



***Intec-G2***<sup>®</sup>  
**AM2000 Gantry System**  
**OWNER'S MANUAL**





## 1.4 INTEC G2 SPECIFICATIONS

	<b>Intec 713 G2</b>	<b>Intec 1015 G2</b>	<b>Intec 1020 G2</b>
<b>Machine size (LxWxH) without high pressure pump or abrasive transfer system</b>	5800x3400x2100 mm	6000x4200x2000 mm	8000x4200x2000 mm
	( 19' x11' 2" x 6' 10")	(19' 8" x13' 10" x 6' 6")	(26' 3" x13' 10" x 6' 6")
<b>Machine weight without water *</b>	1840 kg without tank	2170 kg without tank	2600 kg without tank
	(4100 lbs) without tank	(4780 lbs) without tank	(5730 lbs) without tank
	5720 kg with tank	6170 kg with tank	7170 kg with tank
	(12600 lb) with tank	(13600 lb) with tank	(15800 lb) with tank
<b>Machine weight with water</b>	13600 kg with water	19020 kg with water	21920 kg with water
	(30000 lbs) with water	(41920 lbs) with water	(48330 lbs) with water
<b>Cutting table size †</b>	2170 x 4150 mm (Option A) 2400 x 4400mm (Option B)	3200 x 4700 mm	3200 x 6250 mm
	7' 1" x 13' 7" (Option A) 7' 10" x 14' 5" (Option B)	(10' 6" x 15' 4")	(10' 6" x 20' 5")
<b>Cutting Area** †</b>	2100 x 4100 mm	3050 x 4600 mm	3050 x 6100 mm
	(7' x 13')	(10' x 15')	(10' x 20')
<b>Accuracy of motion***</b>	± 0.15mm	± 0.15mm	± 0.15mm
	(0.006")	(0.006")	(0.006")
<b>Repeatability of motion***</b>	± 0.05 mm	± 0.05 mm	± 0.05 mm
	(0.002")	(0.002")	(0.002")
<b>Max Air speed</b>	17.5m/min	17.5m/min	17.5m/min
	(700 ipm)	(700 ipm)	(700 ipm)
<b>Max cutting speed</b>	17.5m/min	17.5m/min	17.5m/min
	(700 ipm)	(700 ipm)	(700 ipm)
<b>Max material thickness****</b>	200 mm	200 mm	200 mm
	(8")	(8")	(8")
<b>Environment</b>	Ambient Temperature: 2 to 40°C (36-104°F)	Ambient Temperature: 2 to 40°C (36-104°F)	Ambient Temperature: 2 to 40°C (36-104°F)
	Relative Humidity: 5 to 85% non-condensing	Relative Humidity: 5 to 85% non-condensing	Relative Humidity: 5 to 85% non-condensing

**Important notice:** Due to our constant endeavour to improve the machine, the specifications may change without prior notice. All the above accuracy tolerances are correct at the calibration temperature of 20 deg ±1 with 4" nozzle tube

\* See specific information on safe transporting procedure section 13, page 2.6.

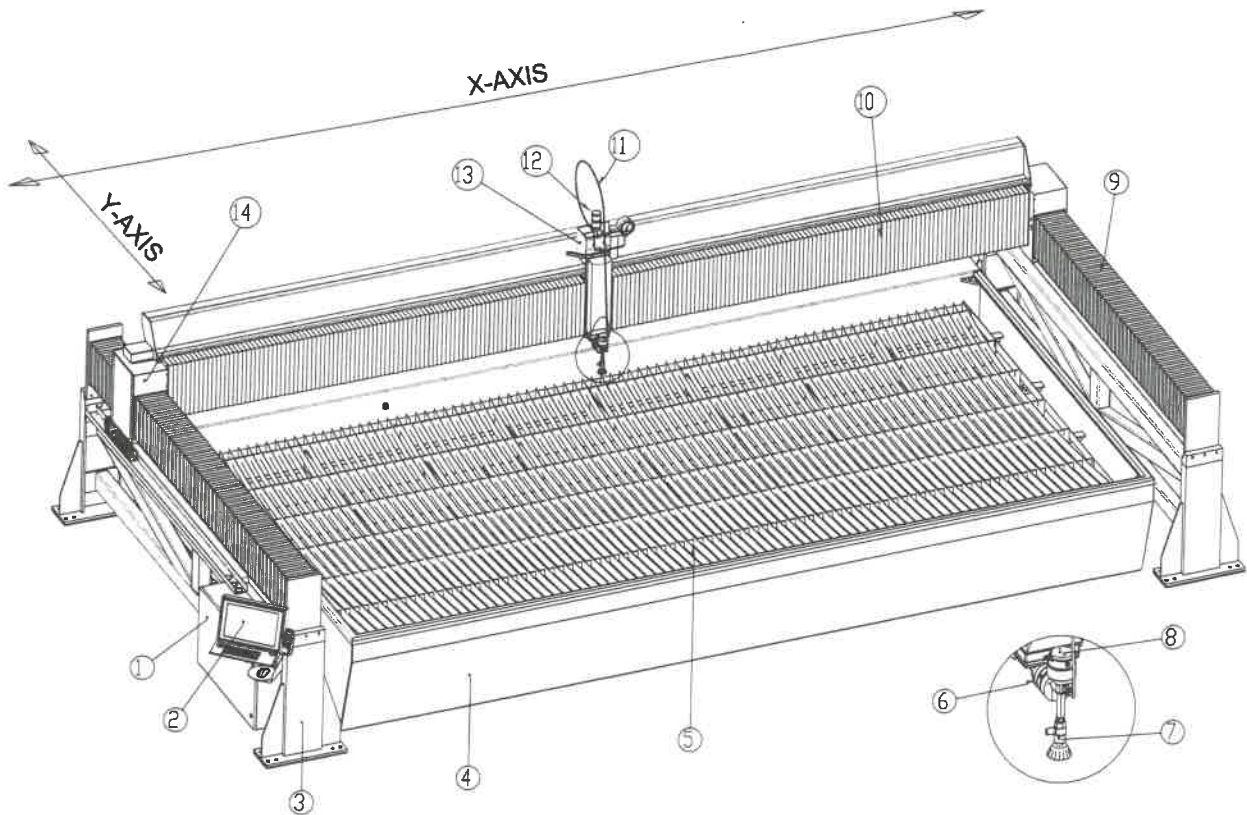
\*\* The addition of options such as the PAC may reduce the Cutting area, see the PAC manual for more details.

\*\*\* Linear/Axis

\*\*\*\* The addition of options such as the PAC and Skip and Float may reduce the maximum material thickness and travel.

† Cutting Area and Cutting table size can be limited by tank selection

### 1.3 INTEC G2 WATERJET CUTTING SYSTEM



- |   |                    |    |                 |
|---|--------------------|----|-----------------|
| 1 | Electrical cabinet | 8  | Cutting Valve   |
| 2 | Operator control   | 9  | Y-Axis bellows  |
| 3 | Base frame         | 10 | X-Axis bellows  |
| 4 | Tank               | 11 | Mini whip line  |
| 5 | Cutting table      | 12 | Tower light     |
| 6 | Breakaway head     | 13 | X-Axis carriage |
| 7 | Cutting head       | 14 | Y-Axis carriage |

# 1 INTRODUCTION

## 1.1 WATERJET – DESCRIPTION

Waterjet cutting machines are used in many industries, including the automobile, aerospace, fabrication (particularly stainless steel and aluminium), gasket manufacture, glass, marble and granite industries, to create precision parts from hard-to-cut materials.

A Waterjet uses water that is pressurized up to 4550 Bar (66,000 pounds per square inch) and then forced through a small diamond or sapphire orifice at over 1000 meters per second (3000 feet per second), or about two and a half times the speed of sound.

Abrasive (which is generally Garnet) is then pulled into this high speed stream of water and mixed with the water in a long composite carbide mixing tube then exits the tube. This jet of water and abrasive is then directed at the material to be cut. The jet drags the abrasive through the material in a curved path and the resulting centrifugal forces on the particles erode the workpiece. The cutting action is a grinding process where the forces and motions are provided by water, rather than a solid grinding wheel.

## WARNING

### 1.2 VIRUSES

Viruses are easily transferred to the machines CNC via USB flash drives and networking. These viruses can potentially damage the CNC. It is therefore imperative that the machine has an antivirus system installed.

The CNC Manufacturer ANCA Motion has only approved Norton Antivirus for use with the CNC. At the time of publishing the latest version that is approved for use is: Norton Antivirus 2014 Version 21.1.0.18 with Virus Definition dated 2015-05-08. (note this must have the Microsoft root certificate update patch “rootupd.exe” installed)

This version has been tested and proven to not interfere with core CNC functions.

#### Operational Recommendation

Regardless of the product used it is best to avoid:

- Full disk scans while the machine is in operation
- Live Updates of the antivirus software while the machine is in operation

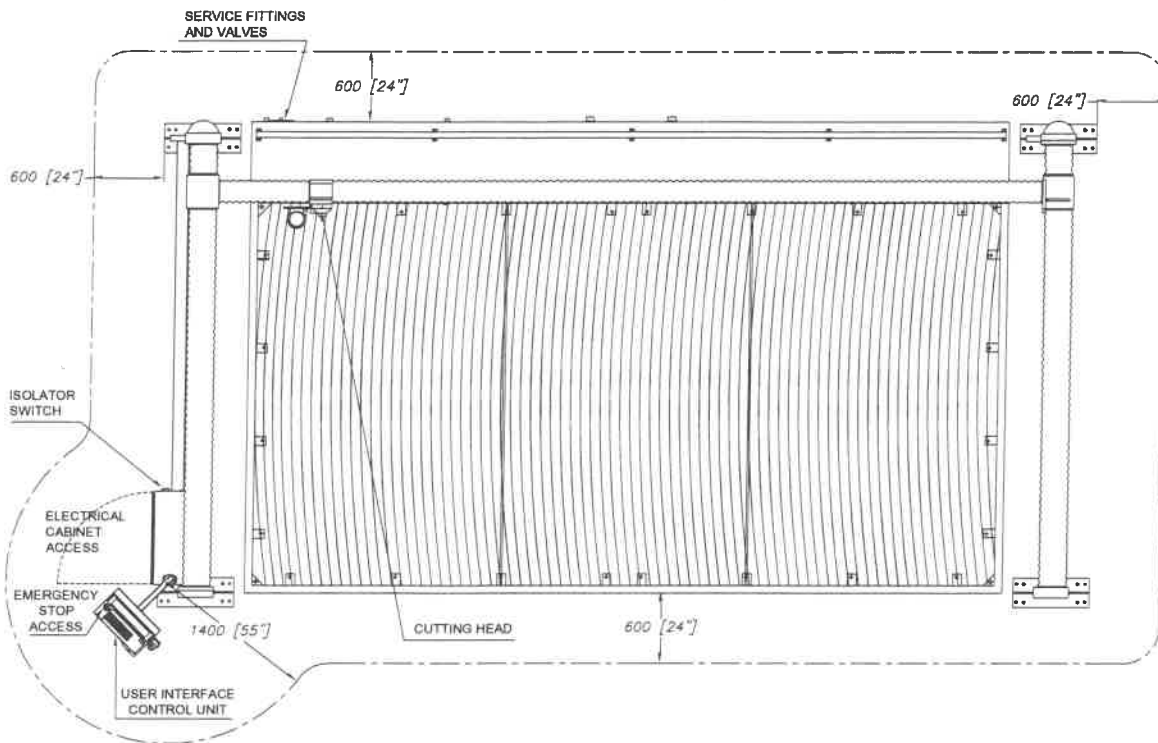
Symptoms maybe encountered if your antivirus product is incompatible with the CNC:

- Slow response of user interface
- Watchdog errors
- Communication timeout errors
- Disrupted network performance
- False positive detection of CNC programs having virus or suspicious behavior.

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## 2.5 SAFE WORKSTATION

An adequate working area must be provided for safe operation and ergonomic use of the Waterjet cutting machine. Installation must take into account normal operating requirements and access for troubleshooting or maintenance. Ensure all operators are familiarised with the location of the emergency stop buttons and all operational functions described in the operating instructions section of this manual before operating the Waterjet. Any oil or water spills on the floor should be immediately cleaned from the workstation to prevent accidents.



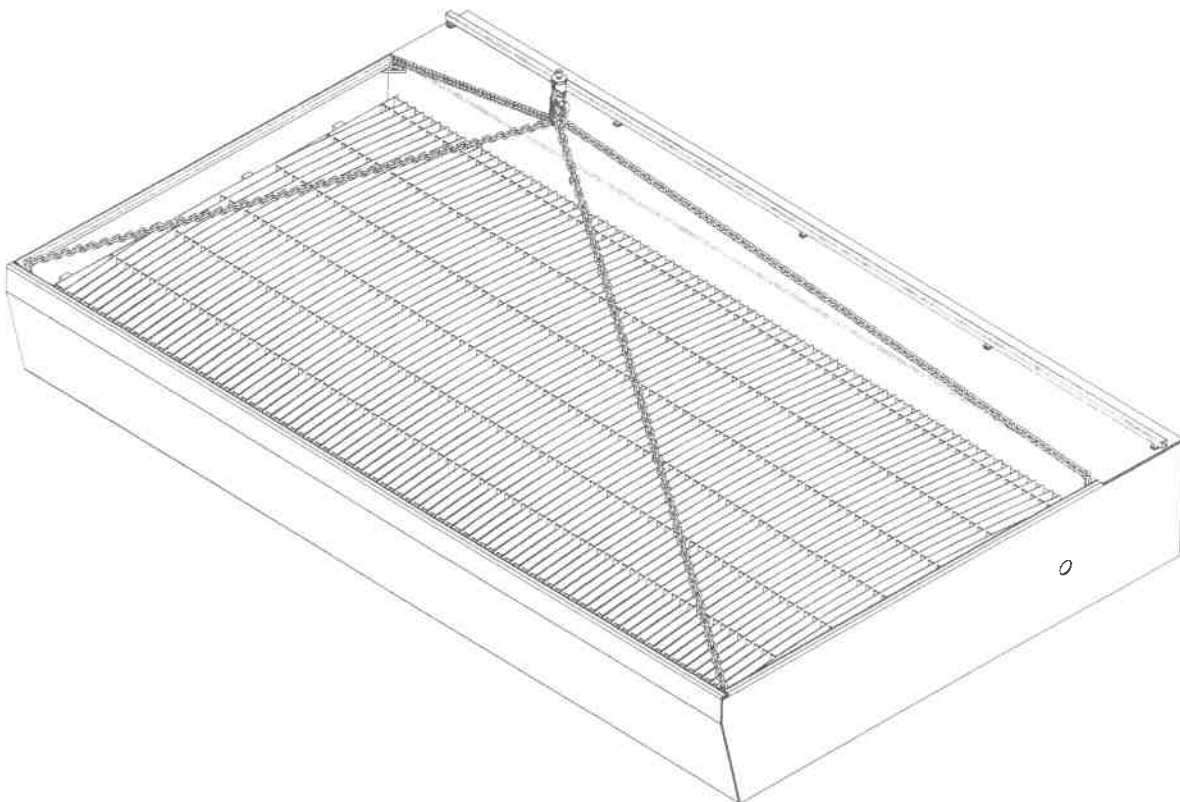
## 2.6 SAFE TRANSPORTING PROCEDURE

Suitable lifting equipment and personal qualified in the use of lifting equipment must be used when transporting the Waterjet from one location to another. Transportation of heavy machinery may impose a danger if safety is not carefully considered. Always **CHECK** safe working load of the lifting equipment to the specific weight of the Waterjet. The system weight located in the specifications section of this manual is an indication only due to the possible addition of options fitted to the system, for the exact system weight consult the serial plate located on the machine, this weight does not include any extras packed on or in the machine, abrasive or spare parts for example.

**DO NOT** unnecessarily lift the Waterjet above head height and under no circumstances should any person be underneath the Waterjet table when it is lifted off the ground.

Lifting the Waterjet with a crane and chains from the four provided lifting points located on the inside of the tank is the only approved method to ensure safe transportation of the Waterjet cutting machine. Do not attach lifting hooks directly to the lifting points, eye bolts or eye nuts must be inserted into the lifting points to attach hooks or shackles. **ONLY USE** rated eye bolts or eye nuts suitable to weight of the machine.

### 2.6.1 Chains and Crane



**NOTE:** Ensure the stability of unit by lifting the tank slightly off the ground and assessing the lifting position before continuing moving the Waterjet.



## 1.2 PAC System Specifications

<i>Cutting Head.</i>		<b>PAC INTEC G2</b>			
<b>Model</b>	<b>i35</b>	<b>i510</b>	<b>i612</b>	<b>i1015</b>	<b>i1020</b>
Cutting Area X,Y (PAC Inactive)	34.25" x 57.5" (870mm x 1460mm)	56.5" x 118" (1435mm x 3005mm)	67" x 142.5" (1710mm x 3620mm)	119.25" x 180" (3030mm x 4600mm)	119.25" x 240" (3030mm x 6100mm)
Cutting Area X, Y. (PAC Active)	22" x 46" (560mm x 1170mm)	45.5" x 107" (1160mm x 2720mm)	56.3" x 131.8" (1430mm x 3350mm)	109" x 171.5" (2770mm x 4355mm)	109" x 229" (2770mm x 5820mm)
Accuracy of Motion (linear X, Y, Z.)	+/- 0.006" (0.15mm)	+/- 0.006" (0.15mm)	+/- 0.006" (0.15mm)	+/- 0.006" (0.15mm)	+/- 0.006" (0.15mm)
Accuracy of Motion (rotary B or C.)	+/- 0.1 deg	+/- 0.1 deg	+/- 0.1 deg	+/- 0.1 deg	+/- 0.1 deg
Max. Rotational Speed ( C axis)	540°/sec	540°/sec	360°/sec	360°/sec	360°/sec
* Max. Cutting Speed	700"/min (17.5m)	700"/min (17.5m)	700"/min (17.5m)	700"/min (17.5m)	700"/min (17.5m)
Max. Rapid Speed	700"/min (17.5m)	700"/min (17.5m)	700"/min (17.5m)	700"/min (17.5m)	700"/min (17.5m)
Acceleration Rate	16"/sec <sup>2</sup> (400mm)	16"/sec <sup>2</sup> (400mm)	12"/sec <sup>2</sup> (300mm)	12"/sec <sup>2</sup> (300mm)	12"/sec <sup>2</sup> (300mm)
* Max. cutting speeds around tight radii and small circles will dynamically alter as required to produce high quality parts within specified tolerances.					
Specifications are subject to change.					

## PAC TECHJET X3

Model	TJ 1500	TJ 3000	TJ 4000	TJ 5000	TJ 6000
Cutting Area X, Y. (PAC Inactive)	34.25" x 57.5" (870mm x 1460mm)	56.5" x 118" (1435mm x 3005mm)	67" x 142.5" (1710mm x 3620mm)	119.25" x 180" (3030mm x 4600mm)	119.25" x 240" (3030mm x 6100mm)
Cutting Area X, Y. (PAC Active)	22" x 46" (560mm x 1170mm)	45.5" x 107" (1160mm x 2720mm)	56.3" x 131.8" (1430mm x 3350mm)	109" x 171.5" (2770mm x 4355mm)	109" x 229" (2770mm x 5820mm)
Accuracy of Motion (linear X, Y, Z.)	+/- 0.001" (0.025mm)	+/- 0.002" (0.05mm)	+/- 0.003" (0.075mm)	+/- 0.003" (0.075mm)	+/- 0.003" (0.075mm)
Accuracy of Motion (rotary B or C.)	+/- 0.1 deg	+/- 0.1 deg	+/- 0.1 deg	+/- 0.1 deg	+/- 0.1 deg
Max. Rotational Speed ( C axis)	540°/sec	540°/sec	360°/sec	360°/sec	360°/sec
* Max. Cutting Speed	500"/min (12.5m)	500"/min (12.5m)	500"/min (12.5m)	500"/min (12.5m)	500"/min (12.5m)
Max. Rapid Speed	700"/min (17.5m)	700"/min (17.5m)	700"/min (17.5m)	500"/min (12.5m)	500"/min (12.5m)
Acceleration Rate	10"/sec <sup>2</sup> (250mm)	10"/sec <sup>2</sup> (250mm)	6"/sec <sup>2</sup> (150mm)	6"/sec <sup>2</sup> (150mm)	6"/sec <sup>2</sup> (150mm)
* Max. cutting speeds around tight radii and small circles will dynamically alter as required to produce high quality parts within specified tolerances.					
Specifications are subject to change.					