3D Industries Australia 3D Printer Specifications

3D Industries printer models W& J & P

Details		Model W	Model J	Model P	Model WT	Bespoke	Comments
1	**General Description** 3DI Series printers feature: • A steel frame 50 cm to 100 cm high and different widths corresponding different build platform • Core X-Y mechanism where extruder prints in the X and Y axis and only object movement is the slow decent of the Z Axis gantry holding the heated bed as each layer is printed. • Self contained certified power supplies. • Spool holder sites attached to the printer can change position • Hotend easily replaceable. • Large beds with high temperature caability • Filament run-out easily handled.						See notes #1 below
2	**Models** The design is scalable. The design is upgradeable. Two models are available as standard Other bespoke sizes can be produced on request.	Larger version	Standard version	Demo model	Tall model	As designed	
3	**Printer size** Three standard sizes are available. Other bespoke sizes can easily be produced on request.	700 mm wide, 500 mm deep, 500 mm high	500 mm wide, 500 mm deep, 500 mm high	390 mm wide, 390 mm deep, 390 mm high	700 mm wide, 500 mm deep, 1000 mm high		
4	**Bed & Build size** The frame size determine the max bed and build sizes						See table below
6	**Maintenance** Minimum maintenance required and can be performed by the user.	As required. User replaceable parts supplied	As required. User replaceable parts supplied	As required. User replaceable parts supplied	As required. User replaceable parts supplied	As required. User replaceable parts supplied	

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7	**Open Source/ Proprietary** In this context Open source is understood to be the public free availability of the design details of all of the component parts of the machine.	Proprietary	Proprietary	Proprietary	Proprietary	Proprietary	See notes below
8	**Knock down version** A knock down version is a printer that has been completed assembled and fully tested, and then the vertical frame components and the Z gantry – bed assembly is unmounted enabling the printer to be shipped semi-flat packed. Reassemble takes less than an hour.	In preparation	In preparation	In preparation	n/a	n/a	Intended for overseas orders
9	**Kit version** A kit version is where all of the components are supplied together with essential tools and instructions for assembly. Some components may be pre assembled	Not yet. Available shortly	Not yet. Available shortly	Not yet. Available shortly	n/a	Not applicable	
10	**Supplied with printer** Printer Toolset Spare glass Spare hot ends SD Card with calibration and sample objects USB card with calibration and source Slic3R (certified version) and config files Documentation	Supplied as listed	Supplied as listed	Supplied as listed	Supplied as listed	Supplied as listed	
11	**Warranty** Limited warranty covering the printer hardware and Hotends	Two years	Two years	Two years	Two years	Two years	Power supply guaranteed for over 5 years
12	**Support** Support is provided locally in Australia. Most parts are easily user replaceable	No contract required. Phone and on line / email support free	No contract required. Phone and on line / email support free	No contract required. Phone and on line / email support free	No contract required. Phone and on line / email support free	No contract required. Phone and on line / email support free	
13	**Availability** Lead time for availability - immediate to less than 3 weeks	0-3 weeks	0-3 weeks	0-3 weeks	0-4 weeks	On request	

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14	**Print mechanism** CoreXY configuration. The print extruder remains stationary in the vertical axis and moves across the X & Y axis. The object on the Z Gantry descends for each layer printed.	CoreXY configuration	CoreXY configuration	CoreXY configuration	CoreXY configuration	CoreXY configuration	
15	**X & Y Axis control** Core XY - stepper motors & timing belts	As described	As described	As described	As described	As described	
16	**Z Axis control** This enables the bed with the object to descend vertical during build controlled by stepper motor	As described	As described	As described	As described	As described	
17	**Extruder** Direct drive included. Bowen drive in testing	As described	As described	As described	As described	As described	
18	**Filament** Filament	3 mm & 1.75 mm	3 mm & 1.75 mm	As described	As described	3 mm & 1.75 mm	
19	**Extruder** Single extruder. Multiple Extruders in development.	Multiple in development	Multiple in development	As described	As described	Multiple in development	
20	**Filament control** Spool holder Mounted on printer. Any size spool can be accommodated	As described	As described	As described	As described	As described	
21	**Filament cleaner** Cleaner / PTFE Anchor point mounted on the frame. In line filament cleaner also available. Replaceable / cleanable cleaning sponge	As described	As described	As described	As described	As described	
22	**Print Materials**	As described	As described	As described	As described	As described	See notes below
	PLA yes						
	ABS Yes						
	FlexiFilament						
	Nylon and other materials - yes (dependant on temperature)						
23	**Power Connections** Certified power supply	Meanwell	Meanwell	Meanwell	Meanwell	Meanwell	See notes below

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24	**Data connection** Only if required for Maint - USB access	As described	As described	As described	As described	As described	
25	**Print control** Rumba board with LCD Control unit & SD card holder	As described	As described	As described	As described	As described	
25	**Electronics / software** Rumba board firmware/ Software as per user preferences.	As described	As described	As described	As described	As described	
26	**Software supplied** Open Source Slic3r	As described	As described	As described	As described	As described	See notes below
27	**Heated bed** Heated aluminium bed with captive thermistor	As described	As described	As described	As described	As described	See notes below #4
28	**Calibration** Calibration completed as part of the build process. Calibration objects supplied. Z Gap setting manual fixed, inside slicer user code, tuning – further adjustment manual	As described	As described	As described	As described	As described	
29	**Drop test and shipping** Test drop of completed packed machine from waist height. No damage expected, calibration to remain	Performs OK	Performs OK	Performs OK	Performs OK	Tested when produced	
30	**Relocation Test** Test movement of printer involving carry to van transport to new location position on bench etc. No damage expected, calibration to remain	Performs OK	Performs OK	Performs OK	Performs OK	Performs OK	
31	**User maintenance** Detailed in manual Involves cleaning and checking. Replacement of most components and hot end if required.	As described	As described	As described	As described	As described	
32	**Vendor maintenance** 2 Hotends supplied with printer. (If one fails notify 3DI for replacement to be sent, return faulty unit to 3DI). Spare glass, cable ties	As described	As described	As described	As described	As described	

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33	**Training** Training documentation available. On site training in certain areas, otherwise using documentation and an on line link to 3D Industries	As described	As described	As described	As described	As described	3DI documentation is being migrated to the Cloud based Prezi system
34	**Documentation** User Guide Other documentation available constantly updated in the nature of presentation and training	As described	As described	As described	As described	As described	3DI documentation is being migrated to the Cloud based Prezi system

Note #1 General Description

The 3D Industries series 6 printers are designed to be scalable.
This means that the same components are generally used for all models in the series.
The reason for the different sizes of the printers is generally related to the size of the print bed and hence the object that can be built.
The three standard sizes produced Model W J and P is the result of consumer demand. The differences generally lie in the size of the frame and the heated bed.
Additional printer sizes can be produced on request for example and extra long bed may be required or a greater build height.

Note#4 Bed sizes and heating

The following table shows the physical bed sizes and the build footprint.

Model	Frame Size (mm)			Aluminium bed (mm)		Glass size (mm)		Build size (mm)	
	X	Y	Z	X	Y	X	Y	X	Y
J	500	500	500	320	320	320	320	280	315
W	700	500	500	400	250	400	250	400	200
WT	700	500	1000	400	250	400	250	390	190
P	390	390	390	220	220	220	220	190	190

The build sizes given take into account the clips and if the object is not square or rectangular then the build size can be increased by placement of the clips.

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Model J (Standard) Model W (larger size

Note #7 Open Source / Proprietary notes

Open source can refer to hardware or software. Typically an Open source item has the details made available for others to copy or amend and use without charge.
3D Industries Australia's printers are not open source. Many of the components and the design was created by 3D Industries Australia and remains their property.
However many standard components are used for example motors, bearings, electronic frame parts and gantries.
Proprietary to 3DI is the overall design, the plastic & metal clamps and fittings, the Z-Axis mechanism and the print carriage and extruder.
Parties wishing to utilize these parts should contact 3D Industries

Note #22 Print materials

Default print in generally PLA because of the ease of use reliability and lack of fumes etc.
However a range of filament materials including ABS and Nylon, the wood and metal impregnated plastics and new products appearing on the market can be printed.

Note #23 Power supplies (PSU)

Power supplies for use by equipment in Australia must be legally certified. After certified the relevant Australian logo should be displayed on the PSU. However display of the log does not signify certification as overseas suppliers with no certified units often (illegally include the logo. No overseas certification is applicable in Australia. The only evidence of Australian Certification is an entry in the publicly available ERAC database.

Note #26 Software supplied

Software involved in the 3D printing of an object can include:

- 3D object source CAD file creation
- CAD file conversation to gcode
- Firmware on the electronics board.

3D Industries does not sell or support CAD File creation software.
3D Industries recommends the use of the open source Slic3r software for conversion of CAD files to gcode files (currently 1.2.9).
Slic3r is open source software and therefore not subject to the same discipline concerning testing and release of new software versions as commercial software products are.
3D Industries tests versions of the Slic3r as they are produced freezes the versions then supplies and only recommends and supplies copies of those versions that it has tested.
