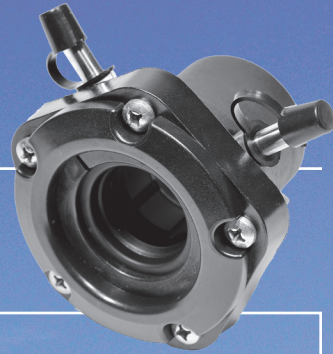


SureSeal™

Self-Aligning Shaft Seals

Redefining the standard in water-tight, self-aligning shaft seal systems for power boats, sail boats, yachts and commercial craft.



TIDEMARINE

PRODUCT CATALOG

TIDESMARINE

Specialists in innovative, high-quality marine systems for propeller shafts, rudder assemblies and mainsail handling.

Mission Statement

Tides Marine is committed to designing and manufacturing marine system components which improve vessel performance and reliability, solve unique marine system issues, reduce the need for scheduled maintenance and provide worry-free, long-term boating enjoyment.

Boat Builders

- Each time you introduce a new vessel model (or change an old one), a Tides Marine technical specialist will be available to discuss installation techniques and guidelines with production personnel.
- A Tides Marine technical specialist will be available to conduct on-site training sessions as requested by your production team.
- If required, a Tides representative will visit any dealer in your organization to train their personnel.
- The Tides Marine design and product development staff are available to discuss production techniques, performance criteria and any special circumstances which may arise when using Tides' products.

Dealers, Yards and Repair Facilities

- If you have a Tides Marine product that is not functioning properly, simply contact Tides. For approved warranties, standard replacement parts will be available to all US customers within 48 hours.
- Tides Marine will explain repair / replacement procedures via phone or fax. If necessary, a Tides technical specialist will travel to your facility to provide on-site technical assistance.
- If your service personnel make a mistake during the installation / repair of a Tides product, simply call Tides and standard replacement parts will be shipped within 48 hours.

Boat Owners

- Each Tides Marine product is covered by a 2-year / 2500 engine hour (whichever comes first) warranty, unless otherwise noted.
- Tides Marine has worked with over 1,000 yards and repair facilities throughout the U.S. and abroad. Should you find repairs are necessary, reliable and knowledgeable help is nearby.
- Tides Customer Service is available 24 hours a day – 7 days a week.

Catalog Key

OD = Outside Diameter

ID = Inside Diameter

NPT = National Pipe Thread - Tapered

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seriesOne™

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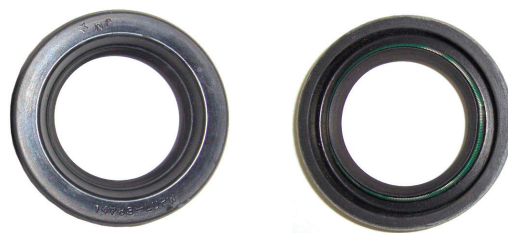
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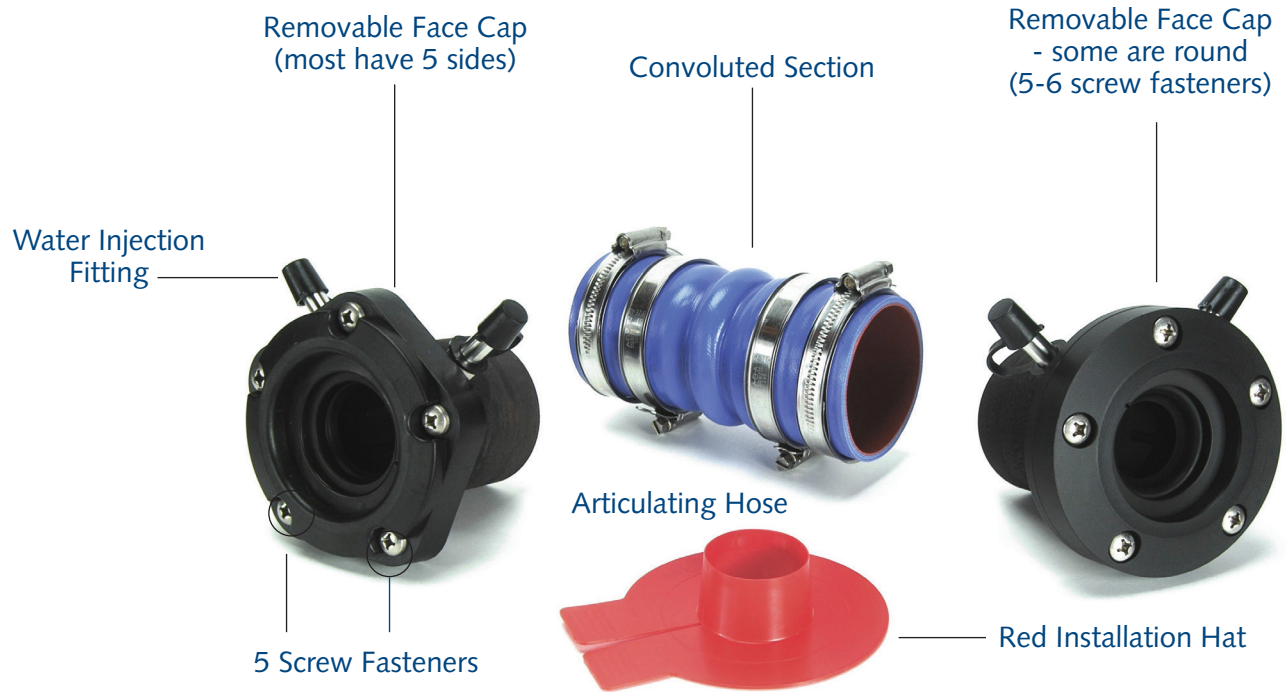
Tee Fittings

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PRODUCT OVERVIEW



The SureSeal™ is ABS-Approved

Housing

Made from fiber-reinforced composite material, the housing is strong, durable and compact. The SureSeal™ is dimensionally unaffected by temperature and will not absorb water.

Bearing

The integral PTFE® bearing extends the operating life of the SureSeal™ under normal operating conditions.

Hose

Connecting the SureSeal™ to the vessel is now easier with an “articulating hose”. This hose design automatically positions the SureSeal™ the correct operating distance from the stern tube. No measurements are required – installation is simplified. The articulating hose reduces side loads to the SureSeal™ when shaft misalignment occurs. As a result, lip seal and bearing life are extended.

Lip Seal Replacement

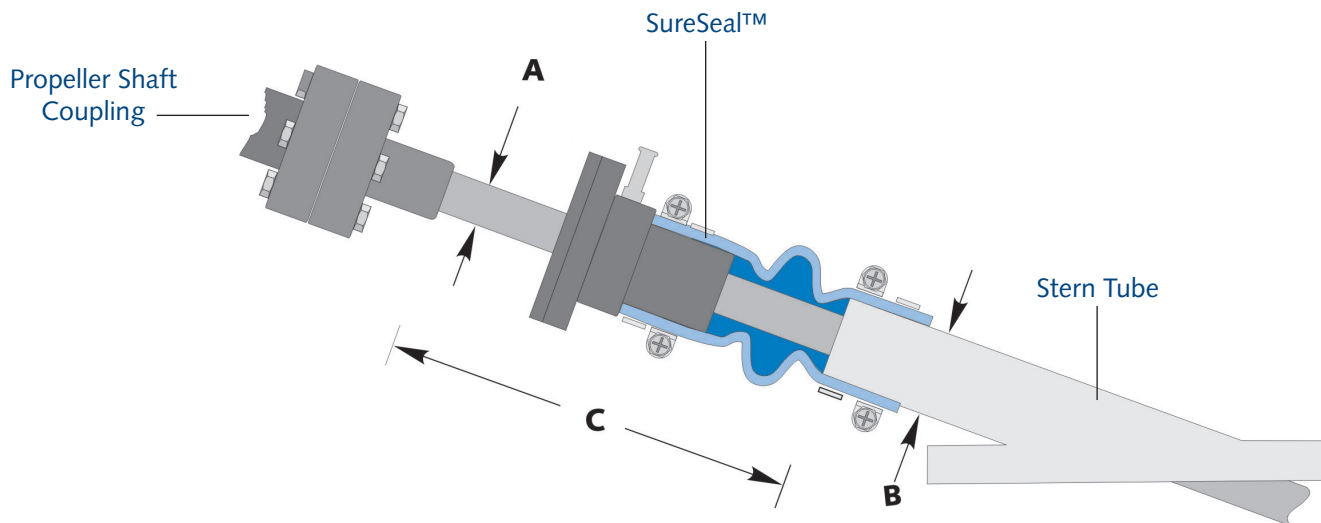
The SureSeal™ design incorporates a removable front cap which improves access to the lip seal. A worn lip seal can be replaced, even while the vessel is in the water, restoring the “100% watertight” characteristic of the SureSeal™. To learn more, turn to page 29 and read the lip seal product section.

SureSeal™ Self-Aligning Shaft Seals

BEFORE ORDERING

SureSeals™ are sold as a kit which includes a section of articulating hose and four hose clamps. To determine 1) if you have enough space to install a SureSeal and 2) which SureSeal to order, you must:

- A. Measure your propeller shaft diameter. Enter the measurement on Line A below.
- B. Measure the outside diameter of your stern tube over which the Tides articulating hose will be installed. Enter the measurement on Line B below.
- C. Measure the distance from the front of the stern tube to the back of the propeller shaft flange. There should be at least this much CLEAN, SMOOTH shaft forward of the stern tube. Enter this measurement on Line C below.
- D. Please confirm what material was used to produce your propeller shaft. Enter this information on Line D below.
- E. In twin engine applications, SureSeals™ are normally supplied with two water injection fittings. The second water injection fitting on each SureSeal™ is used to construct a crossover system between the port and starboard SureSeals™.



SureSeal™ and Articulating Hose Combination

A = _____ B = _____ C = _____ D = _____

Single Engine MYes MNo

Twin Engine WITH Crossover Kit MYes MNo

Twin Engine WITHOUT Crossover Kit MYes MNo

Shaft Material _____

Using these measurements, identify the SureSeal™ that will work in your application.

1) Identify the Correct SureSeal™ Part Number

Once you have identified the propeller shaft diameter and stern tube diameter, locate these measurements in the charts on pages 8-12. Shaft outside diameter is found in Column A and stern tube outside diameter is in Column B. Match these dimensions to the corresponding SureSeal™ part number on the same line in the chart.

2) Minimum Distance

Next, note the minimum distance requirement in Column C of these same charts. Confirm that there is at least this much CLEAN, SMOOTH shaft between the stern tube and the propeller shaft coupling. If your available space does not meet this criterion, contact Tides Marine to see if a custom SureSeal™ can be produced for your application.

3) Spare Seal Carriers

Tides Marine's spare seal carriers were developed as a convenient device for storing spare lip seals on the propeller shaft between the SureSeal™ and the propeller shaft coupling. The SureSeal™ and spare seal combination allows the vessel operator to replace worn lip seals without uncoupling the shaft from the transmission.

If you plan to order a spare seal carrier (see pages 13-16 of this catalog), you will have to increase the minimum installation distance measurement by at least 1 ¼" for each spare seal carrier you place on the shaft. Note the minimum distance figures in Column B of charts on pages 15 and 16 before ordering.

4) Single Engine Installations

In the charts on pages 8-12, note that each part number ends in "- #". For single engine vessels, replace this "#" sign with a zero (0) when you order your SureSeal™. Your SureSeal™ will have a single water injection fitting and NO (zero) crossover kit.

A hose running from a point in the engine's raw water cooling system to this single injection fitting will deliver cooling / lubricating water to the SureSeal™.

Tides Marine offers a water pick-up kit consisting of Tides-approved materials (see page 17 of this catalog for more information).

SureSeal™ Self-Aligning Shaft Seals

BEFORE ORDERING

5) Twin Engine Installations

In the charts on pages 8-12, note once again that each part number ends in “- #”. For twin engine vessels, replace this “#” sign with a one (1). Your SureSeal™ will have two water injection fittings.

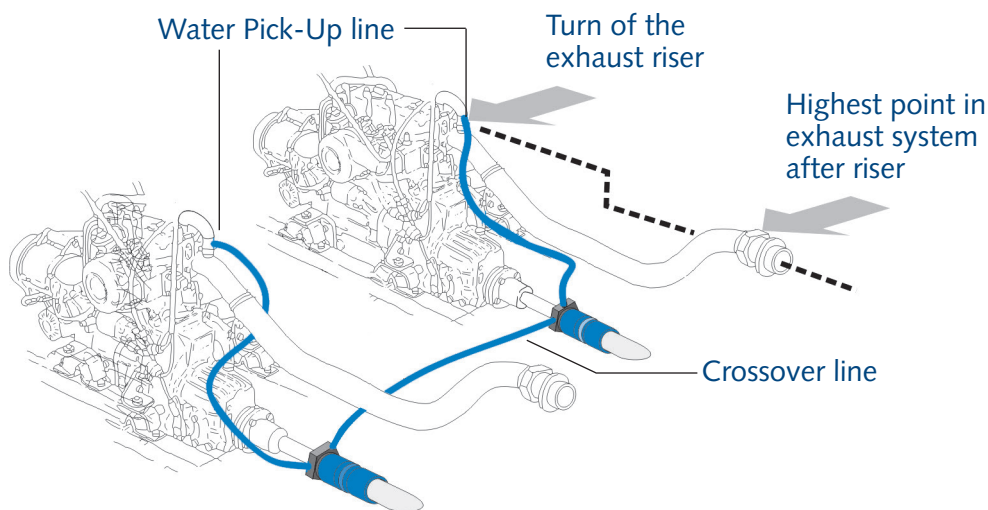
The first water injection fitting will be connected to a point in the engine's raw water cooling system. Water flowing through this hose and into the SureSeal™ provides cooling and lubrication to the SureSeal™. Again, consider a Tides Marine water pick-up kit to complete your installation.

The second water injection fitting on the port-side SureSeal™ will be connected with a hose to its counterpart on the starboard-side SureSeal™. This connection is called a crossover system. It ensures that each SureSeal™ will receive water cooling / lubrication during vessel operation, even when one engine may be out of operation.



Caution:

THE TURN OF THE EXHAUST RISER MUST BE ABOVE THE REST OF THE EXHAUST SYSTEM BEFORE OPERATING THE VESSEL YOU MUST TEST THE WATER SUPPLY



6) Other Important Installation Notes

A. Vented Loops

When the engine(s) is/are installed below the waterline (or water-lift mufflers are used), a vented loop may be required to prevent back-flooding of water through the exhaust system and into the engine.

Follow ABYC guidelines regarding materials and installation practices.

The water pick-up fitting should be installed on the “pressure” side of the vented loop “T”. This vented loop should be as far above the waterline as is practical (a minimum of 12” is required).

B. Check Valves

In twin-engine installations with water-lift mufflers, a check valve in each of the water pick-up lines is required if a crossover line is used between two SureSeals™.

7) Maintenance

A. Tides Marine SureSeals™ require no winterization. Winterization fluids will not harm the SureSeals™.

B. **SureSeal™ assemblies should be inspected at least annually.**

- i. Inspect the blue articulating hose for damage.
- ii. Inspect the hose clamps for corrosion.
- iii. Remove the water injection hoses from each SureSeal™ and make sure the fittings and hoses are free of debris.
- iv. **It is very important to regularly check the pick-up point in the engine's raw water cooling system.**

If this fitting is a hose barb, Tides recommends that you remove the fitting from the pick-up point. Make sure it is free of debris, corrosion, etc. It is also a good idea to inspect the pick-up point for any debris that may have collected since the last inspection.

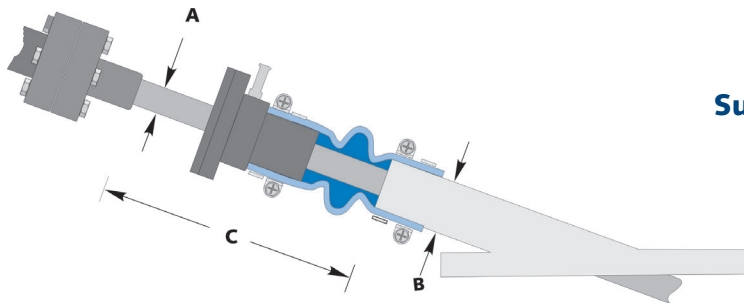
If your water pick-up system uses hose tees, you should not have to remove the tee. Simply check the branch fitting on the tee to make sure it is free of debris.

- v. If your water pick-up system has any shut-off valves or sight-gauges, be sure to inspect these as well.
- vi. Make sure all hoses and clamps are re-assembled securely once you have completed any regularly scheduled inspections.

**These products are available in custom sizes.
Contact Tides Marine for more information.**

SureSeal™ Self-Aligning Shaft Seals

BEFORE ORDERING



SureSeal™ and Articulating Hose Combination

IMPERIAL (INCHES)

SHAFT OD (inches) A	STERN TUBE OD (inches) B	MINIMUM DISTANCE (inches) C	SureSeal™ KIT PART NUMBER D
7/8	1 3/4 2	6 3/4	FSK-0875-1750-# FSK-0875-2000-#
1	1 3/4 1 7/8 2 2 1/4 2 1/2	7 1/4	FSK-1000-1750-# FSK-1000-1875-# FSK-1000-2000-# FSK-1000-2250-# FSK-1000-2500-#
1 1/8	1 3/4 2 2 1/4 2 1/2	7 1/4	FSK-1125-1750-# FSK-1125-2000-# FSK-1125-2250-# FSK-1125-2500-#
1 1/4	1 3/4 2 2 1/4 2 3/8 2 1/2 2 5/8 2 3/4 3	7 1/4	FSK-1250-1750-# FSK-1250-2000-# FSK-1250-2250-# FSK-1250-2375-# FSK-1250-2500-# FSK-1250-2625-# FSK-1250-2750-# FSK-1250-3000-#
1 3/8	2 2 1/4 2 3/8 2 1/2 2 5/8 2 3/4	7 1/4	FSK-1375-2000-# FSK-1375-2250-# FSK-1375-2375-# FSK-1375-2500-# FSK-1375-2625-# FSK-1375-2750-#

SHAFT OD (inches) A	STERN TUBE OD (inches) B	MINIMUM DISTANCE (inches) C	SureSeal™ KIT PART NUMBER D
1 1/2	2 1/4 2 3/8 2 1/2 2 5/8 2 3/4 3 3 1/2 3 3/4 4	7 1/4	FSK-1500-2250-# FSK-1500-2375-# FSK-1500-2500-# FSK-1500-2625-# FSK-1500-2750-# FSK-1500-3000-# FSK-1500-3500-# FSK-1500-3750-# FSK-1500-4000-#
1 5/8	2 1/4 2 1/2 2 3/4 3	7 1/4	FSK-1625-2250-# FSK-1625-2500-# FSK-1625-2750-# FSK-1625-3000-#
1 3/4	2 1/2 2 5/8 2 3/4 3 3 1/8 3 1/4 3 1/2 3 3/4 4	7 1/4	FSK-1750-2500-# FSK-1750-2625-# FSK-1750-2750-# FSK-1750-3000-# FSK-1750-3125-# FSK-1750-3250-# FSK-1750-3500-# FSK-1750-3750-# FSK-1750-4000-#

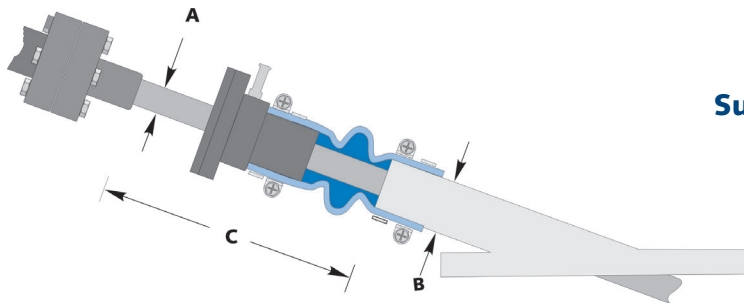
SHAFT OD (inches) A	STERN TUBE OD (inches) B	MINIMUM DISTANCE (inches) C	SureSeal™ KIT PART NUMBER D
2	2 3/4	7 1/4	FSK-2000-2750-#
	3		FSK-2000-3000-#
	3 1/8		FSK-2000-3125-#
	3 1/4		FSK-2000-3250-#
	3 3/8		FSK-2000-3375-#
	3 1/2		FSK-2000-3500-#
	3 3/4		FSK-2000-3750-#
	4		FSK-2000-4000-#
	4 1/4		FSK-2000-4250-#
	4 1/2		FSK-2000-4500-#
	5		FSK-2000-5000-#
2 1/4	3	7 1/4	FSK-2250-3000-#
	3 1/4		FSK-2250-3250-#
	3 1/2		FSK-2250-3500-#
	3 3/4		FSK-2250-3750-#
	4		FSK-2250-4000-#
	4 1/4		FSK-2250-4250-#
	4 1/2		FSK-2250-4500-#
	5		FSK-2250-5000-#
2 1/2	3 1/4	7 1/2	FSK-2500-3250-#
	3 1/2		FSK-2500-3500-#
	3 3/4		FSK-2500-3750-#
	4		FSK-2500-4000-#
	4 1/4		FSK-2500-4250-#
	4 1/2		FSK-2500-4500-#
	4 3/4		FSK-2500-4750-#
	5		FSK-2500-5000-#
	5 1/2		FSK-2500-5500-#
	6		FSK-2500-6000-#
2 5/8	4 1/2	7 1/2	FSK-2625-4500-#
2 3/4	3 1/2	7 1/2	FSK-2750-3500-#
	3 3/4		FSK-2750-3750-#
	4		FSK-2750-4000-#
	4 1/4		FSK-2750-4250-#
	4 1/2		FSK-2750-4500-#
	5		FSK-2750-5000-#
	5 1/4		FSK-2750-5250-#

SHAFT OD (inches) A	STERN TUBE OD (inches) B	MINIMUM DISTANCE (inches) C	SureSeal™ KIT PART NUMBER D
3	4	8 1/4	FSK-3000-4000-#
	4 1/4		FSK-3000-4250-#
	4 1/2		FSK-3000-4500-#
	4 3/4		FSK-3000-4750-#
	5		FSK-3000-5000-#
	5 1/4		FSK-3000-5250-#
	5 1/2		FSK-3000-5500-#
	6		FSK-3000-6000-#
	6 1/2		FSK-3000-6500-#
3 1/4	4	8 1/4	FSK-3250-4000-#
	4 1/2		FSK-3250-4500-#
	4 3/4		FSK-3250-4750-#
	5		FSK-3250-5000-#
	5 1/4		FSK-3250-5250-#
	5 1/2		FSK-3250-5500-#
	6		FSK-3250-6000-#
3 1/2	4 1/2	8 3/4	FSK-3500-4500-#
	5		FSK-3500-5000-#
	5 1/4		FSK-3500-5250-#
	5 1/2		FSK-3500-5500-#
	6		FSK-3500-6000-#
	6 1/2		FSK-3500-6500-#
3 5/8	6	8 3/4	FSK-3625-6000-#
3 3/4	5 1/2	8 3/4	FSK-3750-5500-#
	6		FSK-3750-6000-#
	6 1/2		FSK-3750-6500-#
	7		FSK-3750-7000-#
4	5	9 1/4	FSK-4000-5000-#
	5 1/2		FSK-4000-5500-#
	6		FSK-4000-6000-#
	6 1/2		FSK-4000-6500-#
	7		FSK-4000-7000-#
	7 1/2		FSK-4000-7500-#
	8		FSK-4000-8000-#
4 1/4	6 1/4	9 1/4	FSK-4250-6250-#
	6 1/2		FSK-4250-6500-#

continued...

SureSeal™ Self-Aligning Shaft Seals

BEFORE ORDERING



SureSeal™ and Articulating Hose Combination

IMPERIAL (INCHES)

SHAFT OD (inches) A	STERN TUBE OD (inches) B	MINIMUM DISTANCE (inches) C	SureSeal™ KIT PART NUMBER D
4 1/2	5 1/2	9 3/4	FSK-4500-5500-#
	6		FSK-4500-6000-#
	6 1/2		FSK-4500-6500-#
	6 5/8		FSK-4500-6625-#
	7		FSK-4500-7000-#
	8		FSK-4500-8000-#
4 3/4	7	9 3/4	FSK-4750-7000-#
5	6 1/2	10	FSK-5000-6500-#
	7		FSK-5000-7000-#
	7 1/2		FSK-5000-7500-#
	8		FSK-5000-8000-#
	8 5/8		FSK-5000-8625-#
5 1/2	7	10 3/4	FSK-5500-7000-#
	8		FSK-5500-8000-#
6	8	11 1/4	FSK-6000-8000-#
	8 5/8		FSK-6000-8625-#
6 1/2	8 5/8	11 3/4	FSK-6500-8625-#
7 3/4	10	13 1/2	FSK-7750-10000-#
8	10	13 1/2	FSK-8000-10000-#

METRIC (MILLIMETERS)

SHAFT OD (mm) A	STERN TUBE OD (mm) B	MINIMUM DISTANCE (mm) C	SureSeal™ KIT PART NUMBER D
25mm	44mm	184mm	FSKM-25M-44M-#
	45mm		FSKM-25M-45M-#
	48mm		FSKM-25M-48M-#
	51mm		FSKM-25M-51M-#
	57mm		FSKM-25M-57M-#
	63mm		FSKM-25M-63M-#
30mm	45mm	184mm	FSKM-30M-45M-#
	48mm		FSKM-30M-48M-#
	51mm		FSKM-30M-51M-#
	54mm		FSKM-30M-54M-#
	57mm		FSKM-30M-57M-#
	60mm		FSKM-30M-60M-#
35mm	45mm	184mm	FSKM-35M-45M-#
	51mm		FSKM-35M-51M-#
	54mm		FSKM-35M-54M-#
	57mm		FSKM-35M-57M-#
	60mm		FSKM-35M-60M-#
	64mm		FSKM-35M-64M-#
	67mm		FSKM-35M-67M-#
	70mm		FSKM-35M-70M-#
	76mm		FSKM-35M-76M-#
38mm	60mm	191mm	FSKM-38M-60M-#

SHAFT OD (mm) A	STERN TUBE OD (mm) B	MINIMUM DISTANCE (mm) C	SureSeal™ KIT PART NUMBER D
--------------------------	----------------------------------	----------------------------------	--------------------------------------

40mm	57mm	184mm	FSKM-40M-57M-#
	60mm		FSKM-40M-60M-#
	63mm		FSKM-40M-63M-#
	64mm		FSKM-40M-64M-#
	67mm		FSKM-40M-67M-#
	70mm		FSKM-40M-70M-#
	76mm		FSKM-40M-76M-#
	79mm		FSKM-40M-79M-#
	89mm		FSKM-40M-89M-#

45mm	63mm	184mm	FSKM-45M-63M-#
	64mm		FSKM-45M-64M-#
	67mm		FSKM-45M-67M-#
	70mm		FSKM-45M-70M-#
	73mm		FSKM-45M-73M-#
	76mm		FSKM-45M-76M-#
	79mm		FSKM-45M-79M-#
	83mm		FSKM-45M-83M-#
	89mm		FSKM-45M-89M-#
	102mm		FSKM-45M-102M-#

50mm	64mm	184mm	FSKM-50M-64M-#
	70mm		FSKM-50M-70M-#
	76mm		FSKM-50M-76M-#
	79mm		FSKM-50M-79M-#
	80mm		FSKM-50M-80M-#
	83mm		FSKM-50M-83M-#
	89mm		FSKM-50M-89M-#
	95mm		FSKM-50M-95M-#
	102mm		FSKM-50M-102M-#

55mm	76mm	184mm	FSKM-55M-76M-#
	89mm		FSKM-55M-89M-#
	95mm		FSKM-55M-95M-#
	102mm		FSKM-55M-102M-#

SHAFT OD (mm) A	STERN TUBE OD (mm) B	MINIMUM DISTANCE (mm) C	SureSeal™ KIT PART NUMBER D
--------------------------	----------------------------------	----------------------------------	--------------------------------------

60mm	76mm	184mm	FSKM-60M-76M-#
	89mm		FSKM-60M-89M-#
	95mm		FSKM-60M-95M-#
	102mm		FSKM-60M-102M-#
	108mm		FSKM-60M-108M-#
	114mm		FSKM-60M-114M-#
	121mm		FSKM-60M-121M-#

65mm	89mm	191mm	FSKM-65M-89M-#
	95mm		FSKM-65M-95M-#
	102mm		FSKM-65M-102M-#
	114mm		FSKM-65M-114M-#

70mm	89mm	191mm	FSKM-70M-89M-#
	95mm		FSKM-70M-95M-#
	102mm		FSKM-70M-102M-#
	108mm		FSKM-70M-108M-#
	114mm		FSKM-70M-114M-#
	121mm		FSKM-70M-121M-#
	127mm		FSKM-70M-127M-#
	140mm		FSKM-70M-140M-#
	165mm		FSKM-70M-165M-#

75mm	102mm	210mm	FSKM-75M-102M-#
	108mm		FSKM-75M-108M-#
	114mm		FSKM-75M-114M-#
	127mm		FSKM-75M-127M-#
	140mm		FSKM-75M-140M-#
	152mm		FSKM-75M-152M-#

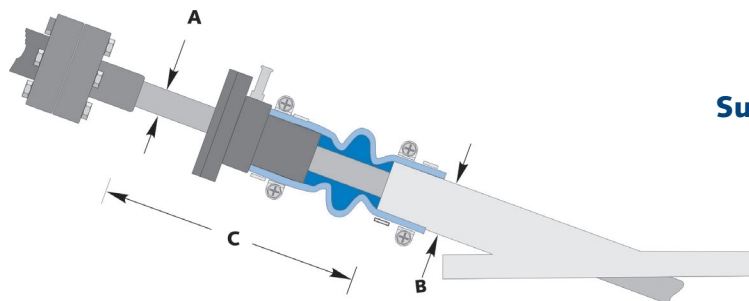
80mm	102mm	210mm	FSKM-80M-102M-#
	108mm		FSKM-80M-108M-#
	114mm		FSKM-80M-114M-#
	127mm		FSKM-80M-127M-#
	140mm		FSKM-80M-140M-#
	152mm		FSKM-80M-152M-#

85mm	114mm	222mm	FSKM-85M-114M-#
	127mm		FSKM-85M-127M-#
	140mm		FSKM-85M-140M-#
	152mm		FSKM-85M-152M-#

continued...

SureSeal™ Self-Aligning Shaft Seals

BEFORE ORDERING



SureSeal™ and Articulating Hose Combination

METRIC (MILLIMETERS)

SHAFT OD (mm) A	STERN TUBE OD (mm) B	MINIMUM DISTANCE (mm) C	SureSeal™ KIT PART NUMBER D
90mm	114mm	222mm	FSKM-90M-114M-#
	127mm		FSKM-90M-127M-#
	140mm		FSKM-90M-140M-#
	152mm		FSKM-90M-152M-#
	178mm		FSKM-90M-178M-#
95mm	127mm	222mm	FSKM-95M-127M-#
	140mm		FSKM-95M-140M-#
	152mm		FSKM-95M-152M-#
	165mm		FSKM-95M-165M-#
	178mm		FSKM-95M-178M-#
100mm	127mm	235mm	FSKM-100M-127-#
	140mm		FSKM-100M-140-#
	152mm		FSKM-100M-152-#
	165mm		FSKM-100M-165-#
105mm	127mm	235mm	FSKM-105M-127-#
	140mm		FSKM-105M-140-#
	152mm		FSKM-105M-152-#
	165mm		FSKM-105M-165-#
110mm	152mm	248mm	FSKM-110M-152-#
	165mm		FSKM-110M-165-#
115mm	165mm	248mm	FSKM-115M-165-#
120mm	165mm	254mm	FSKM-120M-165-#
	178mm		FSKM-120M-178-#
125mm	165mm	254mm	FSKM-125M-165-#

SHAFT OD (mm) A	STERN TUBE OD (mm) B	MINIMUM DISTANCE (mm) C	SureSeal™ KIT PART NUMBER D
130mm	165mm	254mm	FSKM-130M-165-#
	178mm		FSKM-130M-178-#
	190mm		FSKM-130M-190-#
140mm	178mm	273mm	FSKM-140M-178-#
	203mm		FSKM-140M-203-#
150mm	203mm	286mm	FSKM-150M-203-#
	219mm		FSKM-150M-219-#

**These products are available in custom sizes.
Contact Tides Marine for more information.**

PRODUCT OVERVIEW

Tides Marine's Spare Seal Carriers were developed as a convenient device for storing spare lip seals on the propeller shaft between the SureSeal™ and the propeller shaft coupling. These carriers with spare lip seals can be installed along with each SureSeal™.

The SureSeal™ design allows the vessel operator to replace worn lip seals in the housing with these spare lip seals without uncoupling the shaft from the transmission. If necessary, the worn lip seals may be replaced in the water – no haul-out required.

The spare lip seal carrier is a lightweight, two-piece composite housing which is clamped over the spare lip seals and onto the propeller shaft between the SureSeal™ and the propeller shaft coupling. They are available in both imperial and metric sizes.

- Spare seal carrier part numbers for propeller shafts with diameters up to and including 1 3/4" contain one spare lip seal in a single housing.
- Spare seal carrier part numbers for propeller shafts with diameters from 2" up to and including 3" contain two (2) spare lip seals, each in their own housing.
- Spare seal carrier part numbers for propeller shaft diameters 3 1/4" and larger contain two spare lip seals in a single housing.

SureSeal™ Self-Aligning Shaft Seals

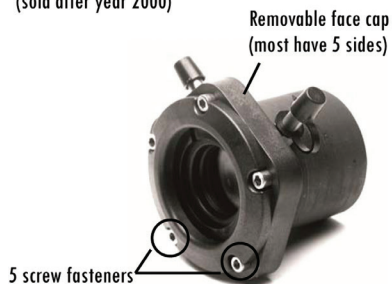
BEFORE ORDERING

When ordering a spare seal carrier, you must first determine if you have a SureSeal™ or a STRONG™ Seal (last produced in 2000). Please note the insets at right.

The lip seals for some shaft sizes are NOT interchangeable.

SureSeal™ Seal

(sold after year 2000)

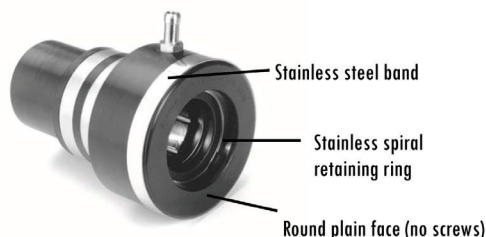


Convolute section

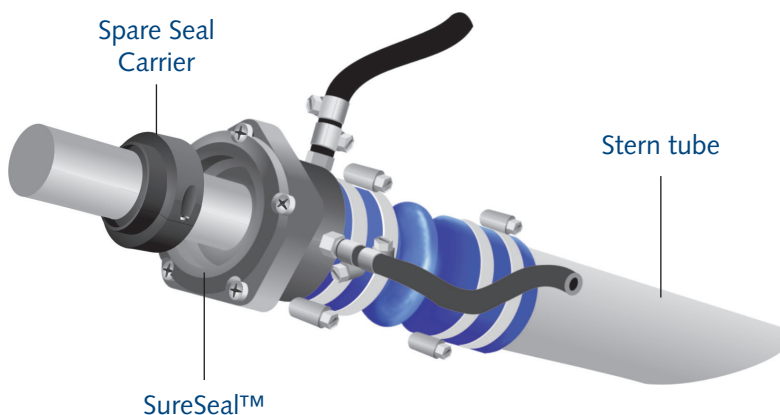
Articulating hose

STRONG™ Seal

(sold prior to year 2000)



Straight hose



Spare seal carriers for SureSeals™ are located on page 15. Spare seal carriers for STRONG™ Seal are located on page 16.

Identify your propeller shaft diameter in column A of each chart. Next, move to column B for this shaft diameter and confirm that there is at least this much clean, smooth space on the shaft to position the spare seal carrier(s).

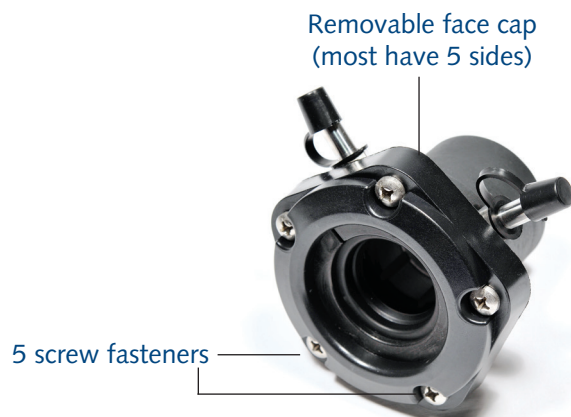


Caution:

The spare seal carriers **SHOULD NOT TOUCH THE SURESEAL™**.
The spare seal carriers should be at least 1" from the SureSeal™ housing.

Spare Seal Carriers for SureSeal™

SureSeal™ (sold after year 2000)



Imperial (dimensions in inches)

Shaft Size A	Minimum Distance B	Part Number C	Number Of Spare Lip Seals D
7/8	3	K-0875-00	1
1		KF-1000-00	
1 1/8		KF-1125-00	
1 1/4		KF-1250-00	
1 3/8		KF-1375-00	
1 1/2		K-1500-00	
1 5/8		K-1625-00	
1 3/4		K-1750-00	
2	4	KF-2000-01	2
2 1/4		KF-2250-00	
2 1/2		KF-2500-00	
2 5/8		K-2625-00	
2 3/4		KF-2750-00	
3		K-3000-00	
3 1/4		K-3250-00	
3 1/2		K-3500-00	
3 5/8		K-3625-00	
3 3/4		K-3750-00	
4		K-4000-00	
4 1/4		K-4250-00	
4 1/2		K-4500-00	
4 3/4		K-4750-00	
5		K-5000-00	
5 1/2		K-5500-00	
6		K-6000-00	
7 1/2		K-7500-00	
8		K-8000-00	

Articulating Hose



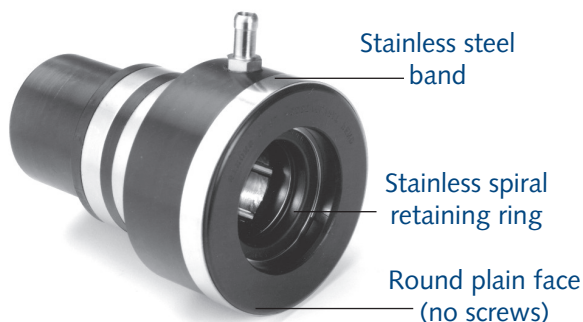
Metric (dimensions in millimeters)

Shaft Size A	Minimum Distance B	Part Number C	Number Of Spare Lip Seals D
25mm	76mm	KFM-25MM-00	1
30mm		KFM-30MM-00	
35mm		KFM-35MM-00	
40mm		KFM-40MM-00	
45mm		KFM-45MM-00	
50mm	76mm	KM-50MM-00	2
60mm		KM-60MM-00	
65mm		KM-65MM-00	
70mm		KFM-70MM-00	
75mm	102mm	KFM-75MM-00	2
80mm		KM-80MM-00	
85mm		KM-85MM-00	
90mm		KFM-90MM-00	
95mm		K-3750-00	
100mm		KM-100MM-00	
105mm		KM-105MM-00	
110mm		KM-110MM-00	

Spare Seal Carriers for STRONG™ Seal

BEFORE ORDERING

STRONG™ Seal (sold prior to year 2000)



Imperial (dimensions in inches)

Shaft Size A	Minimum Distance B	Part Number C	Number Of Spare Lip Seals D
1	3	K-1000-00	1
1 1/8		K-1125-00	
1 1/4		K-1250-00	
1 3/8		K-1375-00	
1 1/2		K-1500-00	
1 3/4		K-1750-00	
2	4	K-2000-01	2
2 1/4		K-2250-00	
2 1/2		K-2500-00	
2 3/4		K-2750-00	
3		K-3000-00	
3 1/4		K-3250-00	
3 1/2		K-3500-00	
3 3/4		K-3750-00	
4		K-4000-00	
4 1/4		K-4250-00	
4 1/2		K-4500-00	
4 3/4		K-4750-00	
5		K-5000-00	
5 1/2		K-5500-00	
6		K-6000-00	
6 1/2		K-6500-00	
7 3/4		K-7750-00	
8		K-8000-00	

Straight Hose



Metric (dimensions in millimeters)

Shaft Size A	Minimum Distance B	Part Number C	Number Of Spare Lip Seals D
25mm	76mm	KM-25MM-00	1
30mm		KM-30MM-00	
35mm		KM-35MM-00	
40mm		KM-40MM-00	
45mm		KM-45MM-00	
50mm	76mm	KM-50MM-00	2
55mm	102mm	KM-55MM-00	2
60mm	76mm	KM-60MM-00	2
65mm		KM-65MM-00	
70mm		KM-70MM-00	
75mm	102mm	KM-75MM-00	2
80mm		KM-80MM-00	
85mm		KM-85MM-00	
90mm		KM-90MM-00	
95mm		K-3750-00	
100mm		KM-100MM-00	
105mm		KM-105MM-00	

PRODUCT OVERVIEW



Hose Tee Kit



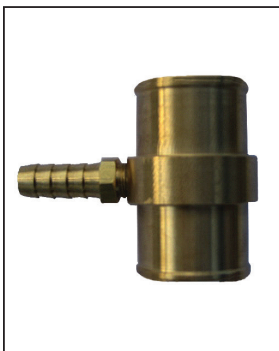
Hose Barb Kit



Water Pick-Up Kits

Tides Marine Water Pick-Up Kits include everything needed to connect SureSeals™ to a point in the engine's raw water cooling system. This water is necessary for proper lubrication of the lip seal and PTFE bearing in the SureSeal™ housing. There are two types of kits available.

Hose Tee Kits are used to tap into flexible cooling hoses and **Hose Barb Kits** are used to tap into fixed points in the raw water cooling system. See diagram on page 19.



Hose Tee Kits

Tides Marine makes a complete line of brass tees which fit a wide range of hose sizes. Each tee has a "branch" fitting sized to match the corresponding fitting on the SureSeal™. This kit comes with 8' of Type B fuel hose and all necessary hose clamps.

Tides Marine recommends the use of hose tee fittings installed in a flexible hose which is part of the engine's raw water cooling system.

When positioned correctly, the engine's raw water flows past the branch fitting in a way that reduces the collection of sediment and other particulate matter which could block this water flow.

SureSeal™ Self-Aligning Shaft Seals

BEFORE ORDERING



Hose Barb Kits

Hose barb kits contain a straight brass hose barb which can be threaded into any number of pick-up points in the water pump, gear cooler or heat exchanger. These hose barbs are sized to match the corresponding fitting on each SureSeal™. The kit includes 8' of Type B fuel hose and all necessary hose clamps.



Caution

Please note that the use of hose barbs in the raw water cooling system requires good care during installation and additional maintenance once installed.

Hose Barb Installation Tips

- 1) Some pick-up points may be dry locations. Check for adequate water flow (1 gallon per minute) before operating the vessel.
- 2) Some pick-up points may require the use of 90° elbow fittings rather than the straight hose barbs provided by Tides. **This type of 90° fitting should be avoided if at all possible.**

Sediment, engine scale, rust and other debris are prone to collect in such 90° turns.

Maintenance Tips

- 1) Manifold pick-up points must be inspected several times a year for debris mentioned above. These manifold areas are usually used as drain points. As a result, they can collect enough debris to impede water flow in a short period of time.
- 2) Pick-up points at the bottoms of elbows (again, normally used to drain the system) may fill with sand and other materials if the vessel operates in shallow water (or runs aground). Inspect these pick-up points regularly.

Water Pick-Up Hose

Water pick-up hose should be routed from the pick-up point on the engine to the SureSeal™ in a manner which eliminates / minimizes the possibility of chafing, burning or kinking. Turns made by the hose should be minimized to improve water flow.

Support clips / clamps / ties used to dress the hose should not be so tight as to crush the hose / restrict water flow.

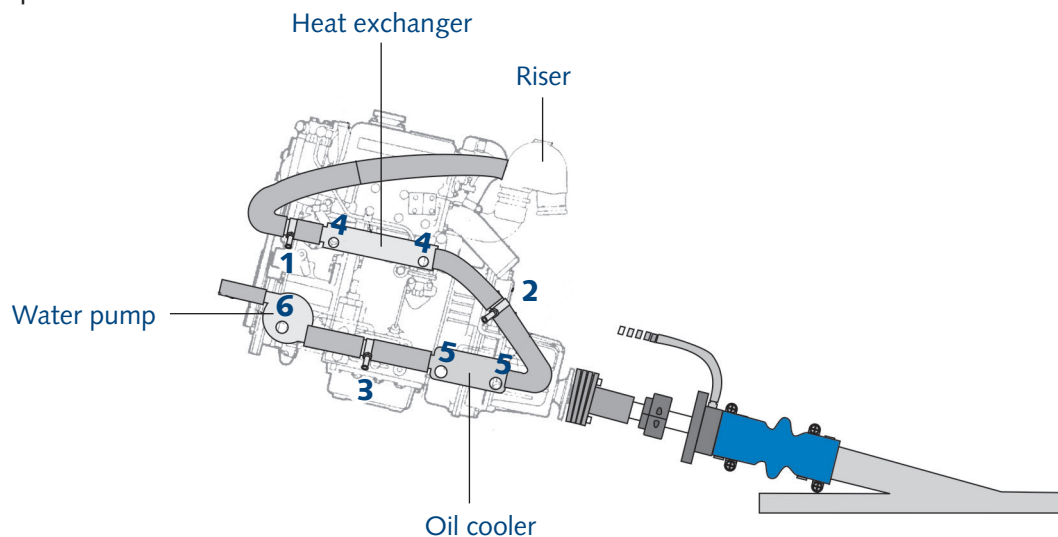
Tides also recommends that a bit of slack be left in the hose near the SureSeal™ to allow for some movement. This will minimize loading of the SureSeal™ on the shaft during normal vessel operation.

**These products are available in custom sizes.
Contact Tides Marine for more information.**

To determine which water pick-up kit to order, first identify the point in the engine's raw water cooling system from which you plan to take the water for your SureSeal™.

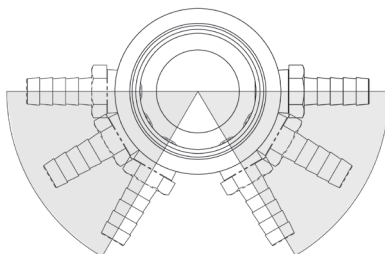
Recommended Water Pick-Up Points In Order of Preference

1. **Hose Tee:** In-line between the heat exchanger and riser (as close to the heat exchanger as possible).
2. **Hose Tee:** In-line between the oil cooler and the heat exchanger.
3. **Hose Tee:** In-line between the water pump and the oil cooler.
4. **Drain Plug:** Hose barb in the heat exchanger.
5. **Drain Plug:** Hose barb in oil cooler (if oil cooler is on pressure side of water pump). The bore should be at least .200".
6. **Drain Plug:** Hose barb in the back of the water pump. Be sure the drain is on the pressure side of the pump.



NOTE: The preferred water pick-up point would be a hose tee located in the raw water discharge hose between the heat exchanger and the riser. This location does not take any water from the cooling system until after it has run its course through the water pump, oil cooler and heat exchanger.

Locate the hose tee AS CLOSE TO THE HEAT EXCHANGER AS POSSIBLE to ensure adequate head pressure.



Position branch fitting in either shaded area.

SureSeal™ Self-Aligning Shaft Seals

BEFORE ORDERING

Hose Tee Kits

If you plan to use a hose tee, measure the inside diameter of the hose you will be using and match it to the corresponding number in the chart on page 21. Note the overall length of the hose tee in this chart to make sure there is enough hose available for the connection.

Then, select the hose tee model with the branch fitting outside diameter that matches that of the water injection fitting on your SureSeal™.

SureSeals™ used on propeller shafts with an outside diameter up to and including 2 3/4" will have a 3/8" injection fitting. For shafts 3" and larger, the correct injection fitting is 1/2".

Hose Barb Kits

If you will be using a hose barb to complete your water pick-up system, remove the plug at the point on the engine you have selected and measure its thread size. Find the corresponding thread size in the chart on page 21 and choose the fitting with the hose barb dimension that matches your SureSeal™.

! Caution:

Vented Loops

When the engine (or engines) are located below the waterline OR water lift mufflers are installed, a vented loop may be required to prevent back-flooding of water through the exhaust system and into the engine(s). ABYC guidelines regarding vented loop materials and installation practices should be followed.

The water pick-up fitting should be installed in the "pressure side" of the vented loop "T". This vented loop should be as far above the waterline as is practical (a minimum distance of 12" is required).

Water Lift Mufflers

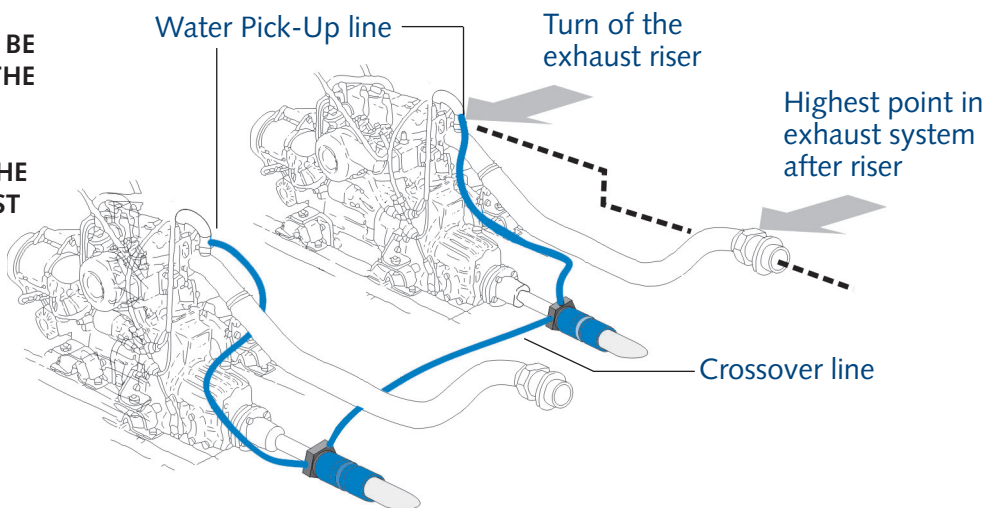
In twin engine applications using water lift mufflers, a check valve in each water pick-up line is required if a crossover line is installed.

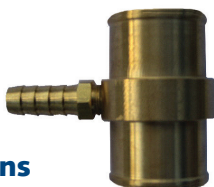
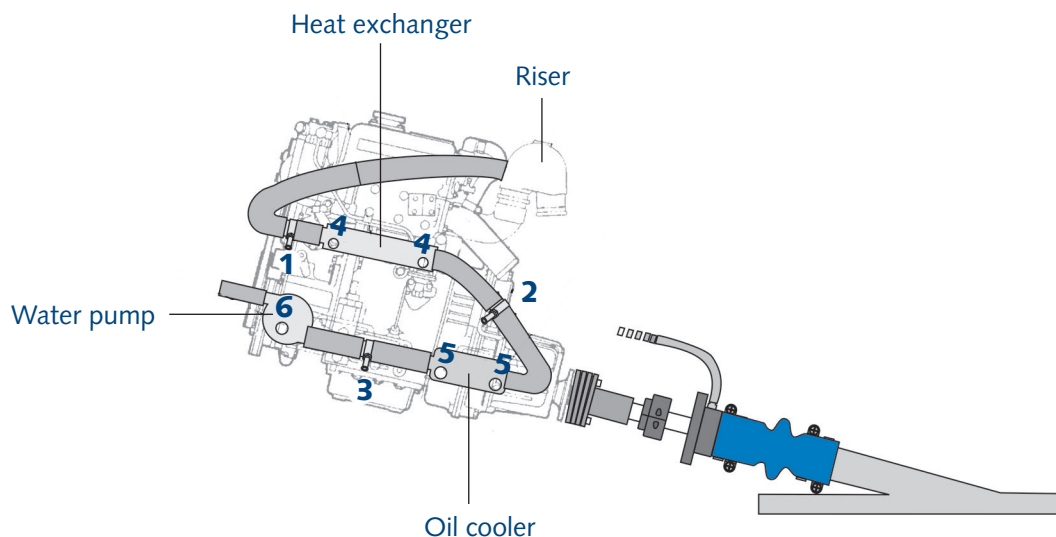
General

Vented loops and check valves should be inspected for proper function at least twice a year. Read the SureSeal™ installation instructions provided with each SureSeal™ carefully before proceeding. If you have any questions, contact Tides Marine for assistance.

! THE TURN OF THE EXHAUST RISER MUST BE ABOVE THE REST OF THE EXHAUST SYSTEM

BEFORE OPERATING THE VESSEL YOU MUST TEST THE WATER SUPPLY





Hose Tee Kit Specifications
(dimensions in inches)

Hose inside Diameter A	Hose Tee Length B	Branch Hose Barb Size C	Part Number
3/8	1 7/8	3/8	TK0375-3/8-.275
5/8	1 7/8		TK0625-3/8-.218
3/4	1 7/8		TK0750-3/8-.218
1	1 7/8		TK1000-3/8-.218
1 1/4	1 7/8		TK1250-3/8-.218
1 1/2	1 7/8		TK1500-3/8-.218
1 5/8	1 7/8		TK1625-3/8-.218
1 3/4	2		TK1750-3/8-.218
2	2 1/2		TK2000-3/8-.218
1 1/2	1 7/8	1/2	TK1500-1/2-.343
2	2 1/2		TK2000-1/2-.343

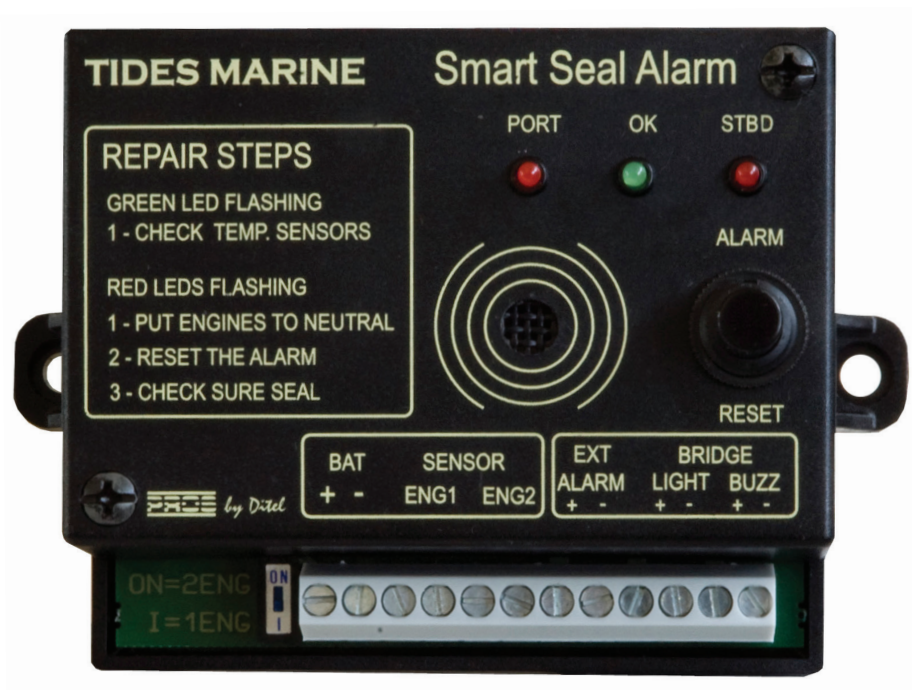


Hose Barb Kit Specifications
(dimensions in inches)

Fitting Length A	Fitting Thread Size B	Fitting Hose Barb Size C	Part Number
2	1/4 NPT	3/8	IJK250-375-2000
	3/8 NPT		IJK250-375-2000
2	3/8 NPT	1/2	IJK375-500-2000

PRODUCT OVERVIEW

The control module accepts a 12V or 24V DC power supply and has a self-diagnostic facility on power-up to ensure that the system is functioning correctly.



Working together with temperature measurement specialists, Pros by Ditel, Tides Marine has developed a temperature alarm system to work in conjunction with the Tides SureSeals™ running on commercial and pleasure craft with single- or twin-engine installations.

The SMART SEAL is designed to monitor SureSeal™ head temperature using a solid state sensor, electronic control module and a remote alarm panel or warning siren.

Any increase in the normal operating temperature of the shaft seal will trigger an audible and visual alarm. This alarm will notify the owner and crew that an immediate inspection of the SureSeal(s)™ is required to prevent damage to the SureSeal.

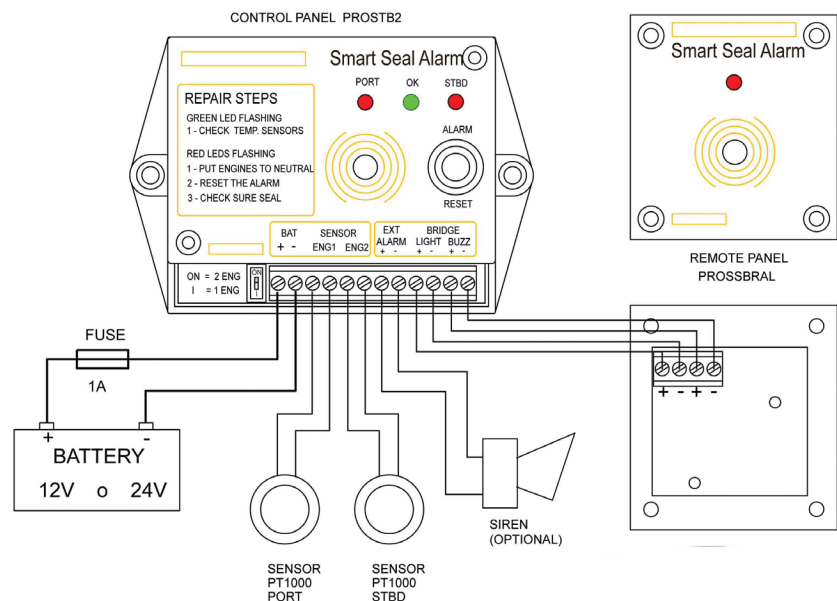
The control module accepts a 12V or 24V DC power supply and has a self-diagnostic feature on power-up that indicates the system is functioning properly.

Smart Seal FEATURES	Smart Seal BENEFITS
Provides early warning of overheating. →	<ul style="list-style-type: none"> • SMART SEAL detects excessive increases in water temperature within the shaft seal or forward part of the stern tube. • Any interruption to the cooling water supply or the stern tube being blocked will cause the alarm to sound.
Low maintenance. →	<ul style="list-style-type: none"> • Solid state sensor with no moving parts—mounts to water injection fitting on SureSeal™ unit. • Control module has self-diagnostic test on power-up. • 2-year warranty.
Easy to install. →	<ul style="list-style-type: none"> • Control module mounts to engine room bulkhead. • Suitable for single- or twin-engine installations. • Sensors pre-wired with 10 meters of heat-resistant cable, allowing convenient control panel location. • Remote panel designed for mounting at helm position.
Compatibility. →	<ul style="list-style-type: none"> • Control module has output for optional remote siren or for connection to on-board warning/alarm system. • Suitable for 12V and 24V DC operation. • Can be retro-fitted to any Tides Marine SureSeal™ unit already in service.
Simple operation. →	<ul style="list-style-type: none"> • Green 'OK' light to confirm that the system is functioning correctly. • Control module identifies which shaft seal is starting to overheat. • "RESET" button to cancel alarm events. • Memory re-activates alarm after power interruption.

Configuration for 1 or 2 Engines:

The module allows the operator to set the unit for either single- or twin-engine installation. Before connecting the module to the power supply, use the toggle switch to indicate single or dual operation.

For single engine applications, connect the sensor to "ENG 1" (PORT).



SureSeal™ Self-Aligning Shaft Seals

Remote Panel for PROSTB2 Model PROSSBRAL

- Aluminum face plate 60 mm x 65 mm / 2.36" x 2.56"
- 4 screws 3.5 x 16
- 1 red LED
- 1 buzzer 104 dB
- 1 connector block
- Not waterproof

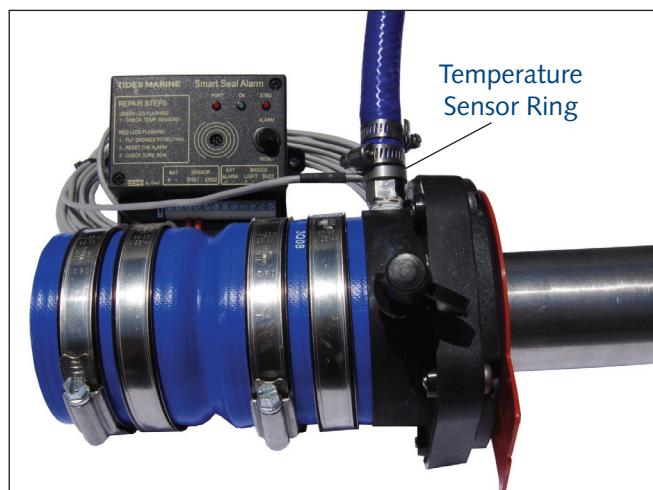
Allows a remote repetition of the acoustic signal and visual alarm (red LED), generated by the PROSTB2 module. The connection between modules can be wired with 4 x 1 mm² as per instructions (not included in kit).



Optional Siren for PROSTB2 Model PROSSIRDC

- 1 siren 12V/24V DC
- 1 instruction manual
- Not waterproof

The siren can be connected to a 12V or 24V supply and is easily connected to the main module PROSTB2 as per instructions.



PRODUCT OVERVIEW



The seriesOne™ shaft seal was designed for smaller, single-engine vessels with stainless steel propeller shafts. This shaft seal fits shaft diameters from 7/8" through 1 1/4" in 1/8" increments. It can also be used on metric stainless shafting from 25mm through 30mm. **The seriesOne™ shaft seal is covered by a one year warranty.** Tides Marine suggests that all twin-engine applications use the Tides SureSeal™.

Housing

The seriesOne™ housing is produced in the same manner as the SureSeal™ shaft seals. However, in order to produce a shaft seal for our more cost-conscious customers, the front cap design of the seriesOne™ has been modified.

As a result, the lip seal in the seriesOne™ is NOT replaceable.

When the lip seal in the seriesOne™ is worn to the point of leaking, the entire shaft seal must be replaced.

Bearing

The seriesOne™ bearing is machined from PTFE® to precise tolerances.

Hose

The seriesOne™ shaft seal is available with two hose options. For vessels like ski boats with shorter shafts (approximately 3' in length), higher operating RPMs (3500 RPM+) and more rigid engine mounts, a single-convolution articulating hose is recommended.

For vessels powered by smaller diesel engines (1-3 cylinders) using softer engine mounts, the multi-convolution articulating hose is recommended. This extra flexibility compensates for increased lateral engine movement during operation.

Hose Clamps

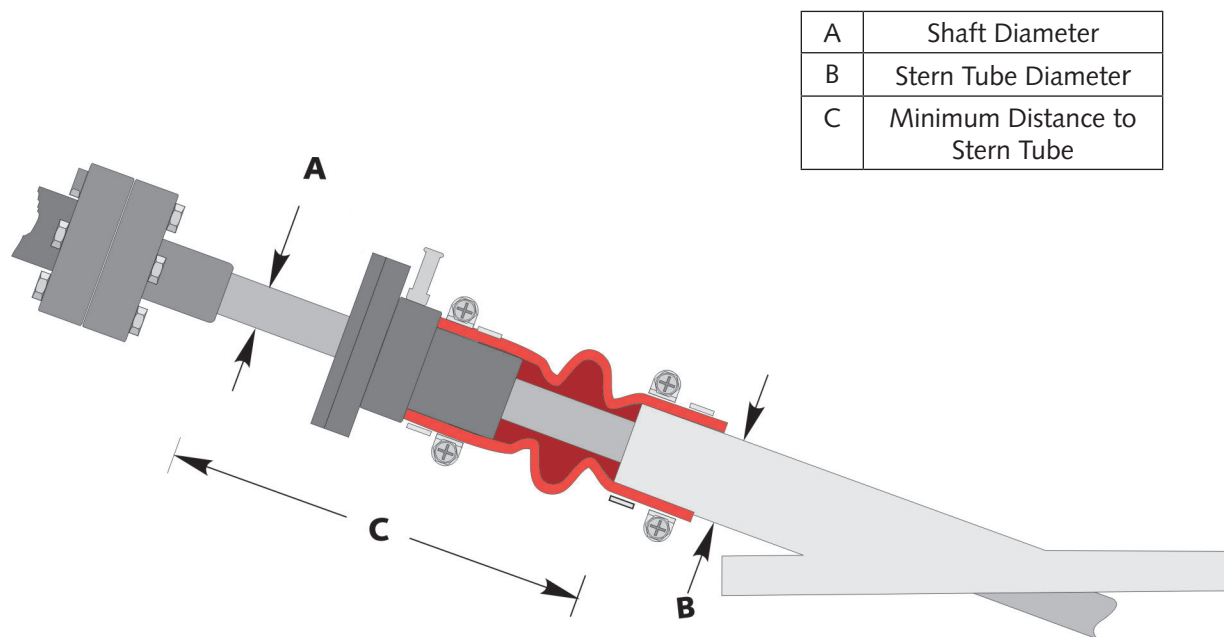
Four 316 SS clamps are provided with each seriesOne™ shaft seal.

SureSeal™ Self-Aligning Shaft Seals

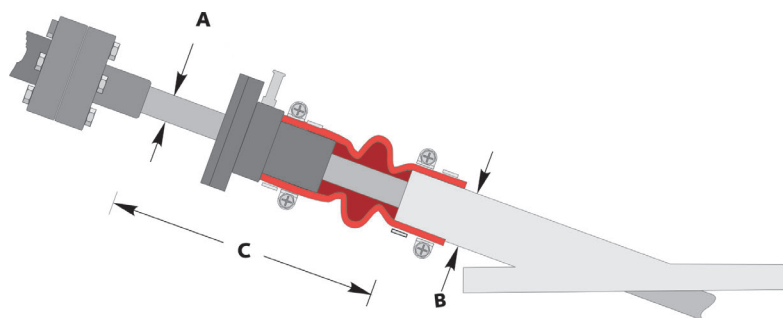
BEFORE ORDERING

seriesOne™ shaft seals come complete with application-specific articulating hose and clamps. To determine which seriesOne™ to order, simply measure your propeller shaft OD and find the corresponding shaft size in Column A of the table on pages 27 or 28. Next, measure the OD of your stern tube and find the corresponding size in Column B of the table on pages 27 or 28. Match these two measurements with the corresponding part number in the same table.

Next, note the minimum distance number associated with your part number in Column C of the table. Confirm there is at least this much clean, smooth propeller shaft between the coupling and the stern tube.



A	Shaft Diameter
B	Stern Tube Diameter
C	Minimum Distance to Stern Tube



Note: The following sizes are currently available. Call Tides if the size you need is not listed.

Single-Convolution Hose Specifications

(dimensions in inches)

Shaft Size A	Stern Tube OD B	Minimum Distance C	seriesOne™ Part Number with Single Convolution Hose
7/8	1 3/4	7	ONE-0875-1750-S
	2		ONE-0875-2000-S
	2 1/4		ONE-0875-2250-S
	2 1/2		ONE-0875-2500-S
	2 3/4		ONE-0875-2750-S
	3		ONE-0875-3000-S
1	1 3/4	7	ONE-1000-1750-S
	2		ONE-1000-2000-S
	2 1/4		ONE-1000-2250-S
	2 1/2		ONE-1000-2500-S
	2 3/4		ONE-1000-2750-S
	3		ONE-1000-3000-S
1 1/8	1 3/4	7	ONE-1125-1750-S
	2		ONE-1125-2000-S
	2 1/4		ONE-1125-2250-S
	2 1/2		ONE-1125-2500-S
	2 3/4		ONE-1125-2750-S
	3		ONE-1125-3000-S
1 1/4	1 3/4	7	ONE-1250-1750-S
	2		ONE-1250-2000-S
	2 1/4		ONE-1250-2250-S
	2 1/2		ONE-1250-2500-S
	2 3/4		ONE-1250-2750-S
	3		ONE-1250-3000-S

Single-Convolution Hose Specifications

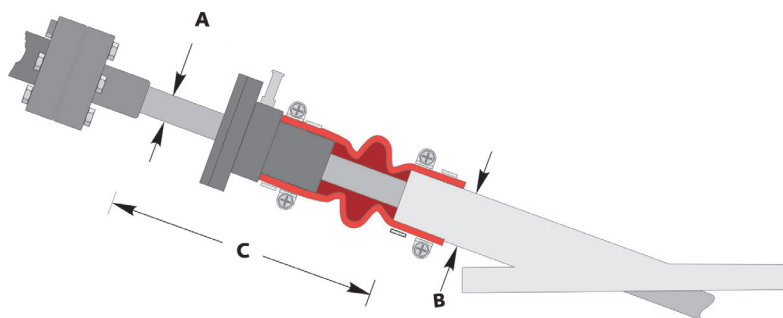
(dimensions in millimeters)

Shaft Size A	Stern Tube OD B	Minimum Distance C	seriesOne™ Part Number with Single Convolution Hose
25mm	45	178mm	ONE-25M-45M-S
	51		ONE-25M-51M-S
	57		ONE-25M-57M-S
	63		ONE-25M-63M-S
	70		ONE-25M-70M-S
	76		ONE-25M-76M-S
30mm	45	178mm	ONE-30M-45M-S
	51		ONE-30M-51M-S
	57		ONE-30M-57M-S
	63		ONE-30M-63M-S
	70		ONE-30M-70M-S
	76		ONE-30M-76M-S

**These products are available in custom sizes.
Contact Tides Marine for more information.**

seriesOne™

BEFORE ORDERING



Note: The following sizes are currently available. Call Tides if the size you need is not listed.

Multi-Convolution Hose Specifications

(dimensions in inches)

Shaft Size A	Stern Tube OD B	Minimum Distance C	seriesOne™ Part Number with Multi Convolution Hose
7/8	1 3/4	7	ONE-0875-1750-M
	2		ONE-0875-2000-M
	2 1/4		ONE-0875-2250-M
	2 1/2		ONE-0875-2500-M
	2 3/4		ONE-0875-2750-M
	3		ONE-0875-3000-M
1	1 3/4	7	ONE-1000-1750-M
	2		ONE-1000-2000-M
	2 1/4		ONE-1000-2250-M
	2 1/2		ONE-1000-2500-M
	2 3/4		ONE-1000-2750-M
	3		ONE-1000-3000-M
1 1/8	1 3/4	7	ONE-1125-1750-M
	2		ONE-1125-2000-M
	2 1/4		ONE-1125-2250-M
	2 1/2		ONE-1125-2500-M
	2 3/4		ONE-1125-2750-M
	3		ONE-1125-3000-M
1 1/4	1 3/4	7	ONE-1250-1750-M
	2		ONE-1250-2000-M
	2 1/4		ONE-1250-2250-M
	2 1/2		ONE-1250-2500-M
	2 3/4		ONE-1250-2750-M
	3		ONE-1250-3000-M

Multi-Convolution Hose Specifications

(dimensions in millimeters)

Shaft Size A	Stern Tube OD B	Minimum Distance C	seriesOne™ Part Number with Multi Convolution Hose
25mm	45	178mm	ONE-25M-45M-M
	51		ONE-25M-51M-M
	57		ONE-25M-57M-M
	63		ONE-25M-63M-M
	70		ONE-25M-70M-M
	76		ONE-25M-76M-M
30mm	45	178mm	ONE-30M-45M-M
	51		ONE-30M-51M-M
	57		ONE-30M-57M-M
	63		ONE-30M-63M-M
	70		ONE-30M-70M-M
	76		ONE-30M-76M-M

These products are available in custom sizes. Contact Tides Marine for more information.

PRODUCT OVERVIEW



Tides Marine's replacement nitrile lip seals are specifically designed for each sealing system (propeller shafts / rudder stocks) produced by Tides Marine.

They are the only lip seals covered under the Tides Marine Warranty.

The outer shell is made of an Aramid fiber composite which is integrally molded to a rubber hinge with a nitrile edge. A 316-stainless steel garter spring is incorporated to distribute loads evenly over the propeller shaft or rudder stock.

When ordering replacement lip seals, note whether you have a SureSeal™ shaft seal or a STRONG™ Seal shaft seal. Descriptions of each are listed in the charts on the following pages.

Note: When ordering, please supply the lip seal part number (located on the face of the lip seal) to make sure you receive the correct replacement lip seal. It is also helpful if you can provide the Tides Marine Serial Number located on your existing part.

SureSeal™ Self-Aligning Shaft Seals

BEFORE ORDERING

SureSeal™ (sold after year 2000)



Articulating Hose



Removable face cap
(most have 5 sides)



5 screw fasteners

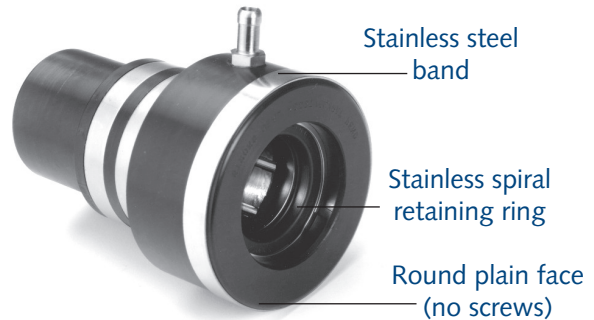
Imperial (dimensions in inches)

Shaft Diameter (inches)	PART Number	Lip Seal Number
3/4	LIP SEAL 0750	9983
7/8	LIP SEAL 0875	8465
1	LIP SEAL F 1000	9520
1 1/8	LIP SEAL F 1125	9558
1 1/4	LIP SEAL F 1250	5729
1 3/8	LIP SEAL F 1375	3740
1 1/2	LIP SEAL 1500	9041
1 3/4	LIP SEAL 1750	15557
2	LIP SEAL F 2000	9043
2 1/4	LIP SEAL F 2250	10432
2 1/2	LIP SEAL F 2500	10121
2 3/4	LIP SEAL F 2750	11894
3	LIP SEAL 3000	9045
3 1/4	LIP SEAL 3250	9547
3 1/2	LIP SEAL 3500	11197
3 3/4	LIP SEAL 3750	7146
4	LIP SEAL 4000	7199
4 1/4	LIP SEAL 4250	7040
4 1/2	LIP SEAL 4500	9170
5	LIP SEAL 5000	9629

Metric (dimensions in millimeters)

Shaft Diameter (mm)	PART Number	Lip Seal Number
25MM	LIP SEAL F 25MM	6726
30MM	LIP SEAL F 30MM	10569
35MM	LIP SEAL F 1375	3740
40MM	LIP SEAL F 40MM	5536
45MM	LIP SEAL F 45MM	11499
50MM	LIP SEAL-50MM	10015
60MM	LIP SEAL-60MM	9319
65MM	LIP SEAL-65MM	6869
75MM	LIP SEAL F 75MM	4183
80MM	LIP SEAL-80MM	4801
85MM	LIP SEAL-85MM	16431
90MM	LIP SEAL F 90MM	19819
95MM	LIP SEAL-3750	7146
100MM	LIP SEAL-100MM	9510
105MM	LIP SEAL-105MM	11790
110MM	LIP SEAL-110MM	16548
120MM	LIP SEAL-120MM	30026
125MM	LIP SEAL-125MM	19662

STRONG™ Seal (sold prior to year 2000)



Straight Hose



Imperial (dimensions in inches)

Shaft Diameter (inches)	PART Number	Lip Seal Number
3/4	LIP SEAL 0750	9983
7/8	LIP SEAL 0875	8465
1	LIP SEAL 1000	9257
1 1/8	LIP SEAL 1125	9460
1 1/4	LIP SEAL 1250	5728
1 3/8	LIP SEAL 1375	15099
1 1/2	LIP SEAL 1500	9041
1 3/4	LIP SEAL 1750	15557
2	LIP SEAL 2000	11551
2 1/4	LIP SEAL 2250	10418
2 1/2	LIP SEAL 2500	8497
2 3/4	LIP SEAL 2750	9732
3	LIP SEAL 3000	9045
3 1/4	LIP SEAL 3250	9547
3 1/2	LIP SEAL 3500	11197
3 3/4	LIP SEAL 3750	7146
4	LIP SEAL 4000	7199
4 1/4	LIP SEAL 4250	7040
4 1/2	LIP SEAL 4500	9170
5	LIP SEAL 5000	9629

Metric (dimensions in millimeters)

Shaft Diameter (mm)	PART Number	Lip Seal Number
25MM	LIP SEAL-25MM	6084
30MM	LIP SEAL-30MM	17236
35MM	LIP SEAL-1375	15099
40MM	LIP SEAL-40MM	18329
45MM	LIP SEAL-45MM	15265
50MM	LIP SEAL-50MM	10015
60MM	LIP SEAL-60MM	9319
65MM	LIP SEAL-65MM	6869
75MM	LIP SEAL-75MM	15089
80MM	LIP SEAL-80MM	4801
85MM	LIP SEAL-85MM	16431
90MM	LIP SEAL-90MM	30019
95MM	LIP SEAL-3750	7146
100MM	LIP SEAL-100MM	9510
105MM	LIP SEAL-105MM	11790
110MM	LIP SEAL -110MM	16548
120MM	LIP SEAL-120MM	30026
125MM	LIP SEAL-125MM	19662

Articulating Hose

PRODUCT OVERVIEW



Developed for use with the Tides Marine SureSeal™, these articulating hoses automatically connect any SureSeal™ to a vessel's stern tube, maintaining the proper operating distance between each. These hoses reduce side loads borne by the SureSeal™ due to misalignment of the propeller shaft. As a result, the operating life of the lip seal and the bearing are significantly enhanced.

BEFORE ORDERING

Specifications

A INSIDE DIAMETER	B INSIDE DIAMETER	PART NUMBER
1 3/4	2	HS 1750-2000
2	2	HS 2000-2000
2 1/4	2 3/8	HS 2250-2375
2 1/2	2 5/8	HS 2500-2625
3	3	HS 3000-3000
3	3 1/2	HS 3000-3500
3 1/2	3 1/2	HS 3500-3500
3 1/2	4	HS 3500-4000
4	4 1/4	HS 4000-4250
4	4 1/2	HS 4000-4500
4	5	HS 4000-5000
4 1/2	5	HS 4500-5000
5	5 1/2	HS 5000-5500
5	6	HS 5000-6000
5 1/2	6 1/2	HS 5500-6500
6 1/2	7	HS 6500-7000
6 1/2	8	HS 6500-8000

Hose Clamps

PRODUCT OVERVIEW



Tides Marine 316-stainless steel hose clamps won't mar or tear the hose surface. They require less force to tighten and adjust to variations in the hose diameter caused by changes in temperature and pressure. The standard band width is 1/2". The entire clamp (band, screw, and housing) is manufactured from 316-stainless steel.

To order, specify the hose clamp part number found on the outside diameter (OD) of the hose-end of the SureSeal™ (or the OD of the stern tube). See chart below.

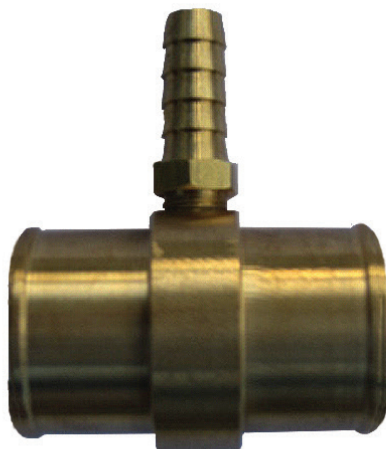
BEFORE ORDERING

Specifications (dimensions in inches)

SureSeal™ OD or Stern Tube OD	PART NUMBER
3/8	CLAMP-0375
1/2	CLAMP-0500
1 1/2	CLAMP-1500
1 3/4 – 2	CLAMP-2000
2 1/8 - 2 3/8	CLAMP-2250
2 1/2 - 2 5/8	CLAMP-2500
2 3/4 - 3 1/8	CLAMP-3000
3 1/4 - 3 1/2	CLAMP-3500
3 3/4 - 4 1/4	CLAMP-4000
4 1/2	CLAMP-4500
4 3/4 - 5 1/4	CLAMP-5000
5 1/2	CLAMP-5500
6	CLAMP-6000
6 1/2 - 6 5/8	CLAMP-6500
7	CLAMP-7000
8	CLAMP-8000
8 5/8	CLAMP-8625

Tee Fittings

PRODUCT OVERVIEW



Tides Marine hose tee fittings have a variety of uses and greatly reduce the size and complexity of branch hose connections. They are an integral part of the Tides Marine water pick-up kit. Machined from corrosion-resistant yellow brass, they are available in a broad variety of sizes.

BEFORE ORDERING

To order, specify the part number (from the table right) based upon main hose ID and the branch hose ID. Overall length is also specified.

These products are available in custom sizes. Contact Tides Marine for more information.

Specifications (dimensions in inches)

Hose Inside Diameter	Part Length	Branch Diameter	Part Number
3/8	1 7/8	3/8	TH0375-3/8-.275
5/8	1 7/8		TH0625-3/8-.218
3/4	1 7/8		TH0750-3/8-.218
1	1 7/8		TH1000-3/8-.218
1 1/4	1 7/8		TH1250-3/8-.218
1 1/2	1 7/8		TH1500-3/8-.218
1 5/8	1 7/8		TH1625-3/8-.218
1 3/4	2		TH1750-3/8-.218
2	2 1/2		TH2000-3/8-.218
1 1/2	1 7/8	1/2	TH1500-1/2-.343
1 3/4	2		TH1750-1/2-.343
2	2 1/2		TH2000-1/2-.343

Notes

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California Proposition 65

Our products may contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <https://oehha.ca.gov/propositions-65>

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