

# Algorithms, Appraisers and Profiles

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## General Workflow

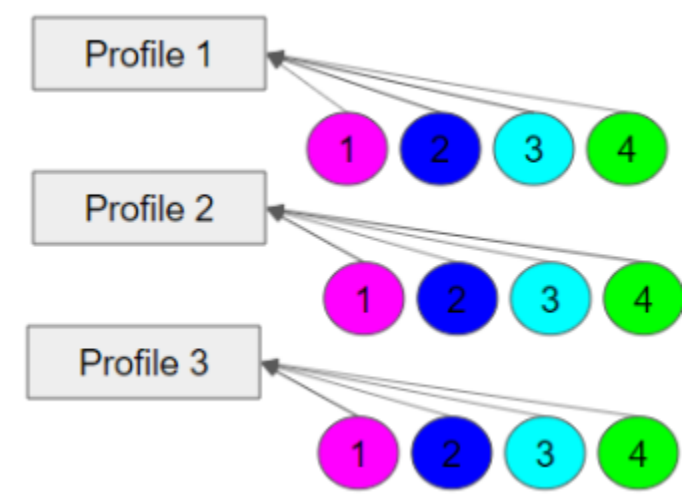
In the system, the algorithms produce solutions of the selected shape (cutting). In most cases, the selected algorithm interacts with some appraiser to produce the solutions in correspondence with the grades boundaries set by the appraiser. Each appraiser has its specific list of cutting parameters. Also, each appraiser has a set of profiles. Each profile consists of cutting parameter intervals and presets values. Cutting parameter intervals define where an algorithm should aim the solution, and presets allow producing a spectrum of solutions within profile intervals - all within one run of an algorithm with this profile.

## Configuring Profiles

Each profile now consists of:

1. **cutting parameter intervals** - define where an algorithm should aim the solution ("numbers" for grades: EX, VG, GD, FR)
2. **presets values** - allow producing a spectrum of solutions within profile intervals - all within one run of an algorithm with this profile

Each profile contains its own set of presets. Thus, if you change some preset, the new value affects only the profile it belongs to - this allows precise configuration of profiles without interference with the other profiles.



There are two types of profiles:

- **read-only** - built-in profiles finely tuned to produce specific resulting solutions with this appraiser; you cannot change these profiles' cutting parameter intervals or presets values.
- **editable** - pre-defined number (usually 5) of profiles that you can edit (change both cutting parameter intervals and presets values). **Note:** you cannot add, delete or rename editable profiles.

The system allows copying both cutting parameter intervals (**Cut** and **Symmetry** tabs) and presets values into your own editable profile. There you can further tune them. More explanations about how profiles and presets are used now and examples are presented in the video below:

Video   Customizing Profiles - Copying and Modifying Cut Parameter Intervals and Presets				
Published:	2019, September 13	Last Updated:	2019, October 22	v.2.0
Your browser does not support the HTML5 video element				

### Video summary:

- In HP Carbon, each profile consists of the cut parameter intervals and presets values.
- The system allows copying both cut parameter intervals and presets values into your own editable profile.
- There you can further tune them.

**Video keywords:** profile, cut parameter intervals, presets, presets values

Published in:	Release Notes	2019-09-13 - HPOxygen Server 5.2.22
	Documentation	Algorithms, Appraisers and Profiles
	Playlists	All Videos   YouTube: HP Carbon
	Also	As Separate Page   On YouTube   Specification

## Available Operations

When configuring profiles, you can:

- Duplicate existing profile into yours in one click (all tabs, all parameters, both intervals, and preset values)
- Quickly compare your profile with any other - both intervals and preset values
- Load intervals for all parameters (all tabs!) - in one click
- Load intervals only, presets only, or both intervals and presets - in one click
- Load presets values - for all presets or only for one preset

Appraiser Editor

GIA Facetware + MyRound  
Profile: MyRound\_Profile1

Hide Presets

Parameter	[ FR ]	[ GD ]	[ VG ]	[ EX ]	[ EX ]	[ VG ]	[ GD ]	[ FR ]	1.UltraSym	2.HighSym	3.MediumSym	4.NormalSym	5.Standard	6.LowSym	7.ExtendedLim	8.MaxMass		
Table	10	46,5	49,5	51,5	62,4	66,5	69,5	99	1	0,9	1	1	1	1	1	1	100	100
CrownAngle	10	21,75	26,25	31,25	36,75	38,75	40,25	90	1	1	1	1	1	1	1	1	100	100
PavilionAngle	10	38,7	39,7	40,5	41,9	42,5	43,1	90	1	1	1	1	1	1	1	1	100	100
SweetLine	-9	-6	-3	-1,5	1,5	3	6	9	1	1	1	1	1	1	1	1	100	100
StarLength	10	32,5	37,5	42,5	57,5	72,5	90	90	1	1	1	1	1	1	1	1	100	100
LowerGirdleLength	50	57,5	62,5	75	80	92,5	99	99	1	1	1	1	1	1	1	1	100	100
GirdleBezel	0	1,25	1,75	2,25	4,75	5,75	7,25	20	1	1	1	1	1	1	1	1	100	100
GirdleValley	0	0	0,35	0,75	2,94	4,14	6,14	20	1	1	1	1	1	1	1	1	100	100
CrownHeight	5	10,5	12	12,3	17	17,5	18,5	40	1	1	1	1	1	1	1	1	100	100
TotalHeight	10	54	57	58	64,5	66	70	90	1	1	1	1	1	1	1	1	100	100
Culet	0	0	0	0	0,2	1,5	2	20	-	0,5	-	1	-	1	-	1	-	100
CrownPainting	-9	-6	-3	-2,5	2,5	5	7	20	1	1	1	1	1	1	1	1	100	100
PavilionPainting	-9	-5	-3	-2,5	2,5	4	6	20	1	1	1	1	1	1	1	1	100	100
SumPainting	-9	-6	-5	-3,5	5	8	10	20	1	1	1	1	1	1	1	1	100	100
GirdleVerticality	-20	-1,5	-1	-0,5	0,5	1	1,5	20	1	1	1	1	1	1	1	1	1	1
HeightGirdleExtraFacet	0	0	0	0	2	4	8	20	-	0,5	-	0,6	-	0,6	-	0,8	-	1
GirdleCrownExtraFacets	0	0	0	0	0	2	4	20	-	1	-	1	-	1	-	1	-	1
GirdlePavilionExtraFacets	0	0	0	0	3	4	6	20	-	1	-	1	-	1	-	1	-	1
GirdleExtraFacets	0	0	0	0	2	4	8	20	-	1	-	1	-	1	-	1	-	1

Import... Show difference from: MyRound\_HA

Export Load profile

Discard Apply

Show difference from: MyRound\_HA

Load presets

Discard Apply

Unsaved Changes Duplicate profile

Available operations:

- You can only modify editable profiles, so first go to one of them under your appraiser.
- Click **Show Presets**, if necessary.
- To compare your profile to another one, in **Intervals** and/or **Presets** sections, select value in **Show difference from**. Mouse over the highlighted differences to see details.
- To select parameter click it. Use the context menu to select all.
- To deselect parameter, click it again. Use the context menu to deselect all.
- For selected parameters, use the context menu to load **Intervals from**, **Presets from** or **Intervals and Presets from**.
- Unsaved changed values are highlighted with bold. **Unsaved changes** notification is displayed.
- To save changes, click **Apply**. Applying saves on all tabs. Applying intervals also saves presets, but not vice versa.
- To load intervals for all parameters (all tabs), in the **Intervals** section, use **Load Profile**.
- To load preset values for all parameters (all tabs), in the **Presets** section, use **Load Presets**. Use **All presets** or select the preset to load.
- To load an entire profile (all parameters and preset values on all tabs), use **Duplicate Profile**. Changes are automatically applied immediately.
- You can **Discard** unsaved changes. Discarding erases changes on all tabs, for intervals and presets separately.

- You can at any moment step-by-step **Undo** or **Redo** your changes. Works both for saved and unsaved.
- You can copy and paste values, using CTRL-C, CTRL-V or the context menu.
- You can rename your editable profiles.

## Specific Presets Cases

Commonly, the preset is the additional limitation on top of the cutting parameter interval. Thus:

- if you specify a preset value less than "1" (like "0.5", "0,25",) you narrow the boundaries set by cutting parameter intervals
- if you specify a preset value less than "1" (like "1.5", "1,25",) you widen the boundaries;
- if you specify "1", boundaries are not changed and taken from interval without modification

Cases:

1. When the parameter has no intervals specified, but has values in the presets. Then presets contain direct value for this parameter.
2. Parameter does not have the left boundaries (means the left boundary is "0"). Then cutting parameter interval is multiplied by preset value.
3. Parameter has both left and right boundaries. Then the following formula is used

```
b_mid = b_min * 0.5 + b_max * 0.5;  
real_border_min = b_mid - (b_mid - b_min) * presets_min;  
real_border_max = b_mid + (b_max - b_mid) * presets_max.
```

Where:

- b\_min - the left boundary of the interval for a Grade;
- b\_max - the right boundary of the interval for a Grade;
- presets\_min = left value of a preset;
- presets\_max = right value of a preset.

There are also specific cases of preset usage:

- SmartNormalize - this algorithm does not use any appraiser but has its own set of presets that are used directly;
- SmartRecut - presets of this algorithm are especially actively used and important for the final result

## Pricelist

The **Pricelist** is used during allocation to calculate the **Price** of each solution. The current pricelist name is "LEXUS\_PRICE\_01MAY\_2020".

Plans & Scans

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⚖️

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Compare

Standard Report

#	Cutting	Price	Mass	Alloc	ofi	Yield	ΣZ	Sym-O	Gr	Sym	Br
<input type="checkbox"/> Imported model <div>2.2307</div>											
<input type="checkbox"/> 3	Oval	8157\$	1.6031	SR		71.73% H +7.26	VG	VG			
<input type="checkbox"/> 5	Oval	8157\$	1.6029	SR		71.73% H +7.29	VG	VG			
<input type="checkbox"/> 4	Oval	9120\$	1.5975	SR		71.28% H +7.10	EX	EX			
<input type="checkbox"/> 10	Oval	9120\$	1.5964	SR		71.28% H +7.32	EX	EX			
<input checked="" type="checkbox"/> 8	Oval	9120\$	1.5953	SR		71.28% H +7.53	EX	EX			
<input type="checkbox"/> 7	Oval	9120\$	1.5943	SR		71.28% H +7.57	EX	EX			
<input type="checkbox"/> 9	Oval	9120\$	1.5930	SR		71.28% H +7.64	EX	EX			
<input type="checkbox"/> 6	Oval	9120\$	1.5885	SR		71.28% H +7.40	EX	EX			

Inclusions (0)

Appraiser and Pricelist

Appraiser: MyOvalOpt | MyOval

Profile: Default

Show Editor

Pricelist: LEXUS\_PRICE\_01MAY\_2020

Diamond Allocation

Algorithm: 20, Single Recut

+ Smart Recut

## Presets Rename and Color Legend Change in 5.2.22

As different system versions may be in use, it is useful to know that starting from version 5.2.22 the color legend and names of some presets have been changed.

Here are the changes spread between profiles of most appraisers:

## New version

1.UltraSym	2.HighSym	3.MediumSym	4.NormalSym	5.Standard	6.LowSym	7.ExtendedLimit	8.MaxMass
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	100	100
1	1	1	1	1	1	100	100
-	0,5	-	1	-	1	-	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
-	0,5	-	0,6	-	0,6	-	0,8
-	1	-	1	-	1	-	1
-	1	-	1	-	1	-	1
-	1	-	1	-	1	-	1

## Previous versions

1.UltraSymmetry	2.HighOpticalSymmetry	3.MediumOpticalSymmetry	4.NormalOpticalSymmetry	5.Standard	6.ExtendedLimits	7.LowOpticalSymmetry	8.MaxMass
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	100	100
1	1	1	1	1	1	100	100
-	0,5	-	1	-	1	-	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
-	0,5	-	0,6	-	0,6	-	0,8
-	1	-	1	-	1	-	1
-	1	-	1	-	1	-	1
-	1	-	1	-	1	-	1

Here are the changes related to the presets used by the SmartNormalize algorithm:

## New version

Cut	Symmetry	Other				
Parameter	1.HighSym	2.MediumSym	3.LowSym	4.NoSym		
TimeLimit	2	2	2	2		
SquareLimit	5	5	5	5		
DistanceLimit1	50	50	50	50		
DistanceLimit2	100	100	100	100		
SymmetryCoeff	100	10	1	0		
EquableGirdle	20	20	20	20		

## Previous versions

Cut	Symmetry	Other			
Parameter	1. Small	2. Medium	3. Large	4. ExtraLarge	
TimeLimit	2	2	2	2	
SquareLimit	5	5	5	5	
DistanceLimit1	50	50	50	50	
DistanceLimit2	100	100	100	100	
SymmetryCoeff	0	1	10	100	
EquableRundist	20	20	20	20	
2nd	1	1	1	1	
KeepData	0	0	0	0	

## Related Pages

- [Smart Recut](#), search page for the "preset" information.
- [My Appraiser](#), see the "Profiles" section