

SIDE-POWER
Thruster Systems



Confidence by control
- for more boats than ever!

DC thrusters 2014



"If there`s one company that can claim overall leadership of the recreational boating market for bow and stern thrusters, it must be Norway`s Sleipner Motor. Its Side-Power brand sells worldwide with a broad model range that covers almost every permutation of thruster technology for boats from 20ft - 160ft."

- Bob Greenwood -
 IBI magazine, October 2013

Dear fellow boater,



Over the last year, through a combination of new product development and acquisition, we found ourselves at a point where, in terms of numbers, we now offer the market more DC electric thruster models than in our 105 years service to the boating community!

Our exciting 2014 range comprises no less than 120 different Side-Power models, ranging from 20kg to 285kg thrust, allowing for almost any conceivable installation method or thruster combination.

Amongst the most important trends in thrusters and in line with increasing customer expectations, our unique DC-Pro - smooth and fingertip proportional control with increased runtime capability - is now offered as an option on almost all Side-Power DC electric thrusters.

While most experienced boat owners may prefer to retain individual control of thrusters and engines, others prefer to simplify some manouvers by having single joystick control also. Unquestionable in our mind is the fact that single joystick control needs proportional control thrusters to function smoothly and to avoid excessive solenoid wear. Unlike the practice of pulsing single speed thrusters to simulate proportional control, which we do not recommend.

Fear not, for those of you who have decided to use a single joystick control from an alternative supplier, our free license policy enabling open cooperation with other manufacturers to access our intelligent S-Link CanBus connectivity system, means you can still insist upon the quality and reliability of a Side-Power proportional DC electric, hydraulic or AC electric thruster system to do the hard work for you. Be suspicious of joystick suppliers who tell you otherwise!

Wishing you all a fantastic 2014 boating season.

Ronny Skauen

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The **boat builders** choice

Leading boat builders all over the world choose Side-Power for performance, reliability, ease of installation and unrivalled safety features. This commitment to quality and product development has made the Side-Power range of thrusters the benchmark in the industry.

Performance

The high performance of a Side-Power thruster is a result of our continuous efforts in product development and testing.

- propulsion technology know-how
- lightweight composite propellers
- purpose-built high power electric motors
- streamlined gear-house design

Installation

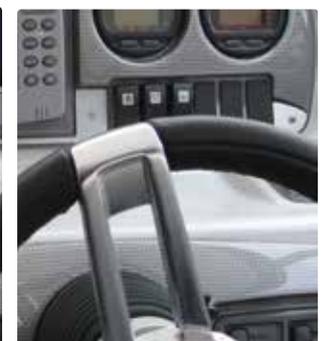
Based on our experience and cooperation with major boat-builders we have designed our systems to ensure it is easy to install a Side-Power thruster correctly.

- compact-sized units
- "Plug & Go" electric wiring
- easily accessible battery cable terminals
- easy installation of control panels
- fast and safe propeller mounting with locknut
- professional and solid GRP/composite stern thruster kits
- easy access anodes
- easy fit sealed gear legs

Safety & Reliability

The safety of the boat and those on board is our utmost priority. All Side-Power thrusters include standard features that protect against operator errors and technical problems, minimizing potential consequences. Side-Power thrusters are purpose built for professional use with no compromise on quality.

- overheat protection of electric motor
- mechanical protection of drive gear
- self-locking "high pressure" contacts
- extra wear and heat protection of internal wires
- non conductive and self extinguishing solenoid covers
- control panels have child safe On/Off (instant On) and automatic deactivation timed from last use
- in-house manufacturing, assembly and quality control
- 2-year limited warranty



Side-Power features:



- Noise reductions of up to 75% measured in controlled environments
- The expected and tested normal noise reduction in "average installations" 20-40%
- Upgrade kits are available for most "SP" series thrusters with special adaptors



- Provides delay between drive directions
- Monitors solenoid functions to reduce the chance of solenoid lock-in
- Will stop the thruster in case of a locked-in solenoid, without extra user action and even without controlling a main switch.



The thruster gear leg is filled with oil from a remote reservoir located above the waterline. This generates overpressure, making an effective seal against water intrusion in the gear leg.

- Separate oil reservoir placed above the waterline.
- Allows easy access for oil changes
- Having the advantage to be able to change oil in units usecommercially, with hundreds of running hours per year.



Sealed gear leg with long-life "mechanical" seal where highly polished ceramic and carbon surfaces form the only moving sealing surfaces, ensuring protection against damaging water intrusion into the gear leg. Pre-filled with special gear oil for lifetime lubrication.

- "Mechanical" seals with surfaces of ceramic and carbon for ultimate security against water intrusion



SINGLE PROPELLER:

A properly engineered single propeller system will be the most energy efficient thruster. Its compact design fits easily into narrow bows making it the perfect match for our smaller models. With more than 60.000 single propeller thrusters in use, the Sidepower single series system has proven its reliability.



TWIN PROPELLERS:

The twin propeller system can give more thrust than a single propeller system in the same tunnel diameter. This is our choice for our mid-range models where high thrust is required in a small tunnel diameter. Due to the compact design and high performance, the twin models have become the thrusters of choice among boat builders around the world.



TWIN COUNTER ROTATING PROPELLERS:

Two counter-rotating propellers can give the most thrust at a good performance ratio in a minimal tunnel diameter. This system is used in our larger thrusters for maximum power. The TC models are the favourite thrusters among leading boatbuilders for their high-end yachts.



The gearhouse / drive legs of most Side-Power DC Electric thrusters are now fully galvanically isolated / separated from the electric motor and motor bracket. This ensures that even if there is an accidental short circuit or a current leak for other reasons, the immersed parts are not effected as they could be with direct electric contact.



To provide reliable and safe thruster installations in more boats, we offer modified versions of our DC electric thrusters in watertight housings for use in stern and other locations that may get wet or be exposed to gasoline fumes. These thrusters are fully ignition protected (ISO 8846) for use in boats with gasoline engines. They have a hermetically sealed composite housing around all electric parts. This provides the ignition protection as no gasoline fumes can enter and be ignited by sparks.

The other advantage is that the electric parts that could be damaged by water are also covered and protected, making these thrusters the ideal choice for other stern thruster installations where it is difficult to ensure that the thruster will always remain dry.



S-LINK:

S-link is a "CAN" based control system with full intelligent communication between all units in the system, much like a computer network.

Main advantages include:

- 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 at panel
- Intelligent troubleshooting.



DC SPEED CONTROL:

A DC Speed Control system contains three main elements - proportional control panels, a power control unit and a DC electric thruster - all tied together with the new S-link control system. The thrusters used in a speed control system are almost identical to the familiar SE range of DC thrusters, the only difference being the addition of a temperature sensor and a new electronic control box. All mechanical and main electric parts are from the well proven thruster range produced by Side-Power for many years. All 12 & 24 volt DC electric thrusters produced by Side-Power can be enabled for DC Speed Control by authorized Side-Power service personnel, even the oldest models.

With the ever growing demand for increased performance, we continue to expand our offering of tunnel diameters to allow customers to choose more powerful thrusters in tunnel sizes that will fit in their boat. The latest addition is the 110, 160 and the 215mm tunnel. The 215mm models, between the existing ø185mm and ø250mm sizes, is very important for boat sizes around the 50' / 15m mark, where we have seen that boats have become much more voluminous than before, requiring larger thrusters to achieve the same maneuverability. We will continue to launch new tunnel diameters where appropriate to let our customers get the performance they want in their boats.

Facts about tunnel sizes:

- Principally a larger tunnel diameter will always be more energy efficient than a smaller tunnel diameter for the same thrust. The factor is water speed, and this is decided by the amount of water you move through the possible opening which is the square area of the tunnel less the area blocked by the thrusters gear leg.
- The opening in the boat hull is not only the circular size of the tunnel diameter. Because the hull is angled, you get a much larger oval opening, and this makes a larger tunnel diameter more difficult to fit properly into the hull.



Ø 110 mm



Ø 125 mm



Ø 160 mm



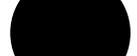
Ø 185 mm



Ø 215 mm



Ø 250 mm



Ø 300 mm





The difference is in the details

	safety	lifetime & reliability	better performance	easy installation	easy service
Control panels with child safe on/off and time lapse auto-off prevent accidental or unintentional operation	✓				
Self re-setting overheat protection automatically stops the thruster before overheating	✓	✓			
Intelligent direction change delay simplifies operation and prevents damage from operator error	✓	✓			
Control system only accepts continuous run signal for 3 min. User warning before overheat protection activates	✓	✓			
Side-Power developed special solenoid contactors to ensure correct function and maximum lifetime in a boat	✓	✓	✓		
Closed solenoid contacts prevent dust from getting into the contacts	✓	✓		✓	
External main power terminals ensure fast, easy and safe connection of heavy power cables	✓			✓	✓
GRP tunnels are purpose built for thruster applications, they are precise, strong, and protected against osmosis		✓	✓	✓	
Lightweight composite propellers on all thrusters are strong yet lightweight, and always perfectly shaped for high power and low noise		✓	✓		
Lock nut fastening of propellers provides easy and reliable fitting of the propellers		✓		✓	✓
All panels, thrusters and accessories have "Plug & Go" wiring for easy, correct and reliable wiring		✓		✓	✓
Anodes outside propellers make them easy to access and change without having to remove propellers		✓		✓	✓
Electromotors designed and rated for actual voltage in boat ensure correct performance and efficiency in real life conditions		✓	✓		
Oil filled gear-leg with long life special seals ensures a long, trouble free lifetime of the thruster		✓		✓	
Hardened spiral-cut gears give you extended lifetime, low noise and more compact gearhouse design		✓	✓		
All bearing and sealing surfaces machined in CNC machines ensures correct tolerances, surfaces and angles		✓	✓		
Slim, hydrodynamically shaped gearlegs minimize resistance and possibility for cavitation			✓		
Galvanic isolation of underwater parts removes chance of serious failure due to current leaks or accidental short circuits	✓	✓			
Intelligent Power Control (IPC) automatically safeguards against inherent risks in high-current equipment.	✓	✓	✓		✓



*Features might vary between different design series.

Planning your system

By definition, any thruster will to some extent do a job in any boat. The key is to ensure that the chosen thruster will do the job you want it to in your boat. This is one of two main factors deciding the right thruster size for each boat.

Today most pleasure craft over 35' have a bow thruster as standard equipment which normally will meet the expectations of most customers when using the boat under normal weather conditions. The sizes used by the boat builders will vary depending on the boat's intended usage and price level. In today's production boats, the typical thruster will push the boat's bow against a direct side wind of 21-23 knots. Some custom built or very high end boats may have a high power bow thruster that pushes the bow against a direct side wind of 24-26 knots. For boat owners that use their boats in more demanding conditions or have, for example, a strong current in their local marina, or for other reasons require very high performance, many boat builders offer upgrades to a more powerful thruster system. While most pleasure crafts will have ample power in most conditions when the thruster can push the bow against a direct side wind of 25-27 knots, the PRO series thrusters with "DC Speed Control" system will allow for even more powerful thrusters to be used comfortably.

Example

If you have a 45'/13.5m boat, you have 4 thrusters to choose from within "normal" sizing. If your boat does not have a lot of wind area and you use it mostly in good weather conditions, you can choose the least powerful thruster, the SE80 in a 185mm tunnel. If you want to keep the \varnothing 185mm tunnel dia, but require more power, the SE100 is a good choice. If you have room for a larger tunnel diameter, there are models in both \varnothing 215mm and \varnothing 250mm tunnels that are suitable for this boat size, so there are many options.

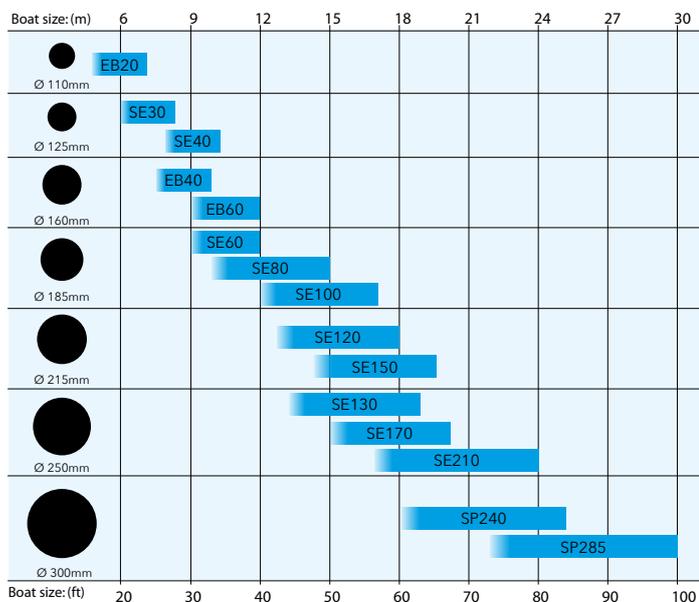
Please note that generally, a larger tunnel diameter will be more energy efficient and generate less noise.

Conclusion

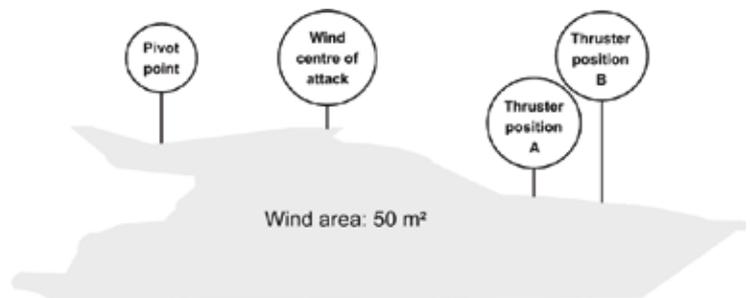
The two main factors that decide correct thruster sizing are:

- boat owner's performance requirements
- boat size, type and shape

Example guidelines for tunnel bow thrusters*



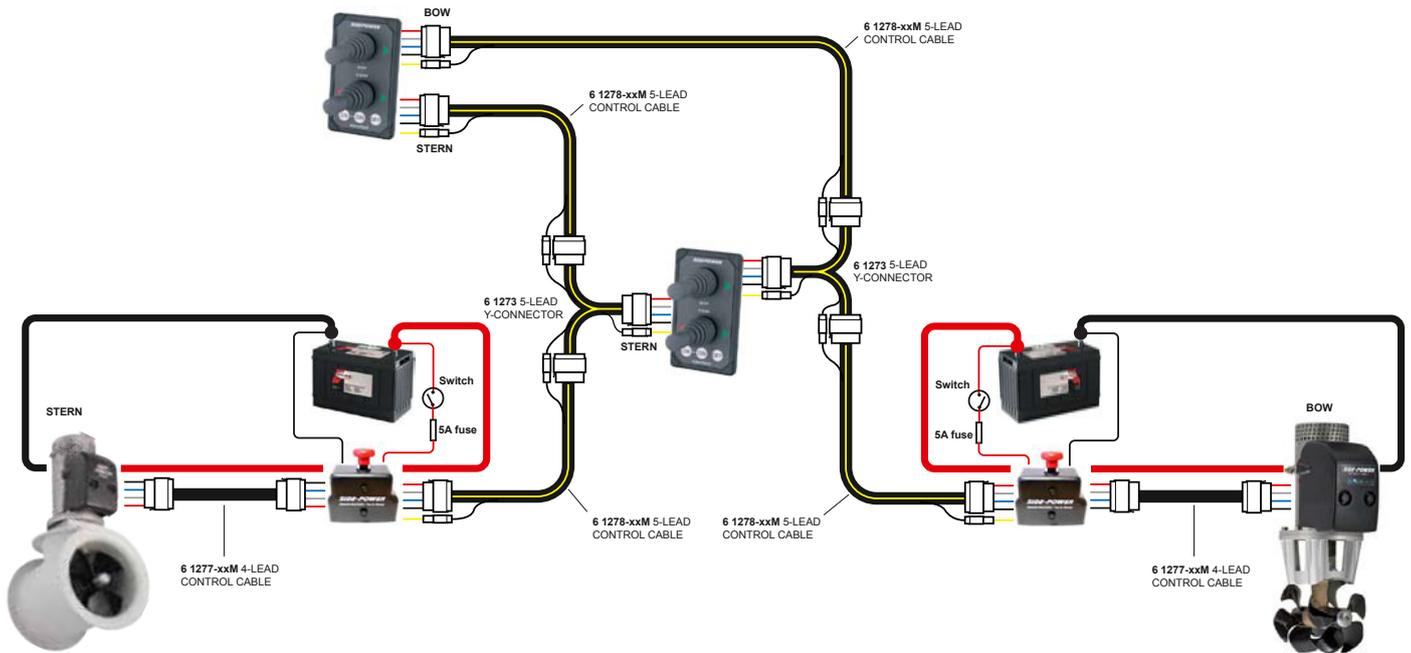
Thruster model	SE130/250T	SE170/250TC
Thruster position A	21.2 kn	23.9 kn
Thruster position B	22.4 kn	25.2 kn



The example above shows the different wind speeds that two different thruster installations can counter and the increased leverage gained when the thruster is positioned further forward.



Against most beliefs, a stern thruster does not require more thrust to give the same effect as the bow thruster. The reason for this is that the stern thruster is mounted outside the hull, thereby further from the boat's pivot point when using the thruster and thus gets more leverage. Depending on boat type and wind area of the boat, same size or the model below will, for most, be a good match to the bow thruster, given that the bow thruster is dimensioned correctly in the first place. However, if there are obstacles in the water flow, to and/or from the stern thruster, more thrust might be necessary to match the bow thruster.



A complete thruster system

There are several components in a complete system for your boat; besides the thrusters and tunnels (bow or 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 the safety, we recommend using the original Side-Power Automatic Main switch which also has a built in fuse, reducing the number of 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 separate fuse is used.

The powerful electric motors used on the thrusters require a good electric power supply for safe operation and to achieve the desired power. Thereby, both the main power cable sizes and the available battery capacity are important. It is the actual voltage, delivered at the thruster when it is running, after voltage drop both in the batteries as well as through the cables, main switch and fuse, that determines the actual power of the electric motor, and thereby the possible thrust. So, getting this right will be important for your product satisfaction. It is also important to remember that different types of batteries have different capabilities and specialties, and what is important for thrusters is the cranking capacity, the batteries' ability to deliver a high current for a shorter period of time. On side-power.com you will find a guide called "system builder" that will guide you through what parts to order as well as recommend cable sizes and battery capacities for your chosen thruster(s).

The Side-Power [System builder](#) will help plan the installation in your boat.



*Note 3 - See page 35

DC Electric thrusters

To enable the most safe and easy installation as well as the best possible performance for a variety of boats and usages, Side-Power thrusters are offered in several versions to satisfy all requirements.



SE & EB series tunnel thrusters

The standard bow and stern thruster series are the base for all our extensive range of DC electric thrusters. They are fitted in a tunnel through the bow, or into our stern tunnels to use as stern thrusters. The electric motors, solenoids, patented IPC control system and the mechanical parts of the propulsion system are all totally custom designed and built, utilizing the extensive experience gained through years of leadership in the global thruster market. Page 10 - 13.



IP versions for demanding environments

The IP - ignition protected - versions are equipped with a hermetically sealed cover around the motor and switch gear. This means that it is safe to use in gasoline boats or other areas where there is a risk of explosive fumes as well as excellent for installation in wet areas (not for submerged installation). Can be used for both bow or stern applications. Most models in both the SE and SEP series are available in IP versions. More information page 13.



SR series retractable thrusters

Our retractable thrusters are excellent for use as bow or stern thrusters in boats with shallow or flat bottomed hulls, or where a tunnel opening in the hull at all is not desirable. Designed in true Side-Power spirit with reliability and durability as main factors, they are exceptionally sturdy and compact with the same high performance as all other Side-Power thrusters. Unique advantages by use of the latest technology including our S-link intelligent bus control provides a further benefit in use and control for the operator. Available also as speed control versions with the designation SRP. More information on page 16.



EX and SX series externally fitted thrusters

Side-Power offer an extensive program of externally fitted thrusters. The EX and SX series is a practical and efficient solution for those who cannot fit a tunnel thruster, or as an externally mounted stern thruster. Exceptionally easy installation is a bonus with the EX and SX thrusters. More details on page 15 and 18.



PRO series speed controlled thrusters

The PRO series are basically standard thrusters with the addition of the PRO Proportional system. Providing even more accurate control by fully regulating the power of the thruster as well as providing even longer run times, this is the latest in DC electric thrusters. The noise reduction and automatic "Hold" function are further benefits provided by the PRO series. More details on page 10.





Tunnel thrusters

- the result of over 25 years of development



Go PROportional



With many boat customers now having had several boats with thrusters, their functional demand of their thruster system has increased so that many choose to upgrade to more powerful thrusters than standard and even request hydraulic thruster systems to ensure that run-time limitations in DC electric thrusters will not be a problem.

However, very powerful single speed thrusters can, in light weather conditions, be a bit difficult to use as they push the boat too fast, and with the focus on living space in modern boats, often there just is no room for a hydraulic system. The solution is to fit the new Side-Power PRO system which enables proportional speed control of a DC electric thruster. By also controlling the thruster's power, you get even more precise handling of the boat in all conditions. By also using an upgraded thruster size, you will about never need full power, which means that the usable run time is extended a lot, at around 50% load, you can expect close to continuous usage being possible, normally then limited to battery power.

The **extended runtime** is put to good use in the **Hold-function** incorporated in the new panels. With a single press of a button, the bow and stern thrusters will keep you alongside the docks. The amount of thrust applied can be adjusted, and in addition the bow and stern thruster can be individually synchronized to get a balanced sideways motion - making single handed docking very easy indeed!

The PRO system is controlled by S-link and monitors important parameters such as temperature in both controller and thruster as well as thruster voltage - this monitoring will also enable greatly simplified troubleshooting for most issues ever seen with thrusters as it shows both actual voltage on the thruster as well as current draw.

The **Proportional** joystick control panels feature a Back-lit LCD display giving instant feedback to the user. System status, amount of thrust & direction of thrust as well as remaining run time and battery capacity will be shown in real time on the display. Important user warnings and alarms will be given to the user both on screen and via audible signals.

Even more functionality by adding a Side-Power radio remote!

When a Side-Power radio remote is added to the system you get even more benefits from the speed control system. If you are docking alone - having the PJC panel automatically pushing the boat against the dock while you go put the mooring lines on, you might wish to increase the thrust on the bow thruster momentarily to make it really tight. Pressing the bow thruster button on the remote will then let you do this. You can also shut down the hold function without going to a fixed control panel by selecting to run any of the thrusters in opposite direction of what the hold function is doing.





A **PRO** system contains three main elements - proportional control panels, a power control unit and a DC electric thruster - all tied together with the new S-link control system. The thrusters used in a speed control system are almost identical to the familiar SE range of DC thrusters, the only difference being the addition of a temperature sensor and a new electronic control box. All mechanical and main electric parts are from the well proven thruster range produced by Side-Power for many years. All 12 & 24 volt DC electric thrusters produced by Side-Power can be enabled for **PRO** with DC Speed Control by authorized Side-Power service personnel, even the oldest models.

PPC 800 Power Control Unit

- Plug and play S-link control cable wiring
- Easy to access, solid main cable terminals
- Easy to place as it can be located anywhere between the batteries and the thruster, also in areas requiring ignition protected parts
- Reliable solid state switching
- Thermal and over current protection
- Active cooling for continuous usage



PPC 800

Thruster for **PRO** system

- Any Side-Power DC Electric thruster can be upgraded to PRO version
- Temperature monitoring through PPC800
- Increased directional solenoid lifetime because the solenoids will not switch with load
- IPC intelligence for extra safety

PJC 212 Control Panel

- Plug and play S-link control cable wiring (waterproof plugs)
- Finger tip control with purpose designed joysticks
- Hold - function for easy docking, runs thrusters at selected power
- Back-lit LCD display with instant feedback
 - Amount of thrust & direction of thrust
 - Thruster temperature/remaining run time
 - Battery status
 - Selectable LCD colour & level for both night and day
 - System monitoring simplifies troubleshooting
- Interactive multilingual menus
- Built-in audible alarm "buzzer"



"Easy does it with variable-speed thrusters"

"...Until now the luxury of adjusting how much thrust you use to manoeuvre a big boat in or out of a tight spot has been the preserve of expensive and bulky hydraulic thruster systems. Sleipner's new 12/24V system is a much more cost effective set-up and considerably more compact than a hydraulic system. It should also help resolve the issue of not being able to use an electronic thruster for long periods of time without overheating, because you'll rarely be using it on full power all the time..."

"...Using conventional DC thrusters, offering full power or nothing, we would have had to apply numerous bursts to keep it rotating. With the variable-speed system we were able to use a smaller amount of continuous thrust. Not only was this more intuitive, but it made for a quieter, more relaxed manoeuvre. The more power you want, the more you push the twin paddle switches..."

"...This means that like a hydraulic system it also has a 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..."

"...The other big bonus is a remote control that allows you to operate both thrusters from wherever you chose, so you can take up station on the side deck and walk the boat in while keeping an eye on the gap..."



MOTORBOAT & YACHTING - NOVEMBER 2010

SE Series tunnel thrusters



Single propulsion



Twin propulsion



Twin counter propulsion

The Side-Power SE Series have during a time period of nearly three decades been installed into more than a 150,000 boats world wide, operating in every condition planet earth has to offer.

The fact that we still deliver spare parts such as zinc anodes and shear pins to 25 year old thrusters, is to us a company statement to our total commitment to quality and longevity of our products, past and present.

When choosing Side-Power thrusters, you are making the same choice as an overwhelming number of the worlds leading boat builders today.

There are just some parts of the boat that should never be compromised. Ever!

Those are the parts we make!

SE Series thrusters*	SE 30/I25 S	SE 40/I25 S	SE 60/I85 S	SE 80/I85 T	SE 100/I85 T	SE I20/I25 T
Thrust at 10.5V/21V* (kg • lbs)	30 • 66	40 • 88	60 • 132	80 • 176	100 • 220	120 • 264
Thrust at 12V/24V* (kg • lbs)	40 • 88	48 • 105	73 • 161	96 • 212	116 • 256	139 • 306
Typical boat size (ft • m)	20' - 28' • 6 - 8.5	26' - 34' • 8 - 10.5	29' - 39' • 9 - 12	35' - 48' • 10 - 15	39' - 55' • 12 - 17	42' - 60' • 13 - 18
Tunnel I.D. (mm • in)	125 • 4.92"	125 • 4.92"	185 • 7.3"	185 • 7.3"	185 • 7.3"	215 • 8.46"
Propulsion system	Single	Single	Single	Twin	Twin	Twin
Power at 10.5V/21V* (kw • Hp)	1.5 • 2	2.2 • 3	3.1 • 4	4.4 • 6	6.3 • 8.4	6.4 • 8.55
For DC system (V)	12	12	12/24	12/24	12/24	24
Weight (kg • lbs)	9.5 • 21	10 • 22	16 • 35	20 • 44	31 • 68	34 • 74
Rec. CCA (DIN** 12/24V)	200	300	350 • 175	550/300	750/400	- / 400
Item Code I2V	SE30/I25S(-IP)	SE40/I25S(-IP)	SE60/I85S-I2V(I2IP)	SE80/I85T-I2V(-I2IP)	SE100/I85T-I2V(-I2IP)	
Item Code 24V			SE60/I85S-24V(24IP)	SE80/I85T-24V(-24IP)	SE100/I85T-24V(-24IP)	SE I20/I25T (-IP)
Item Code I2V PRO*	SEP30/I25S(-IP)	SEP40/I25S(-IP)	SEP60/I85S-I2V (IP)	SEP80/I85T-I2V(-I2IP)	SEP100/I85T-I2V(-I2IP)	
Item Code 24V PRO*			SEP60/I85S-24V (IP)	SEP80/I85T-24V(-24IP)	SEP100/I85T-24V(-24IP)	SEP I20/I25T (-IP)



Ignition Protected versions



For several years, Side-Power has manufactured ignition protected thruster models. Now, the second generation is here with added features and many more models.

High safety standards

To provide reliable and safe thruster installations in more boats, we offer modified versions of our DC electric thrusters in watertight housings for use in stern and other locations that may get wet or be exposed to petrol fumes. These thrusters are fully ignition protected (ISO 8846) for use in boats with petrol engines. They have a hermetically sealed composite housing around all electric parts. This provides the ignition protection as no petrol fumes can enter and be ignited by sparks. The other advantage is that the electric parts that could be damaged by water are also covered and protected, making these thrusters the ideal choice for other stern thruster installations where it is difficult to ensure that the thruster will always remain dry.

Ignition Protected Features:

- Certified to ISO 8846 Ignition Protected standards.
- Water Proof (not for submerged mounting).
- 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.
- Supplied with plug and go control cable.
- Ignition protected housing can be opened and thereby retains serviceability of components inside the enclosure.
- Available as SEP-IP versions with DC Speed Control.



Most Side-Power tunnel thrusters can be delivered in PRO version with the DC speed control PPC 800 power control unit for ultimate control and single handed docking.

SE I30/250 T	SE I50/215 T	SE I70/250 TC	SE 210/250 TC	SP 240 TCi	SP 285 TCi
130 • 284	150 • 330	170 • 374	210 • 462	240 • 528	285 • 627
160 • 352	182 • 400	210 • 462	250 • 550	300 • 660	340 • 748
42' - 62' • 13 - 19	44' - 65' • 14 - 20	50' - 72' • 15 - 22	55' - 78' • 17 - 24	60' - 82' • 18 - 25	72' - 98' • 22 - 30
250 • 9.8"	215 • 8.46"	250 • 9.8"	250 • 9.8"	300 • 11.8"	300 • 11.8"
Twin	Twin	Twin Counter rot.	Twin Counter rot.	Twin Counter rot.	Twin Counter rot.
6.5 • 8.7	8.8 • 11.8	8 • 10.7	10 • 13.15	11.4 • 15.5	15 • 20
12/24	24	24	24	24	24 (48V motor)
37 • 77	38 • 79	44 • 97	68 • 150	70 • 154	73 • 160
750/400	- / 560	- / 550	- / 650	- / 700	- / 2x450 - 24V
SE I30/250T-I2V(-I2IP)					
SE I30/250T-24V(-24IP)	SE I50/215T	SE I70/250TC(-IP)	SE210/250TC	SP240TCi	SP285TCi
SEP I30/250T-I2V(-I2IP)					
SEP I30/250T-24V(-24IP)	SEP I50/215T	SEPI70/250TC(-IP)	SEP210/250TC	SEP240TCi	

*Note 1 - See page 35

EB Series tunnel thrusters



EB 20



EB 40



EB 60/75/90

Smaller tunnel diameters and low thruster unit height!

The EB series is slightly less energy efficient than the SE series, but has the great advantage in build height and is very cost effective. It has direct operation through a solid transmission belt between the motor and the propeller shaft. There is no oil in the gear housing. The engine is placed in parallel with the tunnel, and can be fitted with the motor on the side of the tunnel, requiring virtually no height at all. This design is very compact and enables installation in the most confined spaces.

The EB series is the choice in vessels where installation height is an issue. The gear housing and the tunnel bracket are one unit and are made from stainless steel AISI 316 for the larger models. The EB 20 bracket is made from glass fiber reinforced composites and is extremely compact due to the external i-box which contains the electronics, including the IPC intelligent power control.

The EB series is delivered installed onto the tunnel bracket; as one unit. The installation is thus very easy.

EB Series thrusters*	EB 20/110 S	EB 40/160 S	EB 60/160 S	EB 75/185 S	EB 90/185 S
Thrust at 10.5V/21V* (kg • lbs)	20 • 44	40 • 88	60 • 132	75 • 165	90 • 198
Thrust at 12V/24V* (kg • lbs)					
Typical boat size (ft • m)	up to 23' • 7	23' - 29' • 7 - 8.8	29' - 38' • 9 - 12	32' - 45' • 9,7 - 14	39' - 50' • 12 - 17
Tunnel I.D. (mm • in)	110 • 4.33"	160 • 6,3"	160 • 6,3"	185 • 7.3"	185 • 7.3"
Propulsion system	Single	Single	Single	Single	Single
Power at 10.5V/21V* (kw • Hp)	1.6 • 2.2	2.0 • 2.7	5,0 • 6.8	6,0 • 8.1	6,5 • 8.8
For DC system (V)	12	12	12/24	12/24	12/24
Weight (kg • lbs)	5 • 11	13 • 28,5	15 • 33	17 • 37,5	17 • 37,5
Rec. CCA (DIN** 12/24V)	200	250	630/ 315	750/375	820/410
Item Code 12V	EB20/110S	EB40/160S	EB60/160S-12V	EB75/185S-12V	EB90/185S-12V
Item Code 24V			EB60/160S-24V	EB75/185S-24V	EB90/185S-24V





SX Series external stern thrusters



The efficient stern thruster option for boats with twin stern drives!

Side-Power now offers a complete external stern thruster assembly, specially designed for installation on boats with twin stern drives. It utilizes special cowls to enable good performance by diverting the water-flow past the stern drive legs, which normally blocks the waterflow and the thrust.

The units come pre-assembled, wired and sealed in the waterproof box, and only require a small hole into the boat's transom to attach the power and control cables. The cable connection points are fully sealed, so that it is Ignition Protected and can be installed in petrol powered boats.

This stern thruster option can also be the best choice for boats without stern drives, if the inside configuration of the boat's stern makes a standard thruster installation impractical.

Also available in PRO versions with DC speed control.



SX Series thrusters SX 80/185 T SX 100/185 T

Thrust at 10.5V/21V* (kg • lbs)	80 • 176	100 • 220
Thrust at 12V/24V* (kg • lbs)	96 • 212	116 • 256
Typical boat size (ft • m)	35' - 48' • 10 - 15	35' - 55' • 12 - 17
Tunnel I.D. (mm • in)	185 • 7.3"	185 • 7.3"
Propulsion system	Twin	Twin
Power at 10.5V/21V* (kw • Hp)	4.4 • 6	6.3 • 8.4
For DC system (V)	12/24	12/24
Weight (kg • lbs)	52 • 115	57 • 125
Rec. CCA (DIN** 12/24V)	550/300	750/400

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



*Note 1 - See page 35

SR Series retracting thrusters



For boats that cannot fit a tunnel thruster or do not wish to have an external thruster under the boat, then a retractable thruster is the solution. Side-Power have designed a product range that is focused on practical sturdiness, uncompromised safety and quick deployment.

The retracting thrusters are generally built with the same high safety standards as all Side-Power products, and incorporate the important benefits introduced with the SE-series thrusters. 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 Side-Power, 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 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.

SR Series thrusters*	SR 80/185 T	SR 100/185 T	SRL 80/185 T	SRL 100/185 T
Thrust at 10.5V/21V* (kg • lbs)	80 • 176	100 • 220	210 • 462	210 • 462
Thrust at 12V/24V* (kg • lbs)	96 • 212	116 • 256	250 • 550	250 • 550
Typical boat size (ft • m)	35' - 48' • 10 - 15	35' - 55' • 12 - 17	55' - 78' • 17 - 24	55' - 78' • 17 - 24
Tunnel I.D. (mm • in)	185 • 7.3"	185 • 7.3"	250 • 9.8"	250 • 9.8"
Propulsion system	Twin	Twin	Twin Counter rot.	Twin Counter rot.
Power at 10.5V/21V* (kw • Hp)	4.4 • 6	6.3 • 8.4	11 • 14.5	11 • 14.5
For DC system (V)	12/24	12/24	28	28
Weight (kg • lbs)	31 • 68	44 • 97	35 • 77	48 • 106
Rec. CCA (DIN++ 12/24V)	550/300	750/400	550/300	750/400
Installation	mould-in	mould-in	flange	flange
Item Code 12V	SR80/185T-12V	SRI00/185T-12V	SRL80/185T-12V	SRL100/185T-12V
Item Code 24V	SR80/185T-24V	SRI00/185T-24V	SRL80/185T-24V	SRL100/185T-24V
Item Code 12V PRO*	SRP80/185T-12V	SRP100/185T-12V	SRLP80/185T-12V	SRLP100/185T-12V
Item Code 24V PRO*	SRP80/185T-24V	SRP100/185T-24V	SRLP80/185T-24V	SRLP100/185T-24V



The 185mm tunnel diameter thrusters use one fast and powerful actuator, while the 250mm tunnel diameter models have two actuators to handle the increased forces with the same exceptionally fast deploy/ retract operation time.

The unique design of the underwater mechanism has only a few, but very sturdy parts that all contribute to the stability of the moving assembly. The unit is also designed to keep

the thruster as compact as possible while enabling the safe use of heavier motors on the more powerful units. The vertical installation of the motors also reduce the impact forces on the assembly in extreme waves compared to motors fitted at an angle.

Specific Retracting features

- Plug and play S-Link two way communication control cable wiring.
- Motor assembly rigid mounted on retracting casing - no moving parts during retracting operation.
- Compact size.
- Reliable retracting mechanism, avoids sticking.
- Fast deployment time.
- Easy to use control panel with status feedback from thruster.
- Available as SRP versions with DC Speed Control.

Mould-in base (not included):

- SRF-185-GRP Mould in mounting base for 185mm SRV models - ISO Polyester
- SRF-185-GRV Mould in mounting base or 185mm SRV models - Vinylester
- SRF-250-GRP Mould in mounting base for 250mm SR models - ISO Polyester
- SRF-250-GRV Mould in mounting base for 250mm SR models - Vinylester



All Side-Power retractable models use the S-link "CAN" based control system with full intelligent communication between all units in the system, much like a computer network.



All Side-Power retractable models can be delivered in speed controlled PRO versions.

Youtube:



CEO at Hallberg-Rassy; Magnus Rassy, about the new HR412 with dual PRO series retractables from Side-Power.
www.youtube.com/watch?v=69GpzXrdpmw



"I could not picture myself buying another boat without this system!" says boat owner Bernt Ellingsen, Delphia 47 with dual PRO series retractable thrusters.
www.youtube.com/watch?v=NVvasVGSha0

SRV 80/185 T	SRV 100/185 T	SRV 130/250 T	SRV 170/250 TC	SRV 210/250 TC
80 • 176	100 • 220	130 • 284	170 • 374	210 • 462
96 • 212	116 • 256	160 • 352	210 • 462	250 • 550
35' - 48' • 10 - 15	35' - 55' • 12 - 17	42' - 62' • 13 - 19	50' - 70' • 15 - 22	55' - 78' • 17 - 24
185 • 7.3"	185 • 7.3"	250 • 9.8"	250 • 9.8"	250 • 9.8"
Twin	Twin	Twin	Twin Counter rot.	Twin Counter rot.
4.4 • 6	6.3 • 8.4	6.5 • 8.7	8 • 10.7	11 • 14.5
12/24	12/24	12/24	24	24
31 • 68	44 • 97	82 • 181	88 • 194	112 • 247
550/300	750/400	750/400	550	650
flange	flange	flange	flange	flange
SRV80/185T-12V	SRV100/185T-12V	SRV130/250T-12V	SRV170/250TC-24V	SRV210/250TC-24V
SRV80/185T-24V	SRV100/185T-24V	SRV130/250T-24V	SRV170/250TC-24V	SRV210/250TC-24V
SRVP80/185T-12V	SRVP100/185T-12V	SRVP130/250T-12V	SRVLI70/250TC-24V	SRVP210/250TC-24V
SRVP80/185T-24V	SRVP100/185T-24V	SRVP130/250T-24V		

*Note 1 - See page 35

EX Series external pod thrusters

Quick & easy retrofitting



EX SINGLE



EX DUAL



EX COMPACT

The externally mounted pod-based EX-series is a practical thruster solution for displacement and semi-planing boats between 6 and 18 m length, independently of hull form, hull material, propulsion and depth. These pod thrusters are an excellent choice where a tunnel thruster cannot be fitted, or as an extremely compact stern thruster.

The EX thrusters can be used in all types of vessels such as: sailing boats, catamarans, motorboats and houseboats made out of steel, aluminum, wood or GRP. The flexible mounting at the extreme bow of the boat hull allows a deeper position underwater which creates an optimal leverage compared to conventional thrusters. EX thrusters can, therefore, move larger boats by using nominally less power than conventional thrusters.

Adapter

Made of hard rubber, optimizing the flow characteristics and ensuring tight and simple mounting.

Hollow shaft with cable routing

Made of steel with neoprene and rubber fittings to seal connection and perform as suspension as well.



Housing

Extreme robust, special coated aluminum housing. Seawater-resistant and redox-free.

3-Blade Vector-Propeller

Purpose-designed to ensure highest efficiency.

Electric motor

Purpose-designed and special built motors guarantee outstanding performance. Up to 5 minutes nonstop operating time.

EX Series thrusters	EX 35 S	EX 55 S	EX 75 S	EX 95 S	EX 110 D	EX 180 D
Thrust at 11.5V/23V* (kg • lbs)	25 • 55	40 • 88	53 • 117	67 • 148	80 • 176	130 • 264
Performance thrust* (kg • lbs)	35 • 77	55 • 121	74 • 163	95 • 210	110 • 243	180 • 397
Typical boat size (ft • m)	20' - 28' • 6 - 8.5	26' - 34' • 8 - 10.5	29' - 38' • 9 - 12	35' - 48' • 10 - 15	35' - 53' • 12 - 16	44' - 59' • 14 - 18
Tunnel I.D. (mm • in)	150 • 5.9"	150 • 5.9"	150 • 5.9"	150 • 5.9"	150 • 5.9"	150 • 5.9"
Propulsion system	Single	Single	Single	Single	Dual	Dual
Power at 11.5V/23V* (kw • Hp)	1.3 • 1.75	1.8 • 2.4	2.3 • 3.1	3.0 • 4.0	4.0 • 5.4	6.0 • 8.0
For DC system (V)	12	12	24	24	12	24
Weight (kg • lbs)	19,5 • 43	19,5 • 43	19,5 • 43	19,5 • 43	35 • 77	35 • 77
Rec. CCA (DIN** 11,5/23V)	170	225	150	190	250	375

Item Code 12V	EX35S	EX55S	EX75S	EX95S	EX110D	EX180D
Item Code 24V						



Construction benefits



Optimally streamlined design

Hydrodynamic shape, very short flow-channel and ideal placement reduce the water resistance to a fraction compared to conventional systems. There is no perceptible loss of speed.



Easy installation

Requires drilling of only three small holes to assemble, which are sealed tightly with a special rubber sealant. No fiberglass work is necessary.



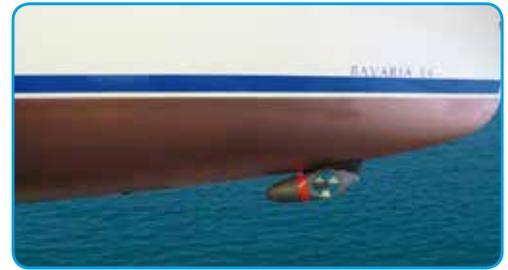
Long duration

The external placement of the unit gives a more efficient water cooling and allows much longer duration per cycle of the unit than with traditional bow and stern thrusters.



Optimal efficiency

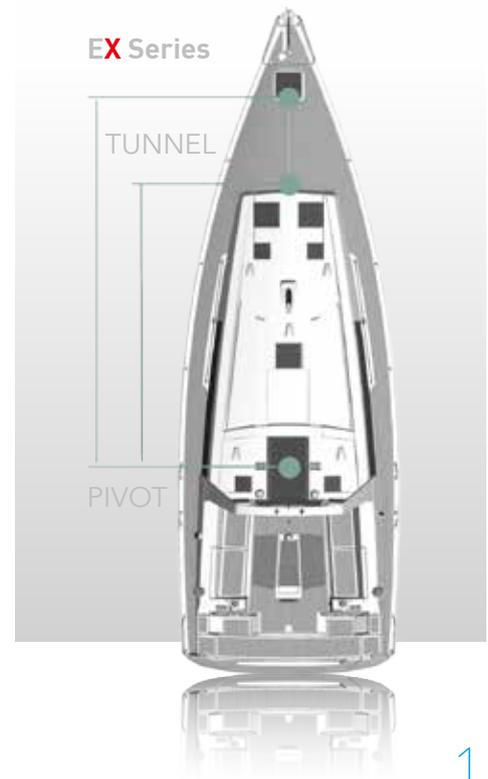
Optimal efficiency results from a shorter transverse channel and ideal leverage which is created by deeper and more distant positioning away from the pivot point. Typically giving up to 40 % higher efficiency than with conventional systems.



The experienced performance can be as high as 1.4 times the actual thrust.

- Due to the installation position more towards the very bow of the boat (1 - 1.5 m) the leverage increases by a minimum of 20%.
- Long and small transverse tunnels reduce thrust, on an average length of 60 - 70 cm, around 20%.
- Installation depth is 15-20cm (minimum) deeper under water (= no cavitation)

The total of these three main performance benefits results in a higher efficiency of at least 40% compared to conventional thrusters! It is important to notice this, when comparing to tunnel thrusters.



EX 25 C	EX 40 C	EX 55 C	EX 70 C
25 • 55	40 • 88	53 • 117	67 • 148
-	-	-	-
18' - 26' • 5 - 8	24' - 34' • 7,5 - 10,5	28' - 36' • 8,5 - 11	32' - 42' • 9,5 - 13
150 • 5.9"	150 • 5.9"	150 • 5.9"	150 • 5.9"
Single	Single	Single	Single
1,3 • 1,75	1,8 • 2,4	2,3 • 3,1	3,0 • 4,0
12	12	24	24
12 • 26,5	12 • 26,5	12 • 26,5	12 • 26,5
170	225	150	190
EX25C	EX40C	EX55C	EX70C

*Note 2 - See page 35

EX-Series accessories

Main components:

- EX thruster including iBox
- Main switch
- Fuse / holder
- Control panel
- Power cables
- Mounting adapter.

Optional:

- Remote control
- Automatic main switch
- Charger / voltage converter 12V - 24V



Basic installation kit with 2 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



Mooring protector made of stainless steel for EX-Series motor housing, incl. fixing kit.

Item code: 50154

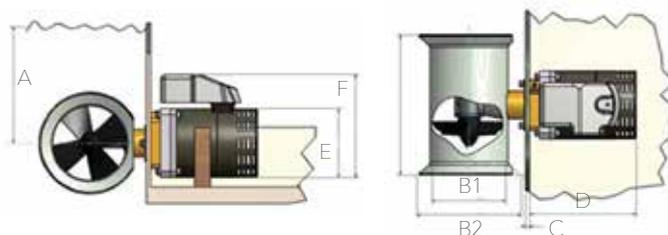
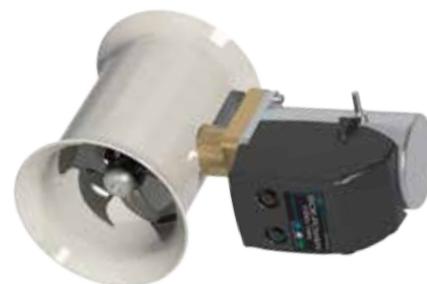


Charger and voltage transformer 12-24V, 10 A, including charging voltage control (VST).

Item code: 50211

ES60 stern thruster

The ES60 is an excellent choice for boats that cannot fit a standard stern tunnel kit due to the shape of the boats transom. The unit is bolted from the inside and requires only a cut out hole of Ø70mm. Delivered as a complete kit with tunnel. Cowls can be delivered for effective redirecting of the waterflow if necessary.



EB Series thrusters*	ES 60/185S	Measurements (mm • in)
Thrust at 10.5V/21V* (kg • lbs)	60 • 132	A 300 • 11.8"
Thrust at 12V/24V* (kg • lbs)	-	B1 185 • 7.3"
Typical boat size (ft • m)	29' - 38' • 9 - 12	B2 250 • 9.8"
Tunnel I.D. (mm • in)	185 • 7,3"	C Max 55 • 2.15"
Propulsion system	Single	D 270 • 10.6"
Power at 10.5V/21V* (kw • Hp)	4,0 • 5.4	E 130 • 5.1"
For DC system (V)	12	F 170 • 6.7"
Weight (kg • lbs)	22 • 48.5	
Rec. CCA (DIN** 12/24V)	500	

Item Code I2V

ES60/160S-12V



Bow and stern tunnels

Tunnels

GRP tunnels are available in several lengths for each thruster model. They are purpose built for our thrusters and provide ultimate strength, accuracy and osmosis protection to ensure an easy and safe thruster installation. The wall thickness is adapted to each thruster's power and boat size. Unlike most other thruster tubes, they are not just spun with a single tread, but in fact contains several layers of full rowing mat.

We also offer a selection of aluminum and steel tunnels.

See price list or our web site for available lengths and dimensions.



Stern tunnel kits

These transom-mounted tunnels are meticulously designed to enhance the performance of the thruster. Manufactured in fiberglass, they are extremely strong and durable. The complete installation is very easy and meets the high Side-Power standards. The additional cowls make it possible to allow a stern thruster installation in boats with shallow draft or obstructions on the stern.



Stern tunnels & cowls:

Item code for thruster:	SE 30/40	SE 60	SE 80/100	SE 120/150
Stern tunnel kit	90124i	90052i	90086i	90135i
Cowls - short model	-	90075	90075	-
Cowls - long model	90126	90077	90077	90136

Item code for thruster:	SE 130/170	SEI30/170	SE210	SP 240 / 285
Stern tunnel kit	90140i	90150i	90150i	90200i
Cowls - short model	-	-	-	-
Cowls - long model	90132	90132	90132	90220

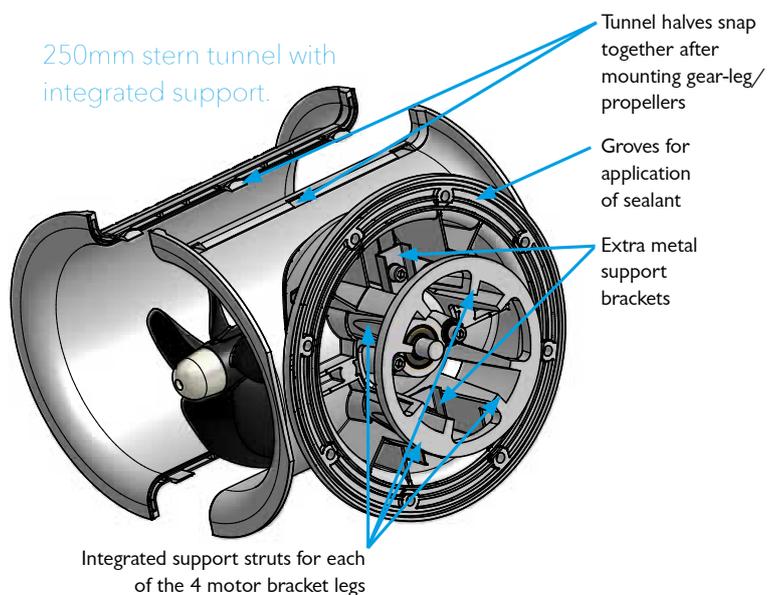


Injection mould stern tunnels

Injection mould tunnels with extra safety features; 30% stronger and specific breaking point design. Available for 125mm, 185mm and 250mm tunnel diameter thrusters. Item codes 90xxxi.

The new 250mm tunnel features split tunnel assembly for easier installation and integrated support for thruster motor and bracket, eliminating the need for an external support strut inside the boat. The split assembly makes it possible to mount the stern thruster from outside the transom, saving time and heavy lifting within crowded spaces.

Item code 90150i.



Control panels

Side-Power offers a unique series of «smart» control panels, an important part of a thruster system. Choose between our compact touch button, the popular joystick controls, the «docking» control panel with the most intuitive thruster control ever or the new exclusive round panel. Why not try the radio remote control for full mobility on board, being the perfect tool for short handed boating. Radio linked panels are also an option. Mix or match, the choice is yours!

Easy installation

- round cut-out hole (std.instrument size)
- installs from front side
- pre-fitted O-ring seal
- multi-voltage (12 & 24V)

Safety

- child-safe on/off system
- power / control light
- automatic deactivation
- easy operation

Quality

- waterproof (IP65-front)
- UV safe
- CE -approved

Design

- compact size
- modern styling
- no visible screw heads
- **NEW:** some models now available in black

New and upgraded radio remotes

The new and improved version of the radio remote control features a black transmitter with a black frame around the buttons, improving night visibility. The receiver is designed with a new external antenna for improved range and reliability.

Upgrades in the new model:

- Two way communication; the remote transmitter now features visual and audible alarms.
- Warning/alert given when the transmitter has no contact with the receiver and when the thruster supply voltage is to low.
- New external antenna solution for better reception and easier remote placement of the antenna (Extension cable available).
- More energy efficient transmitter- uses only one battery, maintains operating time from earlier model with two batteries.
- Dedicated version for S-link thrusters (8730 interface no longer required).



Control panel	8950	8955	8960	8965	8940	8909
Description	Touchpanel	Round touchpanel	Joystick panel	Boat switch panel	Dual joystick panel	Docking panel
H (mm • in)	70 • 2.75	Ø86.5 • 3.40	70 • 2.75	Ø86.5 • 3.40	120 • 4.73	120 • 4.73
W (mm • in)	70 • 2.75		70 • 2.75		70 • 2.75	70 • 2.75
Analog signal	Yes	Yes	Yes	Yes	Yes	Yes
S-Link digital signal	-	-	-	-	-	-
Multi-voltage	Yes	Yes	Yes	Yes	Yes	Yes
Child safety	Yes	Yes	Yes	Yes	Yes	Yes
No. of thrusters	1	1	1	1	2	2
For PRO DC Speed Control	-	-	-	-	-	-
Item Code Grey	8950	8955	8960 G	8965	8940 G	8909 C
Item Code Black			8960 S		8940 S	



S-link Control panels



8900 S-link Touch Panel for retractable thrusters

The compact and flush design keeps smaller dashboards tidy and prevents ropes from snagging on sailboats. LED status indicators report the status of the SR thruster via S-link, as well as clear and direct service notices.

PJC 212 Dual Joystick for DC Speed Control

- Finger tip control with purpose designed joysticks
- Hold - function for easy docking, runs thrusters at selected power
- Back-lit LCD display with instant feedback
 - System status
 - Amount of thrust & direction of thrust
 - Thruster temperature/remaining runtime
 - Battery status
- Interactive multi-language menus
- System setup via "wizard"
- Diagnostics via panel/computer interface
- Built-in audible alarm "buzzer"
- Connector for external "buzzer"/loud audible alarms
- Also available for hydraulic systems
- Can be used as ON/OFF panel with SR retractable thrusters

PJC 211 Single Joystick for DC Speed Control

Same as PJC212, but for one thruster.



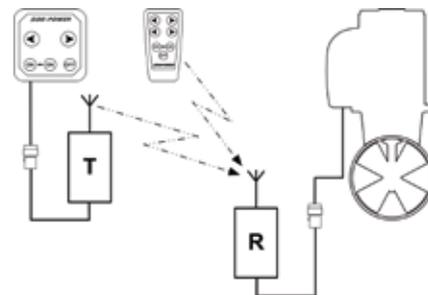
8900	PJC211	PJC212	RC-10	RC-11	RCS-10	RCS-11
Touch panel for retract	Single joystick for PRO	Dual joystick for PRO	Remote bow/stern	Remote bow/windlass	Remote bow/stern	Remote bow/windlass
70 • 2.75	141 • 5,55	141 • 5.55	95 • 3.74	95 • 3.74	95 • 3.74	95 • 3.74
70 • 2.75	83 • 3,27	83 • 3.27	48 • 1.89	48 • 1.89	48 • 1.89	48 • 1.89
-	-	-	Yes	Yes	-	-
Yes	Yes	Yes	-	-	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	Yes	Yes
1	1	2	2	1	2	1
-	Yes	Yes	-	-	Yes (on/off only)	Yes (on/off only)

8900	PJC211	PJC212	RC-10	RC-11	RCS-10	RCS-11
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Accessories

Radio link for control panels

The radio link eliminates the need for difficult cable runs between control panel(s) and thruster. Consisting of a transmitter box that connects to a control panel and a remote control receiver that plugs into the thruster(s), the receiver accepts up to 4 independent transmitters or hand held radio remotes. The multi-channel system supports two thrusters and can be mixed with hard wired control panels. Full Side-Power safety level with child-safe activation and intelligent auto-off, even at the receiver.



Item codes:

Radio link kit	8970
Extra transmitter unit for radio link kit	8975

Serial-parallel switch box

This switch box enables the installation of 24V thrusters in boats with a 12V system. With an additional 12V battery, you supply 24V for the thruster's operation, while all batteries are charged by your normal 12V system when the thruster is not running. The reliability of this fully automatic system has been proven in hundreds of boats over many years.

To install 24V thrusters in 12V boats (necessary extra battery is not included)

	For SE 120/130/150/170	For SE200/SP240
H x W x D (mm)	285 x 265 x 110	285 x 265 x 110
H x W x D (in)	11.2 x 10.4 x 4.3	11.2 x 10.4 x 4.3
Item code	I0I12A	I5I12A



Automatic main switch

The most user friendly and safe installation is provided with the automatic main switch/fuse. The main power to the thruster is conveniently controlled by the Side-Power control panel. Added safety is provided by the panel's auto-off and the thruster's overheat sensor, also controlling the main switch. Flexible mounting options, "Plug & Go" wiring, heavy terminals allowing double cables and only one item to fit ensures fast and easy installation.

For Side-Power thrusters (necessary fuse not included)

	12 Volt	24 Volt
H x W x D (mm)	175 x 205 x 140	175 x 205 x 140
H x W x D (in)	6.9 x 8.1 x 5.5	6.9 x 8.1 x 5.5
Item code	897612	897624



Fuse holder / Fuses

Side-Power manufactures fuse holders that are 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 sizes to match all of our thrusters.

Item code	Fuse	For thruster
ANL150	150A	SE30/125S - SE60/185S-24V
ANL250	250A	SE40/125S - SE60/185S-12 - SE80/185T-24
ANL325	325A	SE100/185T-24 - SE120/215T-24 - SE130/250T-24 - SP285TCi
ANL400	400A	SE80/185T-12 - SE150/215T-24 - SE170/250TC
ANL500	500A	SE100/185T-12 - SE130/250T-12 - SE210/250TC - SP240TCi
ANLHOLD		Fuseholder for all ANL type fuses
ANLHOLD-C		Fuseholder including clear cover



Accessories S-link



PPC 800 Power Control Unit

- Plug and play S-link control cable wiring
- Easy to access, solid main cable terminals
- Easy to place as it can be located anywhere between the batteries and the thruster, also in areas requiring ignition protected parts
- Reliable solid state switching
- Thermal and over current protection
- Active cooling for continuous usage



To upgrade a standard on/off thruster to a speed controlled thruster, you need a PPC 800 and the internal wiring loom needs to be upgraded with one of the following kits:

- 8 1997 - Upgrade kit SR80/100
- 8 1998 - Upgrade kit SE100/120/210/240
- 8 1999 - Upgrade kit SE30/40/60/80/130/150/170

Contact your local Side-Power distributor to get the correct upgrade kit for older Side-Power thrusters. Due to their sealed construction, IP-models (including SX) must be upgraded by an authorized Side-Power Distributor!



8730 S-link Interface

S-link interface to connect foot switches and standard radio remotes/control panels to a S-link system (Foot switches/Panels/Radio Remote not included).

	Interface Box
H (mm • in)	45 • 1.77
W (mm • in)	80 • 3.15
D (mm • in)	145 • 5.70
Item code (12 & 24V)	8730

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)



	Foot Switch
W (mm • in)	Ø105 • 4.13
Item code (Kit)	8751

Automatic Main Switch for S-link

The most user friendly and safe installation is provided with the automatic main switch/fuse. The main power to the thruster is conveniently controlled by the Side-Power control panel. Added safety is provided by the panel's auto-off and the thruster's overheat sensor, also controlling the main switch. Flexible mounting options, S-link control cable, heavy terminals allowing double cables and only one item to fit ensures fast and easy installation.

For Side-Power S-link thrusters (necessary fuse not included)

	12 Volt	24 Volt
H x W x D (mm)	175 x 205 x 140	175 x 205 x 140
H x W x D (in)	6.9 x 8.1 x 5.5	6.9 x 8.1 x 5.5
Item code	897712	897724



The S-link System

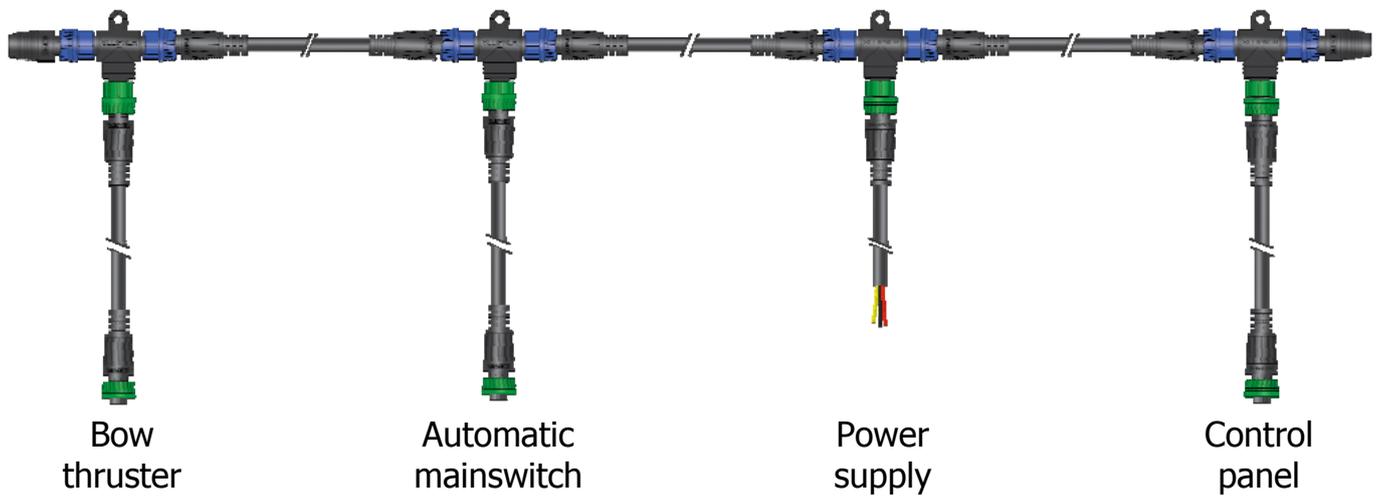


S-link is a "CAN" based control system with full intelligent communication between all units in the system, much like a computer network. It is used for all retract thrusters and all PRO version thrusters with the DC speed control system.

Main advantages include:

- 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 at panel
- Intelligent troubleshooting

S-link cable component overview



Backbone cables

Forms the main "loop" around the boat.

Part #: 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 1320-15M (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.

Part #: 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

Part #: 6 1328



Backbone extender

Connects two backbone cables to extend length.

Part #: 6 1322



T-connector

Must be one for each spur, including power cable.

Part #: 6 1326



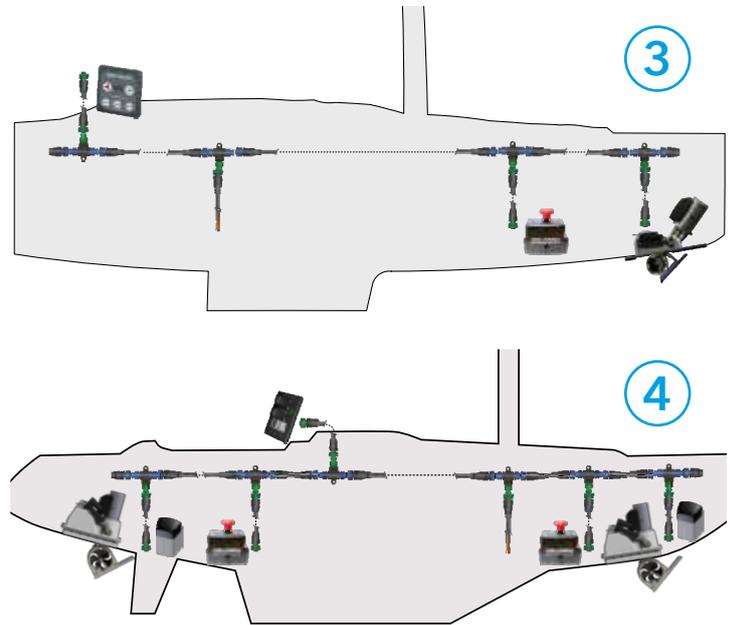
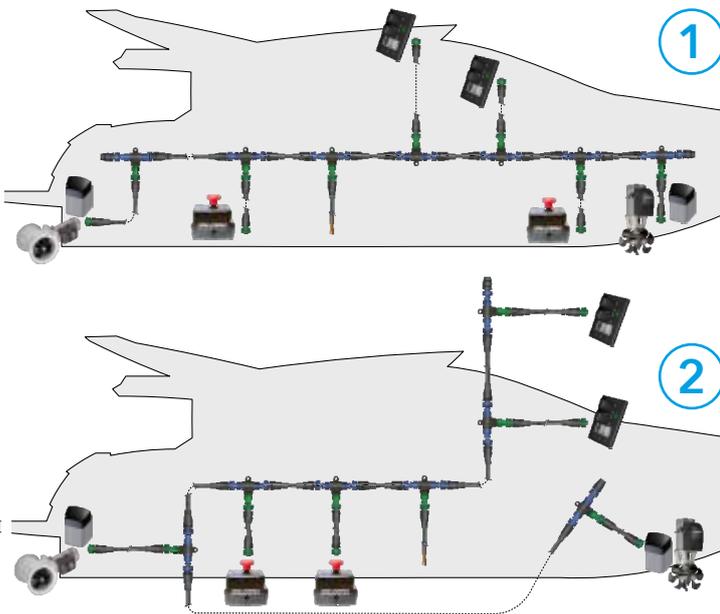
End terminator

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

Part #: 6 1327



S-link system examples



Examples 1 and 2: 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.

Example 3: S-link system for boats with one control position and one retractable thruster.

Example 4: S-link system for boats with one control position and two DC proportional retractable thrusters

Item code	Description	Ex. 1 & 2	Ex. 3	Ex. 4
6 1320-xx	Backbone cable	6 pcs	3 pcs	5 pcs
6 1321-xx	Spur cable	6 pcs	3 pcs	5 pcs
6 1326	T-connector	7 pcs	4 pcs	6 pcs
6 1328	Power cable	1 pc	1 pc	1 pc
6 1327	End terminator	2 pcs	2 pcs	2 pcs

Plug&Play control cables

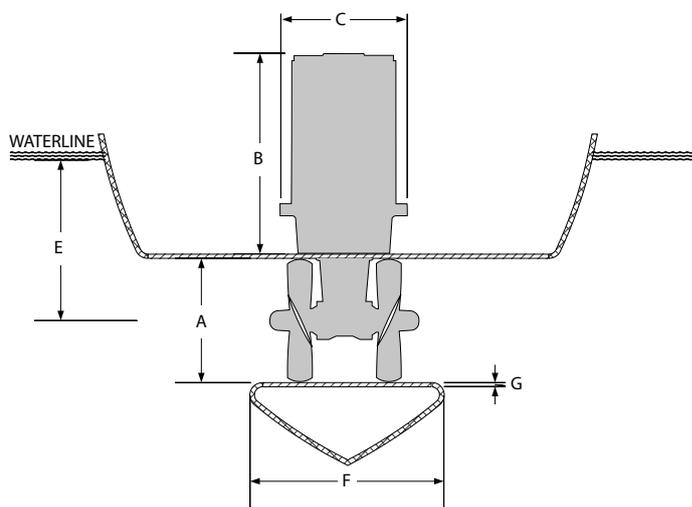
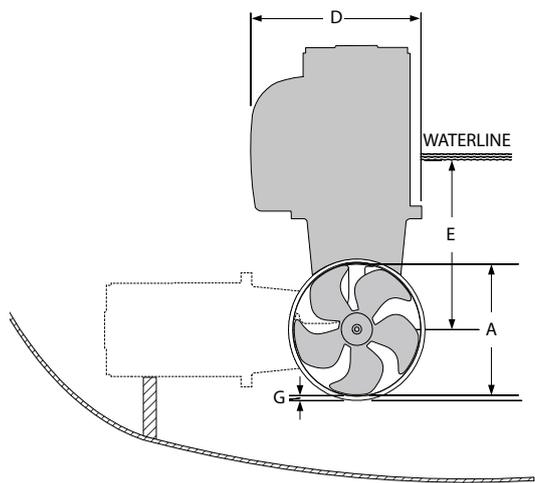
Make sure that the complete installation meets the Side-Power quality standard and take advantage of our "Plug & Go" wiring system by using original control looms. They are available in many different lengths and Y-connectors tie multiple control positions together. Color coded to match the wiring diagrams with high quality connectors to ensure a 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, as the extra lead will actively control the switch and thereby the main power to the thruster, adding extra safety. Please see schematics on page 7.

Description	Item code 4-lead	Item code 5-lead
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	6 1273

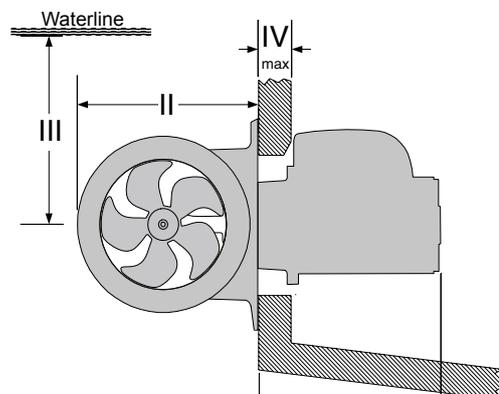


Measurements SE Series

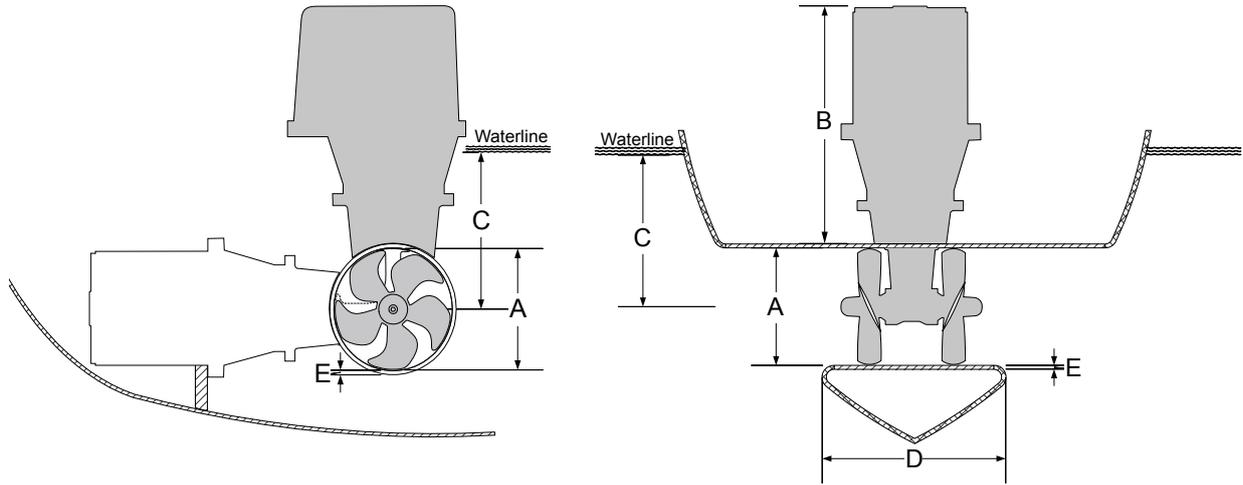


Thruster (mm • in)	A	B	C	D	E _{min}	F	F _{recommended}	G _{min}	G _{max}
SE30/125S	125 • 4.92	234 • 9.2	190 • 7.5	180 • 7.1	125 • 4.9	92 • 3.6	184 • 7.25	4 • 0.16	5 • 0.20
SE40/125S	125 • 4.92	234 • 9.2	190 • 7.5	180 • 7.1	125 • 4.9	92 • 3.6	184 • 7.25	4 • 0.16	5 • 0.20
SE60/185S	185 • 7.3	265 • 10.4	208 • 8.2	197 • 7.8	150 • 5.9	117 • 4.6	234 • 9.2	4 • 0.16	6 • 0.24
SE80/185S	185 • 7.3	361 • 14.2	208 • 8.2	200 • 7.9	200 • 7.9	170 • 6.7	340 • 13.4	6 • 0.24	8 • 0.31
SE100/185T	185 • 7.3	389 • 15.3	245 • 9.6	245 • 9.6	200 • 7.9	170 • 6.7	340 • 13.4	6 • 0.24	8 • 0.31
SE120/215T	215 • 8.46	389 • 15.3	245 • 9.6	250 • 9.8	215 • 8.5	280 • 11.0	560 • 22.0	6 • 0.24	8 • 0.31
SE130/250T	250 • 9.84	398 • 15.7	254 • 10.0	256 • 10.1	230 • 9.0	280 • 11.0	560 • 22.0	7 • 0.28	10 • 0.39
SE150/215T	215 • 8.46	398 • 15.7	254 • 10.0	260 • 10.2	230 • 9.0	280 • 11.0	560 • 22.0	7 • 0.28	10 • 0.39
SE170/250TC	250 • 9.84	421 • 16.6	230 • 9.1	256 • 10.1	250 • 9.8	300 • 11.8	600 • 23.6	7 • 0.28	10 • 0.39
SE210/250TC	250 • 9.84	478 • 18.8	260 • 10.2	281 • 7.5	250 • 9.8	300 • 11.8	600 • 23.6	7 • 0.28	13 • 0.51
SP240TCi	300 • 11.81	490 • 19.3	266 • 10.5	296 • 11.7	300 • 11.8	300 • 11.8	600 • 23.6	10 • 0.39	13 • 0.51
SP285TCi	300 • 11.81	455 • 17.9	270 • 10.6	310 • 12.2	300 • 11.8	300 • 11.8	600 • 23.6	10 • 0.39	13 • 0.51

Stern thruster (mm • in)	I	II	III _{min}	IV _{max}	V	VI	Tunnel Length
SE30/125S	196 • 7.72	190 • 7.48	135 • 5.31	14 • 0.55	160 • 6.3	217 • 8.5	197 • 7.76
SE40/125S	196 • 7.72	190 • 7.48	135 • 5.31	14 • 0.55	160 • 6.3	217 • 8.5	197 • 7.76
SE60/185S	225 • 8.90	256 • 10.1	150 • 5.91	35 • 1.38	200 • 7.8	300 • 11.8	337 • 13.27
SE80/185S	321 • 13.7	256 • 10.1	200 • 7.87	54 • 2.13	200 • 7.8	300 • 11.8	337 • 13.27
SE100/185T	349 • 4.92	256 • 10.1	200 • 7.87	54 • 2.13	200 • 7.8	300 • 11.8	337 • 13.27
SE120/215T	349 • 4.92	300 • 11.8	215 • 8.46	54 • 2.13	200 • 7.8	300 • 11.8	330 • 13.0
SE130/250T	359 • 14.13	340 • 13.4	250 • 9.84	60 • 2.36	200 • 7.8	350 • 11.8	350 • 13.87
SE150/215T	359 • 14.13	300 • 11.8	215 • 8.46	54 • 2.13	200 • 7.8	350 • 13.8	330 • 13.0
SE170/250TC	382 • 15.04	340 • 13.4	250 • 9.84	60 • 2.36	200 • 7.8	350 • 13.8	350 • 13.87
SE210/250TC	420 • 46.54	360 • 14.2	300 • 11.81	50 • 1.97	200 • 7.8	350 • 13.8	350 • 13.87
SP240TCi	441 • 17.36	420 • 16.5	300 • 11.81	60 • 2.36	258 • 10.2	396 • 15.6	456 • 17.95
SP285TCi	406 • 15.98	420 • 16.5	300 • 11.81	60 • 2.36	258 • 10.2	396 • 15.6	456 • 17.95

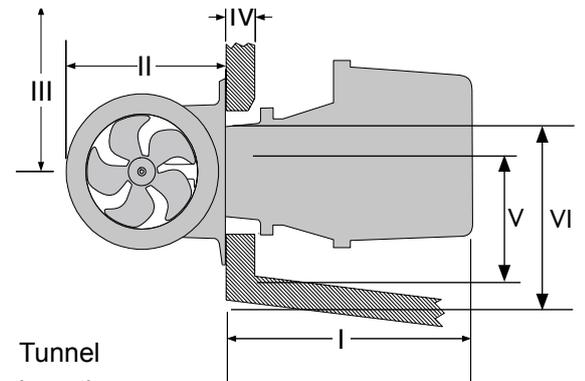


Measurements SE IP Series



Thruster (mm • in)	A	B	C	D	E _{min}	F	F _{recommended}	G _{min}	G _{max}
SE30/125S IP	125 • 4.92	245 • 9.6	226 • 8.9	230 • 9.1	125 • 4.92	92 • 3.6	184 • 7.25	4 • 0.16	5 • 0.20
SE40/125S IP	125 • 4.92	245 • 9.6	226 • 8.9	230 • 9.1	125 • 4.92	92 • 3.6	184 • 7.25	4 • 0.16	5 • 0.20
SE60/185S IP	185 • 7.3	270 • 10.6	230 • 9.1	272 • 10.7	150 • 5.91	117 • 4.6	234 • 9.2	4 • 0.16	6 • 0.24
SE80/185S IP	185 • 7.3	376 • 14.8	262 • 10.3	327 • 12.9	200 • 7.87	170 • 6.7	340 • 13.4	6 • 0.24	8 • 0.31
SE100/185T IP	185 • 7.3	451 • 17.8	308 • 12.1	382 • 15.0	200 • 7.87	170 • 6.7	340 • 13.4	6 • 0.24	8 • 0.31
SE120/215T IP	215 • 8.46	451 • 17.8	308 • 12.1	382 • 15.0	215 • 8.46	280 • 11	560 • 22.0	6 • 0.24	8 • 0.31
SE130/250T IP	250 • 9.84	451 • 17.8	308 • 12.1	382 • 15.0	230 • 9.00	280 • 11	560 • 22.0	7 • 0.28	10 • 0.39
SE170/250TC IP	250 • 9.84	451 • 17.8	308 • 12.1	382 • 15.0	250 • 9.84	300 • 11.8	600 • 23.6	7 • 0.28	10 • 0.39

Stern thruster (mm • in)	I	II	III _{min}	IV _{max}	V	VI	Tunnel Length
SE30/125S	220 • 8.66	190 • 7.48	135 • 5.1	14 • 0.55	160 • 6.3	217 • 8.5	197 • 7.76
SE40/125S	220 • 8.66	190 • 7.48	135 • 5.31	14 • 0.55	160 • 6.3	217 • 8.5	197 • 7.76
SE60/185S	265 • 10.43	256 • 10.1	150 • 5.91	35 • 1.38	200 • 7.8	300 • 11.8	337 • 13.27
SE80/185S	399 • 15.70	256 • 10.1	200 • 7.87	54 • 2.13	200 • 7.8	300 • 11.8	337 • 13.27
SE100/185T	407 • 16.02	256 • 10.1	200 • 7.87	44 • 1.73	200 • 7.8	300 • 11.8	337 • 13.27
SE120/215T	407 • 16.02	300 • 11.8	215 • 8.46	44 • 1.73	200 • 7.8	300 • 11.8	330 • 13.00
SE130/250T	407 • 16.02	340 • 13.4	250 • 9.84	60 • 2.36	200 • 7.8	350 • 13.8	350 • 13.87
SE170/250TC	407 • 16.02	340 • 13.4	250 • 9.84	60 • 2.36	200 • 7.8	350 • 13.8	350 • 13.87



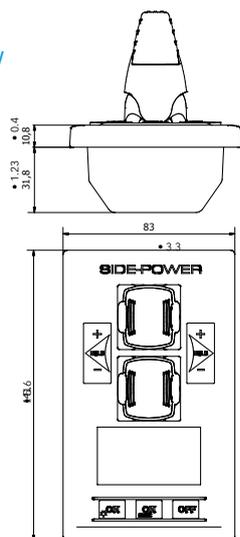
Measurements EB Series

Model	EB20	EB40	EB60	EB75	EB90
A	197 • 7.8	270 • 10.63	310 • 12.25	310 • 12.25	310 • 12.25
B	158 • 6.25	150 • 6.0	150 • 6.0	150 • 6.0	150 • 6.0
C	106 • 4.2	120 • 4.75	130 • 5.15	130 • 5.15	130 • 5.15
D	29 +/-5 • 1.15 +/- 0.2	15+/-8 • 0.6 +/- 0.32	15+/-8 • 0.6 +/- 0.32	50+/-8	50+/-8
E	180 • 7.1	192 • 7.6	192 • 7.6	200 • 7.9	200 • 7.9
F	135 • 5.32	198 • 7.8	210 • 8.3	210 • 8.3	210 • 8.3
G	136 • 5.36	65,5 • 2.6	65,5 • 2.6	75 • 3.0	75 • 3.0
H	110 • 4.34	160 • 6.3	160 • 6.3	185 • 7.3	185 • 7.3
I	286 • 11.3	230 • 9.1			
J	248 • 9.8				
K	130,5 • 5.12				
L	24,5 • 0.95				
M	25 • 0.99				
N	120 • 4.73				

Measurements in mm • in

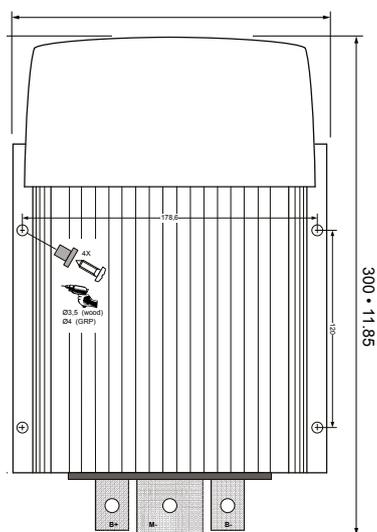
Accessories

PJC 211/
212/
221/
222



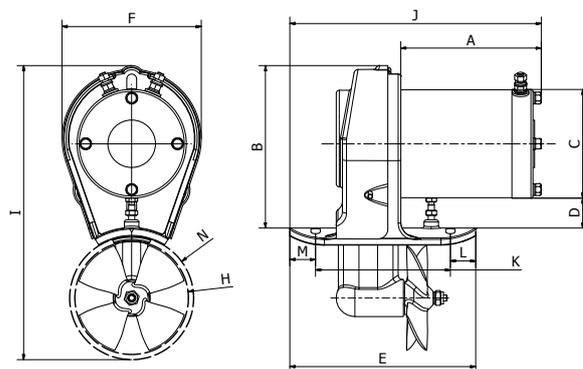
PPC 800

190 • 7.5

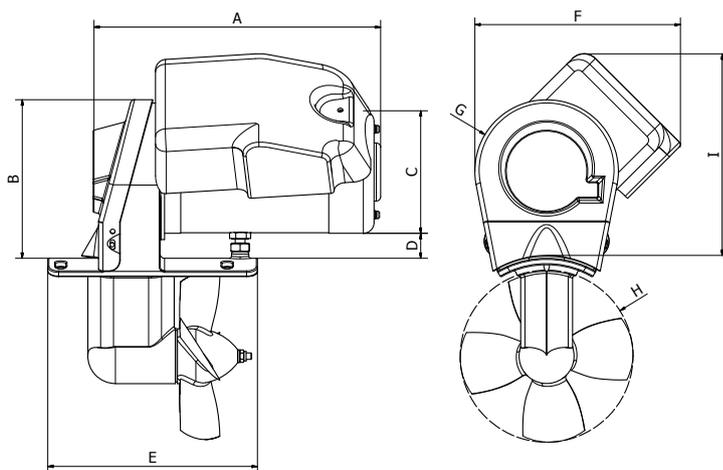


Depth: 140 • 5.51

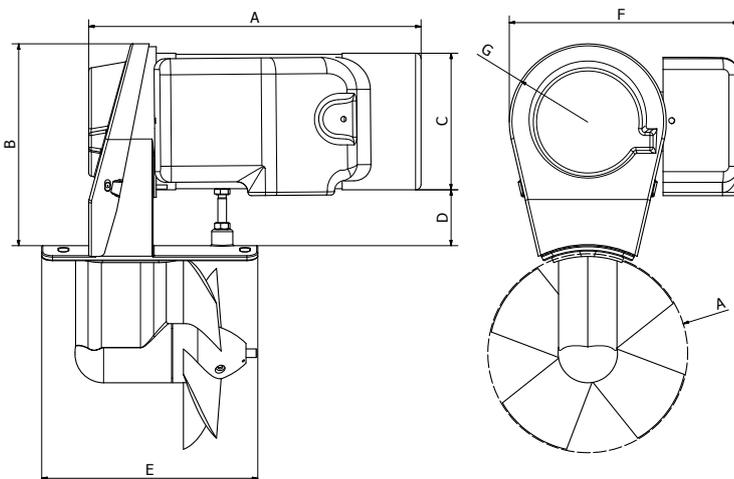
EB 20



EB 40



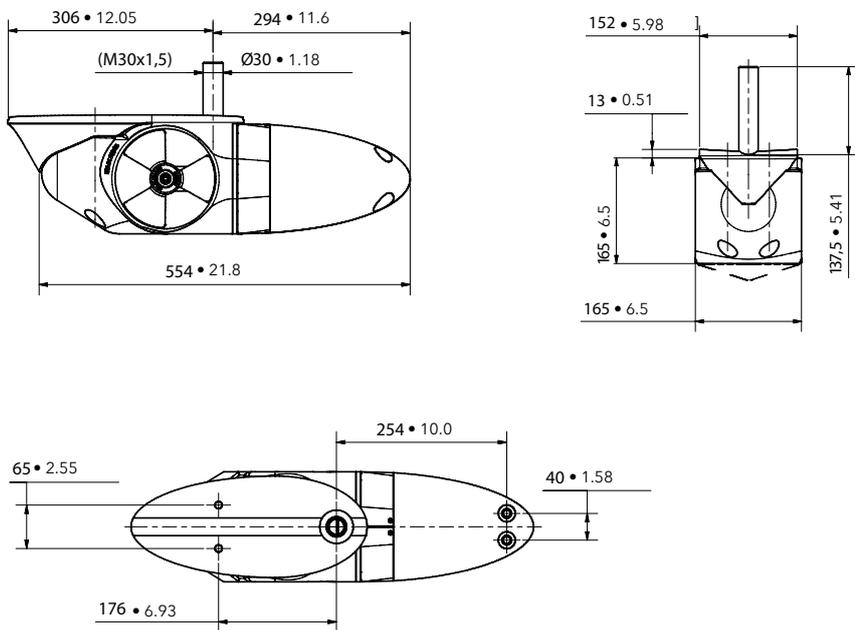
EB 60/
75/90



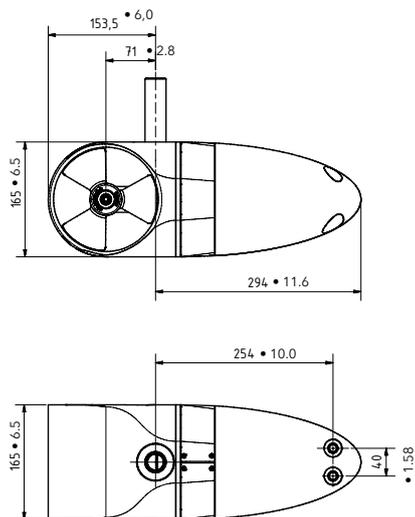
Measurements EX Series



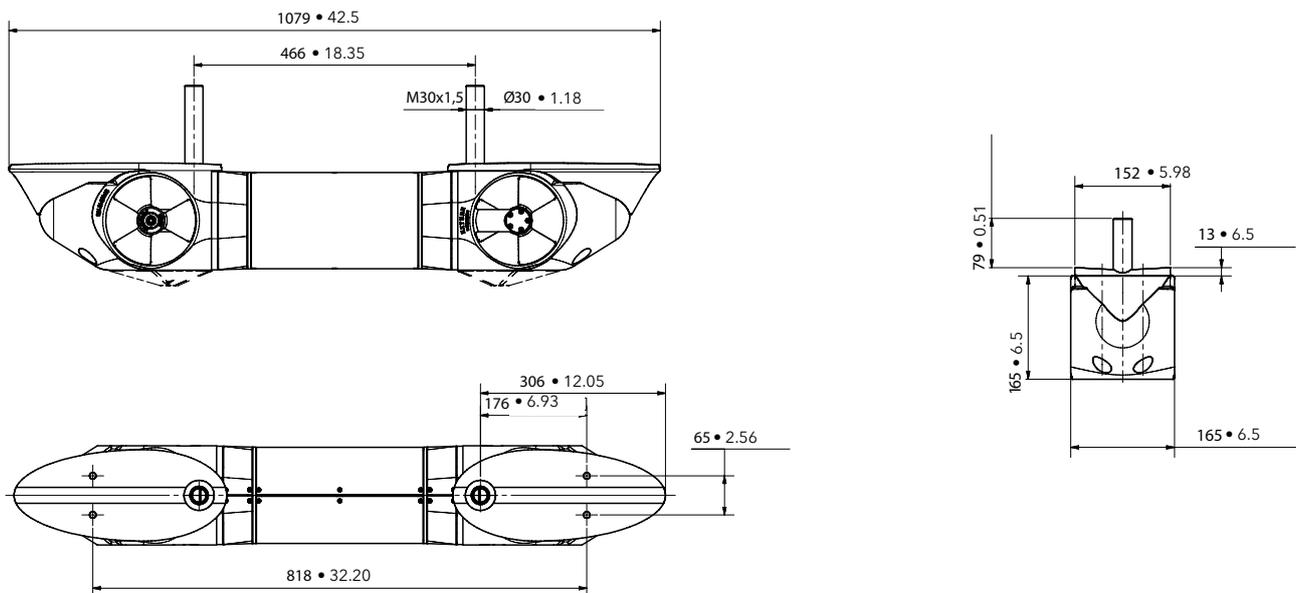
EX Single



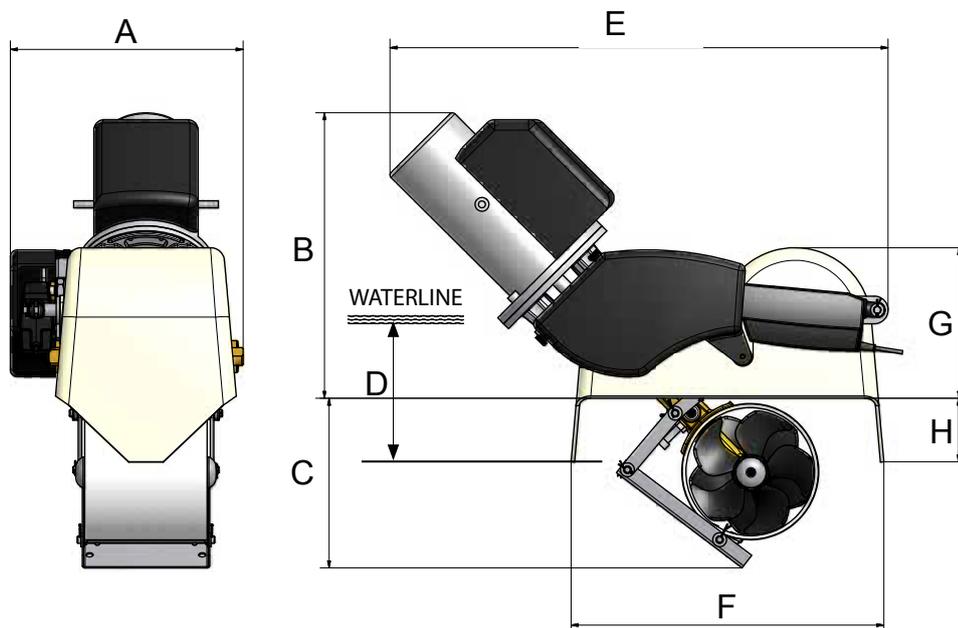
EX Compact



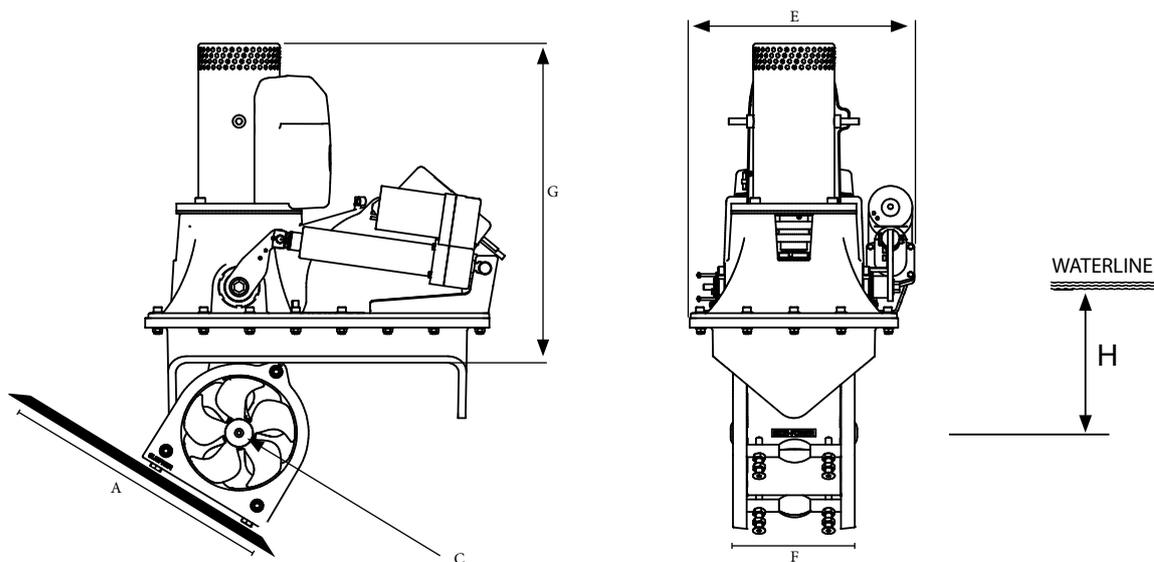
EX Dual



Measurements SR Series



Thruster (mm • in)	A	B	C	D _{min}	E	F	G	H
SR80/185T	335 • 13.2	413 • 16.3	245 • 9.6	185 • 7.3	716 • 28.2	450 • 17.7	218 • 8.6	92 • 3.6
SR100/185T	335 • 13.2	460 • 18.1	245 • 9.6	185 • 7.3	745 • 29.3	450 • 17.7	218 • 8.6	92 • 3.6

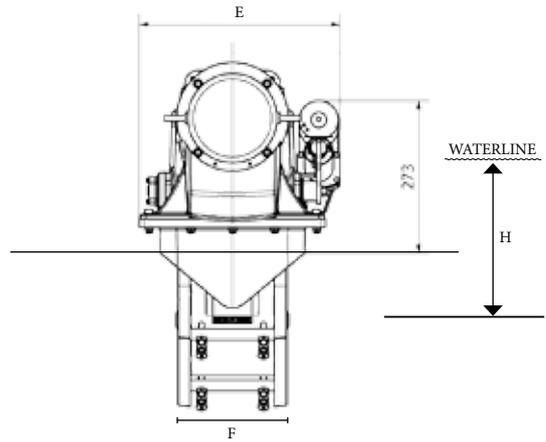
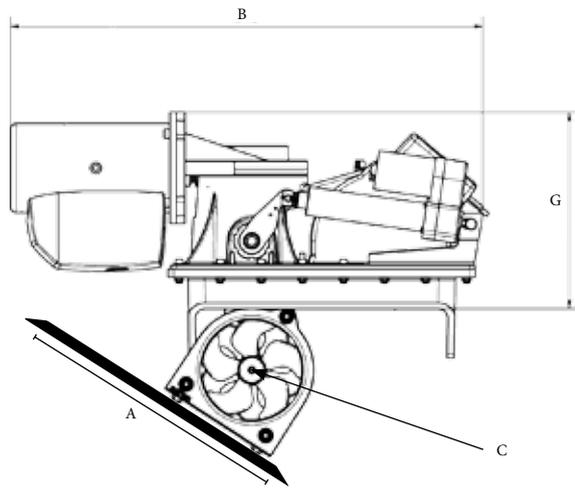


Thruster (mm • in)	A	B	C	D	E	F	G	G _(w. Hyd. motor)	H _{min}
SRV80/185T	450 • 17.7	564 • 22.2	Ø185 • 7.3	335 • 13.2	359 • 14.1	234 • 9.2	500 • 19.7	353 • 13.9	185 • 7.3
SRV100/185T	450 • 17.7	564 • 22.2	Ø185 • 7.3	335 • 13.2	359 • 14.1	234 • 9.2	528 • 20.8	353 • 13.9	185 • 7.3
SR130/250T	600 • 23.6	688 • 27.1	Ø250 • 9.8	395 • 15.6	480 • 18.9	370 • 14.7	594 • 23.4	482 • 19.0	250 • 9.8
SR170/250TC	600 • 23.6	688 • 27.1	Ø250 • 9.8	395 • 15.6	480 • 18.9	370 • 14.7	609 • 24.0	482 • 19.0	250 • 9.8
SR210/250TC	600 • 23.6	688 • 27.1	Ø250 • 9.8	395 • 15.6	480 • 18.9	370 • 14.7	694 • 27.3	482 • 19.0	250 • 9.8



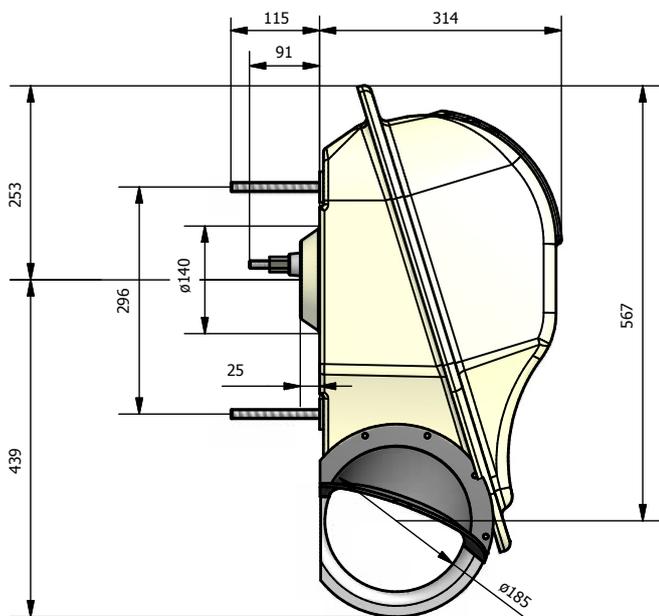


Measurements SR Series

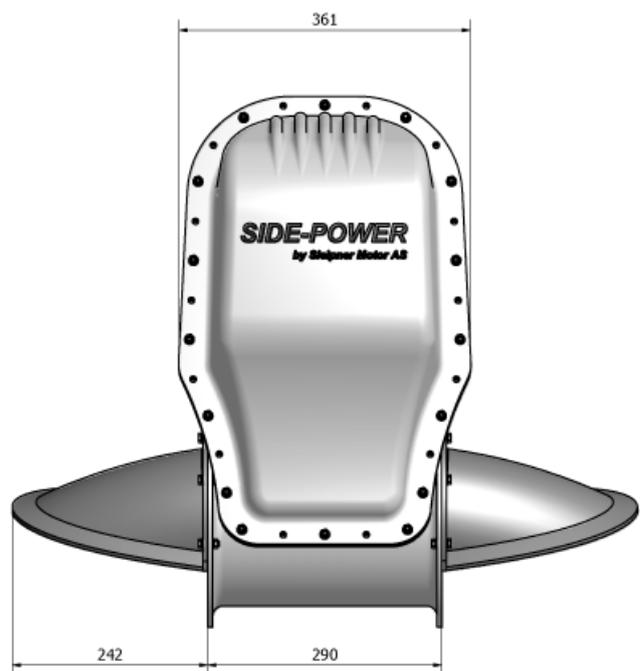


Thruster (mm • in)	A	B	C	D	E	F	G	H _{min}
SRL80/185T	500 • 17.7	845 • 33.3	Ø185 • 7.3	335 • 13.2	359 • 14.1	234 • 9.2	352 • 13.6	185 • 7.3
SRL100/185T	500 • 17.7	845 • 33.3	Ø185 • 7.3	335 • 13.2	359 • 14.1	234 • 9.2	352 • 13.6	185 • 7.3

Measurements SX Series



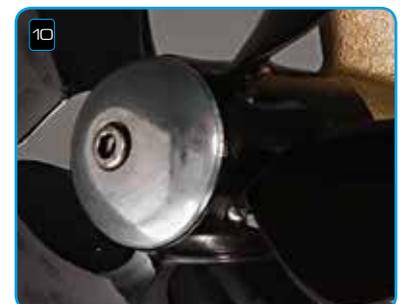
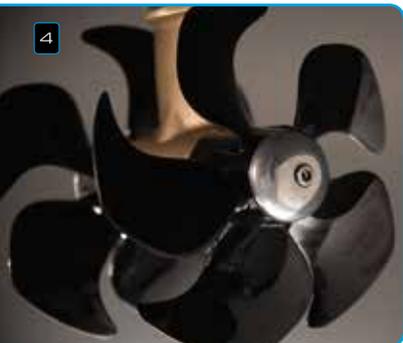
Max. stern thickness: 100mm (80mm recommended)



The difference is in the details

Side-Power benefits

- 1 Compact sized and modern styled control panels with hidden screw heads.
- 2 The round cut-out hole, the pre-fitted seal and easy front mount with hidden screws ensure fast and flawless installation.
- 3 Side-Power thrusters come standard with an integrated processor, protecting the unit against operator errors and technical problems.
- 4 Lightweight, sturdy and non-corrosive, composite propellers are perfect for thrusters of all sizes.
- 5 Hardened spiral-cut gears for extended lifetime, low noise and more compact gear-leg design.
- 6 Machined and assembled to perfect tolerances, using high end purpose made components ensures extended lifetime for professional use.
- 7 Side-Power developed electric motors for maximum performance and efficiency in real-life onboard conditions. Details increasing safety and ease of installation are standard.
- 8 The child safe on/off system minimizes the risk of accidental or unintentional operation.
- 9 While other joysticks might appear similar, the unique Side-Power joysticks are made of fully UV protected silicon based rubber to ensure long term reliability.
- 10 Side-Power's zinc anodes are outside the propellers for easy access and replacement.



Upgrade your Side-Power



Go PRO

Upgrade your existing Side-Power to full proportional speed control with extended run-times and less noise.

5-bladed Q-prop

- Up to 40% noise reduction
- Complete upgrade kits
- Increased thrust
- Easy mounting
- Great value!

Go mobile

Free yourself from the dashboard and increase your single handed docking abilities. The receiver accepts up to 4 independent transmitters.

Footnotes

Note 1)

* All Side-Power thrusters gets their thrust rating from the actual performance you can expect in a boat, at the voltage a normal installation will provide at the thruster. We have chosen to use the net performance at 10.5V/21V, but we also list the effect at 12V/24V for comparison.

** All Battery CCA Ratings are stated at the DIN Rating, multiply by 1.9 to equal the SAE rating at 0°F which is ABYC standard. Cold cranking amperes (CCA) is the amount of current a battery can provide at 0 °F (-18 °C). The rating is defined as the current a lead-acid battery at that temperature can deliver for 30 seconds and maintain at least 1.2 volts per cell (7.2 volts for a 12-volt battery). It is a more demanding test than those at higher temperatures. This is the most widely used cranking measurement for comparison purposes.

Contact you battery supplier/electrical engineer for technical details regarding batteries.

Note 2)

* Performance thrust equivalent (kgf x 1.4) due to increased leverage, depth of installation and short transverse tunnel.

** Depending on displacement and hull shape considerations

Note 3)

* The charts shown here are general guidelines and your dealer will be able to give more detailed advice on the thruster size to use for your boat.

Sleipner Motor AS constantly seeks ways of improving specifications, design and production. Thus, alterations take place continuously. Whilst every effort is made to produce up-to-date literature, this brochure should not be regarded as a definitive guide to current specifications, nor does it constitute an offer for the sale of any particular product. All Side-Power products fulfill the requirements of the relevant CE-directives.

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ISO 9001 CERTIFIED COMPANY



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Fin stabilizers



AC thrusters



Steering systems