Swift-Cut

SWIFT-JET PRO

AN ESAB® BRAND

CNC WATERJET CUTTING SYSTEM

Introducing the Swift-Jet Pro

The Swift-Jet Pro is a feat of incredible engineering; a package that combines the ability to cut a wide range of materials with superb accuracy and repeatability, to create excellent results. Exceptional quality, phenomenal value for money, and the robust build of our CNC plasma tables have all come together to create the Swift-Jet Pro, the waterjet table that is setting the new standard.

Why choose a Swift-Jet Pro?

The Swift-Jet Pro is made by engineers, for engineers. We understand the needs of our customers and we translate what it is that will improve the user-experience into the table that fabricators want. It is built by them and for them. Undisputedly Swift-Cut, the Swift-Jet Pro is bringing the incredible capabilities of waterjet cutting to the masses – a table that has combined high-quality software with our robust table build and made it affordable. If you never thought you could cut anything but metal within your budget, that is all about to change.

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With its build based on our Swift-Cut Pro, Europe's number one selling CNC plasma table in its class, the Swift-Jet Pro is set to become the benchmark in quality waterjet cutting.

Sticking to our tried and tested formula for strong and sturdy fully welded base design means that our customers can expect the same robust build when they purchase the Swift-Jet Pro – a table designed to outperform all its competitors at this price point.

RACK AND PINION DRIVE SYSTEM
On X and Y axis provide superior control

ABRASIVE REGULATOR
Mini hopper with abrasive metering system precisely controls garnet flow

ENCLOSED Z AXIS
Precision Z axis ball screw drive protected by metal enclosure and rubber bellow

CUTTING HEAD OPTIONS
Water only or water and abrasive

HIGH PRESSURE TUBING
Stainless steel high pressure tubing delivers water directly to the cutting head

ADJUSTABLE CUTTER DECK
Allows for fine tuning to ensure slats are perfectly level

ADJUSTABLE WATER LEVEL
Raise or lower level by up to 60mm (2.3")

SEALED LINEAR BEARINGS
Triple sealed with scrapers on X and Y axis protect against particulate ingress

RENEWABLE SLAT SUPPORT
Redesigned slat support structure is both removeable and replaceable

HYBRID SERVO MOTORS
Repeatable positional accuracy, monitored torque delivery and smooth motion

HEAVY DUTY GANTRY
End castings with machined faces mounted to a lightweight but rigid gantry, provide a precise and stable platform for the cutting head

INTEGRATED FORK POCKETS
Integrated pockets for easy installation

FULLY ENCLOSED DRAG CHAINS
Fully enclosed drag chains protect cables against abrasion and damage

LINEAR RAIL ON ALL AXES
Straight, precise, repeatable and smooth motion

FULLY WELDED TANK
Single piece heavy-duty fully welded tank design

SOFTWARE
IGEMS industry leading programming software and Swift-Cuts powerful CNC control package

OPERATORS CONSOLE
Ergonomic operators console with touchscreen, wireless keyboard & mouse inputs

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> "Swift-cut tables are ruggedly built, easy to use, have great accuracy and most importantly, give an excellent cut."
>
> *Alan Bradford, Plasmatech*

Main Key Features:

- Underwater cutting system (adjustable water level) - means less noise and less mess
- Available with a 3000mm x 1500mm (10' x 5') cutting area or a 1500mm x 1500mm (5' x 5') cutting area
- IGEMS software - Industry leading software has a fantastic material library which saves you time by cutting materials at the optimum feed rate every time, and with the best finish
- High/Low pressure control for piercing brittle materials
- Lower cost running – The quality German built direct drive pump is more energy efficient than intensifier pumps and the service life can be up to **four times** longer
- Space and time saving – The pump requires less filtration (than intensifier setups) potentially eliminating the need for an expensive and bulky water purifier
- Available as water only; for cutting foam, textiles, PVC, vinyl and more. Or as water and abrasive for cutting everything else! *
- Price – The Swift-Jet Pro is the ultimate in affordable, value for money waterjet cutting

* Full list of materials suitable for cutting with waterjet will be available from our website

Table Specifications & Features

The Swift-Jet Pro has been designed by our skilled team of engineers to provide an all-encompassing waterjet cutting solution with industry leading features as standard.

Our most competitive waterjet table yet. Fantastic price point/value for money. Cut almost anything. Cold process (no heat affected zone). Precise. Repeatable. Versatile. Economical (compared to other waterjet solutions).

SJP 1500 (SJP 55)

1500mm x 1500mm
cutting area (5' x 5')

SJP 3000 (SJP 510)

1500mm x 3000mm
cutting area (5' x 10')

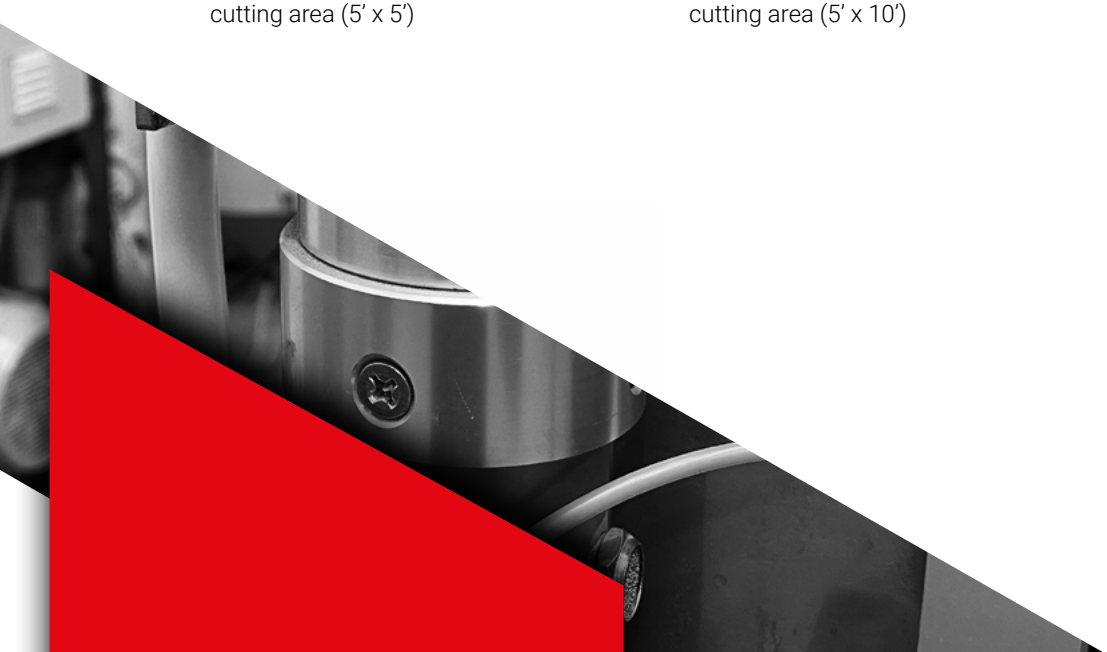


Table Specifications

	Swift-Jet Pro 1500 (SJP 55)	Swift-Jet Pro 3000 (SJP 510)
Table Footprint	2670mm x 2308mm (8.76' x 7.6')	4205mm x 2308mm (13.8' x 7.6')
Table weight	1300kg (2866lbs)	1700kg (3748lbs)
Operating weight (table, tank and water)	3625kg (7992lbs)	5700kg (12600lbs)
Water Volume	2325 litres	3867 litres
Table Height	Water only cutting - 1520mm (60") Abrasive cutting - 1735mm (68") Allow 3000mm (118") height for the high pressure pipe)	
Cutting envelope	1524mm x 1524mm (5' x 5')	3048mm x 1524mm (10' x 5')
Z-Axis travel	110mm (4.3")	
Maximum supported material load	400kg/m² (82lbs/sq. ft)	
Drive Description	Hybrid servo motors and triple sealed linear bearings with scrapers on all axes. A bellow protects the Z-Axis ballscrew water and garnet ingress. Dual drive Y-axis.	
Gantry Clearance	250mm (9.8")	
Maximum material thickness	Water only - 100mm (4") Abrasive 50mm (2")	
Input Voltage	110-230VAC (6-4A)	
Input Air Pressure	6bar (90PSI)	
Linear Positional Accuracy	0.4mm/m (0.005"/ft)	
Repeatability	0.4mm/m (0.005"/ft)	
Ballbar Circularity	0.2mm/m (0.003"/ft)	

CNC control features

- **G-Code Browser** - Allows the user to start cutting from any individual profile within the G-code.
- **Cut recovery** - This function allows the user to start from any position along the cut path whilst maintaining cut accuracy and reducing material waste.
- **Manual height control** - Allows you to adjust the head height via the touchscreen or mouse during the cutting process.
- **Sheet alignment** - Simply use the jet nozzle to reference the two bottom corners of the sheet and the software will automatically adjust your part(s) or nest to the new angle meaning the jet nozzle will not 'run off' the material as it travels up the table
- **Sheet trim** - Easily trim off scrap material. Options to go between 2 or 3 points
- **Abrasive cost calculator** - Accurately manage your abrasive cost live on screen at any time
- **Consumable wear tracker** - Tracks consumable life.
- **High/Low pressure control** - For piercing brittle materials
- **Basic and advanced displays** - Basic view for beginners and advanced view for more experienced operators
- **G-Code favourites** - Save up to 5 G-Codes for quick loading of you most popular/common parts
- **G-Code queue** - Queue up to 5 G-Code files for quick loading
- **Datum store** - Don't lose a datum point again, this system stores your last datum point so even if you lose power, you will not lose your position
- **Configurable datum points** - Set up to 5 datum points anywhere on the cutting bed. This can be used to reduce setup times when using jig fixtures or to set custom parking positions
- **Feed rate override** - Increase or decrease the feed rate whilst cutting to optimise cutting times
- **Dry-run mode** - View the jet nozzle movement, cutting order and speed in real time before you switch on the pump, so any problems are found and corrected without wasting material unnecessarily
- **Touchscreen display** - Seamlessly switch between the wireless keyboard and mouse or the touchscreen display
- **Graphical toolpath display** - Visual representation of where you are on the toolpath

Waterjet Programming Software (features)

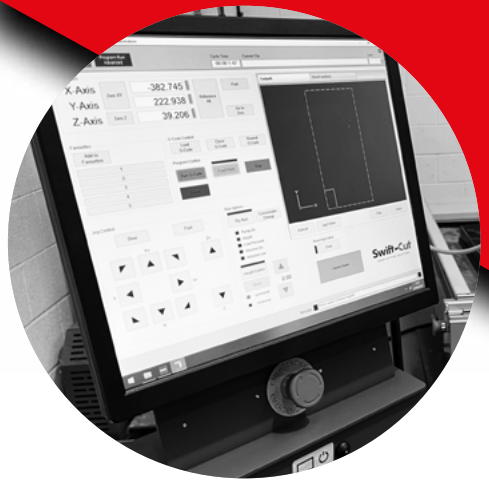
Standard

- Simply the industry standard for waterjet cutting
- Software offers advanced speed optimization allowing the user to combine fast production with an excellent cutting result on a wide range of materials
- The Kerf width is dynamically changed depending on actual speed to help maintain incredible accuracy no matter what you are cutting
- Machinability calculator - use to determine the optimum cutting speeds on materials not held in the material library
- Abrasive toolsets built in
- 3-axis CAM
- Customisable cutting rules - Optimise cutting parameters for best cutting performance
- 53 shape parametric library comes as standard
- Make estimations for cutting cost and material cost
- View job reports in Word or PDF formats
- Customisable toolsets - Modify or create toolsets for new materials
- Create quick access commands for personalised fast navigation within the software
- https://igems.se/cadcam/

Options

- Dynamic nesting
- Ability to convert all TrueType fonts to usable geometrical information using the ImageTracer command
- Also generate new geometry from a camera or scanner device or import a picture then create a new layer and draw over the picture to create new geometry
- Create geometry from an old CNC file with the NC-Reader
- Geometry clean up corrects double lines, overlapped objects or gaps between objects

> "The Swift-Cut machines are capable of so much, the only limitation is your imagination"
>
> *ASE Engineering*



Operator console spec

- Touchscreen HMI with optical mouse control
- Wireless keyboard
- Footprint – 550mm x 600mm (21" x 23")
- Height – 1595mm (62")
- Weight – 40kg (88 lbs)
- Operating system – Windows 10, 64 bit
- Software included – IGEMS, Swift-CNC, Solid Edge
- Requires internet connection – Wi-Fi or LAN

Garnet hopper

- Dimensions – 735mm x 800mm (29" x 31")
- Footprint – 1000mm² (39in²)
- Pressurised abrasive delivery system
- Input air pressure – 2 bar (30PSI)
- Weight – 150kg (330 lbs)
- Capacity – 200kg (440 lbs)

Air Spec

- Clean, dry air supply that should meet ISO8573-1 class 1.2.2.

Abrasive Spec

- Abrasive should be sized at 80 grit or finer
- Store in dry conditions as moisture will stop the abrasive flowing reliably

Accessories

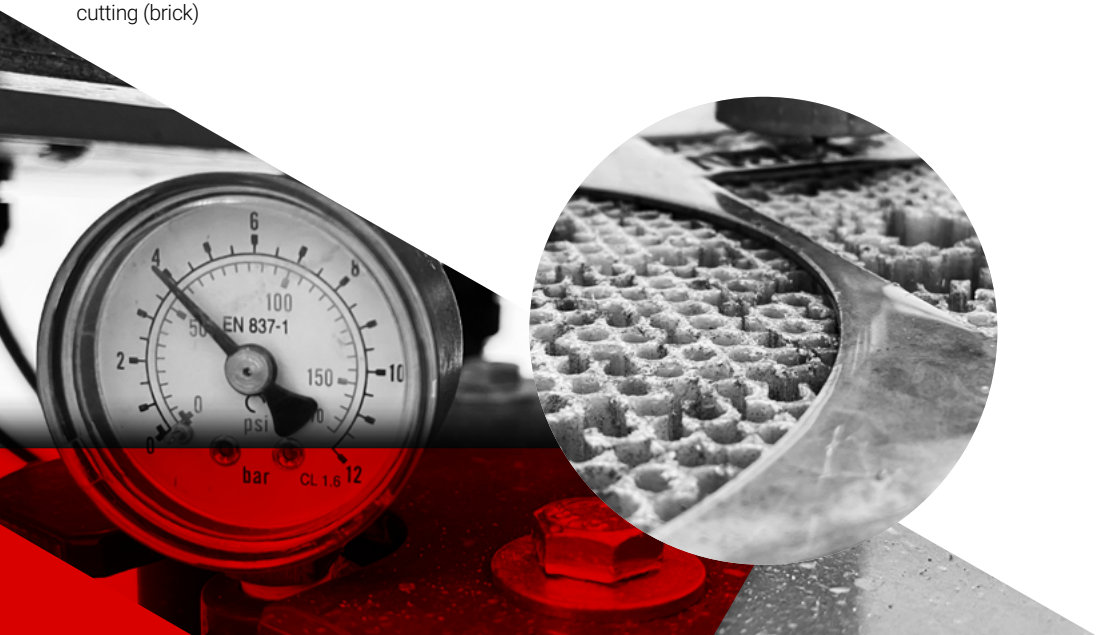
- Honeycomb Sheet cutting bed for small part cutting (brick)

Swift-Jet Pro 1500

- Footprint – 2670mm x 2308mm (8.76' x 7.6')'
- Height – 1735mm (68")
- Weight (Empty) – 1300kg (2866lbs)
- Water capacity – 2325 litres (614gal)
- Input air pressure – 1 bar (15PSI)
- Overflow drain – ½"
- Adjustable water level – +/- 60mm (2.3")

Swift-Jet Pro 3000

- Footprint – 4205mm x 2308mm (13.8' x 7.6')
- Height – 1735mm (68")
- Weight (Empty) – 1700kg (3748lbs)
- Water capacity – 4000 litres (1050gal)
- Input air pressure – 1 bar (15PSI)
- Overflow drain – ½"
- Adjustable water level – +/- 60mm (2.3")



HAMMELMANN®

High Pressure Pump

- Output pressure – 3400 bar (50000 psi)
- Motor speed – 600-1450 rpm
- Motor rating – 15 kW
- Input voltage – 3 phase 380v-480v (40A-30A) @ 50/60hz
- Cutting Head Consumables – 30thou (0.762mm) mixing tube, 10thou (0.254mm) orifice
- Max flow rate – 2lpm (0.5gpm)
- Footprint –1035mm x 720mm (40" x 28")
- Height – water only - 1453mm (56") – Water with abrasive – 1860mm (73")
- Built in water filter
- Weight – 500kg (1100 lbs)
- Drain – ½"
- Stainless steel pump head free of alternating stress
- Bellows form hermetic seal between the suction chamber and crank section
- Solid ceramic or tungsten carbide plungers
- Crank section calculation by 'Finite element method' ensures long working life under continuous load
- Pressurised oil lubrication system
- Energy efficient - Hammelmann plunger pumps convert 93 to 98% of the shaft power to hydraulic energy

Water Spec (for Hammelmann pump)

- Input water supply – 3 bar, 4lpm
- It is imperative a water quality test is carried out before machine installation to determine if any additional water treatment is required

Swift-Cut aftercare is second to none

We take as much pride in helping our customers after the sale as we do when we are making the sale, and every aspect of the user being able to get the absolute best from their Swift-Jet Pro has been thought about. Whether you need remote assistance, advice, or an engineer's visit, we will always make sure that you are getting the very best in aftercare.

There are a number of options to choose from when you come to decide how you wish to maintain your machine, and with over forty years combined experience in plasma and waterjet cutting, we have great knowledge when it comes to cutting on many different grades and types of material.

To enable us to support and train our global customers and sales partners, Swift-Cut has invested heavily in technology that allows us to provide remote services by using Smartphone, Tablet and Wearable Technology via collaborative software tools to train, assist and diagnose the problem with precision and in less time. The My Swift-Cut app allows us to provide real-time video support which minimises time spent on the job and keeps machine downtime to a minimum.

We offer interactive online service kits which are designed to keep your cutting table running at its best, with the minimal amount of downtime. As part of the package, our support team will dial in remotely and talk you through the service procedure, step-by-step.

In addition to the standard warranties that come with all our cutting tables, if you feel you need more, you can purchase extended warranties which can cover all aspects of support, parts or both, giving you even more peace of mind. Contact a member of our team for further details.

> "Swift-Cut has enabled us to diversify from our primary business into an area we would never have ventured into."
>
> *Leightec*

Swift-Cutter CNC family

Here at Swift-Cut we build long-standing relationships with our customers, with many buying multiple machines from us over time.

Once you buy a Swift-Cut table, you become part of our family, we'll share what you do and let you know what other Swift-Cutters are up to.

Our social media pages are an interactive platform where we hope our customers feel at home, or check out our Swift-Cutters Case Studies page on our website for more idea of what your fellow Swift-Cutters are up to and how they get the very best from their machines.

If you require any further help or information please visit swift-cut.com

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