

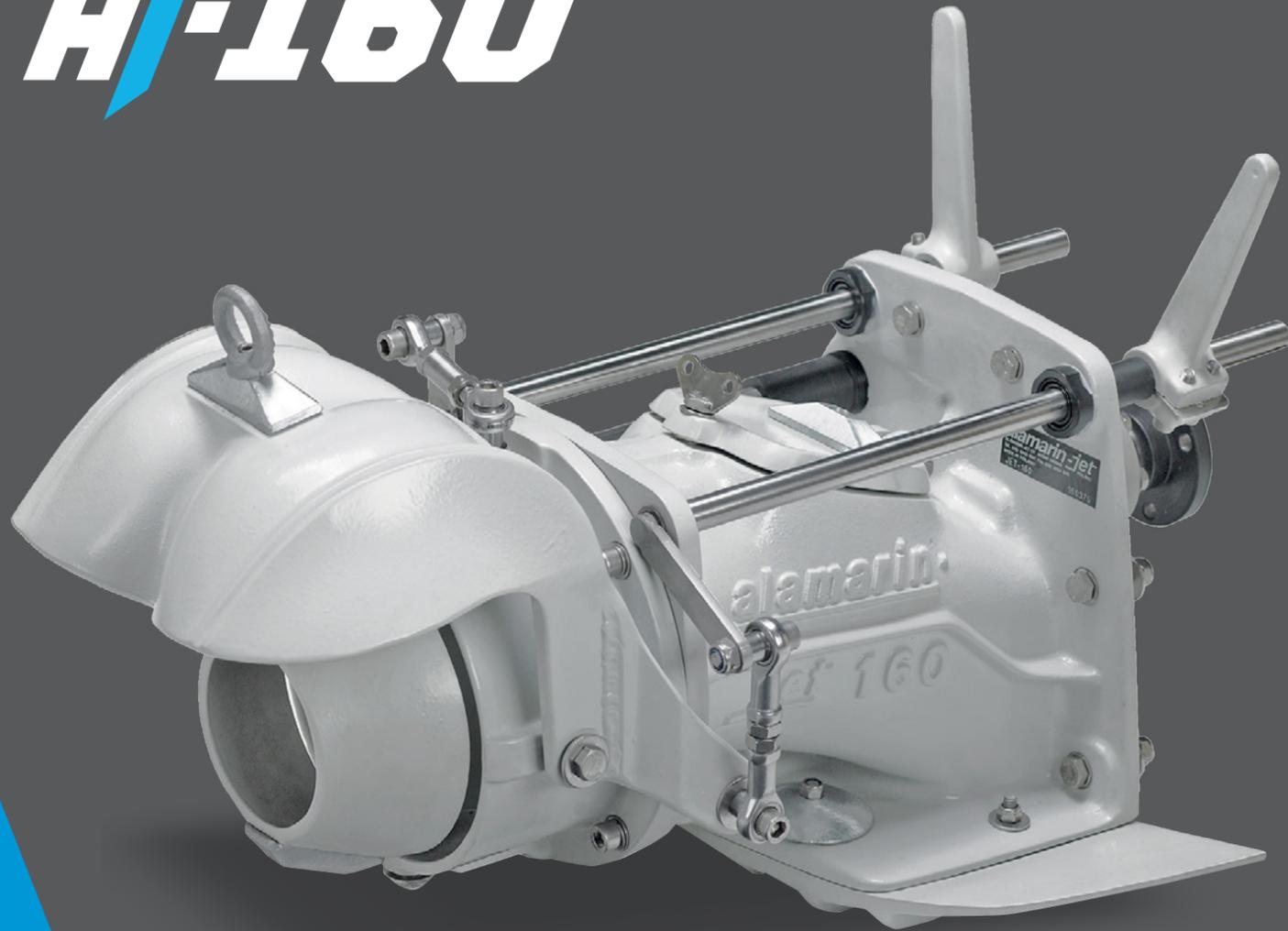
*TECHNICAL
CATALOGUE 2019*



ALAMARIN-JET

GO WITH THE FLOW

AJ-160



SCHEME



PUMP TYPE
MIXED FLOW,
SINGLE STAGE



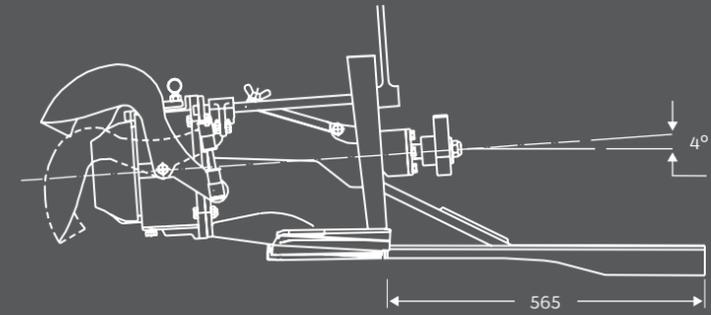
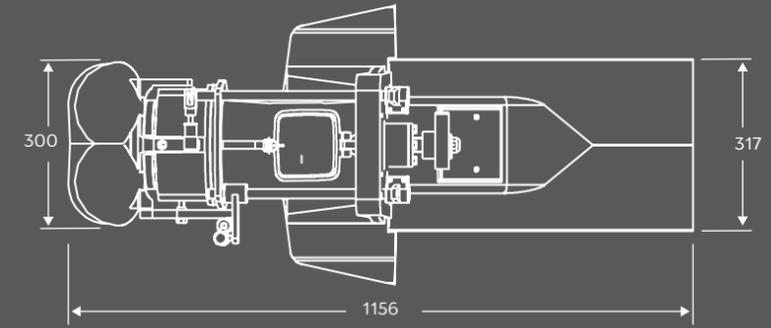
IMPELLER SHAFT RPM
MAX. 5000 1/MIN



MAX. VESSEL DISPLACEMENT
1000 KG (2200 LBS)
PER SINGLE JET,
PLANING HULL



JET WEIGHT
38 KG
(84 LBS)



IMPELLER DIAMETER
MAX. 186MM
(7.3")



MAX INPUT POWER
74 KW
(100 MHP)



JET CONSTRUCTION
ALUMINIUM,
STAINLESS STEEL

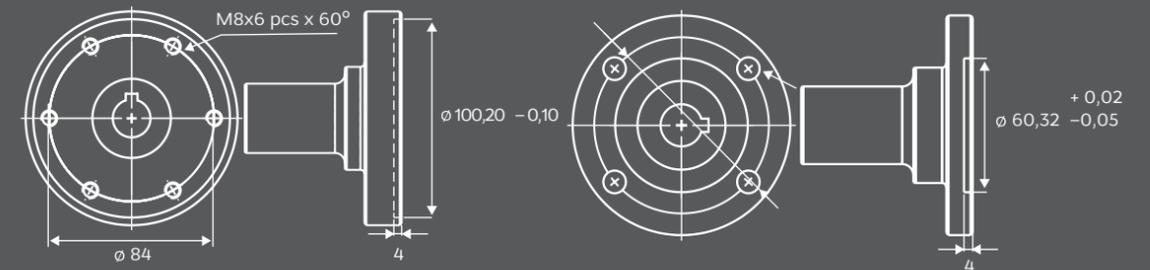


REVERSE DEFLECTOR CONTROL
MECHANICAL OR ELECTRICAL
(ACU)

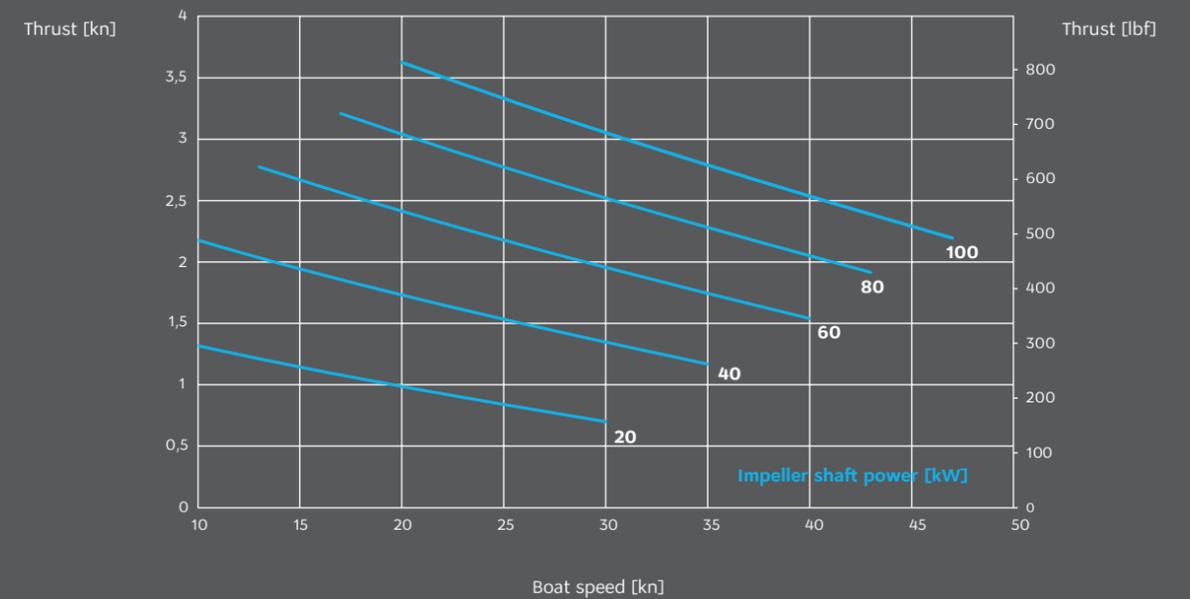
STANDARD FLANGES AVAILABLE

CV-10

SAE 1310



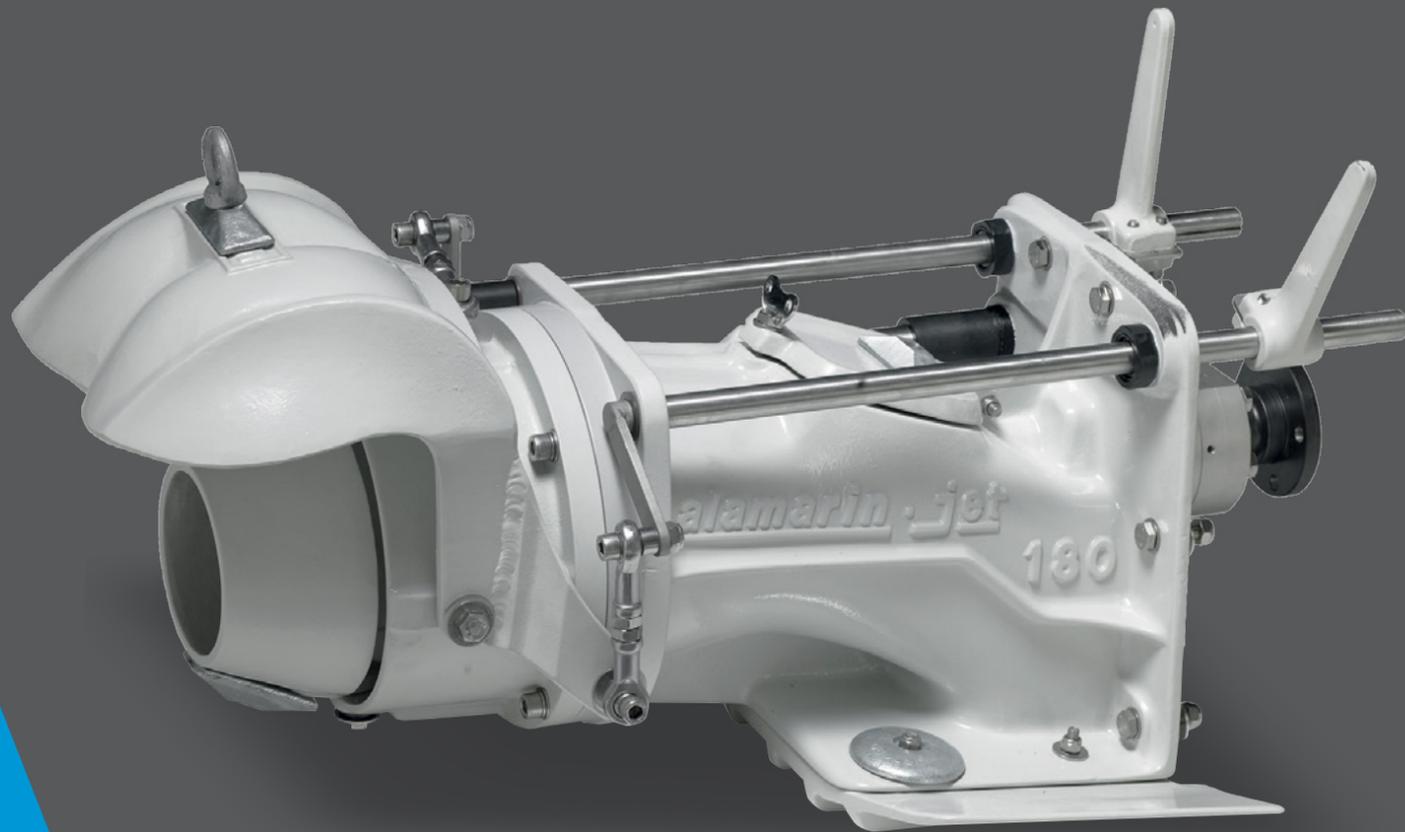
AJ 160 THRUST CURVES



ACU FOR REVERSING BUCKET CONTROL



AJ-180/185



SCHEME



PUMP TYPE
MIXED FLOW,
SINGLE STAGE



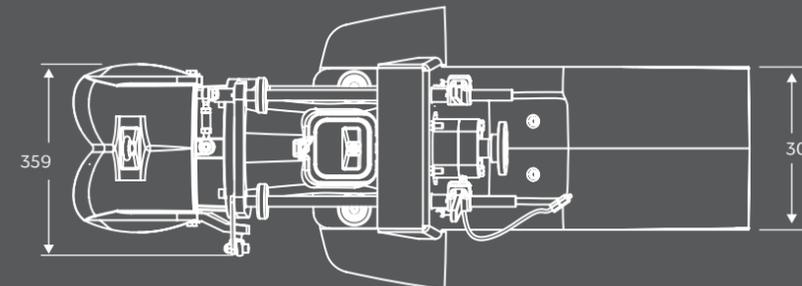
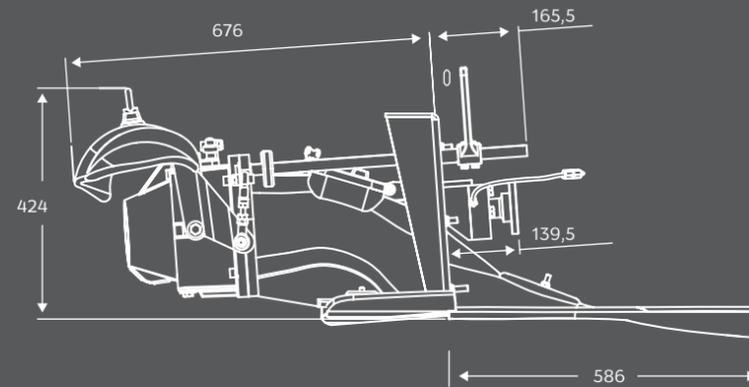
IMPELLER SHAFT RPM
MAX. 5000 1/MIN



MAX. VESSEL DISPLACEMENT
1700 KG (3700 LBS)
PER SINGLE JET,
PLANING HULL



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



IMPELLER DIAMETER
MAX. 192 / 197 MM
(7.3")



MAX INPUT POWER
110 / 120 KW
(150 / 163 MHP)



JET CONSTRUCTION
ALUMINIUM,
STAINLESS STEEL

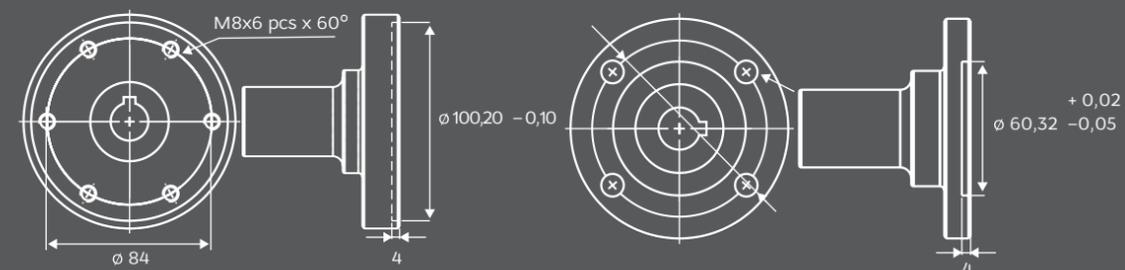


REVERSE DEFLECTOR CONTROL
MECHANICAL OR ELECTRICAL
(ACU)

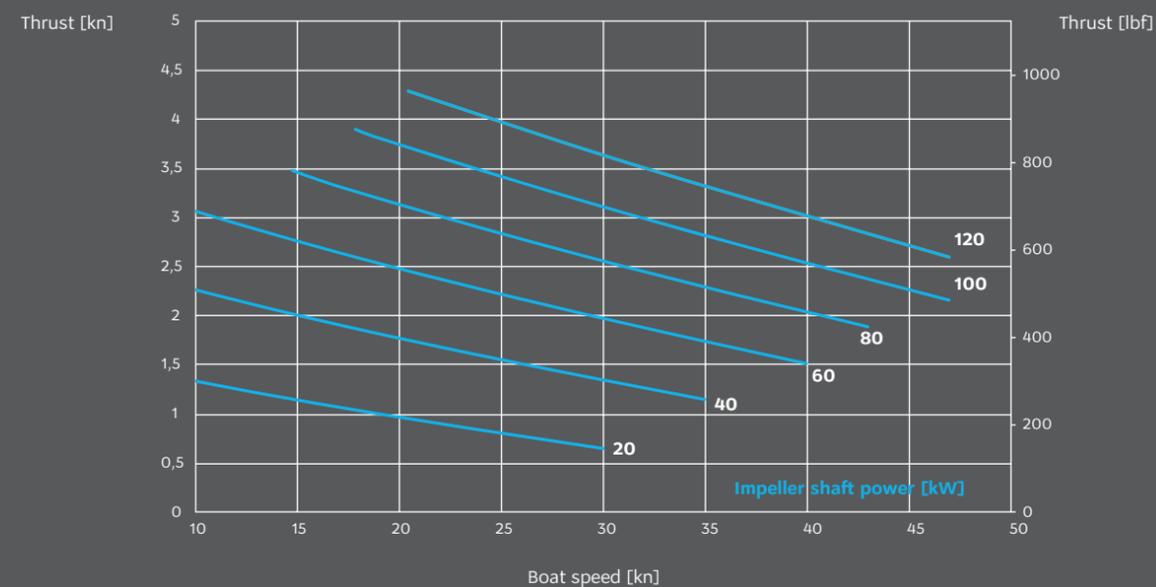
STANDARD FLANGES AVAILABLE

CV-10

SAE 1310



AJ 180/185 THRUST CURVES



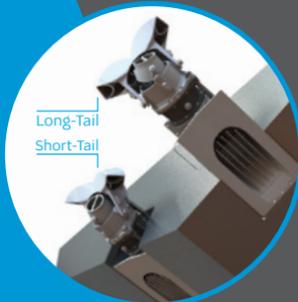
ACU FOR REVERSING
BUCKET CONTROL



AJ-245



TWO INSTALLATION OPTIONS



Integrated oil cooler and steering cylinder

Grease/Water lubricator rear bearing options

SCHEME



PUMP TYPE
MIXED FLOW,
SINGLE STAGE



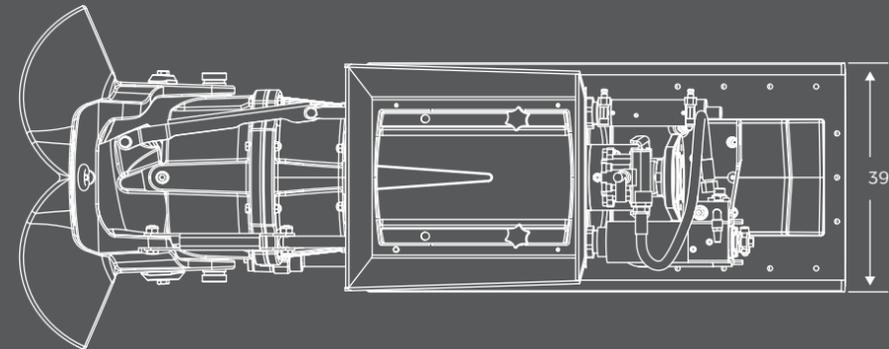
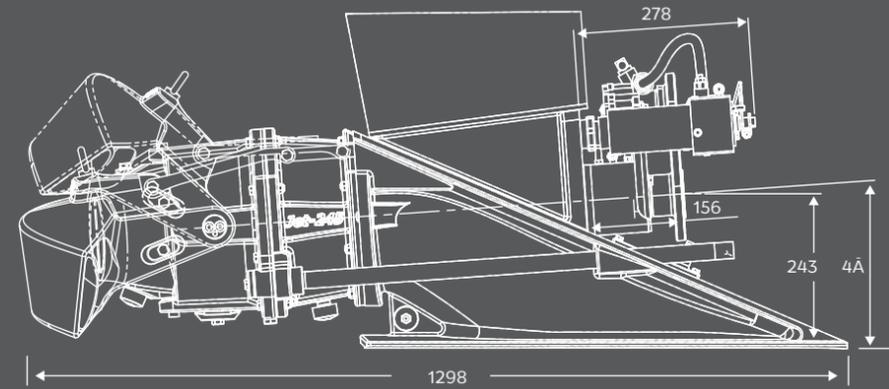
IMPELLER SHAFT RPM
MAX. 4600 1/MIN



MAX. VESSEL DISPLACEMENT
3500 KG (7700 LBS)
PER SINGLE JET,
PLANING HULL



JET WEIGHT
95 KG
(209 LBS)



IMPELLER DIAMETER
MAX. 245 MM
(9.7")



MAX INPUT POWER
235 KW
(320 MHP)



JET CONSTRUCTION
ALUMINIUM,
STAINLESS STEEL



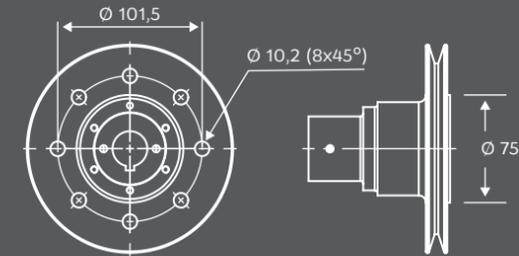
REVERSE DEFLECTOR CONTROL
HYDRAULIC

STANDARD FLANGES AVAILABLE

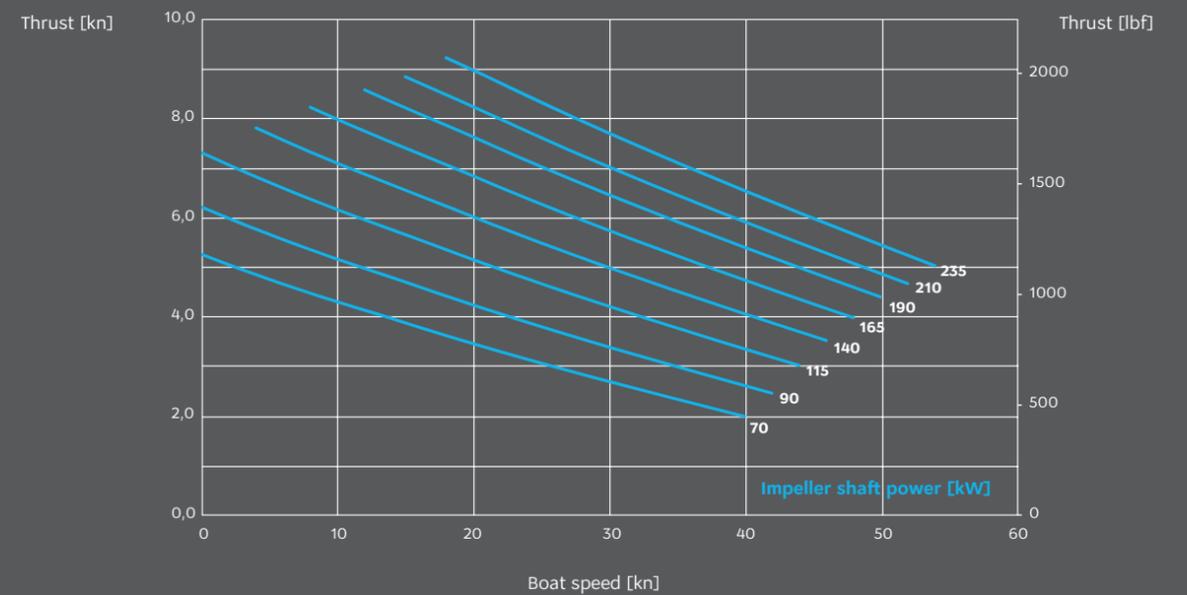
DIN-120

ADDITIONAL ADAPTOR FLANGES AVAILABLE:

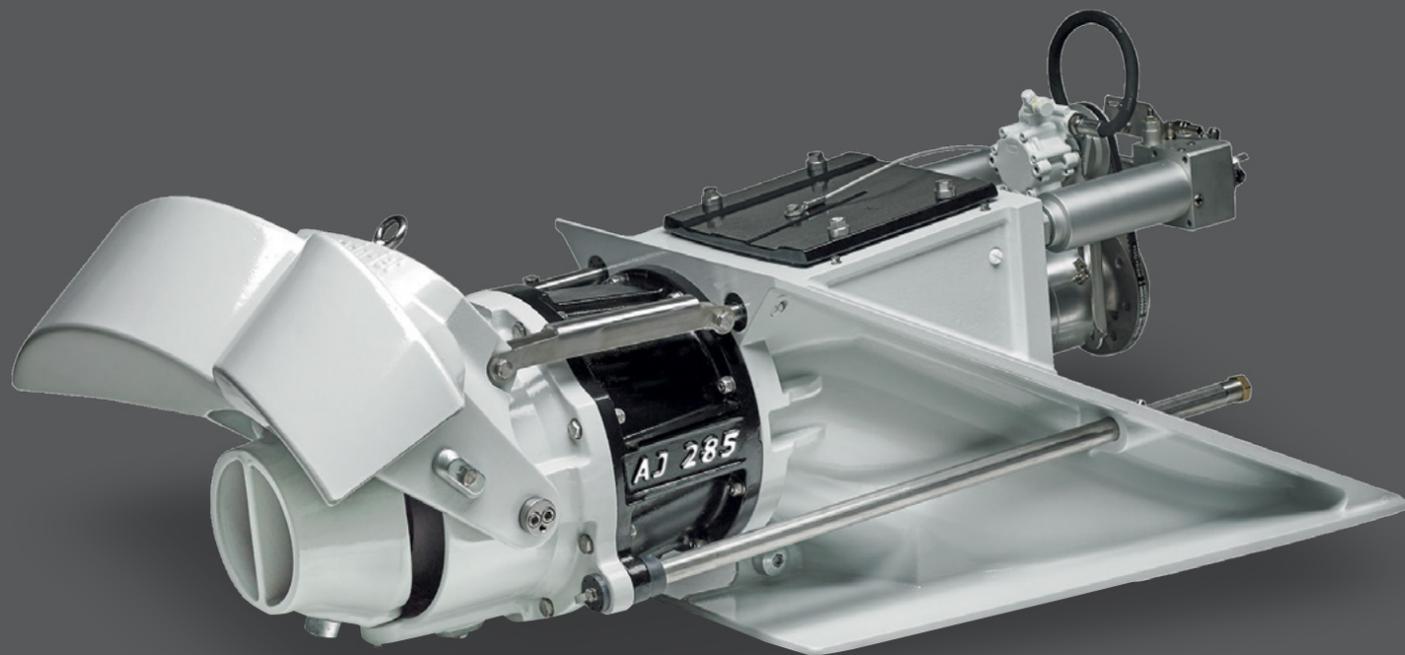
DIN-120 to CV15,
DIN-120 to CV21
DIN-120 to CV30
DIN-120 to SAE 1410
DIN-120 to R&D
DIN-120 to P110



AJ 245 THRUST CURVES



AJ-285



SCHEME



PUMP TYPE
MIXED FLOW,
SINGLE STAGE



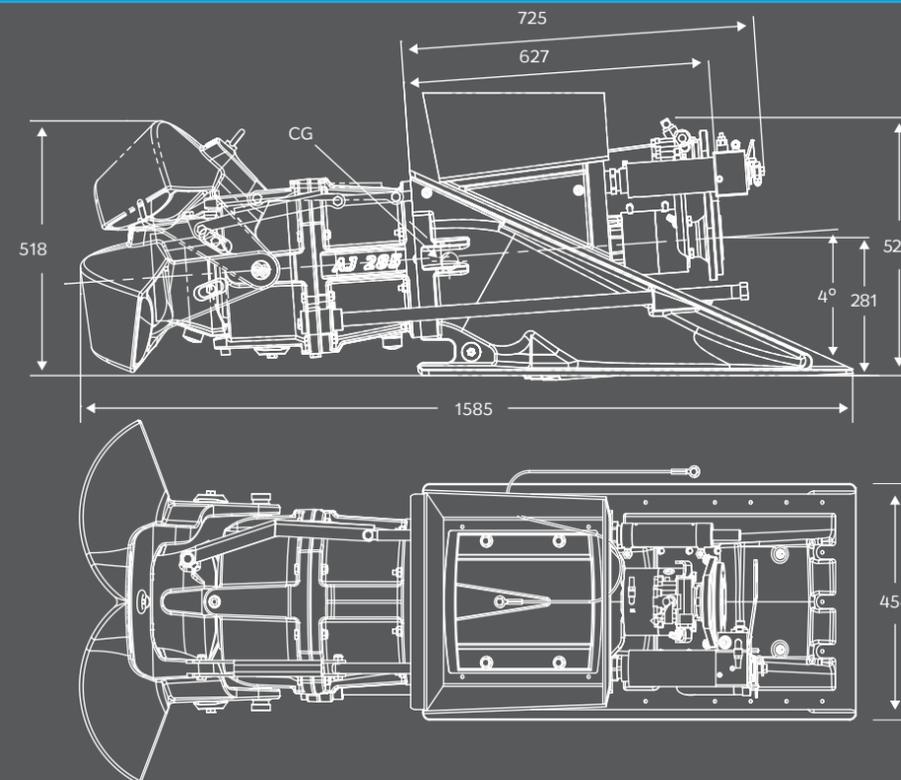
IMPELLER SHAFT RPM
MAX. 3700 1/MIN



MAX. VESSEL DISPLACEMENT
5000 KG (11000 LBS)
PER SINGLE JET,
PLANING HULL



JET WEIGHT
148 KG
(326 LBS)



IMPELLER DIAMETER
MAX. 288MM
(11.3")

MAX INPUT POWER
370 KW
(500 MHP)

JET CONSTRUCTION
ALUMINIUM,
STAINLESS STEEL

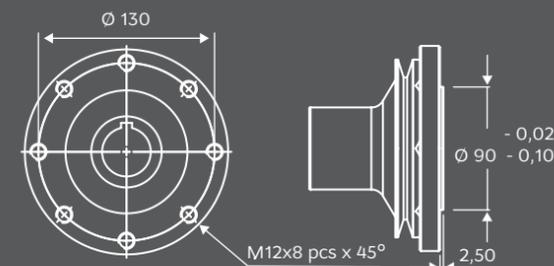
REVERSE DEFLECTOR CONTROL
HYDRAULIC

STANDARD FLANGES AVAILABLE

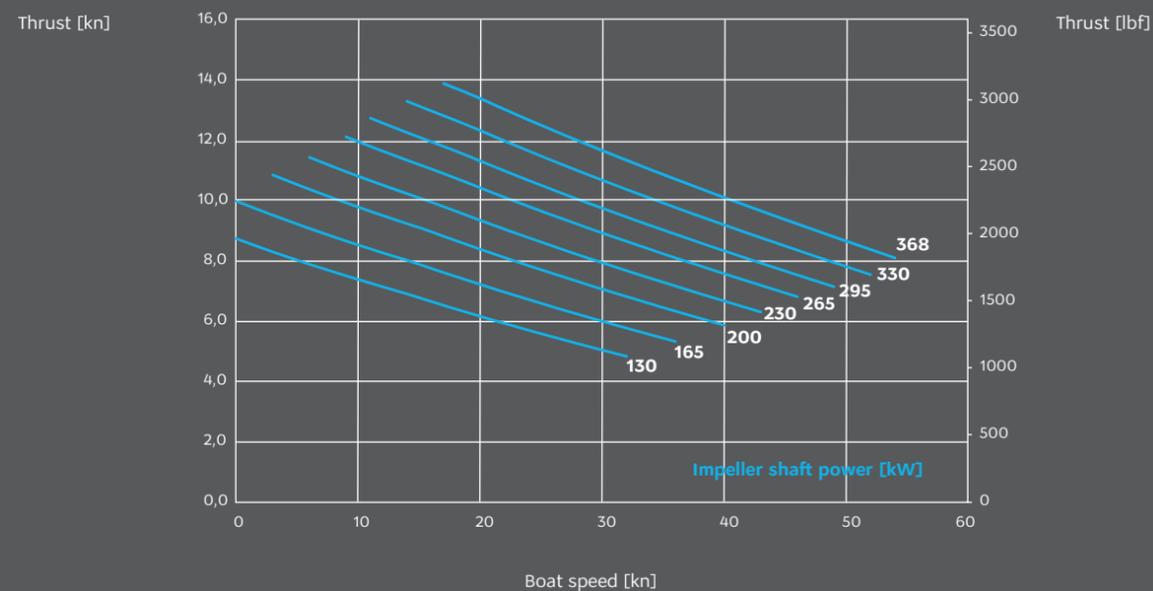
DIN-150

ADDITIONAL ADAPTOR FLANGES AVAILABLE:

DIN-150 to CV21
DIN-150 to CV30
DIN-150 to CV32
DIN-150 to SAE1410
DIN-150 to SAE1510
DIN-150 to P200



AJ 285 THRUST CURVES



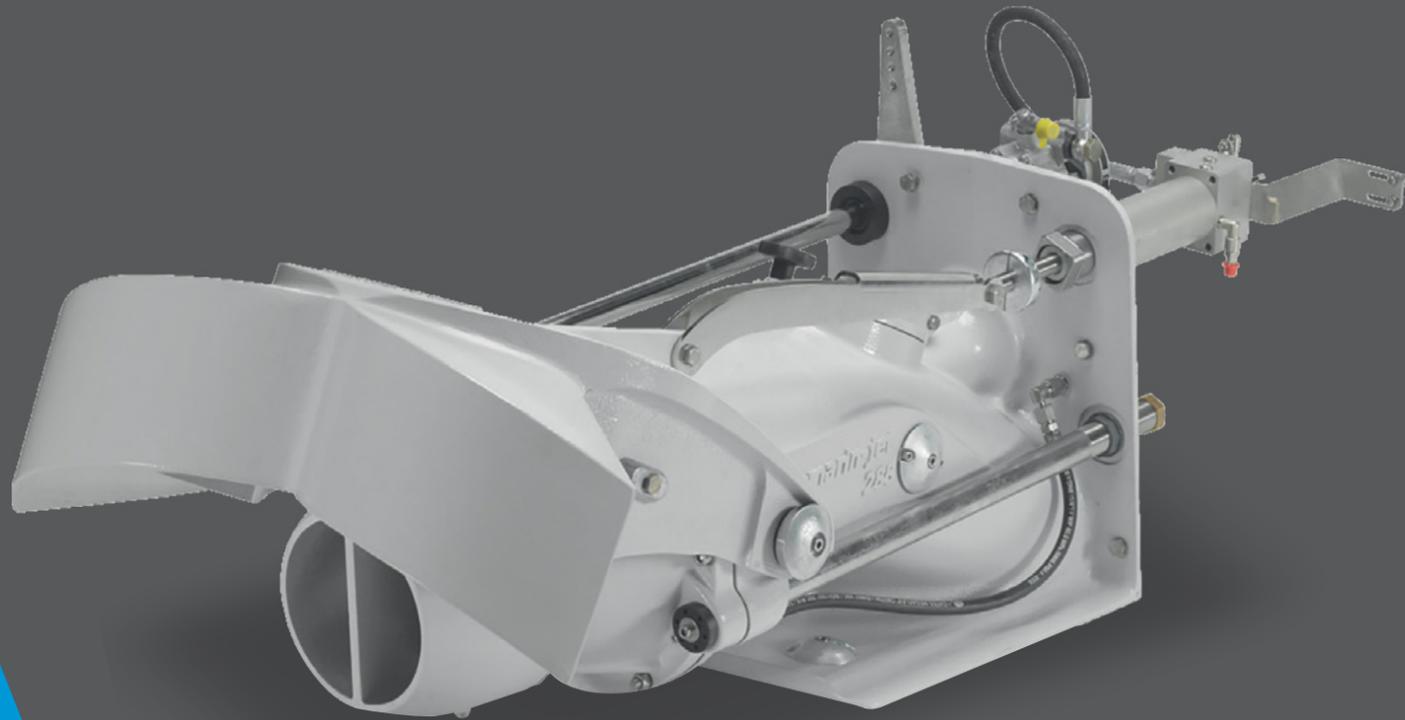
TWO INSTALLATION OPTIONS



Integrated oil cooler and steering cylinder

Grease/Water lubricator rear bearing options

AJ-288



SCHEME



PUMP TYPE
MIXED FLOW,
SINGLE STAGE



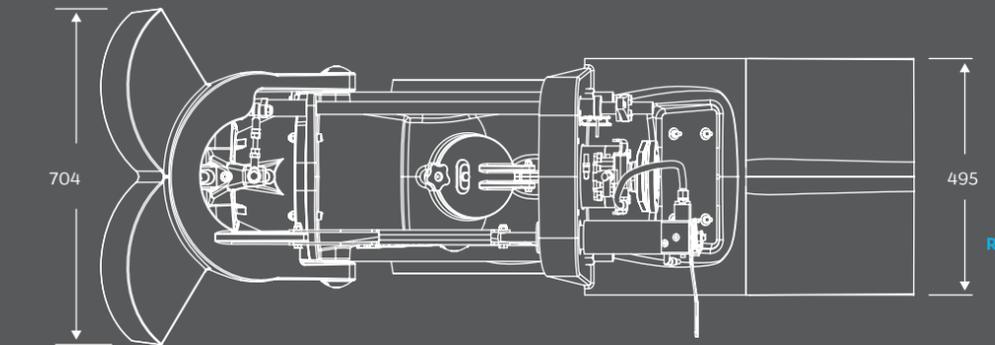
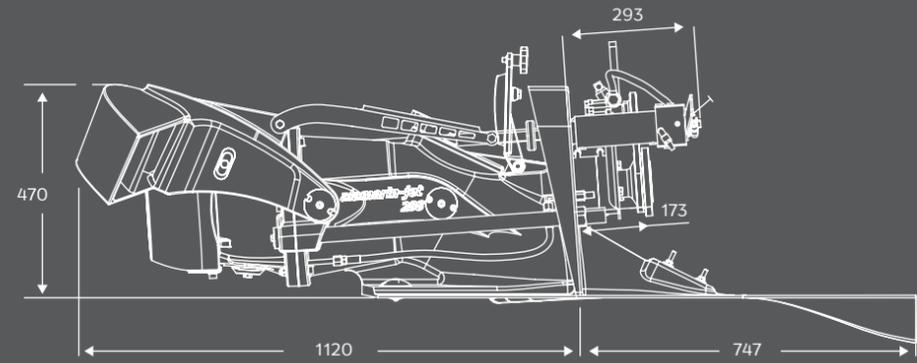
IMPELLER SHAFT RPM
MAX. 3700 1/MIN



MAX. VESSEL DISPLACEMENT
5000 KG (11000 LBS)
PER SINGLE JET,
PLANING HULL



JET WEIGHT
120 KG
(265 LBS)



IMPELLER DIAMETER
MAX. 288 MM
(11.3")



MAX INPUT POWER
330 KW
(450 MHP)



JET CONSTRUCTION
ALUMINIUM,
STAINLESS STEEL



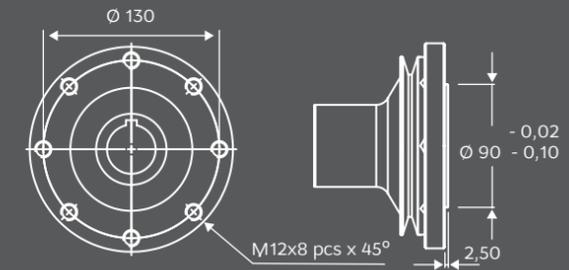
REVERSE DEFLECTOR CONTROL
HYDRAULIC

STANDARD FLANGES AVAILABLE

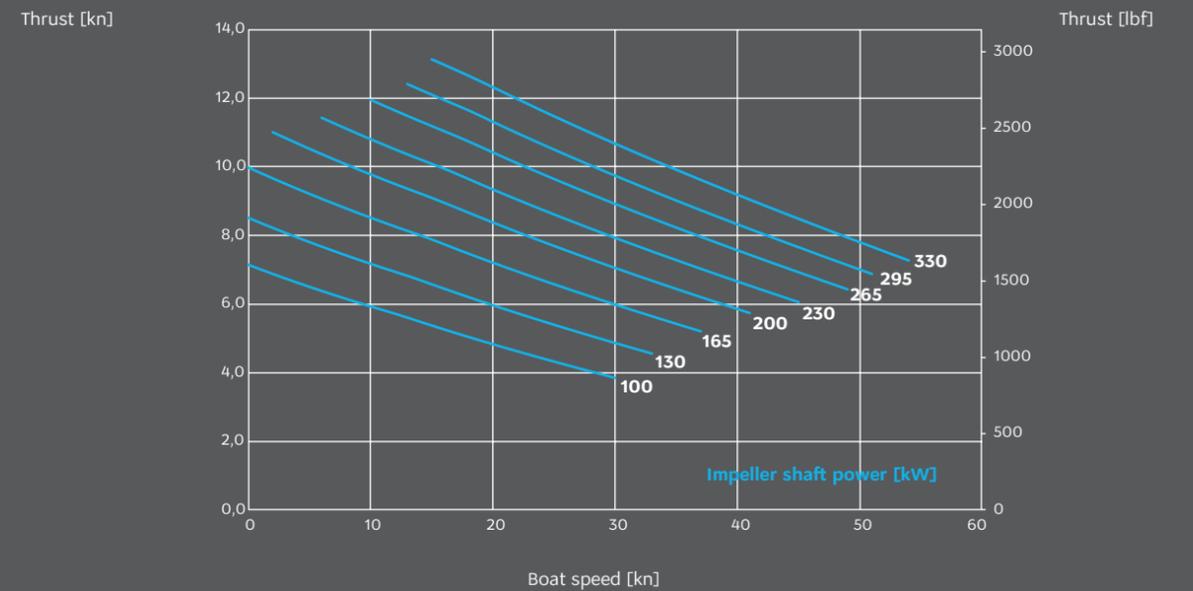
DIN-150

ADDITIONAL ADAPTOR FLANGES AVAILABLE:

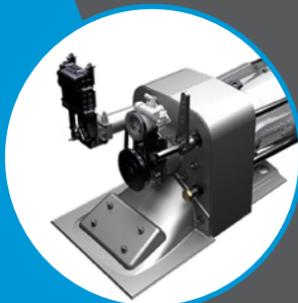
DIN-150 to CV21
DIN-150 to CV30
DIN-150 to CV32
DIN-150 to SAE1410
DIN-150 to SAE1510
DIN-150 to P200



AJ 288 THRUST CURVES

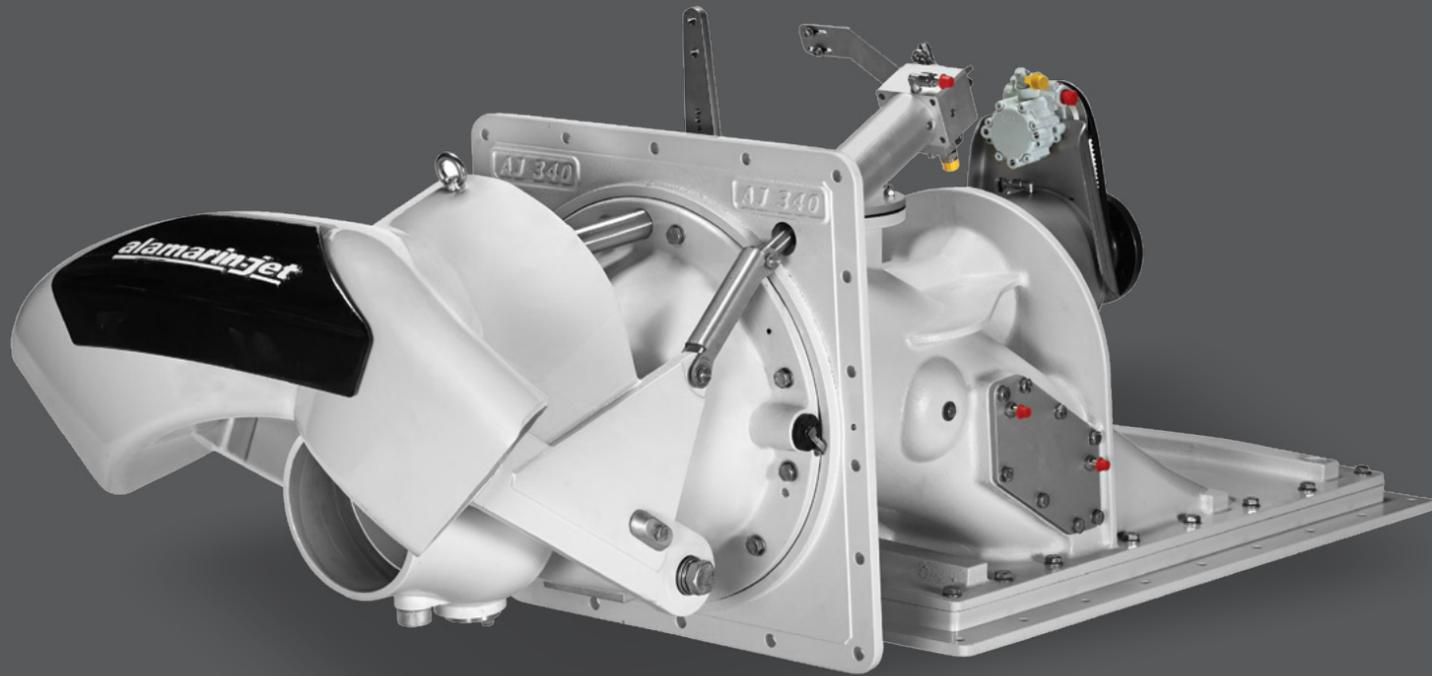


ACU FOR REVERSING
BUCKET CONTROL



Grease/Water
lubricater rear
bearing
options

AJ-340



SCHEME



PUMP TYPE
MIXED FLOW,
SINGLE STAGE



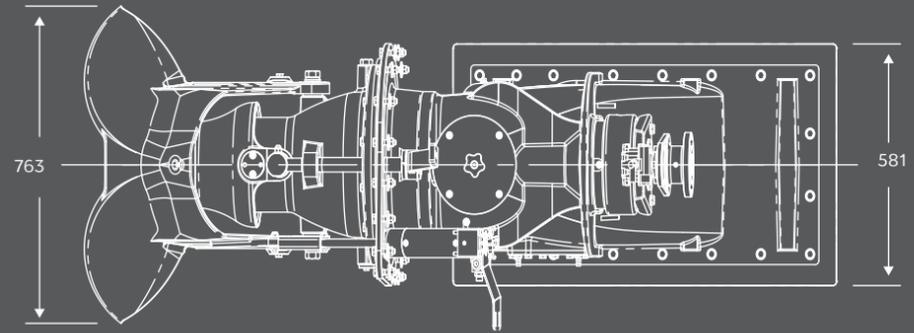
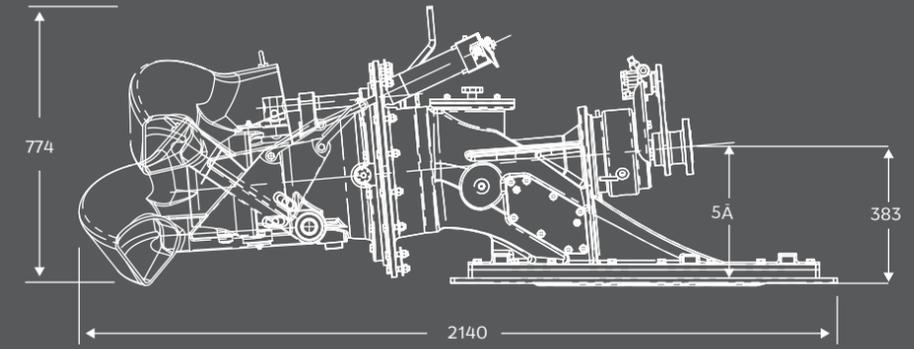
IMPELLER SHAFT RPM
MAX. 3300 1/MIN



MAX. VESSEL DISPLACEMENT
7500 KG (16500 LBS)
PER SINGLE JET,
PLANING HULL



JET WEIGHT
245 KG
(540LBS)



IMPELLER DIAMETER
MAX. 335 MM
(13.2")



MAX INPUT POWER
550 KW
(750 MHP)



JET CONSTRUCTION
ALUMINIUM,
STAINLESS STEEL



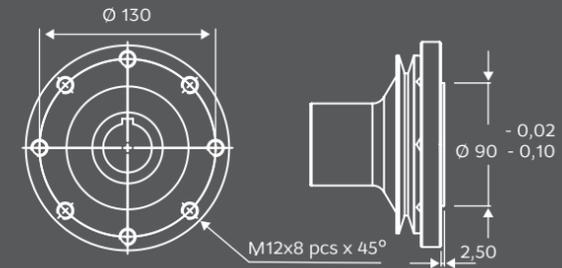
REVERSE DEFLECTOR CONTROL
HYDRAULIC

STANDARD FLANGES AVAILABLE

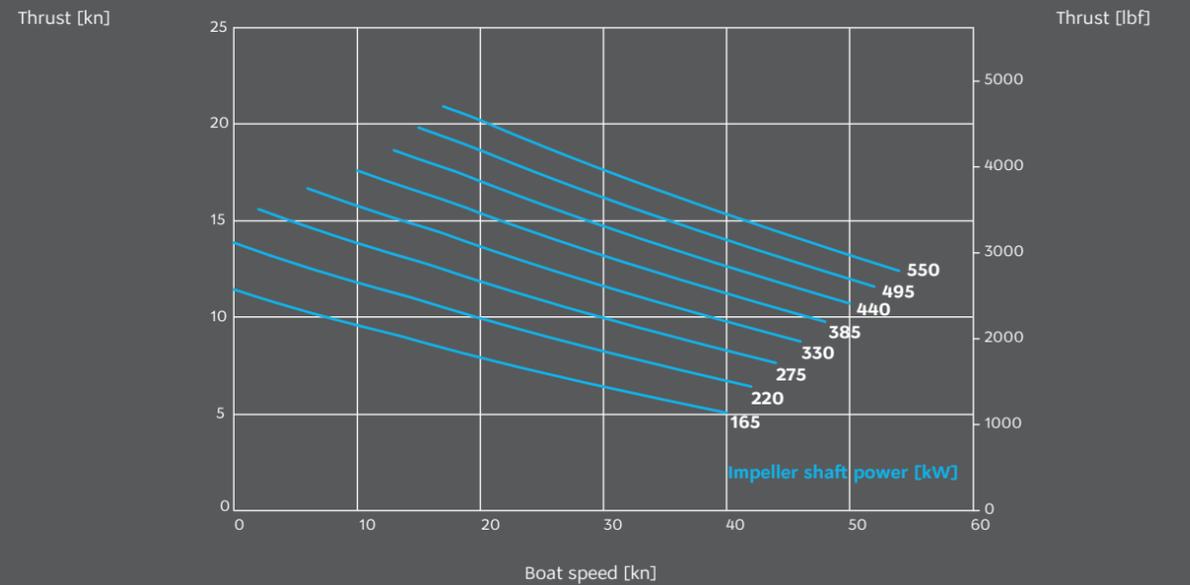
DIN-150

ADDITIONAL ADAPTOR FLANGES AVAILABLE:

DIN-150 to CV21
DIN-150 to CV30
DIN-150 to CV32
DIN-150 to SAE1410
DIN-150 to SAE1510
DIN-150 to P200



AJ 340 THRUST CURVES



0-deg & 5-deg
shaft options

Integrated
oil cooler

Grease/Water
lubricater rear
bearing
options

AJ Ω42



NEW 2019

DAS:
0-deg & 4-deg
shaft options

**Integrated
SIGMA
controls**

FIBS:
Frame
Integrated
Bearing
Structure

MIG:
Modular Intake
Geometry

SCHEME



PUMP TYPE
MIXED FLOW,
SINGLE STAGE



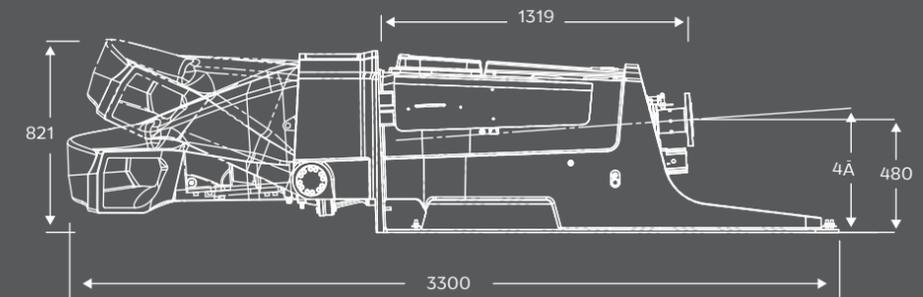
IMPELLER SHAFT RPM
MAX. 2300 1/MIN



**MAX. VESSEL
DISPLACEMENT**
*CONTACT
AJ REPRESENTATIVE



JET WEIGHT
710 KG
(1565 LBS)



IMPELLER DIAMETER
MAX. 480MM
(18.9")



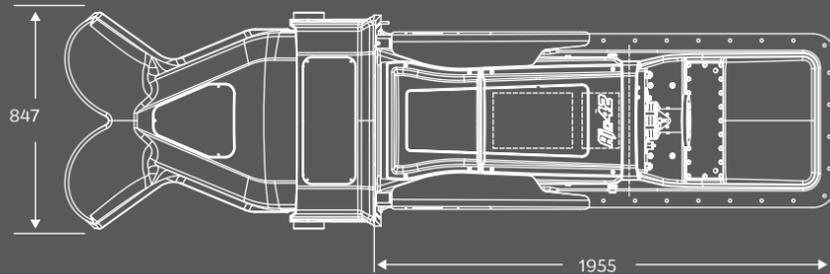
MAX INPUT POWER
1500 KW
(2040 HP)



JET CONSTRUCTION
ALUMINIUM,
STAINLESS STEEL

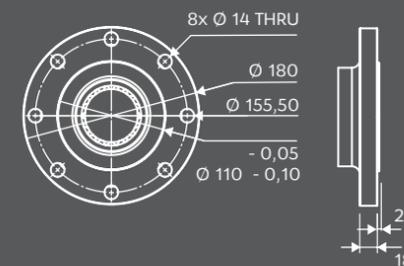


**REVERSE DEFLECTOR
CONTROL**
HYDRAULIC / ELECTROHYDRAULIC

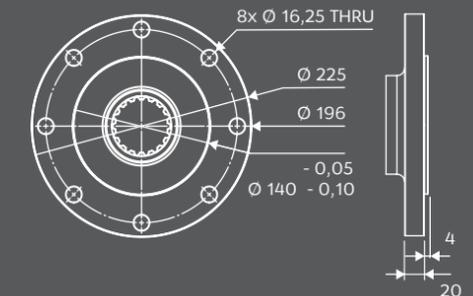


STANDARD FLANGES AVAILABLE

DIN-180



DIN-225



The OMEGA series water jet line is the new range of high power, high thrust jets which takes Alamarin-Jets range from 'small' to 'medium' sized water jets. The AJ Ω42 is the first model to be released, with a max input power of 2000HP and unique features such as the Dual Angle Shaft (DAS). Frame Integrated Bearing Structure (FIBS) and Modular Intake Geometry (MIG), the new jet range epitomises Alamarin-Jets dedication to user-focused, highly efficient and innovative design.

The Omega series pump design is based on the same foundations of Alamarin-Jets AJ 245, AJ 285 and AJ 340 pumps which have been proven to massively outperform the competitive products in their size range and above. The Omega Series promises high speed efficiency (55+ knots) while maintaining extremely high bollard pull and cavitation margins.

AI 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), waterjet steering, as well as engine throttle and gearbox engagement.

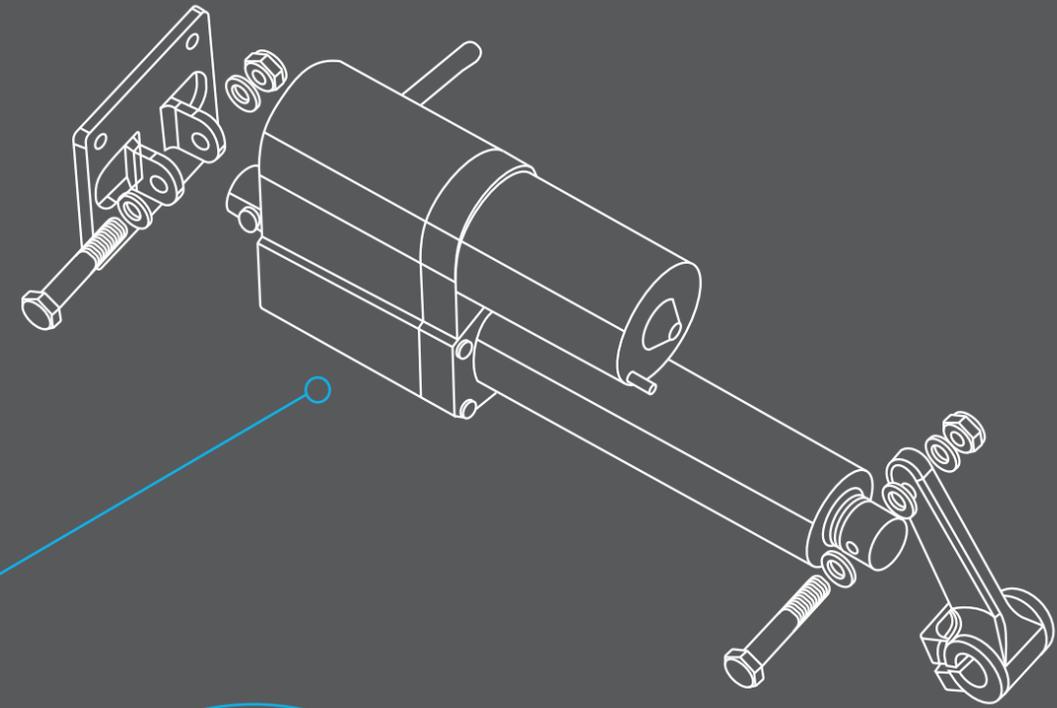
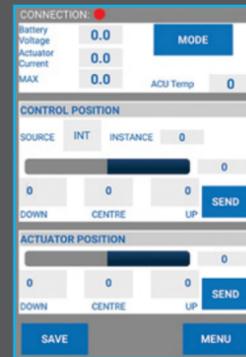
The main unit in the system is the ACU itself.

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

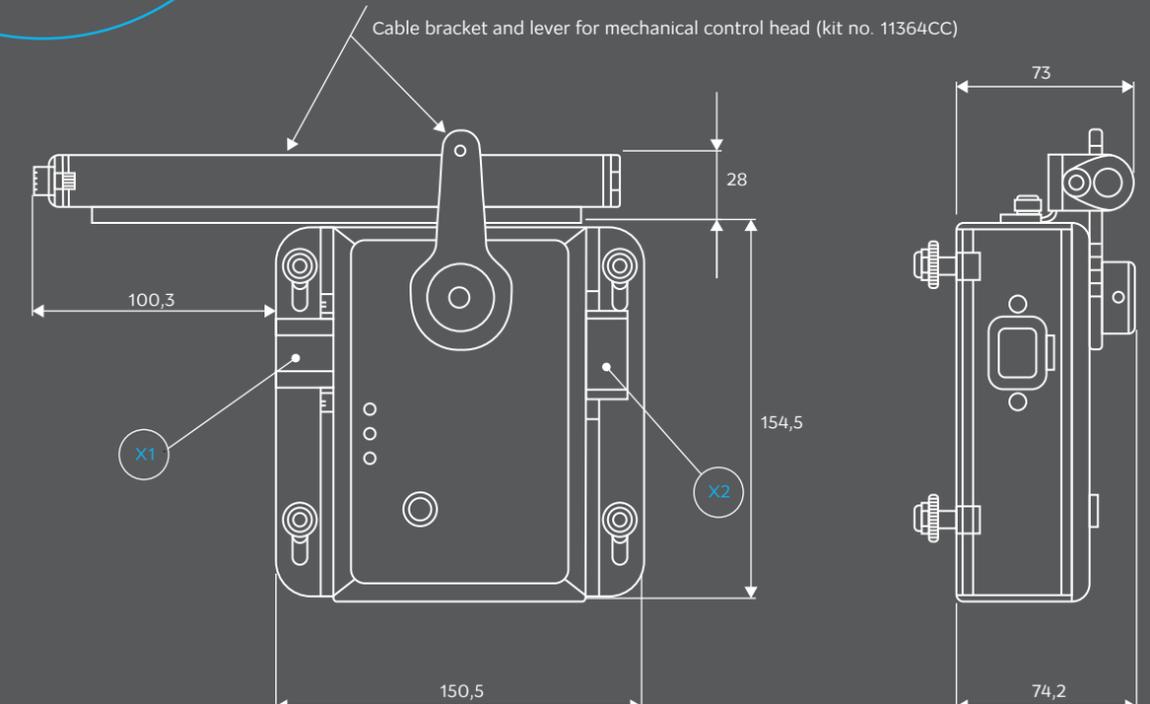
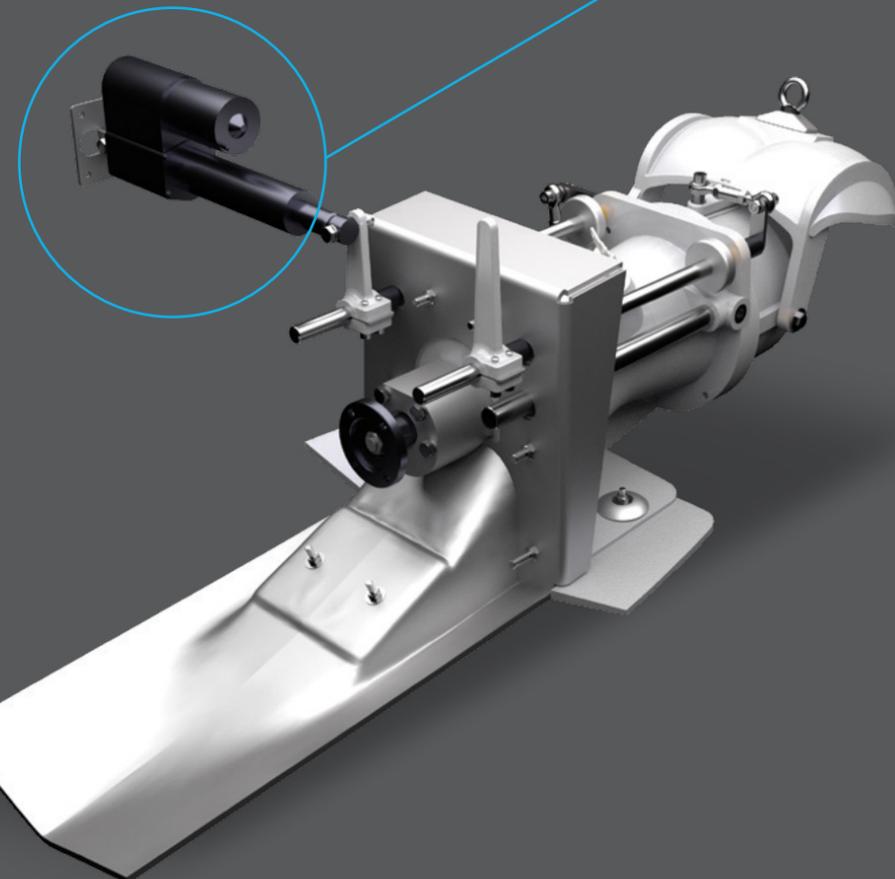
The ACU can accept an analogue voltage signal (typically 0-5v), a CAN signal, or a mechanical input from Morse cable via the built in potentiometer.

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)



- | | |
|---|--|
| <p>X1</p> <ul style="list-style-type: none"> 0VDC +12VDC Actuator neg Actuator pos | <p>X2</p> <ul style="list-style-type: none"> 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 system features depends of the modules integrated to the system 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, it enables effortless and straightforward integration with 3rd party autonomous and unmanned systems. Intelligent Dynamics also features highly sophisticated hold station, virtual anchoring and heading keeping functions which give huge operational benefits to a wide variety of vessel types and applications.



NEW 2019

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 system structure - system offers a multitude of customization possibilities using standardised components and interfaces

Increased redundancy and reliability in all system levels

Reduced number of components - Cost, weight and space savings

Individual hydraulics and controls for each propulsion unit

Standardised marine approved cable system for simple and robust installation

CAN bus based design optimised - Power and Communications through a single cable

AJ Intelligent Dynamics for Hold Station, Virtual Anchor, Heading Keeping and USV/Autonomous applications.



Alamarin-Jet Oy Tuomisentie 16, FI-62300 Härmä, Finland

www.alamarinjet.com