



Hi and Low Rise Ski pole

The D2Z USP system seeks to optimise both hand angle and hand height - these are not always the same thing. With a traditional ski pole, the hand height gain is achieved through the angle put into the pole, but this does not leave any control over hand angle. The aim of the D2Z USP system is to keep the hand angle in the range of 40-50 degrees by using either our shaped Hi Rise or Low Rise pole with an angled shim of 10-20 degrees (if your handlebar has an in built tilting system then angle can be achieved with this).

In terms of absolute height at the pole end, the height gain of a Hi Rise pole is like that achieved with a standard 25 deg pole. With the Low Rise, the height gain is similar to that achieved with a 15-degree traditional pole. This is shown in the two diagrams below where you can see the equivalent traditional pole in shadow. As far as grip angle is concerned, both the Hi and Low-Rise poles have a grip angle of 33 degrees before tilting (this is the angle of the hand taken horizontal from the ground). Grip angle can be increased by tilting the poles – either with our shim system or a tilting system built into the bike.

An example of translating the angle achieved with a classic pole system, is if you currently use a classic 40 deg pole, our Hi Rise pole with an angled shim of 15 degrees should work perfectly for you, providing more support and improved aerodynamics over a classic pole due to the shape of the new D2Z pole.

The poles are supplied untrimmed. The dimensions can be seen in the diagrams below.

There is scope to translate the poles fore-aft by 70 mm with the Hi Rise and 120mm with the low rise (assuming a 45 mm clamp length).

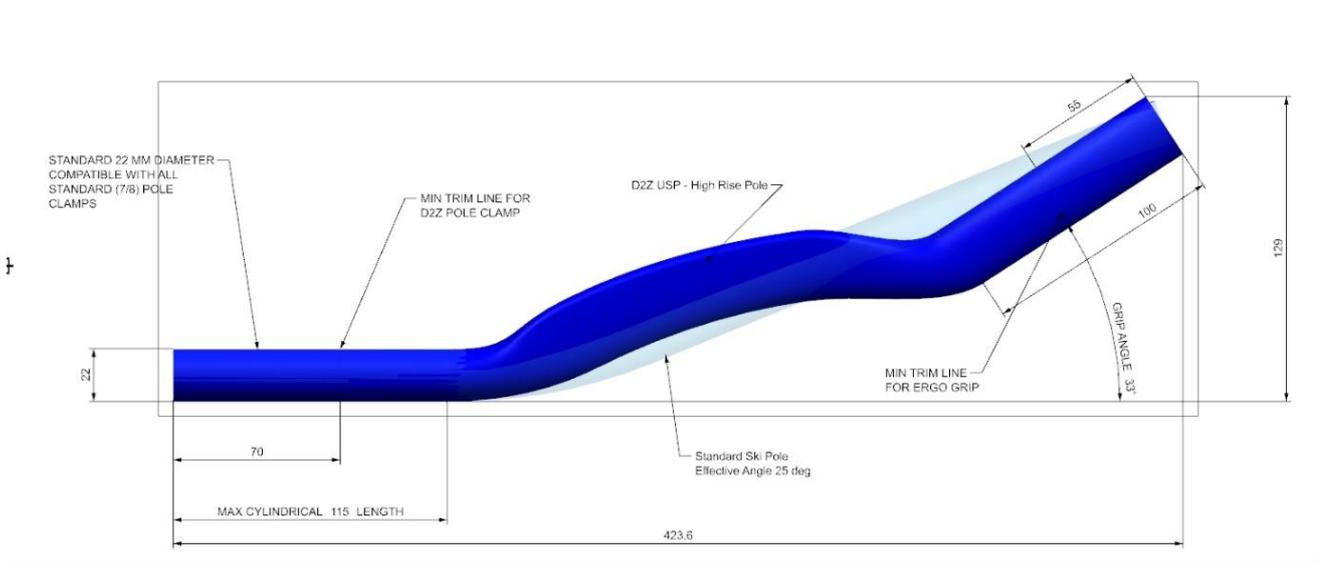
Bar end position can be adjusted by trimming the grip end to length. Untrimmed, the grip length is 100mm. The pole has an elliptical section to improve ergonomics, and a range of grips are offered to customise the hand position and attach the appropriate shifter (see below).

The Low rise has been designed with UCI set ups in mind where bar end height and length are restricted. It is worth noting that the UCI* limit the pad angle to 15 degree and most of our athletes have found that this pole works best with a 10 deg shim. This pole has a longer cylindrical section, as more reach adjusted is sometimes needed on bikes with a short or long top tube or stem.

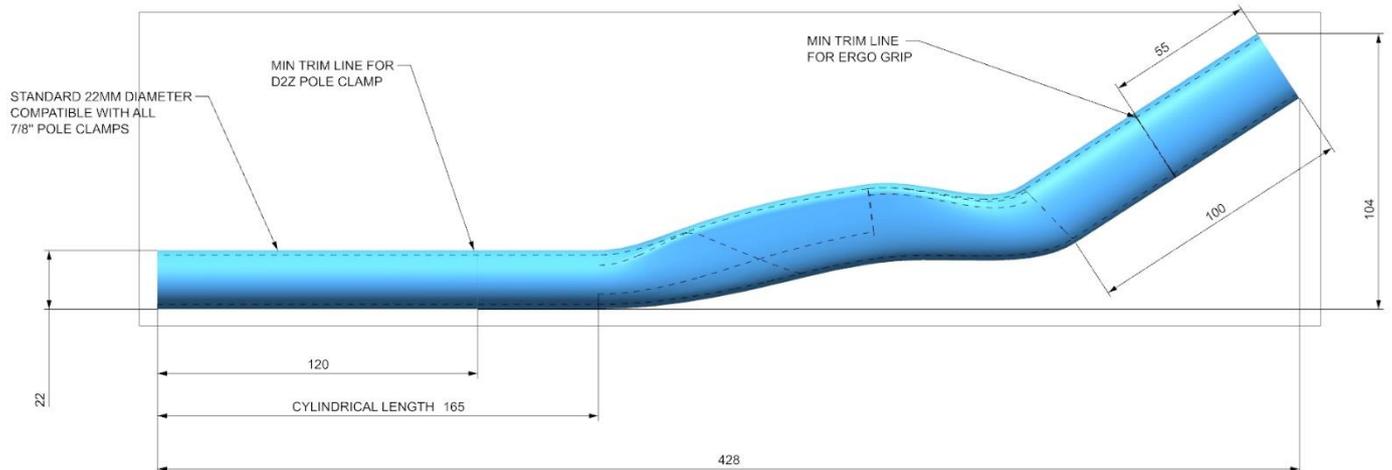
**We cannot accept any responsibility for ensuring your set up is UCI legal – prior to entering any UCI regulated events you need to ensure that your set up is compliant.*



Hi Rise Ski Pole



Low Rise Ski Pole

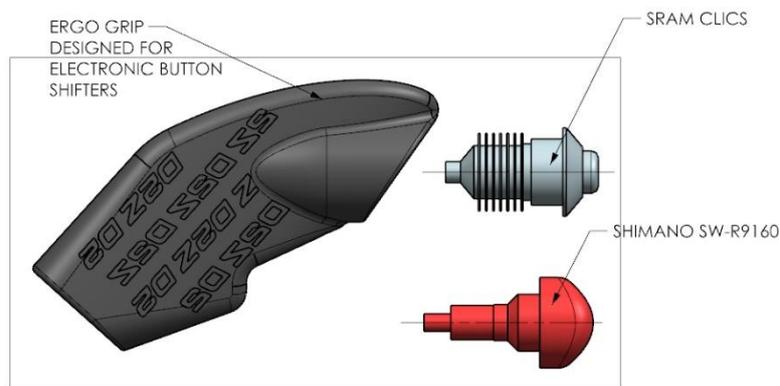




Ski Pole end grips

For improved ergonomics and aerodynamics, our ski poles have an elliptical end section. We supply a range of end grips which turn that elliptical shape into a circular shape for your gear shifter. Without a grip you will not be able to use a gear shifter.

USP Ergo Grip



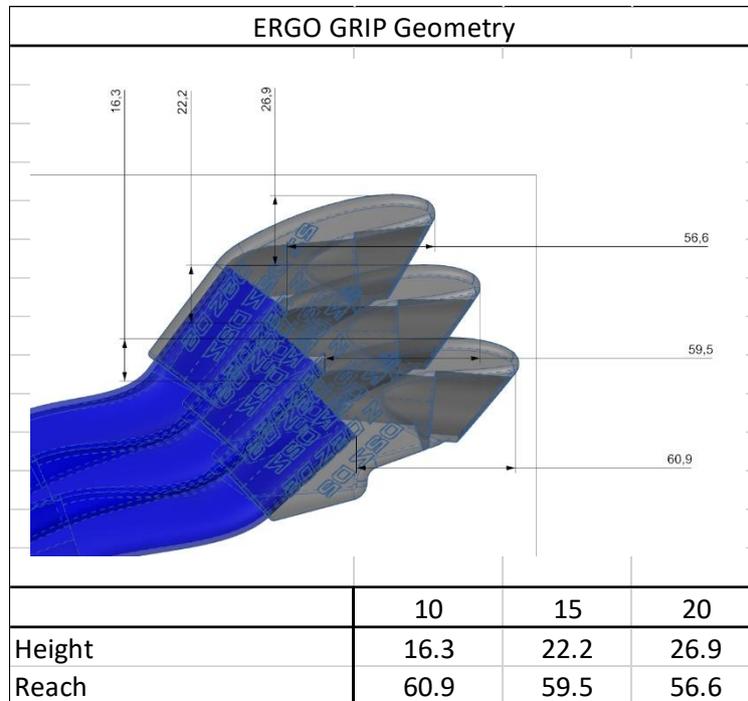
For the ultimate comfort, ergonomics and aerodynamics, we recommend the ergo grip. This provides a very neutral hand grip which encourages the rider to relax their wrist and hand and this promotes a slightly curved shape to the top of the hand (similar to the S-bend adapter offered on our standard ski pole).

The grip is manufactured from a semi soft plastic material, and only works with the small electronic shift buttons from SRAM and Shimano.

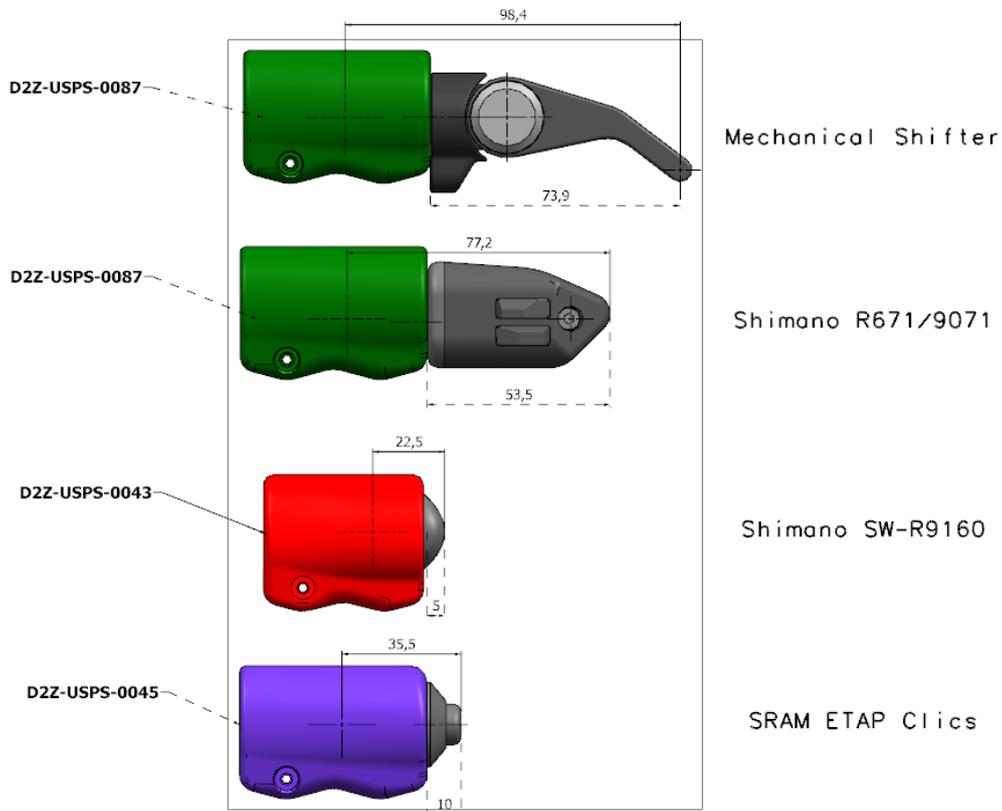
Due to the height and size of the Ergo grip, the majority of athletes find that it is not possible to position the USP pole and ergo grip within the UCI window given that the wrist inflexion point on the bar needs to be as close as possible to the 80cm or 85cm reach regulation.

The position of the grip on the USP pole tends to be similar for most people. The max recommended trim line is 55mm, usually the grip will be optimal at 45 to 50 mm.

Dimensions of Ergo grip giving additional length and height with the use of High-rise pole and angled shims at 10,15 and 20 degrees



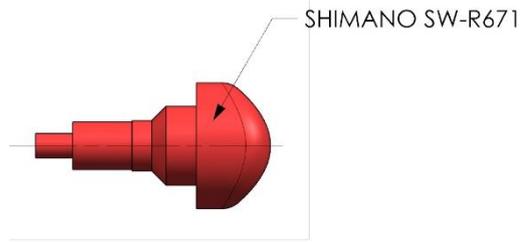
Straight end grips



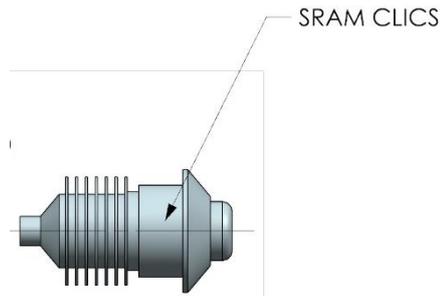
These simple end grips offer the most cost effective solution and means to attach any shifter to the elliptical ski pole. For UCI applications where reach restrictions make it difficult for the rider to stretch out, the short SRAM and Shimano button shifters give the most scope for maximising the space for the rider.

Solutions are offered for mechanical shifting, as well as the earlier Shimano style Di2 R671 and Dura Ace Di2 9071 series of single and double button shifters. These shifters have a short grip (D2Z-USPS-0087) so that you do not require the expander bolt.

The **Shimano R9160** can be pressed into the short grip (D2Z-USPS-0043) with the expander bolt removed.



The **SRAM Etap clic** uses a slightly longer grip (D2Z-USPS-0045).



Athletes that use the **SRAM blips** have been able to tape the shifters to the side or end of the carbon ski pole.

Dimensions given in the diagram indicate the additional grip length that is added to the assembly. Each straight grip has an overlap/engagement length of 30 mm onto the carbon pole.