



STEEL
CONSTRUCTION

- ANGLES & FLATS
- BEAMS & PIPES
- PLATES
- SURFACE TREATMENT
- ROBOTIC WELDING
- SOFTWARE & AUTOMATION

GEMINI

Automatic gantry CNC drilling, milling and thermal cutting systems for large plates



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Automatic gantry CNC drilling, milling and thermal cutting systems for large plates

The GEMINI is the complete plate processor for fabricators and manufacturers of all sizes. It handles from light to heavy plate for thermal cutting, marking, milling, drilling, tapping, beveling and more, with

unprecedented productivity and accuracy. This achieves the lowest part cost due to its minimal floor space, low capital investment and productivity.



Bevel plasma torch



Automatic tool changer with up to 24 tools per drill head (depending upon the model)

STANDARD TECHNICAL FEATURES

- Twin bridge beam box construction for minimum deflection when drilling and milling.
- High precision hardened and ground helical rack on the X & Y & U axes.
- Simple floor mounted installation without the need for special foundations.
- Minimal footprint.
- High speed milling and drilling with 7,000 RPM spindle speeds and automatic tool changer.
- Multiple integrated plate clamps rapidly adjust to the plate thickness to reduce the clamping cycle. The clamps rigidly secure the plate to the material bed to eliminate vibration and extend tool life even during aggressive machining.
- Precision laser for plate referencing that automatically rotates the plate nesting program to eliminate the need to square plates prior to processing.
- Secondary X axis reduces the chip-to-chip time by eliminating the need to reposition the gantry and generate a clamp and unclamp cycle after each drilling or milling process.
- Tool changing occurs while the plate remains rigidly clamped to the material bed for precision tapping, countersinking, boring and milling.
- Helical milling is used to generate larger holes at a fraction of the tooling cost associated with drilling of large holes.
- Face milling is achieved typically without having to unclamp the material or move the gantry when generating bearing surfaces in construction machine applications and columns in structural steel fabrication.

OPTIONAL FEATURES

- CNC bevel plasma head for weld preparations
- Multiple oxy-fuel torches
- Down draft or water tables
- Plate marking and layout "scribing" with patented technology
- Marking with plasma
- Chip vacuum evacuation systems



GEMINI G36 XD



J groove edge beveled for deep penetration and no back welding



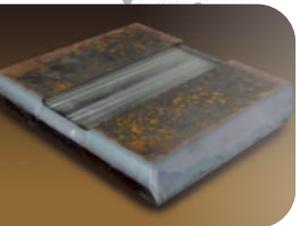
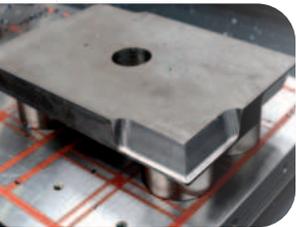
Hypertherm
Cut with confidence™
True Hole™





CUTTING

The Gemini's mobile gantry design allows for a greater range of plate sizes and thicknesses without concern for the plate weight. Material loading and unloading occurs in masked time as this transpires while the Gemini is 100% productive. The Gemini can be supplied with plasma and optional oxy-fuel torches to process plates from 5 mm to 305 mm. The plasma power supply is the new Hypertherm XPR300 as standard. This new technology incorporates several additional unique features and benefits in terms of cut quality on mild and stainless steel, bevel capabilities, performance, optimized productivity, reduced operating costs and nozzle life. The Hypertherm HPR400XD is also available on all Gemini models as an option.



MARKING AND SCRIBING

The Gemini's mobile gantry design allows for a greater range of plate sizes and thicknesses without concern for the plate weight. Material loading and unloading occurs in masked time as this transpires while the Gemini is 100% productive. The Gemini can be supplied with plasma and optional oxy-fuel torches to process plates from 5 mm to 305 mm. The plasma power supply is the new Hypertherm XPR300 as standard. This new technology incorporates several additional unique features and benefits in terms of cut quality on mild and stainless steel, bevel capabilities, performance, optimized productivity, reduced operating costs and nozzle life. The Hypertherm HPR400XD is also available on all Gemini models as an option.



DRILLING AND TAPPING

The Gemini's high speed machining spindle allows extremely productive drilling of holes from 5 mm to 80 mm. For larger holes up to 400 mm, the Gemini can mill holes with exceptional accuracy. A tolerance of 0.1 mm on diameter and concentricity can be maintained. The high speed spindle positioning (sub X and Y axis), combined with a wide processing window where the gantry movement and material clamping/unclamping is eliminated, provides for industry leading productivity. For many applications, tapped holes in the components can reduce welding, fitting and assembly time. When tapping, the digital control system provides exceptionally high quality threads on tapped holes.



FACE AND SLOT MILLING

La production de pièces mécaniques et de nombreux petits éléments structurels nécessite la réalisation de trous oblongs, de surfaces de support d'accouplement fraisées, etc. Traditionnellement, ces opérations étaient réalisées par de grands centres d'usinage ou des machines de perçage après la production. Grâce à la précision du portique GEMINI, tant dans la coupe que dans l'usinage, nombre de ces opérations peuvent être effectuées sur la tôle brute, éliminant par conséquent les coûts et délais liés à la manutention, l'espace au sol et les opérations secondaires.



EDGE BEVELING

The Gemini can make weld preps (V, Y, X, K) with plasma beveling. For precision bevels, milling is more accurate and J groove bevels can also be achieved.



**DOUBLE GANTRY SYSTEM:
GEMINI + GEMINI OR GEMINI + KRONOS**

- Reduced manpower (one operator for two machines)
- Lower total investment
- Same Fanuc controls and drives
- Common rails & table
- Less material handling & improved safety
- Reduced floor space
- Higher availability & greater flexibility
- Increased throughput capacity
- Less downtime and maintenance
- Installation of the overall system in one step, or the possibility to add the second system at a later stage



ROBOTIC UNLOADING OF SMALL TO HEAVY FINISHED PARTS!

FICEP has enhanced the productivity and automation of the Gemini plate processors with the integration of an independent robotic part unloading system:

- A 4-axis robot with dual magnetic systems addresses the diversity of part sizes.
- Exceptional efficiency is achieved with the ability to robotically unload and stack finished parts while the Gemini plate processor is performing other diverse fabrication operations.
- Even the skeleton can be automatically removed to a designated area.
- Steel Projects comprehensive nesting and production software optimizes the multiple unloading and fabrication operations of the Gemini plate processor.



GEMINI Automatic gantry CNC drilling, milling and thermal cutting systems for large plates	G25SP	G32SP	G25HPE	G32HPE	G36HDE	G36XD	G36HDX
Plate size [max. mm]	2540x6000	3100x6000	2540x6000	3100x6000	3600x6000	3600x6000	3600x6000
Plate thickness with plasma [max. mm]	80	80	80	80	80	80	80
Plasma straight torches [max. no.]	1	1	1	1	2	2	2
Plasma bevel torches [max. no.]	1	1	1	1	2	2	2
Plate thickness with oxy [max. mm]	100	100	100	100	127	150	200
Oxy-fuel torches [max. no.]	3	3	3	3	3	3	3
Drilling heads [no.]	1	1	1	1	2	2	2
Drilling tools per head [no.]	6	6	24	24	24	16	16
Drilling diameter [max. mm]	40	40	40 (250)	40 (250)	75 (400)	80 (400)	75 (400)
Drilling thickness [max. mm]	80	80	80	80	127	305	200
Spindle power [kW]	15	15	15	15	30	58	33
Spindle speed [max. RPM]	7000	7000	7000	7000	6000	4500	4500
Machine weight [kg]	4500	4800	4500	4800	9500	15000	10000

TECH SPECS

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KRONOS

Automatic gantry CNC
high definition plasma & oxy
cutting system for plates

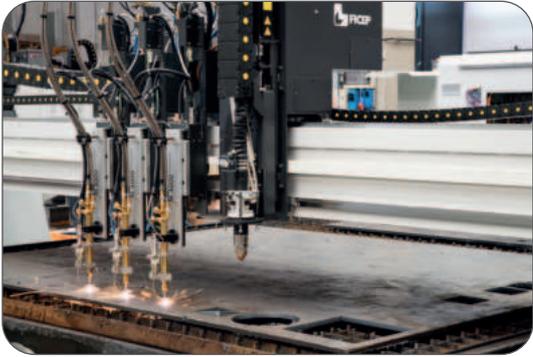


KRONOS

Automatic gantry CNC high definition plasma & oxy cutting system for plates

The Kronos models HDE, HP, SP & PC are heavy duty gantry style thermal cutting systems and are ideally suited for steel fabricators who manufacture connection plates,

gussets, stiffeners, etc. from stock material. The Kronos integrates all the cutting and marking processes into one single operation to reduce material handling cost.



Oxy-fuel torches



Straight plasma torch



Drilling unit with a 6-position automatic tool changer

KRONOS HDE, HP & SP - MAIN FEATURES

The Kronos models HDE, HP & SP can be equipped with up to four oxy-fuel cutting torches, and with one or two high-definition plasma torches for straight or bevel cutting. The Kronos systems are engineered to address a wide variety of thermal cutting applications.

The Hypertherm plasma generators range from the XPR170 up to the latest XPR300. These new Hypertherm power sources incorporate several additional unique features and benefits in terms of cut quality, bevel capabilities, performance, optimized productivity and reduced operating costs and nozzle life. All models can also be equipped with Hypertherm HPR400XD.

The cutting table consists of a sturdy grid suitable to guarantee the stability of the plate during the processing. The down draft table is also pre-arranged to receive the fume exhaust and filtering system.

The Kronos systems can also be configured with an optional 15 kW Direct Drive drilling spindle with a 6-position automatic tool changer for the production of holes up to 40mm and scribing operations.



Bevel plasma torch

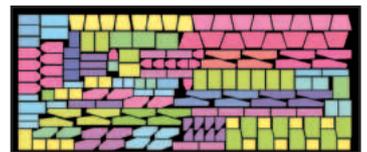




KRONOS PC SERIES

Designed for high-definition Hypertherm plasma cutting as the main frame is constructed of aluminum so the torch positioning can accelerate and decelerate in milliseconds to achieve the highest cut quality. The cutting table is a

welded design so the electrical cabinet can be integrated to reduce floor space and installation time. The PC Series is equipped with automatic torch height control to increase consumable life and deliver optimum cut quality.



Automatic plate nesting with comprehensive software



Pegaso is the latest generation CNC for FICEP lines where the PC, CNC and PLC are all integrated into a single circuit board for maximum reliability. Pegaso is based upon a field bus technology using CanBus and EtherCAT for controlling up to 32 separate CNC axes.



Hypertherm True Hole Technology



DOUBLE GANTRY SYSTEM

Kronos HDE & HP Series can be combined in tandem with another Kronos or with our Gemini CNC plate processor to optimize the productivity with lower costs and minimal floor space.

- Reduced manpower (one operator for two machines)
- Minimize total investment
- Same Fanuc CNC control system and drives
- Common gantry rails & cutting table
- Less material handling & improved safety
- Reduced system footprint
- Expanded capabilities and throughput
- Increased throughput capability
- Enhanced technology achieves less downtime and maintenance
- Ability to install one system now and add the second as production demands increase



ROBOTIC UNLOADING OF SMALL TO HEAVY FINISHED PARTS!

FICEP has enhanced the productivity and automation of the Gemini plate processors with the integration of an independent robotic part unloading system:

- A 4-axis robot with dual magnetic systems addresses the diversity of part sizes.
- Exceptional efficiency is achieved with the ability to robotically unload and stack finished parts while the Gemini plate processor is performing other diverse fabrication operations.
- Even the skeleton can be automatically removed to a designated area.
- Steel Projects comprehensive nesting and production software optimizes the multiple unloading and fabrication operations of the Gemini plate processor.



KRONOS Automatic gantry CNC high definition plasma & oxy cutting system for plates	KR25SP	KR32SP	KR36SP	KR25HP	KR32HP	KR36HP	KR36HDE
Plate size [max mm]	2540x6000	3100x6000	3600x6000	2540x6000	3100x6000	3600x6000	3600x6000
Plate thickness with plasma [max mm]	50	50	50	80	80	80	80
Plasma straight torches [max no.]	1	1	1	2	2	2	2
Plasma bevel torches [max no.]	1	1	1	2	2	2	2
Plate thickness with oxy [max mm]	150	150	150	150	150	150	150
Oxy-fuel torches [max no.]	4	4	4	4	4	4	4
Drilling heads [max no.]	1	1	1	1	1	1	1
Drilling tools per head [max no.]	6	6	6	6	6	6	6
Drilling diameter [max mm]	40	40	40	40	40	40	40
Spindle power [kW]	15	15	15	15	15	15	15
Spindle speed [max RPM]	6000	6000	6000	6000	6000	6000	6000
Machine weight [kg]	2500	2800	3000	2500	2800	3000	3000

KRONOS Automatic gantry CNC high definition plasma cutting system for plates	KR153PC	KR204PC	KR206PC	KR208PC
Plate size [max mm]	1500x3000	2000x4000	2000x6000	2000x8000
Plate thickness with plasma [max mm]	50	50	50	50
Plasma straight torches [max no.]	1	1	1	1
Machine weight [kg]	4000	5000	7500	10000

TECH SPECS

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VALIANT

Automatic CNC drilling, drilling
& band sawing, drilling & coping
lines for sections



Automatic CNC drilling, drilling & band sawing, drilling & coping lines for sections

VALIANT represents the latest technological developments in drilling lines for structural steel.

The Valiant product line is a new model three-spindle drilling system for the processing of the complete range of rolled structural steel sections. These new models are the result of the constant commitment by our engineering team to addressing the requirements of the world's structural steel fabricators.



14-position tool changer



Auxiliary axes with 300 mm stroke

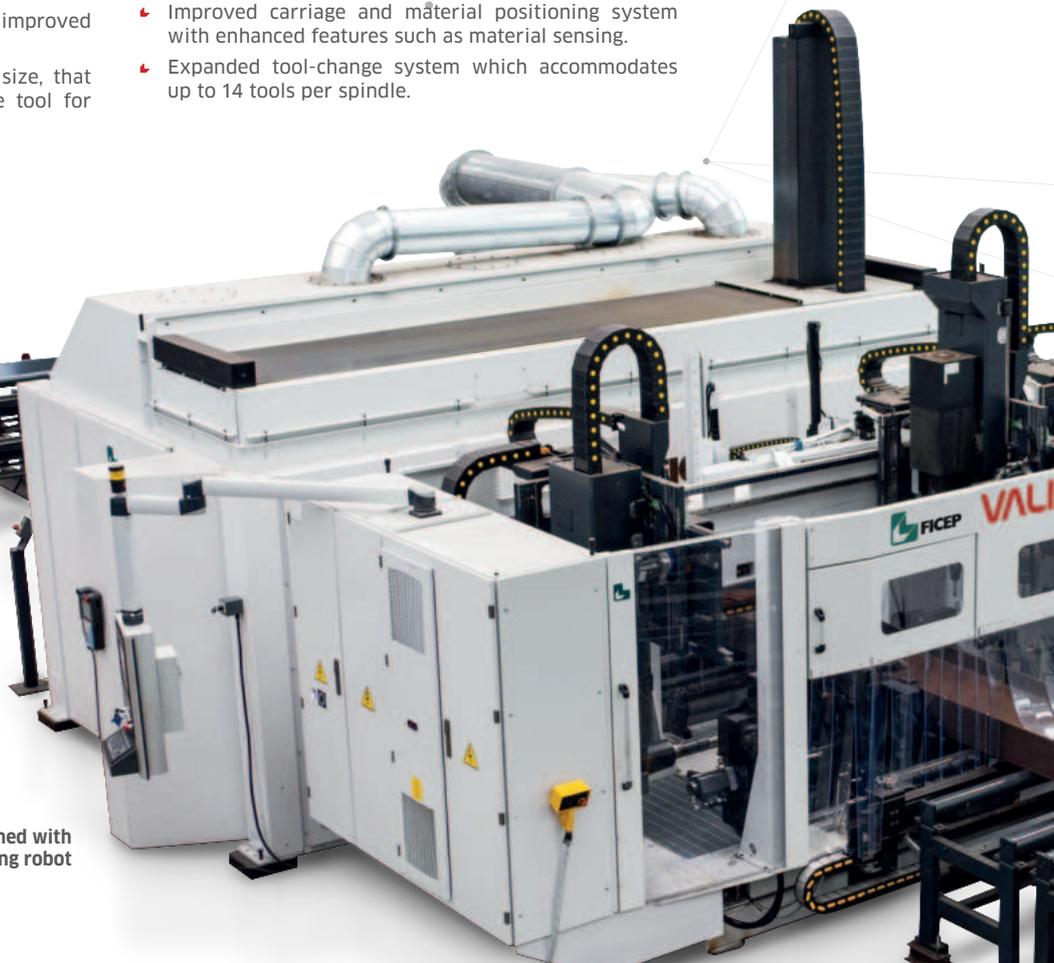
In addition to the many industry leading innovative designs and features of the other structural steel drilling lines in our range engineering of the Valiant, it incorporates several new unique features and benefits such as:

- Double vices and dual alignment systems for improved material clamping.
- Direct Drive spindles with reduced shape size, that deliver 100% of the motor's power to the tool for enhanced drilling performances.
- New increased sub-axis spindle positioning that enables simultaneous drilling on all three surfaces even when the holes are not aligned. The underside scribing device is also with sub-axis positioning to permit up to four-side simultaneous scribing operations.
- Improved carriage and material positioning system with enhanced features such as material sensing.
- Expanded tool-change system which accommodates up to 14 tools per spindle.



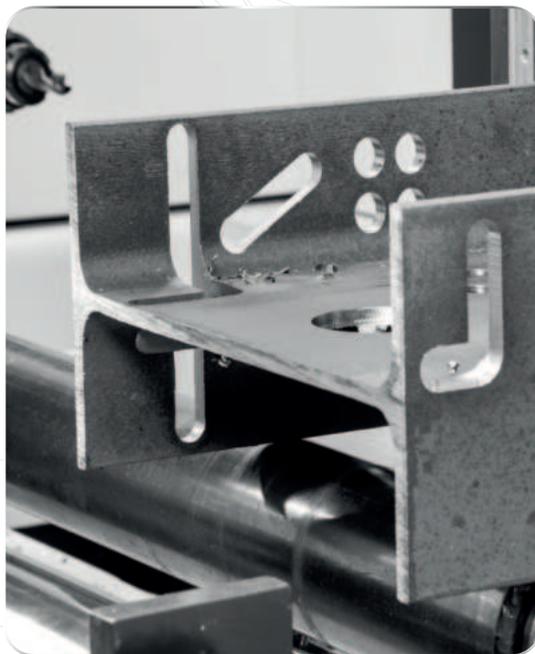
Play video

Valiant drilling line combined with Nozomi coping robot





Valiant drilling line combined with Katana band saw



Auxiliary axes with extended stroke

One of the most important innovations of the Valiant is the stroke of the spindle sub axes. The additional auxiliary axis on all three spindles has been increased up to 300 mm which allows for a wider independent control of each spindle. With this innovation, the beam remains stationary to maximize the utilization of each spindle within the stroke. For example, when drilling one surface, it is possible to perform on the other surfaces independent drilling or milling-type operations such as helical milling, pocketing, weld prep, slotting, and more.

Drilling, sawing and coping with combined machines

The Valiant can easily be interfaced with the range of FICEP band saws and coping robots to create an extremely productive integrated work cell. The production cell is controlled by the same CNC control and software. This permits such typical tasks as straight or mitered cuts with a band saw or the plasma/oxy-fuel cutting of copes, mechanical openings, flange thinning, rat holes, weld prep, beam splitting and more.



Pegaso is the latest generation CNC for FICEP lines where the PC, CNC and PLC are all integrated into a single circuit board for maximum reliability. Pegaso is based upon a field bus technology using CanBus and EtherCAT for controlling up to 32 separate CNC axes.



TECH SPECS

VALIANT Automatic CNC multi-spindle drilling line	453 VL 453 VL-R	603 VL 603 VL-R	1003 VL 1003 VL-R	1103 VL 1103 VL-R	1203 VL 1203 VL-R	2003/6 VL	2003/8 VL
Section size [min. mm]	60*x10	60x10	60x10	80x10	80x10	200x75	200x75
Section size [max. mm]	460x460	610x460	1015x460	1115x510	1220x610	2030x610	2030x810
Drilling heads [no.]	3	3	3	3	3	3	3
Drilling tools per head [no.]	6/14	6/14	6/14	6/14	6/14	6/14	6/14
Drilling diameter [max. mm]	40	40	40	40	40	40	40
Spindle power [kW]	31	31	31	31	31	31	31
Spindle speed [max. RPM]	5000	5000	5000	5000	5000	5000	5000
Spindle sub-axis stroke [mm]	300	300	300	300	300	300	300
Machine weight [kg]	10000	11000	11000	11500	11500	14500	15000

*Angles, square and rectangular tubes with min. side of 50 mm only on carriage and pincher feeding models

VALIANT Drilling & band sawing	453 VLB	603 VLB	1003 VLB	1103 VLB	1203 VLB	2003/6 VLB	2003/8 VLB
Motor power [kW]	9	9	9	15	15	18	19
Band saw blade speed [max. mt/min]	170	170	170	170	170	170	170
Band saw blade size [mm]	41x1.3x7250	41x1.3x7250	41x1.3x7250	54x1.6x9920	67x1.6x9000	67x1.6x12100	67x1.6x12100
Machine weight [kg]	14500	15500	15500	23000	17900	31000	32500

VALIANT Drilling & coping	604 VLFRC	604 VLRAZ	1204 VLFRC	1204 VLRAZ
Oxy-fuel torch [no.]	1	-	1	-
Plasma torch [no.]	1	1	1	1
Machine weight [kg]	20000	20000	20500	20500

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VANGUARD

Automatic CNC drilling, drilling & band
sawing, drilling & coping lines for sections



H VANGUARD

Automatic CNC drilling, drilling & band sawing, drilling & coping lines for sections

It is now the Vanguard's turn to join the FICEP line of drilling lines. This new model drilling line incorporates the modular features of the previous models at an appealing price/performance ratio.

The Vanguard features the same welded steel structure as the other models of FICEP drilling lines. This guarantees maximum stability and rigidity for enhanced drilling performance.

The drill spindles feature a casting structure composed of leading edge material. This design guarantees efficient vibration dampening characteristics.

All models are available with diverse optional features such as underside scribing device, chip conveyor (which require no special foundation), marking unit and probing system.

All spindle positioning in the vertical and horizontal axis is accomplished with rack and pinion drive systems at speeds of 12 m/min. The DIRECT DRIVE spindles deliver 100% of the 31 kW motor's power to the ISO 40 tool holder and corresponding tool.



Vertical hold downs



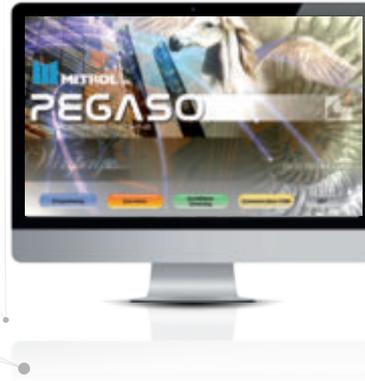
6-position automatic tool changer

Vanguard drilling line combined with Nozomi coping robot





Pegaso is the latest generation CNC for FICEP lines where the PC, CNC and PLC are all integrated into a single circuit board for maximum reliability. Pegaso is based upon a field bus technology using CanBus and Ether-CAT for controlling up to 32 separate CNC axes.



Vanguard drilling line combined with Katana band saw



Underside web scribing device

Reliability in the workshop

- The Vanguard drilling lines reflect FICEP's market-leading years of experience engineering drilling lines for structural steel. The system is extremely productive yet it reflects a basic simplicity of design for enhanced reliability even in the most hostile environments.
- The design features the utilization of standard commercially available components such as Siemens drives. The CNC control is engineered by FICEP's Mitrol facility to reflect simplicity of hardware married with powerful software that has evolved over years of experience and understanding of the needs of the market.
- The patented CNC technology developed by FICEP offers unique solutions developed from a comprehensive understanding of the required processes. This powerful CNC control platform is used for the diverse FICEP product line for such operations as drilling, sawing, shearing, notching, marking and thermal cutting. The operator interface features a commonality for operator utilization between all the FICEP CNC lines.



VANGUARD Automatic CNC multispindle drilling line	453 VN 453 VN-R	603 VN 603 VN-R	1003 VN 1003 VN-R	1103 VN 1103 VN-R	1203 VN 1203 VN-R
Section size [min.mm]	60*x10	60x10	60x10	80x10	80x10
Section size [max.mm]	460x460	610x460	1015x460	1115x510	1220x610
Drilling heads [no.]	3	3	3	3	3
Drilling tools per head [no.]	6	6	6	6	6
Drilling diameter [max. mm]	40	40	40	40	40
Spindle power [kW]	31	31	31	31	31
Spindle speed [max. RPM]	5000	5000	5000	5000	5000
Machine weight [kg]	8500	9500	9500	10000	10000

TECH SPECS

*Angles, square and rectangular tubes with min. side of 50 mm only on carriage and pincher feeding models

VANGUARD Drilling & band sawing	453 VNB	603 VNB	1003 VNB	1103 VNB	1203 VNB
Motor power [kW]	9	9	9	15	15
Band saw blade speed [max. mt/min]	170	170	170	170	170
Band saw blade size [mm]	41x1.3x7250	41x1.3x7250	41x1.3x7250	54x1.6x9920	67x1.6x9000
Machine weight [kg]	13000	14000	14000	21500	16400

VANGUARD Drilling & coping	604 VNFRC	604 VNRAZ	1204 VNFRC	1204 VNRAZ
Oxy-fuel torch [no.]	1	-	1	-
Plasma torch [no.]	1	1	1	1
Machine weight [kg]	18500	18500	19000	19000

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