

## Types of Boats

Racing shells stored in a [boathouse](#).

[Racing boats](#) (called *shells*) are long, narrow, and broadly semi-circular in cross-section in order to reduce drag to a minimum. They usually have a fin towards the rear, to help prevent roll and yaw and to increase the effectiveness of the rudder.

Originally made from [wood](#), shells are now almost always made from a [composite material](#) (usually [carbon-fiber reinforced plastic](#)) for strength and weight advantages. FISA rules specify minimum weights for each class of boat so that no individual will gain a great advantage from the use of expensive materials or technology.

There are several different types of boats. They are classified using:

- **Number of rowers.** In all forms of modern competition the number is either 1, 2, 4, or 8.
- **Position of [coxswain](#)** (also referred to as cox). Boats are either coxless (*straight*), bow-coxed, or stern-coxed.

Although sculling and sweep boats are generally similar to each other (except having different riggers), they are referred to using different names:

- Sweep: [coxless pair](#) (or straight pair) (2-), [coxed pair](#) (2+), [Coxless four](#) (or straight four) (4-), [coxed four](#) (4+), [eight](#) (8+) (always coxed)
- Sculling: [single scull](#) (1x), [double scull](#) (2x), [quad \(or quadruple\) scull](#) (4x),

With the smaller boats, specialist versions of the shells for sculling can be made lighter. The riggers in sculling apply the forces symmetrically to each side of the boat, whereas in sweep oared racing these forces are staggered alternately along the boat. The sweep oared boat has to be stiffer to handle these unmatched forces, so consequently requires more bracing and is usually heavier – a pair (2-) is usually a more robust boat than a double scull (2x) for example, and being heavier is also slower when used as a double scull. In theory this could also apply to the 4x and 8x, but most rowing clubs cannot afford to have a dedicated large hull which might be rarely used and instead generally opt for versatility in their fleet by using stronger shells which can be rigged for either

sweep rowing or sculling. The symmetrical forces also make sculling more efficient than rowing: the double scull is faster than the coxless pair, and the quadruple scull is faster than the coxless four.

Many adjustments can be made to the equipment to accommodate the physiques of the crew. Collectively these adjustments are known as the boat's [rigging](#).



Rowers in a coxed four (4+)

While rowing, the athlete sits in the boat facing backwards (face towards the [stern](#)), and uses the [oars](#) which are held in place by the [oarlocks](#) to propel the boat forward (towards the [bow](#)). This may be done on a river, lake, sea, or other large body of water. It is a demanding sport requiring strong core balance as well as physical strength and cardiovascular endurance.<sup>[3]</sup>

There are two forms of rowing:

- In [sweep](#) or *sweep-oar* rowing, each rower has one oar, held with both hands. This can be done in pairs, fours and eights. Each rower in a sweep boat is referred to either as [port](#) or [starboard](#), depending on which side of the boat the rower's oar extends to. Usually the port side is referred to as [stroke side](#), and the starboard side as [bow side](#); this applies even if the stroke oarsman is rowing on bow side and/or the bow oarsman on stroke side.
- In [sculling](#) each rower has two oars (or *sculls*), one in each hand. Sculling is usually done without a [coxswain](#), in [quads](#), [doubles](#) or [singles](#). The oar in the sculler's right hand extends to port (stroke side), and the oar in the left hand extends to starboard (bow side).