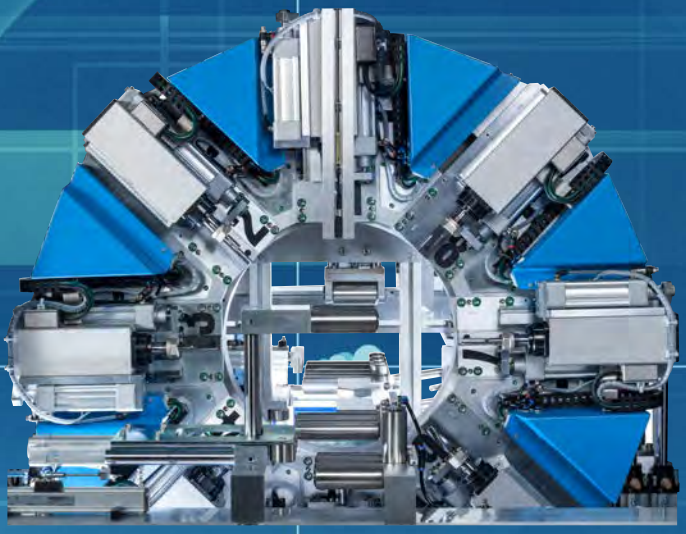
Stuga®

Stuga Sawing & Machining Centers



Established in 1974 Stuga have been designing and manufacturing CNC Machine Tools since 1986.

Stuga design philosophy utilises innovation to simplify problems together with the latest technology where it is beneficial. This philosophy includes making potentially complex machinery intuitively easy to use, thereby reducing operator skills and subsequent potential errors.

The company is dedicated to working in partnership with customers in order to achieve its aim of one hundred percent customer satisfaction.

As a manufacturer selling direct to the market Stuga eliminates the dealer problems associated with hi-tech machinery as customers deal directly with the design and build teams.

Stuga Mission Statement

Creating leading-edge automated machinery to simplify complex tasks, reducing end-user operating costs and striving to stay ahead of our competitors in quality, innovation, customer service and value.

Contents:

2 About Stuga

3-7 Stuga ZX3 & ZX5 Sawing & Machining Centers

8 Stuga ZX5 & Microline Rotary Tooling Heads

9-13 Stuga Microline Sawing & Machining Center

14 Fixed Head Tooling

15-18 Stuga Ecoline Prepping Center

19-22 Stuga Autocut Saw Center

23-24 Stuga Routermaster CNC Router

25 Stuga Autoflow-2 sawing & machining center

26 Stuga Autoflow-2 sawing & machining center

27 Stuga Machine Specification

For further information visit the contact page on the Stuga website

Stuga Service

The company is totally committed to service and uses a geographically based network of trained engineers on a fast response basis.

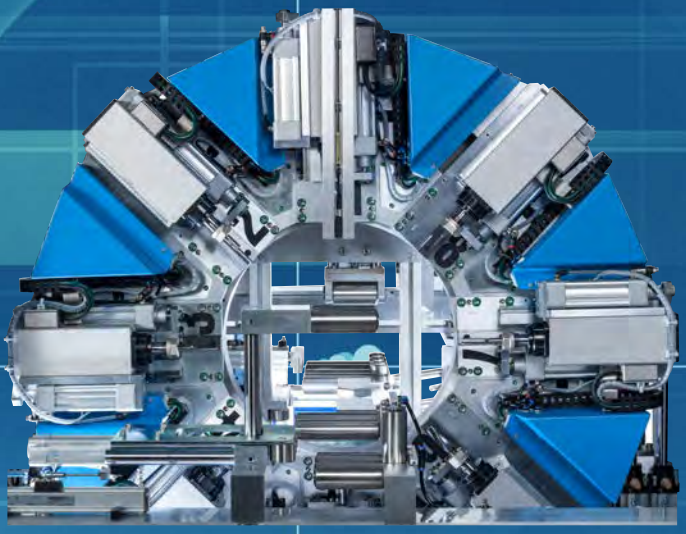
The field service engineers are backed up by a full support team based at the service center in Norfolk. Trained technicians are available to talk customers through problems and look at internet based diagnostics including onboard camera systems.

Consumables

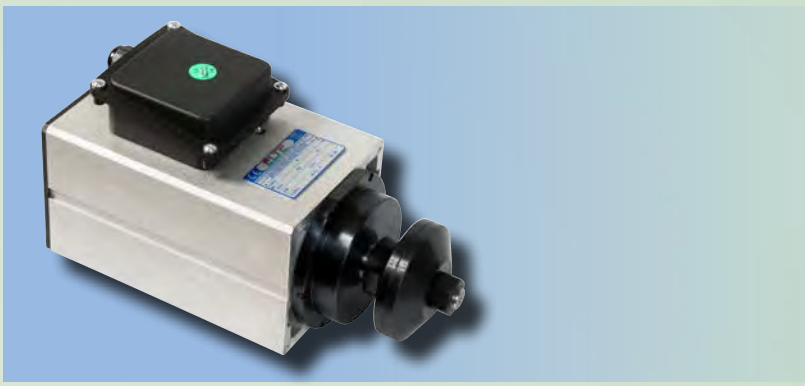
Stuga supply a range of labels, blades and cutters etc that are specifically designed for maximum performance and output. Spare parts for the entire range of Stuga Machinery are in stock at most times. These items are sourced and tested for compliance and maximum performance.

Stuga®

ZX3 & ZX5 Sawing & Machining Centers



Three hundred and sixty degree rotary tooling system creates three hundred and sixty degree positioning allowing unlimited machining possibilities and total prepping flexibility, producing performance well beyond that of fixed head machines. If a head fails for any reason another head can easily take over its work. Separate sawing and prepping modules working in tandem together with buffer station/transfer table minimises delays caused by saw waiting for prepping or vice versa. Totally flexible innovative clamping system designed to hold any profile including pre-gasketted. Fully programmable gripper for best possible positioning. Right to left version illustrated, but also available feeding left to right. 'U' shape configuration creates easier single operator working.



Laser Measuring and Precompiling

Laser range measuring and full length sensors used to pre-measure bars before loading

Allows bars to be pre-compiled, improving cycle time by saving loading time

Infeed Loading Wheel

Friction loading wheel developed to roll bar into gripper jaw

Design is more reliable and reduces cycle time

Profile Transport

Profile is transported on roller beds on X axis and saw axis.

Roller Beds place and lift the profile on infeed / transfers

Lower friction means faster acceleration and deceleration, which greatly improves cycle time

Placing of profile prevents the bar rolling over, as there is no side pushing or edges to catch on

Industry 4.0

Smart factory integration

Logging pieces cut, frames cut, stock usage, optimiser yield, machine / operator performance, machining operation timings

Saw Y-Drive

Additional axis inside saw centralising mechanism

Cuts nearly all Y notches at the saw head

Improves accuracy and reliability

Improves cycle time by moving an operation from machining to saw (balancing operations)

Works from proven bar centralising system – therefore auto compensates for any errors in bar width

Gripper Pins

End of bar is drilled to allow positive tooth location

Gripper has teeth that insert securely into profile, meaning it cannot slip

Same holes are used on both machining and sawing side, improving accuracy and reliability

Secure fixing means acceleration and deceleration times can be vastly improved, reducing cycle time

Quad Plunge

Addition to rotary tooling head to double up on "Double Plunge" system which allows a second spindle size to reap benefits of cutting top and bottom of profile at same time (e.g. 10mm and 12.7mm)

Improves cycle time allowing single pass on trickle vent slot cutting

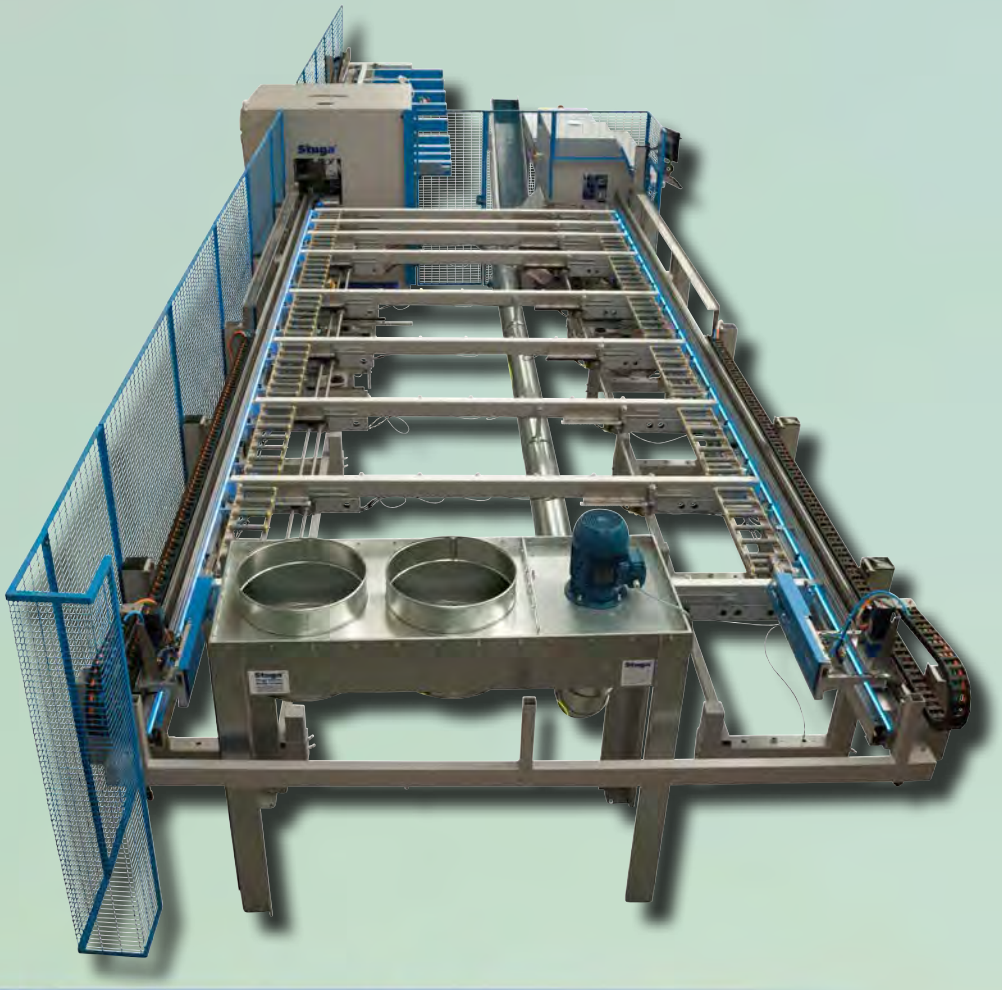
Twinsafe

Emergency stop and guard functions are programmable

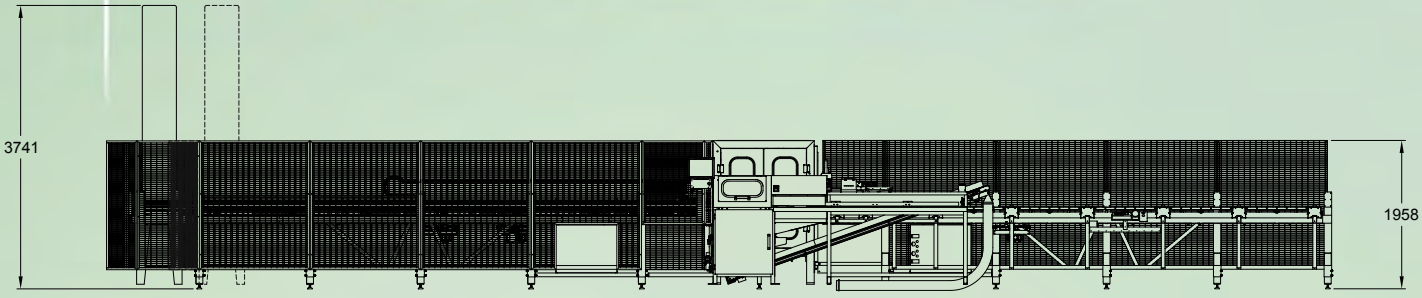
Guard doors isolate only unsafe areas, preventing downtime

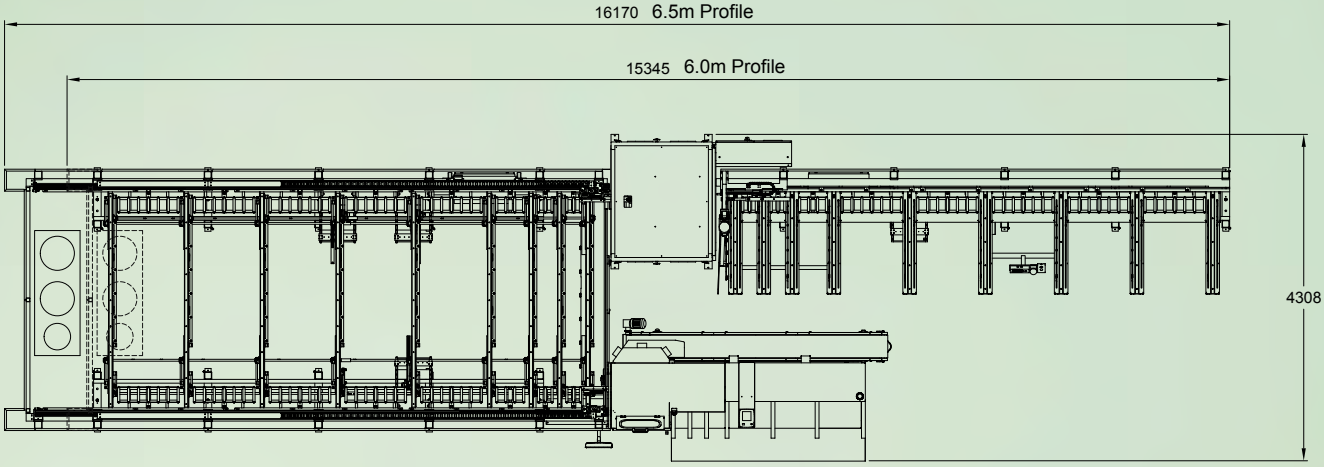
NOTE! Flowline ZX3 and ZX4 models are only available as rebuilds/refurbs.

Stuga ZX3 & ZX5 Cutting and Prepping

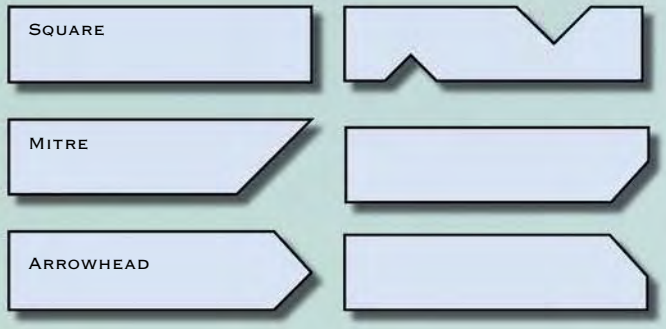


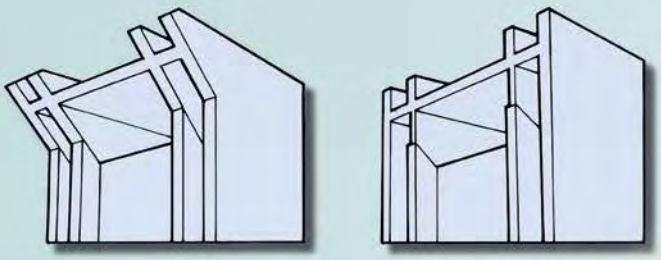
ZX5 Footprint





g Center for Volume Production





Q-Cuts

Trimming head of unequal casement before welding.

Machining Module Capability

Unlimited number of different preps can be applied from any side at any angle 0-360 degrees.

All drainage
Concealed / Face, Internally or Externally Glazed, Upstand Removal, Pressure Equalisation

Spot Preps for easier assembly
Friction Stay pilot holes, Door Hinges, Anti-Bow Wedge, Anti-Jemmy Wedge, Casement Keeps, Aluminium Low Threshold Spot Prep

Trickle vents:
Frame or Sash, Through chamber or leg

Door Locks in any combination (including double plunge)
Single, 3 or 4 point, Stable Doors, French / Slave doors, Patio Door Locks, Hinge Door Locks

Door Lock Jamb & Keeps

Letter Plates
Including Fixing Holes

Espag and shootbolt locks
Tilt & Turn Hinges & Locks, Fully Reversible Hinges & Locks

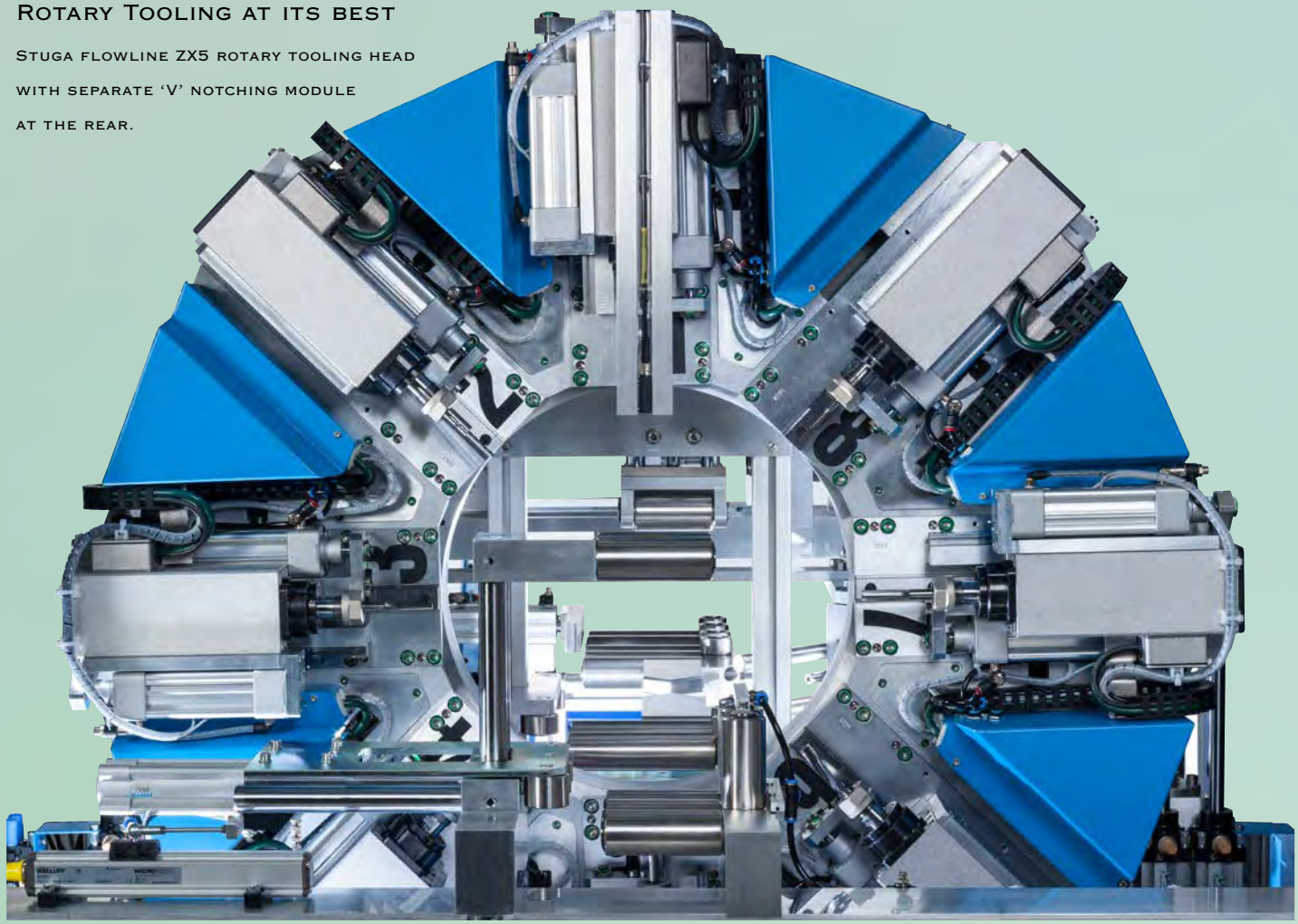
Mechanical Transom
Frame Drilling, Reinforcing Relief port

V Notching from both sides
Y notching (Half V notch BEFORE reverse-butt prep)

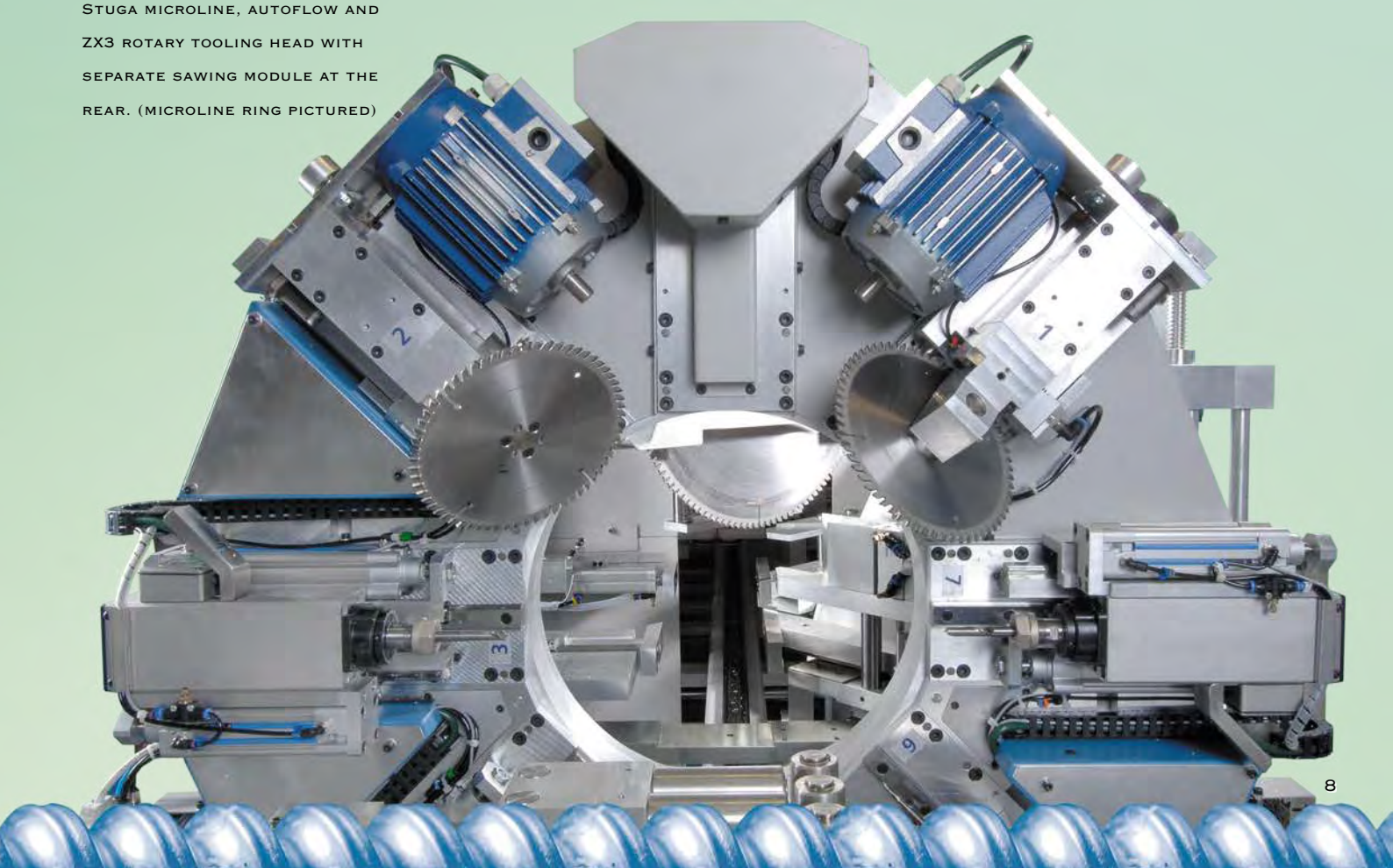
Note! All common British and Irish window profiles can be accommodated and no contour blocks or other tooling is required. The ZX3, ZX4 and ZX5 can process most known UK profiles.

Rotary Tooling at its best

Stuga flowline ZX5 rotary tooling head with separate 'V' notching module at the rear.



Stuga microline, autoflow and ZX3 rotary tooling head with separate sawing module at the rear. (microline ring pictured)




Stuga®
Microline Sawing &
Machining Center

Sawing Module

Note! No longer manufactured new the Microline remains a very popular machine as a refurbishment (subject to availability). The replacement version of the Microline is called the AutoFlow-2.

Three hundred and sixty degree rotary tooling system creates three hundred and sixty degree positioning allowing unlimited machining possibilities and total prepping flexibility, producing performance well beyond that of fixed head machines. If a head fails for any reason another head can easily take over its work.

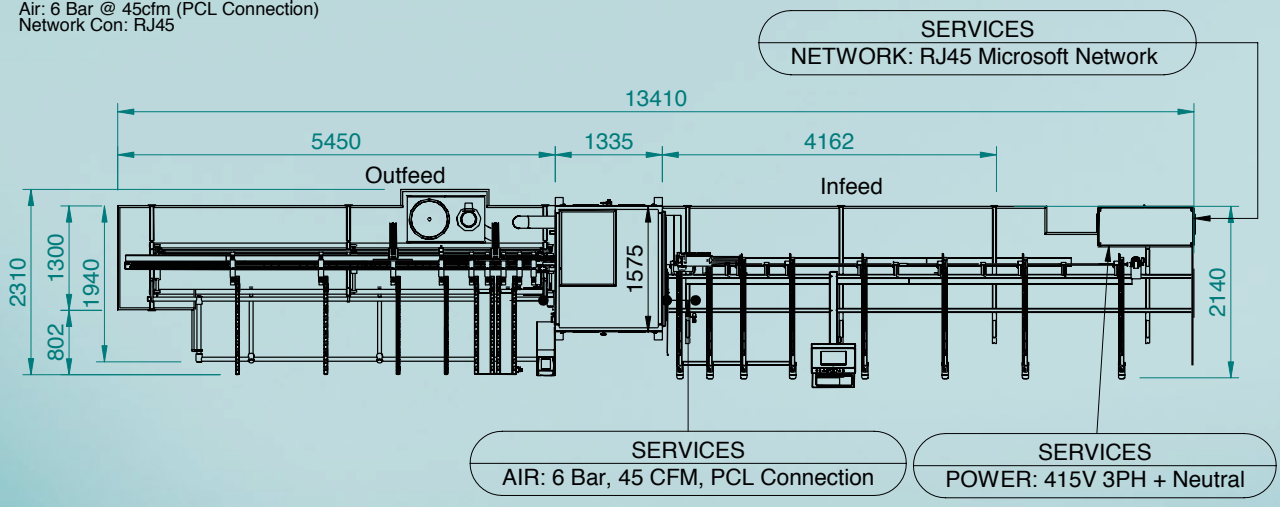
Totally flexible innovative clamping system designed to hold any profile including pre-gasketted. Fully programmable gripper for best possible positioning. Right to left version illustrated, but also available feeding left to right.

Only 13.5 Meters Long
and 2.3 Meters Deep

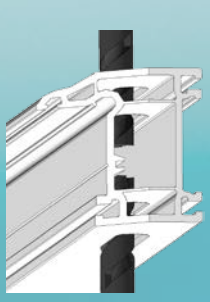
Stuga Microline Cutting and Prepping

SERVICES

Power: 415v 3PH + Neutral 20Amp
Air: 6 Bar @ 45cfm (PCL Connection)
Network Con: RJ45



Right to Left Feeding Microline shown



Footprint

13.5 meters x 2.3 meters

Available as

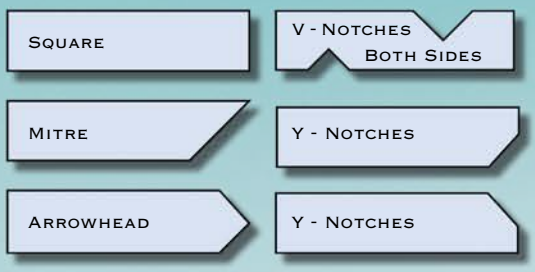
Right to Left or

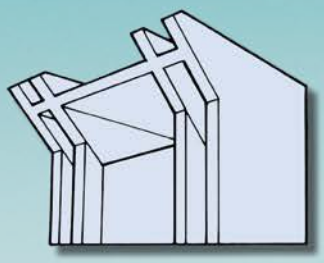
Left to Right

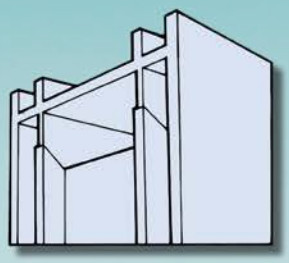
Flow Direction

Double plunge facility preps both sides of trickle vent or door simultaneously dramatically increasing output of these products

Center for Volume Production







Machining Module Capability

Unlimited number of different preps can be applied from any side at any angle 0-360 degrees.

All drainage
Concealed / Face, Internally or Externally Glazed, Upstand Removal, Pressure Equalisation

Spot Preps for easier assembly
Friction Stay pilot holes, Door Hinges, Anti-Bow Wedge, Anti-Jemmy Wedge, Casement Keeps, Aluminium Low Threshold Spot Prep

Trickle vents:
Frame or Sash, Through chamber or leg

Door Locks in any combination (including double plunge)
Single, 3 or 4 point, Stable Doors, French / Slave doors, Patio Door Locks, Hinge Door Locks

Door Lock Jamb

Letter Plates
Including Fixing Holes

Espag and shootbolt locks
Tilt & Turn Hinges & Locks, Fully Reversible Hinges & Locks

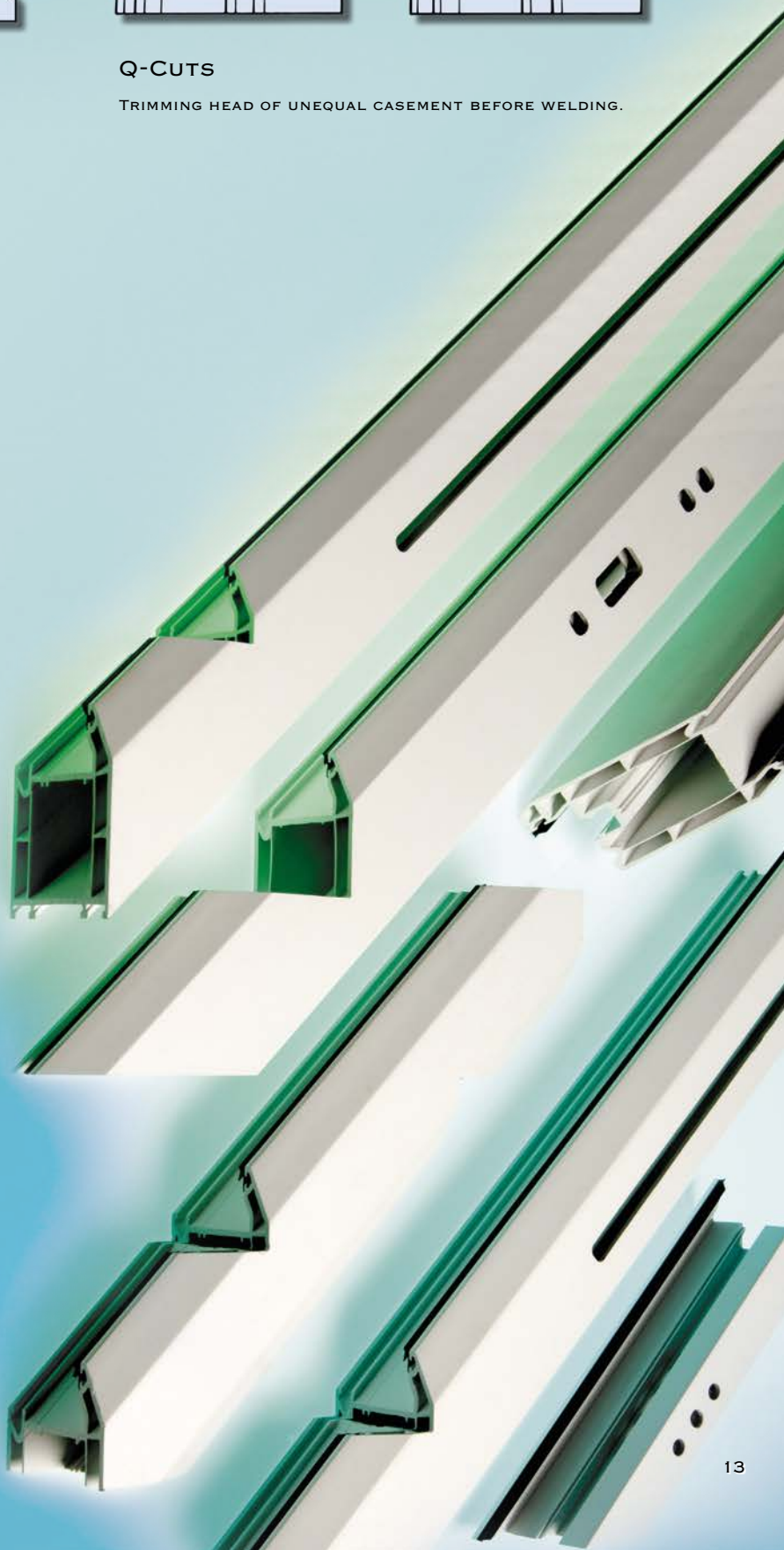
Mechanical Transom
Frame Drilling, Reinforcing Relief port, Bead channel forming

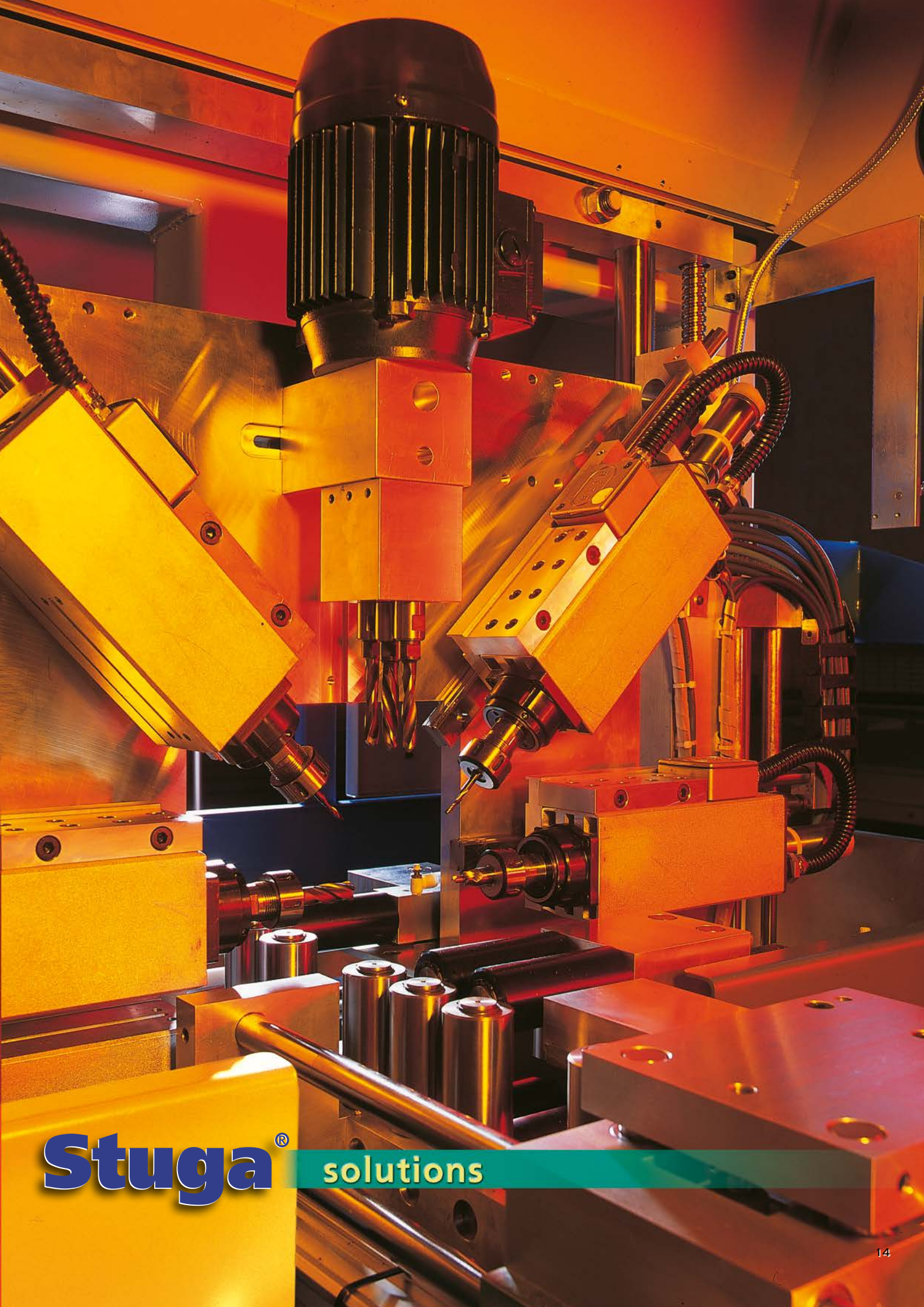
V Notching from both sides
Y notching (Half V notch BEFORE reverse-butt prep)

Note! All common British and Irish window profiles can be accommodated and no contour blocks or other tooling is required. The Microline can process most known profiles in the UK market.

Q-Cuts

Trimming head of unequal casement before welding.

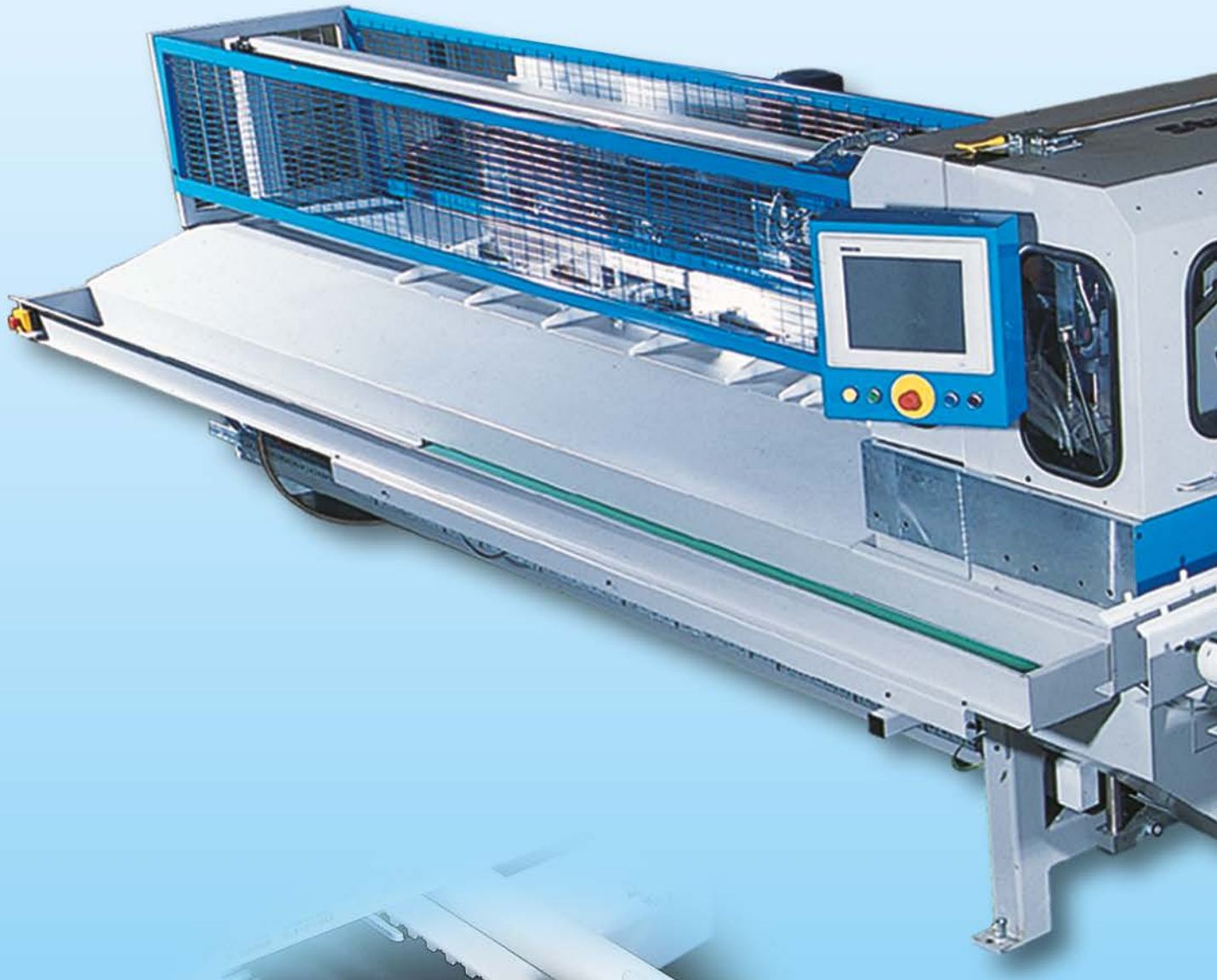



Stuga®
solutions


Stuga®
Ecoline
Prepping Center

Stuga®

ecoline p



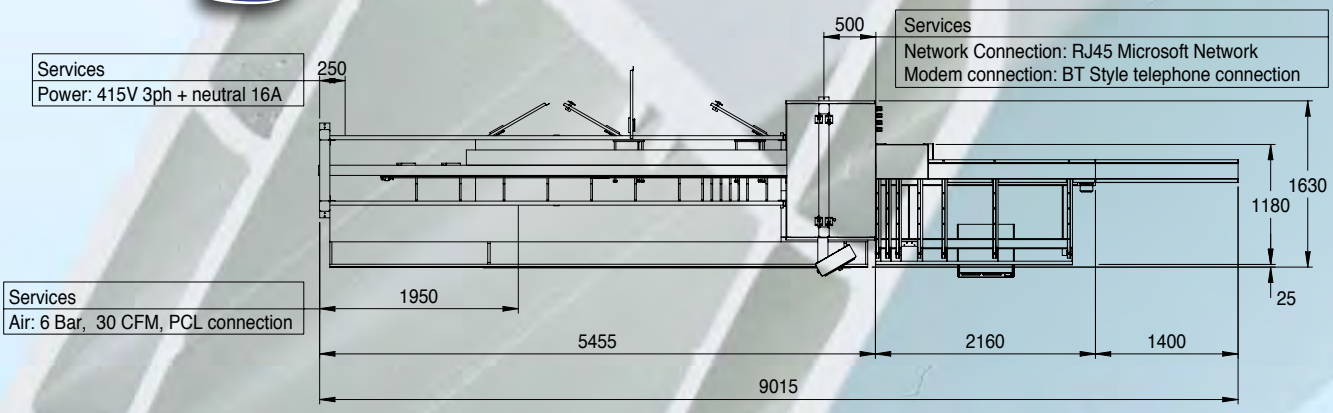
prepping center

The ecoline prepping center will work in conjunction with any upvc saw or saw center to carry out all window and door preps including drainage, trickle vents, espags/ shootbolts, 'v' notches and all door preps. The ecoline saves space as well as labour.

Why not take the skill out of prepping with this slick, quick, efficient machining center?

Note! No longer manufactured new the Ecoline is one of our most popular rebuilt machines (subject to availability). There are currently no plans to replace this machine.

Stuga® ecoline specification



Electronics

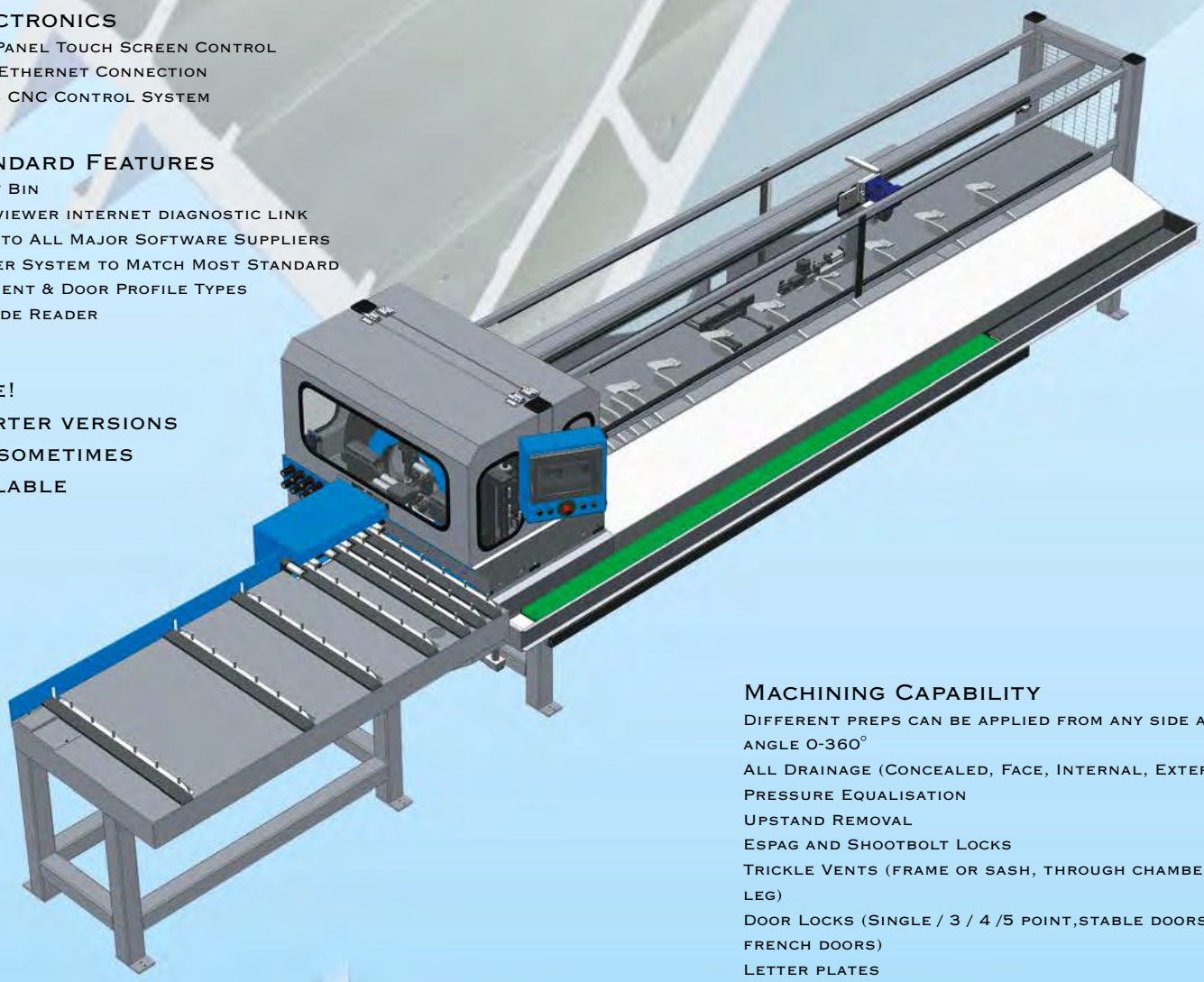
Flat Panel Touch Screen Control
RJ45 Ethernet Connection
6 Axis CNC Control System

Standard Features

Swarf Bin
Team viewer internet diagnostic link
Links to All Major Software Suppliers
Gripper System to Match Most Standard Casement & Door Profile Types
Barcode Reader

Note!

Shorter versions are sometimes available



Machining Capability

Different preps can be applied from any side at any angle 0-360°
All Drainage (Concealed, Face, Internal, External)
Pressure Equalisation
Upstand Removal
Espag and Shootbolt Locks
Trickle Vents (frame or sash, through chamber or leg)
Door Locks (Single / 3 / 4 /5 point,stable doors, french doors)
Letter plates
Door hinge spot preps
V notching (some models front only)

The fully programmable and flexible gripper system based on an advanced design taken from the highly successful sawing and prepping centers.


Stuga®
Autocut
Sawing Center

Stuga®

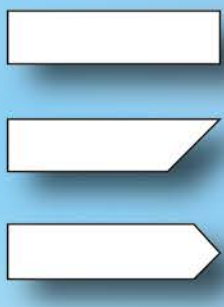
Sawing Center

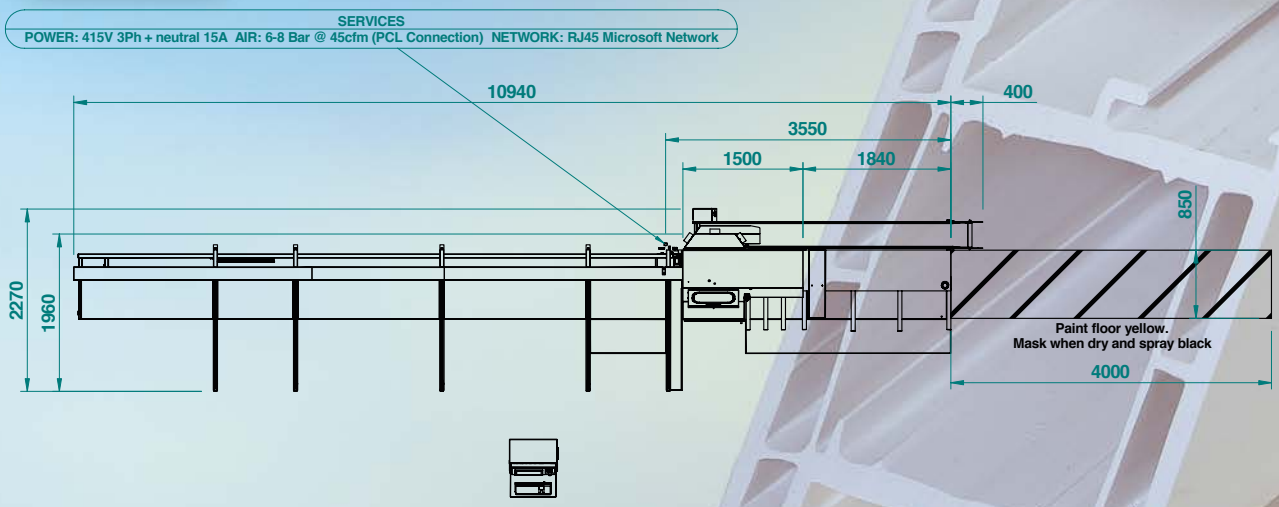
The fully automatic Stuga Sawing Center is capable of cutting mitres, squares and arrow heads on any PVCu door and window profile, in any combination. The machine can be programmed directly from the keyboard with the user friendly operating interface, or programmed off-line via memory stick or network linked to the office window designing package. It comes complete with a multibar auto loading table for up to 6.5 metre profile lengths and shorter offcut lengths.

The material is advanced with a simple pusher arm, common for all profiles. This allows the machine to cut to the very ends of the bar, minimising wastage to just the unavoidable sawblade kerf. The two flat, parallel sides of the profile are the cutting datum, so an infinite range of profile types, brands and sizes can be accommodated without having to change the machine configuration. The machine is designed to be simple to use for less skilled operators.

Why invest in a double mitre saw when the Stuga Autocut Saw Center can do so much more with less skill and more accuracy and consistency? Suitable for all sizes of uPVC window and door fabricator.

End Preparations





PRODUCTION DIRECTION
(LOADED FROM THE LEFT) ⟶

SERVICES
Power: 415V 3Ph + Neutral 15A
Air: 6-8Bar @ 45 cfm (PCL Connection)
Network Con: RJ45

ALSO AVAILABLE IN RIGHT TO LEFT VERSION

Stuga®

Stuga CNC Routermaster

the Stuga CNC Router

Features

The STUGA Computer Controlled Router represents a technically advanced system of router machining for preparation of aluminium and PVC-u extrusions. The cutting heads can be programmed to move throughout three dimensions to cut or drill any arrangements of slots or holes.

Fully automatic machining cycle

Can be used by unskilled operators
High volume production with consistent accuracy
Instant change-over of routing routines
Uses standard 8 mm cutters

Control System

Using the latest PC compatible computer system, the machine runs a stored program of movement commands. The programs are securely stored on a hard disk drive inside the machine. An editor facility allows programs to be created, edited and stored.

Material Clamping

Secure clamping is provided by a number of clamp block assemblies. The upward stroke of the clamps will ensure an accurate datum to the top profile blocks. The clamping assemblies are pneumatic powered and actuated by a foot valve.

Variants

The STUGA Router can be supplied with three different length capacities and two different height capacities. (Capacities shown are machining capacities).

Model	Length Capacity	Height Capacity
STU-R22-S	2200 mm	80 mm
STU-R35-S	3500 mm	80 mm
STU-R41-S	4100 mm	80 mm
STU-R22-H	2200 mm	160 mm
STU-R35-H	3500 mm	160 mm
STU-R41-H	4100 mm	160 mm

Carriage & Cutter Head

The carriage unit features a multi-spindle overarm headstock of three 90 degree opposed cutter spindles. Using standard 8 mm cutters machining can be carried out on any of three faces along the entire length of an extruded section.

General Information

Precision linear bearings on all slideways
PC compatible computer control system including:
Memory Stick (for backup)
Hard disk drive (internal program storage)
Touch Screen Interface
Pull-out keyboard

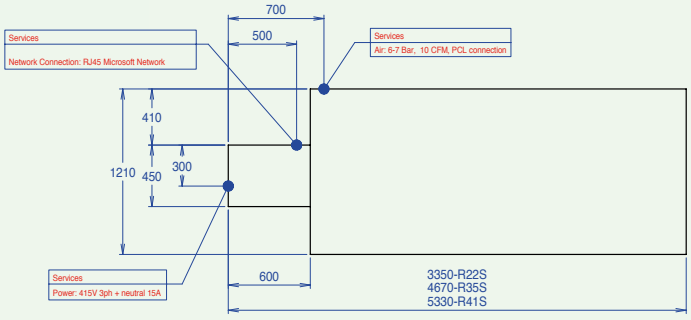
Standard Equipment

Left hand material stop
Four off material clamps
High / Low Pressure 2 stage clamp system
Full acoustic hood guarding
Internal fluorescent strip light
Team Viewer
Internet Diagnostics
Right hand stop or Center stop for working each hand of door section
Ethernet card link to office computer for centralised data storage and off-line program editing

Servo drive on main axis 20 m/min traverse speed

Optional Extras

Bar-code reader, Spray mist coolant



Now with windows(TM) front end software

NOTE!
Currently only available as a rebuild/refurb.

stuga autoflow 2 sawing and machining center

a volume orientated yet compact machine for fully automatic sawing and machining of uPVC windows and doors

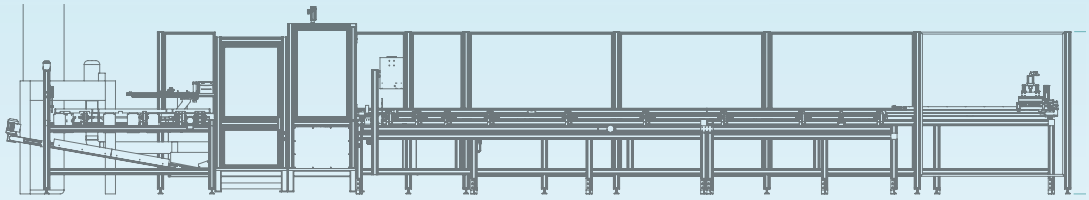
The Autoflow 2 is designed for all casement windows, tilt and turn, vertical sliders, all doors including bi folds, residential doors, french doors and inline sliders producing an output of approximately 400 windows per week.

Each section of a 'VS' window can be automatically produced on the 'VS' version of this machine including frame to cill angle and mechanical preps in cill for bolting to frame. Leading edge software ensures speedy throughput of product and excellent profile optimisation to minimise wastage. Random offcuts can be used at anytime.

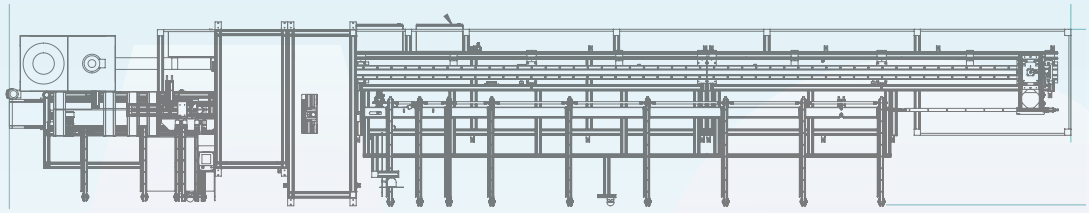
Another thoroughbred from the Stuga stable.

Stuga® Machinery

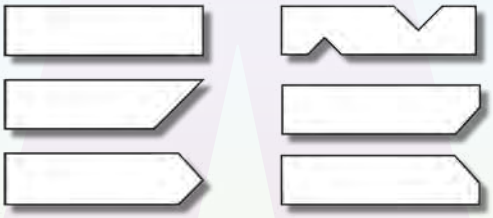
autoflow2 for volume production



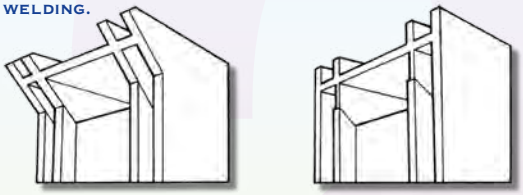
Footprint 13.5 meters x 2.3 meters



Right to Left Feeding Autoflow2 also available Left to Right Flow Direction



Q-Cuts Trimming head of unequal casement before welding.



Machining Module Capability Unlimited number of different preps can be applied from any side at any angle 0-360 degrees.

All drainage Concealed / Face, Internally or Externally Glazed, Upstand Removal, Pressure Equalisation

Spot Preps for easier assembly Friction Stay pilot holes, Door Hinges, Anti-Bow Wedge, Anti-Jemmy Wedge, Casement Keeps, Aluminium Low Threshold Spot Prep

Trickle vents: Frame or Sash, Through chamber or leg

Door Locks in any combination (including double plunge) Single, 3 or 4 point, Stable Doors, French / Slave doors, Patio Door Locks, Hinge Door Locks

Door Lock Jamb Letter Plates Including Fixing Holes

Espag and shootbolt locks

Tilt & Turn Hinges & Locks, Fully Reversible Hinges & Locks

Mechanical Transom

Frame Drilling, Reinforcing Relief port, Bead channel forming

V Notching from both sides

Y notching (Half V notch before reverse-butt prep)

'VS' version available with the following:-
'VS' frame to cill angle on 'VS' frame.
preps in cill for bolting to frame.
'VS' Cills up to 150mm can be processed at 90°.
Variable angles between 45° and 135° can be cut on frame and sash (Optional Extra).

Double plunge facility preps both sides of trickle vent or door simultaneously dramatically increasing output of these products

Stuga Machinery Technical Specification

All machines have the following features as standard
Teamviewer internet diagnostics
Industrial Grade PC
Microsoft Windows
Touchscreen control
Ethernet network connection
USB Connection
Full Operator and Maintenance Training
Full project management of installation process

Timings (Windows per 40hr week 100% efficiency)
Timings include these preps: (All drainage, V & Y notches, Espags, 1 x 4000mm Trickle Vent per frame, Door Lock, Door Lock Jamb, Letter Plate, Door Hinges)

		Router	Saw	Ecoline	Autoflow	ZX3	ZX4	ZX5
Typical Mix Output (Windows Only)		n/a	890	450	461	774	890	960
Top Hung over Fixed		n/a	1257	550	524	1005	1257	1309
Side Hung / Top over Fixed		n/a	775	400	339	650	775	847
Standard Door with Midrail		400	650	250	400	510	510	640
Capacity								
Profile Width (mm)	Min	10	45	45	45	45	45	45
	Max	100	130	130	150	130	130	130
Profile Height (mm)	Min	10	40	55	30	55	55	55
	Max	150	140	80	150	85	85	85
Loaded Profile Length (mm)	Min	100	500	300	700	700	700	700
	Max	unlimited	6500	4000	6500	6500	6500	6500
Finished Cut Length (mm)	Min	n/a	285	n/a	285	285	285	285
	Max	n/a	6500	n/a	6500	6500	6500	6500
Infeed table positions		n/a	8	6	8	8	8	8
Spindles for Routing								
Heads		3	n/a	2	4	5	8	8
Power (kW)		0.1	n/a	0.75	0.75	0.75	0.75	0.75
Tool Size (mm)		2.5mm – 10mm	n/a	5mm	2.5mm-16mm	2.5mm-16mm	2.5mm-16mm	2.5mm-16mm
Speed (rpm)		11000	n/a	18000	18000	18000	18000	18000
Double Plunge		No	n/a	No	Yes	Yes	Yes	Yes
Notching Heads								
Heads		n/a	n/a	2	2	2	4	4
Power (kW)		n/a	n/a	0.75	0.75	0.75	0.75	1
Speed (rpm)		n/a	n/a	3000	3000	3000	3000	3000
Blade Diameter		n/a	n/a	200	200	200	200	300
Sawing Heads								
Power (kW)		n/a	1.5	n/a	1.5	1.5	1.5	1.5
Speed (rpm)		n/a	3000	n/a	3000	3000	3000	3000
Blade Diameter		n/a	400	n/a	500	400	400	400
Rotation (degrees)		n/a	-45 / 0 / +45	n/a	-45 / 0 / +45	-45 / 0 / +45	-45 / 0 / +45	-45 to +45 variable
Positional Axes								
Traverse Speed (m/s)		1	6	1.5	2	2	2	2
Number of Axes		3	1	6	9	6	7	6
Services								
Phase		3ph + Neutral	3ph + Neutral	3ph + Neutral	3ph + Neutral	3ph + Neutral	3ph + Neutral	3ph + Neutral
Current (A)		16	16	16	20	20	20	20
Voltage (V)		415 +/-10%	415 +/-10%	415 +/-10%	415 +/-10%	415 +/-10%	415 +/-10%	415 +/-10%
Frequency (Hz)		50	50	50	50	50	50	50
Air Pressure (bar)		6	6	6	6	6	6	6
Max Air Consumption (cfm)		5	35	30	45	45	45	45
Network		Cat-5	Cat-5	Cat-5	Cat-5	Cat-5	Cat-5	Cat-5
Diagnostic Cameras		No	No	2	3	3	4	4
Machining Capability								
All Drainage		No	n/a	Yes	Yes	Yes	Yes	Yes
Upstand Removal		No	n/a	Yes	Yes	Yes	Yes	Yes
Espag and Shootbolt Locks		Yes	n/a	Yes	Yes	Yes	Yes	Yes
Trickle Vents		Yes	n/a	Yes	Yes	Yes	Yes	Yes
Door Locks		Yes	n/a	Yes	Yes	Yes	Yes	Yes
Door Lock Jamb		Yes	n/a	Yes	Yes	Yes	Yes	Yes
Letter Plates		Yes	n/a	Yes	Yes	Yes	Yes	Yes
Spot Preps		Yes	n/a	Not Recommended	Yes	Yes	Yes	Yes
Mechanical Transom		Yes	n/a	Yes	Yes	Yes	Yes	Yes
V Notching (both sides)		No	n/a	Yes	Yes	Yes	Yes	Yes
Y Notching (both sides)		No	n/a	No	Yes	Yes	Yes	Yes
Q-Cuts		No	n/a	No	Yes	Yes	Yes	Yes
Sawing Capability								
Square End		n/a	Yes	n/a	Yes	Yes	Yes	Yes
Mitred End		n/a	Yes	n/a	Yes	Yes	Yes	Yes
Arrow-head End		n/a	Yes	n/a	Yes	Yes	Yes	Yes
Compound Tilt angle		No	No	No	with option	No	No	No
Y-Drive		No	No	No	Yes	No	No	Yes

Standard Equipment	Full Acoustic Guarding	Barcode Printer Bar Optimising software Offcut storage Extraction Full Safety Guarding	Swarf Bin Barcode Reader	Barcode Printer Bar Optimising software Offcut storage Offcut Measuring Extraction Full Safety Guarding	Barcode Printer Bar Optimising software Offcut storage Offcut Measuring Extraction Full Safety Guarding	Barcode Printer Bar Optimising software Offcut storage Offcut Measuring Extraction Full Safety Guarding Tool Break Detection	Barcode Printer Bar Optimising software Offcut storage Offcut Measuring Extraction Full Safety Guarding Tool Break Detection Saw Y Drive Bar Width Measuring Tru-Loc Gripper Variable angle -45 to 45 Quad-Plunge Tooling
Optional Equipment	Barcode Reader	Mod for larger width		Compound angle for VS outerframe			

Note: Any output figures quoted are based on certain assumptions and are not guaranteed. If you would like exact output figures for any machine, please forward detailed information on volumes, styles, operations, profiles and sizes and we will offer a detailed report which can be guaranteed. In the interest of constant improvement, Stuga reserve the right to make changes to the above at any time without notice.

Stuga®

For further information on all Stuga products and services call 01493 742348

Stuga Machinery
Brinell Way, Harfreys Ind. Est.,
Great Yarmouth, Norfolk.
NR31 0LU.

For further information visit the contact page on the Stuga website or call the number below

01493 742348
www.stuga.co.uk

Stuga Machinery is a member of The Stuga Machinery Group of Companies