

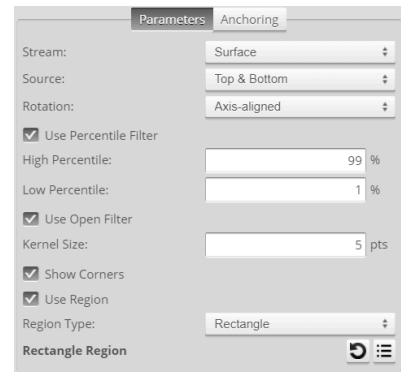
Surface Bounding Box Advanced Tool User Manual

1. General introduction

This tool provides measurements related to the smallest box that contains the part (for example, X position, Y position, width, length, etc.). A bounding box can be vertical or rotated. A vertical bounding box provides the absolute position from which the Position centroids tools are referenced.

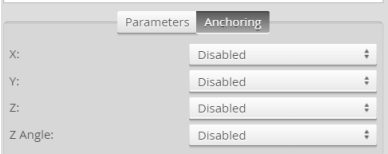
2. Parameters

Source	The sensor, or combination of sensors, that provides data for the tool's measurements.
Rotation	<p>The bounding box type. The following types are supported at present:</p> <ul style="list-style-type: none"> • Axis-aligned - axis-aligned bounding box • Z Rotation - the bounding box with z angle • X Y and Z Rotation - the bounding box with x, y and z rotation
Use Percentile Filter	Whether to use percentile filter to filter out noisy points
High Percentile (Enabled with Use Percentile Filter checked)	In the z axis direction, points from High Percentile to 100% will be removed
Low Percentile (Enabled with Use Percentile Filter checked)	In the z axis direction, points from 0% to Low Percentile will be removed
Use Open Filter	Whether to use open filter
Kernel Size (Enabled with Use Open Filter checked)	The kernel size of the open filter
Show Corners	Whether to show the top 4 corners of the bounding box
Use Region	If unchecked, all valid points will be used to determine the bounding box. Otherwise, only valid points in the region will be involved

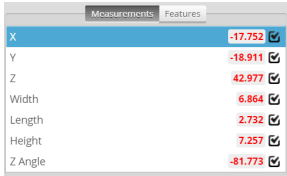


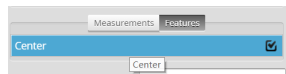
Region Type	<ul style="list-style-type: none"> • Rectangle • Polygon • Circle • Ellipse • Surface • Surface Intensity 	
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3. Anchor

X,Y,Z	Lets you choose the X, Y, or Z measurement of another tool to use as a positional anchor for this tool.	
Z angle	Lets you choose the Z Angle measurement of another tool to use as an angle anchor for this tool.	

4. Measurements and Features

Measurements	X	Determines the X position of the center of the bounding box that contains the part.	
	Y	Determines the Y position of the center of the bounding box that contains the part.	
	Z	Determines the Z position of the center of the bounding box that contains the part.	
	Width	Determines the width of the bounding box that contains the part.	
	Length	Determines the length of the bounding box that contains the part.	
	Height	Determines the height of the bounding box that contains the part.	
	Z Angle	Determines the rotation around the Z axis and the angle of the longer side of the bounding box relative to the X axis.	

Features	Center	The center point of the bounding box	
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5. Application Example