COMPARISON TABLE
NovaCastCAD vs NovaOne Gravity vs NovaFlow&Solid

No.	Item	NovaCastCAD	NovaOne Gravity	NovaFlow&Solid	Description
1	Meshing method	FDM	FVM	FVM	
2	Variable meshing	X	Na	Na	
3	Irregular meshing in mold	Na	O	X	
4	Mesh CAD tools	X	Na	Na	Mesh editing tools (geometry changes)
5	Import format STEP and STL	X	X	X	*.off and *.smesh in NOVACastCAD
6	Multi mesh technology	Na	O	X	
7	Maximum calculation cores(CPU)	Unlimited	2(4 threads)	Unlimited	
8	GPU calculation	X	Na	Na	
9	Maximum Mesh amount	X million	4 million	Unlimited	Unlimited (200 million) in NOVACastCAD
10	Coating	X	X	X	
11	Choke	Na	Na	X	
12	Compressor	Na	Na	X	
13	Flow color	X	O	X	Flow Tracking
14	Flowmeter	X	O	X	
15	Tracer Particles	X	O	X	
16	Cycling	X	O	X	
17	Cooling channels	X	O	X	Advance in both programs
18	Mold spraying	Na	O	X	
19	Vents	X	X	X	Advance(Automatic vent setup)
20	Squeeze pins	Na	Na	X	
21	Re -melt material chills	Na	O	X	
22	Sensor elements	X	Na	X	
23	Parameter optimization	Na	O	X	
24	Geometry optimization	X	Na	Na	
25	Database module in order to add and change alloys	X	X	X	
26	Settings module for setting default settings	X	No (Preset)	X	
27	Gravity casting method – pressure height method	X	X	X	
28	Ladle pouring over lip method (Basic + advanced)	Na	O	X	
29	Bottom Pouring ladle method (Basic + advanced)	Na	O	X	
30	Presspour method	Na	Na	X	
31	Solver Settings menu	X	X	X	
32	Solver 0 (Quasi equilibrium model)	Na	X	X	
33	Solver 1 (Non equilibrium model)	Na	Na	X	
34	Convection	X	X	X	
35	Gas calculation	X	O	X	In NOVACastCAD We are considering the air as Ideal gas and simplify the calculation

36	Turbulence factor (Necessary for filters)	X	X	X	
37	Post processor (Full functionality see below)	X	X	X	
38	Stress calculation	Na	O	X	
39	Only 3D Import, Simulation Setup, Flow &Solid and Browser module, Database	Na	X		Novaone vs NFS specific
40	Result fields removed all but: Temperature, Liquid phase, Velocity, Geometrical modulus and shrinkage	X	X		Archive option is available(need to be tested)
41	Result fields: Pressure, Flow Color, Temperature gradient, Air Entrapment, Slag particles, Solidification time, Fill Time, air contact time, Wall contact time, Thermal modulus, Hot Spot, Warming up time, Niyama, Bubbles and Bubble Tracers	X	O	X	Pressure, Flow Color, Temperature gradient, Air Entrapment, Slag particles, Solidification time, Fill Time, Thermal modulus, Hot Spot(advance), Niyama, Bubbles and Bubble Tracers, Feed paths

Functionality for other methods

No.	Item	NovaCastCAD	NovaOne Gravity	NovaFlow&Solid	Description
1	Low Pressure die casting	X (advanced)	O	X	
2	Advanced LPD tools like shelling, parting line	X	Na	Na	
3	Tilt casting	Na	O	X	
4	Centrifugal Casting	Na	O	X	
5	Filter function – foam or pressed, virtual (Foam filter group)	X	X	X	
6	Filter real (Imported solid with correct dimensions)	Na	X	X	
7	Exothermic powder function	Na	Na	X	
8	Exothermic function(Exo Sleeves group)	X	X	X	
9	Extra modules: Solid, Flow, Quick flow, Good Guys index, Calibrate, Settings	Na	O	X	Has to do with NFS vs NovaOne
10	Autosimulate	Na	O	X	
11	Estimation of Volume	Na	Na	X	
12	Preheating simulation	Na	Na	X	
13	Temperature distribution	X	Na	X	Initial Mold Temperature Calculation
14	ATAS connection (in database)(Density calibration)	Na	Na	X	
15	HPD Filling – Total filling time	Na	Na	X	
16	HPD Filling – Time (Flow versus time)	Na	Na	X	
17	HPD Filling – Trigger (Flow versus coordinate)	Na	Na	X	

No.	Item	NovaCastCAD	NovaOne Gravity	NovaFlow&Solid	Description
18	HPD Filling – Trigger + filling time	Na	Na	X	
19	HPD Filling with chamber (Virtual)	Na	Na	X	
20	Piston movement calculation	Na	Na	X	
21	Instant pour for Hot chamber(Within Piston)	Na	Na	X	
22	Feeding point technology for shrinkage prediction	Na	Na	X	
23	Feeding pressure value setting(3rd phase) (Shrinkage model)	Na	Na	X	
24	NovaShot module (HPD pre-calculations)	Na	Na	X	
25	Autosave Video in Simulate module	Na	Na	X	

Browser functionality

No.	Item	NovaCastCAD	NovaOne Gravity	NovaFlow&Solid	Description
1	Create Autoreport	Na	X	X	
2	Create movies	X	X	X	
3	Autogenerate movies	Na	X	X	
4	Create multi window movie	Na	X	X	
5	Create multi simulation movie	Na	X	X	
6	Create picture	X	X	X	
7	Viewing of results in 2D, 3D and transparency mode	X	X	X	
8	User Field	X	X	X	

NovaCastCAD Extra Items

No.	Item	NovaCastCAD	NovaOne Gravity	NovaFlow&Solid	Description
1	Custom Internal BC(friction, Free slip and No slip)	X	na	na	
2	Constant Temperature BC	X	na	na	
3	Show Chiller setup, Coating setup, vent setup and Inputs setup in post processor	X	na	na	
4	Chart in Post Processor	X	X	X	
5	Export results as stl(macro shrinkage for example)	X	X	X	
6	Pressure-time curve prediction in LPDC	X	O	X	
7	Use sensor to control exit in sand casting	X	na	na	
8	Feeding time out put (post processor)	X	na	na	
9	Draft analyzing	X	na	na	
10	Casting specific primitives	X	na	na	
11	Smart Gating design tools	X	na	na	
12	Reference shapes: plane, arrow and point	X	na	na	
13	Shape library(pre-defined 3d models)	X	na	na	
14	Permanent Mold casting	X	X	X	

X = included in version
O = optional module (needs to be purchased extra)
Na = not available