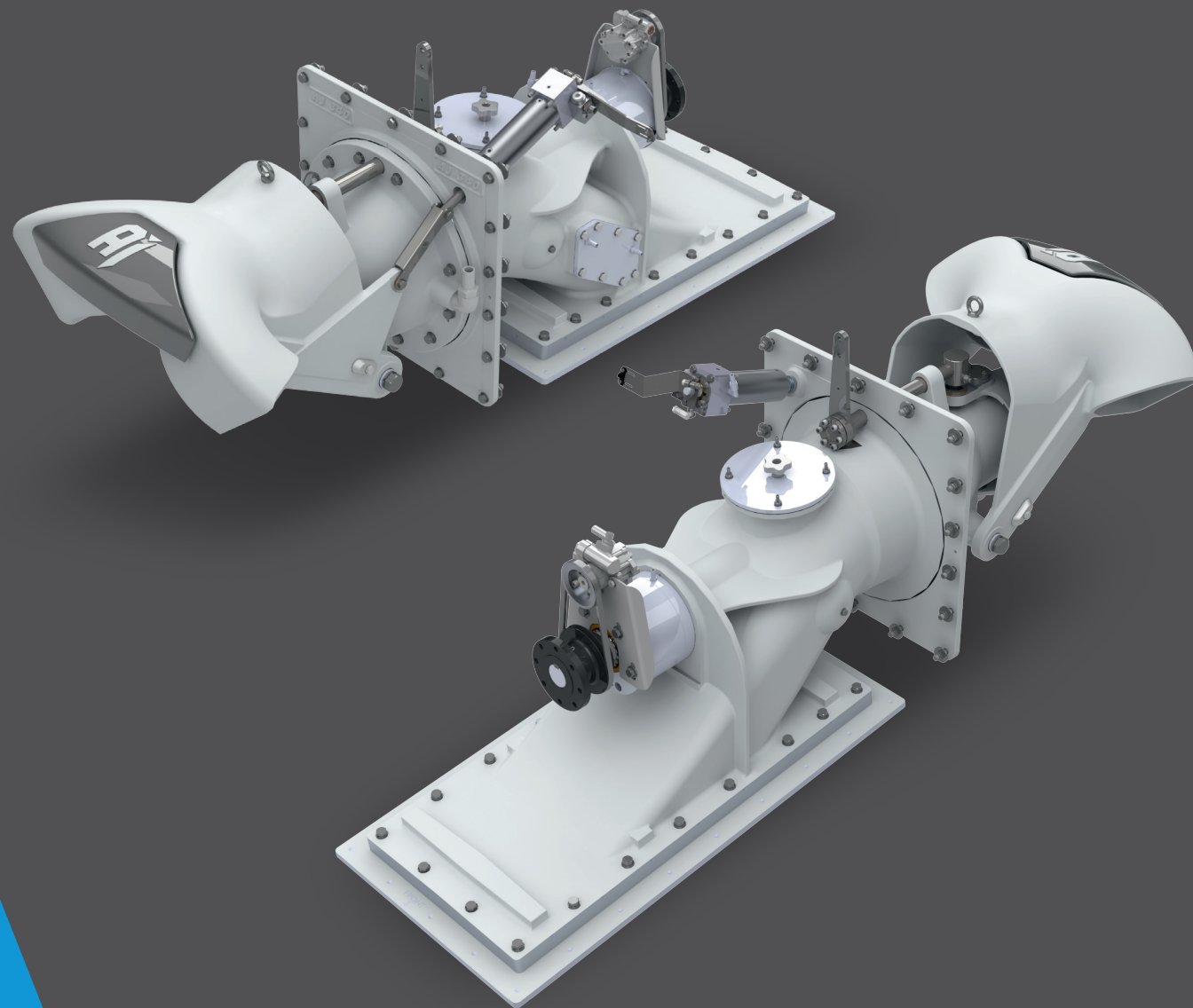


## AJ 285 POWER/RPM COVERAGE





# AJ 340



0-deg & 5-deg  
installation  
options

Integrated  
oil cooler

## SPECS



**PUMP TYPE**  
MIXED FLOW,  
SINGLE STAGE



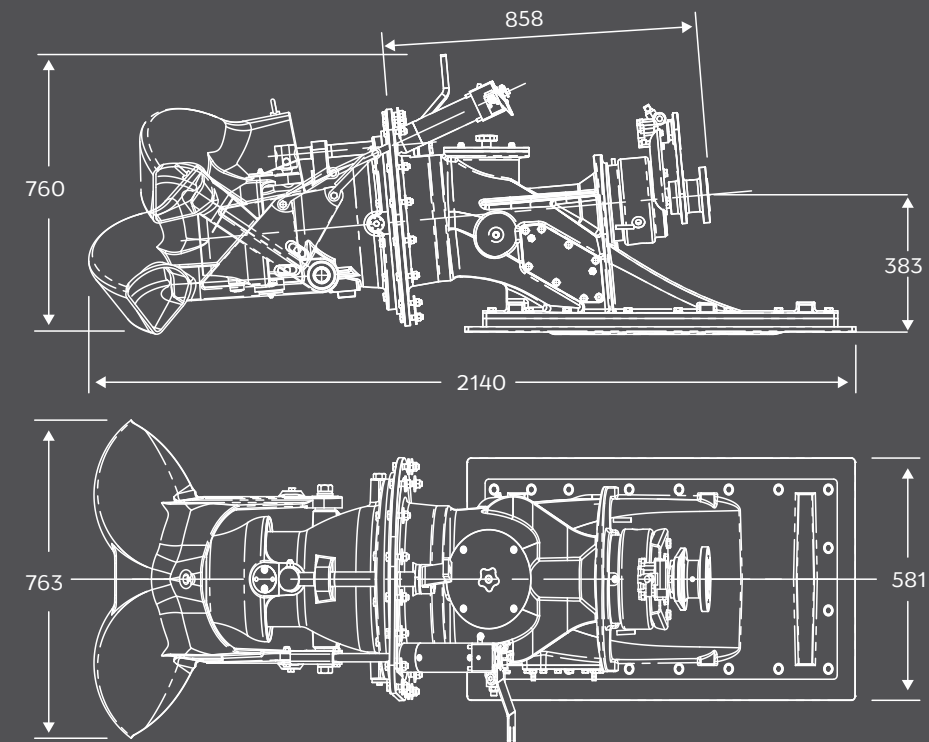
**IMPELLER SHAFT RPM**  
MAX. 3300 1/MIN



**MAX. VESSEL  
DISPLACEMENT**  
7500 KG (16 535 LBS)  
PER JET UNIT  
(PLANING VESSEL)



**JET WEIGHT**  
245 KG  
(540 LBS)



**IMPELLER DIAMETER**  
MAX. 335 MM  
(13.2")



**MAX INPUT POWER**  
550 KW  
(750 MHP)

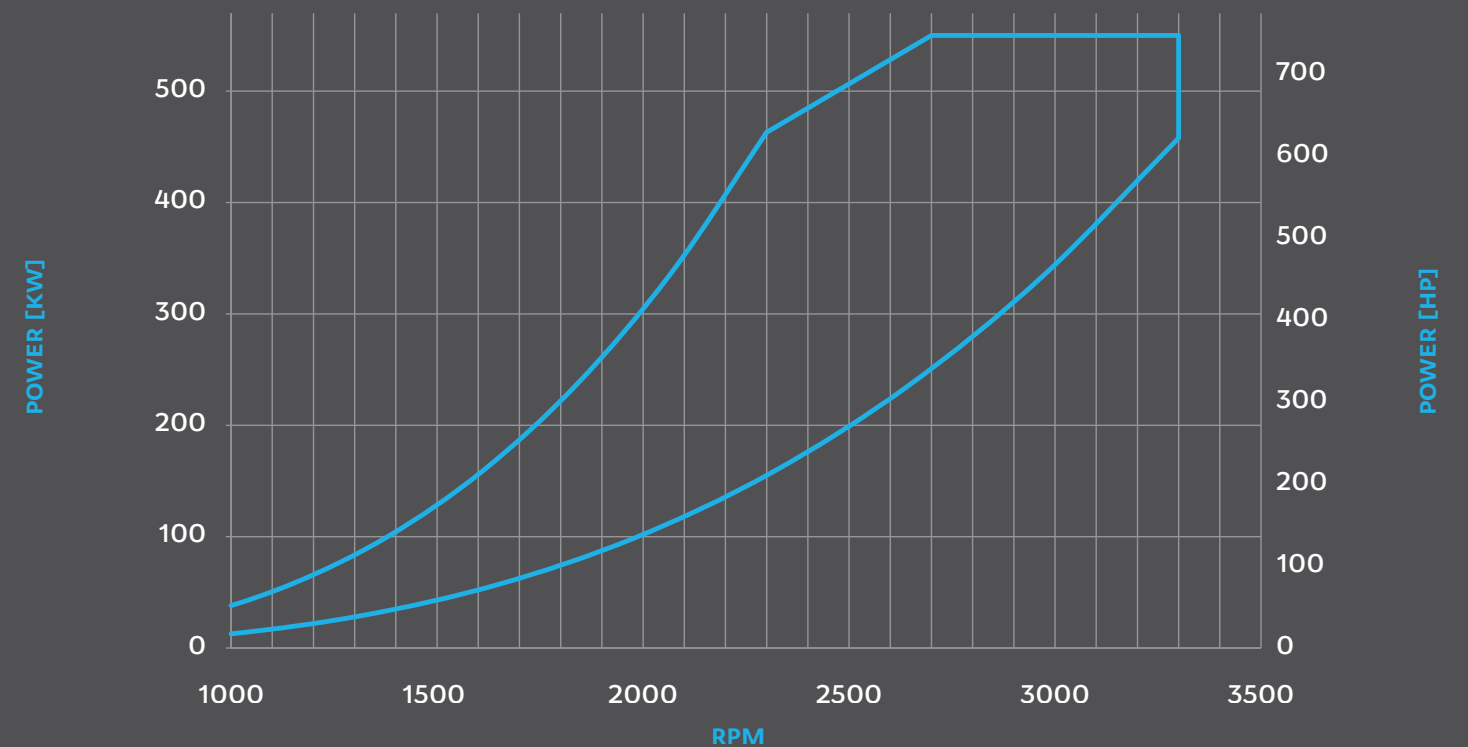


**JET CONSTRUCTION**  
ALUMINIUM,  
STAINLESS STEEL



**REVERSE DEFLECTOR  
CONTROL**  
HYDRAULIC OR  
SIGMA CONTROLS

## AJ 340 POWER/RPM COVERAGE



# A/Ω42



DAS:  
0-deg & 4-deg  
shaft options

Integrated  
SIGMA  
controls

FIBS:  
Frame  
Integrated  
Bearing  
Structure

MIG:  
Modular Intake  
Geometry

## SPECS



**PUMP TYPE**  
MIXED FLOW,  
SINGLE STAGE



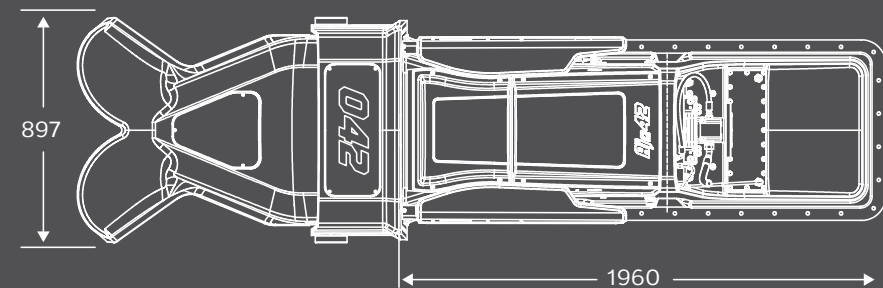
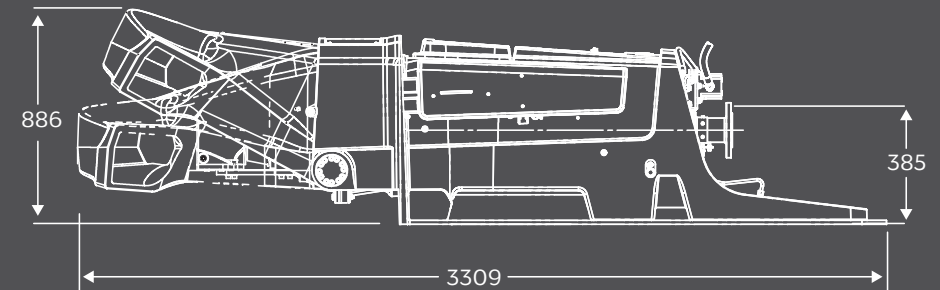
**IMPELLER SHAFT RPM**  
MAX. 2300 1/MIN



**MAX. VESSEL  
DISPLACEMENT**  
24 000 KG (53 000 LBS)  
PER JET UNIT  
(PLANING VESSEL)



**JET WEIGHT**  
815 KG  
(1796 LBS)



**IMPELLER DIAMETER**  
MAX. 480MM  
(18.9")



**MAX INPUT POWER**  
1500 KW  
(2040 HP)

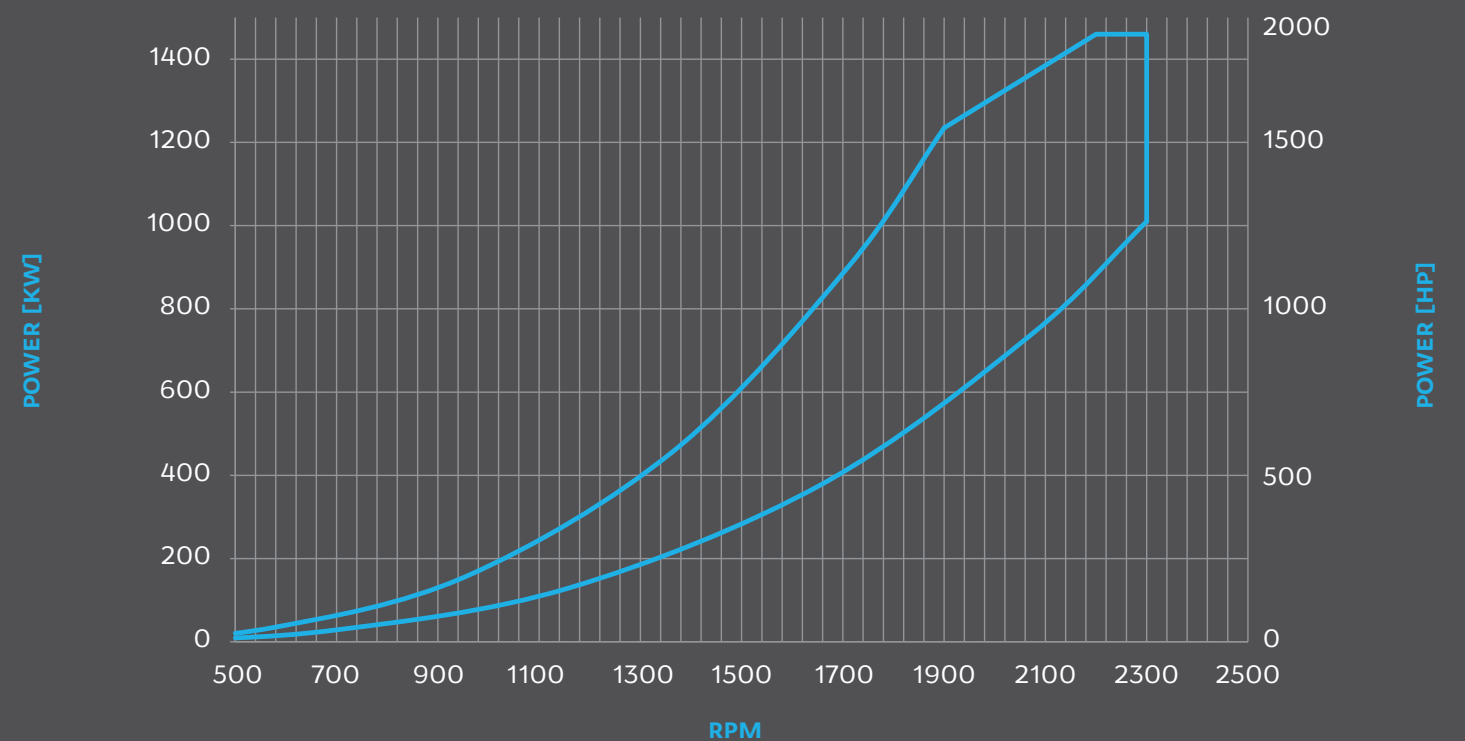


**JET CONSTRUCTION**  
ALUMINIUM,  
STAINLESS STEEL



**REVERSE DEFLECTOR  
CONTROL**  
HYDRAULIC OR  
SIGMA CONTROLS

## AJ OMEGA 42 POWER/RPM COVERAGE





# AJ ACU

The Actuator Control Unit System or ACU System is a modular propulsion control system designed to be adaptable for multiple configurations with simple selection of modular components.

The ACU system can be used to control the waterjet deflector(s), as well as engine throttle and gearbox engagement.

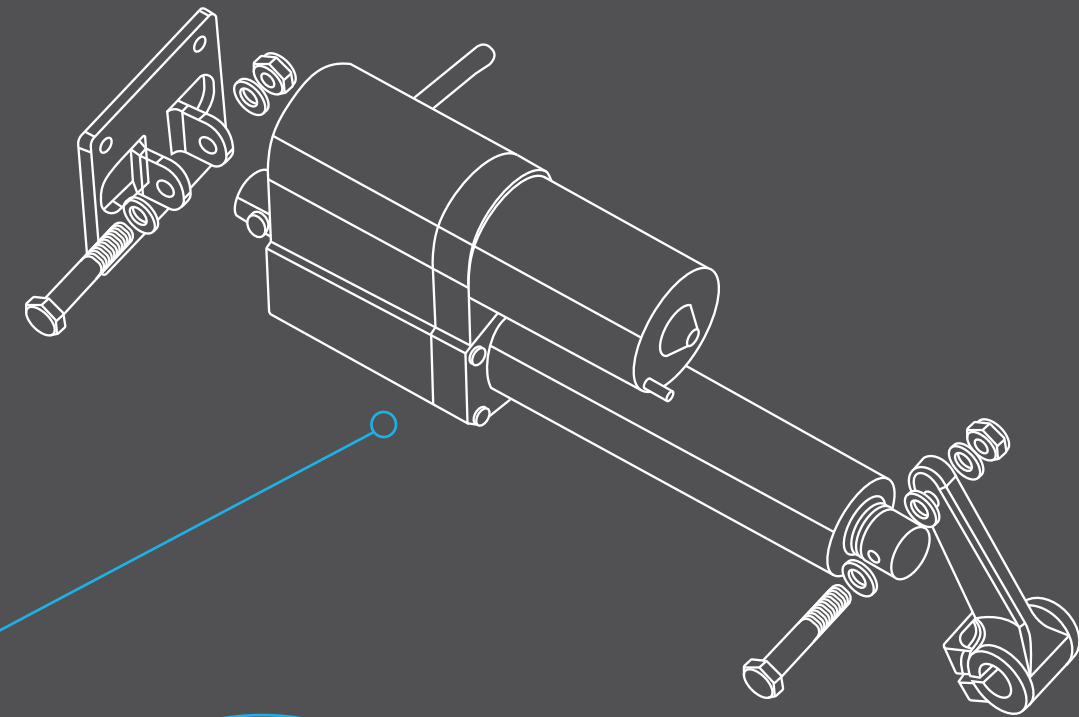
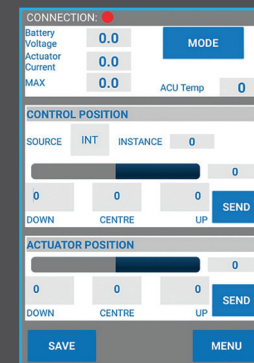
The main unit in the system is the ACU itself.

The ACU is a controller box which can be connected to 3 different actuators depending on its role within the overall system.

The ACU can accept an analogue voltage signal (typically 0-5v), a CAN signal, or a mechanical input from Morse cable via the built in potentiometer.

The ACU can be configured via the integrated button and 'traffic light' LED's or via ACU Service tool available for mobile platforms.

## ACU Service Tool (mobile app)

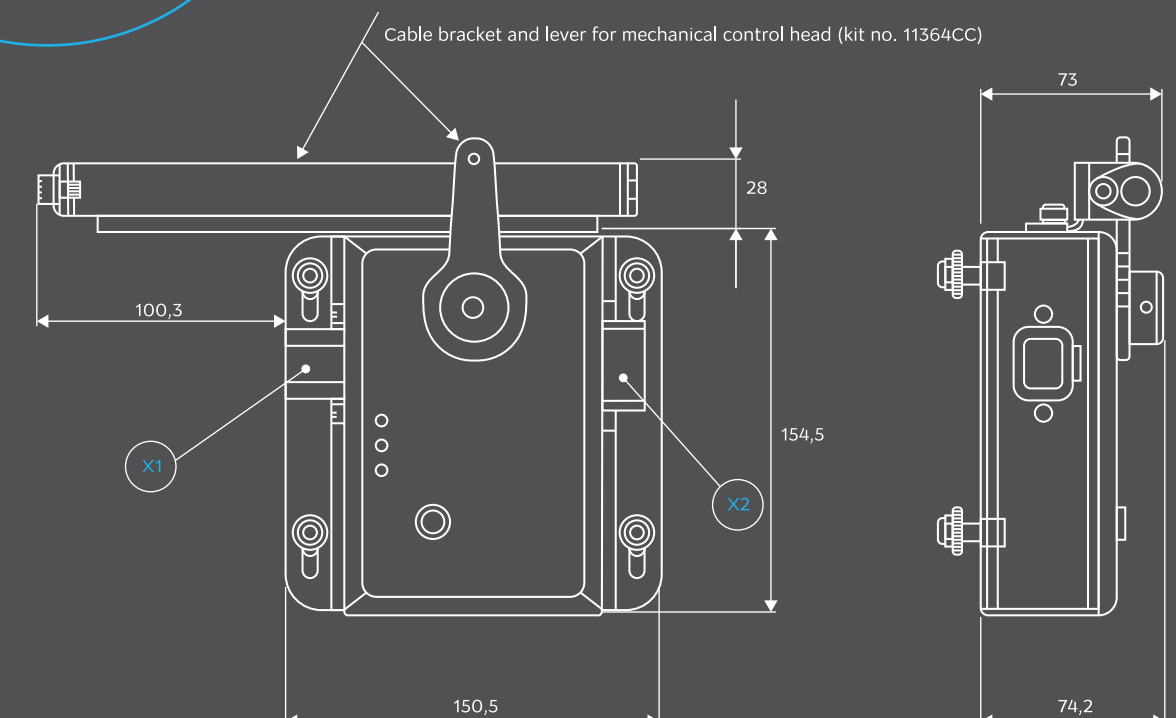
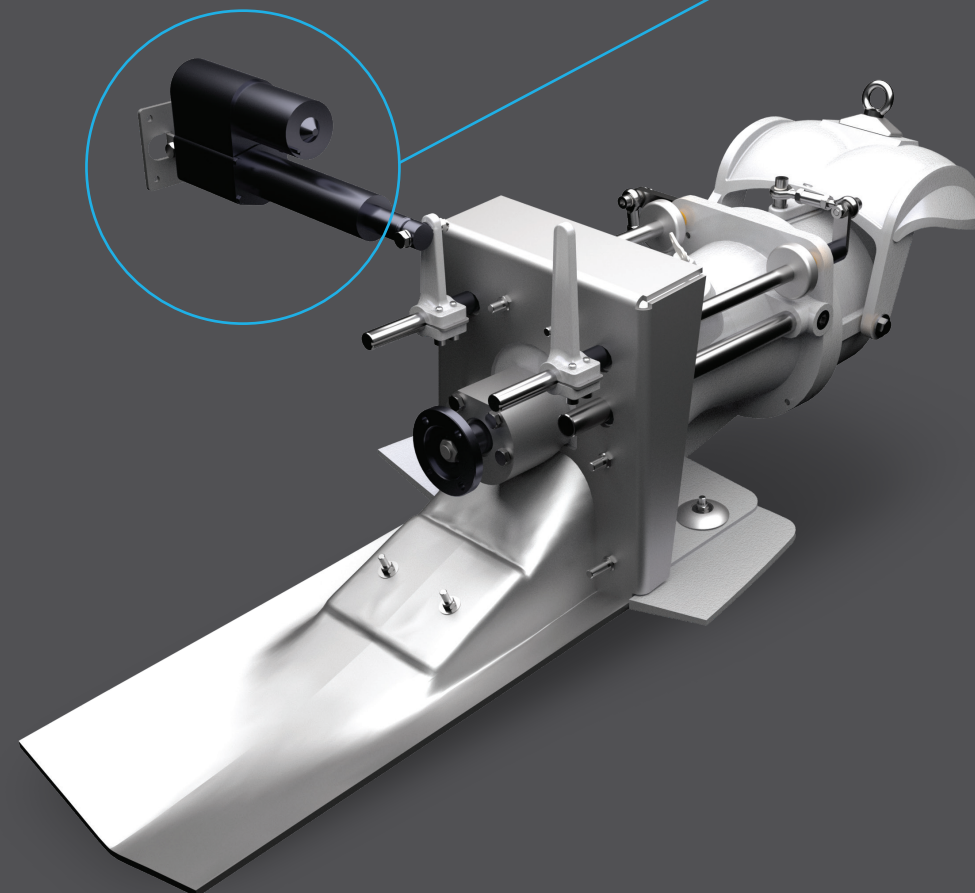


X1

OVDC  
+12VDC  
Actuator neg  
Actuator pos

X2

Pot. 1 GND  
Pot. 1 signal  
Pot. 1 +5VDC  
CAN-L  
CAN-H  
Alarm  
Actuator pot GND  
Actuator pot signal  
Actuator pot +5V  
Pot. 2 GND  
Pot. 2 signal  
Pot. 2 +5VDC



# A SIGMA CONTROLS

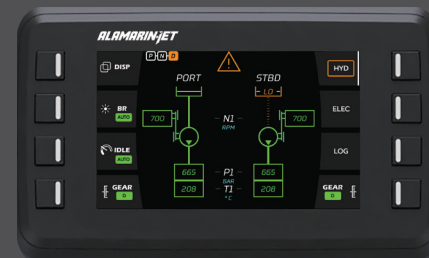
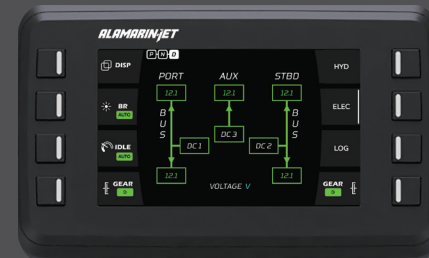
## AND INTELLIGENT DYNAMICS

Alamarin-Jet SIGMA Control is an electro-hydraulic integrated drive-by-wire control system. It supports installations from single to quadruple waterjets. The system is based on modular architecture and the level of features depends on the modules integrated based on the user requirements.

In addition to the standard configuration of Sigma Controls, AJ Intelligent Dynamics is also available as an add-on feature. AJ Intelligent Dynamics has been developed with future markets and industries at its core, such as effortless and straightforward integration with 3rd party autonomous and unmanned systems. Intelligent Dynamics also features highly sophisticated position and heading keeping functions which give significant operational benefits to a wide variety of vessel types and applications.

### INTELLIGENT DYNAMICS IS THE GROUP OF FEATURES INCLUDING:

- Intelligent Position Hold (DPS)
- Intelligent Vessel Anchor (ANC)
- Intelligent Heading Keeping (HDG)



3-AXIS  
DOCKING JOYSTICK

COMPUTING  
DISPLAY UNIT

TWIN THRUST LEVER

E-HELM

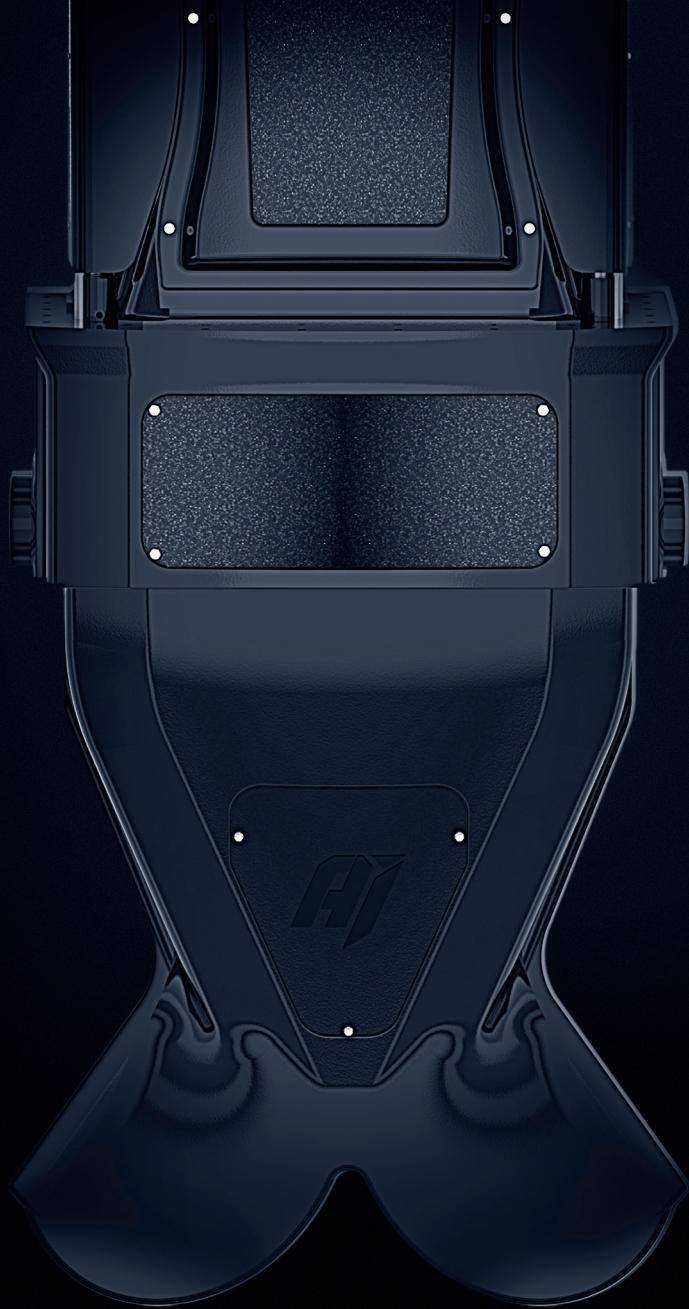
### TECHNICAL:

The SIGMA Control system is built on a CAN network, the core of the system being the Jet Controller Units (JCU) and Helm Control Units (HCU) being connected via a standardised cable system. Each Jet has its own independent JCU and individual control hydraulics for increased redundancy. Each JCU works also as an individual control network node (CAN Bus). The primary BUS system is capable to carry both, electric power for each JCU node and network communications.

In the case of twin installation and upwards, two electrically separated primary BUS lines are used to increase the redundancy level. All primary control heads are capable to deliver isolated dual output. Each Control Head axis of movement has two electronically separated circuits, making each propulsion line truly separated and independent. Any single point of failure does not affect to another Primary BUS propulsion line.

- Modular and scalable architecture – From single installation up to quad installation
- Multiple control stations
- Multiple control head arrangement options
- Flexible BUS architecture – each jet unit acts as an individual BUS
- Factory made modular cabling system, no custom cables required
- Easy to approach design
- Installation is based on plug'n'play modules
- Intuitive walk through commissioning procedure
- Simple to use, new High Resolution display with modern UI/UX usability
- Digital engine interface – Direct digital CAN-CAN Throttle control
- Sophisticated diagnostics – Multiple data logging and diagnostics
- Intelligent self-monitoring system. Temperature, Pressure and Fluid
- USV Ready – Comprehensive low-level (CAN) and high-level (IP) interfaces





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[www.alamarinjet.com](http://www.alamarinjet.com)