

Keep this
manual onboard!



User Manual

For Thruster Models
SHP Hydraulic



SLEIPNER GROUP

P.O. Box 519
N-1612 Fredrikstad
Norway
www.sleipnergroup.com

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General Operation Consideration and Precaution Guidelines

For the operation of thrusters

Never use thrusters when close to objects, persons or animals in the water. The thruster will draw objects into the tunnel and the rotating propellers. This will cause serious injuries and damage the thruster.

Always turn the main power switch off before touching any part of the thruster. An incidental start while touching moving parts can cause serious injuries.

It is the owner, captains or other responsible parties full responsibility to assess the risk of any unexpected incidents on the vessel. If the thruster stops giving thrust for some reason while manoeuvring you must have considered a plan on how to avoid damage to persons or other objects.

- Always turn the control device off when the thruster is not in use or when leaving the boat.
- When leaving the boat always turn off the main power switch for the thruster.
- Never use thrusters out of water without load.
- If the thruster stops giving thrust while running, there is possibly a problem in the drive system. You must immediately stop running the thruster and turn it off. Running the thruster for more than a few seconds without resistance from the propeller can cause serious damage to the thruster.
- If two panels are operated with conflicting directions at the same time the thruster will not run. If both are operated in the same direction, the thruster will run in this direction.
- If you notice any faults with the thruster switch it off to avoid further damage.
- The primary purpose of the thruster is to manoeuvre or dock the vessel. Forward or reverse speed must not exceed 4 knots when operated.

For the operation of hydraulic motor thrusters

- If the performance of the thruster is reduced check the hydraulic system or check the tunnel for marine growth.

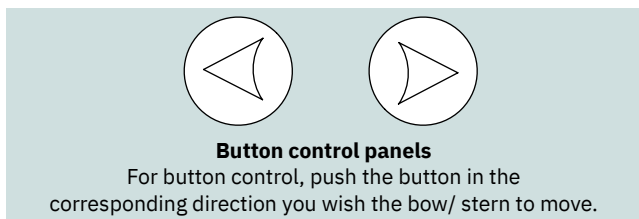
! Please refer to the graphic for special considerations relating to your model !

The following is an operation guide to ALL Sleipner control products. Ensure to familiarise yourself with the functionality and operation of your specific control device.

Take time to practice operation in open water to become familiar with the thruster and to avoid damages to your boat or people.

General operation

1. Turn on the main power switch for the bow thruster. *(NB: Always turn off the main power switch when not on-board.)*
2. Turn on the control panel by pushing the/ both "ON" button(s) on the original Sleipner panel simultaneously.
*Turn off the control panel by pushing the "OFF" button
3. To Turn the bow/ stern in the desired direction:

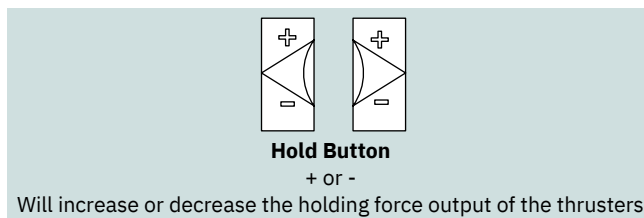


(NB: If equipped for proportional control move the joystick equivalent to the amount of thrust you intend to receive.)

* For other controls like foot switches or toggle-switches please refer to that products user manual for detailed operational use.

Hold functionality

If equipped with 'hold' functionality push the button in the corresponding direction you wish the thrusters to engage a holding pattern:

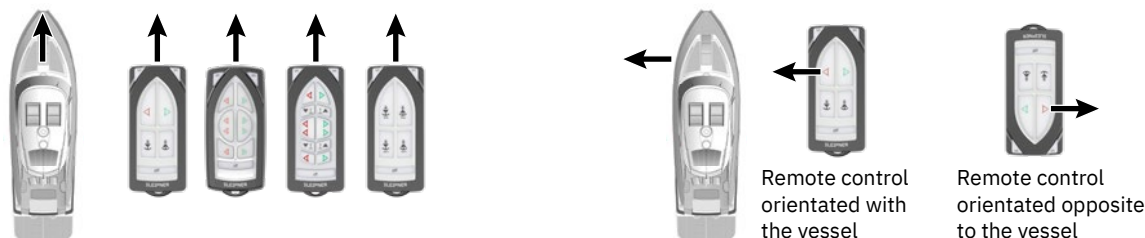


Operating a combined bow and stern thruster

The combination of a bow and stern thruster offers total manoeuvrability to move the bow and the stern separately from each other or in unison. This enables the boat to move sideways in both directions or turn the boat around a 360° axis while staying stationary.

Remote controls

The remote control design reflects the vessel for orientation guidance. Be aware of the remote control orientation during operation.



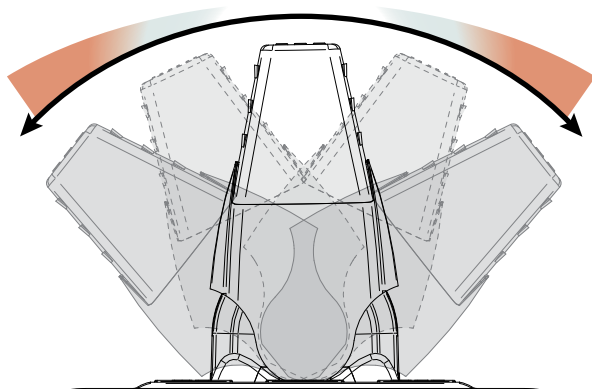
Drift

Depending on the sideways speed of the bow/ stern, you must disengage the control device shortly before the vessel is in the desired position.

(NB: Be aware the boat will continue to move after disengaging the thruster control.)

At any significant cruising speed (+1-2 kn) the side thruster will have little effect to steer the vessel.

Proportional Control



Variable thrust power for proportional thrusters is dependent on the extent of the joystick/ throttle.

For minimal thrust slightly move the joystick/ throttle in one direction.

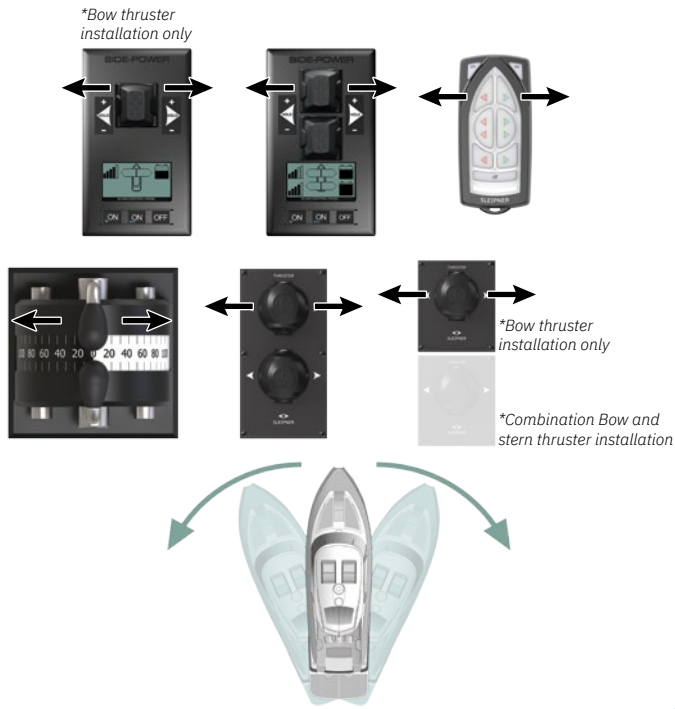
For Maximum thrust move the joystick/ throttle to its end point.

Proportional Control Panel

Activating the bow thruster

Using your control device/ panel Press the button or move the joystick in the direction you intend to turn the boat. Ensure to use the control device/ panel designated for the bow thruster.

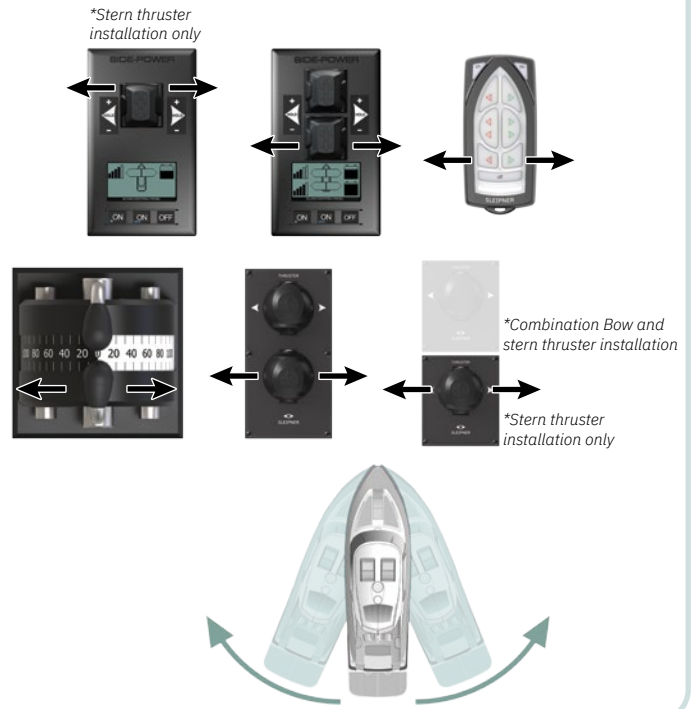
*Control panel example



Activating the stern thruster

Using your control device/ panel Press the button or move the joystick in the direction you intend to turn the boat. Ensure to use the control device/ panel designated for the stern thruster.

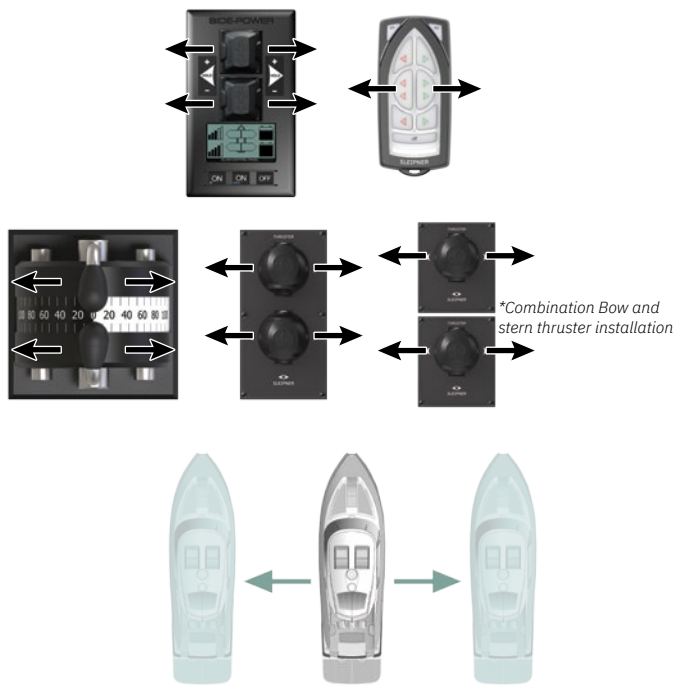
*Control panel example



Activating full sidwards maneuverer

Using your control device/ panel Press both buttons or move the joysticks in the same direction you intend to move the boat. Requires both a bow and stern thruster to perform.

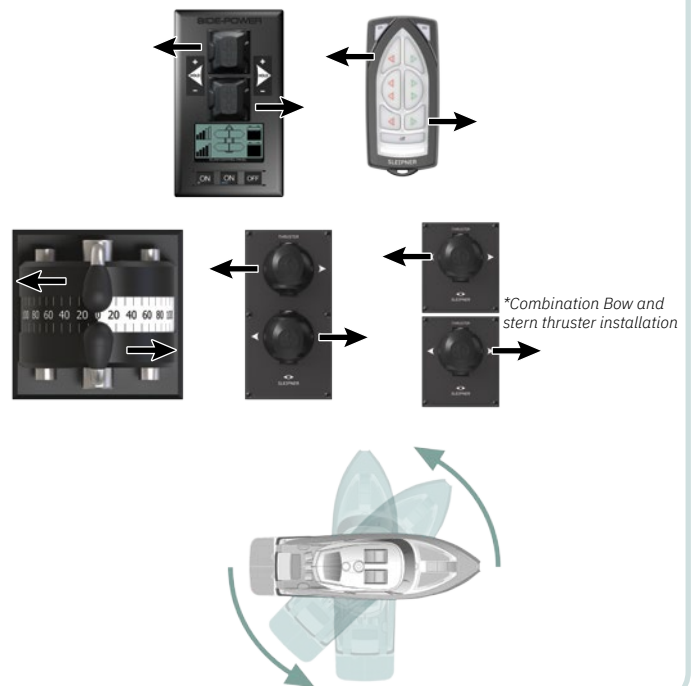
*Control panel example



Activating stationary spin to rotate the boat on its axis

Using your control device/ panel Press both buttons or move the joysticks in opposing directions. Requires both a bow and stern thruster to perform.

*Control panel example



For additional information on your control panel or device refer to your control devices user manual

! Please refer to the graphic for special considerations relating to your model !

As a part of the seasonal service of your Thruster before every season, always check that:

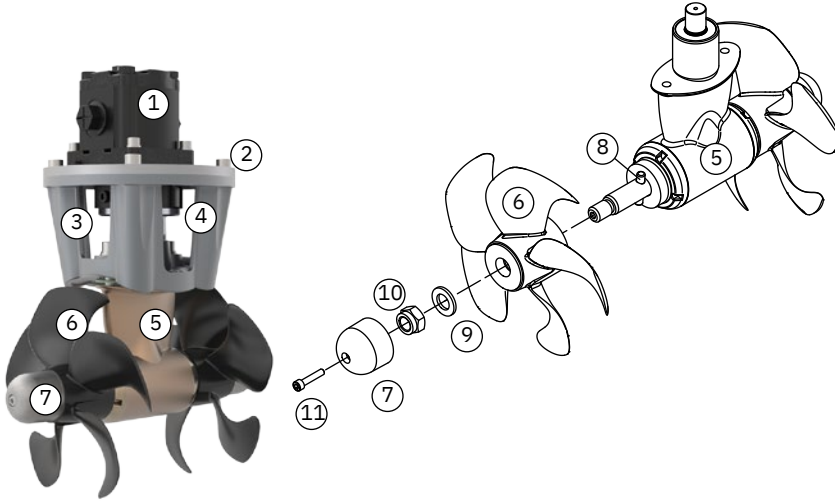
In Water/ Out of the Water

- The area around the thruster inside the boat is clean and dry. Ensure there are no signs of water or oil leaks.
- All electrical connections are clean and fastened firmly.
- Ensure that your batteries are in good condition.

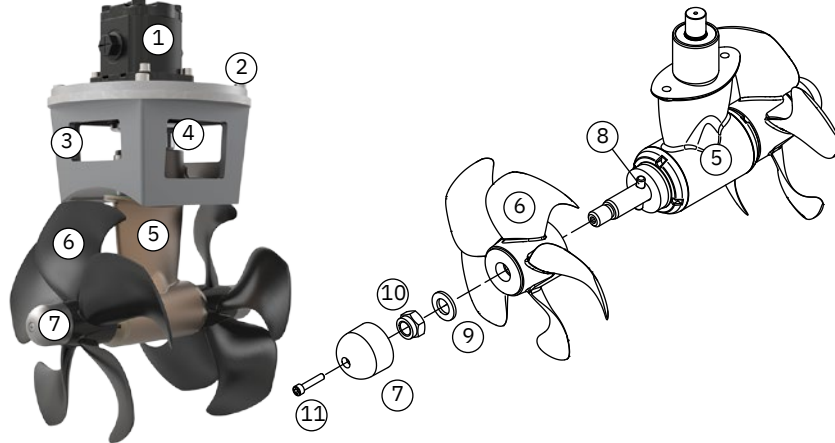
Out of Water

- Check the propeller(s) or tunnel for any damage for example impact damage.
- The propeller(s) is fastened securely to the gear leg.
- Check all components of thruster are fastened securely.
- Clean the tunnel and gear leg from marine growth.
- Paint the propeller and gear leg with anti-fouling before every season to keep it clean from sea growth. **(NB: Never paint the anode, rubber seals or propeller shaft. Ensure paint does not enter the space between the propeller and the gear leg.)**
- Change the anode before every season, or when half the anode has eroded. Always use a sealant or thread glue on the securing screw to ensure that it does not fall off.
- Ensure propellers are attached correctly. **(NB: Counter rotating models use a left hand/ right hand propeller.)**
- If an external oil tank is installed with your model, ensure the oil level remains the same.

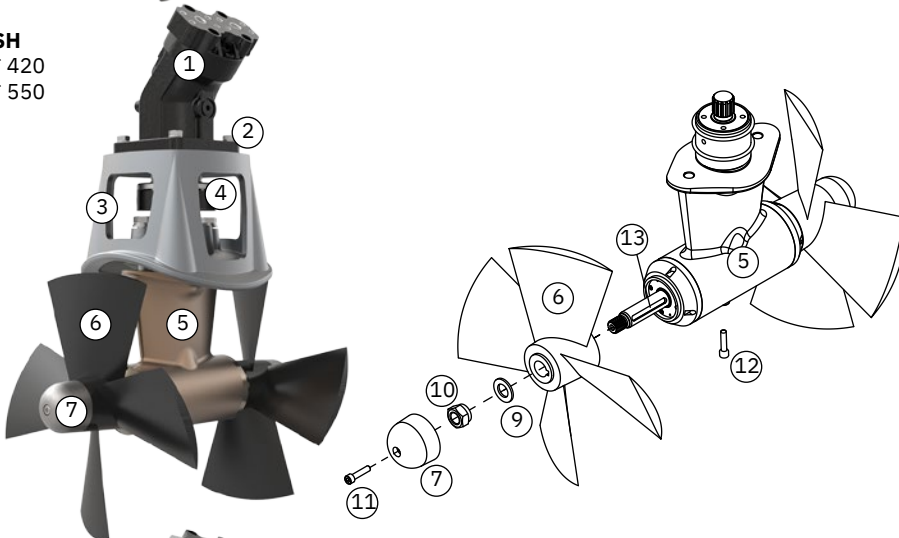
SH
* 100
* 160
* 240



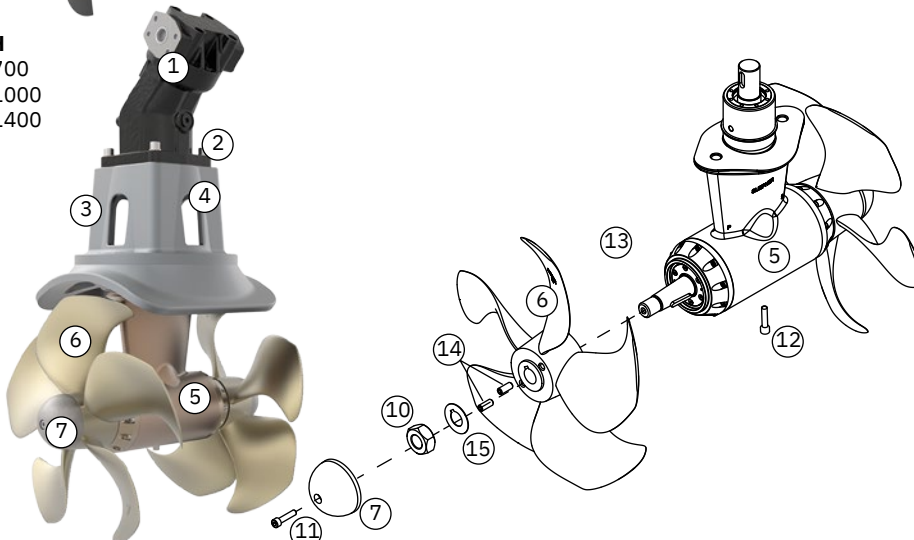
SH
* 320



SH
* 420
* 550



SH
* 700
* 1000
* 1400



KEY:

- 1. Hydraulic Motor
- 2. Mounting Plate
- 3. Motor bracket
- 4. Flexible coupling
- 5. Gear Leg
- 6. Propeller
- 7. Anode
- 8. Drive pin
- 9. Washer
- 10. Lock Nut
- 11. Fastening Screw for anode
- 12. Oil drain screw
- 13. Shaft Key
- 14. Anode pins
- 15. Locking Washer

Before seeking assistance from the website help desk from your Side-Power dealer/ distributor, please perform these tests.
(NB: If you are unable to understand what to check, you must consult a Side Power distributor.)

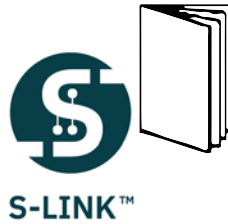
CHECK	SOLUTION
The motor runs, but there is no thrust	
Check propellers are fitted, fastened correctly and not damaged on the prop shaft.	Re-fasten or replace if necessary
On counter rotating models ensure LH and RH propellers are installed correctly	Install correctly
Check the flexible coupling between the motor and drive shaft is fitted correctly and not damaged.	Replace if necessary
Check the gears are not damaged.	Replace if necessary
The thrusters performance is reduced	
Check the propeller, gear house and tunnel are free from growth/ barnacles or debris and damage.	If there is growth in the tunnel, this will disturb/ block the water flow and significantly reduce performance
Check oil pressure and levels.	Fill if necessary

Advanced Control Panel Troubleshooting

Control panels operating on the S-link system display all faults via the control panel interface or via other warning methods.

To review any issues of your product refer to the appropriate user manual for a complete list of fault codes and troubleshooting guides.

For additional supporting documentation, we advise you to visit our website www.sleipnergrou.com



CHECK TO PERFORM	DATE											
The thruster components are fastened securely.												
The area around the thruster is clean and dry. If there are signs of water or oil leaks, find the source and eliminate it												
Paint the propeller and gear leg with anti-fouling.												
Batteries are in good condition.												
All electrical connections are clean and fastened firmly.												
Change the anode.												
Check oil in the oil reservoir.												

Product	Light Duty Thrust	Heavy Duty Thrust	Maximum Operation Time	Power	Weight
SH100	100 kg / 220 lbs	80 kg / 176 lbs	Continuous	6.9 kw / 9.3 hp	9.5kg / 21lbs
SH160	160 kg / 352 lbs	140 kg / 308 lbs	Continuous	10 kw / 13.4 hp	11.4 kg / 25.13 lbs
SH240	240 kg / 529 lbs	220 kg / 440 lbs	Continuous	14.9 kw / 20 hp	13.5 kg / 29.76 lbs
SH320	320 kg / 705 lbs	270 kg / 594 lbs	Continuous	17.4 kw / 23.3 hp	17.16 kg / 37.83 lbs
SH360	360 kg / 795 lbs	270 kg / 594 lbs	Continuous	27 kw / 37 hp	26 kg / 57.32 lbs
SH400	400 kg / 882 lbs	400 kg / 882 lbs	Continuous	30 kw / 41 hp	31 kg / 68.34 lbs
SH420	420 kg / 925 lbs	380 kg / 835 lbs	Continuous	31.8 kw / 42.6 hp	46 kg / 101.41 lbs
SH550	550 kg / 1210 lbs	500 kg / 1100 lbs	Continuous	39.9 kw / 53.5 hp	56 kg / 123.45 lbs
SH700	700 kg / 1543 lbs	700 kg / 1543 lbs	Continuous	43.4 kw / 58.2 hp	72-76 kg / 158-167 lbs
SH1000	1100 kg / 2425 lbs	1000 kg / 2205 lbs	Continuous	59.8 kw / 80.2 hp	168-182 kg / 370-401 lbs
SH1400	1400 kg / 3085 lbs	1400 kg / 3085 lbs	Continuous	80.1 kw / 107.4 hp	211 kg / 465.17 lbs

Flow and Pressure Specifications

MC_0107

Thruster model	Motor type		60 %		80 %		100 %		
			Flow	Pressure	Flow	Pressure	Flow	Pressure	
SH 100	U6	L/min-Bar	18.8	103	21.7	137	24.2	172	
		USG-PSI	5.0	1494	5.7	1987	6.4	2494	
	U8	L/min-Bar	25.5	77	29.9	103	32.3	129	
		USG-PSI	6.6	1117	7.6	1494	8.5	1871	
	U10	L/min-Bar	31.3	62	36.1	82	40.4	103	
		USG-PSI	8.3	899	9.5	1189	10.7	1494	
SH 160	U6	L/min-Bar	18.6	150	21.5	200	24	250	
		USG-PSI	4.9	2175	5.7	2900	6.3	3625	
	U8	L/min-Bar	24.8	112	28.6	150	32.0	187	
		USG-PSI	6.6	1624	7.6	2175	8.5	2712	
	U10	L/min-Bar	31.0	82	35.8	120	40.0	150	
		USG-PSI	8.2	1305	9.5	1740	10.6	2172	
	U11	L/min-Bar	34.1	82	39.3	109	44.0	136	
		USG-PSI	9.0	1189	10.4	1581	11.6	1972	
	U14	L/min-Bar	43.1	64	49.7	86	55.6	107	
		USG-PSI	11.4	928	13.1	1247	14.7	1552	
	SH 240	U8	L/min-Bar	19.1	217	21.4	275	21.4	275 ¹⁾
			USG-PSI	5.05	3147	5.65	3988	5.65	3988 ¹⁾
U10		L/min-Bar	23.8	174	27.5	232	30	275 ²⁾	
		USG-PSI	6.29	2523	7.23	3364	7.93	3988 ²⁾	
U11		L/min-Bar	26.2	158	30.2	211	33.8	264	
		USG-PSI	6.9	2291	8.0	3060	8.9	3828	
U14		L/min-Bar	33.1	124	38.2	166	42.7	207	
		USG-PSI	8.7	1798	10.1	2407	11.3	3002	
U16		L/min-Bar	38.1	109	44.0	145	49.2	181	
		USG-PSI	10.1	1581	11.6	2103	13.0	2625	
U19		L/min-Bar	45.1	92	52.1	122	58.3	153	
		USG-PSI	11.9	1334	13.8	1769	15.4	2219	
SH320		U11	L/min-Bar	23.8	249	24.9	274	24.9	274 ³⁾
			USG-PSI	6.29	3611	6.58	3973	6.58	3973 ³⁾
		U14	L/min-Bar	30.1	196	34.7	261	35.6	274 ⁴⁾
			USG-PSI	7.95	2842	9.17	3785	9.41	3973 ⁴⁾
		U16	L/min-Bar	34.6	171	39.9	229	43.7	274 ⁵⁾
			USG-PSI	9.14	2480	10.54	3321	11.55	3973 ⁵⁾
	BA16	L/min-Bar	33.8	172	39.0	230	43.6	287	
		USG-PSI	8.93	2494	10.30	3335	11.52	4162	
	U19	L/min-Bar	41.0	144	47.3	193	52.9	241	
		USG-PSI	10.83	2088	12.50	2799	13.98	3495	
	BA19	L/min-Bar	40.1	145	46.3	194	51.8	242	
		USG-PSI	10.59	2103	11.44	2813	13.69	3509	
	U23	L/min-Bar	49.4	121	57	162	63.8	202	
		USG-PSI	13.05	1755	15.06	2349	16.86	2929	
	SH360	U19	L/min-Bar	46.5	177	53.7	236	55	248 ⁶⁾
			USG-PSI	12.3	2567	14.17	3423	14.53	3597 ⁶⁾
		BA19	L/min-Bar	45.3	176	52.3	234	58.5	293
			USG-PSI	11.97	2553	13.82	3394	15.45	4250
U23		L/min-Bar	56.3	146	65.1	195	310	310 ⁷⁾	
		USG-PSI	14.88	2118	17.2	2828	81.89	4496 ⁷⁾	
BA23		L/min-Bar	54.5	146	62.3	196	70.3	245	
		USG-PSI	14.4	2118	16.46	2843	18.57	3553	
SH400	U19	L/min-Bar	43.5	195	50.2	260	54.2	302 ⁸⁾	
		USG-PSI	11.49	2828	13.26	3771	14.32	4380 ⁸⁾	
	BA23	L/min-Bar	52.3	163	60.4	218	67.5	272	
		USG-PSI	13.82	2364	15.96	3162	17.83	3945	
SH 420	U26	L/min-Bar	44.7	188	51.6	251	56.2	298 ⁹⁾	
		USG-PSI	11.81	2726	13.63	3640	14.85	4321 ⁹⁾	
	U29	L/min-Bar	49.8	169	57.6	225	64.3	281	
		USG-PSI	13.16	2450	15.22	3263	16.99	4075	
	BA32	L/min-Bar	48.4	151	55.8	202	62.4	252	
		USG-PSI	12.78	2190	14.74	2929	16.49	3654	
	U33	L/min-Bar	56.1	148	64.7	198	72.4	247	
		USG-PSI	14.82	2146	17.09	2871	19.13	3582	
	U37	L/min-Bar	62.1	132	71.8	176	80.2	220	
		USG-PSI	16.41	1914	18.97	2552	21.19	3190	
	BA40	L/min-Bar	61	121	70.4	161	78.7	202	
		USG-PSI	16.12	1755	18.6	2335	20.79	2929	
SH550	BA40	L/min-Bar	69.8	158	80.5	211	90	264	
		USG-PSI	18.44	2291	21.27	3060	23.78	3828	
	P42	L/min-Bar	84.2	152	97.2	203	108.7	254	
		USG-PSI	22.25	2204	25.68	2944	28.72	3683	
	G45	L/min-Bar	89.5	142	103.4	190	115.6	237	
		USG-PSI	23.65	2059	27.32	2755	30.54	3437	
	BA45	L/min-Bar	77.8	139	89.9	185	100.5	232	
		USG-PSI	20.56	2016	23.75	2683	26.55	3364	
	U50	L/min-Bar	95	128	109.7	171	122.7	213	
		USG-PSI	25.10	1856	28.98	2480	32.42	3089	
	P52	L/min-Bar	105.1	124	121.4	166	135.7	207	
		USG-PSI	27.77	1798	27.77	2407	35.85	3002	
	BA60	L/min-Bar	104.6	106	120.8	141	135.1	176	
		USG-PSI	27.64	1537	31.92	2045	35.69	2552	

Thruster model	Motor type		60 %		80 %		100 %	
			Flow	Pressure	Flow	Pressure	Flow	Pressure
SH 700	BA40	L/min-Bar	57	224	66	298		
		USG-PSI	15.01	3249	17.4	4322		
	BA45	L/min-Bar	64	196	73.5	261		
		USG-PSI	17.7	2843	19.4	3785		
	BA56	L/min-Bar	79	160	91	213	102	266
		USG-PSI	20.9	2321	24	3089	27	3858
BA60	L/min-Bar	85.5	149	99	199	110.5	248	
	USG-PSI	22.6	2161	26.2	2886	29.2	3597	
SH 1000	G70	L/min-Bar	91	220				
		USG-PSI	24	3190				
	G75	L/min-Bar	98	205				
		USG-PSI	25.9	2973				
	BA80	L/min-Bar	90.4	188	104.4	251		
		USG-PSI	23.9	2726	27.6	3640		
	BA90	L/min-Bar	99.5	167	115	225	128.5	279
		USG-PSI	26.3	2422	30.4	3263	40	4046
	BA110	L/min-Bar	122	139	140.5	185	157	231
		USG-PSI	32.2	2016	37.1	2683	41.5	3350
SH 1400	BA125	L/min-Bar	113	197	131	263		
		USG-PSI	29.9	2857	34.6	3814		
	BA150	L/min-Bar	139	164	160.4	219	179.4	274
		USG-PSI	36.7	2378	42.4	3176	47.4	3973
	BA160	L/min-Bar	145	154	167.5	205	187	257
		USG-PSI	38.3	2233	44.3	2973	49.4	3727
	BA180	L/min-Bar	163	137	188.5	183	211	228
		USG-PSI	43	1987	49.8	2654	55.7	3306

- 1) Max. thrust: 182kg
- 2) Max. thrust: 228kg
- 3) Max. thrust: 211kg
- 4) Max. thrust: 269kg
- 5) Max. thrust: 302kg
- 6) Max. thrust: 307kg
- 7) Max. thrust: 310kg
- 8) Max. thrust: 370kg
- 9) Max. thrust: 399kg

Find your local professional dealer from our certified worldwide network for expert service and support. visit our website www.sleipnergrouper.com/support

Product Spare Parts and Additional Resources

For additional supporting documentation, we advise you to visit our website www.sleipnergrouper.com and find your Sleipner product.

Warranty statement

1. Sleipner Motor AS (The “Warrantor”) warrants that the equipment (parts, materials, and embedded software of products) manufactured by the Warrantor is free from defects in workmanship and materials for purpose for which the equipment is intended and under normal use and maintenance service (the “Warranty”).
2. This Warranty is in effect for two years (Leisure Use) or one year (Commercial and other Non-leisure Use) from the date of delivery/purchase by the end user, with the following exceptions;
 - (a) For demonstration vessels, or vessels kept on the water, the dealer is considered as the end user from 6 months after their launch of the vessel;
 - (b) The warranty period starts no later than 18 months after the first launch of the vessel.
 Please note that the boat manufacturer and dealer must pay particular attention to correct maintenance and service both by the products manuals as well as general good practice for the location the boat is kept in the period the boat is in their care. In cases where the 6 and 18 months grace periods for boat builders and dealers are passed, it is possible to obtain a full warranty upon inspection and approval of the warrantor or such representative.
3. Certain parts, classified as wearable or service parts, are not covered by the warranty. A failure to follow the required maintenance and service work as described in the product manual render all warranty on parts or components directly or indirectly affected by this void. Please also note that for some parts, time is also a factor separately from actual operational hours.
4. This Warranty is transferable and covers the equipment for the specified warranty period.
5. The warranty does not apply to defects or damages caused by faulty installation or hook-up, abuse or misuse of the equipment including exposure to excessive heat, salt or fresh water spray, or water immersion except for equipment specifically designed as waterproof.
6. In case the equipment seems to be defective, the warranty holder (the “Claimant”) must do the following to make a claim:
 - (a) Contact the dealer or service centre where the equipment was purchased and make the claim. Alternatively, the Claimant can make the claim to a dealer or service centre found at www.sleipnergrouper.com. The Claimant must present a detailed written statement of the nature and circumstances of the defect, to the best of the Claimant’s knowledge, including product identification and serial nbr., the date and place of purchase and the name and address of the installer. Proof of purchase date should be included with the claim, to verify that the warranty period has not expired;
 - (b) Make the equipment available for troubleshooting and repair, with direct and workable access, including dismantling of furnishings or similar, if any, either at the premises of the Warrantor or an authorised service representative approved by the Warrantor. Equipment can only be returned to the Warrantor or an authorised service representative for repair following a pre-approval by the Warrantor’s Help Desk and if so, with the Return Authorisation Number visible postage/shipping prepaid and at the expense of the Claimant.
7. Examination and handling of the warranty claim:
 - (a) If upon the Warrantor’s or authorised service Representative’s examination, the defect is determined to result from defective material or workmanship in the warranty period, the equipment will be repaired or replaced at the Warrantor’s option without charge, and returned to the Purchaser at the Warrantor’s expense. If, on the other hand, the claim is determined to result from circumstances such as described in section 4 above or a result of wear and tear exceeding that for which the equipment is intended (e.g. commercial use of equipment intended for leisure use), the costs for the troubleshooting and repair shall be borne by the Claimant;
 - (b) No refund of the purchase price will be granted to the Claimant, unless the Warrantor is unable to remedy the defect after having a reasonable number of opportunities to do so. In the event that attempts to remedy the defect have failed, the Claimant may claim a refund of the purchase price, provided that the Claimant submits a statement in writing from a professional boating equipment supplier that the installation instructions of the Installation and Operation Manual have been complied with and that the defect remains.
8. Warranty service shall be performed only by the Warrantor, or an authorised service representative, and any attempt to remedy the defect by anyone else shall render this warranty void.
9. No other warranty is given beyond those described above, implied or otherwise, including any implied warranty of merchantability, fitness for a particular purpose other than the purpose for which the equipment is intended, and any other obligations on the part of the Warrantor or its employees and representatives.
10. There shall be no responsibility or liability whatsoever on the part of the Warrantor or its employees and representatives based on this Warranty for injury to any person or persons, or damage to property, loss of income or profit, or any other incidental, consequential or resulting damage or cost claimed to have been incurred through the use or sale of the equipment, including any possible failure or malfunction of the equipment or damages arising from collision with other vessels or objects.
11. This warranty gives you specific legal rights, and you may also have other rights which vary from country to country.

Patents

At Sleipner we continually reinvest to develop and offer the latest technology in marine advancements. To see the many unique designs we have patented visit our website www.sleipnergrouper.com/patents

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A series of horizontal dotted lines for taking notes.

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SLEIPNER GROUP

P.O. Box 519

N-1612 Fredrikstad

Norway

www.sleipnergroun.com

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