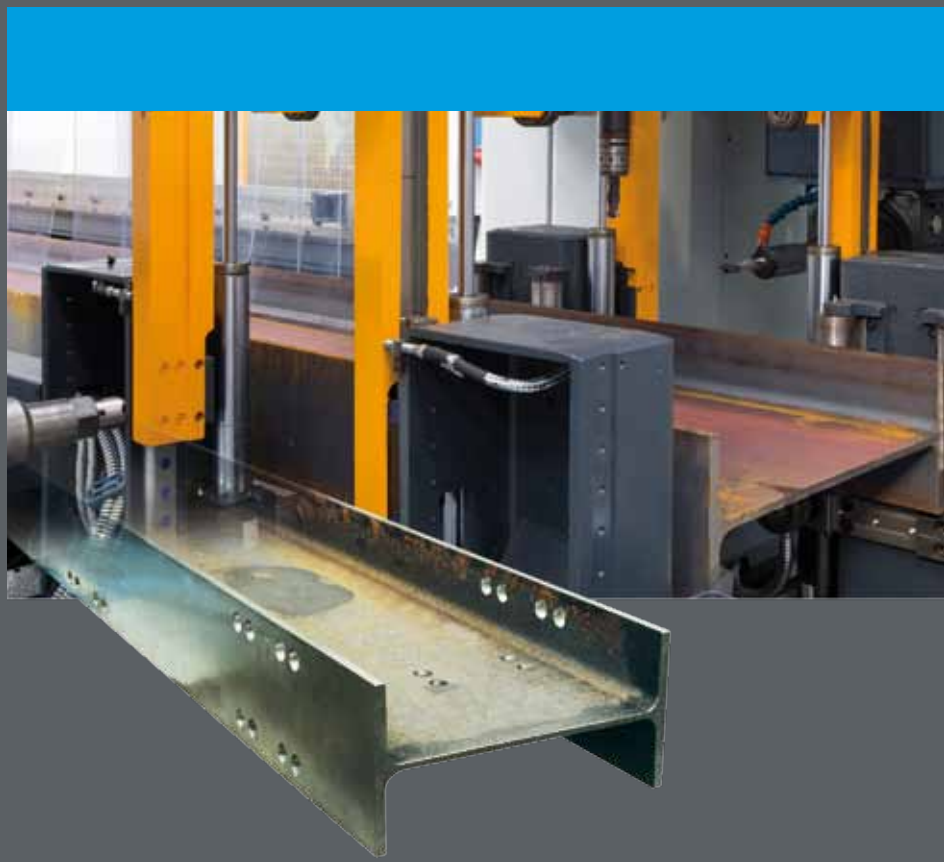


ENDEAVOUR

Automatic CNC lines for drilling, milling, marking, sawing and coping for beams, channels and flats

MADE IN ITALY

FICEP S.p.A.

ENDEAVOUR
DRILLING LINES

ENDEAVOUR

The latest in beam processing

Endeavour is a new three spindle drilling line for the processing of beams and shaped rolled sections with small and large dimensions. With the new innovations and the modular structure it is a significant step forward in beam processing. There are six different sizes available covering material sizes from 610mm x 305mm up to 2515mm x 1015mm.

Esthetics

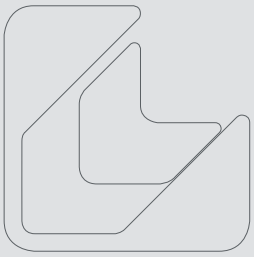
The Endeavour is compact, essential, linear and very high tech with its new direct drive motors. The power of the motor and the speed of positioning together with the new rack and pinion driving cinematics give a feeling of silence and speed under control never felt before.
The chip conveyor doesn't require any foundation pit and the electrical cabinet is on board. There are two working heights available for installation and the Endeavour can be easily coupled with saws, marking units, coping robots.

ENDEAVOUR
DRILLING LINES

Safety

Safety is built inside! The engineers were pushed to think about functionalities that involved reduced interventions from the operator over the machine cycle. The consequences resulted in a much reduced variance from cycle to cycle of the machine performance giving higher throughputs in the short and long run.

Fast drilling, scribing, tapping, milling for all three drills independently.



New auxiliary axes

The three spindles are equipped with a new additional auxiliary axis that allows independent control of the spindle over a 250 mm stroke. By this method with the beam being stationary we can maximize the utilization of each spindle within the stroke. Whilst drilling on one side/flange it is possible to perform other operations that require an interpolation on one of the other sides of the beam being processed.

Higher productivity

New innovations have been implemented in Endeavour design to increase the productivity.

- Faster drilling speeds at minimum cost
- New helical milling features (min-max diameter)
- New milling applications for pocketing
- Weld preparation possibility
  Faster scribing speed
- New universal tool holder
- Slotting in any direction
- Automatic detection of the profile size
- Processing of tapered beams
- Option for camber and unequal flanges

Usability:

- Easy access to the working units and tool changers
- New chip collector design
- The new jaw system to clamp the piece by increasing the clamping rolls from four to six.
- Easy to keep the machine clean

Underside scribing

ENDEAVOUR
COMBINED WITH A CNC SAWING UNIT

The Katana range of saw lines represents the latest technology in High Performance band saws for structural steel industry. With the increased cutting speed the Katana saws are a significant step forward in beam processing. These extremely fast saws can carry out sawing operations at 90° or at miters by program command. The saws can be delivered as standalone installations or as combined lines with the Ficep beam drilling units.

The main advantages that the combined configuration offers are:

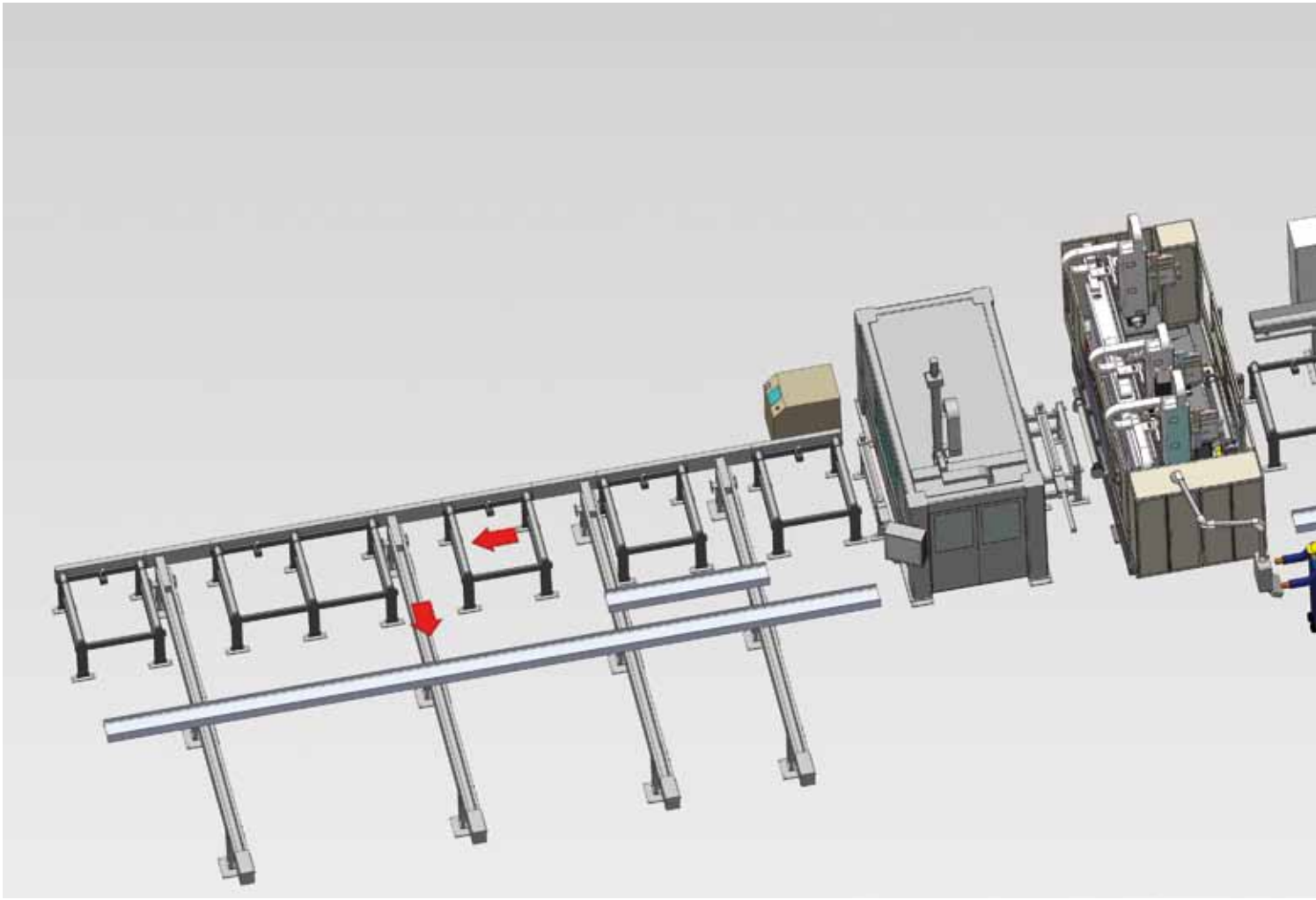
- Consolidated layout minimizes the required shop space.
- Lower man hours per ton are achieved by the elimination of one operator.
- Reduction of the investment costs as the combined system requires less material handling elements.
- Reduction in material handling steps.
- Ability to drill and saw short parts and even handle trim cuts automatically without operator intervention.
- The high structural integrity of the cutting head is achieved with a welded one piece, totally enclosed bridge type structure.
- Prismatic sliding ways guide the cutting head on both sides of the two bridge structure.
- The blade guide system adjusts automatically as section sizes are changed as part of the CNC program.
- Spray mist blade lubrication and cooling system.
- Non ferrous motorized chip brush is incorporated for blade cleaning.
- Chip conveyor
- Automatic saw mitering at +60°/-60°

TECHNICAL SPECIFICATIONS IN SYSTEMS WITH SAWS						
MODEL	Web Height Min./Max. (90)	Flange Width Min./Max. (90)	Blade size	Blade speed	Band Saw Motor	CNC Axes
	mm	mm	mm	m/min	kW	number
603 DDB	80/610	30/305	34x1.1	150	7	7+3+2
1003 DDB	80/1015	42/450	41x1.3	170	9	7+3+2
1103 DDB	80/1100	42/450	54x1.6	150	15	7+3+2
1203 DDB	80/1220	42/610	67x1.6	100	15	7+3+2
2003 / 6 DDB	80/2030	42/610	67x1.6	100	15	7+3+2
2003 / 8 DDB	200/2030	100/810	67x1.6	100	15	7+3+2
2503 / 8 DDB	200/2515	100/810	67x1.6	100	18	7+3+2

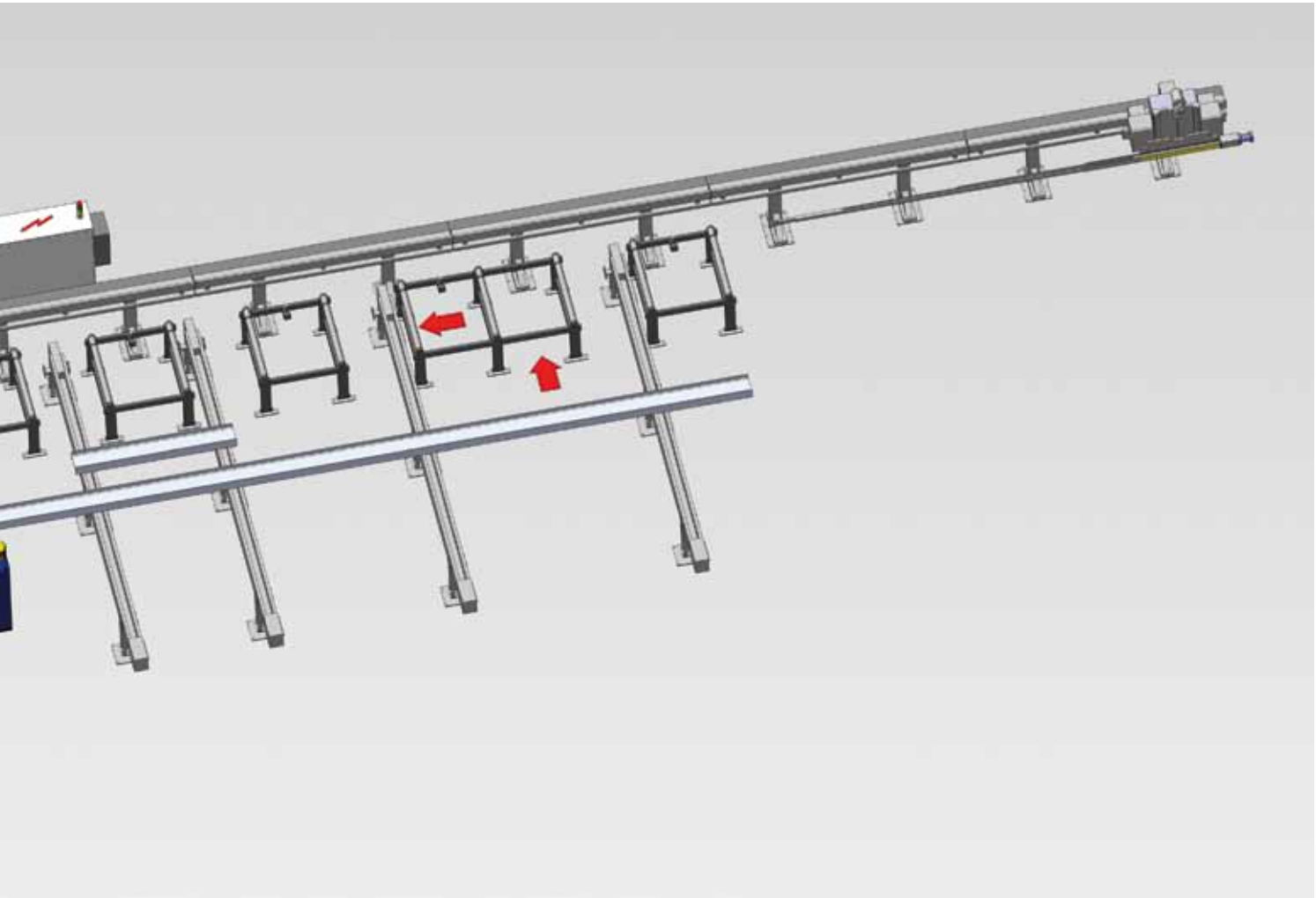
ENDEAVOUR - KATANA
SAWING UNIT

ENDEAVOUR
COMBINED WITH A COPING ROBOT

The Endeavour beam drill machines can be combined with plasma or oxy robotic thermal cutting units (RC) to automatically cut shapes such as coping or flange thinning, ratholes, weld prepping, splitting in the section which cannot be done by a sawing unit.
This combination of drilling and cartesian semispheric robotic coping represents a unique solution. If there is a difficult shape, a funny shape, an accurate connection shape to be realized on a long profile this machine can do it.



TECHNICAL SPECIFICATIONS IN SYSTEMS WITH COPING ROBOTS				
MODEL	Web Height Min./Max.	Flange Width Min./Max.	max cutting thick-ness (oxy / plasma)	number of cutting axes
	mm	mm	mm	5 + 1
604 DDRC	80/610	42/305	100/20	5 + 1
1204 DDRC	80/1220	42/610	100/20	5 + 1
2004 / 6 DDRC	200/2030	42/610	100/20	5 + 1
2004 / 8 DDRC	200/2030	75/810	100/20	5 + 1
2504 / 8 DDRC	300/2540	75/810	100/20	5 + 1
2504 / 10 DDRC	300/2540	100/1015	100/20	5 + 1



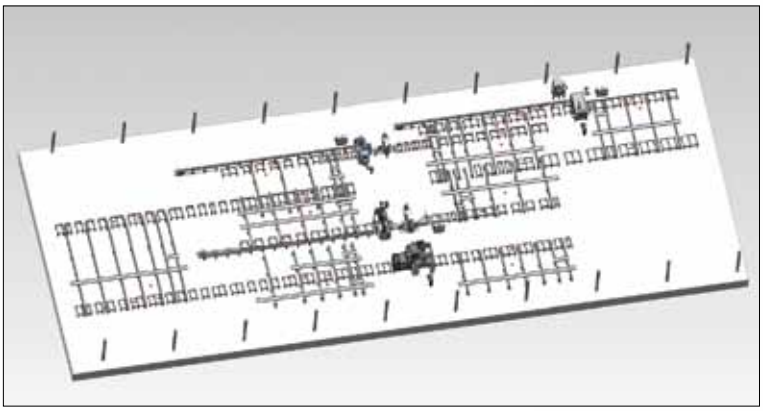
The largest drilling units in the Endeavour range are with a moving Gantry frame. These machines are ideal for e.g. large bridge girders.

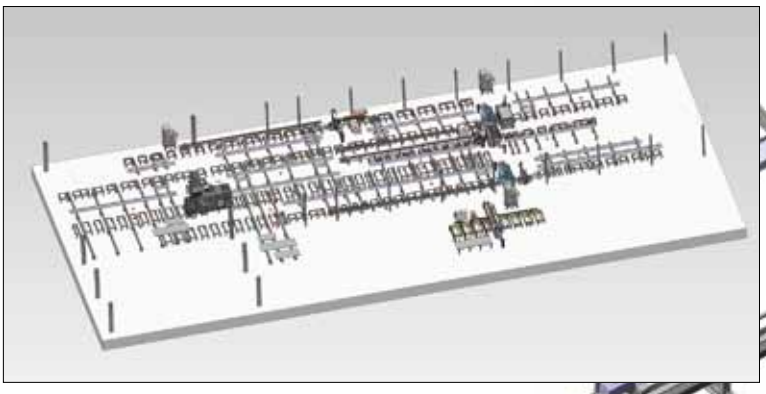
ENDEAVOUR
GANTRY DRILLS

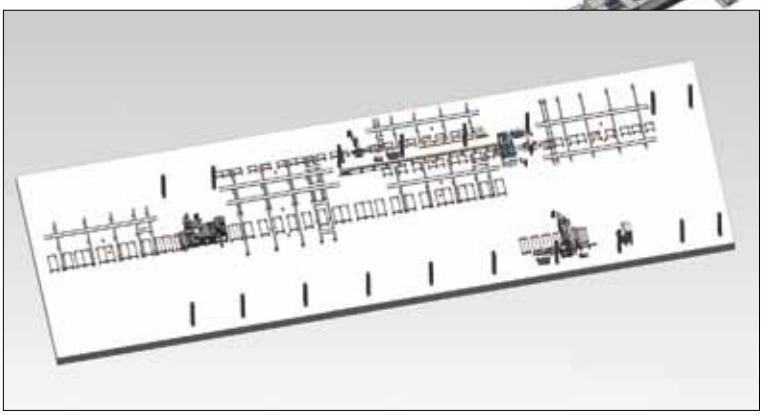
TECHNICAL SPECIFICATIONS - GANTRY DRILLS			
MODEL		**3000 G-DD**	**4000 G-DD**
Material data			
web height min	mm	600	600
web height max	mm	3000	4000
flange width min	mm	200	400
flange width max	mm	1250	2000
Machine data			
tools per spindle	number	6	6
max hole diameter	mm	50	50
spindle power	kW	27	27
spindle torque	Nm	172	172
spindle speed	rpm	5000	5000
drilling axes speed	mm/min	1000	1000
positioning axes speed	m/min	20	20
axes CNC controlled	number	11+3	11+3
extra axes stroke	mm	200	200

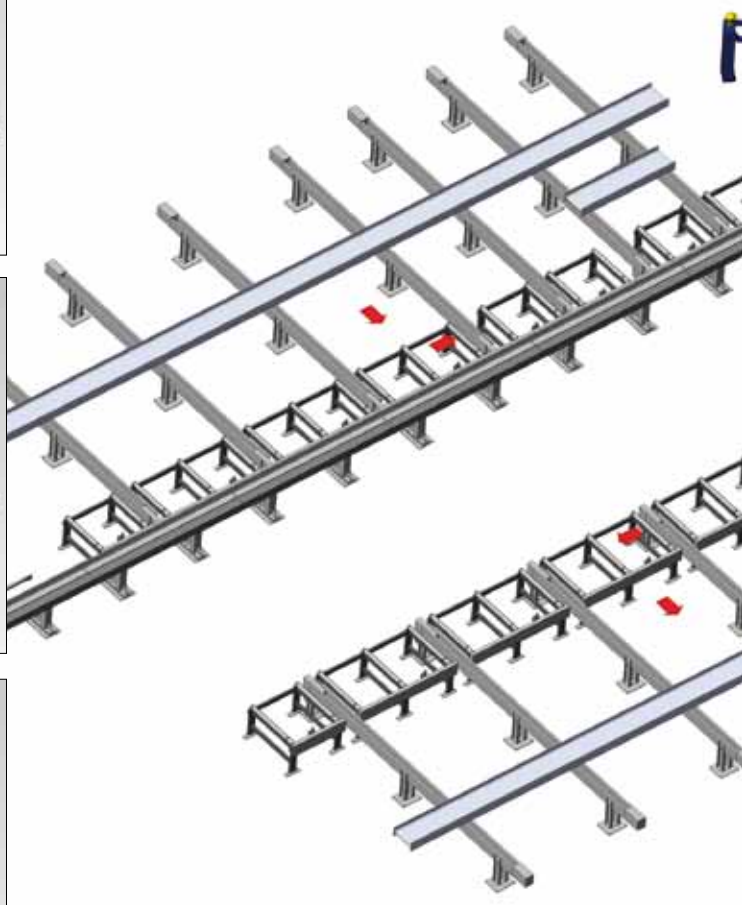
AUTOMATIC SYSTEMS

Ficep is the world leading supplier of fully automatic systems for structural steel industry. With a dedicated department for Automatic systems in the headquarters, Italy we have designed and installed over 100 automatic lines in different sizes.
We have sophisticated software in use to carry out challenging production capacity calculations based on each project's requirements and layout proposals. This way we can study the optimal solution for each type of customer.









Real time production supervision

PEGASO SYSTEM

Pegaso is the new generation CNC for Ficep machines. PC, CNC and PLC are integrated on a single board, to have the maximum reliability. Pegaso is based on field bus technology: CanBus and EtherCAT, with up to 32 axes controlled.

The CNC is positioned on a mobile control panel, so the operator can have a complete view of the machine. The most of input / output interface devices and brushless motors drives are located on the machine.

Programming

- Simplified data input with graphical direct preview
- 3D piece view
- Diameter programming with automatic tool assignment
- Linear, matrix and flange patterns
- Programming with millimeters or inches (also fractions)
- Linear nesting

Processing

- Automatic tool assignment
- Unit offset automatic summing
- Automatic grouping and ordering of operations
- Setup modification lines generation
- Rototraslation of executing program to follow sheet orientation

Execution

- Automatic cycle stop for tool setup modification
- Probing capability to adjust program quotes to actual material position
- Automatic software to prevent machine unit collisions
- Automatic software to prevent tool collisions against material
- Tool management with operating parameters and tool life management
- Messages and alarm notifications to the operator using customer language with history log
- Graphic screens to display machine pieces handling tables
- Production times recording

PC characteristics

- CPU AMD Ontario 1.6 GHz Dual Core
- Ram 2 Gb
- Disk Compact Flash 8 Gb
- USB 6 High Speed 2.0 (one on the front)
- LAN Ethernet 10/100/100 Mbit
- Keyboard Industrial PS2
- Display LCD Led technology 15 “ with touch screen
- Industrial panel with 42 push buttons
- Op. Sys. Windows 7 Embedded with EWF filter
- Teleservice software for remote diagnostics

MAIN TECHNICAL SPECIFICATIONS							
		603 DD	**1203 DD**	**2003/6 DD**	**2003/8 DD**	**2503/8 DD**	**2503/10 DD**
Material data							
web height min	mm	80	80	80	200	200	200
web height max	mm	610	1220	2030	2030	2515	2515
flange width min	mm	10	10	10	75	75	100
flange width max	mm	305	610	610	810	810	1015
max weight of profile	kg/m	185	220	375	500	750	750
Machine data							
tools per spindle	number	4	6	6	6	6	6
max hole diameter	mm	40	40	40	50	50	50
spindle power	kW	17	17	27	27	27	27
spindle torque	Nm	110	110	172	172	172	172
spindle speed	rpm	5000	5000	5000	5000	5000	5000
drilling axes working speed	mm/min	1000	1000	1000	1000	1000	1000
positioning axes speed	m/min	30	30	30	15	15	15
material feed speed	m/min	30	30	30	20	20	20
axes CNC controlled	number	7+3	7+3	7+3	7+3	7+3	7+3
extra axes stroke	mm	250	250	250	200	200	200

since 1930

FICEP S.p.A.
via Matteotti, 21
21045 GAZZADA SCHIANNO VA - ITALY
Tel. +39 0332 876.111
Fax +39 0332 462.459
www.ficepgroup.com
E-mail: ficep@ficep.it

FICEP FRANCE
Z.I. "Les Platanes" - B.P. 20
33360 Camblanes - FRANCE
Tel. +33 (0) 556.20.15.55
Telefax +33 (0) 556.20.15.56
www.ficepgroup.com
E-mail: ficep@ficep-france.fr

FICEP CORPORATION
2301 Industry Court - Forest Hill Industrial Park
Forest Hill, MD 21050 - USA
Tel. 1-410-588-5800
Fax 1-410-588-5900
www.ficepgroup.com
E-mail: info@ficepcorp.com

FICEP IBERICA S.A.
Poligono Industrial Ali-Gobeo
Calle Becolarra, N2 - Pabellón 30
01010 Vitoria (Alava) - SPAIN
Tel. +34 945.14.83.11
Fax +34 945.14.81.37
www.ficepgroup.com
E-mail: ficep@ficepiberica.com

FICEP HONG KONG LTD
Unit 204, 2nd Floor - Block C
DB Plaza Discovery Bay
HONG KONG
Tel. +852-2544 6888
Fax +852-2544 5123
www.ficepgroup.com
E-mail: info@ficep.com.hk

FICEP UK LTD
3 Gilcar Way Valencia Park
Wakefield Europort
Normanton WF 10 5QS
UNITED KINGDOM
Tel: 0044 1924 22353
Fax: 0044 1924 223666
www.ficepgroup.com
E-mail: info@ficep.co.uk

FICEP HONG KONG LTD
Guangzhou Representative Office
Room 2010, Guangzhou Peace World Plaza
no. 362-366 Huan Shi Dong Road,
Yuexiu District, Guangzhou 510060
Tel: +86-20-83752871, 83752876
Fax: +86-20-83881779
www.ficepgroup.com
E-mail: ficep-guangzhou@ficep.com.hk

FICEP.de GmbH
Otto Hahn Strasse 46
48529 Nordhorn - DEUTSCHLAND
Telefon: +49 5921 30457-10
Telefax: +49 5921 30457-29
Mobil.: +49 171 120 3932
www.ficepgroup.com • E-mail: info@ficep.de

FICEP MIDDLE EAST SAL
144 El-Alam Str. Forest Bldg., Badaro
P.O.Box 2019/116 Beirut Court House Beirut
LEBANON
Tel. +961 1 386664 - Mobile: +961 70126826
Fax +961 1 386011
www.ficepgroup.com • E-mail: info@ficep-me.com

FICEP IRELAND LTD
Office, Tele/fax 0044-2886751150
Mobile 0044-7711610244
Office, Tele/fax 0044-1460239635
Mobile 0044-7876591176
www.ficepgroup.com

FICEP LTDA
SUL AMÉRICA SERVICE
Av. Vital Brasil n° 540 - Centro - Poá
São Paulo 08557-000 - BRASIL
Tel./Fax: +55-11-4636.8798
www.ficepgroup.com • E-mail: ficepsulamerica@ig.com.br

FICEP
FICEP INDIA SERVICE
Pradman Engineering Services Pvt. Ltd.
Plot No A-490, Road U, Opp. DGP Windsor,
Next to Irmra, Wagle Industrial Estate,
Thane (W) – 400604 India
(Tel) +91 22 25806179 / 80
Gaurang Trivedi – Technical Services
(Mob) +91 9702701730
www.ficepgroup.com

FICEP
МОСКОВСКИЙ ОФИС
127051, Москва, ул. Петровка, 20/1, офис 36.
Тел.: (495) 6423794, 6423795
Факс: (495) 5858696
www.ficepgroup.com • E-mail: pmcm@mail.ru

Advanced Agency 10/2012