

2020-08-31 - HP Carbon 1.0.2

Here you can find information about HP Carbon version 1.0.2. It describes differences between HP Carbon and its predecessor, the [HP Oxygen version 5.4.7](#).

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Main Features

AnyCut Workflow

AnyCut Composite Appraiser

The *AnyCut relative appraiser* ("MyAnyCutOpt | MyAnyCutRelative") has been transformed into the "MyAnyCutOpt | MyAnyCut" **Composite appraiser**. The new appraiser combines relative and absolute appraisal of the created solutions so that if you are aiming to get some grade, both absolute and relative parts should have at least this grade, which means the algorithms will be searching within the intersection of the relative and absolute values.

Oxygen - [Oval_blocked_001_ver2.oxgz]

File Edit View Inclusion Window Settings Help

Scan Recut diamonds inclusions polished Photoreal developer DZ colors G1 G2 galahad galahad compass fancy

Allocation solutions

Plans & Scans

Compare Standard Report

#	Cutting	Price	Mass	Alloc	Profile	Yield	Sym-O	Gr
1	MyOval_01 (MyOval_01_1)	4582\$	1.7247		Oval_C32P32	77.11%	H	+7.43
7	MyOval_01 (MyOval_01_1)	4582\$	1.7247	SR	Oval_C32P32	77.11%	H	+7.41
8	MyOval_01 (MyOval_01_1)	4582\$	1.7247	SR	Oval_C32P32	77.11%	H	+7.41
9	MyOval_01 (MyOval_01_1)	4582\$	1.7247	SR	Oval_C32P32	77.11%	H	+7.41
6	MyOval_01 (MyOval_01_1)	4582\$	1.7247	SR	Oval_C32P32	77.11%	H	+7.41
10	MyOval_01 (MyOval_01_1)	4582\$	1.7247	SR	Oval_C32P32	77.11%	H	+7.41
3	MyOval_01 (MyOval_01_1)	4582\$	1.7247	SR	Oval_C32P32	77.11%	H	+7.41
5	MyOval_01 (MyOval_01_1)	4582\$	1.7247	SR	Oval_C32P32	77.11%	H	+7.41
4	MyOval_01 (MyOval_01_1)	4582\$	1.7247	SR	Oval_C32P32	77.11%	H	+7.41
2	MyOval_01 (MyOval_01_2)	4341\$	1.6813		Oval_C32P32	75.31%	H	+7.68
17	MyOval_01 (MyOval_01_2)	4341\$	1.6813	SR	Oval_C32P32	75.31%	H	+7.68
16	MyOval_01 (MyOval_01_2)	4341\$	1.6813	SR	Oval_C32P32	75.31%	H	+7.68
18	MyOval_01 (MyOval_01_2)	4341\$	1.6813	SR	Oval_C32P32	75.31%	H	+7.68

Diamond Info

Inclusions (0)

Appraiser and Pricelist

Appraiser: MyAnyCutOpt | MyAnyCut

Profile: Oval_C32P32

Pricelist: LEXUS_PRICE_09MARCH_2012

Diamond Allocation

Algorithm: 19. Single (FixedForm)

Smart Recut

Cutting list: Client cuttings

1/10

Diamond grade: EX

Start Allocation

QC Panel

Appraiser Editor

MyAnyCut

Profile: Oval_C32P32

Show Presets

Parameter	Grade	Value	[FR]	[GD]	[VG]	[EX]	[EX]	[VG]	[GD]	[FR]
GirdleRatio	EX	1.397 (+0.000)	-0,3	-0,3	-0,1	-0,03	0,03	0,1	0,3	0,3
Table	EX	60.889 (+0.000)	-8	-8	-7	-2	2	7	8	8
CrownHeight	EX	15.222 (-0.000)	-4	-3	-2,5	-0,4	0,4	2,5	3	4
GirdleBezel	EX	8.374 (-0.017)	-4	-3	-3	-3	3	3	3	4
PavilionHeight	EX	46.741 (+0.020)	-10	-5	-3,5	-0,4	0,4	3,5	5	10
TotalHeight	EX	70.338 (+0.000)	-7,5	-6,5	-4,5	-2	2	4,5	6,5	7,5

Import...

Show difference from: <don't show>

Export

Load profile

Discard

Apply

On the figure: 1. Relative part, 2. Absolute part.

Three modes are available:

1. Relative + Absolute
2. Relative only
3. Absolute only

To switch between modes, use the control to the right of the composite appraiser name:

Appraiser and Pricelist

Appraiser: MyAnyCutOpt | MyAnyCut

Profile: MyAnyCutProfile2

MyAnyCutRelative

MyAnyCutAbsolute

MyAnyCutRelative+ MyAnyCutAbsolute



Notes

- Each profile of the composite appraiser defines both relative and absolute intervals. Profiles are editable (for details, see "Configuring Profiles" in [Algorithms, Appraisers and Profiles](#)).
- Relative intervals depend on the selected cutting. See [In-house cut workflow](#).

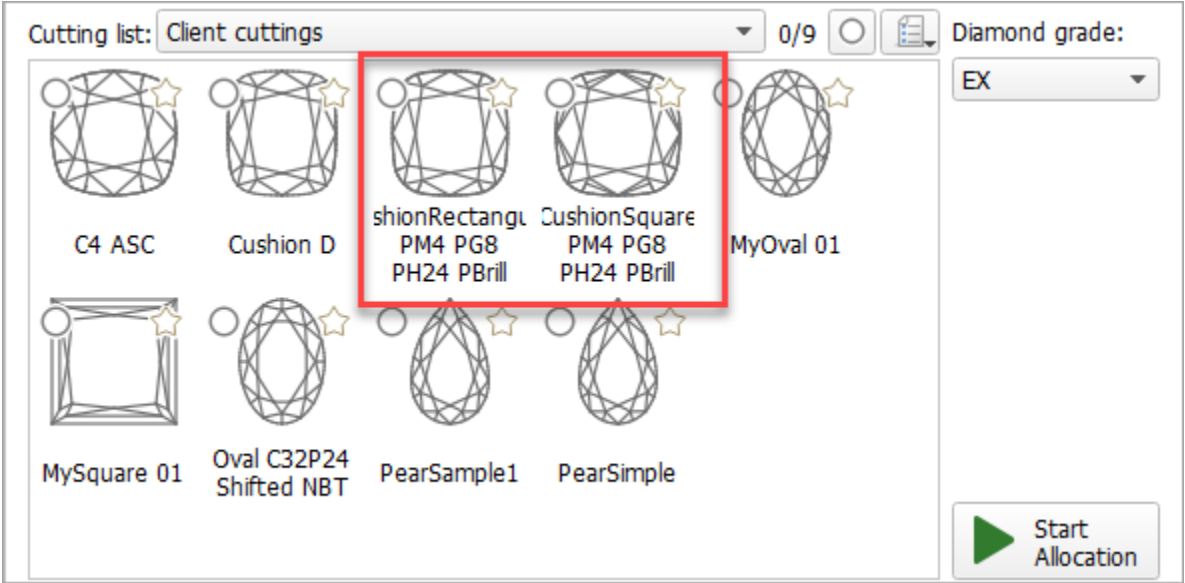
Appraisers for Cushion

For [In-house cut workflow](#), two new appraisers are added - both for working with the Cushion cutting:

When to Use	Appraiser	Cutting for Relative Part**
For square* Cushion	"CushionSquare_Opt CushionSquare"	"CushionSquare_PM4_PG8_PH24_PBrill_C32"
For rectangular Cushion	"CushionRectangular_Opt CushionRectangular"	"CushionRectangular_PM4_PG8_PH24_PBrill_C32"

* Rt (Girdle Ratio) = 1.05 distinguishes "square" (up to and including 1.05) and rectangular (1.06 and more) where Rt is rounded till the second decimal place.

** For now, the appraisers work only with these cuttings; cuttings are stored under **Client Cuttings** .



Both appraisers are composite - they intersect absolute parameter limits with the limitations relative to the cutting listed in the table above. Three modes are available:

- Relative + Absolute (default)
- Relative only
- Absolute only

Appraiser and Pricelist

Appraiser: CushionSquare_Opt | CushionSquare_Relative+CushionSquare_Absolute

Profile: Cushion_1

Hide Editor

Appraiser Editor

CushionSquare

Profile: Cushion_1

Show Presets

CushionSquare_Relative Cut

CushionSquare_Relative Symmetry

CushionSquare_Absolute Cut

CushionSquare_Absolute Symmetry

Parameter	[FR]	[GD]	[VG]	[EX]	[EX]	[VG]	[GD]	[FR]
GirdleRatio	-2	-2	-0,1	-0,02	0,02	0,1	2	2
Table	-222	-222	-7	-2	2	7	222	222
CrownHeight	-21,5	-21,5	-4	-1	1	4	21,5	21,5
GirdleBezel	-5	-5	-4	-3	3	4	15	15
PavilionHeight	-221	-221	-2	-1,5	1,5	4	221	221
TotalHeight	-221,5	-221,5	-6	-2	2	6	221,5	221,5
CrownSlope	-1	-1	-1	-1	1	1	1	1
Pavil1Slope	-1	-1	-1	-1	1	1	1	1
Pavil2Slope	-1	-1	-1	-1	1	1	1	1

Appraiser and Pricelist

Appraiser: CushionRectangular_C

Profile: Cushion_1

Appraiser Editor

CushionRectangular_Relative Cut

CushionRectangular_Relative Symmetry

SweetLine for AnyCut

By analogy with the [SweetLine](#) parameter for Brilliant and Oval cuts, the system now allows working with *SweetLine* for AnyCut. Thus the **SweetLine** parameter is now presented additionally in the following appraisers:

- MyAnyCutOpt | MyAnyCut
- CushionSquare_Opt | CushionSquare
- CushionRectangular_Opt | CushionRectangular

Appraiser Editor

MyAnyCut

Profile: MyAnyCutProfile5

Show Presets

MyAnyCutAbsolute Cut

MyAnyCutAbsolute Symmetry

MyAnyCutRelative Cut

MyAnyCutRelative Symmetry

Parameter	[FR]	[GD]	[VG]	[EX]	[EX]	[VG]	[GD]	[FR]
GirdleRatio	1	1	1	1	1,05	1,8	1,8	1,8
Table	50	50	52	54	65	66	67	68
CrownHeight	7	8	9	10	17	18	19	20
GirdleBezel	1,5	2	2,2	2,5	10	11	12	13
PavilionHeight	35	36	36,5	38	49	50	52	54
TotalHeight	46	48	50	52	72	74	76	78
SweetLine	-9	-6	-3	-1,5	1,5	3	6	9

The parameter meaning and usage are the same as for the Brilliant cut.

Specifying Unique SweetLine Slope for Client Cuttings

Now for each of the **Client Cuttings**, you can specify a unique SweetLine axis slope using its allocation forms (for information about user cuttings and allocation forms, see [In-house cut registration](#)). There are three ways of how SweetLine axis slope is specified for the cutting:

- **The user did not specify any specific forms:** the SweetLine axis is built using the base allocation form of the cutting - the system uses this form and draws a line through it in accordance with the built-in system logic for finding optimal optical performance.

What is a base allocation form? It is the form automatically registered when performing **in-house cut registration** (equal to the model being registered as cutting).

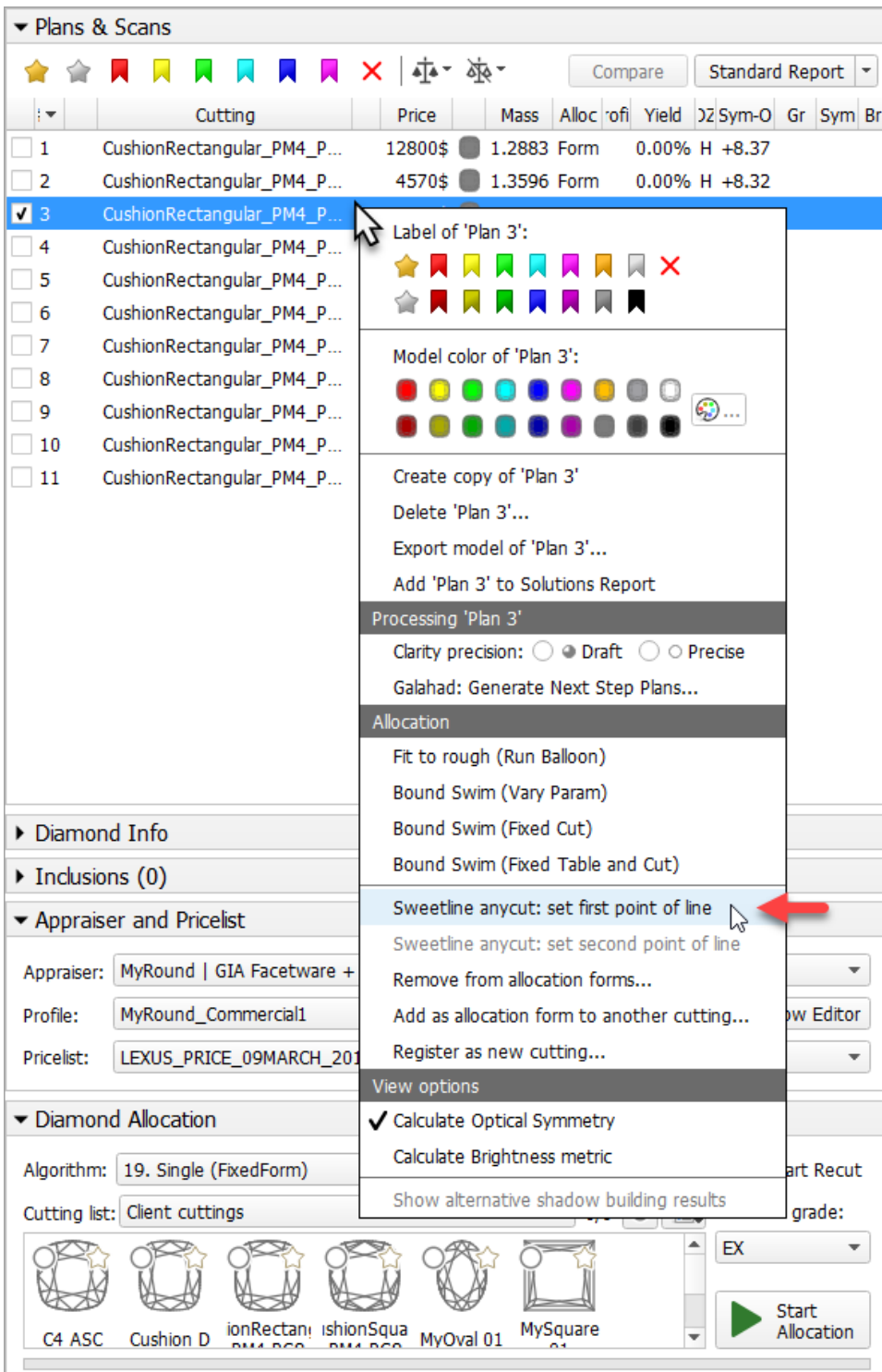
How to distinguish the base allocation form? In the list of forms, it does not have "(...)" after its name:

Plans & Scans													
#	Cutting	Price	Mass	Aloc	Profile	Yield	DZ	Sym-O	Gr	Sym	Br		
<input type="checkbox"/>	1	CushionRectangular_PM4_PG8_PH24_PBRil_C32	12800\$	1.2883	Forms	Cushion_1	0.00% H	+8.37	EX	EX			
<input type="checkbox"/>	11	CushionRectangular_PM4_PG8_PH24_PBRil_C32 (O10)	4603\$	1.3724	Forms	Cushion_1	0.00% H	+8.34	VG	EX			
<input type="checkbox"/>	21	CushionRectangular_PM4_PG8_PH24_PBRil_C32 (O10)	4603\$	1.3724	Forms	Cushion_1	0.00% H	+8.34	VG	EX			
<input type="checkbox"/>	3	CushionRectangular_PM4_PG8_PH24_PBRil_C32 (O02)	4570\$	1.3657	Forms	Cushion_1	0.00% H	+8.33	EX	EX			
<input type="checkbox"/>	13	CushionRectangular_PM4_PG8_PH24_PBRil_C32 (O02)	4570\$	1.3657	Forms	Cushion_1	0.00% H	+8.33	EX	EX			
<input type="checkbox"/>	2	CushionRectangular_PM4_PG8_PH24_PBRil_C32 (O01)	4570\$	1.3596	Forms	Cushion_1	0.00% H	+8.32	EX	EX			
<input type="checkbox"/>	12	CushionRectangular_PM4_PG8_PH24_PBRil_C32 (O01)	4570\$	1.3596	Forms	Cushion_1	0.00% H	+8.32	EX	EX			
<input type="checkbox"/>	14	CushionRectangular_PM4_PG8_PH24_PBRil_C32 (O03)	4536\$	1.3577	Forms	Cushion_1	0.00% H	+8.21	EX	EX			
<input type="checkbox"/>	20	CushionRectangular_PM4_PG8_PH24_PBRil_C32 (O09)	4469\$	1.3354	Forms	Cushion_1	0.00% H	+8.30	VG	EX			
<input type="checkbox"/>	9	CushionRectangular_PM4_PG8_PH24_PBRil_C32 (O08)	4435\$	1.3232	Forms	Cushion_1	0.00% H	+8.41	VG	EX			
<input type="checkbox"/>	19	CushionRectangular_PM4_PG8_PH24_PBRil_C32 (O08)	4435\$	1.3232	Forms	Cushion_1	0.00% H	+8.41	VG	EX			
<input type="checkbox"/>	5	CushionRectangular_PM4_PG8_PH24_PBRil_C32 (O04)	4435\$	1.3197	Forms	Cushion_1	0.00% H	+8.29	VG	EX			
<input type="checkbox"/>	15	CushionRectangular_PM4_PG8_PH24_PBRil_C32 (O04)	4435\$	1.3197	Forms	Cushion_1	0.00% H	+8.29	VG	EX			
<input type="checkbox"/>	8	CushionRectangular_PM4_PG8_PH24_PBRil_C32 (O07)	4368\$	1.2990	Forms	Cushion_1	0.00% H	+8.22	EX	EX			
<input type="checkbox"/>	18	CushionRectangular_PM4_PG8_PH24_PBRil_C32 (O07)	4368\$	1.2990	Forms	Cushion_1	0.00% H	+8.22	EX	EX			
<input type="checkbox"/>	6	CushionRectangular_PM4_PG8_PH24_PBRil_C32 (O05)	4334\$	1.2927	Forms	Cushion_1	0.00% H	+8.30	EX	EX			
<input type="checkbox"/>	16	CushionRectangular_PM4_PG8_PH24_PBRil_C32 (O05)	4334\$	1.2927	Forms	Cushion_1	0.00% H	+8.31	EX	EX			
<input type="checkbox"/>	7	CushionRectangular_PM4_PG8_PH24_PBRil_C32 (O06)	4334\$	1.2897	Forms	Cushion_1	0.00% H	+8.27	EX	EX			

- **The user specified only one form:** the SweetLine axis is built using this form - the system uses this form and draws a line through it in accordance with the built-in system logic for finding optimal optical performance.
- **The user specified two forms:** the SweetLine axis is built using these forms - the system draws a line through them.

To specify forms for SweetLine for your cutting:

1. Show allocation forms of your cutting as described [here](#).
2. Right-click the appropriate allocation form and select **Sweetline anycut: set first point of line**.



3. If necessary, select another allocation form and select **Sweetline anycut: set other point of line**.

The selected points are marked in the **Allocation** column as "SL1" and "SL2".

Plans & Scans										Compare	Standard Report
	Cutting	Price	Mass	Alloc	of	Yield	Sym-O	Gr	Sym	Br	
<input checked="" type="checkbox"/>	1	CushionRectangular_PM4_P...	12800\$	1.2883	Form	0.00%	H	+8.37			
<input type="checkbox"/>	2	CushionRectangular_PM4_P...	4570\$	1.3596	Form	0.00%	H	+8.32			
<input type="checkbox"/>	3	CushionRectangular_PM4_P...	4570\$	1.3657	SL1	0.00%	H	+8.33			
<input type="checkbox"/>	4	CushionRectangular_PM4_P...	4536\$	1.3577	Form	0.00%	H	+8.21			
<input type="checkbox"/>	5	CushionRectangular_PM4_P...	4435\$	1.3197	Form	0.00%	H	+8.29			
<input type="checkbox"/>	6	CushionRectangular_PM4_P...	4334\$	1.2927	Form	0.00%	H	+8.30			
<input type="checkbox"/>	7	CushionRectangular_PM4_P...	4334\$	1.2897	Form	0.00%	H	+8.27			
<input type="checkbox"/>	8	CushionRectangular_PM4_P...	4368\$	1.2990	Form	0.00%	H	+8.22			
<input type="checkbox"/>	9	CushionRectangular_PM4_P...	4435\$	1.3242	SL2	0.00%	H	+8.41			
<input type="checkbox"/>	10	CushionRectangular_PM4_P...	4469\$	1.3354	Form	0.00%	H	+8.30			
<input type="checkbox"/>	11	CushionRectangular_PM4_P...	4603\$	1.3724	Form	0.00%	H	+8.34			

Smart Recut AnyCut - Using Girdle Extra Facets

Now when using the "19. SmartRecut (Brilliant, Oval, AnyCut)" algorithm with the "MyAnyCutOpt | MyAnyCut" composite appraiser, you can enable the **Allow Girdle Extra Facets** option. The option is used to enlarge the mass of the solutions by instructing the system to produce the extra facets if possible.

Oxygen - [Oxygen1]
File Edit View Inclusion Window Settings Help
Scan Recut diamonds inclusions polished Photoreal developer DZ G1 G2 galahad galahad compass fancy
Allocation solutions
Plans & Scans
Compare Standard Report
Info
Inclusions (0)
Appraiser and Pricelist
Appraiser: MyAnyCutOpt | MyAnyCut 2 MyAnyCutRelative+MyAnyCutAbsolute
Profile: Cushion Hide Editor
Pricelist: LEXUS_PRICE_09MARCH_2012
Diamond Allocation
Algorithm: 19. SmartRecut (Brilliant, Oval, AnyCut) 1
☒ Allow Girdle Extra Facets 3 Presets: All presets
☐ Fix Crown Cut grade: EX
☐ Fix Pavilion Symmetry grade: EX
Start Allocation

MyAnyCut
Profile: Cushion Show Presets
MyAnyCutRelative Cut MyAnyCutRelative Symmetry MyAnyCutAbsolute Cut MyAnyCutAbsolute Sym

Parameter	[FR]	[GD]	[VG]	[EX]	[EX]	[VG]	[GD]	[FR]
GirdleRatio	-2	-2	-0,1	-0,02	0,02	0,1	2	2
Table	-222	-222	-7	-2	2	7	222	222
CrownHeight	-21,5	-21,5	-4	-1	1	4	21,5	21,5
GirdleBezel	-5	-5	-4	-3	3	4	15	15
PavilionHeight	-221	-221	-2	-1,5	1,5	4	221	221
TotalHeight	-221,5	-221,5	-6	-2	2	6	221,5	221,5

Import... Show difference from: <don't show>
Export Load profile Discard Apply

For now, you can regulate the number of extra facets and their height via presets.

Appraiser Editor

MyAnyCut

Profile: **Cushion**

Hide Presets

MyAnyCutRelative Cut

MyAnyCutRelative Symmetry

MyAnyCutAbsolute Cut

MyAnyCutAbsolute Symmetry

Other

Parameter	Grade	Value	1.AllNarrower	2.VerticesNarrower	3.AnglesNarrower	4.GirdleNarrower	5.GirdleWider	6.AnglesWider	7.VerticesWider	8.AllWider
GirdleRatio	EX	1.002 (+0.000)	1	1	1	1	1	1	1	1
Table	EX	60.542 (-0.000)	1	1	1	1	1	1	1	1
CrownHeight	EX	14.977 (+0.000)	1	1	1	1	1	1	1	1
GirdleBezel	EX	4.048 (+0.000)	1	1	1	1	1	1	1	1
PavilionHeight	EX	48.506 (-0.000)	1	1	1	1	1	1	1	1
TotalHeight	EX	67.531 (-0.000)	1	1	1	1	1	1	1	1
GirdleShape1stDerEveryToleranceModule			-	5	-	10	-	10	-	20
GirdleShape2ndDerEveryToleranceModule			-	5	-	10	-	10	-	20
CustomFacetsSlopesAverageTolerance			-1	1	-2	2	-1	1	-2	2
AdjacentFacetsAnglesEveryTolerance, %			-25	50	-50	100	-25	50	-50	100
AdjacentFacetsAnglesEveryMin, °			1	-	0,7	-	1	-	0,7	-
OtherHeightsEveryTolerance			-1	1	-1	1	-2	2	-2	2
CuletMMSizesEveryIdeality			-	0,03	-	0,03	-	0,03	-	0,03
Other2DEdgesLengthsEveryToleranceModule			-	0,5	-	0,5	-	1	-	1
HeightGirdleExtraFacet			-	3	-	3	-	3	-	3
GirdleCrownExtraFacets			-	0	-	0	-	0	-	0
GirdlePavilionExtraFacets			-	3	-	3	-	3	-	3

Import...

Show difference from: <don't show>

Show difference from: <don't show>

Export

Load profile

Discard

Apply

Load presets

Discard

Apply

Duplicate profile



Note

You can also use the **Allow Girdle Extra Facets** option with the "19. SmartRecut (Brilliant, Oval, AnyCut)" algorithm and the two new appraisers for Cushion:

- "CushionSquare_Opt | CushionSquare "
- "CushionOblong_Opt | CushionOblong"

Other Changes

New Parameters for AnyCut

The set of parameters for AnyCut has been extended. This affected the [Standard Report](#) for AnyCut and HTML illustrated [Polish Report](#) for AnyCut.

The behavior of these reports is now adaptive and dynamic which means:

- The set of displayed parameters depends on the current model [Facet Marking](#) - "empty parameters" (making no sense for the current model) will not be displayed.
- For the Cushion - the set of displayed parameters is different for Square and Rectangular cushions

Some examples:

Polish Report

View

Ready

Cutting type

Cushion

Auto

Default

☒ Detect cutting type automatically

Facets types

☐ Edit facet types

Press left mouse button on facet to change facet type

Press right mouse button on facet to set the current color

Press left mouse button on color boxes to set the current color

Facets \ Tier

Pavilion main

Pavilion lower

Pavilion corner

Crown main

Crown upper

Crown corner

Crown star

Knife

Additional

Unknown

No

1

2

3

4

5

4

16

4

4

16

4

8

8

8

8

4

24

4

4

4

4

74

1

1

1

Marking

Current facet types: From Custom Marking

From Auto Marking

From Custom Marking

Custom Marking doesn't match Auto Marking

Extra parameters

Stone ID

Oxygen1

Expert

Model name

21

Real weight

☒ Use GIA grading rules

☐ Higher precision (plus one digit)

Report templates

Open RTF

Print RTF

Open HTML

INI Export

Interactive 3D

Illustrated report for any cut

Illustrated report for cushion

HTML report for any cut

HTML report for cushion

☐ Black and white report

☒ Color report

Make Report

Open Templates Folder

Close Window

ILLUSTRATED REPORT FOR CUSHION

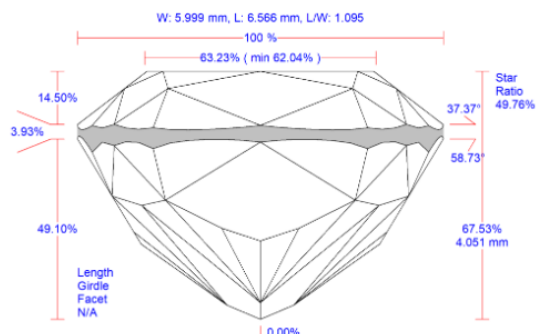
Polished Cushion

28.04.2020

Model 21
Expert name N/A
Scale weight, ct N/A
Corrected mass, ct 1.37, 1.3724
Spread -0.27ct, -24.68 %
Extra Facet Girdle / Nat No

Width	Length	Ratio (L/W)	Corner Ratio	Diameter Minimum	Diameter Maximum	Total height
5.999 mm	6.566 mm	1.095	1.000	5.999 mm	7.218 mm	4.051 mm 67.53 %

Crn height width	Crn height length	Pav height width	Pav height length	Table: Side	Culet	Girdle
0.870 mm	0.883 mm	2.946 mm	2.894 mm	3.976 mm	0.000 mm	0.236 mm

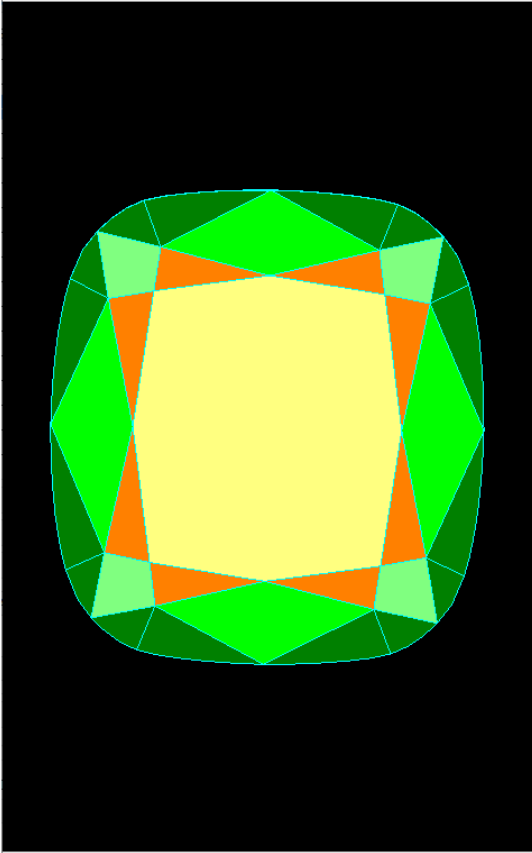


Parameter	Avg	Min	Max	Dev	1	2	3	4
Girdle Ratio (L/W)	1.095							
Crown height, %	14.50 %	14.50	14.50	0.00	14.50	14.50	14.72	14.72
Crown Width height, %	14.50 %	14.50	14.50	0.00	14.50	14.50		
Crown Length height, %	14.72 %	14.72	14.72	0.00	14.72	14.72		
Crown Main Width height, %	14.50	14.50	14.50	0.00	14.50	14.50		
Cr. Main Length height, %	14.72	14.72	14.72	0.00	14.72	14.72		
Crown Corner height, %	14.48	14.48	14.48	0.00	14.48	14.48	14.48	14.48
Pavilion height, %	49.10 %	49.10	49.10	0.00	49.10	49.10	48.24	48.24
Pavilion Width height, %	49.10 %	49.10	49.10	0.00	49.10	49.10		
Pavilion Length height, %	48.24 %	48.24	48.24	0.00	48.24	48.24		
Pavilion Main Width height, %	28.62	28.62	28.62	0.00	28.62	28.62		
Pavilion Main Length height, %	26.91	26.91	26.91	0.00	26.91	26.91		
Pavilion Corner height, %	47.35	47.35	47.35	0.00	47.35	47.35	47.35	47.35
Pavilion 2 Main height, %	31.02	31.02	31.02	0.00	31.02	31.02	31.02	31.02
Table: Side, %	63.23	62.04	64.42	2.38	62.04	64.42		
Table: Corner w.r.t. Corner, %	68.29	68.29	68.29	0.00	68.29	68.29		
Table: Corner w.r.t. Width, %	82.17	82.17	82.17	0.00	82.17	82.17		
Diameter: Corner, mm	120.32	120.32	120.32	0.00	120.32	120.32		
Crown Star Length, %	46.44	46.44	46.44	0.00				
Crown Star Width, %	49.76	49.76	49.76	0.00				
Girdle thickness, %	3.93	3.93	3.93	0.00				
Culet, %	0.00	0.00	0.00	0.00				
Crown angle, °	37.37	37.37	37.37	0.00				
Crown Main angle, °	37.37	37.37	37.37	0.00	37.37	37.37	N/A	N/A
Crown Main Width angle, °	37.37	37.37	37.37	0.00	37.37	37.37		
Crown Main Length angle, °	37.08	37.08	37.08	0.00	37.08	37.08		
Crown Corner angle, °	37.53	37.53	37.53	0.00	37.53	37.53	37.53	37.53
Crown Star Width angle, °	24.82	24.82	24.82	0.00	24.82	24.82	24.82	24.82
Crown Star Length angle, °	25.49	25.49	25.49	0.00	25.49	25.49	25.49	25.49
Pavilion angle, °	32.11	32.11	32.11	0.00				
Pavilion Main angle, °	58.73	58.73	58.73	0.00	58.73	58.73	N/A	N/A
Pavilion Main Width angle, °	58.73	58.73	58.73	0.00	58.73	58.73	N/A	N/A
Pavilion Main Length angle, °	58.53	58.53	58.53	0.00	58.53	58.53	N/A	N/A
Pavilion Corner angle, °	57.29	57.29	57.29	0.00	57.29	57.29	57.29	57.29
Pavilion 2 Main angle, °	32.11	32.11	32.11	0.00	32.11	32.11	32.11	32.11
Girdle thickness, %								
	Avg	Min	Max	Dev	1	2	3	4
G. th. Width	red	3.93	3.93	3.93	0.00	3.93	3.93	
G. th. Length	red	4.57	4.57	4.57	0.00	4.57		
G. th. Width	red	5.70	5.70	5.70	0.00	5.70	5.70	5.70
G. th. Width	green	2.05	2.05	2.05	0.00	2.05	2.05	2.05
G. th. Length	red	2.75	2.75	2.75	0.00	2.75	2.75	2.75
G. th. Corner width	green	3.93	3.93	3.93	0.00	3.93	3.93	3.93

More examples:

Polish Report

View



Ready

Cutting type

Cushion

Auto

Default

☒ Detect cutting type automatically

Facets types

☐ Edit facet types

Press left mouse button on facet to change facet type

Press right mouse button on facet to set the current color

Press left mouse button on color boxes to set the current color

Extra parameters

Stone ID

Oxygen1

Expert

Model name

21

Real weight

☒ Use GIA grading rules

☐ Higher precision (plus one digit)

Report templates

Open RTF

Print RTF

Open HTML

INI Export

Interactive 3D

Illustrated report for any cut

Illustrated report for cushion

HTML report for any cut

HTML report for cushion

☐ Black and white report

☒ Color report

Make Report

Open Templates Folder


Close Window

Marking

Current facet types: From Custom Marking

From Auto Marking

From Custom Marking

 Custom Marking doesn't match Auto Marking

No	1	2	3	4	5
Pavilion main	4	4			
Pavilion lower	16	24			
Pavilion corner	4				
Crown main	4				
Crown upper	16				
Crown corner	4				
Crown star	8				
Knife					
Additional					
Unknown					
Girdle				74	
Table				1	
Culet				1	
Cavity					

ILLUSTRATED REPORT FOR ANY CUT

Cushion

29.04.2020

Model

21

Expert name

N/A

Scale weight, ct

N/A

Corrected mass, ct

1.37, 1.3724

Spread

-0.27ct, -24.68 %

Extra Facet Girdle / Nat

No

Width	Length	Ratio (L/W)	Diameter Minimum	Diameter Maximum	Girdle Ratio
5.000 mm	5.555 mm	1.005	5.000 mm	7.318 mm	1.005

Parameter	Avg	Min	Max	Dev
Diameter, mm	-	5.999	7.218	20.32 %
Girdle Ratio (L/W)	1.095	-	-	-
Crown angle, °	37.37	37.37	37.37	0.00
Crown Main Width angle, °	37.37	37.37	37.37	0.00
Crown Main Length angle, °	37.08	37.08	37.08	0.00
Pavilion angle, °	58.73	58.73	58.73	0.00
Crown height, %	14.50	14.50	14.50	0.00
Crown height, mm	0.870	0.870	0.870	0.000
Pavilion height, %	49.10	49.10	49.10	0.00
Pavilion height, mm	2.946	2.946	2.946	0.000
Girdle, %	3.93	3.93	3.93	0.00
Girdle, mm	0.236	0.236	0.236	0.000
Table, %	-	62.04	64.42	2.38
Table, mm	-	3.721	4.230	0.508
Culet, %	-	0.00	0.00	0.00
Culet, mm	-	0.000	0.000	0.000

Polish Report

View

Cutting type

Oval

Auto

Default

☒ Detect cutting type automatically

Facets types

☐ Edit facet types
Press left mouse button on facet to change facet type
Press right mouse button on facet to set the current color
Press left mouse button on color boxes to set the current color

Facets \ Tier	No	1	2	3	4	5
Pavilion main	8					
Pavilion lower	16					
Pavilion corner						
Crown main	8					
Crown upper	16					
Crown corner						
Crown star	8					
Knife						
Additional						
Unknown						

Girdle

73

Table

1

Culet

Cavity

Extra parameters

Stone ID

Oxygen4

Expert

Model name

1

Real weight

☒ Use GIA grading rules
☐ Higher precision (plus one digit)

Report templates

Open RTF

Print RTF

Open HTML

INI Export

Interactive 3D

Illustrated report for any cut

HTML report for any cut

HTML report for oval & marquise

HTML report for rounded fancies

☐ Black and white report
☒ Color report

Make Report

Open Templates Folder

Close Window

ILLUSTRATED REPORT FOR ANY CUT

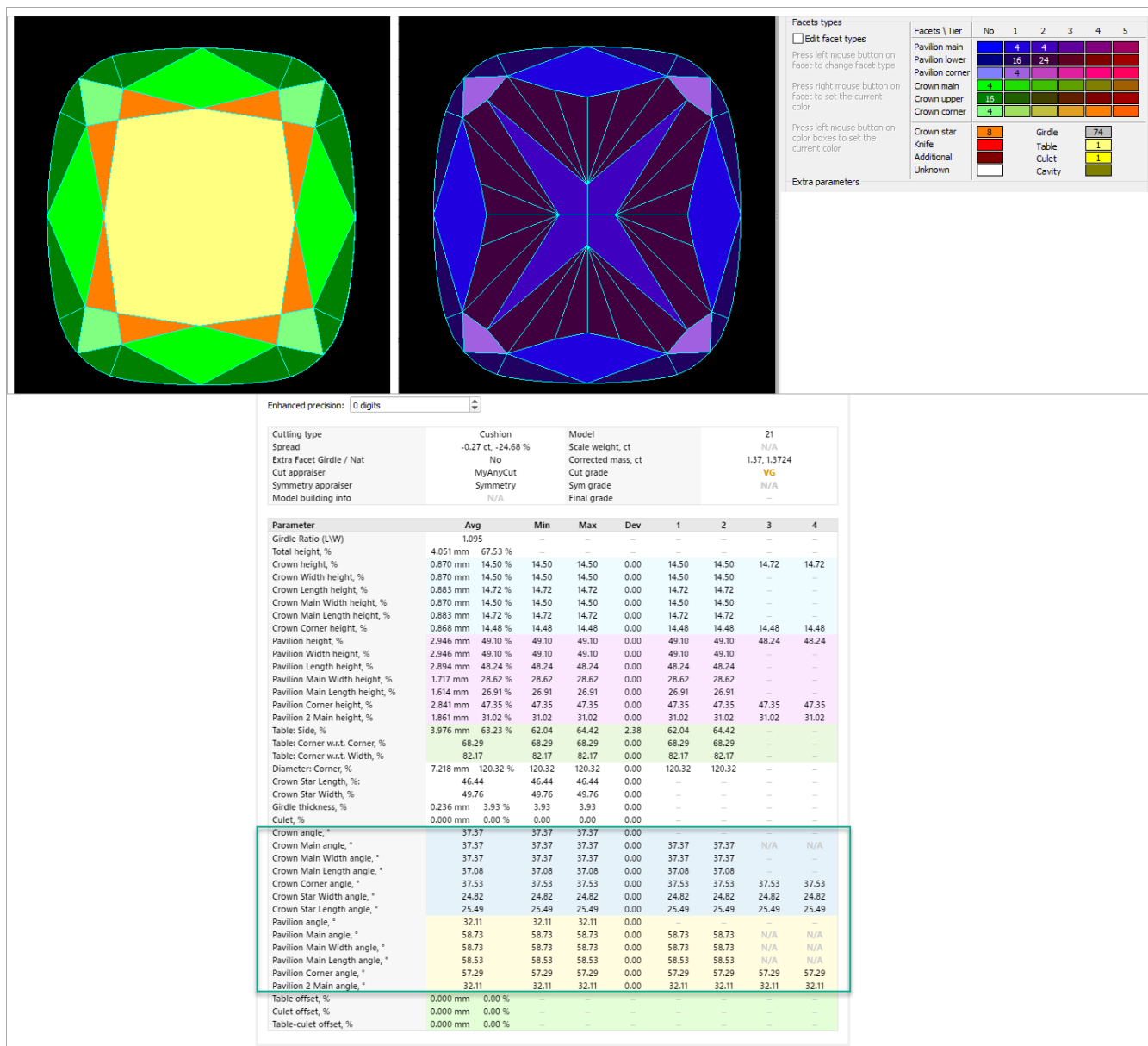
Oval

29.04.2020

Model 1
 Expert name N/A
 Scale weight, ct N/A
 Corrected mass, ct 1.53, 1.5372
 Spread 0.15ct, 9.10 %
 Extra Facet Girdle / Nat No

Width	Length	Ratio (L/W)	Diameter Minimum	Diameter Maximum	Girdle Ratio
-------	--------	-------------	------------------	------------------	--------------

Parameter	Avg	Min	Max	Dev
Diameter, mm	—	6.397	9.322	45.72 %
Girdle Ratio (L/W)	1.457	—	—	—
Crown curve angle, °	38.34	38.34	38.34	0.00
Crown wing angle, °	34.13	34.13	34.13	0.00
Pavilion curve angle, °	39.75	39.75	39.75	0.00
Pavilion wing angle, °	32.61	32.61	32.61	0.00
Crown height, %	15.14	15.10	15.18	0.08
Crown height, mm	0.969	0.966	0.971	0.005
Pavilion height, %	42.55	42.40	42.69	0.29
Pavilion height, mm	2.722	2.713	2.731	0.019
Girdle, %	4.53	4.34	4.72	0.37
Girdle, mm	0.290	0.278	0.302	0.024
Table, %	—	57.50	64.89	7.39
Table, mm	—	3.678	6.049	2.371
Culet, %	—	0.00	0.00	0.00
Culet, mm	—	0.000	0.000	0.000




Some of the new parameters are also available for controlling via appraisers, for example, with the new [appraisers for a cushion](#). Here is the example for the CushionRectangular Appraiser:

On figure: 1 - demo oval cutting; 2 - allocation forms within cutting; 3 - AnyCut composite appraiser with the corresponding profile.

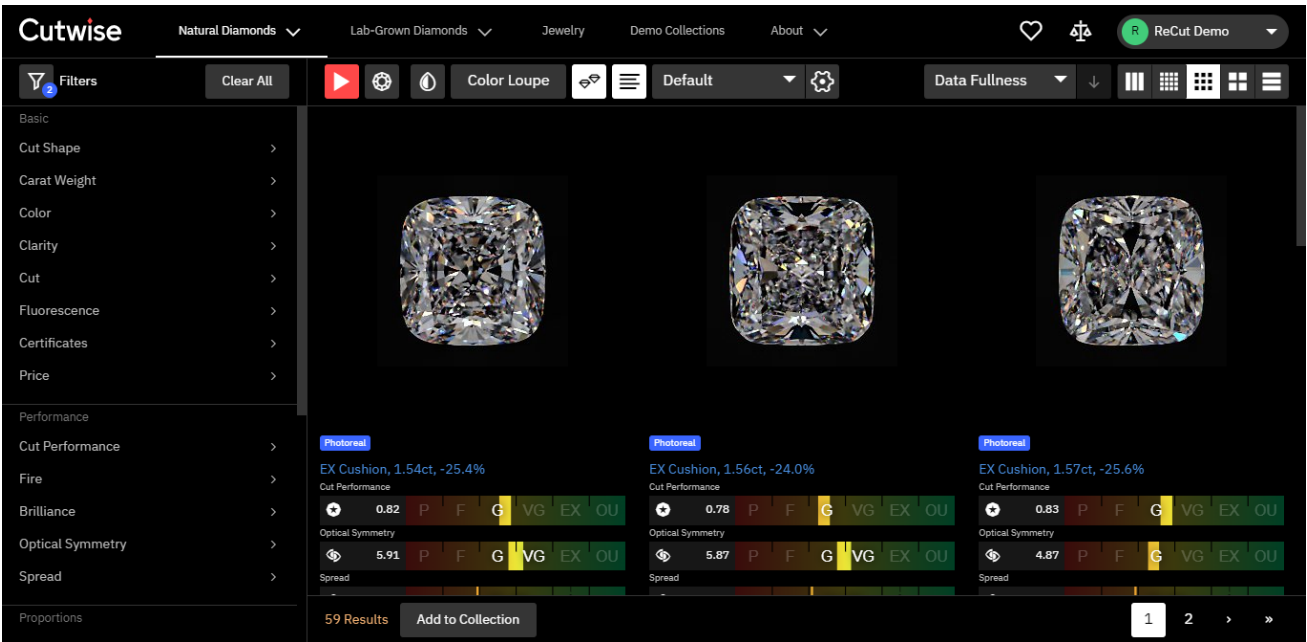
Integration with Cutwise

General Usage

 See [What You Need to Use Integration](#).

After obtaining the set of SmartRecut solutions, it is an essential task to compare them to select one or several best. HPO provides tools for this comparison. But these tools separately or combined not always provide the best experience for solutions comparison task. The **OctoNus Cutwise** online service offers an extended set of tools for presenting and comparison of brilliants and their models. Now HPO supports integration with Cutwise: the models from HPO may be sent in one click to the Cutwise where they can be further visualized and analyzed with the rich set of tools.

One of the main advantages of Cutwise is a new generation of virtual films. They are renderings of future stones, indistinguishable from the real DiBox2 film s for both Round and Fancy cuttings. This allows effective visual comparison of future solutions. Moreover, the additional visual metrics are built on the basis of the films and comparison by these metrics become available. The Cutwise uses special film generating systems that have a naturally high consumption of the hardware resources and time. As the Cutwise cloud keeps film calculations server-side, it frees up resources of the HPO machine as well as the time of an operator.



The Cutwise has a modern web interface. It includes advanced, effective tools for:

- Stone visual and parametric representation.
- Sophisticated filtering.
- Convenient sorting.
- Saving you selections as separate sharable collections.

Also, being accessible via Internet 24/7, Cutwise is a great place to share created stone collections. You can share them with the colleagues to demonstrate stones and delegate or share decision making responsibilities. You can also present full stone information to future customers.

Detailed information and the example you can find in the video:

Video Upload to Cutwise - Solutions Comparison				
Published:	2020, March 17	Last Updated:	2020, June 5	v.1.3
Your browser does not support the HTML5 video element				

Video summary:

- After obtaining the set of SmartRecut solutions, it is an essential task to compare them.
- OctoNus Cutwise online service offers an extended set of tools for presenting and comparison.
- HP Carbon supports integration with Cutwise: models from HP Carbon may be sent to Cutwise where they can be further visualized and analyzed.
- Cutwise generates virtual films presenting stones and calculates metrics based on films.
- Cutwise presents models images for Fire, Office, and ASET.
- HP Carbon parameters are also transferred to Cutwise.
- Cutwise cloud keeps all operations server-side.
- Cutwise is a comfortable tool for comparison and selecting the best.
- Selected stones can be saved in collections.
- You can share created collections 24/7 for discussion and sales.

Video keywords: ASET, cloud, Cutwise, filtering, fire, integration, metrics, model comparison, office, parameters, share, sorting, upload

Published in:	Release Notes	NA
	Documentation	Integration with Cutwise
	Playlists	Integration with Cutwise YouTube: HP Carbon , HP Carbon - Cutwise Integration , Cutwise
	Also	As Separate Page On YouTube Specification

Sharing Polished Diamond Data

You can now quickly share via the Internet your stone information using an integration of HP Carbon, [DiBox 2.0](#), and [Cutwise](#) OctoNus products.

Some details and example are presented in the video:

Video | Upload to Cutwise - Polished Diamond Data

Published:	2020, June 5	Last Updated:	2020, June 5	v.1.2
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Your browser does not support the HTML5 video element

Video summary:

- You can quickly share via the Internet your stone information using an integration of HP Carbon, DiBox 2.0, and Cutwise OctoNus products
- Upload information collected with HP Carbon and DiBox 2.0 to Cutwise online service
- Send data in either order - Cutwise will consolidate them to form the full-data representation of your stone online
- In Cutwise, your product will contain photos and videos from DiBox and information from HP Carbon: main stone parameters, advanced reports with images, I3D report, HTML report, DMC file
- In Cutwise, share with whom you need to make your product information available around the globe 24/7

Video keywords: Cutwise, DiBox, DMC, HP Carbon, HTML, I3D, images, integration, online, parameters, reports, share, upload, videos

Published in:	Release Notes	
	Documentation	Integration with Cutwise
	Playlists	Integration with Cutwise YouTube: HP Carbon , HP Carbon - Cutwise Integration , Cutwise
	Also	As Separate Page On YouTube Specification

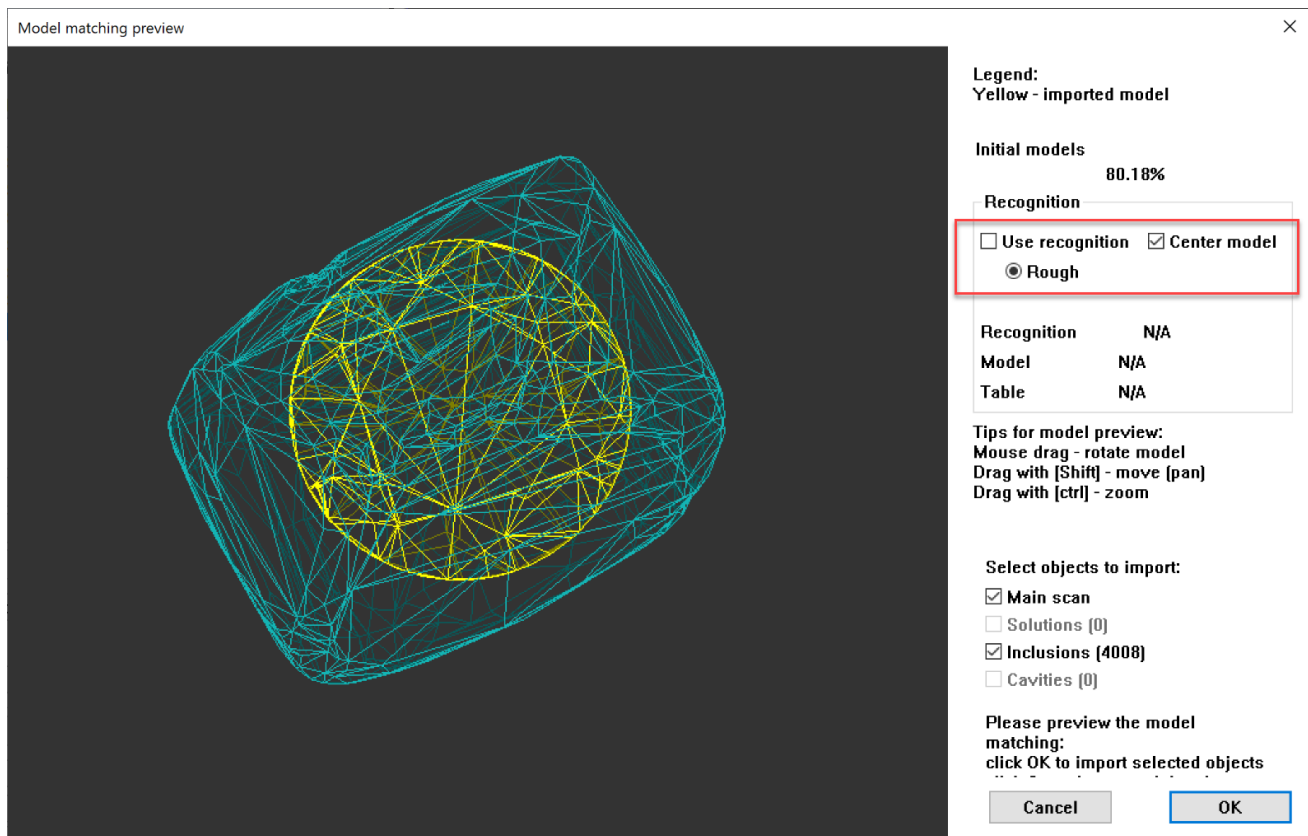
Working with DM-Xray (DMX) Files

Opening DMX Files

The system now supports importing DMX files created in [DM-Xray](#). For more information about DMX files, see "Protected DMX export" in [DM-Xray 1.0.0.1 "What's New"](#).

Importing DMX Models - Using Recognition and Centering Model

On importing DMX models (via **File > Import**), now the **Model matching preview** dialog is displayed:

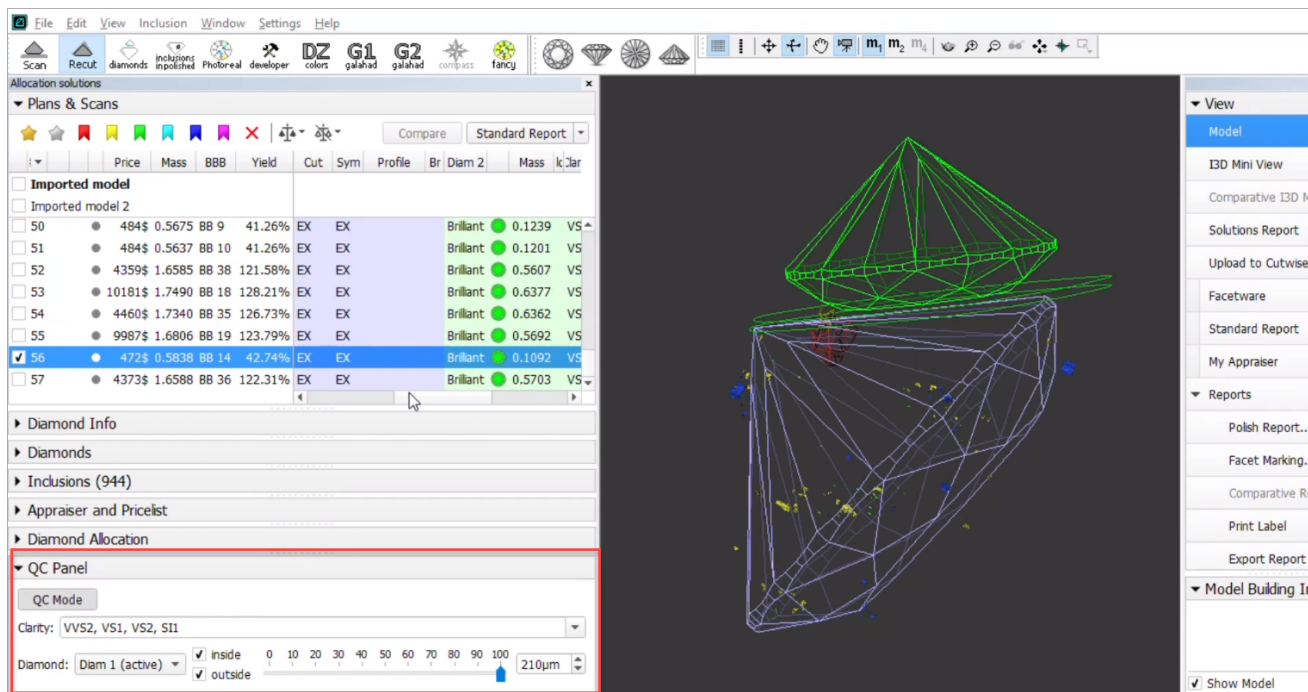


Here you can do one of the following:

- **Use recognition** or
- If you do not use this option you can **Center model** if necessary

QC Panel - Inclusions Visualization

Now you can filter inclusions visualization in Scene. This can be done via the new **QC Panel** (Quality Control Panel), available in the **Recut** mode, on the left panel.



Activate the **QC Mode** button to start using specified filters. De-activate it - all solution inclusions will be displayed without filtering.

The **QC Panel** applies filters to the model inclusions, such as:

- **Clarity** select one or several clarity values from the list - only inclusions with the specified clarities will be displayed
- **Diamond** for multiple diamond solutions you can select only inclusions for the selected diamond will be displayed
- **Inside/Outside** check if to display inclusions inside, outside the diamond or both
- **Depth** of the area where to display the inclusions (works together with **Inside/Outside**) - use the slider or type in the value in μm

Filters utilize the AND logic, for example, if "Diamond 1", VS1 clarity, "inside" and 90 μm are selected, then only VS1 inclusions within 90 μm area inside Diamond 1 will be displayed.

FileEditViewInclusionWindowSettingsHelp

ScanRecutdiamondsinclusionsinpolishedPhotorealdeveloperDZG1G2galahadgalahadcompassfancy

Allocation solutions

Plans & Scans

★☆☆☆☆

CompareStandard Report

PriceMassBBBYieldCutSymProfileBrDiam 2Massk,lar

Imported model

Imported model 2

50484\$0.5675BB 941.26%EXEXBrilliant0.1239VS

51484\$0.5637BB 1041.26%EXEXBrilliant0.1201VS

524359\$1.6585BB 38121.58%EXEXBrilliant0.5607VS

5310181\$1.7490BB 18128.21%EXEXBrilliant0.6377VS

544460\$1.7340BB 35126.73%EXEXBrilliant0.6362VS

559987\$1.6806BB 19123.79%EXEXBrilliant0.5692VS

56472\$0.5838BB 1442.74%EXEXBrilliant0.1092VS

574373\$1.6588BB 36122.31%EXEXBrilliant0.5703VS

Diamond Info

Diamonds

Inclusions (944)

Appraiser and Pricelist

Diamond Allocation

QC Panel

QC Mode

Clarity: VVS2, VS1, VS2, SI1

Diamond: Diam 1 (active)

inside

0102030405060708090100

outside

210µm

3D model of a diamond with inclusions highlighted in green and blue.

Notes

- For now, the diamond filter cannot work with nonconvex models.
- Rarely, some filter combinations may cause the filter to fail, the system shows notification - try other parameters if so.

New Algorithm - "20. Single (Recut)"

The new "20. Single (Recut)" algorithm is added to the system. The new algorithm is the improvement of the "19. Single (Recut)". The "20. Single (Recut)" is intended, like its predecessor, to be used for the solution allocation within [in-house cut workflow](#) (see "Allocation" section for details). The algorithm is expected to produce better solutions than the "19. Single (Recut)" - during the testing period both algorithms will be presented in the system. On success testing, the "20. Single (Recut)" will replace the "19. Single (Recut)" and in prospect also the "13. Single (Rough)" algorithm.

▼ Diamond

Algorithm:

Cutting list:

★ 19. Single (FixedForm)

★ 19. Single (Recut)

★ 20. Single (Recut)

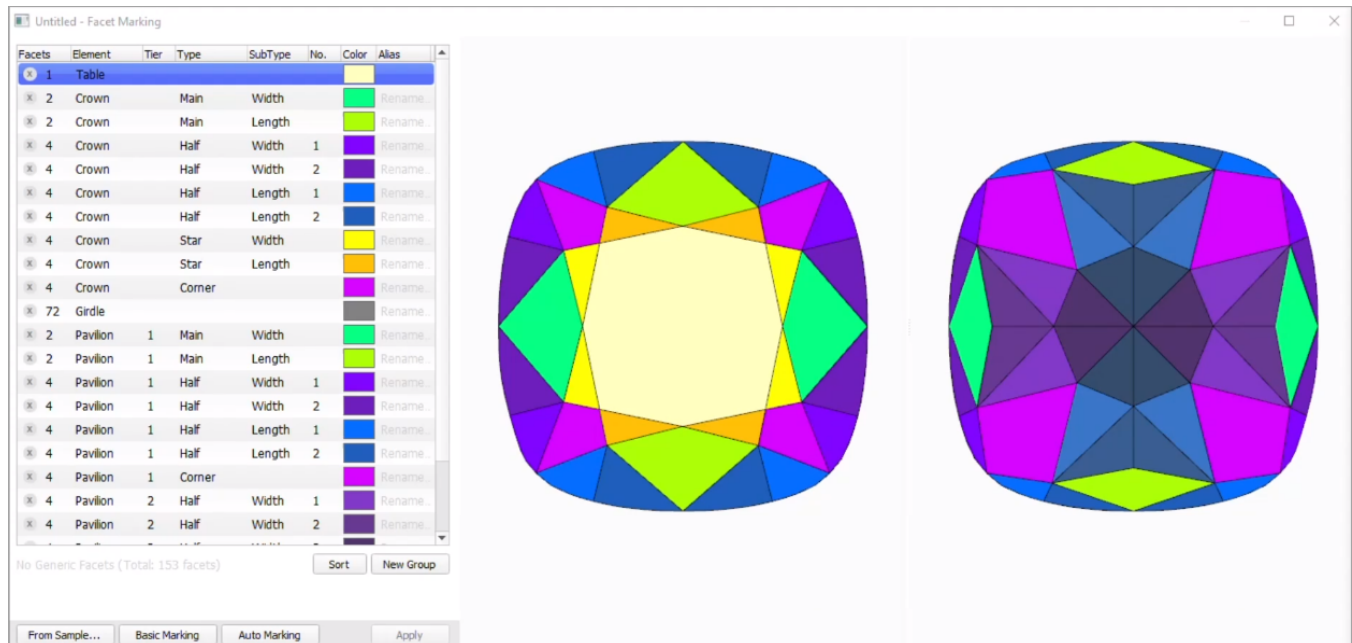
<show all>

Other Features


Facet Marking

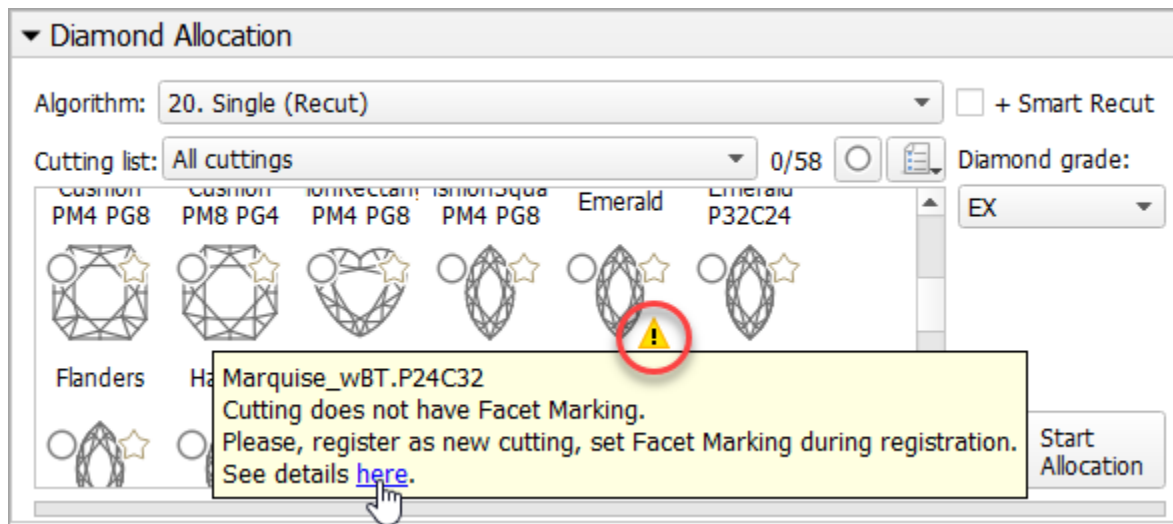
Improved Integrity

For more comfortable manual facet marking, now **Tier**, **Type** and **SubType** depend on **Element** and **Type** - only values making sense for the selected Element/Type are available. Previously you could select any Type-SubType for any element and Tier where it was inapplicable which led to mistakes.



Notification for Cuttings without Facet Marking

Now in the **Recut** mode, in the **Cutting list** section, if your cutting does not have a facet marking, it is marked with the  icon. On mouseover, the following message is displayed: "Cutting does not have Facet Marking. Please, register as new cutting, set Facet Marking during registration."



See detailed description on how to resolve the problem in **Troubleshooting**: [Cutting Does Not Have Facet Marking](#)

Smart Normalize - New Presets with Custom Facet Marking

The "19. SmartNormalize" algorithm has its own set of presets independent of appraisers. Now, this set is extended and includes new presets. New presets take into consideration additionally or only a custom facet marking (CFM) of the model while the old one worked only with the symmetry axis. Where CFM is taken into consideration, the facets from the same CFM group will obtain the same Slope Angle.

To obtain more solutions with an excellent Hearts & Arrows pattern, in the "MyRound | GIA Facetware + MyRound" appraiser, for the "MyRound_H&A" profile, the limits for the **SweetLine** parameter have been changed.

Appraiser Editor										
GIA Facetware + MyRound										
Profile: MyRound_H&A (read only)										
Cut Symmetry										
Now	SweetLine	i	-0,4	-0,25	-0,15	-0,1	0,1	0,15	0,25	0,4
Was	SweetLine	i	-3	-1,5	-0,6	-0,3	0,3	0,6	1,5	3

New "MyRound_H&A 5ct+" Profile

To create better solutions for the big (5ct+) stones, under the "GIA Facetware + MyRound" appraiser, the new "MyRound_H&A 5ct+" read-only profile has been added.

Appraiser Editor										
GIA Facetware + MyRound										
Profile: MyRound_H&A_5ct+ (read only)										
Cut Symmetry										
Parameter	Grade	Value	[FR	[GD	[VG	[EX	EX]	VG]	GD]	FR]
Table	EX	55.598	10	46,5	49,5	54	60	66,5	69,5	99
CrownAngle	EX	36.433	10	21,75	26,25	31,25	36,75	38,75	40,25	90
PavilionAngle	EX	40.609	10	38,7	39,7	40,5	41,9	42,5	43,1	90
SweetLine	GD	0.181	-0,4	-0,25	-0,15	-0,1	0,1	0,15	0,25	0,4
StarLength	Poor		10	32,5	37,5	45	55	72,5	77,5	90
LowerGirdleLength	EX	79.147	50	57,5	62,5	77	80	92,5	97,5	99
GirdleBezel	EX	3.892	0	1,25	1,75	2,25	4,75	5,75	7,25	20
GirdleValley	EX	1.926	0	0	0,35	0,75	2,94	4,14	6,14	20
CrownHeight	EX	16.430	5	10,5	12	12,3	17	17,5	18,5	40
TotalHeight	EX	63.030	10	54	57	58	64,5	66	70	90
Culet	VG	0.457	0	0	0	0	0,2	1,5	2	20
CrownPainting	EX	0.636	-9	-6	-3	-1,5	1,5	5	7	20
PavilionPainting	EX	0.035	-9	-5	-3	-1,5	1,5	4	6	20
SumPainting	EX	0.671	-9	-6	-5	-1,5	1,5	8	10	20
GirdleVerticality	EX	-0.023	-20	-1,5	-1	-0,3	0,3	1	1,5	20
HeightGirdleExtraFacet	FR	9.774	0	0	0	0	2	4	8	20
GirdleCrownExtraFacets	GD	3.000	0	0	0	0	0	2	4	20
GirdlePavilionExtraFacets	EX	1.000	0	0	0	0	3	4	6	20
GirdleExtraFacets	EX	1.000	0	0	0	0	2	4	8	20

Its main differences from the standard "MyRound_H&A" profile are:




- **StarLength** EX set to 45-55 (instead of 42.5-57.5)
- **PavilionPainting** EX set to 1.5 degrees (from 2.5)
- Symmetry parameters have been narrowed

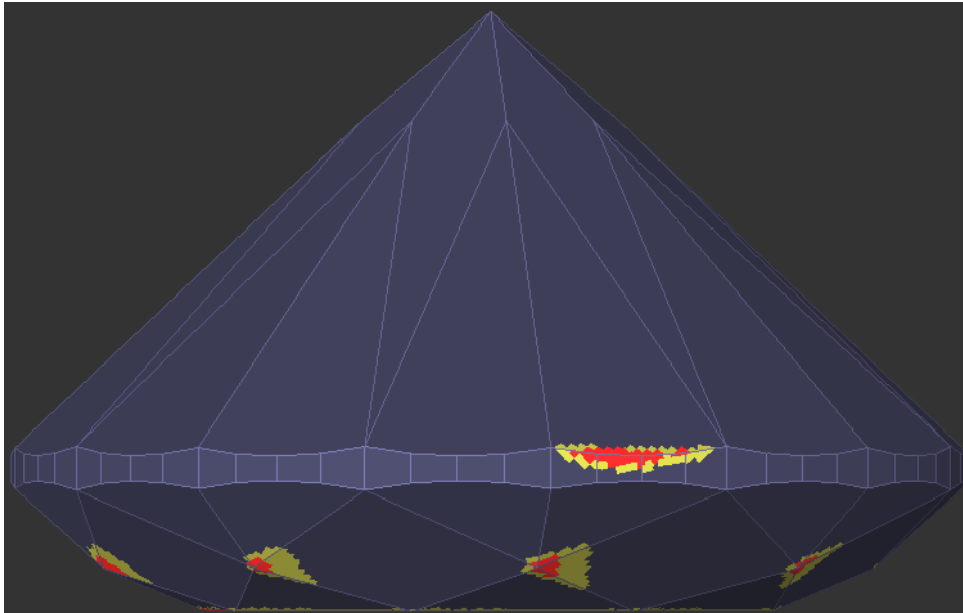
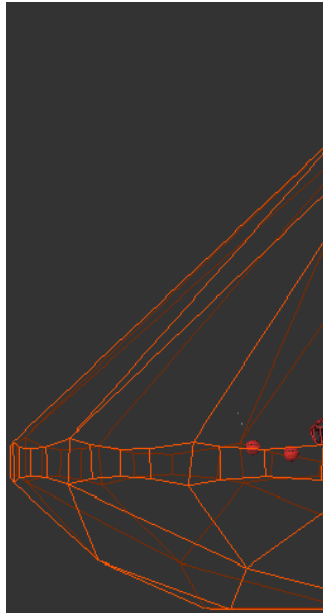
Appraiser Editor							×
GIA Facetware + MyRound							Show Presets
Profile: MyRound_H&A_5ct+ (read only)							
Cut	Symmetry						
Parameter	Grade	Value	EX]	VG]	GD]	FR]	
Diameter	VG	0.753	0,3	1,4	2,8	20	
Table	VG	1.149	0,8	1,7	3,4	20	
CrownAngle	EX	0.649	0,7	1,8	3,6	20	
PavilionAngle	EX	0.231	0,5	1,2	2,4	20	
StarLength	Poor		2	12	24	48	
LowerGirdleLength	EX	0.921	1,5	8	16	32	
GirdleBezel	VG	1.172	1	1,8	3,6	20	
GirdleBezelLocal	GD	1.172	0,5	0,9	1,8	20	
StarAngle	Poor		2,9	5,6	11,2	22,4	
UpperGirdleAngle	EX	0.927	1,5	8	16	32	
LowerGirdleAngle	EX	0.296	1,4	2,6	5,2	10,4	
HalvesWidthLocal	Poor	21.519	3,5	10	15	20	
CrownHeight	VG	0.951	0,8	1,8	3,6	20	
PavilionDepth	EX	0.454	0,8	1,8	3,6	20	
GirdleValley	EX	0.933	1	1,8	3,6	20	
GirdleValleyLocal	VG	0.611	0,5	0,9	1,8	20	
GirdleBone	EX	0.413	1	1,8	3,6	20	
GirdleBoneLocal	EX	0.343	0,4	0,9	1,8	20	
GirdleSlopeDeviationMax	FR	9.156	1,5	2,5	3	32	
2RRoundness22_5	VG	0.741	0,3	0,8	1,6	20	
2RRoundness45	VG	0.941	0,5	1,4	2,8	20	
2RRoundness90	VG	1.030	0,5	1,8	3,6	20	
TableOffset	VG	0.643	0,4	0,8	1,6	20	
CuletOffset	VG	0.457	0,3	0,8	1,6	20	
TableCuletOffset	VG	1.059	0,3	1,2	2,4	20	
TableEdge_TEV	GD	2.284	0,6	2	4	20	
BezelWidth	GD	2.358	0,6	2	4	20	
StarEdge	EX		0,5	2	3	20	
CrownPainting	FR	5.922	2	4	5	20	
PavilionPainting	EX	0.590	2	4	5	20	
TableAngle	EX	1.779	2	4	5	20	
OppositeAzimuth	EX	0.778	1	4	6	20	
FacetTwistMax	VG	1.042	0,6	2	3	20	
JunctionBezelTwistMax	FR	4.773	0,5	2	3	20	
OppositeSlopeSumHalf	EX	0.285	0,5	1	1,5	20	
StarFacetTwist	EX		0,5	2	3	20	
JunctionBoneTwistMax	GD	2.088	0,7	2	3	20	
MainCrownFacetsAzimuthSymm	EX	1.307	1,5	4	6	20	
MainPavilionFacetsAzimuthSymm	EX	0.358	1,5	4	6	20	
StarFacetsAzimuthSymm	EX		1,5	4	6	20	

Smart Recut

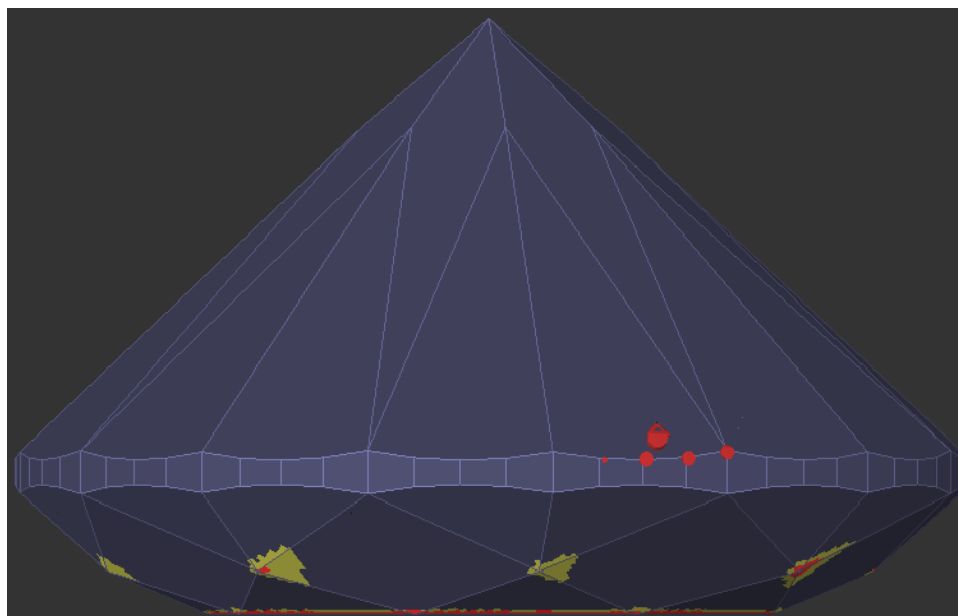
For Smart Recut, the mechanism of how the **girdle extra facets** are created has been improved. The change is how the position of the extra facet is defined. The improved extra facet positioning function allows getting solutions with the larger mass.

Project: ef_101ct_test.ox2z, profile profile_test.txt.

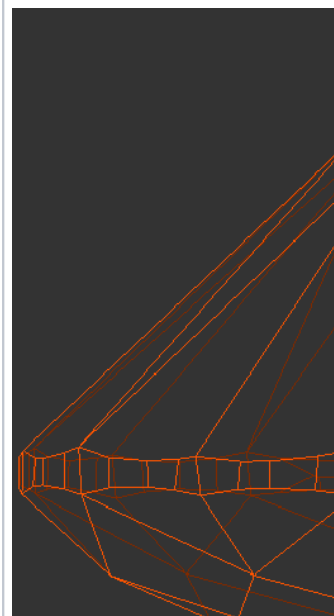
- Gold Star  - represents solution obtained manually
- No Flag - initial Recut solution
- Red Flag  - solution obtained by Smart Recut with an old Extra Facet mechanism
- Green Flag  - solution obtained by Smart Recut with a new Extra Facet mechanism

	Recut	Old Mechanism
Mas s, ct	0.9623	1.0057
Front Side		

Back
Side



The general limitation for number of extra facets will be 1.



In this example, an old mechanism does r

Using for Multi-Diamond Solutions from Rough

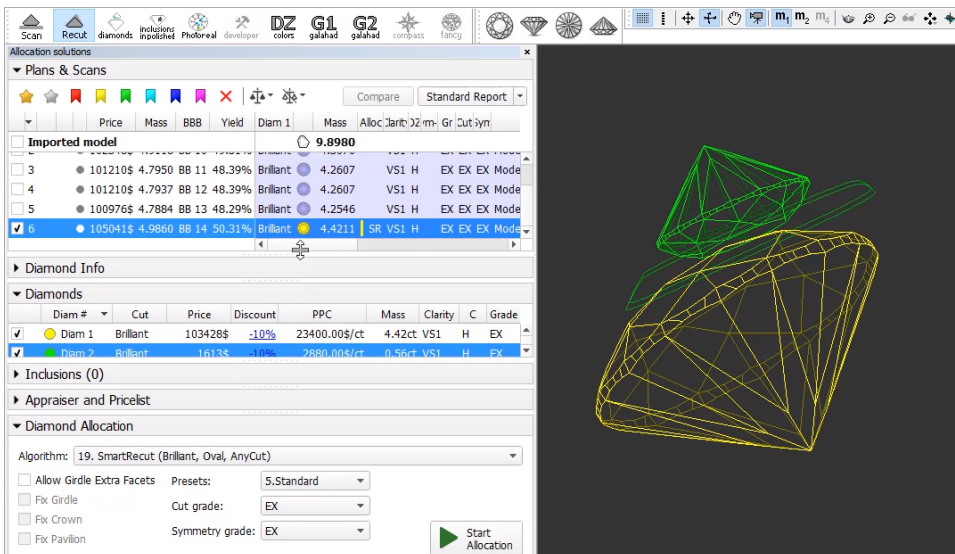


Notes

Options works only for RBC properly for a now.

Using Smart Recut for the multi-diamond solutions produced by the "13. Cascade-2M" algorithm from the rough stones is now made more user friendly. The work is now performed as follows:

1. Open your rough model.
2. Produce multi-diamond solutions with the "13. Cascade-2M" algorithm.
3. Select the solution, select one of the diamonds inside it.
4. Run Smart Recut. The new solution is added to the list. The previously selected diamond is transformed by Smart Recut.



5. Select your newly produced SR solution, select the second diamond inside it.
6. Run Smart Recut again. The new solution is added to the list. Now both diamonds are transformed by Smart Recut comparing to the initial Recut solution.



While transformed, both diamonds still remain in their initial stone areas.

The screenshot displays the 'Allocation solutions' software interface. The left panel shows a list of diamonds under the 'Plans & Scans' tab. The right panel shows a 3D model of two diamonds with a sawing layer between them.

Diam #	Cut	Price	Discount	PPC	Mass	Clarity	C	Grade
4	Brilliant	101210\$	4.7937	BB 12	48.39%	Brilliant	4.2607	VS1 H EX EX EX Mode
5	Brilliant	100976\$	4.7884	BB 13	48.29%	Brilliant	4.2546	VS1 H EX EX EX Mode
6	Brilliant	105041\$	4.9860	BB 14	50.31%	Brilliant	4.4211	SR VS1 H EX EX EX Mode
7	Brilliant	104938\$	5.0184	BB 15	50.62%	Brilliant	4.4211	VS1 H EX EX EX Mode

Diamond Info

Diam #	Cut	Price	Discount	PPC	Mass	Clarity	C	Grade
✓ Diam 1	Brilliant	103428\$	-10%	23400.00\$/ct	4.42ct	VS1	H	EX
✓ Diam 2	Brilliant	1510\$	-20%	2560.00\$/ct	0.59ct	VS1	H	FX-VG

Inclusions (0)

Appraiser and Pricelist

Diamond Allocation

Algorithm: 19. SmartRecut (Brilliant, Oval, AnyCut)

☐ Allow Girdle Extra Facets Presets: 7.ExtendedLimits

☐ Fix Girdle Cut grade: EX

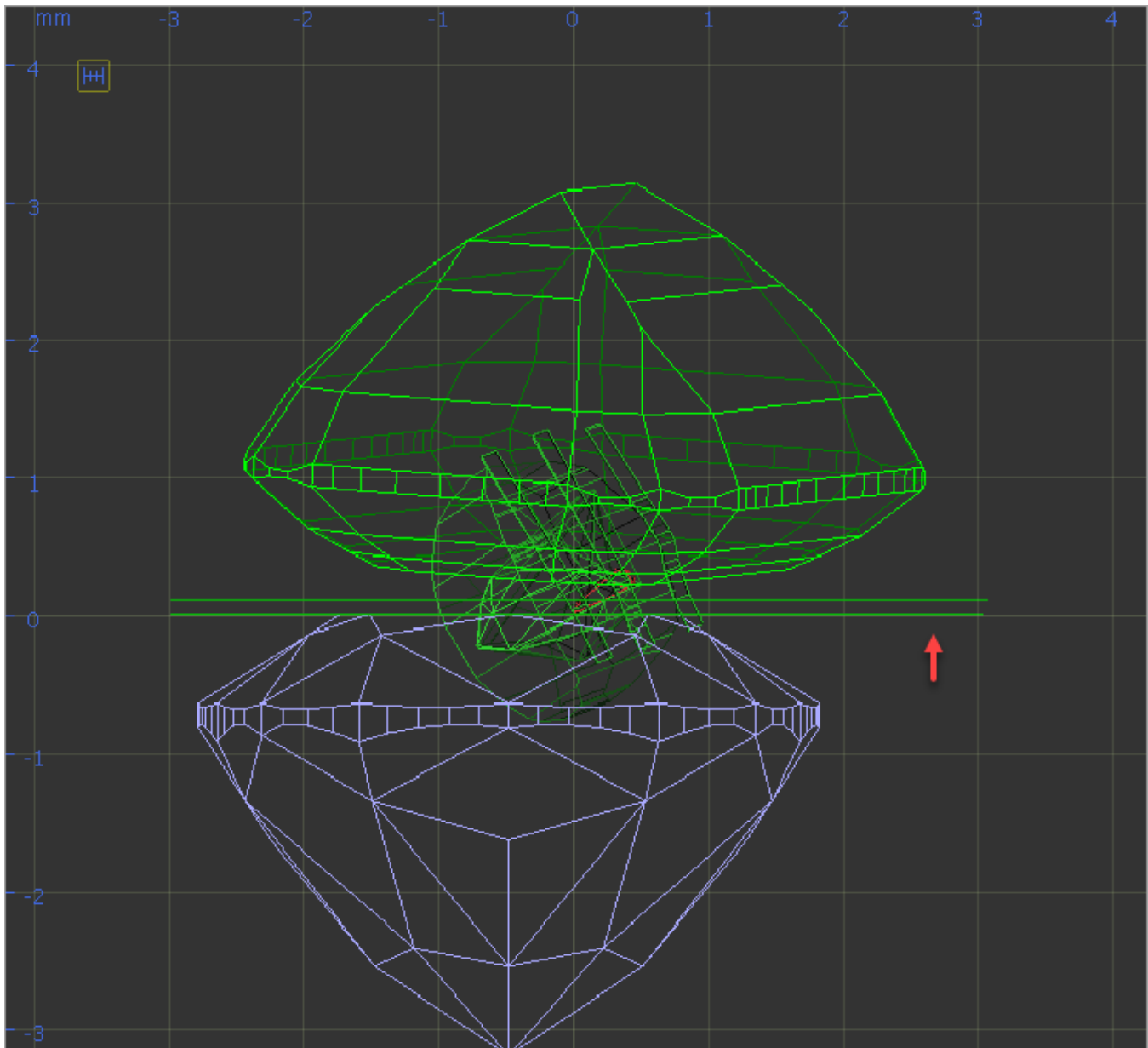
☐ Fix Crown Symmetry grade: EX

☐ Fix Pavilion

Start Allocation

Cascade Algorithm - Configuring Sawing Layer

The "13. Cascade-2M" algorithm produces the solutions containing two diamonds and a *sawing layer* between them.



It is now possible to configure the thickness of this layer depending on the initial model mass. This can be done via the "SawingLayerThickness.xml" file, stored in the "..\ProgramData\OctoNus Software\Oxygen HP\" folder.

```

C:/ProgramData/OctoNus Software/Oxygen HP/SawingLayerThickness.xml (docs) - Brackets
File Edit Find View Navigate Debug Help

Working Files
SawingLayerThickness.xml

1 <?xml version="1.0" encoding="UTF-8"?>
2 <SawingLayerThickness Version="1.0">
3   <Table>
4     <Entry ThicknessMm="0.065" MaxMassCt="0.5"/>
5     <Entry ThicknessMm="0.075" MaxMassCt="1"/>
6     <Entry ThicknessMm="0.1" MaxMassCt="2"/>
7     <Entry ThicknessMm="0.13" MaxMassCt="5"/>
8     <Entry ThicknessMm="0.15" MaxMassCt="10"/>
9     <Entry ThicknessMm="0.22" MaxMassCt="40"/>
10    <Entry ThicknessMm="0.3" MaxMassCt="Unlimited"/>
11  </Table>
12 </SawingLayerThickness>
13
Line 1, Column 1 — 13 Lines  INS  UTF-8  XML  Spaces: 4

```

In HP Carbon, in the solution list, the **Diamonds** section for the selected solution (the solution includes 2 diamonds), the sawing layer is listed, its thickness in mm is displayed.

Scan

Recut

diamonds

inclusions

inpolished

Photoreal

developer

DZ

colors

G1

galahad

G2

galahad

compass

fancy

Allocation solutions

Plans & Scans

★

☆

🔖

🔖

🔖

🔖

🔖

🔖

✖

⚖

⚖

Compare

Standard Report

Price

Mass

BBB

Yield

Diam 1

Mass

Clarity

Color

Gr

Cut

syn

Profile

Imported model

10.0449

--

<input checked="" type="checkbox"/>	1	●	51363\$	4.3912	BB 1	43.70%	Brilliant	2.3888	VS1	H	EX	EX	EX	Profile1
<input type="checkbox"/>	2	●	51246\$	4.3832	BB 2	43.60%	Brilliant	2.3825	VS1	H	EX	EX	EX	Profile1
<input type="checkbox"/>	3	●	47925\$	4.3697	BB 3	43.50%	Brilliant	2.5793	VS1	H	EX	EX	EX	Profile1
<input type="checkbox"/>	4	●	47268\$	4.5266	BB 4	45.00%	Brilliant	2.9237	VS1	H	EX	EX	EX	Profile1
<input type="checkbox"/>	5	●	47033\$	4.2863	BB 5	42.61%	Brilliant	2.5793	VS1	H	EX	EX	EX	Profile1
<input type="checkbox"/>	6	●	47033\$	4.2795	BB 6	42.61%	Brilliant	2.5793	VS1	H	EX	EX	EX	Profile1
<input type="checkbox"/>	7	●	46770\$	4.5400	BB 7	45.10%	Brilliant	2.9229	VS1	H	EX	EX	EX	Profile1
<input type="checkbox"/>	8	●	46695\$	4.4567	BB 8	44.30%	Brilliant	2.9237	VS1	H	EX	EX	EX	Profile1
<input type="checkbox"/>	9	●	46636\$	4.4714	BB 9	44.40%	Brilliant	2.8841	VS1	H	EX	EX	EX	Profile1
<input type="checkbox"/>	10	●	46274\$	4.4250	BB 10	44.00%	Brilliant	2.8689	VS1	H	EX	EX	EX	Profile1
<input type="checkbox"/>	11	●	46144\$	4.4536	BB 11	44.30%	Brilliant	2.9237	VS1	H	EX	EX	EX	Profile1

Diamond Info

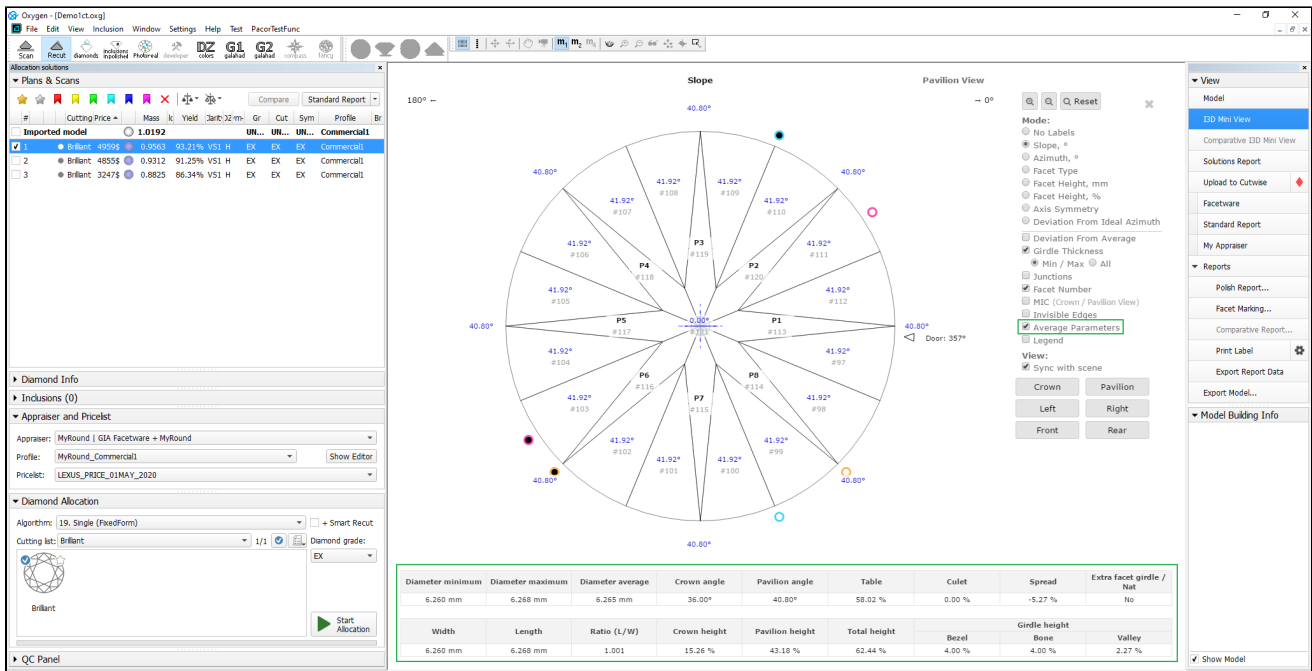
Diamonds

	Diam #	Cut	Price	Discount	PPC	Mass	Clarity	C	Grade
<input checked="" type="checkbox"/>	Diam 1	Brilliant	27963\$	-10%	11700.00\$/ct	2.39ct	VS1	H	EX
<input checked="" type="checkbox"/>	Diam 2	Brilliant	23400\$	-10%	11700.00\$/ct	2.00ct	VS1	H	EX
<input checked="" type="checkbox"/>	Layer 1 1	Diam 1	Diam 2	0.27ct	0.22mm				

Inclusions (10)

I3D Mini View - Average Parameters

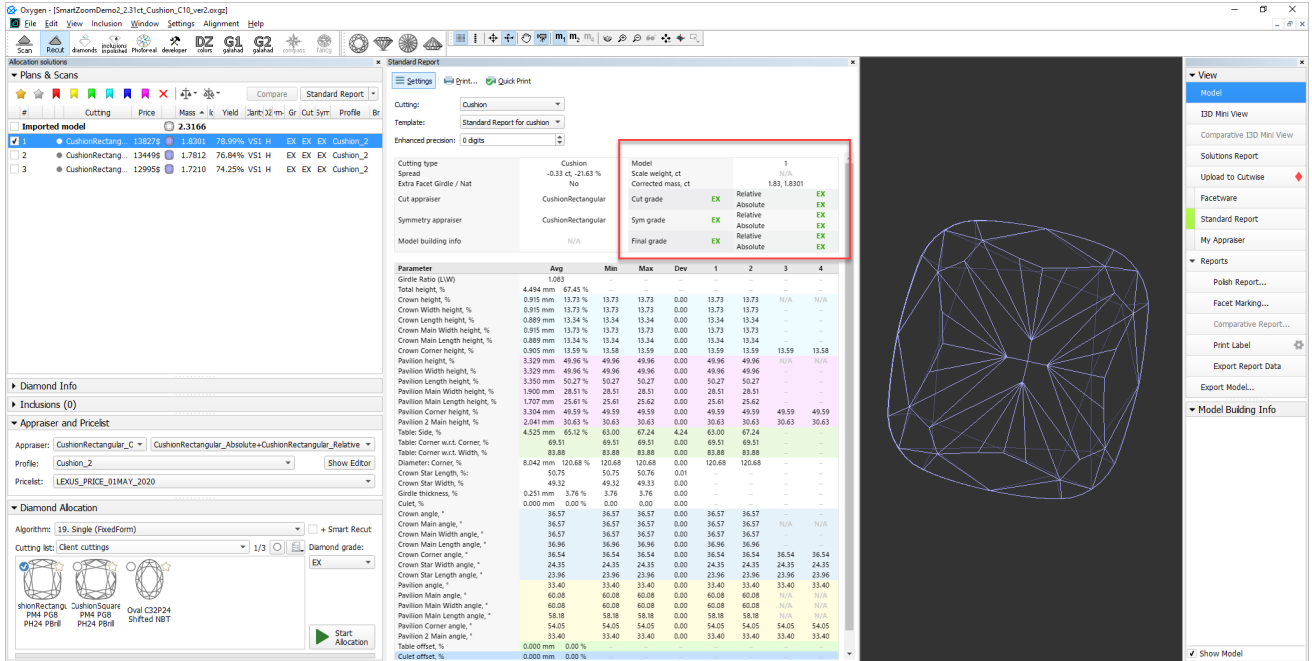
In [I3D Mini View](#), the **Average Parameters** table is now displayed by default (corresponding **Average Parameters** option is selected)



Standard Report - Displaying Grades for Cushion

In the Standard Report now, the grades for the Cushion cutting are displayed, including separately for Absolute and Relative parts of appraisers. This is available for the following appraisers:

- CushionRectangular_Opt
- CushionSquare_Opt
- MyAnyCutOpt appraisers



Embedding images in Label Reports

It is now possible to embed images in the custom templates for Label Report:

Print Label Settings

Printer:

Microsoft Print to PDF

Ready

Cutting:

Brilliant

Template:

LABEL_REPORT_FOR_BRILLIANT_WITH_PICTURES.HTML

LABEL_REPORT_FOR_BRILLIANT.HTML

LABEL_REPORT_FOR_ANY_CUT.HTML

Enhanced precision:

0 digits

Print

Preview

OK

Cancel

Parameter	Avg	Min	Max	Dev
Diameter	6.265	6.260	6.268	0.008
Crn angle	36.00	36.00	36.00	0.00
Crn hgt	15.26	15.26	15.26	0.00
Star, %	50.00	50.00	50.00	0.00
Pav angle	40.80	40.80	40.80	0.00
Pav dpth	43.18	43.18	43.18	0.00
Pav halv, %	79.00	79.00	79.00	0.00
Girdle, %	4.00	4.00	4.00	0.00
Table, %	58.02	58.02	58.02	0.00
Star ang	22.06	22.06	22.06	0.00

Culet, %	0.00
Tot. hgt, %	62.44
Tot. hgt, mm	3.912
Weight, ct	0.95
G-C off, %	0.00 ± 0.12
G-T off, %	0.00 ± 0.09
T-C off, %	0.00 ± 0.13

Brilliant

Demo1ct

27.04.2020 13:03

40.80°

40.80°

40.80°

40.80°

40.80°

40.80°

40.80°

40.80°

36.00°

36.00°

36.00°

36.00°

36.00°

36.00°

36.00°

36.00°

P1

P2

P3

P4

P5

P6

P7

P8

C1

C2

C3

C4

C5

C6

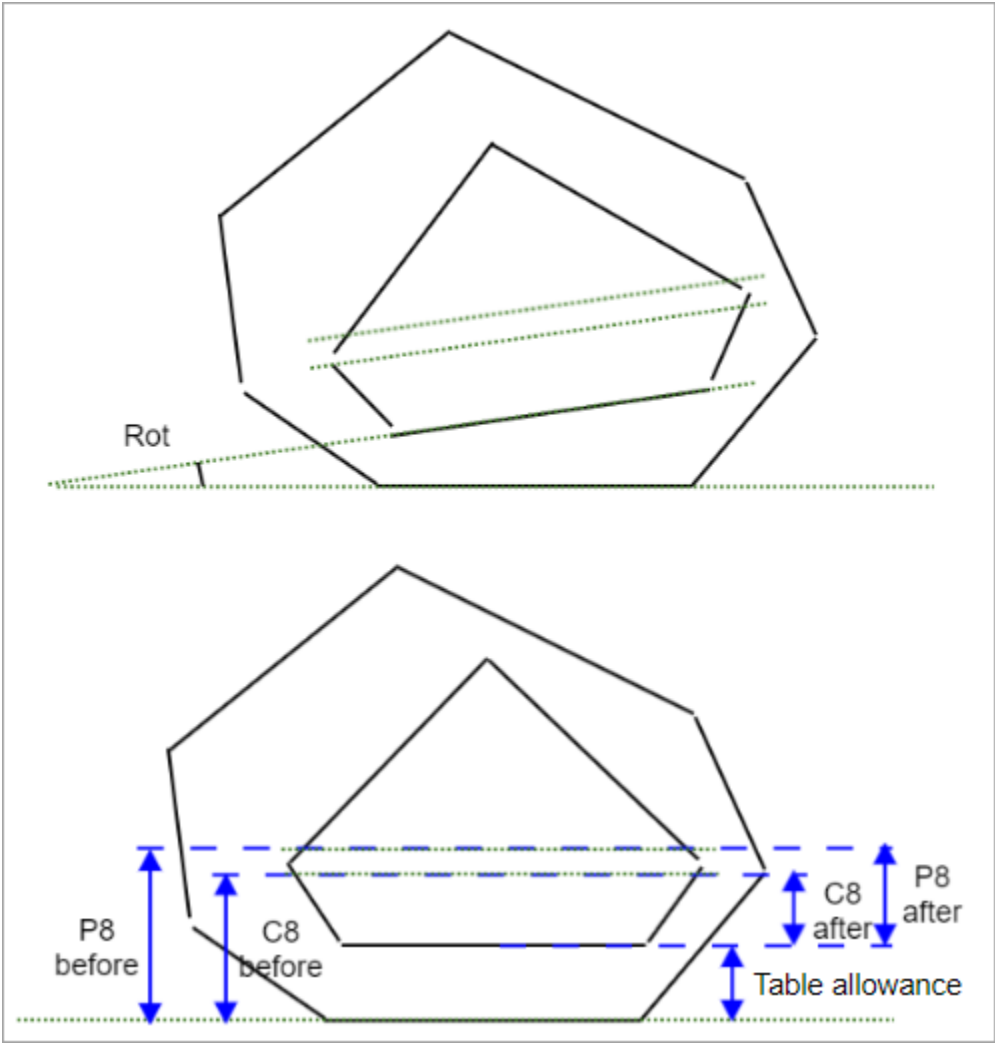
C7

C8

A sample template is planned to be included in the system in the nearest future.

Print Label - Reference Lines Parameters

New parameters have been added to the **Print Label** report:



Parameter		Description	Comment
Marking for Crown - C8 before	mm	The reference line for the crown main facets before table allowance.	See the detailed description below.

Marking for Crown - C8 after	mm	The reference line for the crown main facets after table allowance.
Marking for Pav - P8 after	mm	The reference line for the pavilion main facets before table allowance.
Marking for Pav - P8 after	mm	The reference line for the pavilion main facets after table allowance.
Table allowance	mm	Table allowance.
Incline	deg.	Planned table tilt compared to the current table.

Print Label example:

Print Label Settings

Printer:

DYMO LabelWriter 450

Ready

Cutting:

Brilliant

Template:

LABEL_REPORT_FOR_BRILLIANT.HTML

LABEL_REPORT_FOR_ANY_CUT.HTML

Reference Line parameters

Reference Line parameters documentation

Enhanced precision: 0 digits

Print

Preview

OK

Cancel

Stone ID: 20001_0001_2.42ct.mmd_Oval_C32P24_Shifted_NBT_Rt1p5_Sq2p5_sample

Brilliant

14.07.2020 15:07

HPO11+

Parameter	Avg	Min	Max	Dev	Cut	Sym
Diameter, mm	7.899	7.887	7.907	0.26 %	EX	EX
Pav. angle, °	40.56	40.49	40.64	0.15	EX	EX
Crown angle, °	36.03	36.01	36.05	0.04	EX	EX
Girdle bezel, %	0.209 mm	2.64 %	2.64	2.64	0.00	EX EX
Table, %	4.692 mm	59.40 %	59.36	59.44	0.08	EX EX
Total height, %	4.750 mm	60.14 %	—	—	—	—
Crown height, %	1.167 mm	14.78 %	14.78	14.78	0.00	EX
Pav. height, %	3.374 mm	42.72 %	42.72	42.72	0.00	EX
Star, %	54.90	—	—	—	—	EX
Pav. half, %	77.07	77.06	77.07	0.01	EX	EX
G-C off, %	0.11 ± 0.10	—	—	—	—	EX

Reference Line parameters

Table allowance

0.00 mm

Incline

0.00 °

Marking for Crown, mm

C8 before

1.17

C8 after

1.17

Marking for Pav, mm

P8 before

1.38

P8 after

1.38

Total weight, ct

1.80

EX

EX

40.49°

40.58°

40.58°

40.51°

40.64°

40.49°

40.58°

40.58°

36.01°

36.05°

36.01°

36.05°

36.01°

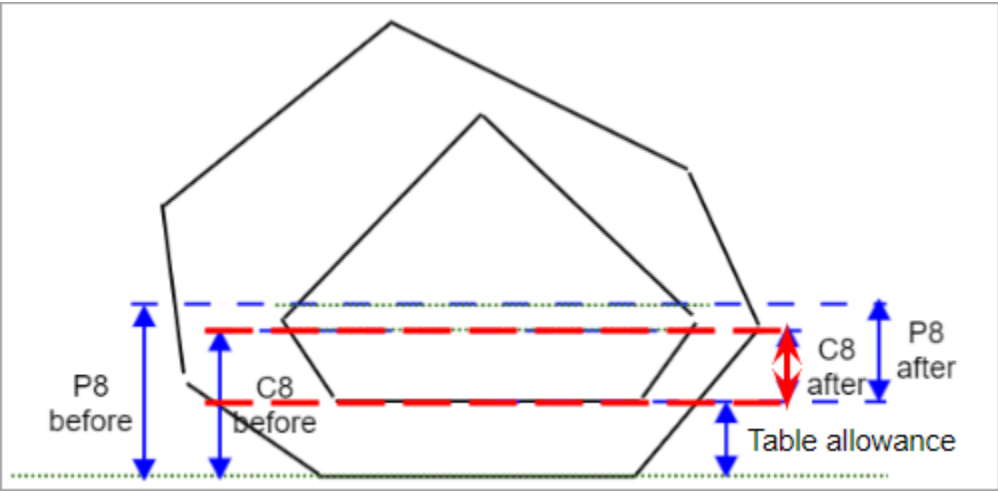
36.05°

36.01°

36.05°

This parameter is applicable to the following cuts: Brilliant

Distance between the holder plane and C8 reference line after table allowance.



Calculation

FACETING_REFERENCE_LINE_CROWN_MAINS_AFTER_TABLE = CROWN_HEIGHT_MAX_MM

Usage and Examples

C8 reference line information is used during polishing.

Reporting

Reported in	Section	Values	Units	Bookmarks	Name in Reports
-------------	---------	--------	-------	-----------	-----------------

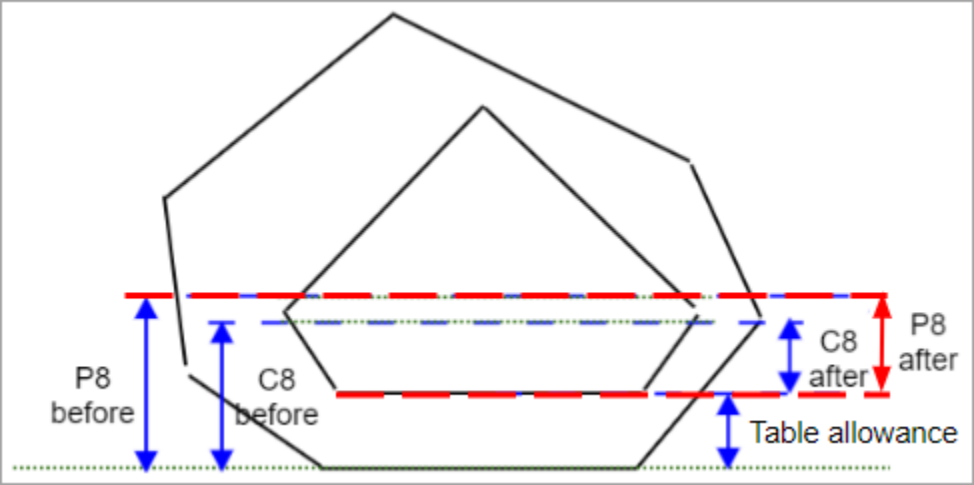
Print Label	NA	Single value	mm	FACETING_REFERENCE_LINE_CROWN_MAINS_AFTER_TABLE	Marking for Crown
-------------	----	--------------	----	---	-------------------

Visualization in Appraisers

Value	Units	Bookmark	Tab	Parameter Name	Comment
NA	NA	NA	NA	NA	Not presented in any appraiser.

i This parameter is applicable to the following cuts: Brilliant

Distance between the holder plane and P8 reference line after table allowance.



Calculation

- Find the pavilion facet with the highest height, let us say its number is F
- Marking for Pav, mm = CROWN_HEIGHT_MM_<F> + GIRDLE_WIDE_BEZEL_MM_<F>

Usage and Examples

P8 reference line information is used during polishing.

Reporting

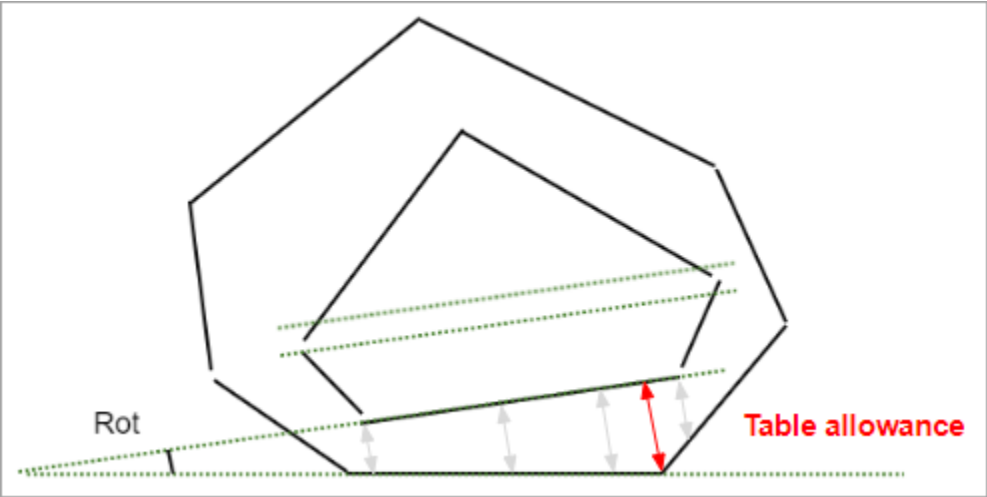
Reported in	Section	Values	Units	Bookmarks	Name in Reports
Print Label	NA	Single value	mm	FACETING_REFERENCE_LINE_PAVILION_MAINS_AFTER_TABLE (P8 after)	Marking for Pav

Visualization in Appraisers

Value	Units	Bookmark	Tab	Parameter Name	Comment
NA	NA	NA	NA	NA	Not presented in any appraiser.

i This parameter is applicable to the following cuts: Brilliant

Table allowance.



Calculation

The maximum distance between perpendicular to the solution table plane and the facet of the current stone.

Usage and Examples


Information is used during polishing.

Reporting

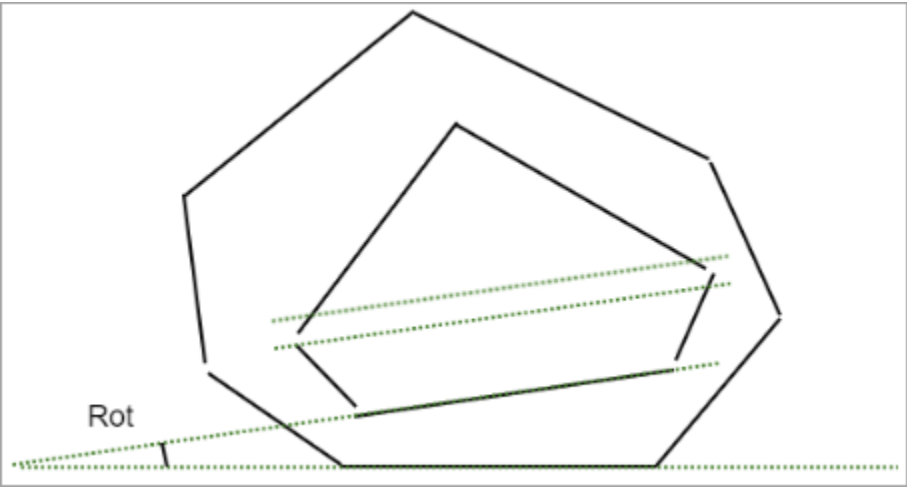
Reported in	Section	Values	Units	Bookmarks	Name in Reports
Print Label	NA	Single value	mm	FACETING_TABLE_CUT_DEPTH	Table polishing

Visualization in Appraisers

Value	Units	Bookmark	Tab	Parameter Name	Comment
NA	NA	NA	NA	NA	Not presented in any appraiser.

 This parameter is applicable to the following cuts: Brilliant

Planned table tilt compared to the holder plane.



Calculation

NA

Usage and Examples

Information is used during polishing.

Reporting

Reported in	Section	Values	Units	Bookmarks	Name in Reports
Print Label		Single value	deg	FACETING_TABLE_INCLINE	Table polishing

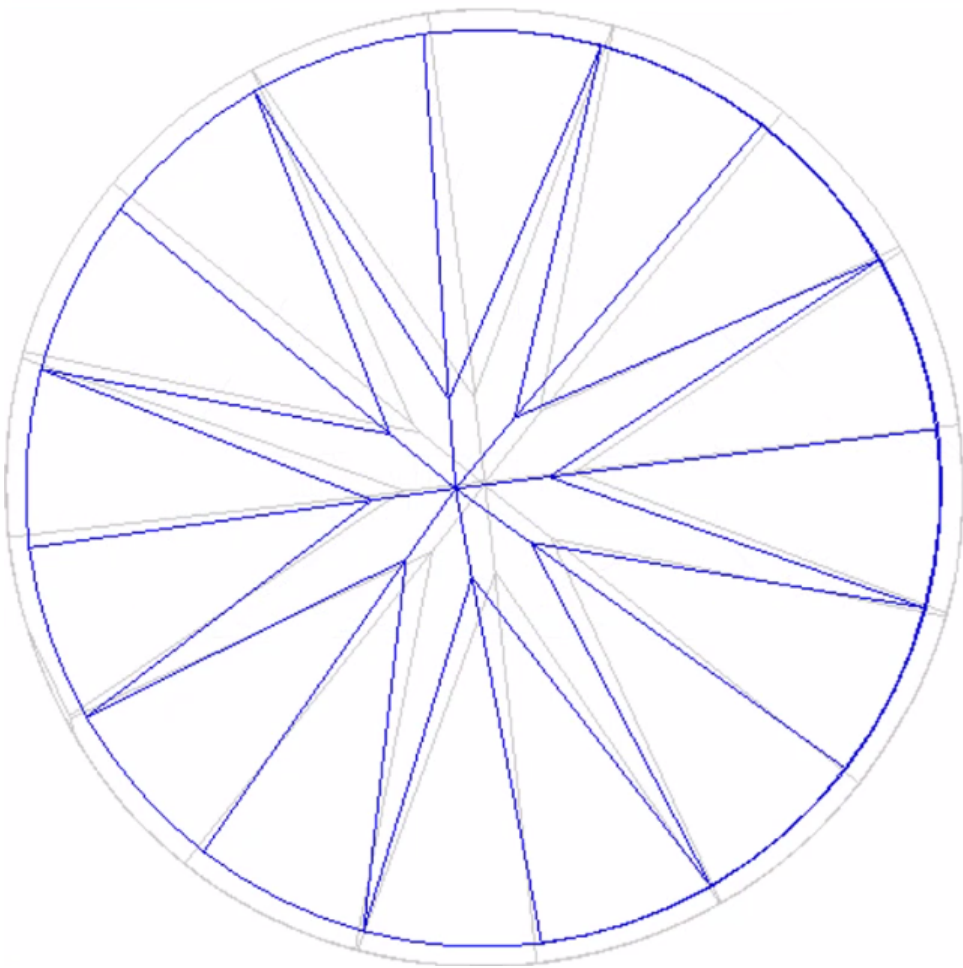
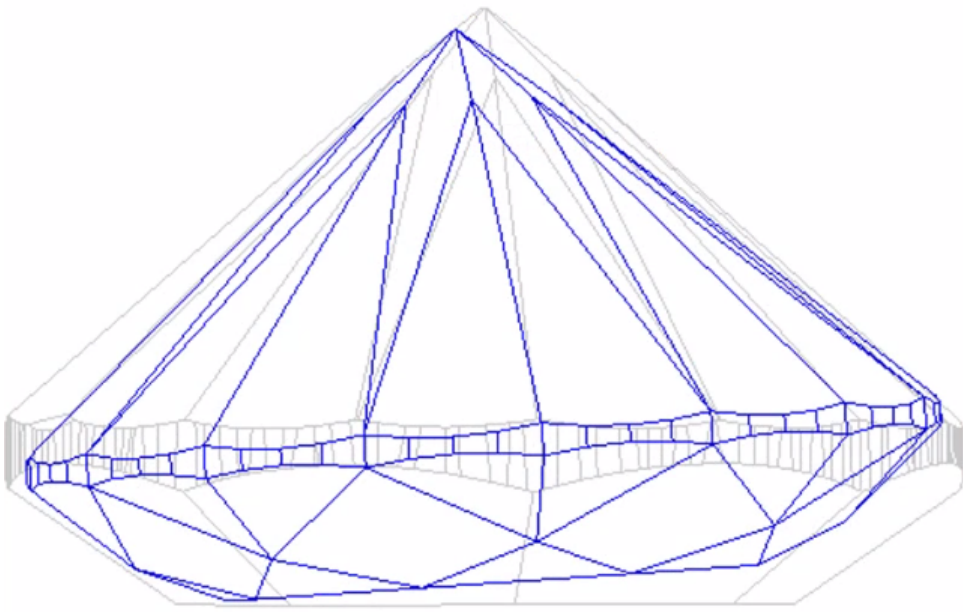
Visualization in Appraisers

Value	Units	Bookmark	Tab	Parameter Name	Comment
NA	NA	NA	NA	NA	Not presented in any appraiser.

Rough Export - Table Tilt and Pieces Information Added

In the Rough Export results now the following information is presented:

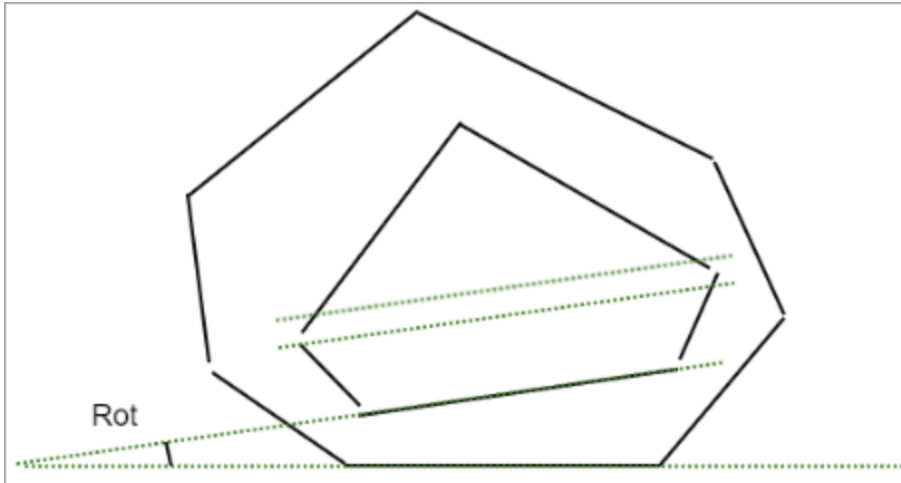
- Cut pieces of the main scan for the selected solution (including images)





This parameter is applicable to the following cuts: Brilliant

Planned table tilt compared to the current table.



Calculation

NA

Usage and Examples

Information is used during polishing.

Reporting

Reported in	Section	Values	Units	Bookmarks	Name in Reports
NA*		Single value	deg	DIAMOND_TABLE_TILT_1	NA

* only presented in the results of the [Rough Export](#)

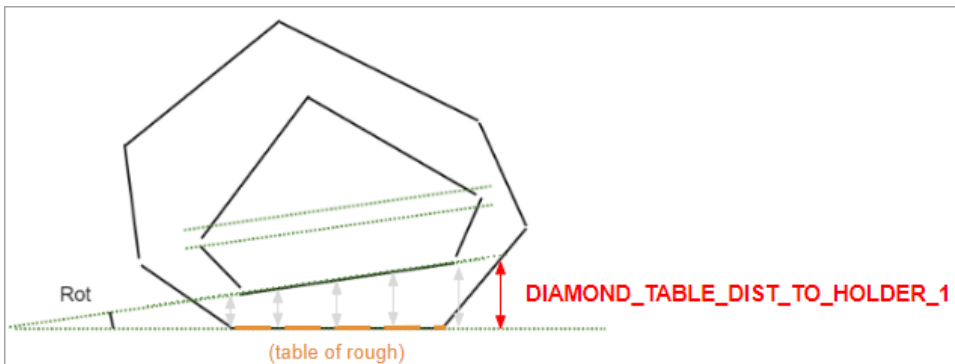
Visualization in Appraisers

Value	Units	Bookmark	Tab	Parameter Name	Comment
NA	NA	NA	NA	NA	Not presented in any appraiser.



This parameter is applicable to the following cuts: Brilliant

Solution table distance to holder plane.



Calculation

The maximum distance between perpendicular to the rough table and the solution table.

Usage and Examples

Information is used during polishing.

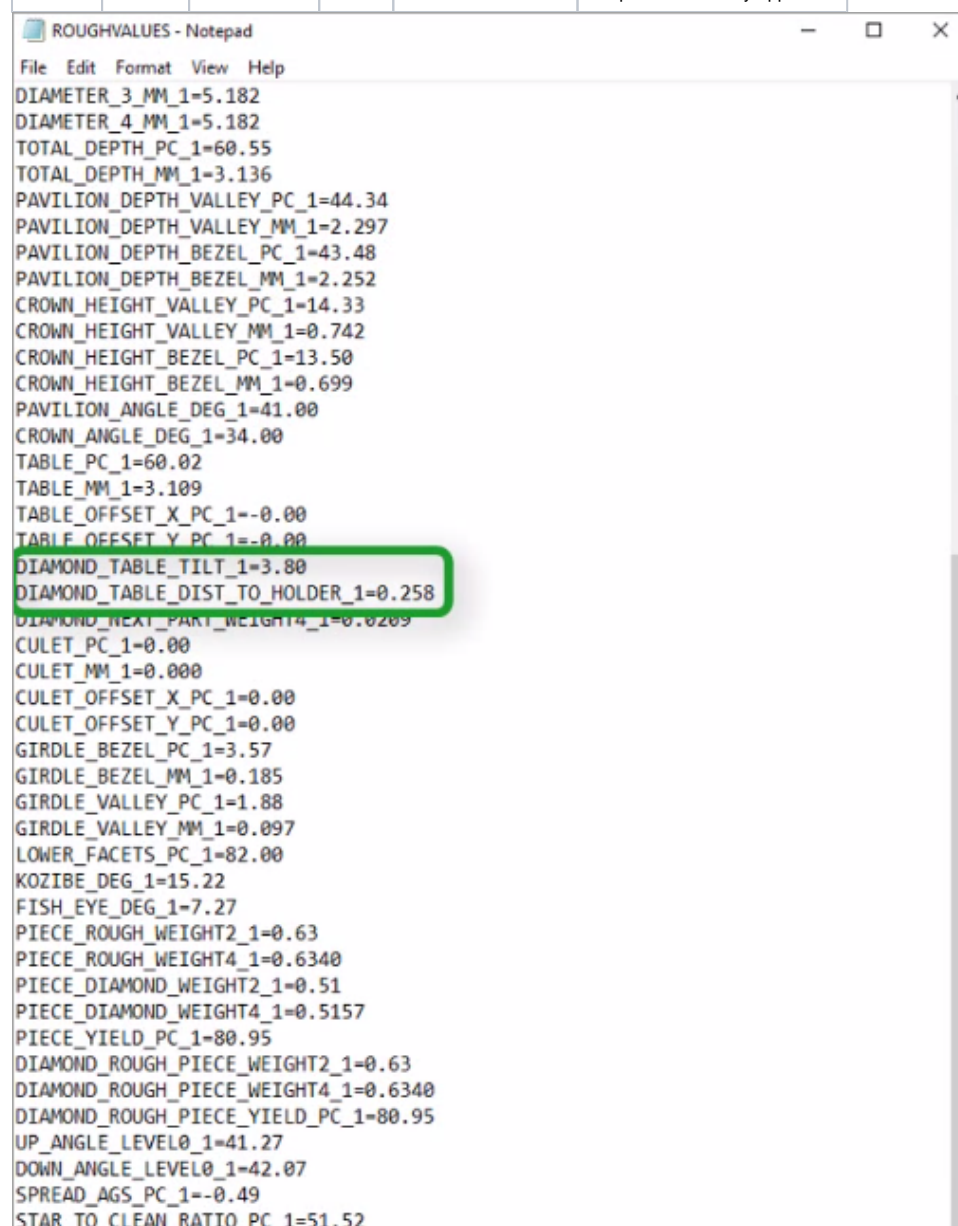
Reporting

Reported in	Section	Values	Units	Bookmarks	Name in Reports
NA*	NA	Single value	mm	DIAMOND_TABLE_DIST_TO_HOLDER_1	NA

* only presented in the results of the [Rough Export](#)

Visualization in Appraisers

Value	Units	Bookmark	Tab	Parameter Name	Comment
NA	NA	NA	NA	NA	Not presented in any appraiser.



```
ROUGHVALUES - Notepad
File Edit Format View Help
DIAMETER_3_MM_1=5.182
DIAMETER_4_MM_1=5.182
TOTAL_DEPTH_PC_1=60.55
TOTAL_DEPTH_MM_1=3.136
PAVILION_DEPTH_VALLEY_PC_1=44.34
PAVILION_DEPTH_VALLEY_MM_1=2.297
PAVILION_DEPTH_BEZEL_PC_1=43.48
PAVILION_DEPTH_BEZEL_MM_1=2.252
CROWN_HEIGHT_VALLEY_PC_1=14.33
CROWN_HEIGHT_VALLEY_MM_1=0.742
CROWN_HEIGHT_BEZEL_PC_1=13.50
CROWN_HEIGHT_BEZEL_MM_1=0.699
PAVILION_ANGLE_DEG_1=41.00
CROWN_ANGLE_DEG_1=34.00
TABLE_PC_1=60.02
TABLE_MM_1=3.109
TABLE_OFFSET_X_PC_1=-0.00
TABLE_OFFSET_Y_PC_1=-0.00
DIAMOND_TABLE_TILT_1=3.80
DIAMOND_TABLE_DIST_TO_HOLDER_1=0.258
DIAMOND_NEXT_PART_WEIGHT4_1=0.0209
CULET_PC_1=0.00
CULET_MM_1=0.000
CULET_OFFSET_X_PC_1=0.00
CULET_OFFSET_Y_PC_1=0.00
GIRDLE_BEZEL_PC_1=3.57
GIRDLE_BEZEL_MM_1=0.185
GIRDLE_VALLEY_PC_1=1.88
GIRDLE_VALLEY_MM_1=0.097
LOWER_FACETS_PC_1=82.00
KOZIBE_DEG_1=15.22
FISH_EYE_DEG_1=7.27
PIECE_ROUGH_WEIGHT2_1=0.63
PIECE_ROUGH_WEIGHT4_1=0.6340
PIECE_DIAMOND_WEIGHT2_1=0.51
PIECE_DIAMOND_WEIGHT4_1=0.5157
PIECE_YIELD_PC_1=80.95
DIAMOND_ROUGH_PIECE_WEIGHT2_1=0.63
DIAMOND_ROUGH_PIECE_WEIGHT4_1=0.6340
DIAMOND_ROUGH_PIECE_YIELD_PC_1=80.95
UP_ANGLE_LEVEL0_1=41.27
DOWN_ANGLE_LEVEL0_1=42.07
SPREAD_AGS_PC_1=-0.49
STAR TO CLEAN_RATIO_PC_1=51.52
```

This works fine both for the single and for multi-diamond solutions.

Cutting List - Loading Indication

On the system start, some time is required for all available cuttings to be loaded. Now the system indicates the loading process with the progress indicator:

▼ Plans & Scans

☆ ☆

🔍

🔍

Compare

Standard Report

▶ Info

▶ Inclusions (0)

▼ Appraiser and Pricelist

Appraiser: MyRound | GIA Facetware + MyRound

Profile: MyRound_H&A

Pricelist: LEXUS_PRICE_01MAY_2020

▶ Diamond Allocation

Algorithm: 20. Single (Recut)

Cutting list: Client cuttings

Diamond grade: EX

Start Allocation

▶ QC Panel

As soon as cuttings are loaded, you can start using them.

Demo Samples - Changes in Set

To make the set of the demo samples (available via **File > Demo**) be in more correspondence with the modern system usage scenarios, it has been changed:

Was	Now
<div><div>Oxygen - [Oxygen1]</div><div><div>File</div><div>Edit</div><div>View</div><div>Inclusion</div><div>Window</div><div>Settings</div><div>Help</div></div><div><div>New</div><div>Open...</div><div>Demo</div><div>Close</div><div>Save</div><div>Save As...</div></div><div><div>Demo1ct</div><div>Oval_blocked_001_ver2</div><div>Oval_blocked_002_ver2</div><div>SmartZoomDemo1-4.56ct-Cushion-C4-ver2</div><div>SmartZoomDemo2-2.31ct-Cushion-C10-ver2</div></div></div>	<div><div>Oxygen - [Oval_blocked_001_ver3.]</div><div><div>File</div><div>Edit</div><div>View</div><div>Inclusion</div><div>Window</div></div><div><div>New</div><div>Open...</div><div>Demo</div><div>Close</div><div>Save</div></div></div>

Updated Pricelist

The **Pricelist** is updated to up-to-date prices. The current pricelist name is "LEXUS_PRICE_01MAY_2020".

Plans & Scans

★

☆

🔴

🟡

🟢

🟠

🟦

🟪

✖

⚖️

⚙️

Compare

Standard Report

#	Cutting	Price	Mass	Alloc	ofi	Yield	ΣZ	Sym-O	Gr	Sym	Br
<div><input type="checkbox"/> Imported model</div> <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

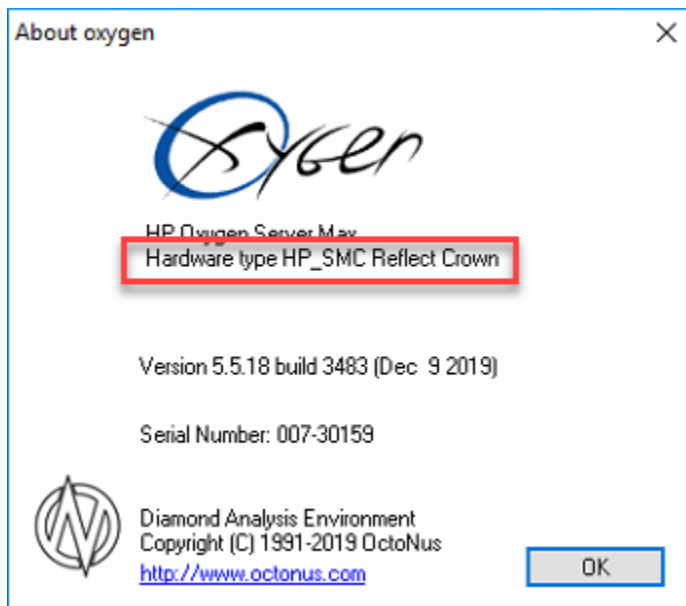
Diamond Allocation

Algorithm: 20, Single Recut

+ Smart Recut

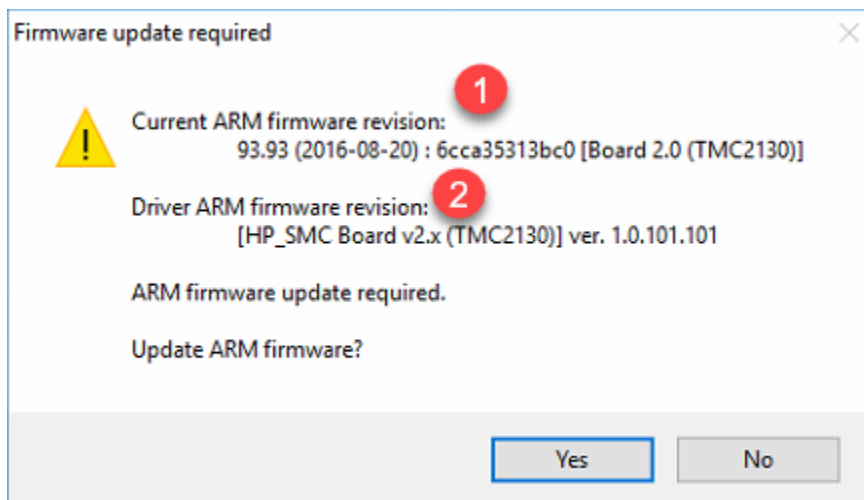
Hardware Type Detection

The system now automatically detects the connected board type. You can view this information via **Help > About**.



Firmware Update

Now on the HPO start, the **Firmware update required** message will be displayed if the version of your board ARM component is not in correspondence with one required by the system.



On figure: 1 - firmware on your board; 2 - firmware required by HPO.

Required 1.0.101.101 is newer than current on the board 93.93.

Make sure the required firmware is **newer** than the current on your board and accept the update by clicking **Yes**. This will update the firmware of your board. If the HP Carbon software requires a firmware **older** than your board has, it is recommended to consult with an authorized person in your organization for further instructions.

See details on the [Firmware Update Required](#) page.



If you use **several versions** of HPO simultaneously with the **HP_SMC v2.0** board, **never accept the update to an older firmware** when starting the older version of HPO. See the details in the "Using Current and Previous Versions of HPO Simultaneously" section of the [Firmware Update Required](#) page.

Preventing Unauthorized Access

HASP Protection

HP Carbon HASP (*Hardware Against Software Piracy*) protection has been further improved. This requires an upgrade:

- If you own the key version 4.x, its software part requires an upgrade.
- If you own the key version 3.x, you need to physically replace it with the 4.x with the latest software.

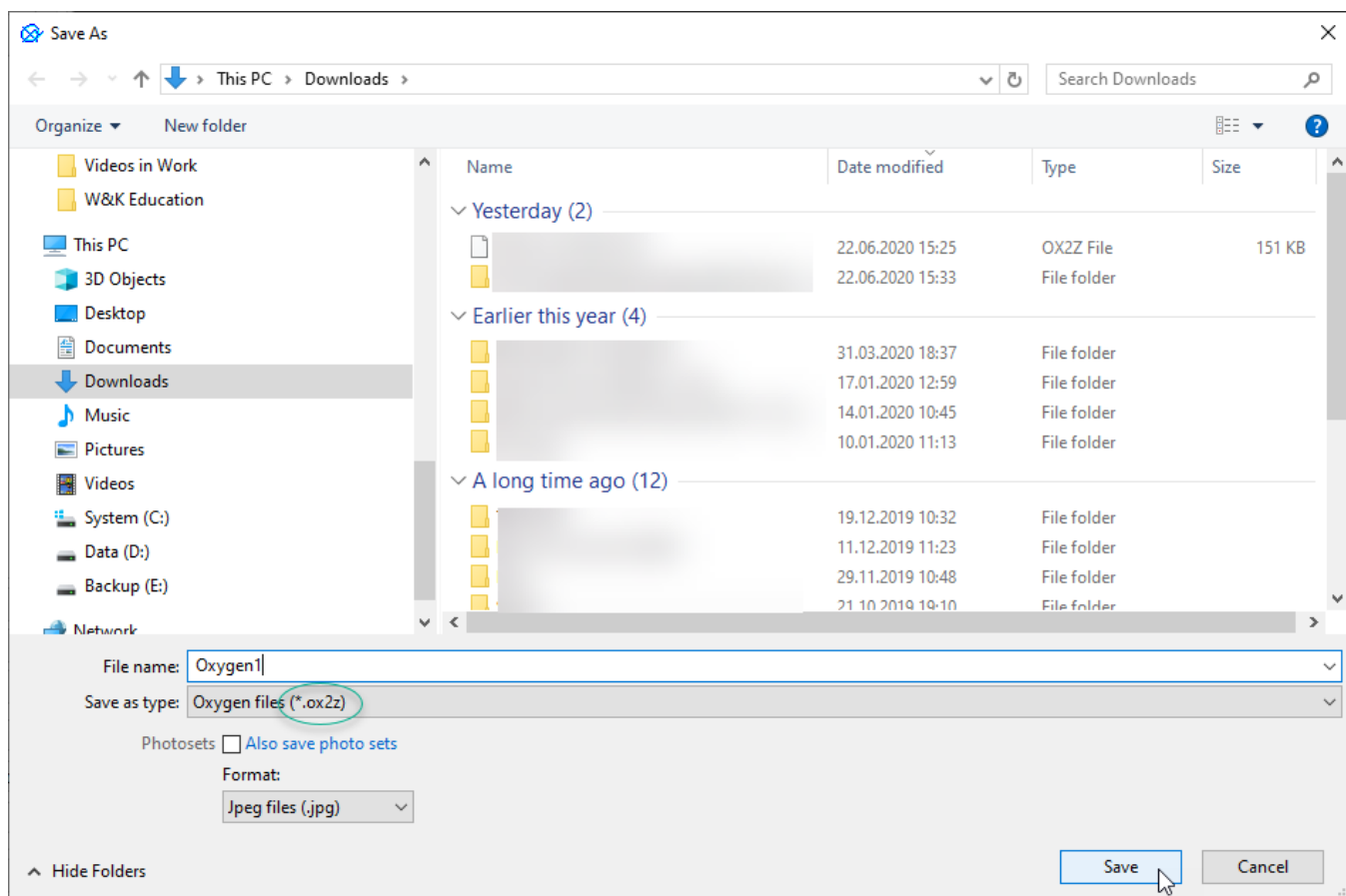
If you need anything mentioned above, please, contact your supplier of software or [Octonus Support](#).

How to detect what key you have:

HASP 3.x	HASP 4.x
	
No "silver eye".	Has a "silver eye".

New File Format - OX2Z

The system now opens and saves projects in a new OX2Z format only. The previous versions of the system cannot open OX2Z files.



- In accordance with the described changes, the export of models and projects to other formats is restricted.
- You can open DMC and import the ASC files of the convex polished diamond models but not models of rough diamonds.
- You can open and import the DMX files.

Known Issues

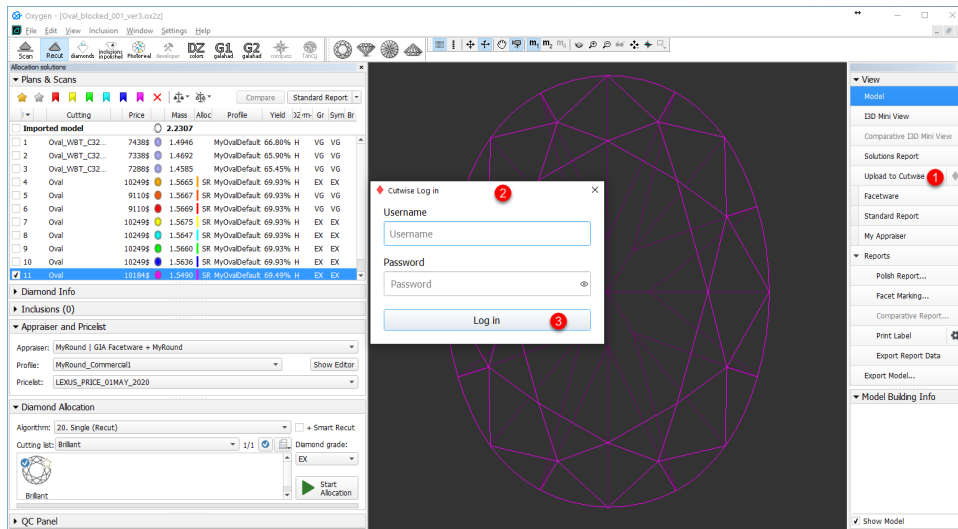
The following issues are now being worked on and may be temporarily solved with workarounds:

- In some AnyCut cases, SweetLine prevents using FixCrown or FixPavilion. Workaround: to work with AnyCut FixCrown or FixPavilion set SweetLine boundaries to [-100, 100].















Fixed Problems and Improvements

The following fixes for the known problems and improvements have been implemented:

- For the integration with Cutwise, multiple improvements have been made, including:
 - you do not need to install and configure a **Cloud Uploader** utility anymore - instead the new **Cutwise agent** utility is used, which is installed automatically (requires administrator password) together with HPO; before the first upload, you will need to enter your login and password to connect to Cutwise



- now the following data is exported additionally:
 - solution price
 - solution yield
 - number of facets of brilliant
- now DZ light information is exported in the main bundle and Export Report Data TXT:
 - DZ_PAVILION_COLOR
 - DZ_PAVILION_CUSTOM_COLOR_GRADING
 - DZ_TABLE_COLOR
 - DZ_TABLE_CUSTOM_COLOR_GRADING
- DMCE (DMC-encoded) export for secured scan transfer
- DMX export
- Fix of the floating error that occurred during uploading of files with large quantity of solutions to Cutwise.
- now the standard trajectories of DiBox, ViBox (Girdle 360, Pavilion 360) for Cutwise virtual rendering are exported additionally
- Multiple Smart Recut improvements now reduce the number of solutions with an unreasonably small mass, except for presets with limitations stronger than Recut.
- Multiple Facet Marking algorithm improvements have been made, some minor bug fixes have been done.
- To match more accurately with the modern cutting standards, for the MyRound appraiser, for most profiles, the EX limits for the **Table** parameter has been changed to [54...60].
- The reports, available on **Polish Report > Open HTML > "Illustrated report for ..."** are now adapted for viewing on mobile devices. They are:
 - Illustrated report for any cut
 - Illustrated report for brilliant
 - Illustrated report for cushion
 - Illustrated report for princess
- When working with Solutions Report and accidentally entering "0" or empty value for the **Columns per page** option, the report stopped working (black screen). It did not work after the system re-start either. Now this problem is solved: only the positive number from 1 to 50 can be specified for **Columns per page** and empty is not allowed.

Sort by Cut grade							
	✖	✖	✖	✖	✖	✖	✖
Solution number	27	50	30	37	26	31	75
Weight, ct	5.4449	5.4083	5.3742	5.3884	5.3489	5.3450	5.3457
Price, \$	13219	13122	13049	13025	12976	12976	12976
ASET							
Office							
Cutting	MyRad_Ankit	MyRad_Ankit	MyRad_Ankit	MyRad_Ankit	MyRad_Ankit	MyRad_Ankit	MyRad_Ankit
Yield, %	94.69	93.99	93.47	93.30	92.95	92.95	92.95
Clarity	S12	S12	S12	S12	S12	S12	S12
Color	O	O	O	O	O	O	O
Optical symmetry	6.57	6.66	7.12	7.25	7.19	7.24	7.21
Final grade	EX	EX	EX	EX	EX	EX	EX
Cut grade	EX	EX	EX	EX	EX	EX	EX
Symmetry grade	EX	EX	EX	EX	EX	EX	EX
Brightness	0.79	0.77	0.83	0.83	0.84	0.83	0.85

- The problem with culet removed during Pavilion Model Refinement has been solved.
- The problem with SmartZoom and SmartRecut when working with the nonconvex facet has been solved.
- Crash on scan cancellation has been fixed - now scan cancellation works fine.
- The problem causing a system crash on Pear scanning has been solved.