



**SLEIPNER**

Side-Power

**THRUSTERS & STABILIZERS**

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# SLEIPNER

# OCEAN BORN. TECH BRED.

## **Quality legacy**

We've lived and worked with the unruly sea for a hundred years. That's why we develop important features within a boat that empower you when you're out on the water, allowing you to enjoy the sea even more. That's why you wanted a boat, right?

## **Beautiful engineering**

Our technology is world-class. We know because we develop, utilize, manufacture, and follow our systems until they're fixed into a hull, ourselves. This meticulous attention to detail is why your time on the water will always be better with a Sleipner onboard.

## **Worldwide service**

We care. Our global network is there for you to ensure continuous and optimal function of your Sleipner solution, even when it has left for distant shores. You can rely on your Sleipner solution, year after year.

# Our story

We are a Norwegian technology driven company, focused on creating world leading products and solutions of uncompromised quality to improve safety and comfort at sea. As boaters we know what safety at sea *means*.

So, we don't let our solutions slip out of sight for a second; We manufacture them ourselves, using technologies we have developed ourselves – and we work in close partnership with boat builders and our global service network to ensure optimal function throughout their lifetime.

You know what you get when you install a Sleipner. Our dedication to boating and innovation ensures that our solutions are the benchmark for the industry, today and tomorrow.



**SLEIPNER**

Trustworthy • Knowledgeable • Future ready



# — This is Sleipner —

Established in Norway in **1908** with more than **113 years of experience**. Sleipner has 200+ employees, including **27 engineers** with more than **250 years combined experience** in the marine industry.

**45**

Third party sales and service organizations in **45 countries**.

**18**

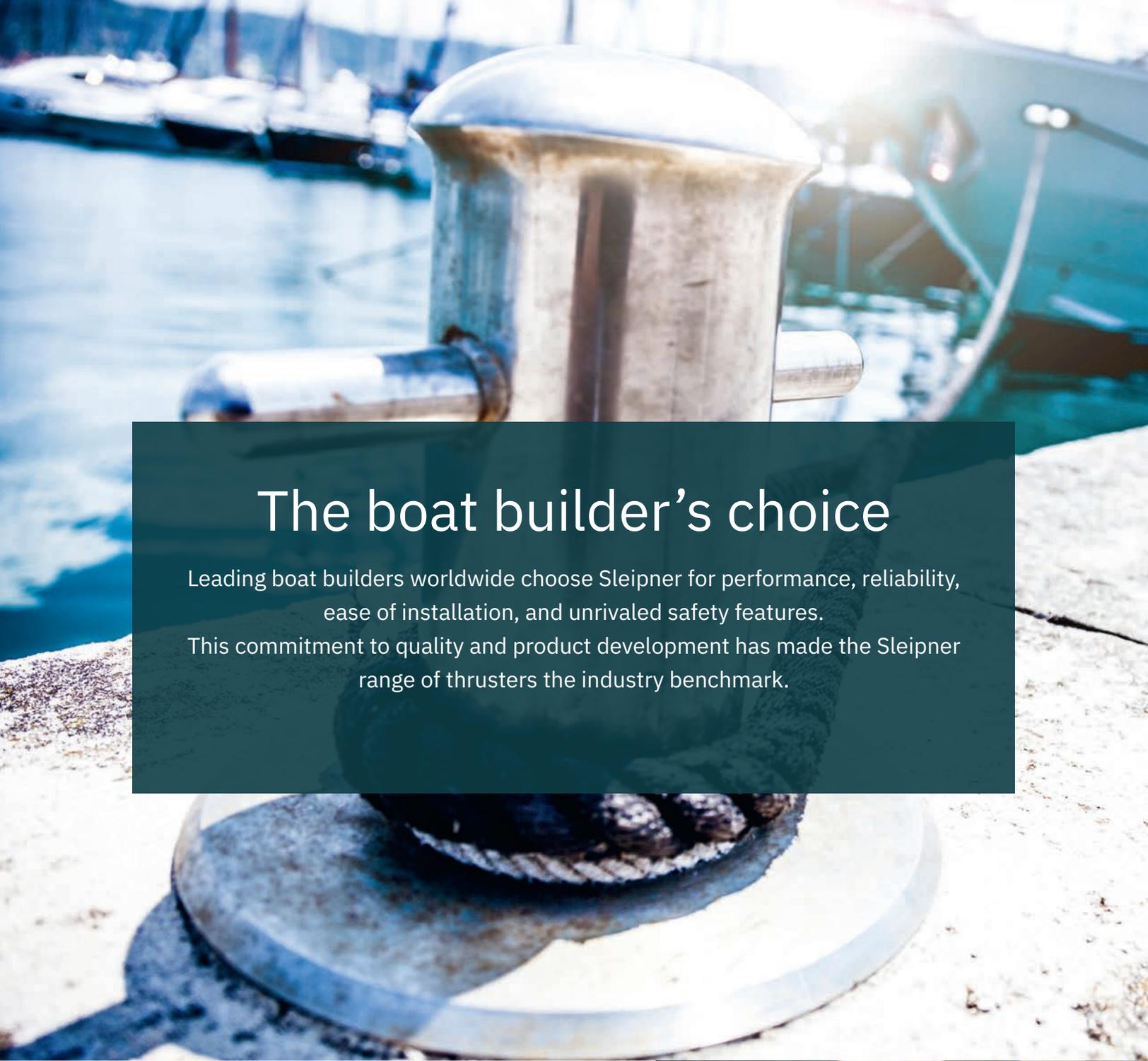
**18 CNC operators** with more than **230 years** combined marine experience.

**7**

**7 subsidiaries** providing sales, support and after sales services.

**5**

Strategic technology partnership with **5 external specialists**.



## The boat builder's choice

Leading boat builders worldwide choose Sleipner for performance, reliability, ease of installation, and unrivaled safety features. This commitment to quality and product development has made the Sleipner range of thrusters the industry benchmark.

”

When choosing a Sleipner product, you choose a product invented, engineered, and manufactured for boaters - by boaters.

CEO Ronny Skauen





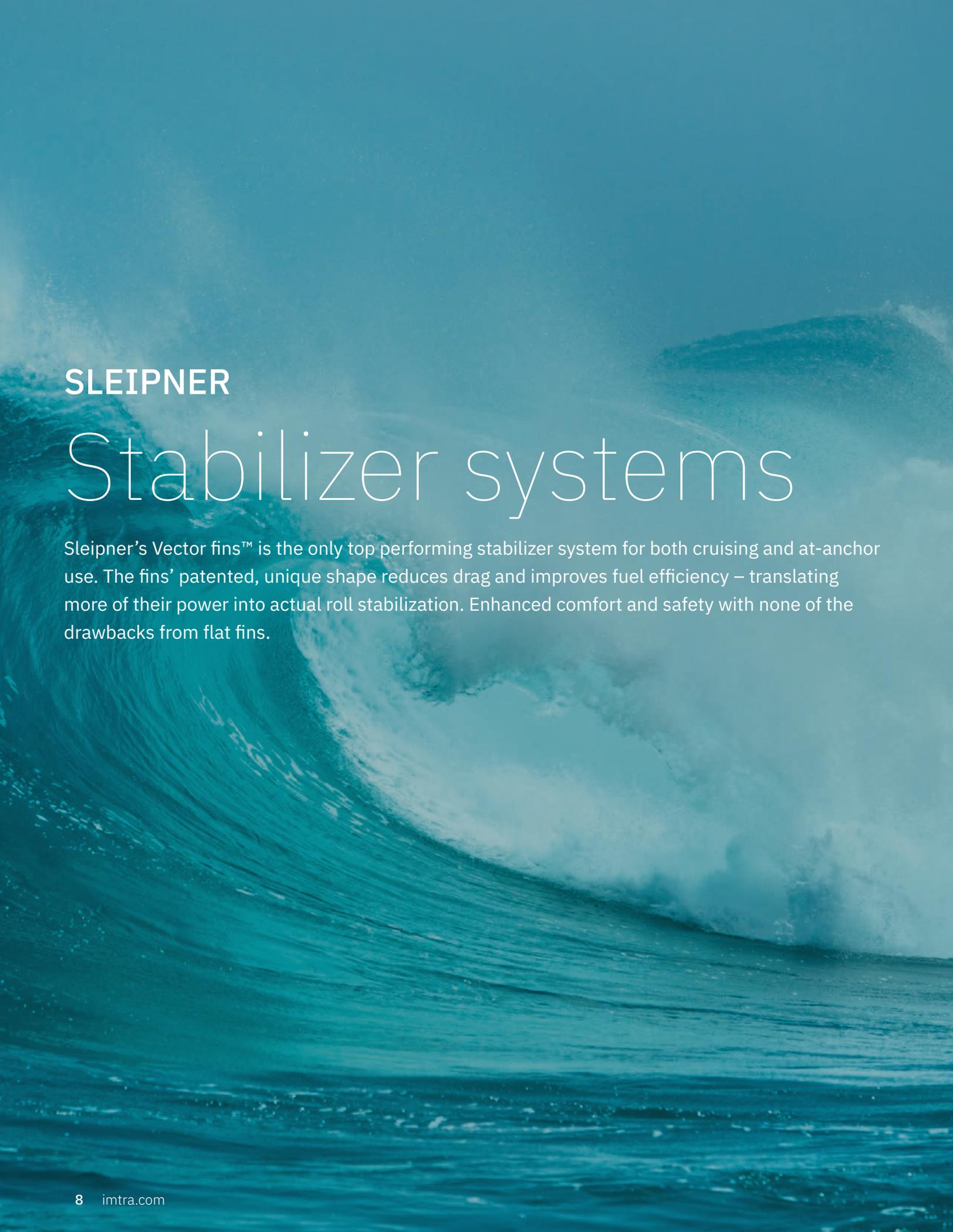
## The world's finest reference list

Our focus on quality, reliability, and continuous improvement has led an overwhelming number of the world's leading boat brands to our customer list. Sleipner solutions are also chosen onboard pilot boats,

commercial fishing vessels, navy patrol boats, passenger ferries, and more because of their supreme quality and performance.



The result of over  
**113 years of experience.**  
Made in Norway.



**SLEIPNER**

# Stabilizer systems

Sleipner's Vector fins™ is the only top performing stabilizer system for both cruising and at-anchor use. The fins' patented, unique shape reduces drag and improves fuel efficiency – translating more of their power into actual roll stabilization. Enhanced comfort and safety with none of the drawbacks from flat fins.



## Vector Fins™ systems

# Superior stabilization in every situation

Stabilizer systems have been used on larger passenger ships and superyachts for a long time. With even more compact and efficient systems, boat owners can now enjoy the better usability and comfort on leisure vessels of all sizes.

### What can stabilizers do for you?

Stabilizers reduce the roll movement of a vessel, which is in most situations by far the most dominant and most uncomfortable motion. So reducing roll by a good percentage will make a substantial difference in comfort and safety on board.

However, it is not always so clear what type of stabilization system to choose because the two leading technologies (fins and gyros) have significant functional differences, meaning that no one type suits all boats or all owners' cruising priorities.

### Key things to consider

- Choose the right stabilization technology to match the type of boating you do.
- Check the practical limitations of your boat – not all systems will fit all boats, mainly due to space limitations.
- Consider what is best suited to your boat and what is likely to retain the most value when the time comes to sell – some sizes and style of boat lean more towards one technology than another.

### Understanding the basics

The roll forces depend not just on the wave height but also on the time during which it affects the boat (wavelength). Another big factor is the speed of the boat:  $\text{force} = \text{speed}^2$ .

Gyro-type stabilizers are installed inside the boat and get their total roll reduction force from the precession motion that they generate to resist the roll of a boat. They have the same total force regardless of wave period and boat speed with limited force.

Fin stabilizers on the other hand act in the water and have two ways of creating roll reduction force, depending on the boat's speed. At zero speed or 'at anchor' mode, the fins rotate rapidly (flap) to generate force and like the gyro, have a definite limit. However, when the boat is moving forward, fins also generate roll reduction forces by the angle at which they pass through the water, like adjustable airplane wings or underwater foils. This force increases by speed squared, so the faster the boat moves, the more force they generate.

### Vector Fins™ stabilizers

- Unlike gyros, efficiency increases with speed
- Minimal to no increase in fuel consumption
- Minimal to no loss of speed
- Silent all night operation
- Minimal internal space requirement
- Also suitable for retrofit

### Which system is right for you?

If your only priority is having stabilization at zero speed, with these size choices, the gyro will eliminate more roll than the fins when anchored. However, if you also use your boat on longer cruises and want to have excellent stabilization when cruising in the open sea between sheltered anchorages, fins have a colossal force benefit. They can reduce or eliminate much larger and longer waves than a gyro of a similar size.

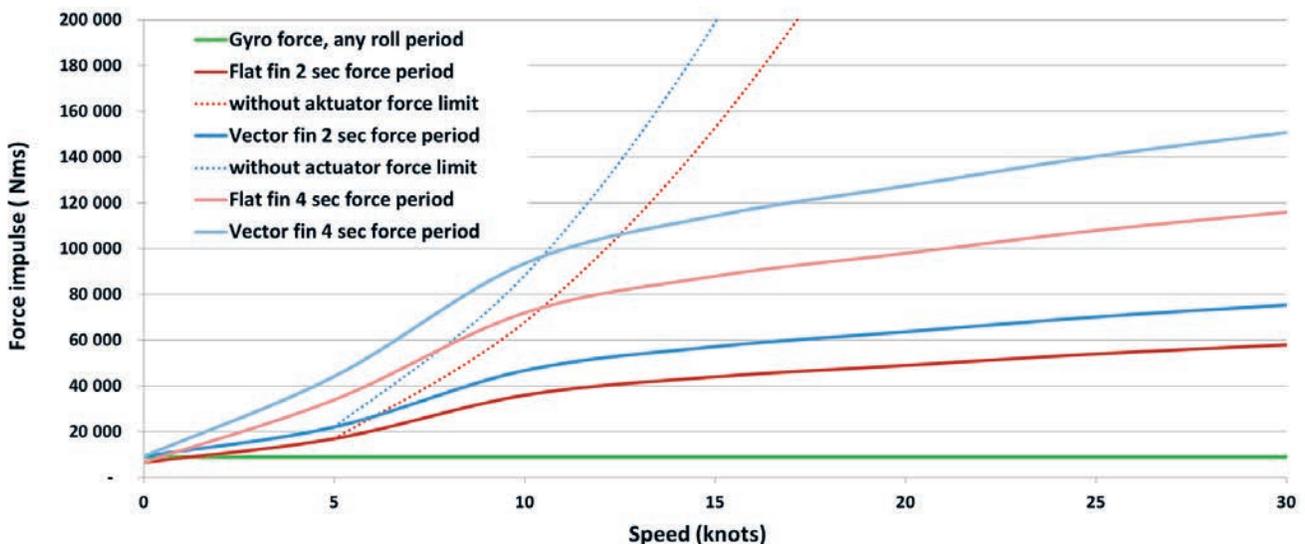
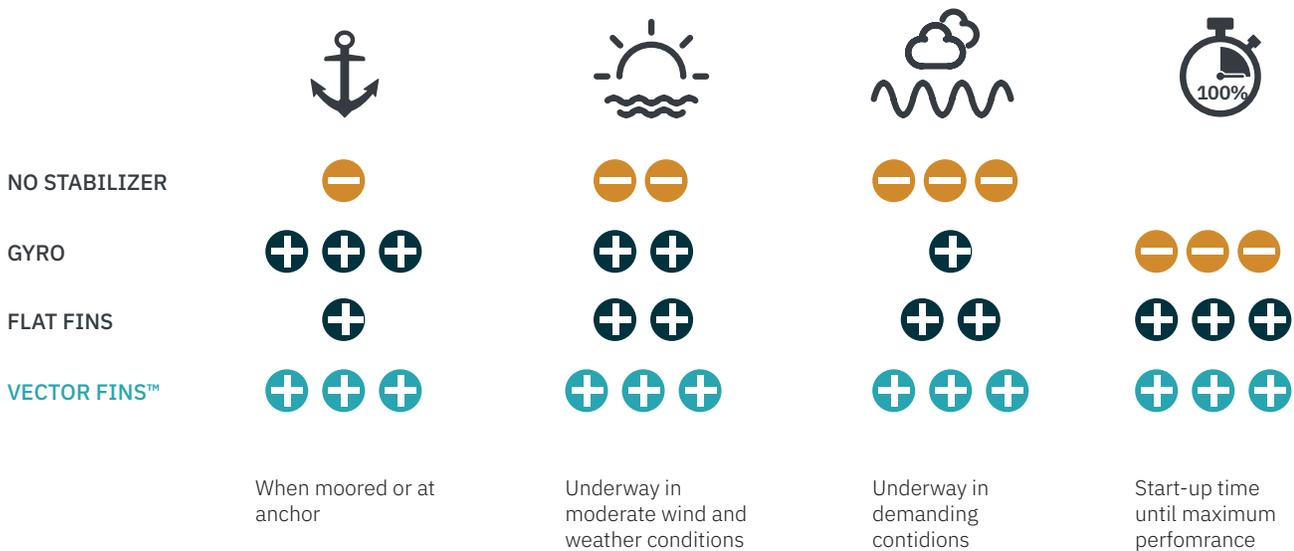
## Performance of different stabilizer technologies

A stabilizer system with Vector Fins is the only system that effectively handles both cruising and at anchor situations.

Due to their design, gyro stabilizers provide a constant force to stabilize a yacht, while fin stabilizers increase the forces by the square of the speed, which makes a big difference.

Vector Fins are up to 30% more efficient when cruising and up to 50% more efficient when anchoring compared to flat fins. Unwanted additional effects in terms of yaw and swaying can be reduced by up to 55%.

Gyro stabilizers require a start-up time of 30-45 minutes until they function optimally and are more suited for anchoring due to their construction.





*The sleek and curved fins have minimal direct drag and winglets to avoid wingtip vortex creation.*

*Curved Vector fins also generate lift at speed, helping to offset drag.*

### Verified stabilization test results Princess 56 with 0,6m<sup>2</sup> Vector Fins™

	No stabilizer	Vector Fins™	Reduction of roll	Reduction of seasickness
<b>Cruising at 11 knots</b>				
Maximum roll movement	10.4°	0.3°	97%	99.8%
Average roll movement	5.7°	0.15°	97%	99.9%
<b>At Anchor</b>				
Maximum roll angle	9.4°	2.6°	72%	92%
Average roll angle	4.1°	1.4°	66%	88%

# Vector Fins™

## The most efficient stabilizer system on the market

Rolling around at sea is something most people will prefer to avoid if they can. With the modern stabilizing systems available on the market today, they do reduce the risk of becoming seasick by 80-90 percent.

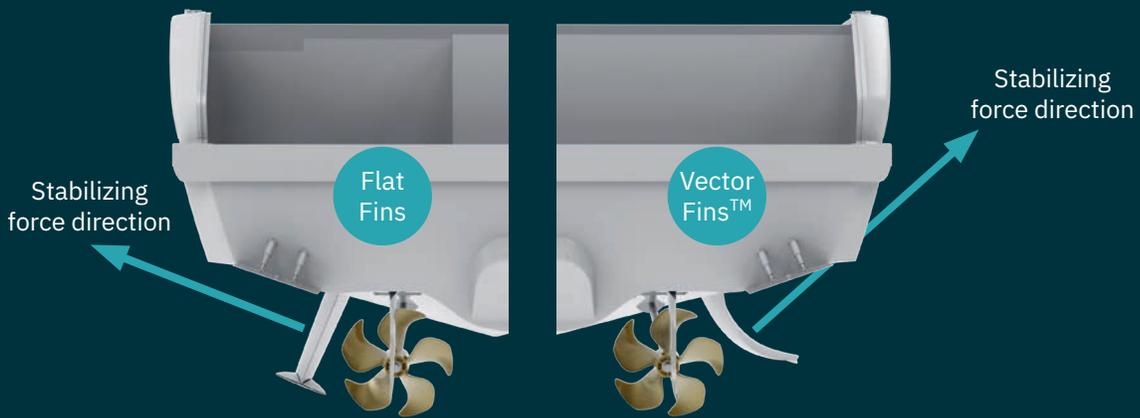
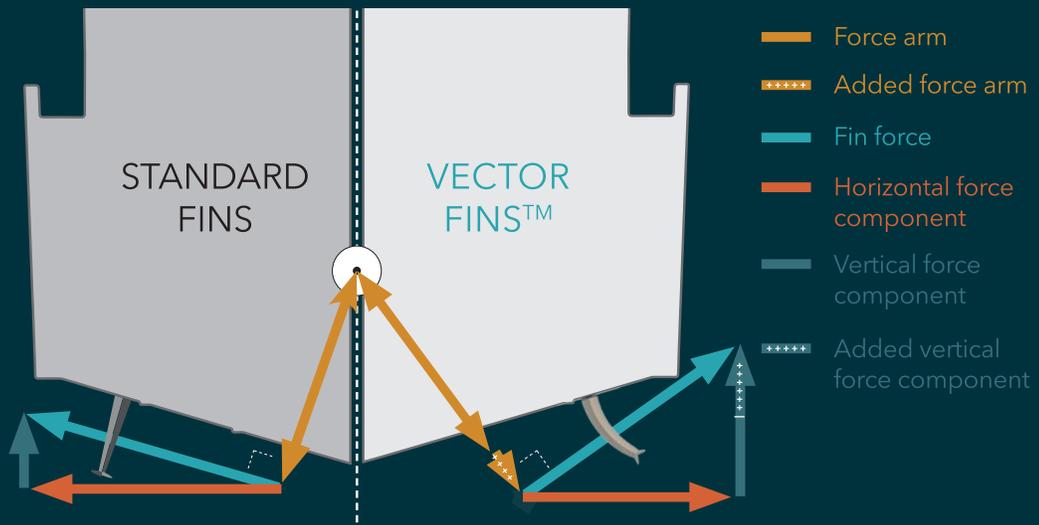
Another aspect worth considering is plain and simple onboard safety.

Let's forget about seasickness and general onboard comfort for a while. A roll of just a few degrees impacts your footing onboard. Unexpected swells catch you off guard and send objects flying around. We've all been there. A stabilized boat is a very different base in terms of both perceived and actual safety.

Over the last few years, roll stabilization has become a must-have for boat owners due to the impressive increase in comfort it delivers. The dramatic roll reduction modern systems provide also increases safety on board and as a result, allows many families to get more use out of their boats.



Up to  
**97%**  
roll  
reduction



Vector Fins™ —  
 more stabilization force in every situation

# Vector Fins™ – a revolutionary generation of fin stabilizers

Fin stabilizers are the only system that handle well both cruising and “at anchor” use, with the “at anchor” stabilization force deciding the size of the fins.

## Vector Fins™ – a simple solution to a complex problem!

The Vector Fins™ stabilizers dramatically improve the roll reduction efficiency while at the same time reducing undesired yaw and sway motions caused by active fins.

The fins are made as a “one shot” vacuum injected vinylester process over pre-shaped core material in a closed mold method.

Designed with rowing and mat layers to ensure maximum strength and minimum weight. Can even withstand minor damages without totally disintegrating afterwards, unlike traditional production methods often allows.

## Underway

Unlike gyro stabilizers that always have the same maximum total force they can apply to reduce roll, independent of boat speed or roll periods, fin stabilizers increase their stabilization force by both speed and roll period when “cruising”.

## At Anchor

As most boat owners spend more time at anchor than underway, it is critical that the stabilization system performs well at any speed, including no speed.

A stabilized boat offers a significant increase in onboard well-being. Moving around, getting the tender out, serving dinner or just getting in and out of the water for swimming becomes a lot easier and safer from a stabilized boat.

Spend those amazing nights at anchor under the stars in a bay - instead of a busy harbor!

## Vector Fins™ benefits

- Up to 50% more efficient than flat fins
- Up to 55% less side effects than flat fins
- Advanced hydrodynamic fin design
- 20% – 50% less resistance than other fins, results in > virtually no loss of speed and thereby no added fuel consumption
- All fins are prepared for high efficiency in “Any Speed” – 2:1 size ratio, also “At Anchor”
- “one-shot” vacuum injected vinylester process
- Rowing and math layers to ensure maximum strength



Up to  
**55%**  
less side  
effects

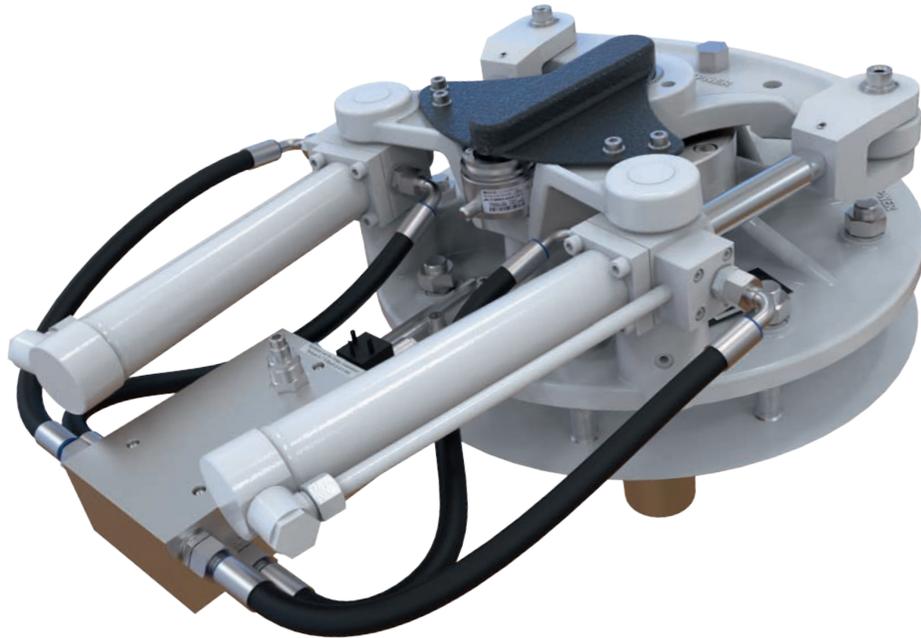
Up to  
**50%**  
more efficient

#### Product features

-  S-Link™
-  ANYSPEED
-  HYDRODYNAMICAL SHAPE
-  INSTANT-ON (MAX POWER AT START-UP)

#### Technical details

Ideal Vessel Class	Yacht, Superyacht, Motor Boat, Commercial vessel
Ideal Vessel Size	9–55m / 50–140ft
Power	Electrohydraulic System
Rated Power	3,5–15 kW
Actuator Position	360°
Shaft Positions	At anchor / Balanced / Underway



### Actuators

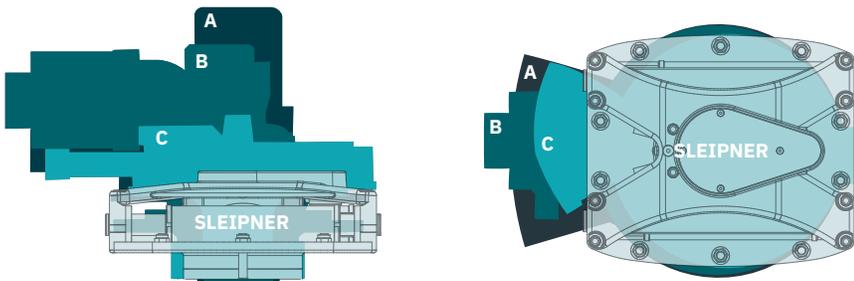
The height inside the boat is often the key measurement to allow for installation in modern boats. The Sleipner actuators are typically 25% to 75% lower than others. They are constructed for easy installation and minimal noise production.

### Technical design benefits

- Precision machining and assembly ensures a long lifetime and durability.
- No additional center lock, this is automatic in the standard hydraulic system – very safe due to the hydraulics having extreme safety limits.
- Dual cylinders provide
  - balanced load unlike single cylinder solutions.
  - less bearing load, thereby allowing for a more compact shaft bearing assembly.
- Purpose-designed dual shaft sealing - superior to standard Simmer Ring lip seals.
- Internal hydraulic connections on actuators are pre-fitted from factory, the installer only connects non-moving hoses/ pipes - Easier and safer.
- No complex adjustments required to set up controller with lots of factors, these are set automatically on first seatrial of the boat.
- Most stabilizer systems require you to periodically service their bearings, meaning either a part change, lubrication and/or mechanical adjustments. Side-Power's latest generation of bearings do not need any of that, saving time and money for the owner with lifetime lubricated high-end bearings as standard, meaning one less service point on your vessel.
- Fins are installed and removed very easily and quickly from the outside for best convenience in transport or other haul-out situations where this might be needed.
- Defined shaft-shear point in case of the fins accidentally hitting something.
- All exterior parts are in stainless steel.

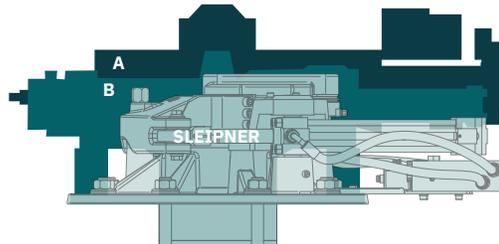
## Advantages of a centralized hydraulic power system

- High efficiency for moving and holding high loads
- Proven and reliable technology
- Most used power system on boats from 60-70 feet and larger
- Can power many applications from one central hub
- Low maintenance
- Silent operation



Size of Sleipner actuators compared to other brand actuators (shown as A, B, C) for similar fin sizes

- Sleipner actuators
- Competitor A
- Competitor B
- Competitor C



# The most compact actuator



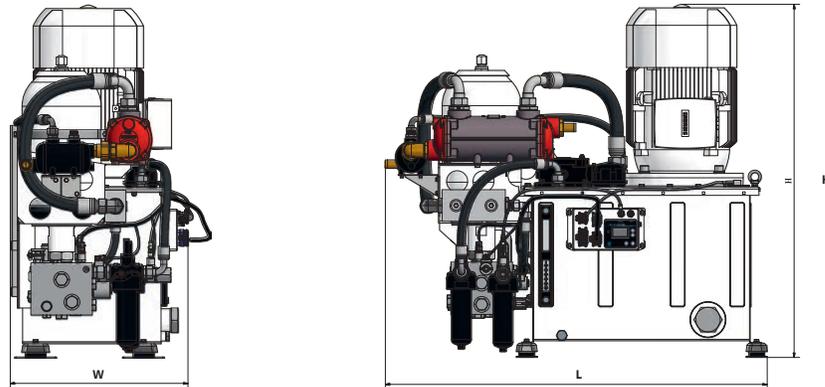
Compact,  
quiet and  
easy to  
install



**Hydraulic Power pack for standalone installations**

This is a complete hydraulic power unit (HPU) for installations where the vessel does not have a hydraulic thruster system. All of the hose and wire connections are pre-installed, allowing for faster system install and startup in the field. All connections are focused on two sides of the tank, allowing installation in confined spaces.

We also offer pre-connected and easy to install central hydraulic systems with S-Link™ CAN bus system.



Power pack	10 4435C-W-01	10 4450C-W-01	10 4455C-W-01	10 4475C-W-xx-xx	10 44110C-W-xx-xx	10 44150C-W-xx-xx
Rated power (kw)	3.5	4.6	5.5	7.5	11	15
Weight (kg • lbs)	111 • 245	116 • 256	135 • 298	N/A	300 • 661	312 • 687
L (mm • in)	726 • 28.6	726 • 28.6	780 • 30.7	1087 • 42.8	1087 • 42.8	1087 • 42.8
W (mm • in)	432 • 17	432 • 17	465 • 18.3	506 • 19.9	506 • 19.9	506 • 19.9
H (mm • in)	762 • 30	756 • 29.8	790 • 31.1	1006 • 39.6	1006 • 39.6	1006 • 39.6
Generator load (kVA)*	4.6	6	7	9.8	13	18
For fin size (short r. p.)*	VF650 (SPS55)	VF800 (SPS55B)	-	VF1050 (SPS66B)	VF1350 (SPS93B)	VF1650 (SPS93B)
For fin size (long r. p.)*	VF650 (SPS55)	VF800 (SPS55B)	VF1050 (SPS66B)	VF1350 (SPS93B)	VF1350 (SPS93B)	VF1650 (SPS93B)

\* Single phase supply will increase current with factor 1.73 and will require more margins on generator capacity.  
 \* ECO mode available in new 2018 control system for reduced generator load.  
 xx-xx - available in 230V 1-phase, 230V 3-phase and 400V configuration.

\* Short r. p. = Short roll period  
 \* Long r. p. = Long roll period  
 Roll period is the time between two waves



Courtesy of  
Ferretti Group



#### **DMC-SCU Dynamic Motion Controller TP-43**

4.3" Sunlight color touch panel for ease of use and control.  
Multiple Control panels can be installed in one system.

#### **New feature Q1 2020; Built in Wi-Fi module:**

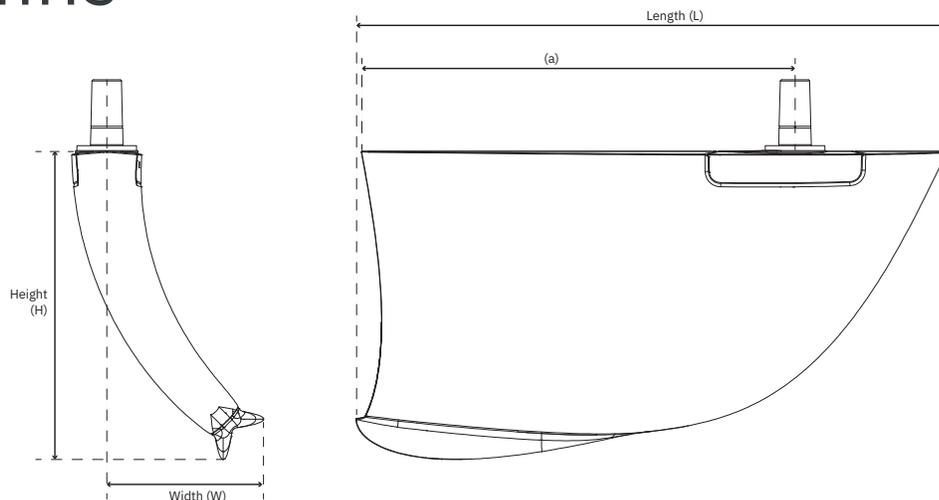
- Allows for software upgrades for the S-Link™ system without additional computer tool or service technicians.
- Allows for faster support, as service technicians can remotely access the control system upon request.

#### **Features**

- Continuous development of the best control software possible, cooperating with leading companies in control technologies.
- Self adjusting – advanced algorithms – also “Any/No Speed” functions for stabilization at anchor.
- Easy upgrade of software ensures future compatibility and improvements.
- Reverse gear position input, but also other sensors to safeguard that fins are centered and locked immediately if the boat is starting to move backwards.
- GPS speed input (no shaft sensor) helps control algorithms do the best possible job.
- S-Link™ integrates common intelligence with thruster systems and main hydraulics.
- Can be flush mounted.



# Vector fins™



Actuator Vector Fin	SPS55B VF650	SPS55B VF800	SPS66B / SPS67B VF1050	SPS92B VF1350	SPS93B / SPS94B VF1650	SPS96B/ SPS97B VF1950
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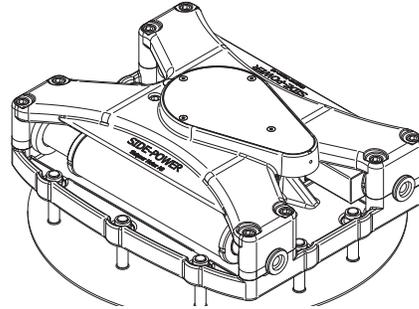
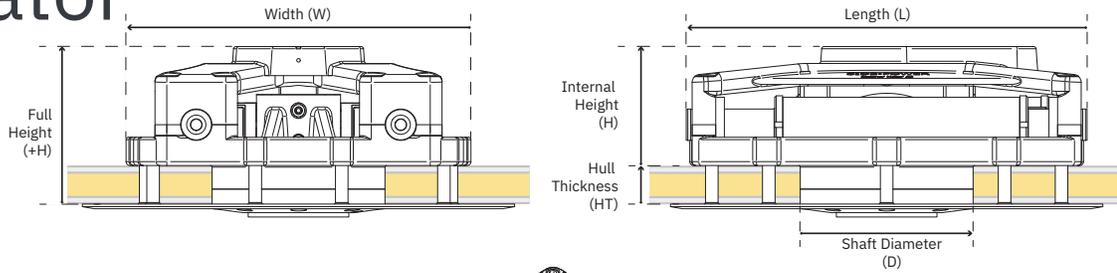


Vector Fins™ (mm)	VF650	VF800	VF1050-66	VF1350	VF1650	VFS1950-M
(H) Height	661	733	847	956.5	956.5	1054.1
(L) Length	1271	1395	1618	1835	1835	2081
(W) Width	337	337	429	485	485	533
Size	VF650	VF800	VF1050	VF1350	VF1650	VF1950-A/M/HS
Weight	0 weight in water					

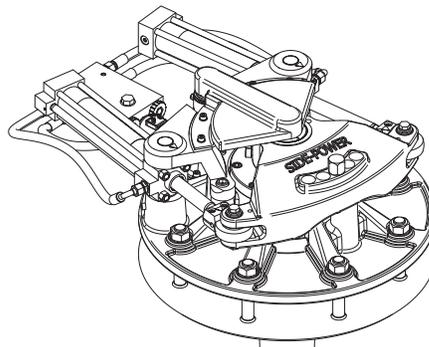
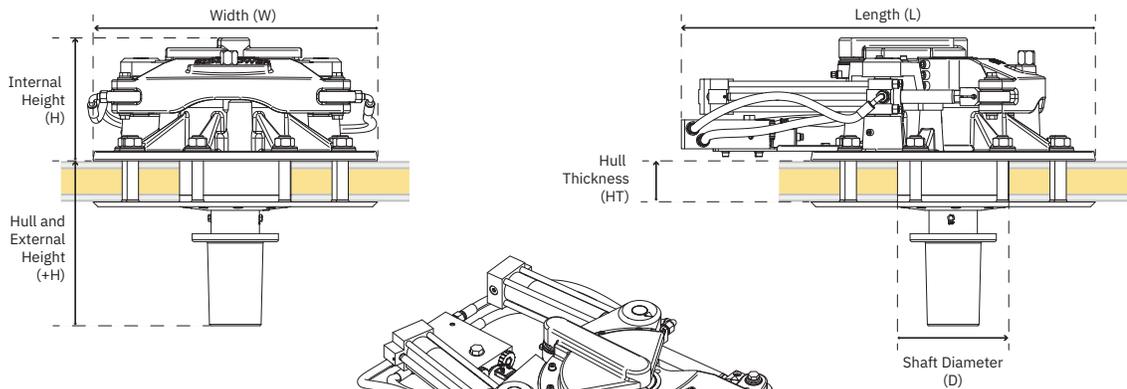
Fins have zero weight in water

Patents: [sleipnergroup.com/patents](http://sleipnergroup.com/patents)

# Actuator



## Measurements SPS55B



## Measurements SPS66B / 67B / 92B / 93B / 94B / 96B / 97B

*For metal framed boats extra  
actuator available*

Actuator (mm)	SPS55B	SPS66B	SPS67B	SPS92B	SPS93B	SPS94B	SPS96B	SPS97B
(H) Height	149.5	190	190	260	260	260	346	346
(+H) Additional Height	201	318	-	347	347	-	-	-
(L) Length	510	770	770	871	871	871	871	871
(W) Width	430	650	650	700	700	700	700	700
(D) Diameter	-	175	175	235	235	235	235	235
(HT) Hull Thickness	49	70	159	86	86	237	86	237
Weight	100	105	114	185	185	190	185	190

**SLEIPNER**

# World leading thruster systems

Built for outstanding performance, your time on the water will always be better with a Sleipner thruster onboard. With the world's most extensive thruster range, we can assure you will find the right fit for your boat.

# Thruster finder **Our models at a glance**

## How to choose the right thruster system

### 1. Thruster power

Whether you have decided to buy a bow or stern thruster, or planning to upgrade an existing installation, you will need to determine the amount of thrust output required to suit your specific need.

By definition, any thruster will, to some extent, get the job done. The key is to ensure that your chosen thruster will perform as expected in your boat specifically.

To choose the optimal solution for your boat, these are the main parameters you need to evaluate:

- Sufficient thrust to cover your intended use of the boat with a good safety margin
- Thruster placement on the boat
- Adequate and sustained energy supply

### 3. Features

There are also optional features to consider. Perhaps the most important decision is whether you want a standard on/off-system or a PRO™ system with variable speed control, also often referred to as a proportional.

Main benefits of PRO™

- Unique hold-function enabling you to set and leave the level of thrust
- Single-handed docking
- Extended run time
- Less noise
- Joystick integration

Most Sleipner thruster models are available as PRO™ with variable speed control.

Other optional features to consider

- Ignition protection
- Cowls for stern thrusters to direct water flow
- Additional control panels for multiple control stations
- Remote controls
- Automatic main switch

### 2. Available space for installation

Depending on the thruster size you need to achieve the required performance, the next step is to find the right thruster type based upon available space for installation.

In general, there are three thruster options based on their installation principle:

- Tunnel thrusters
- Retractable thrusters
- External thrusters

Tunnel thrusters are the standard fit for most boats. However, a retractable or external thruster are both great alternatives for vessels with insufficient internal space to fit the tunnel in the desired position.

### 4. Planning your system

When you have an idea about thruster size, type, and additional features of your choice, we recommend contacting a local Sleipner dealer. A professional installer will ensure an optimal and safe installation in your boat as well as guide you through a complete system setup of:

- Control panel(s)
- Remote control(s)
- Electrical installation and power optimization
- Tunnel and/or stern thruster choices
- Installation materials

Please visit [imtra.com](http://imtra.com) to find a dealer near you.

# Thruster finder Our models at a glance

## TUNNEL THRUSTERS

Sleipner's tunnel thrusters are the world's top-selling thrusters resulting from over 35 years of development. Over the years, our tunnel thrusters have been installed in more than 300,000 boats worldwide and are the preferred choice by most leading boat builders. With the world's largest selection of tunnel thrusters, there should be no compromise finding a good fit for your vessel.

			
	<b>DC electric</b>	<b>AC electric</b>	<b>Hydraulic</b>
Ideal Vessel Class	Motor boat, Sail boat	Yacht, Commercial	Yacht, Commercial
Ideal Vessel Size	6–30 m / 20–100 ft	13–55 m / 42–175 ft	9–55 m / 30–175 ft
Power	DC 12/24/48V	AC	HYD
Thrust	20–340 kg	320–1400 kg	80–1400 kg
Tunnel diameter	110–300 mm	250–610 mm	185–610 mm
Placement	Bow / Stern	Bow / Stern	Bow / Stern
PRO™	Available	Yes	Available
Ignition Protection	Available	Yes	Yes
<a href="#">Learn more on page</a>	<a href="#">32-39</a>	<a href="#">40-43</a>	<a href="#">44-49</a>

## EXTERNAL THRUSTERS

Sleipner's DC external thrusters are the most compact on the market, making it the perfect choice if you have a boat where the inside configuration does not fit a standard thruster installation. Its versatile design and compact size allow for installation on boats of any hull shape.

			
	<b>DC electric</b>	<b>DC electric</b>	<b>DC electric</b>
Ideal Vessel Class	Motor boat, Sail boat	Motor boat	Motor boat, Sail boat
Ideal Vessel Size	6–11 m / 20–37 ft	10–17 m / 35–55 ft	6–18 m / 20–59 ft
Power source	DC 12V	DC 12 / 24V	DC 12/24V
Thrust	42–62 kg	96–116 kg	42–116 kg
Tunnel diameter	140 mm	185 mm	150 mm
Placement	Bow / Stern	Stern	Bow / Stern
PRO™	Available	Yes	No
Ignition Protection	Yes	Yes	Yes
<a href="#">Learn more on page</a>	<a href="#">56-58</a>	<a href="#">59</a>	<a href="#">60-61</a>

## RETRACTABLE THRUSTERS

For cruisers or flat-bottomed boats. Our retractable thrusters are designed with a focus on practical sturdiness, uncompromised safety, and quick deployment. Also suitable as stern thrusters on motorboats that cannot fit a tunnel or external stern thruster on the transom.



**DC electric**



**AC electric**



**Hydraulic**

	<b>DC electric</b>	<b>AC electric</b>	<b>Hydraulic</b>
Ideal Vessel Class	Motor boat, Sail boat	Motor boat, Sail boat	Motor boat, Sail boat
Ideal Vessel Size	10–30m / 35–98ft	22–34m / 72–110ft	13–34m / 42–110ft
Power	DC 12/24/48V	AC	HYD
Thrust	80–340kg	320kg	240–320kg
Tunnel diameter	185–300 mm	300 mm	250–300 mm
Placement	Bow / Stern	Bow / Stern	Bow / Stern
PRO™	Available	Available	Available
Ignition Protection	Available	Yes	Yes
<a href="#">Learn more on page</a>	<a href="#">50-53</a>	<a href="#">54</a>	<a href="#">54</a>

# Visit our website for in-depth information

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## Blog



How much thruster power do I need?

<https://sleipnergroup.com/blog/thrusters/how-much-power-do-i-need-from-a-boat-thruster>



Do I need a bow thruster on a small boat?

<https://www.sleipnergroup.com/blog/thrusters/do-i-need-a-bow-thruster-on-a-small-boat>



Pros and cons of different thruster solutions

<https://www.imtra.com/learning-center/articleid/58/which-bow-thruster-is-best>



How to choose the right thruster for your boat?

<https://www.imtra.com/learning-center/articleid/45/choose-right-thruster-for-your-boat>

## Dealer



Find your closest dealer

<https://www.imtra.com/customer-care/locate-a-dealer>

## Watch



Magnus Rassy elaborates on PRO™ thrusters onboard a Hallberg Rassy 412

<https://www.youtube.com/watch?v=69GpzXrdpmw>



User experience: PRO™ thrusters onboard a Bavaria Virtess 42 Fly

<https://www.youtube.com/watch?v=THtrKPa8ATI>

# Main thruster features



## **GALVANIC** SEPARATION

Immersed parts exposed to seawater are galvanic isolated from the onboard electrical system, eliminating stray currents.



## **GRAVITY FEED** LUBRICATION

The thruster gearleg is supplied with oil from a separate reservoir above the waterline. This generates overpressure, making an effective seal against water intrusion while allowing easy access for oil change.



## **IGNITION** PROTECTION

Our ignition-protected products are compliant with ISO 8846 and ensure gasoline or other flammable fumes cannot enter or be ignited.



## **INTELLIGENT** POWER CONTROL

Intelligent Power Control provides a delay between drive directions and monitors solenoid functions. In case of a solenoid lock-in, the thruster will automatically stop without extra user action or controlling the main switch.



## **OVERHEAT** PROTECTION

Automatic detection of overheating of internal components. When an unsafe temperature is detected, the unit is automatically shut off to prevent overheating.



## **PRO™** VARIABLE SPEED CONTROL

A PRO™ thruster system enables you to apply only the necessary power to complete your maneuver. The variable speed control eliminates the noise associated with standard on/off thrusters, offering full power or nothing.

With a dual setup (bow and stern), you also get a practical hold-function enabling you to set and leave the level of thrust.



## **Q-PROP**

The Q-PROP™ has measured noise reductions of up to 75% in controlled environments. Upgrade kits are available for most Sleipner thruster models with special adaptors.



## **SAFE STARTUP**

Sleipner control panels use dual ON buttons to engage the product to start, preventing accidental activation for a child-safe environment and peace of mind while on your vessel.



## **SEALED DRIVE** LUBRICATION

The thruster gearleg is pre-filled for lifetime lubrication and sealed using a long-time mechanical seal with ceramic and carbon surfaces for ultimate security against water intrusion.



## **S-LINK™**

S-Link™ is a CAN-based control system used for communication between Sleipner products installed on a vessel.

- Compact and waterproof plugs
- Keyed and color-coded connectors to ensure correct and easy installation
- Different cable lengths, extenders and T-connectors makes the system scalable and flexible to install



## **SMART** SHUT-OFF

Sleipner control panels are programmed to shut down automatically after approximately 6 minutes without use to avoid accidental activation.

Standard on-off versus variable speed control

# Dock smooth and quietly with speed controlled thrusters

Put a throttle in your thruster!

Get the luxury of silently adjusting how much thrust to use when maneuvering your boat into or out of a tight spot using variable speed control. Combining known performance and reliability with total control of thruster power provides an ease to beginners as well as seasoned boaters, while eliminating much of the noise associated with on-off thrusters.

Increasing boat sizes and the number of boats have outgrown the harbor space for many years around the globe, making docking more challenging than ever. Easy maneuvering has become more critical, making thrusters a standard fit in most boats, as they undeniably offer great help while docking in challenging locations or adverse weather conditions.

With many boat owners having had boats with under-powered thrusters, they now would like to have enough power in their thrusters to make sure they perform well and do their job in the worst conditions. To install a thruster system rated for the worst conditions is advisable, as it is in these situations you need a thruster system the most.

However, while docking in calm weather conditions, many boat owners find that using 100% of the thruster effect is unnecessary and creates unwanted noise in an otherwise quiet harbor.

Sleipner PRO (proportional) thrusters will be a different experience and provide a no-compromise solution with fully speed-controlled thrusters. Unlike on-off thruster systems, where you will get a 100% thrust at once, a proportionally controlled system starts at a lower RPM as you throttle on. This makes a massive difference as the softer acceleration creates

a lot less cavitation in the tunnel, which reduces noise in a thruster.

As you can now choose the right thrust for any docking situation, docking in a quiet harbor does not need a lot of power, and you will find that you can slip the boat into your dock almost without making a sound.

When running the thruster at reduced power, the heat development in a DC electric motor is much lower. In most cases, at 50% power or less, you can expect close to continuous run time, only limited by your available power supply.

The first part of docking is maneuvering alongside the pier safe and smoothly. The second part is staying there until you are tied off. With a twin system with variable speed control (bow and stern thruster), you also get a practical hold-function, enabling you to set and leave the level of thrust. It's a feature that short-handed skippers often rely on to pin their boats against the dock while they step off to secure the lines. You can easily adjust the amount of thrust applied depending on the docking conditions.

Visit [www.imtra.com](http://www.imtra.com) to learn more.



## Main features:

- Full proportional speed control
- Unique hold-function
- Single-handed docking
- Best choice for joystick interaction
- Wide range of PRO thrusters
- Extended runtime
- Less noise



**PRO**  
PROPORTIONAL



**HOLD**  
THRUST



Available thruster upgrades

# Improve the performance of your existing thruster system

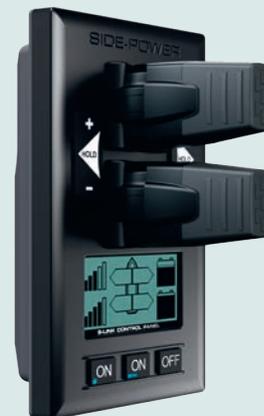
Most thruster systems can be upgraded with several practical benefits.

The fact that Sleipner delivers spare parts such as zinc anodes and shear pins to 30-year-old thrusters is a statement of our commitment to our products' quality and longevity, past and present. There are several upgrades to consider to an existing thruster system adding practical value for years to come.

## Upgrade to PRO variable speed control

Most Sleipner (Side-Power) DC 12 and 24V models from 1999/2000 and later can be updated to PRO with variable speed control.

Scan the QR code to see products and videos about upgrading.



## Add a stern thruster

The selection of stern thrusters has increased significantly, allowing space-saving solutions for additional vessel types.

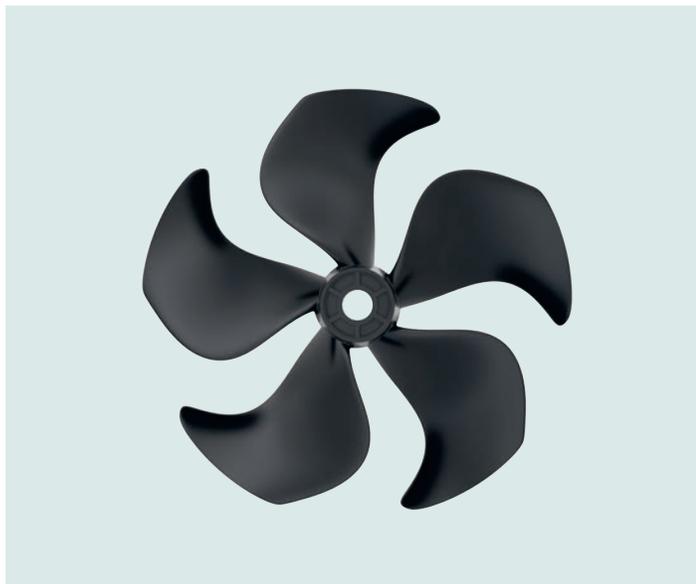
Scan the QR code to see our complete stern thruster program.



### Add a remote control

Free yourself from the dashboard. You can operate the system remotely for easy short-handed docking by adding a remote control.

Scan the QR code to go directly to products.



### Upgrade your propeller

The Sleipner Q-propeller typically reduces noise between 20-40% in average installations, while maintaining or slightly increasing thrust output.

Scan the QR code to check if your thruster can be upgraded.



### Improve your tunnel installation

A good tunnel installation with rounded openings is vital for both efficient thrust delivery as well as noise levels.



## DC electric tunnel thrusters

Sleipner's tunnel thrusters are the world's top-selling bow and stern thrusters for recreational boats. Over the years, our tunnel thrusters have been installed in more than 300,000 boats worldwide.

The bow and stern thrusters are fitted either in a tunnel through the boat's bow or into a stern tunnel at the boat's stern.

The electric motors, solenoid, patented IPC control system, and mechanical parts of the propulsion system are all custom designed and built - utilizing the extensive experience gained through years of leadership in the global thruster market.

Sleipner's stern tunnels are designed with solid and durable fiberglass to enhance the thruster's performance and are mounted effortlessly in the boat's transom.

### Benefits

- Proven performance
- Low noise
- Flexible installation/mounting
- High-quality components
- Overheat protection
- Low maintenance
- Intelligent Power Control



Also available in PRO versions with variable speed control



*With stern thruster kit*

**Product features**

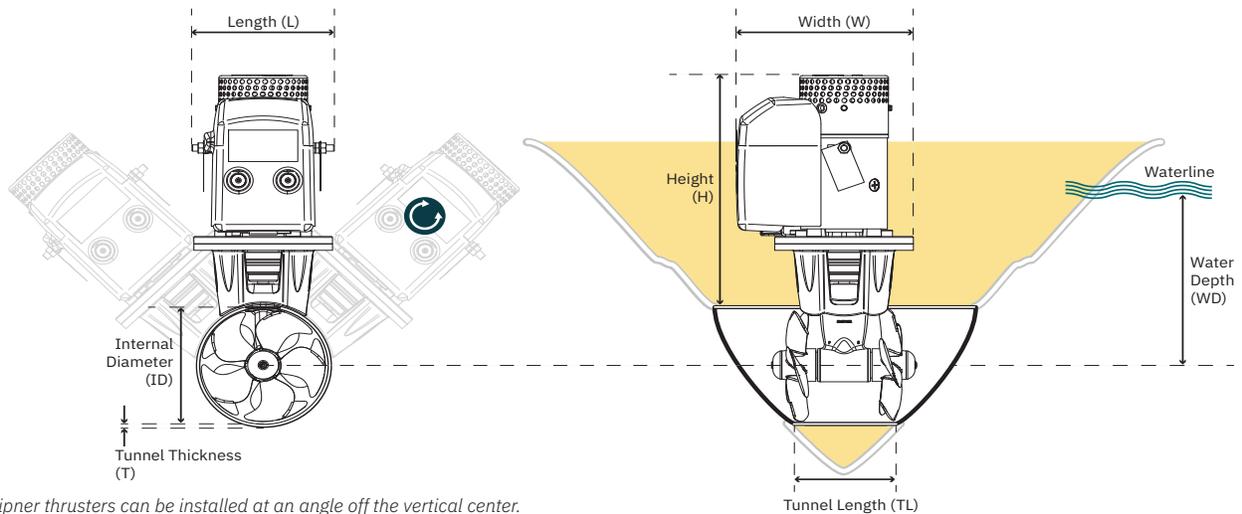
-  INTELLIGENT POWER CONTROL
-  SEALED DRIVE LUBRICATION
-  GALVANIC SEPARATION
-  Q-PROP™

**Technical details**

Ideal Vessel Class	Motor boat, Sail boat
Ideal Vessel Size	6–30 m / 20–100 ft
Power	DC 12/24/48V
Thrust	25–340 kg / 55–749 lbs
Tunnel diameter	110–300 mm
Placement	Bow / Stern



	SE20	SE25	SE30 <sup>1</sup>	SE40	SE50	SE60	SE80	SE100
	12V	12V	12V	12V	12V 24V	12V 24V	12V 24V	12V 24V
Thrust at 12/24V (kg)	25	30	40	48	62 62	73	96 96	116 116
Thrust at 10.5/21V (kg)	20	25	30	40	50 50	60	80 80	100 100
Ideal Vessel Size (m/ft)	>7/23	>7/24	6-8/20-28	8-10.5/26-34	8-11/27-37	8-11/27-37	10-15/35-48	12-17/35-55
Internal Diameter (mm)	110	110	125	125	140 140	185 185	185 185	185 185
Propulsion System	Single	Single	Single	Single	Single Single	Single Single	Twin Twin	Twin Twin
Power Output (kW • Hp)	1.5 • 2	1.5 • 2	1.5 • 2	2.2 • 3	2.4 • 3.2 2.4 • 3.2	2.4 • 3.2 2.4 • 3.2	4.4 • 6 4.4 • 6	6.3 • 8.4 6.3 • 8.4
Power requirement (V)	12	12	12	12	12 24	12 24	12 24	12 24
Weight (kg)	9.5	9.5	9.5	10	15 15	15 15	20 20	31 31
Min. Battery CCA (DIN)	200	200	200	300	350 175	350 175	550 300	750 400
Item Code 12V	SE20/110S	SE25/110S	SE30/125S2	SE40/125S2	SE50/140S-12V	SE60/185S2-12V	SE80/185T-12V	SE100/185T-12V
Item Code 24V					SE50/140S-24V	SE60/185S2-24V	SE80/185T-24V	SE100/185T-24V
Item Code 12V PRO	SEP20/110S	SEP25/110S	SEP30/125S2	SEP40/125S2	SEP50/140S-12V	SEP60/185S2-12V	SEP80/185T-12V	SEP100/185T-12V
Item Code 24V PRO					SEP50/140S-24V	SEP60/185S2-24V	SEP80/185T-24V	SEP100/185T-24V
Stern tunnel kit	—	—	90124i	90124i	—	90052i	90086i	90086i
Cowls - short model	—	—	—	—	—	90075	90075	90075
Cowls - long model	—	—	90126	90126	—	90077	90077	90077

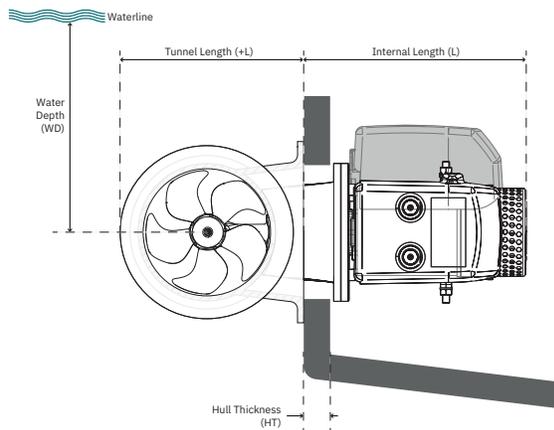


Sleipner thrusters can be installed at an angle off the vertical center. Tailor to fit any space available in your vessel.

BOW	SE20	SE25	SE30 <sup>2</sup>	SE30 <sup>3</sup>	SE40 <sup>2</sup>	SE40 <sup>3</sup>	SE50	SE60	SE80	SE100	SE120	SE130	SE150	SE170	SE210	SE250	SE300	
	12V	12V	12V	12V	12V	12/24V	12/24V	12/24V	12/24V	12/24V	24V	12V 24V	24V	24V	24V	24V	24V	
H (mm)	209	252	263	242	263	242	264	272/264	352/344	393	394	398	398	412	412	480	490	457
L (mm)	183	183	183	186	183	183	208	208	206	240	243	250	250	245	247	274	274	274
W (mm)	200	198	199	198	206	205	200	200	252/261	292/272	266	296	277	292	292	337	337	350
ID (mm)	110	110	125	140	125	140	140	140	185	185	215	250	250	215	250	250	300	300
WD (mm)	110	110	125	140	125	140	140	140	185	185	215	250	250	215	250	250	300	300
TL (mm)	133	133	136	168	136	168	152	152	216	216	276	303	303	276	322	323	333	333
TL min. (mm)	111	111	111	140	111	140	124	124	179	179	233	253	253	233	272	273	273	273
T min. (mm)	4	4	4	5.2	4	5.2	5	5	6	6	7	7	7	7	7	7	10	10
T max. (mm)	6	6	6	7	6	7	7	7	8	8	9	9	9	9	9	9	12	12



SE120/215T	SE130/250T		SE150/215T	SE170/250TC	SE210/250TC	SE250/300TC	SE300/300TC
24V	12V	24V	24V	24V	24V	24V	48V
139	160	160	182	210	250	300	340
120	130	130	150	170	210	250	300
13-18/42-60	13-19/42-62		14-20/44-64	15-22/50-70	17-24/55-78	18-25/60-84	22-30/72-100
215	250	250	215	250	250	300	300
Twin	Twin	Twin	Twin	Twin Counter	Twin Counter	Twin Counter	Twin Counter
6.4 • 8.55	6.5 • 8.7	6.5 • 8.7	8.8 • 11.8	8.8 • 11.8	10 • 13.15	11.4 • 15.5	15 • 20
24	12	24	24	24	24	24	48
34	37	37	38	44	68	70	73
450	750	400	560	560	560	700	400
	SE130/250T-12V						
SE120/215T	SE130/250T-24V		SE150/215T	SE170/250TC	SE210/250TC	SE250/300TC	SE300/300TC
	SEP130/250T-12V						
SEP120/215T	SEP130/250T-24V		SEP150/215T	SEP170/250TC	SEP210/250TC	SEP250/300TC	SEP300/300TC-48
90135i	90150i		90135i	90150i	90150i	90200i	90200i
-	-		-	-	-	-	-
90136	90130		90136	90130	90130	90220	90220



Bow	Description
(H)	Height
(L)	Length
(W)	Width
(ID)	Internal Diameter
(WD)	Water Depth
(TL)	Recommended Tunnel Length
(TL min.)	Minimum Tunnel Length
(T min.)	Minimum Tunnel Wall Thickness
(T max.)	Maximum Tunnel Wall Thickness
<b>Stern</b>	
(L)	Internal Length
(+L)	Tunnel Length
(WD)	Stern Water Depth
(HT)	Maximum Hull Thickness

STERN	SE20	SE25	SE30 <sup>2</sup>	SE30 <sup>3</sup>	SE40 <sup>2</sup>	SE40 <sup>3</sup>	SE50	SE60	SE80	SE100	SE120	SE130	SE150	SE170	SE210	SE250	SE300
	12V	12V	12V	12V	12V	12V	12/24V	12/24V	12/24V	12/24V	24V	12/24V	24V	24V	24V	24V	24V
L (mm)	-	-	218	218	228	228	-	231/ 214	294/303	351	361	352/ 348	380	362	422	440	407.2
+L (mm)	-	-	188	188	188	188	-	265	265	265	300	345	300	345	360	417	422
WD (mm)	-	-	125	125	125	125	-	185	185	185	215	250	215	250	250	300	300
HT (mm)	-	-	19	19	17	17	-	43	56	60/64	61	56/55	73	56	50	68	67

Please see note regarding thruster power and battery rating on page 71.

<sup>1</sup> SE30 and SE40 are also available with 140 mm tunnel diameter.

<sup>2</sup> 125S2 version with Internal Diameter of 125 mm

<sup>3</sup> 140 version with Internal Diameter of 140 mm SE20, 25 and 50 are not available as stern thruster



Also available in  
PRO versions  
with variable  
speed control

# Ignition Protected DC electric tunnel thrusters

## Benefits

- Tested according to ISO 8846 Ignition Protected standards
- Splash proof housing
- Tinned plated brass terminals
- Manufactured, tested and delivered as a ready sealed unit, ensuring that the installer does not have to fit any other parts that can jeopardize the hermetical seal
- Plug & Play control cables
- Accessible components and easy maintenance
- Flexible installation/mounting

Sleipner offers modified versions of our DC electric thrusters to provide reliable and safe thruster installations. The IP version (ignition protected) have a hermetically sealed composite housing around all electric parts. The IP versions are for use in stern and other locations that may get wet or be exposed to gasoline fumes. An additional advantage is that electric parts that could obtain water damage are also covered and protected, making these thrusters the ideal choice for stern thruster installations where ensuring that the thruster will always remain dry is difficult.

The IP versions have all the benefits and proven reliability of our standard DC electric tunnel thrusters.



### Product features

-  IGNITION PROTECTION
-  INTELLIGENT POWER CONTROL
-  SEALED DRIVE LUBRICATION
-  GALVANIC SEPARATION
-  Q-PROP™

### Technical details

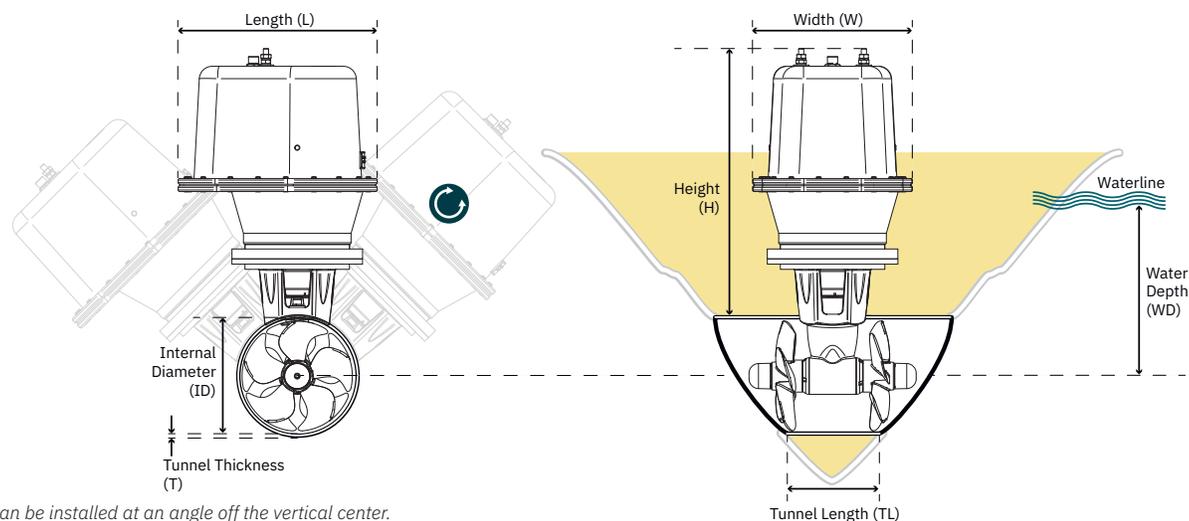
Ideal Vessel Class	Motor boat, Sail boat
Ideal Vessel Size	6–22m / 20–70ft
Power	DC 12/24/48V
Thrust	40–210kg / 88–462lbs
Tunnel diameter	125–250 mm
Placement	Bow / Stern



	SE30 IP	SE40 IP	SE50 IP	SE60 IP
Thrust at 12/24V (kg)	40	48	62	73
Thrust at 10.5/21V (kg)	30	40	50	60
Ideal Vessel Size (m/ft)	6-8/20-28'	8-10.5/26-34'	8-11/27-37'	9-12/29-38'
Internal Diameter (mm)	125	125	140	185
Propulsion System	Single	Single	Single	Single
Power Output (kW • Hp)	1.5 • 2	2.2 • 3	2.4 • 3.2	2.4 • 3.2
Power requirement (V)	12	12	12/ 24	12/ 24
Weight (kg)	9.5	10	15	16
Min. Battery CCA* (DIN)	200	300	350	350

Item Code 12V	SE30/125S2-IP	SE40/125S2-IP	SE50/140S-12V-IP	SE60/185S2-12IP
Item Code 24V			SE50/140S-24V-IP	SE60/185S2-24IP
Item Code 12V PRO	SEP30/125S2-12IP	SEP40/125S2-12IP	SEP50/140S-12V-IP	SEP60/185S2-12IP
Item Code 24V PRO			SEP50/140S-24V-IP	
Stern tunnel kit	90124i	90124i	—	90052i
Cowls - short model	—	—	—	90075
Cowls - long model	90126	90126	—	90077

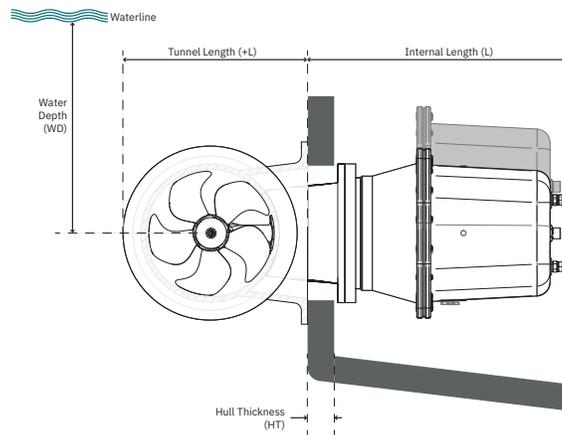


Sleipner thrusters can be installed at an angle off the vertical center. Tailor to fit any space available in your vessel.

BOW	SE30 IP	SE40 IP	SE50 IP	SE60 IP	SE80 IP	SE100 IP	SE120 IP	SE130 IP	SE170 IP
	12V	12V	12V 24V	12/24V	12/24V	12/24V	24V	12/24V	12/24V
(H) Height (mm)	291	288	323	323	321	406	499/ 510	501	511
(L) Length (mm)	238	238	272	272	272	327	381	381	381
(W) Width (mm)	234	234	232	232	232	262	306	306	306
(ID) Internal Diameter (mm)	125	125	140	140	185	185	185	215	250
(WD) Water Depth (mm)	125	125	140	140	185	185	185	215	250
(TL) Recommended Tunnel Length (mm)	136	136	152	152	165	216	195/ 216	276	303
(TL min.) Minimum Tunnel Length (mm)	111	111	124	124	128	179	158	233	253
(T min.) Min. Tunnel Wall Thickness (mm)	4	4	5	5	4	6	6	6	6
(T max.) Max. Tunnel Wall Thickness (mm)	6	6	7	7	6	8	8	8	9



SE80 IP	SE100 IP	SE120 IP	SE130 IP	SE170 IP
96	116	139	160	210
80	100	120	130	170
10-15/35-48'	12-17/35-55'	13-18/42-60'	13-19/42-62'	15-22/50-70'
185	185	215	250	250
Twin	Twin	Twin	Twin	Twin Counter
4.4 • 6	6.3 • 8.4	6.4 • 8.55	6.5 • 8.7	8.8 • 11.8
12/ 24	12/ 24	24	12/ 24	24
20	31	34	37	44
550	750	450	400	560
SE80/185T-12V-12IP	SE100/185T-12V-12IP		SE130/250T-12V-12IP	
SE80/185T-24V-24IP	SE100/185T-24V-24IP	SE120/215T-IP	SE130/250T-24V-24IP	SE170/250TC-IP
SEP80/185T-12V-12IP	SEP100/185T-12V-12IP		SEP130/250T-12V-12IP	
SEP80/185T-24V-24IP	SEP100/185T-24V-24IP	SEP120/215T-IP	SEP130/250T-24V-24IP	SEP170/250TC-IP
90086i	90086i	90135i	90150i	90150i
90075	90075	—	—	—
90077	90077	90136	90130	90130



STERN	SE30 IP	SE40 IP	SE50 IP	SE60 IP	SE80 IP	SE100 IP	SE120 IP	SE130 IP	SE170 IP	
	12V	12V	12V 24V	12/24V	12/24V	12/24V	24V	12/24V	24V	
(L) Internal Length	256	268	-	-	278	364	458/ 468	463	463	362
(+L) Tunnel Length	188	188	-	-	265	265	265	300	345	345
(WD) Stern Water Depth	125	125	-	-	185	185	185/ 125	215	250	250
(HT) Maximum Hull Thickness	70	65	-	-	88	64	72	97	83	56

Please see note regarding thruster power and battery rating on page 71.

# AC electric tunnel thrusters

Sleipner's AC thrusters offer the benefit of unlimited run time, enabling heavier duty usage. Each system is custom-built according to your boat's specifications and working conditions. AC thrusters are also perfect for hybrid or fully electric vessels.

Sleipner's AC thruster systems are precisely matched to the generator capacity to maximize the amount of thrust you get from the system.

Each AC motor is controlled via a Variable Frequency Drive (VFD) to minimize startup loads on the power system and allow for precise control of the thruster with variable speed control. No further setup of the VFD is required. The PDC-301 drive controller is configured from the control panel.

In addition to the standard VFD's, we can deliver low harmonic VFD's for installations with specific THD requirements.

An Electromagnetic Compatibility (EMC) is also included to reduce feedback noise on the vessel's power system.

The innovative S-Link™ control system ensures fast and trouble-free installation, and gives you the unique option to combine hydraulic and AC thrusters in a single control environment.

All of Sleipner's AC systems can be mixed and matched with hydraulic and DC Electric PRO systems with seamless integration.

All AC components are selected from top brand manufacturers ensuring the best quality and worldwide support. Standard range is designed for 230V / 400V. Setup for alternative power supply specifications can be delivered on request.

## Benefits

- Continuous use
- Controlled power
- Reliability
- S-Link™ operating system
- Custom-made, ready to install with Plug & Play wiring
- The choice of leading boatbuilders
- DNV type approval for specific models
- Cost efficient, high quality components
- Suitable for joystick and DP integration



## Specific models



### Complete AC thruster kit including

- PDC 301 drive controller
- Variable Frequency Drive (VFD)
- Gearleg with propellers and bracket
- Flexible coupling
- AC motor
- EMC filter

### Product features

-  S-LINK™
-  SEALED DRIVE LUBRICATION
-  GRAVITY FEED
-  Q-PROP™
-  GALVANIC SEPARATION (OPTIONAL)
-  PRO™

### Technical details

Ideal Vessel Class	Motor boat, Sail boat
Ideal Vessel Size	13–55 m / 42–175 ft
Power	AC 230/400V
Thrust cont.	240–1200 kg / 529–2646 lbs
Thrust max.	240–1400 kg / 529–3086 lbs
Tunnel diameter	250–610 mm
Placement	Bow / Stern

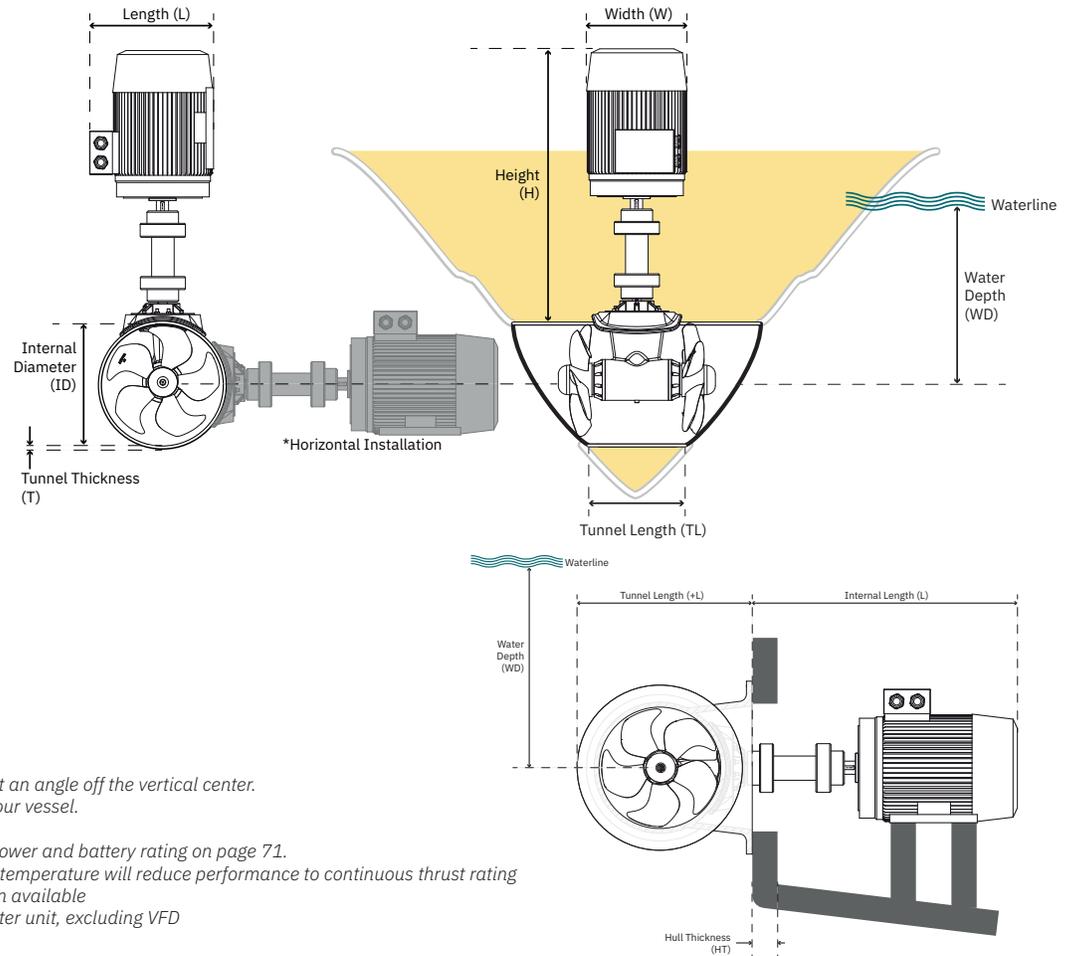
Image courtesy of Sunseeker Inc.



For leisure usage

	SAC240	SAC320	SAC360	SAC450	SAC520	SAC520
Continuous Thrust (kg)	240	280	360	450	450	520
Thrust, max. (kg) <sup>1</sup>	-	320	-	-	520	-
Power Output (kW • Hp)	14 • 19	21 • 27	27 • 37	28 • 38	35 • 48	35 • 48
Ideal Vessel Size (m/ft)	13-23/42-75	17-31/55-100	18-33/59-108	22-35/75-110	25-40/85-140	25-40/85-140
Internal Diameter (mm)	250	300	300	386	386	386
CE approved	Yes	Yes	Yes	Yes	Yes	Yes
PRO™	Yes	Yes	Yes	Yes	Yes	Yes
Control system	S-Link™	S-Link™	S-Link™	S-Link™	S-Link™	S-Link™
Q-PROP™	Yes	Yes	Yes	Yes	Yes	Yes
Propulsion system	Twin Counter					
Lubrication	Sealed	Sealed	Gravity feed	Gravity feed	Gravity feed	Gravity feed
Galvanic separation <sup>2</sup>	No	No	No	No	No	No

Bow	Description (mm)
(H)	Height
(L)	Length
(W)	Width
(ID)	Internal Diameter
(WD)	Water Depth
(TL)	Recommended Tunnel Length
(TL min.)	Minimum Tunnel Length
(T min.)	Minimum Tunnel Wall Thickness
(T max.)	Maximum Tunnel Wall Thickness
Stern	
(L)	Internal Length
(+L)	Tunnel Length
(WD)	Stern Water Depth
(HT)	Maximum Hull Thickness



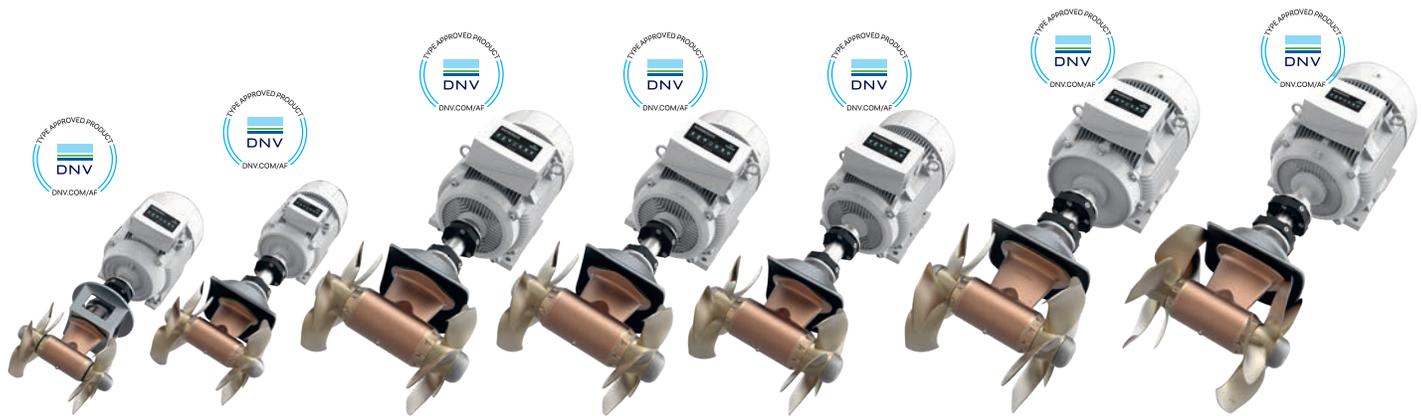
Sleipner thrusters can be installed at an angle off the vertical center. Tailor to fit any space available in your vessel.

Please see note regarding thruster power and battery rating on page 71.

<sup>1</sup> Max thrust is available until motor temperature will reduce performance to continuous thrust rating

<sup>2</sup> Isolation kit for galvanic separation available

<sup>3</sup> Weight stated is for complete thruster unit, excluding VFD



**For heavy duty usage**

SAC400	SAC700	SAC750	SAC900	SAC1100	SAC1100	SAC1300/610-I	SAC1400/610-I
400	700	600	750	900	1100	1100	1200
-	-	750	900	1100	-	1300	1400
30 • 41	42 • 57	41 • 56	53 • 72	70 • 95	70 • 95	74 • 101	83 • 113
18-33/59-108	29-44/95-145	29-44/95-145	30-45/100-150	32-49/105-160	32-49/105-160	40-52/130-170	40-55/130-175
300	412	513	513	513	513	610	610
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
S-Link™	S-Link™	S-Link™	S-Link™	S-Link™	S-Link™	S-Link™	S-Link™
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Twin Counter	Twin Counter	Twin Counter	Twin Counter	Twin Counter	Twin Counter	Twin Counter	Twin Counter
Gravity feed	Gravity feed	Gravity feed/ On water change					
No	No	No	No	No	No	No	No

Measurements (mm)	H	L	W	ID	WD	TL	TL min.	T min.	T max.	Weight <sup>3</sup> kg
SAC240/250 (horizontal version)	688	347	262	250	380	550	300	7	10	68
SAC240/250 (vertical version)	688	347	262	250	380	550	300	7	10	68
SAC320/300 (horizontal version)	703	347	262	300	450	550	300	10	10	71
SAC320/300 (vertical version)	703	347	262	300	450	550	300	10	10	71
SAC360/300 (horizontal version)	774	397	313	300	450	550	370	10	10	105
SAC360/300 (vertical version)	774	397	313	300	450	550	370	10	10	105
SAC400/300 (horizontal version)	774	397	313	300	450	550	370	10	10	111
SAC400/300 (vertical version)	774	397	313	300	450	550	370	10	10	111
SAC450/386 (horizontal version)	999	439	356	386	580	750	500	10	15	189
SAC450/386 (vertical version)	999	439	356	386	580	750	500	10	15	189
SAC520/386 (horizontal version)	999	439	356	386	580	750	500	10	15	189
SAC520/386 (vertical version)	999	439	356	386	580	750	500	10	15	189
SAC700/412 (horizontal version)	964	439	356	412	620	800	550	12	16	205
SAC700/412 (vertical version)	964	439	356	412	620	800	550	12	16	205
SAC750/513 (horizontal version)	1079.5	496	396	513	700	1000	750	12	22	330
SAC750/513 (vertical version)	1079.5	496	396	513	700	1000	750	12	22	330
SAC900/513 (horizontal version)	1193.5	563	449	513	700	1000	750	12	22	450
SAC900/513 (vertical version)	1193.5	563	449	513	700	1000	750	12	22	450
SAC1100/513-C (horizontal version)	1303.5	642	495	513	770	1000	750	12	22	450
SAC1100/513-C (vertical version)	1303.5	642	495	513	770	1000	750	12	22	450
SAC1100/513-I (horizontal version)	1193.5	563	449	513	770	1000	750	12	22	575
SAC1100/513-I (vertical version)	1193.5	563	449	513	770	1000	750	12	22	575
SAC1300/610 (horizontal version)	1305	712	555	610	900	1000	750	14	24	680
SAC1300/610 (vertical version)	1305	712	555	610	900	1000	750	14	24	680
SAC1400/610 (horizontal version)	1305	712	555	610	900	1000	750	14	24	740
SAC1400/610 (vertical version)	1305	712	555	610	900	1000	750	14	24	740

# Hydraulic tunnel thrusters

Power from 100 kg to 1400 kg and continuous operation make a hydraulic thruster system ideal for yachts, super yachts and professional vessels. It is the natural choice when extensive thruster usage or long run cycles are required.

For all the hydraulic components to be compatible and maintain the same high quality, Sleipner offers complete hydraulic systems with guaranteed performance. Sleipner hydraulic systems use only brand-name hydraulic components, ensuring reliability and easy worldwide access to spare parts and service.

The innovative S-Link™ control system ensures fast and trouble-free installation, and gives you the unique option to combine hydraulic and AC thrusters in a single control environment.

All hydraulic systems are delivered ready-to-use to provide a straightforward installation and the highest degree of quality assurance.

## Benefits

- Continuous use
- Controlled power
- Reliability
- S-Link™ operating system
- Custom-made, ready to install with Plug & Play wiring
- The choice of leading boatbuilders
- Full documentation
- DNV type approval for specific models
- Suitable for joystick and DP integration



## Specific models



### Product features

-  S-LINK™
-  SEALED DRIVE LUBRICATION
-  GRAVITY FEED LUBRICATION
-  Q-PROP™
-  PRO™

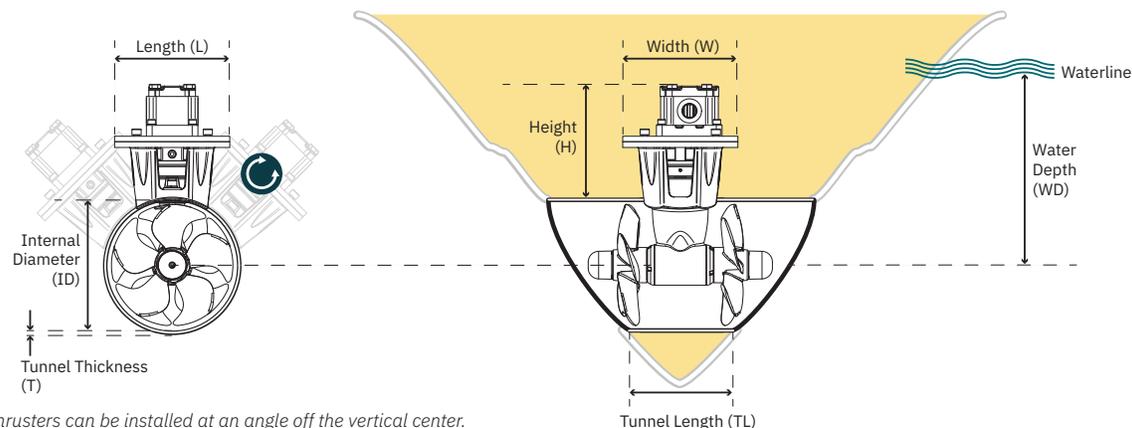
### Technical details

Ideal Vessel Class	Motor boat, Sail boat
Ideal Vessel Size	9–55 m / 30–175 ft
Power	HYD
Thrust light duty	100–1100kg/220–2425 lbs
Thrust heavy duty	80–1400 kg /176–3085 lbs
Tunnel diameter	185–610 mm
Placement	Bow / Stern



### For leisure usage

	SH 100	SH 160	SH 240	SH 320C	SH 360
Light duty thrust (kg)	100	160	240	320	-
Heavy duty thrust (kg)	80	140	220	270	360
Ideal Vessel Size (m/ft)	9-16/30-34	11-19/35-62	13-23/42-75	13-23/42-75	18-33/59-108
(ID) Internal Diameter (mm)	185	215	250	300	300
Power Output (kW • Hp)	6.9 • 9.3	10.0 • 13.4	14.9 • 20	17.4 • 23.3	27 • 37
Q-PROP™	Yes	Yes	Yes	Yes	Yes
Propulsion system	Twin	Twin	Twin Counter	Twin Counter	Twin Counter
Lubrication	Sealed	Sealed	Sealed	Sealed	Gravity feed



Sleipner thrusters can be installed at an angle off the vertical center. Tailor to fit any space available in your vessel.

Bow	SH100/185T	SH 160/215 T	SH 240/250 TC	SH 320/300TC	SH 360/300 TC
(ID) Internal Diameter (mm)	185	215	250	300	300
Weight <sup>1</sup> (kg)	7.8	11.4	13.5	17.16	26
(H) Height (mm)	215	195	235	245	356
(L) Length (mm)	203	203	203	258	258
(W) Width (mm)	203	203	203	258	258
(ID) Internal Diameter (mm)	185	215	250	300	300
(WD) Water Depth (mm)	200	215	250	300	450
(TL) Rec. Tunnel Length (mm)	340	560	600	550	550
(TL min.) Minimum Tunnel Length (mm)	170	280	300	370	370
(T min.) Min. Tunnel Wall Thickness	4	6	7	10	10

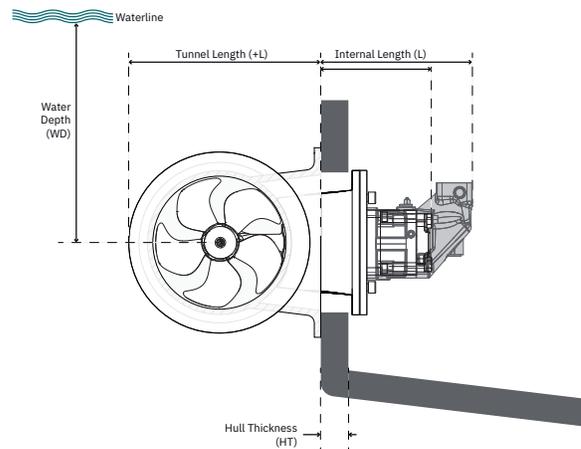
Stern	SH100/185T	SH 160/215 T	SH 240/250 TC	SH 320/300TC	SH 360/300 TC
(L) Internal Length (mm)	405	172	912	195	310
(+L) Tunnel Length (mm)	705	300	340	420	420
(WD) Stern Water Depth (mm)	770	215	250	300	300
(HT) Maximum Hull Thickness	120	54	60	60	60
Stern thruster kit	90086i	90135i	90140i	90200i	90350
Cowls - short model	90075	-	-	-	-
Cowls - long model	90077	90136	90132	90220	-

Please see note regarding thruster power and battery rating on page 71.

<sup>1</sup> Weight of hydraulic motor comes in addition



For leisure usage		For heavy duty usage			
<b>SH 420</b>	<b>SH 550</b>	<b>SH 400</b>	<b>SH 700</b>	<b>SH 1000</b>	<b>SH 1400</b>
-	550	-	-	1100	-
420	500	400	700	1000	1400
22-35/75-110	25-40/85-140	18-33/59-108	29-44/95-145	30-45/100-150	40-55/130-175
386	386				
31.8 • 42.6	39.9 • 53.5	30 • 41	43.4 • 58.2	59.8 • 80.2	80.1 • 107.4
Yes	Yes	Yes	Yes	Yes	Yes
Twin Counter	Twin Counter	Twin Counter	Twin Counter	Twin Counter	Twin Counter
Gravity feed	Gravity feed	Gravity feed	Gravity feed	Gravity feed/On water change	Gravity feed/On water change



SH 420/386 T	SH 550/386 T	SH 400/300	SH 700/412	SH 1000/513	SH 1400/610
386	386	300	412	513	610
46	56	31	72-76	168-182	211
369	369	356	450	486	500
268	268	258	268	398	398
268	268	258	268	398	398
386	386	300	412	513	610
580	580	450	620	750	900
750	750	550	800	1000	1000
500	500	370	550	750	750
10	10	10	16	16	18

SH 420/386 T	SH 550/386 T	SH 400/300	SH 700/412	SH 1000/513	SH 1400/610
257	257	305	n. a.	405	470
540	540	422	n. a.	705	820
380	380	300	n. a.	770	915
54	54	60	n. a.	120	145
90550	90550	90350	90700	91000	91400
-	-	N/A	N/A	N/A	N/A
90560	90560	N/A	N/A	N/A	N/A



# Hydraulic power systems

Sleipner's hydraulic power systems are designed for ultimate flexibility to support all hydraulic components onboard, including thrusters and stabilizers. A hydraulic system offers immense savings on space and labor cost, considering that essentially all necessary parts are pre-installed, wired, and adjusted.

A hydraulic system makes sound economic sense for many vessels as several functions can run off one central hydraulic source. Once the primary system is in place, including the pump, reservoir, and cooler, adding a function is simply a matter of adding a relatively inexpensive hydraulic valve. This approach is more efficient and cost-effective than running each part with its own electric motor, solenoid, fuse, and battery switch, especially with larger equipment.

Hydraulic valves and motors are better choices in harsh environments such as the forepeak, bilge, and transom areas and installations requiring ignition protection. Typical hydraulic applications are thrusters, stabilizers, winches, capstans, cranes, and so on.

For all the hydraulic components to be compatible and maintain the same high quality, Sleipner offers complete

hydraulic systems with guaranteed performance. Sleipner hydraulic systems use only brand-name hydraulic components, ensuring reliability and easy worldwide access to spare parts and service.

The hydraulic pumps are based on the well-proven and reliable load sense principle, ensuring high efficiency, low noise, and low heat generation.

The system's brain is the PHC-3 with real-time component diagnostics on both the integrated LCD panel and at the helm. Installed directly on the tank, it provides below deck access to diagnostics and local configuration of parameters.

All hydraulic systems are delivered ready-to-use to provide a straightforward installation and the highest degree of quality assurance.

## Benefits

- Compact-sized units and easy maintenance
- Delivered pre-fitted with all components adjusted
- Advanced real-time diagnostics
- S-Link™ operating system
- Plug & Play wiring
- Available as standard or customized by our hydraulic expert engineers
- Bulkhead and floor installation options
- Delivered with complete system-specific documentation
- Load sensing hydraulic pumps for optimal efficiency
- Easy firmware update through S-Link™

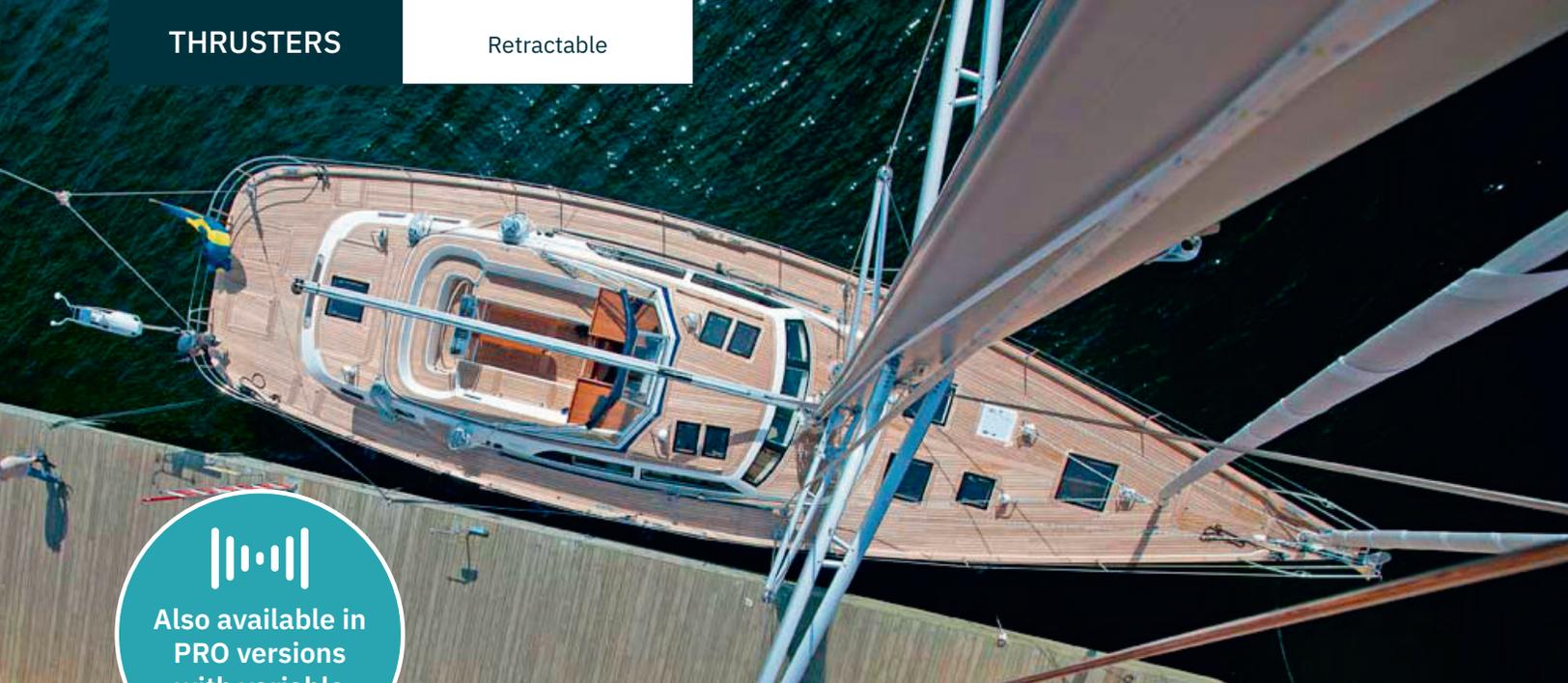


#### Product features

-  HYDRAULIC
-  S-LINK™
-  DIAGNOSTIC MONITORING

#### Technical details

Ideal Vessel Class	Yacht, Super Yacht, Commercial
Ideal Vessel Size	9–55 m / 30–175 ft
Power Source	Main engine / Generator
Reservoir	Powder coated stainless steel
Placement	Bulkhead / Floor
Control System	S-Link™



Also available in  
PRO versions  
with variable  
speed control

## Retractable thrusters

The obvious solution for cruiser-racers and flat-bottomed boats. Sleipner's retractable thrusters are designed with a focus on practical sturdiness, uncompromised safety and quick deployment.

If you have a performance boat, sail, or power, and you're worried about the smallest amounts of drag, a retractable thruster is the perfect solution for you.

The retracting thrusters are generally built with the same high safety standards as all Sleipner products. Our focus on safety is a totally integral part of the product design so that everything from build quality to ease of installation is thought of to ensure long term reliability.

There are three versions of the retractable thrusters, one model design for direct mold-in, and two designed to be mounted on a flange. The flange can be a mold-in base from Sleipner, or the boat builders can manufacture their own base in materials suited for their hulls or as part of their basic hull design.

The flange mounted models have a thruster unit in a casing that will be bolted to a base. This allows for easier installation in hulls made from different materials, as well as in series production where you do not need to mix laminating and engineering type jobs.

The underwater mechanism's unique design has only a few but very sturdy parts contributing to the moving assembly's stability. The unit's design makes the thruster as compact as possible while enabling the safe use of heavier motors on the more powerful units. The motors' vertical installation (SRV) reduces the impact forces on the assembly in extreme waves compared to motors fitted at an angle.

If height limitation is an issue on your vessel, the SRL has the market's most compact build concerning height.

### Benefits

- Fitted as bow and/or stern thruster
- Quiet operation
- Plug and play S-Link™ two way communication control cable wiring
- Easy to use control panel with status feedback from thruster
- Motor assembly rigid mounted on retracting casing - no moving parts during retracting operation
- Reliable retracting mechanism, avoids sticking
- Fast deployment time
- Compact size



**Scan and watch**  
See customer reviews  
on our video channel

**Product features**

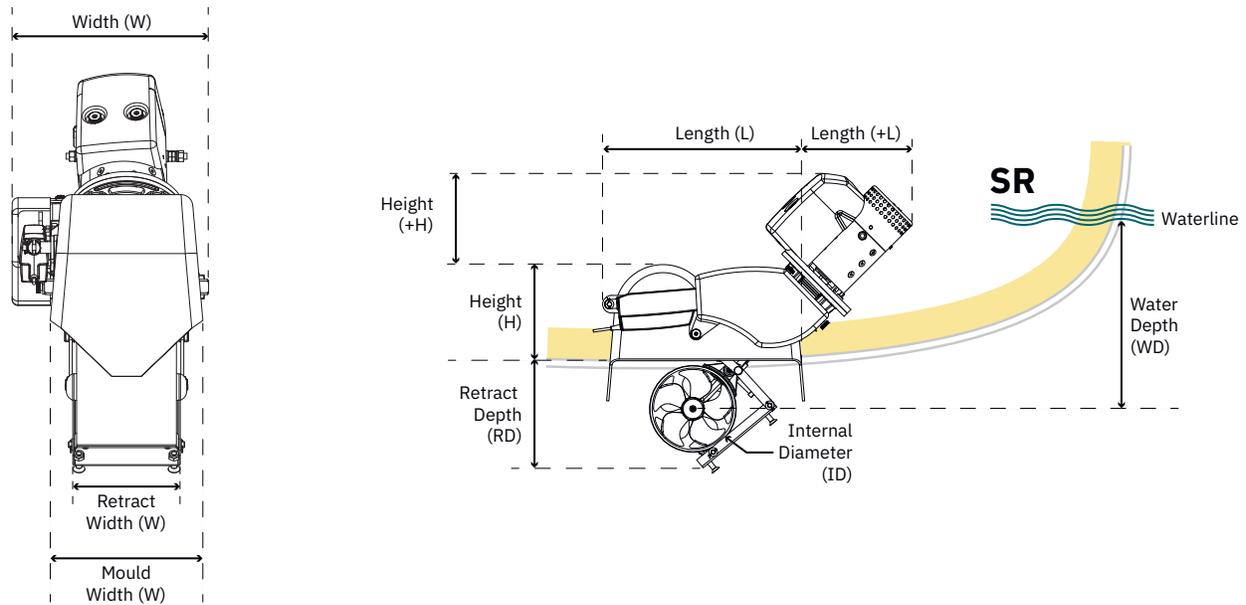
-  INTELLIGENT POWER CONTROL
-  SEALED DRIVE LUBRICATION
-  GALVANIC SEPARATION
-  Q-PROP™
-  S-Link™
-  GRAVITY FEED LUBRICATION (Ø300MM TUNNELS)

**Technical details**

Ideal Vessel Class	Motor boat, Sail boat
Ideal Vessel Size	10–34m / 35–110ft
Power	DC 12/24/48V
Thrust	80–340kg / 212–749lbs
Tunneldiameter	185–300 mm
Placement	Bow / Stern



SR SERIES DC	SR80	SR100	SRL80	SRL100	SRL130	SRL170
						12/24V
Thrust at 12/24V (kg)	96	116	96	116	160	210
Thrust at 10.5/21V (kg)	80	100	80	100	130	170
Ideal Vessel Size (m/ft)	10-15/35-48	12-17/35-55	10-15/35-48	12-17/35-55	13-19/42-62	15-22/50-70
Internal Diameter (mm)	185	185	185	185	250	250
Propulsion System	Twin	Twin	Twin	Twin	Twin	Twin Counter
Power Output (kW • Hp)	4.4 • 6	6.3 • 8.4	4.4 • 6	6.3 • 8.4	6.5 • 8.7	8 • 11.8
Power requirement (V)	12/24V	12/24V	12/24V	12/24V	12/24V	24V
Weight (kg)	31	44	31	44	82	88
Min. Battery CCA* (DIN)	550/300	750/400	550/300	750/400	750/400	560

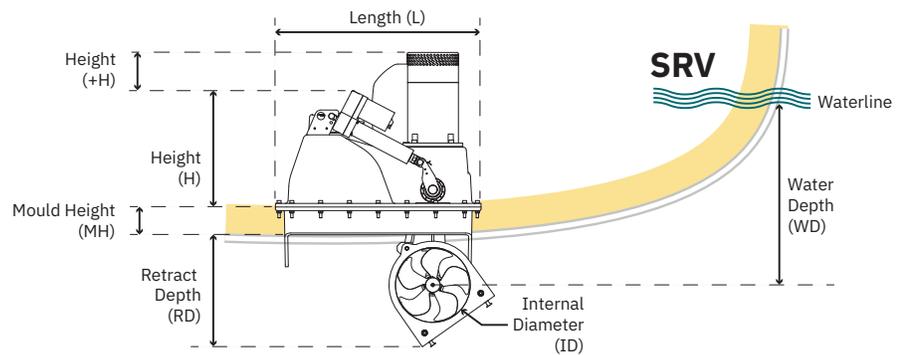
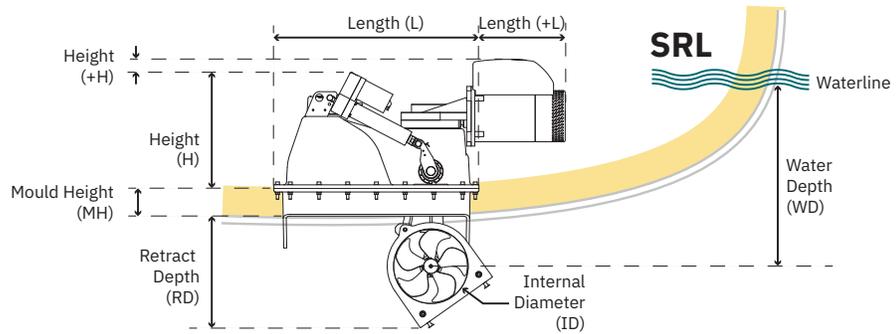
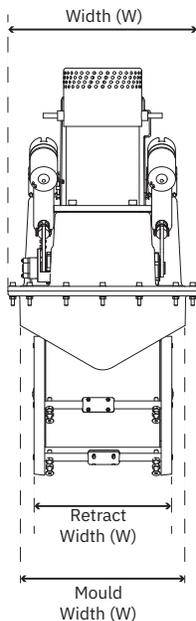
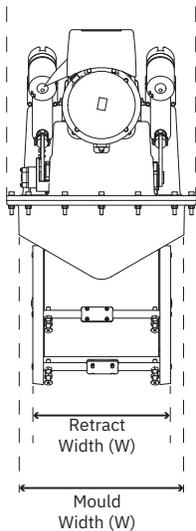


SR DC	SR80	SR100	SRL80	SRL100	SRL130	SRL170	SRV80	SRV100	SRV130	SRV170	SRV210	SRV300
	12/24V	12/24V	12/24V	12/24V	12/24V	24V	12/24V	12/24V	12/24V	24V	24V	48V
(H) Height (mm)	245	245	243	243	391/390	389	243	243	390	390	389	452
(+H) Add.Height (mm)	167/170	212/205	93/96	129/128	23	44	169/184	226/221	104/110	128	211	172
(L) Length (mm)	459	459	561	561	688	688	561	561	688	688	688	843
(+L) Add. Length (mm)	260/244	258/288	230/245	287/281	264/269	289	-	-	-	-	-	-
(W) Width (mm)	335	335	359	359	480	480	359	359	480	480	480	580
(ID) Internal Diam. (mm)	185	185	185	185	250	250	185	185	250	250	250	300
(WD) Water Depth (mm)	185	185	185	185	250	250	185	185	250	250	250	300
(RD) Retract Depth (mm)	278	278	276	276	374	374	276	276	374	374	374	445
(RW) Retract Width (mm)	183	183	195	195	348	348	195	195	348	348	348	415
(MW) Mould Width (mm)	260	260	257	257	420	420	257	257	420	420	420	480
(MH) Mould Height (mm)	-	-	62	62	93	93	62	62	93	93	93	115

Please see note regarding thruster power and battery rating on page 71.

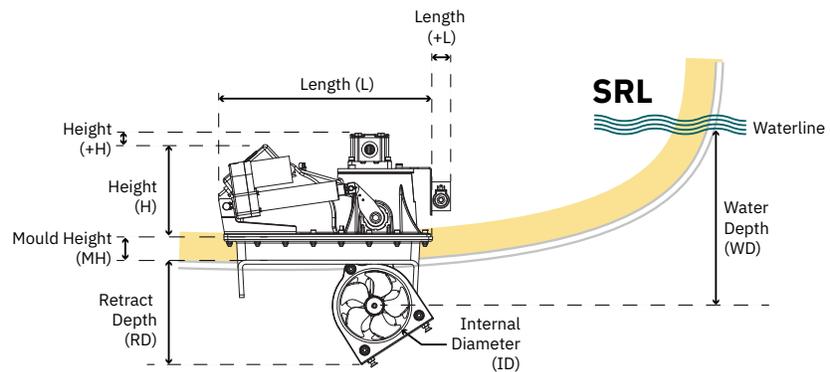
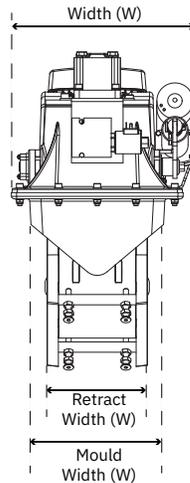


SRV80	SRV100	SRV130	SRV170	SRV210	SRV300
12/24V	12/24V	12/24V	24V	24V	48V
96	116	160	210	250	340
80	100	130	170	210	300
10-15/35-48	12-17/35-55	13-19/42-62	15-22/50-70	17-24/55-78	22-30/72-98
185	185	250	250	250	300
Twin	Twin	Twin	Twin Counter	Twin Counter	Twin Counter
4.4 • 6	6.3 • 8.4	6.5 • 8.7	8 • 11.8	10 • 13.5	15 • 20
12/24V	12/24V	12/24V	24V	24V	48V
31	44	82	88	112	120
550/300	750/400	750/400	560	560	400



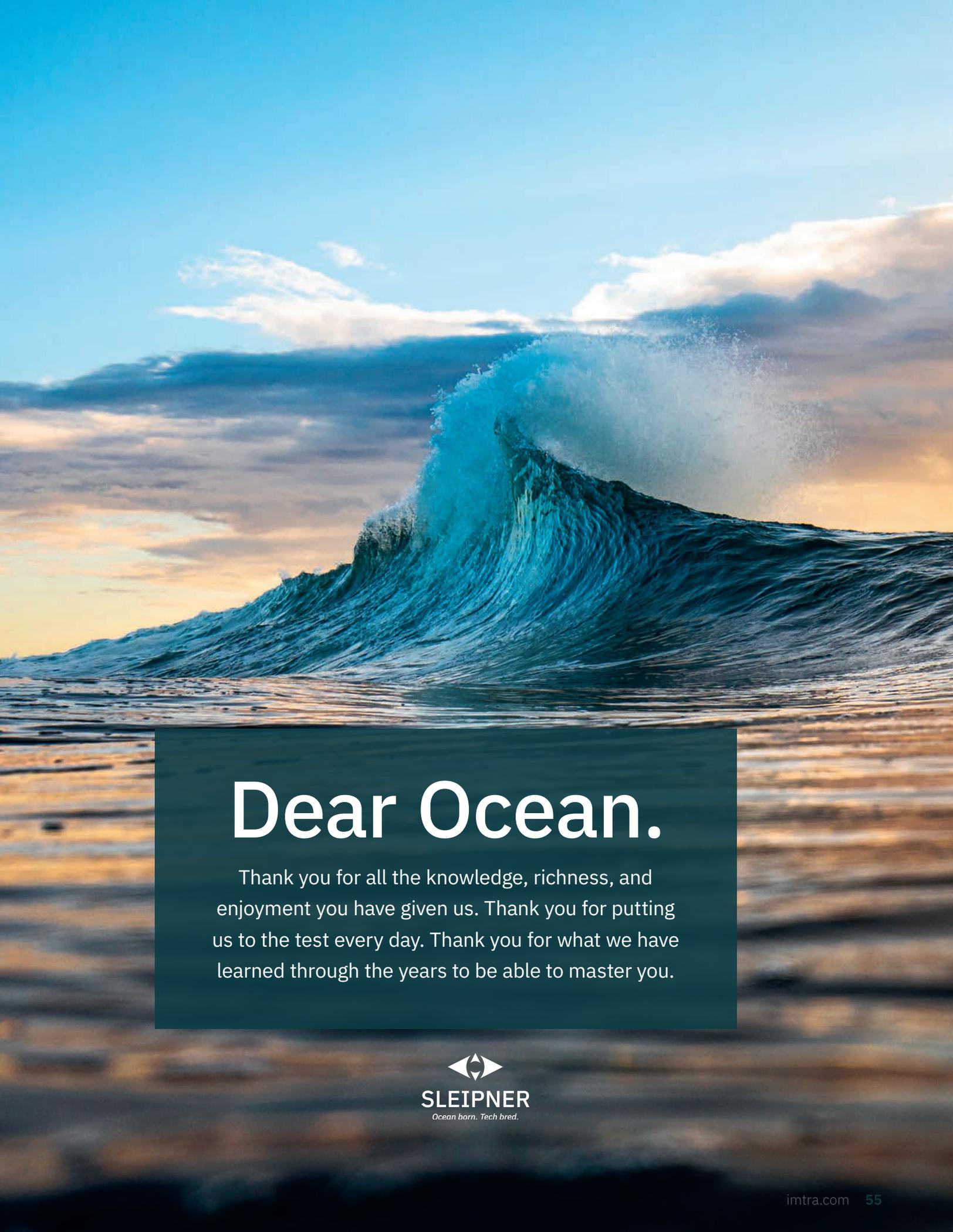


	SRAC320	SRHP240	SRHP320
Light Duty Thrust (kg)	320	240	320
Ideal Vessel Size (m/ft)	22-34/72-110	13-23/42-75	22-34/72-110
Internal Diameter (mm)	300	250	300
Power Output (kW• Hp)	21 • 27	14 • 19	21 • 27
Motor (Product power)	AC	HYD	HYD
Weight (kg)	140	82	88
Installation	Flange	Flange	Flange
CE approved	Yes	Yes	Yes
PRO™	Yes	Yes	Yes
Control System	S-Link™	S-Link™	S-Link™
Q-PROP™	Yes	Yes	Yes
Propulsion System	Twin Counter Rotating	Twin Counter Rotating	Twin Counter Rotating
Sealed Drive Lubrication	Yes	Yes	Yes
Galvanic Separation	No	No	No
Mould-in frame	TBA*	TBA*	TBA*



	SRAC320	SRHP240	SRHP320/300TC
	<b>AC electric</b>	<b>Hydraulic</b>	<b>Hydraulic</b>
(H) Height (mm)	455	390	455
(+H) Additional Height (mm)	TBA*	TBA*	TBA*
(L) Length (mm)	843	688	843
(+L) Additional Length (mm)	-	42	-
(W) Width (mm)	580	481	580
(ID) Internal Diameter (mm)	300	250	300
(WD) Water Depth (mm)	300	250	300
(RD) Retract Depth (mm)	445	361	445
(RW) Retract Width (mm)	415	347	415
(MW) Mould Width (mm)	480	414	480
(ML) Mould Length (mm)	*	*	*
(MH) Mould Height (mm)	115	98	115

\*Contact Imtra for more information



# Dear Ocean.

Thank you for all the knowledge, richness, and enjoyment you have given us. Thank you for putting us to the test every day. Thank you for what we have learned through the years to be able to master you.





## External thrusters

Sleipner's external thrusters are as compact as it gets and offer many attractive benefits for boat builders as well as retrofit installations. The versatile installation and compact size make them the perfect choice for vessels where the inside configuration does not allow for a standard thruster installation.

DC electric external thrusters are typically mounted underneath the hull in a streamlined hydrodynamic pod as a bow and stern thruster and are best suited on displacement or semi-planing hulls. The optimal design adds minimal drag and will, in most installations, not be noticeable.

Due to their positioning at the outermost extremities of a hull, exterior-mounted thrusters benefit significantly from an increased leverage arm in relation to the pivot point on a boat's hull. Their greater efficiency means they can move larger size boats by requiring nominally less power than conventional thrusters.

The dedicated stern thruster models save internal space, install quickly, and can be fitted with cowls if necessary to direct water flow away from any obstacles on

the stern. With the latest addition of the SX35 and SX50 to Sleipner's external thruster program, even more boats can find space for a stern thruster as these units are the world's most compact external thrusters.

Shared benefits for external thrusters are longer run times, as the surrounding water naturally cools the units. They offer quick and easy installation without the need for fiberglass work.

Another benefit is that these thrusters operate remarkably quiet with their short, optimal tunnel design and submerged placement.

If you previously could not fit a thruster, these models might offer you the perfect solution you have been missing.

### Benefits

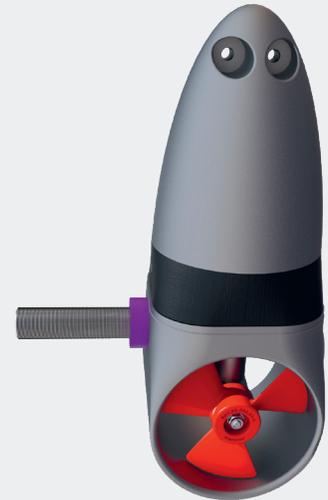
- Fits where other thrusters won't
- Easy installation that fits many hull shapes and materials. No fiberglass works necessary
- Patented Intelligent Power Control (IPC) protection
- Ultra compact
- Minimal noise emission
- Ignition protected
- Long run times
- Optimal efficiency
- Minimal drag
- Fitted as bow and/or stern thruster



SX35/50



SX80/100



EX SINGLE/COMPACT/DUAL

### Product features

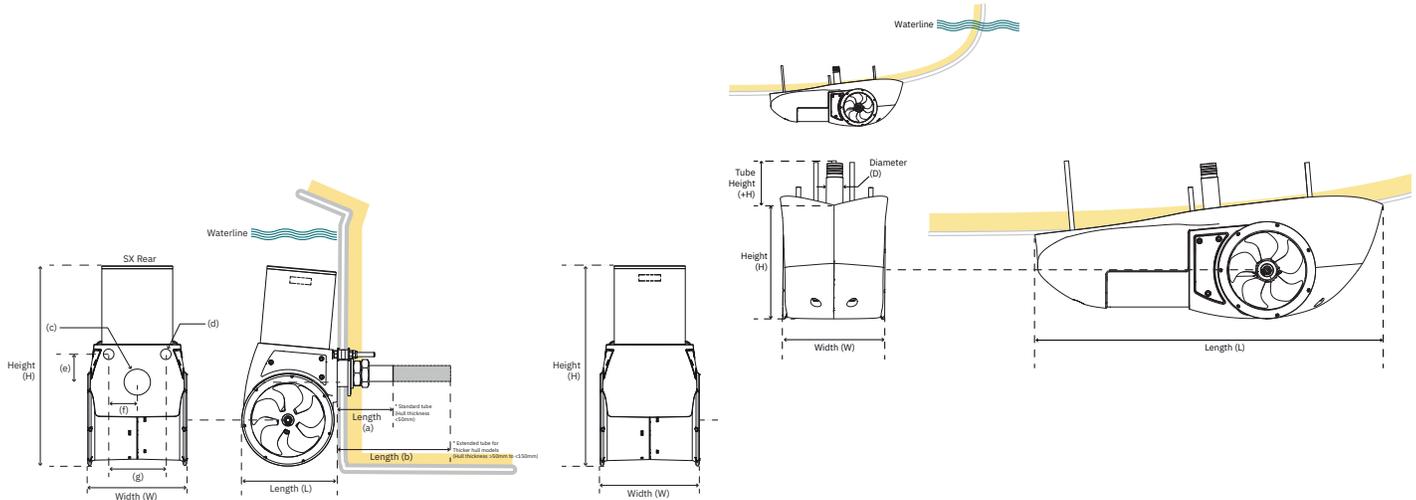
-  IGNITION PROTECTION
-  INTELLIGENT POWER CONTROL
-  SEALED DRIVE LUBRICATION
-  GALVANIC SEPARATION
-  Q-PROP™

### Technical details

Ideal Vessel Class	Motor boat, Sail boat
Ideal Vessel Size	6–18 m / 20–59 ft
Power	DC 12/24V
Thrust	42–116 kg / 93–256 lbs
Tunnel diameter	140–185 mm
Placement	Bow / Stern



	SX35/140 50MM	SX35/140 150MM	SX50/140 50MM	SX50/140 150MM	SX35/140 50POD	SX50/140 50POD
Thrust at 12/24V (kg)	42	42	62	62	42	62
Thrust at 10.5/21V (kg)	35	35	50	50	35	50
Ideal Vessel Size (m/ft)	6-10/19-32	6-10/19-32	8-11/27-37	8-11/27-37	6-10/19-32	8-11/27-37
Internal diameter (mm)	140	140	140	140	140	140
Propulsion System	Single	Single	Single	Single	Single	Single
Power Output (kW • Hp)	1.8 • 2	1.8 • 2	2.8 • 3.75	2.8 • 3.75	1.8 • 2	2.8 • 3.75
Power requirement (V)	12V	12V	12V	12V	12V	12V
Weight (kg)	15.3	15.3	15.3	15.3	15.3	15.3
Min. Battery CCA (DIN)	200	200	350	350	200	350
Item Code 12V	SX35/140-12V-50MM	SX35/140-12V-150MM	SX50/140-12V-50MM	SX50/140-12V-150MM	SX35/140-12V-50POD	SX50/140-12V-50POD
Item Code 24V	-	-	-	-	-	-
Item Code 12V PRO	SXP35/140-12V-50MM	SXP35/140-12V-150MM	SXP50/140-12V-50MM	SXP50/140-12V-150MM	SXP35/140	SXP50/140
Item Code 24V PRO	-	-	-	-	-	-
Cowls	COWL-SX35/50	COWL-SX35/50	COWL-SX35/50	COWL-SX35/50	COWL-SX35/50	COWL-SX35/50

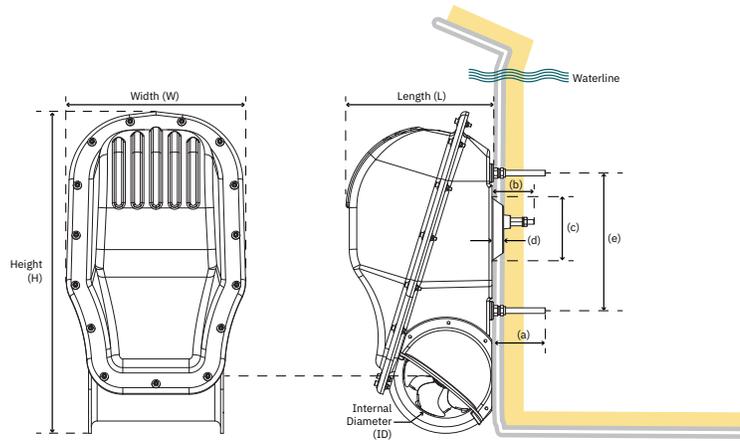


	SX35/140 -12V-50MM	SX35/140 -12V-150MM	SX50/140 -12V-50MM	SX50/140 -12V-150MM	SX35/140 -12V-50POD	SX50/140 -12V-50POD
	12V	12V	12V	12V	12V	12V
(H) Height (mm)	374	374	374	374	180	180
(+H) Additional Height (mm)	-	-	-	-	183	183
(L) Length (mm)	171	171	171	171	630	630
(+L) Additional Length (mm)	171	276	171	276	-	-
(W) Width (mm)	183	183	183	183	183	183
(a)	35.8	35.8	35.8	35.8	-	-
(b)	50	50	50	50	-	-
(c)	18	18	18	18	-	-
(d)	65	65	65	65	-	-
(e)	130	130	130	130	-	-

Please see note regarding thruster power and battery rating on page 71.



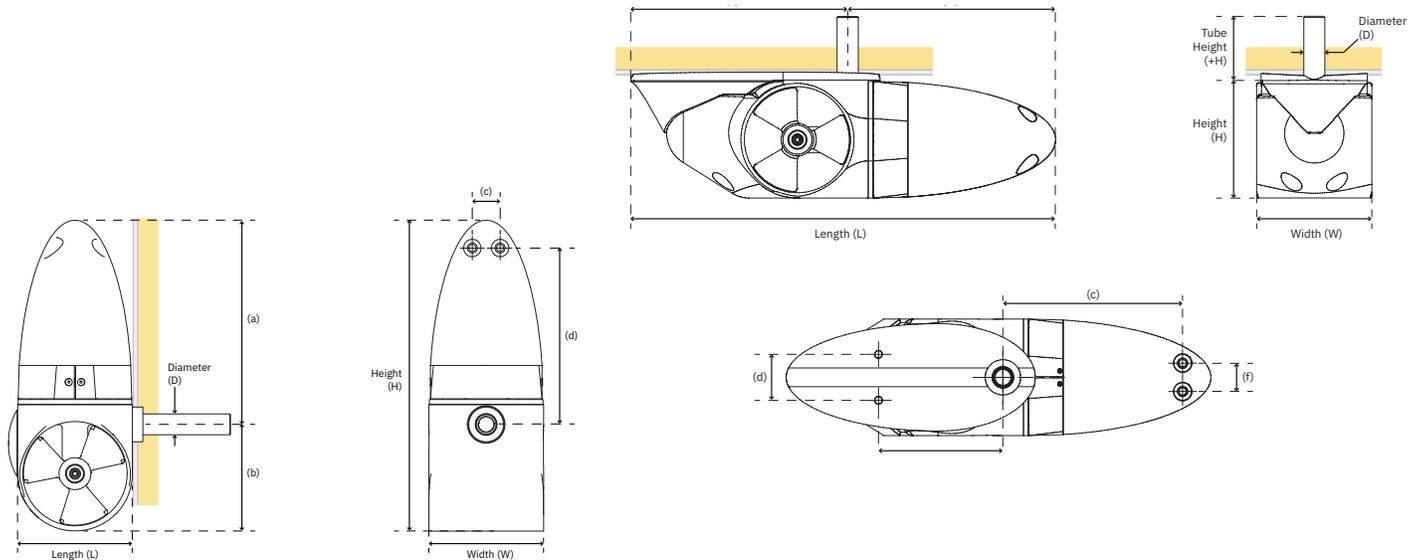
	SX 80/185 T	SX 100/185 T
Thrust at 12/24V (kg)	96	116
Thrust at 10.5/21V (kg)	80	100
Ideal Vessel Size (m/ft)	10-15/35-48	12-17/35-55
(ID) Internal Diameter (mm)	185	185
Propulsion System	Twin	Twin
Power Output (kW• Hp)	4.4 • 5.9	6 • 8.05
Power requirement (V)	12/24	12/24
Weight (kg)	52	57
Min. Battery CCA (DIN)	550	750
Item Code 12V	SX80/185T-12V	SX100/185T-12V
Item Code 24V	SX80/185T-24V	SX100/185T-24V
Item Code 12V PRO	SXP80/185T-12V	SXP100/185T-12V
Item Code 24V PRO	SXP80/185T-24V	SXP100/185T-24V
Cowls	90080	90080



Measurements	SX80	SX100
mm	12/24V	12/24V
(H) Height	692	692
(+H) Additional Height	-	-
(L) Length	314	314
(+L) Additional Length	-	-
(W) Width	361	361
(a)	115	115
(b)	91	91
(c)	140	140
(d)	-	-
(e)	-	-



	EX70C	EX95S
Thrust <sup>1</sup> at 12/24V (kg)	67	67
Thrust <sup>1</sup> at 10.5/21V (kg)	-	-
Ideal Vessel Size (m/ft)	10-15/35-48	10-15/35-48
Internal Diameter (mm)	150	150
Propulsion system	Single	Single
Power Output (kW • Hp)	3.0 • 4.0	3.0 • 4.0
Power requirement (V)	24	24
Weight (kg)	19.5	19.5
Min. Batt. Cap CCA (DIN)	190	190
Item Code 12V	-	-
Item Code 24V	EX70C	EX95S



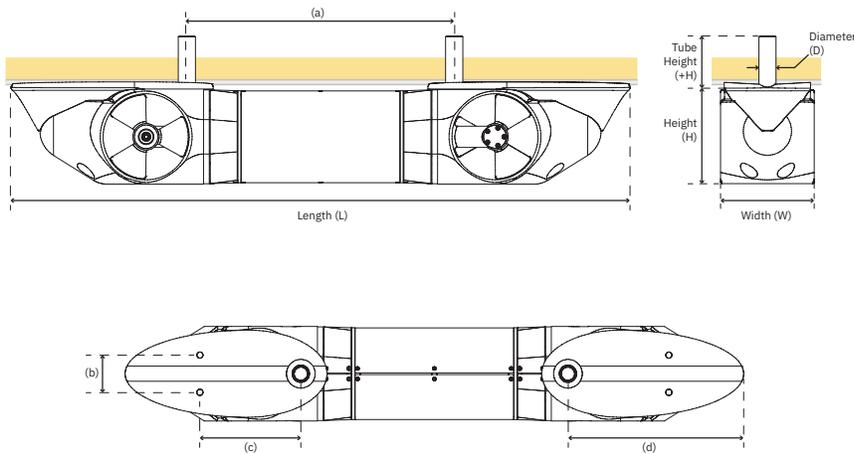
Measurements	EX70C	EX95S
mm	24V	24V
(H) Height	447	165
(+H) Additional Height	-	137.5
(L) Length	165	600
(+L) Additional Length	-	-
(W) Width	165	165
(a)	294	306
(b)	153.5	294
(c)	40	137.5
(d)	254	65
(e)	-	176
(f)	-	254
(g)	-	40

Please see note regarding thruster power and battery rating on page 71.

<sup>1</sup> Performance thrust (kgf x 1.4) equivalent due to increased leverage arm, depth of installation, and short transverse tunnel. Depending on placement and hull shape considerations. Sleiپر recommends installing a tunnel thruster instead of the EX-series on planing hulls, as the EX external unit may cause unwanted spray.



	EX180D
Thrust <sup>1</sup> at 12/24V (kg)	180
Thrust <sup>1</sup> at 10.5/21V (kg)	130
Ideal Vessel Size (m/ft)	14-18/44-59
Internal Diameter (mm)	150
Propulsion System	Dual
Power Output (kW • Hp)	6.0 • 8.0
Power requirement (V)	24
Weight (kg)	35
Min. Batt. Cap CCA DIN	375
Item Code 12V	-
Item Code 24V	EX180D



Measurements	EX180D
mm	24V
(H) Height	165
(+H) Additional Height	152
(L) Length	1079
(+L) Additional Length	-
(W) Width	165
(a)	466
(b)	152
(c)	65
(d)	176
(e)	466
(f)	306
(g)	-

# Control panels and remote controls

Sleipner offers a unique series of intelligent control panels, an essential part of the thruster system. Choose between our compact touch panel, popular joystick control, intuitive docking control, or the exclusive round control panel.

Why not add a remote control for full mobility onboard? Mix or match. The choice is yours!

### Easy installation

- Round cut-out hole (standard size)
- Installs from front
- Pre-fitted O-ring seal
- Multi-voltage 12V/24V

### Safety

- Child-safe on/off system
- Power/control light
- Automatic deactivation
- Easy operation

### Quality

- Waterproof IP65
- UV safe
- CE approved

### Design

- Compact size
- Modern look
- No visible bolts
- Selected models available in black

## ON/OFF



Control Panels	8950	8955	8960	8965	8940	8909
Description	Touchpanel	Round touchpanel	Joystick panel	Boat switch panel	Dual joystick panel	Docking panel
Height (mm)	70	Ø86.5	70	Ø86.5	120	120
Width (mm)	70		70		70	70
Thruster signal	On/Off	On/Off	On/Off	On/Off	On/Off	On/Off
Multi-voltage	Yes	Yes	Yes	Yes	Yes	Yes
Child safety	Yes	Yes	Yes	Yes	Yes	Yes
For PRO DC Speed Control	-	-	-	-	-	-
Item Code Grey	8950 G	8955 G	8960 G	8965	8940 G	8909 C
Item Code Black			8960 S		8940 S	



**PJC211 single and PJC212 dual joystick for PRO™ variable speed control**

- For PRO™ thruster control with S-Link™
- Fingertip control with purpose-designed joysticks
- Hold function enables to set and leave the level of thrust
- System setup via wizard
- Diagnostics via panel/computer interface
- Built-in alarm buzzer
- Connector for external alarm buzzer
- Backlit LCD with instant feedback:
  - System status and diagnostics
  - Indication of power and direction of thrust
  - Interactive multi-language menus



**RC-2 remote controls**

All models operate in the 868Mhz band with a new communication protocol to withstand external interference better. The RCR-2E receiver is compatible with four- and five-lead wire cabling for Sleipner thruster and windlass models. The 8-channel remote RCT-23E operates a dual thruster and a dual windlass configuration. Kits come ready paired from the factory. Extra transmitters are available.

- Two-way communication – audiovisual warning for communication error and low thruster voltage
- External antenna solution for better reception and easier remote placement of the antenna (extension cable available)
- Energy-efficient transmitter, only one battery needed
- Dedicated version for thrusters using S-Link™. 8730 interface is not required



The remote receiver accepts up to four independent transmitters.



8700	PJC211	PJC212	RCS-20 <sup>1</sup>	RC-20 <sup>1</sup>	RC-21 <sup>1</sup>	RC-22 <sup>1</sup>	RC-23 <sup>1</sup>
Touch panel retract	Single joystick PRO	Dual joystick PRO	Remote bow/stern	Remote bow/stern	Remote bow/windl.	Remote windl. x2	Remote bow x2/windl.x2
70	141	141	95	95	95	95	95
70	83	83	48	48	48	48	48
S-Link™ CAN-bus	S-Link™ CAN-bus	S-Link™ CAN-bus	S-Link™ CAN-bus	On/Off	On/Off	On/Off	On/Off
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
-	Yes	Yes	Yes (On/Off only)	-	-	-	-
8700	PJC211	PJC212	RCS-20E/RCS-20U	RC-20E/RC-20U	RC-21E/RC-21U	RC-22E/RC-22U	RC-23E/RC-23U

<sup>1</sup> Please use E type remotes for EU and U type remotes for North America.



## Control panels

### Proportional thruster control

#### PJC2 series

##### Single or dual joystick with integrated LCD display

- Fingertip control with purpose-designed joysticks
- Hold function enables to set and leave the level of thrust
- Compact design
- Backlit LCD with instant feedback:
  - System status and diagnostics
  - Indication of power and direction of thrust
  - Interactive multi-language menus
- S-Link™ CAN-bus communication
- Built-in alarm buzzer
- Connector for external alarm buzzer
- Plug & Play cables, waterproof and compact connectors
- Supports all Sleipner retractable thrusters
- Supports Vector Fins™ on/off control



Control panel	PJC211	PJC212	PJC221	PJC222
Control panel DNV Design Approved*	N/A	N/A	N/A	N/A
For thruster type	DC/AC	DC/AC	DC/AC/HYD	DC/AC/HYD
Display	Integrated	Integrated	Integrated	Integrated
Height (mm)	141	141	141	141
Width (mm)	83	83	83	83
S-Link™ CAN-Bus	Yes	Yes	Yes	Yes
Multi-voltage	Yes	Yes	Yes	Yes
Child safety	Yes	Yes	No	No
Stop function	No	No	Yes	Yes
Thruster operation	Single	Dual	Single	Dual
Joystick type	Spring, hold-button	Spring, hold-button	Spring, hold-button	Spring, hold-button

\*Only available for thruster models with DNV approved gear house

## PJC4 series

Single or dual joystick with stand-alone color LCD display. The bright 3,5" daylight touch screen with an intuitive interface offers an easy day-to-day operation.

**NEW  
2022**



TP-35



- Back-lit touch color LCD with instant feedback:
  - System status and diagnostics
  - Indication of power and direction of thrust
  - Interactive multi-language menus
- IPX7 water ingress rated control panel
- Flush or top mount control panel (HxW: 149x112mm)
- Built-in Wi-Fi module
- S-Link™ CAN-bus communication
- Built-in alarm buzzer
- Plug & Play cables, waterproof and compact connectors
- Dedicated connector for IO signals
- Supports various joystick designs

### Environmental testing

- DNVGL-CG-0339:2019
- IACS E10:2018
- IEC 60945
- IEC 60092-504:2016

### DNV design approved product variant for all available joystick types

- Power supply fault monitoring
- Display of propeller RPM
- Gearleg low oil level monitoring
- Select station, command transfer between multiple operator stations

The PJC4 package consists of joystick of choice and TP-35 control panel.

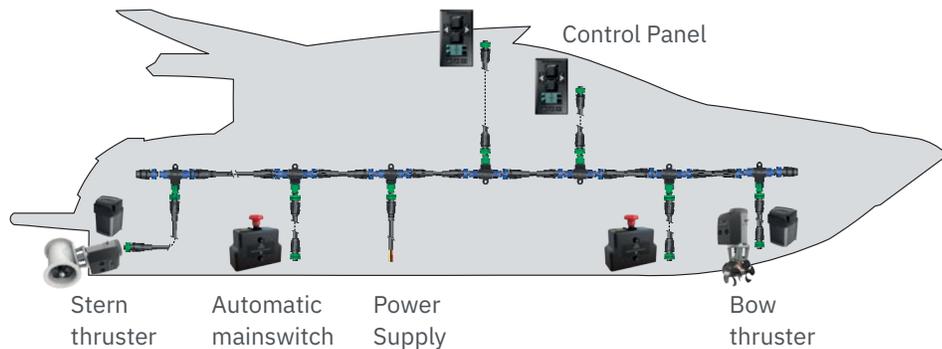


PJC421-PVREL	PJC422-PVREL	PJC421-LE90	PJC422-LE90	PJC421-LF90X	PJC422-LF90X	PJC421-LF90	PJC422-LF90
PJC421-PVREL-DNV	PJC422-PVREL-DNV	PJC421-LE90-DNV	PJC422-LE90-DNV	PJC421-LF90X-DNV	PJC422-LF90X-DNV	PJC421-LF90-DNV	PJC422-LF90-DNV
DC/AC/HYD	DC/AC/HYD	DC/AC/HYD	DC/AC/HYD	DC/AC/HYD	DC/AC/HYD	DC/AC/HYD	DC/AC/HYD
Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone	Stand-alone
123.4	206	96	96	96	96	96	96
105.5	106	96	96	96	96	96	96
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No	No	No	No	No	No	No	No
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Single	Dual	Single	Dual	Single	Dual	Single	Dual
Spring, twist detent	Spring, twist detent	Detent	Detent	Detent	Detent	Detent	Detent

# The S-Link™ system

S-Link™ is a CAN-bus based control system with full intelligent communication between all units in the system, much like a computer network. It is used for all retract thrusters and all PRO™ version thrusters with the DC speed control system.

## S-Link™ system example:



### Advantages

- Round, compact and waterproof plugs with unique keying and color coding to avoid faulty hookup
- Unlimited number of commands or information transfer on a single cable
- User feedback to panel
- Intelligent troubleshooting

### S-Link™ system for boats with two control positions and two DC proportional thrusters.

Depending on the boat's construction, there might be several different ways to route the S-Link™ backbone. Find the most practical way to implement the backbone and remember that the S-Link™ equipment does not need to be connected in a specific order.

Item code	Description	Parts
6 1320-xx	Backbone cable	6 pcs
6 1321-xx	Spur cable	6 pcs
6 1326	T connector	7 pcs
6 1328	Power cable	1 pc
6 1327	End terminator	2 pcs

### S-Link™ cable components



#### Backbone cables

Forms the main "loop" around the boat.

Item code:

- 6 1320-xxM (xx=length)
- 6 1320-0.2M (0.2m)
- 6 1320-2M (2.0m)
- 6 1320-4M (4.0m)
- 6 1320-7M (7.0m)
- 6 1320-10M (10.0m)
- 6 1320-15M (15.0m)
- 6 1320-20M (20.0m)



#### Spur cables

Must be used to connect all parts to the backbone cable (one for each component, no exceptions), recommended to be as short as practically possible.

Item code:

- 6 1321-xxM (xx=length)
- 6 1321-0.4M (0.4m)
- 6 1321-1M (1.0m)
- 6 1321-3M (3.0m)
- 6 1321-5M (5.0m)



#### Power cable

Must be one in each system, length 2.5m

Item code: 6 1328



#### End terminator

Must be one in each end of the backbone "loop".

Item code: 6 1327



#### Backbone extender

Connects two backbone cables to extend length.

Item code: 6 1322



#### T connector

Must be one for each spur, including power cable.

Item code: 6 1326



#### S-Link™ 4-Port T-connector

Allows four spur cable connections in the same device for a more tidy installation with fewer parts. Two sealing caps included for protection.

Item code: 6 1403

# Accessories S-Link™ system



## PRO™ upgrade kit

To upgrade a standard on/off thruster to a PRO™ with variable speed control, you need a PPC Power Control Unit and an upgrade kit for the internal wiring loom. Note that sealed units such as IP and SX thrusters must be upgraded by an authorized Sleipner dealer.



## Automatic main switch for S-Link™

The most user-friendly and safe installation is provided with an automatic main switch/fuse. The main power to the thruster is conveniently controlled by the Sleipner control panel. Added safety is provided by the panel's auto-off and the thruster's overheat sensor, also controlling the main switch. Compact design with flexible mounting options on wall or bulkhead, plug-and-go wiring, heavy terminals allowing double cables.



## S-Link™ Interface

S-Link™ interface to connect footswitch, control panel and radio remote to the S-Link™ system (foot switch, panel and remote not included). Multivoltage 12/24V.



## Gateway

The GW-1 gateway is used to interface NMEA2000 devices and Sleipner's S-Link™ system. The gateway can also be used to interface NMEA 0183 compliant GPS products, enabling S-Link™ products to receive GPS time and position data. Manufacturer can apply for access to parts of Sleipner's S-Link™ protocol, allowing 3rd party products to monitor and control Sleipner's S-Link™ thrusters and stabilizer systems.



## External Signal Interface

The ESI-1 External Signal Interface is used to interface digital IO signals and Sleipner's S-Link™ system. Two analog 4-20mA inputs offer proportional control of S-Link™ compliant bow and stern thrusters. Digital IOs are available for control and feedback signals.



## Foot switch

Foot switch kit suitable for 8730 S-Link™ interface. Kit contains 2 switches with covers to protect from unwanted operation. (Cables from switches to 8730 S-Link™ interface not included)

PPC Unit	Compatible with
PPC520	SE25/30/40/50/60 12V SE30-130 24V
PPC820	all models except 48V
PPC840	48V models

Wiring	Compatible with
8 1997	SR80/100
8 1998	SE50/100/120/210/240/250/ 285/300
8 1999	SE25/30/40/60/80/130/150/170

Main Switch	12V	24V
HxWxD (mm)	175x205x140	
Item code	897712	897724

## S-Link™ Interface

H (mm)	45
W (mm)	80
D (mm)	145
Item code bow thruster	8730 B
Item code stern thruster	8730 S

## GW-1

H (mm)	26
W (mm)	50
D (mm)	127

## ESI-1

H (mm)	156
W (mm)	212
D (mm)	62

## Foot Switch

Diameter (mm)	105
Item code (kit)	8751

## SX35/50 series accessories



### SX extension Block

For stern mount, available in 10 mm and 50 mm.

- Polyurethane spacer allows for easier installation in proximity to stepped and concave surfaces on the transom
- Spacer functions as galvanic isolation for metal hulls

Item code

EXT-SX35/50-10MM

EXT-SX35/50-50MM



### Cowls

- Made of reinforced UV resistant composite material
- Easy installation and retrofit
- Remove cavitation on shallow installations (more thrust, less noise)
- Guide thrust away from flaps or stern drive
- Either preassembled from factory or as retrofit kit.

Item code COWL-SX35/50



### Grid safety kit

- Hydrodynamic shape to reduce resistance
- Removable for cleaning and propeller service
- Either preassembled from factory or as retrofit kit
- Made of reinforced UV-resistant composite material

Item code GRID-SX35/50

## EX series accessories



### Basic installation kit

With two mounting bolts, complete with sealing kit (for EX compact)

Item code 50151



### Installation kit

With streamline rubber adapter, complete with sealing kit (not for EX compact).

Item code 50152



### GRP Adapter

For bow installation on V-shaped hulls.

Item code 50155



### Charger & voltage transformer 12-24V

10A including charging voltage control (VST).

Item code 50211



### Mooring protector

Made of stainless steel for EX-series motor housing, including fixing kit.

Item code 50154

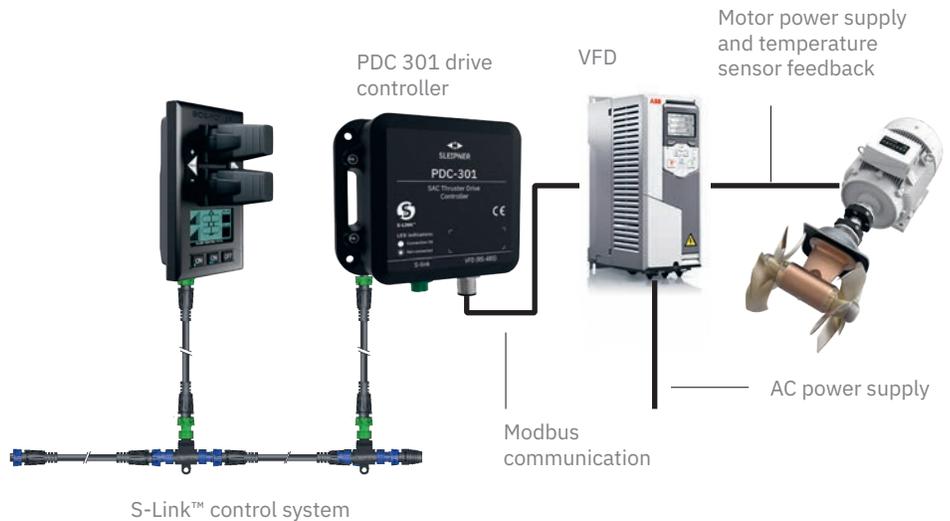
# AC components

**AC Thrusters are delivered as a complete ready to install kit.**

- PDC301 drive controller
- Variable Frequency Drive (VFD)
- Gearleg with propellers and bracket
- Flexible coupling
- AC motor
- EMC Filter

Each AC thruster system is configured according to the specific working conditions and specifications. No further setup of the VFD is required. The PDC301 is configured from the PJC control panel.

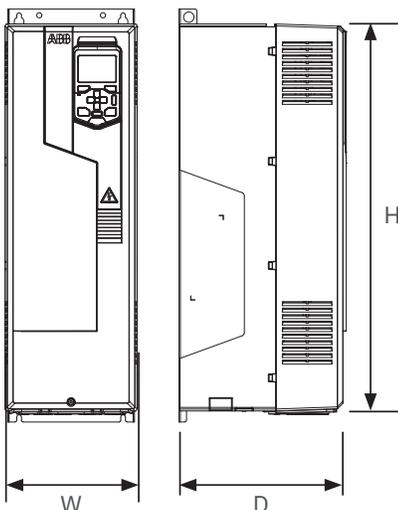
The S-Link™ control system ensures fast and trouble-free installation, and gives you the unique option to combine hydraulic and AC thrusters in a single control environment.



## PDC 301 drive controller

- Communication with VFD by Modbus connection
- Included 3-wire cable for connection to VFD Modbus terminals
- Monitoring and diagnostics
- Firmware upgrade through S-Link™ programmer

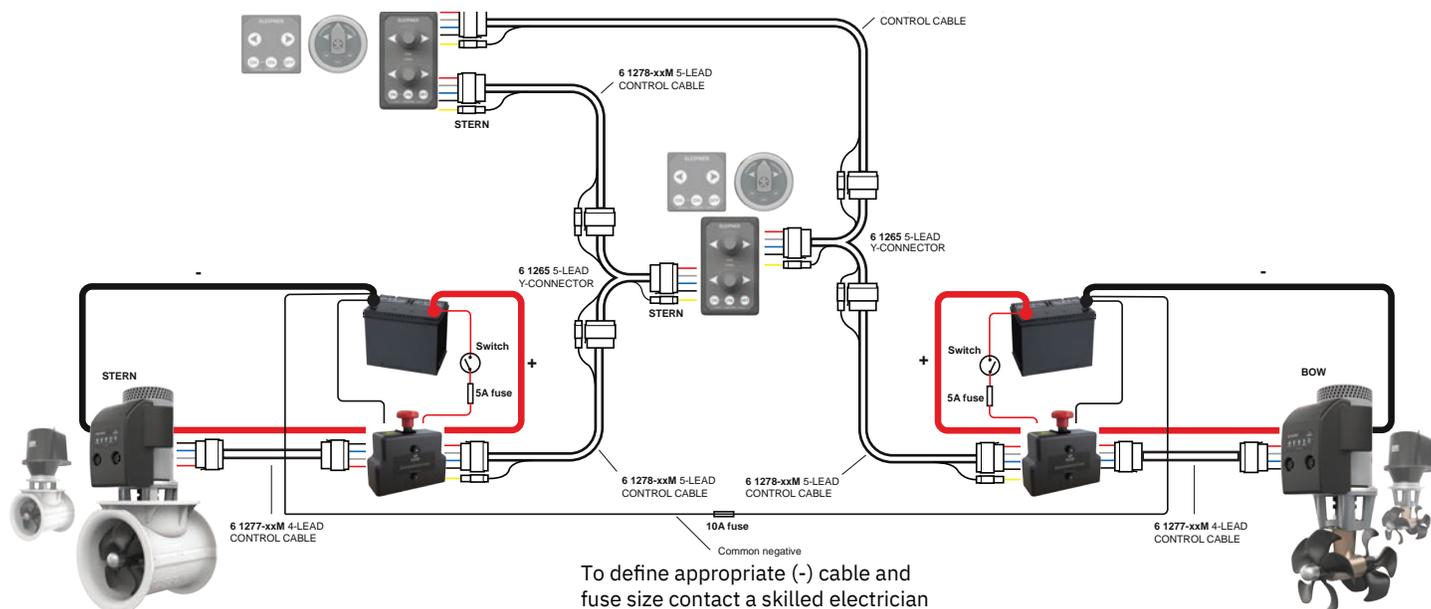
## Variable frequency drive (VFD)



VFD protection: IP21  
IP55 on request

VFD	Thruster model	VFD model	Weight kg	D mm	W mm	H mm
SAC240	SAC240/250-C-2-x <sup>2</sup>	ACS580-01-047A-2	11,8	228	203	454
	SAC240/250-C-4-x <sup>2</sup>	ACS580-01-033A-4	11,8	228	203	454
SAC320	SAC320/300-C-2-x <sup>2</sup>	ACS580-01-076A-2	19	258	203	600
	SAC320/300-C-4-x <sup>2</sup>	ACS580-01-046A-4	11,8	228	203	454
SAC360	SAC360/300-C-2-x <sup>2</sup>	ACS580-01-115A-2	28,3	295	203	732
	SAC360/300-C-4-x <sup>2</sup>	ACS580-01-073A-4	19	258	203	636
SAC400	SAC400/300-C-2-x <sup>2</sup>	ACS580-01-115A-2	28,3	295	203	732
	SAC400/300-C-4-x <sup>2</sup>	ACS580-01-073A-4	19	258	203	636
SAC450	SAC450/386-C-2-x <sup>2</sup>	ACS580-01-115A-2	28,3	295	203	732
	SAC450/386-C-4-x <sup>2</sup>	ACS580-01-062A-4	19	258	203	600
SAC520	SAC520/386-I-2-x <sup>2</sup>	ACS580-01-144A-2	42,4	369	252	727
	SAC520/386-I-4-x <sup>2</sup>	ACS580-01-089A-4	28,3	295	203	732
	SAC520/386-C-2-x <sup>2</sup>	ACS580-01-144A-2	42,4	369	252	727
	SAC520/386-C-4-x <sup>2</sup>	ACS580-01-089A-4	28,3	295	203	732
SAC700	SAC700/412-C-2-x <sup>2</sup>	ACS580-01-171A-2	54	370	284	880
	SAC700/412-C-4-x <sup>2</sup>	ACS580-01-106A-4	28,3	295	203	732
SAC750	SAC750/513-I-4-x <sup>2</sup>	ACS580-01-089A-4	28,3	295	203	732
SAC900	SAC900/513-I-4-x <sup>2</sup>	ACS580-01-106A-4	28,3	295	203	732
SAC1100	SAC1100/513-I-4-x <sup>2</sup>	ACS580-01-145A-4	42,4	369	252	727
	SAC1100/513-C-4-x <sup>2</sup>	ACS580-01-145A-4	54	370	284	880
SAC1300	SAC1300/610-I-4-x <sup>2</sup>	ACS580-01-169A-4	54	370	284	880
SAC1400	SAC1400/610-I-4-x <sup>2</sup>	ACS580-01-169A-4	54	370	284	880

# Accessories DC thrusters



## A complete thruster system

A complete system consists of several parts. Besides the thruster unit(s) and tunnel(s) - bow, stern, or both, you will need control cables, main switches (automatic or manual), fuse and fuse holder, control panel(s), and main power cables. Even a radio remote is a normal part of a thruster system today.

To simplify installation and further increase safety, we recommend using the original Sleiptioner automatic main switch with a built-in fuse, reducing the necessary components. Where the automatic main switch is used, you need a 5-lead control cable between the panel and main switch, while only a 4-lead is needed to the thruster or if a manual or other auxiliary main switch and the separate fuse is used.

The electric motors used on the thrusters require a good electric power supply to operate and achieve the desired power safely. Both the main power cable sizes and the available battery capacity are essential.



## Serial-parallel switch box

Automatic switch box enabling installation of 24V thrusters in boats with a 12V system. With an additional 12V battery (not included), you supply 24V for the thruster's operation, while all batteries are charged by your regular 12V system when the thruster is not running.

<b>Switch box</b>	SE 120/130/150/170
HxWxD (mm)	285 x 265 x 110
Item code	10112A

<b>Switch box</b>	SE200/250
HxWxD (mm)	285 x 265 x 110
Item code	15112A



## Automatic Main Switch

The most user-friendly and safe installation is provided with an automatic main switch. The main power to the thruster is conveniently controlled by the Sleiptioner control panel. Added safety is provided by the panel's auto-off and the thruster's overheat sensor, also controlling the main switch. Compact design with flexible mounting options on wall or bulkhead, Plug & Play wiring, heavy terminals allowing double cables. Fuse not included.

<b>Main Switch</b>	<b>12V</b>	<b>24V</b>
HxWxD (mm)	175x205x140	
Item code	897612	897624



### Fuse holder / Fuses

Sleipner manufactures fuse holders engineered to minimize voltage drop and heating while saving space. Made for ANL type fuses in high current applications, they accept double cables with heavy terminals. The fuse holder is also available with a protective cover. We supply ANL fuses in different sizes to match all of our thrusters.



### Plug & Play control cables

Ensure that the complete installation meets the Sleipner quality standard and utilize our Plug & Play wiring system using original control looms. They are available in many lengths, and Y-connectors tie multiple control positions together. Color-coded to match the wiring diagrams with high-quality connectors to ensure correct installation. This cable is for all thruster models besides the PRO™ series and retractable thrusters.

When using the automatic main switch in your thruster system, you need the 5-lead cable between the control panel and auto-switch. The extra lead will actively control the switch and thereby the main power to the thruster, adding further safety. Please see schematics on top left page.

Item code	Fuse	For thruster 12V	For thruster 24V
ANL80	80A		EX75S · EX55C
ANL100	100A	EX35S · EX25C	EX95S · EX70C
ANL125	150A	EX55S · EX110D	EX40C · EX180D
ANL150	150A	SE20 · SE25 · SE30 · SX35	SE/SX50 · SE60
ANL250	250A	SE40	SE/SR/SRL/SRV/SX80
ANL325	325A	SE/SX50 · SE60	SE/SR/SRL/SRV/SX100 · SE120 · SE/SRL/SRV130 · SE/SRV300
ANL400	400A	SE/SR/SRL/SRV/SX80	SE/SRL/SRV170
ANL500	500A	SE/SR/SRL/SRV/SX100 · SE/SRL/SRV130	SE150 · SE/SRV210 · SE/SRV250
ANLHOLD		Fuseholder for all ANL type fuses	
ANLHOLD-C		Fuseholder including clear cover	

Description	Item code 4-lead	For thruster 12V
Control cable 4 meter	6 1277-04M	6 1278-04M
Control cable 7 meter	6 1277-07M	6 1278-07M
Control cable 9 meter	6 1277-09M	6 1278-09M
Control cable 12 meter	6 1277-12M	6 1278-12M
Control cable 15 meter	6 1277-15M	6 1278-15M
Control cable 18 meter	6 1277-18M	6 1278-18M
Control cable 22 meter	6 1277-22M	6 1278-22M
Y-connector for multiple control panels	6 1274	

### Components of a complete thruster system

- Thruster(s) – bow thruster, stern thruster or both
- Tunnel(s) – for bow, stern or both
- Control cables
- Main switch (automatic or manual)
- Fuse and fuse holder
- Control panel(s)
- Main power cables
- Radio remote

### THRUSTER POWER

Sleipner states thrust power ratings at the typical voltage you can expect in a boat. 10.5V and 21V is the voltage most installations will be able to deliver to the thruster unit. For comparison reasons, we also list the thrust power rating at 12V and 24V.

### BATTERY RATING

All battery CCA ratings are specified in DIN standard. Multiply by 1.9 for the corresponding SAE rating at 0°F, ABYC standard. Cold Cranking Amperes (CCA) is the amount of current a battery can provide at 0°F (-18°C). The rating refers to the number of amps a 12-volt battery can deliver at 0°F for 30 seconds while maintaining a voltage of at least 7.2 volts. Contact your battery supplier or electrical engineer for technical details regarding batteries.

# We create

world-leading technologies that consistently improve safety and comfort at sea and set the benchmark for the boating of tomorrow.



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