



 **concept 2**
DREISSIGACKER OARS

SWEEPS AND SCULLS



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1975
Dreissigackers create
carbon fibre oars

1976
Concept2 founded
in a Vermont barn

1987
Ultralight Shaft

1991
Big Blade

1995
10 cm Adjustable Handle

1996
Smoothie¹

What Goes into a Concept2 Oar?

Passion

For Concept2 Founders and brothers Peter and Dick Dreissigacker, rowing is a lifelong passion and engineering is a way of life. This drives Concept2's commitment to design and build the best racing oars in the world. Every oar is custom built and tested in our Vermont factory to live up to this commitment.

Innovation

Since bringing carbon fibre oars to the rowing community over 30 years ago, Concept2 has continued to revolutionise the sport of rowing with increasingly efficient oar designs. No design is released unless rigorous on- and off-water testing proves its ability to increase boat speed.

Performance

Top athletes around the world rely on Concept2. Our oars and sculls were in the hands of:

- 70% of all 2012 Olympic medallists in London
- 77% of all gold medallists at the 2011 World Championships

Support

Every Concept2 oar is backed by our dedicated and knowledgeable support team. We strive to offer the best service in the industry both from our factory and in the field. We are here to help you get the most from your oars.





Choosing Your Oar Components

We build every oar to order. This means you can select your oars from our standard specifications, or fully customise from our wide range of options. However unique your oar needs may be, if you want it, we will build it.

We've designed this brochure to help you work through the many options. **We highly recommend selecting components in the order that they appear in the brochure and on the order form.** Be sure to read through our helpful tips and guidelines so that your oar components work together for optimal efficiency and feel.

The order form will help keep track of the options you choose. Please have this form handy when you call to place your order. Additional information on all oar components, and links to download the oar brochure and order form, can be found at concept2.co.uk/oars.







Blades

Our blade designs have evolved with one purpose—to more efficiently convert the athlete's power into boat speed.

Here's what we know about blade design:

- A blade that slips less in the water loses less of the work generated at the handle by the athlete. In other words, it is more efficient.
- Changing the shape, curvature, and features at the tip will impact blade interaction with the water.
- As a blade becomes more effective it will generate more load and require a decrease in oar length.
- As blade designs have become more efficient, controlled testing has indicated improved performance speeds.

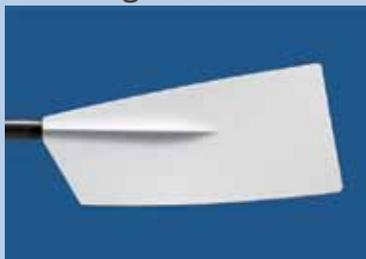
Fat2**Smoothie2 Vortex Edge**

Date of innovation	2004	2000
Description	Offers the greatest potential for increasing boat speed, based on our research and on water testing.	Offers many advantages of the Fat2, but with a slightly smaller surface area.
The feel	Greater efficiency gives a firm feel earlier in the drive; less resistance toward the finish.	Resistance is focused on the early part of the drive.
Vortex Edge	Standard	Standard
Tips for optimising performance	Oar length should be 4–8 cm shorter than Smoothie2. More effective when rigged further through the pin.	Oar length should be 1–2 cm shorter than Smoothie2. More effective when rigged further through the pin.
Recommended for:	Competitive rowers looking for maximum efficiency, and willing to try a shorter and/or softer shaft to achieve it.	Competitive athletes who want good efficiency without the rigging changes that may be necessary to get the most from the Fat2.

Smoothie2



Big Blades

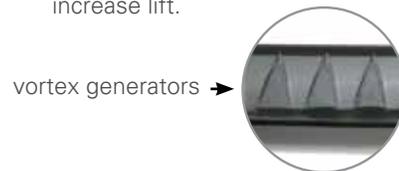


Vortex Edge



The Vortex Edge may be added to any of our blades to further increase efficiency.

1. The triangular “vortex generators” on the back surface of the Vortex Edge tip act on the layer of water near the surface of the blade to decrease drag and increase lift.



2. The blade perimeter tapers towards the tip to promote additional vortex development along the blade edges increasing efficiency as the angle of attack increases during the second phase of the drive.

An added feature of the Vortex Edge is that it protects the edge of the blade, preventing damage from wear or impact.

1996

Similar to Smoothie2VE, but without the added efficiency of the Vortex Edge.

Less resistance early in drive.

N/A

Best oar length may be slightly shorter than for Big Blade.

Competitive crews who want efficiency but prefer a softer feel.

1991

With its large asymmetric surface area, this breakthrough changed the shape of racing oar blades.

Lacks the firm feel of our newer designs early in the drive. Vortex Edge may be added to increase efficiency.

Optional

We encourage you to compare with some of our newer blades.

Crews who are familiar with the Big Blade or want to match older sets of oars.





Blade Colour Options

Concept2 offers 52 blade colours in addition to our standard white. These colours are available at an additional cost and longer lead times may apply.

Coloured blades are available as single, solid colours only. You will need to apply any additional designs or stripes.

Important: These colours are from the RAL international colour standard. Due to individual computer monitor and printer limitations, these samples are approximations and may not accurately reflect the true colour. Please contact our customer service team for additional information.

Shaft Construction Options

Skinny (Sweep and Scull)

Our newest high performance shaft, the Skinny, is a smaller diameter shaft that offers less wind resistance, different bending characteristics and softer flex options. Concept2 lab tests reveal the Skinny shaft reduces wind drag of the shaft by 25% for sculls and 50% for sweeps compared to a standard Ultralight shaft. Skinny shafts are made of high modulus carbon fibre to achieve the needed stiffness with the smaller diameter. Final oar weight is the same as Ultralight shafts.

Low i (Scull Only)

The Low i shaft uses high modulus carbon fibre and a standard shaft diameter to achieve a lighter shaft. We use our lightest blade for the Low i scull to achieve overall weight reduction and extremely low swing weight—the weight at the blade that is felt each time the oar changes direction. Those rowing with higher stroke rates stand to benefit from using Low i sculls. These sculls are less resistant to impact damage than Ultralights.

Ultralight (Sweep and Scull)

The Ultralight is our standard lightweight, all-carbon fibre shaft that is most commonly used at all levels of rowing and racing today. Over the years, we have refined the construction of this shaft to be as durable as possible.







Shaft Flex

A blade and shaft work as a system to create a perception of oar stiffness or “flex”. We offer three different shaft constructions, each with various flex options, to help you optimise the feel and efficiency of the blade that you’ve chosen.

Flex Options

Extra Soft (Skinny only) A good choice for those who want the efficiency of the Fat2 blade but prefer a softer feel at the catch.

Soft A good choice for smaller athletes, women, or masters, especially when assembled with the Fat2 blade.

Medium A good choice for use with the Big Blade, Smoothie2 Plain Edge and Smoothie2 Vortex Edge.

- Ultralight shafts with Medium flex have been our most popular shaft and will meet the needs of most rowers.
- The Fat2 blade on a Medium flex shaft has been used successfully by crews that are accustomed to a pronounced, firm “lock-on” at the catch.
- This is the stiffest option available for the Skinny construction.

Stiff Appropriate for those who have a preference for the stiffest shaft.



Oar Length

We offer adjustable and fixed length handles for our sweeps and sculls.

- Adjustable length makes it easy to share oars between boats, adjust oar lengths for different wind conditions, and to test different rigging configurations.
- Fixed length oars should be ordered only if you are sure you will never want to change your sweep or scull length.

Guidelines

Achieving a comfortable, effective rig is the key to keeping the load reasonable and getting the most out of your oars. In general, we recommend setting your sweeps or sculls shorter when rowing:

- With more efficient blades, like the Fat2. (See table on right)
- In a slower boat.
- With a narrower spread.
- With a longer reach/a greater catch angle.
- When you need less handle overlap while sculling.

Oar Length Recommendations

The following table outlines our typical oar length recommendations for sweep and scull. Additional options, including fixed length, are available. Contact customer service for more information.

Sweeps

Range	Fat2	Smoothie2 or Big Blade
Short	362–367 cm	367–372 cm
Medium	365–370 cm	370–375 cm
Long	368–373 cm	373–378 cm

Sculls

Range	Fat2	Smoothie2 or Big Blade
Short	275–280 cm	281–286 cm
Medium	278–283 cm	284–289 cm
Long	281–286 cm	287–292 cm

Handle Options

We offer composite and wooden handles for our sweeps and sculls.

Composite Handles

Our carbon fibre composite handle is the lightest handle we offer. It is available for sweep and scull as either fixed length or as part of our Length Adjustment System.

Length Adjustment System

Our Length Adjustment System features a bonded composite handle with a structural outside grip that is capable of a 5 cm range of length adjustment.

Unique features:

- Simple three-step process adjusts oar length.
- The grip is keyed to the handle to prevent rotation.
- Continuous choice of settings over the entire five centimetre range. Each turn of the adjusting screw results in a length change of approximately 0.25 centimetres.
- Oars are marked at the handle to indicate overall length in centimetres.
- Worn grips or damaged parts are easily replaced.
- The composite handle is bonded to the shaft and will not loosen with use.

Fixed Length

Fixed length composite handles are available in one size for sweep and Narrow or Medium for sculls. Fixed length composite handles are not available for the Skinny shaft.

Wood Handles

Our traditional basswood handle is available for fixed length oars only. The wood handle is available in small (39 mm), medium (42 mm) or large (45 mm) for sweep. It is also available for sculls by special request.

We also offer a wood veneer grip for sweep oars, giving the feel of wood with the versatility of the adjustable handle.



Grip Options

Your options for grips will depend on the handle and shaft you have chosen, and whether you are ordering regular sweeps, Skinny sweeps or sculls.



Smooth Green Rubber

- Firm, smooth texture
- Most durable, easy to clean



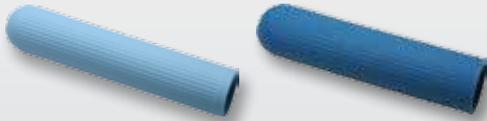
Microfibre Suede

- Soft, suede-like texture
- Adhesive-backed synthetic suede grip layer
- Easy and inexpensive to replace; no tools required
- Requires more frequent replacement than our other grip options



Wood Veneer

- Real mahogany
- Surface can be sanded carefully for more texture
- Additional costs may apply



Ice Blue and Azure Blue Rubber

- Firm feel with longitudinal ribs
- Easy to clean



Black Rubber

- Firm, rubber texture
- Durable, does not show dirt

Structural Grip Core with No Grip

- We offer this option for people who wish to supply their own grip.

Replacement Grips

Replacement grips are also available for purchase if you need to replace the grips on an existing set of sweeps or sculls. Contact customer service for more information or to order.

Q. Why are there additional grip options for the outside hand of Skinny sweeps?

A. If you have chosen our Length Adjustment System on a Skinny shaft, more grip options are available to you for the outside hand because our scull core fits the composite handle for the Skinny shaft. Note: For the inside grip you will need to choose either smooth green rubber, microfibre suede or wood veneer.

Grips for Sweeps and Sculls - Availability Chart

Grip	UL Sweep		Skinny Sweep		Scull	
	Adjustable	Fixed	Adjustable	Fixed	Adjustable	Fixed
Smooth green rubber	yes	yes	yes	yes	yes	no
Microfibre suede	yes	no	yes	no	no	no
Wood veneer	yes	no	yes	no	no	no
Ice Blue & Azure Blue	no	no	Yes, outside grip only	no	yes	yes
Black Rubber	no	no	Yes, outside grip only	no	yes	yes
None/bare core	yes	no	yes	no	yes	no





Also from Concept2

Many of our oar components are sold separately so you can easily replace worn parts or upgrade what you have. CLAMs, collars, oarlocks, and scull grips are available for purchase online. To order other components, please call us so we can ensure that you are getting the correct parts for your oars.

We stock both current production and older style sweep and scull components, so if you're looking for that wear plate for your older oars, just give us a call. Instructions are included with component purchases and are also available online. Many of the common repairs are also available as video demonstrations at concept2.co.uk/service.



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SWEEPS AND SCULLS



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