



DJ
ENTERPRISE 12 - ENTERPRISE 20

Automatic CNC drilling
lines for profiles



FICEP
Sp.A.



The H-I-U etc. rolled steel sections are the supporting frame of all the modern civil and industrial building construction. Technical & Economical choices, such as:

- Interfaces within your existing environment
- Reduced cost per linear meter
- Easy assembling
- Planning simplicity
- Possibility to identify and trace the manufactured workpiece
- Good adaptability to suit anti-seismic requirement

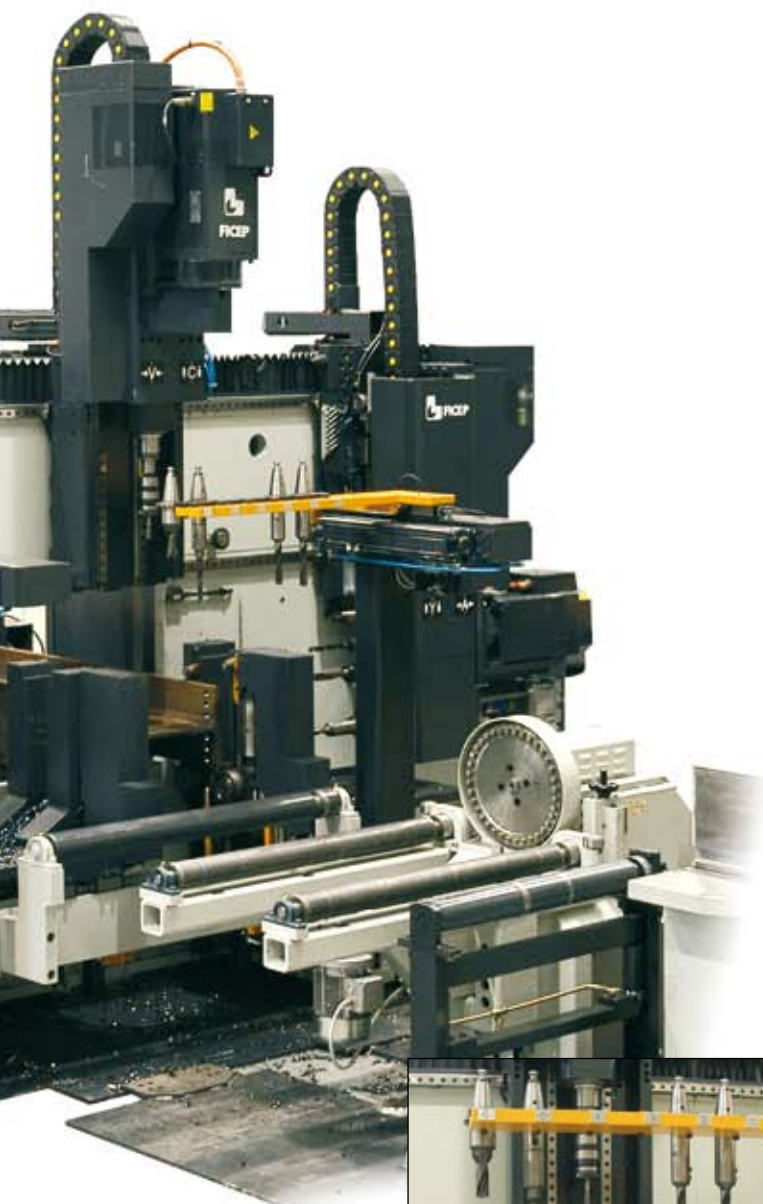
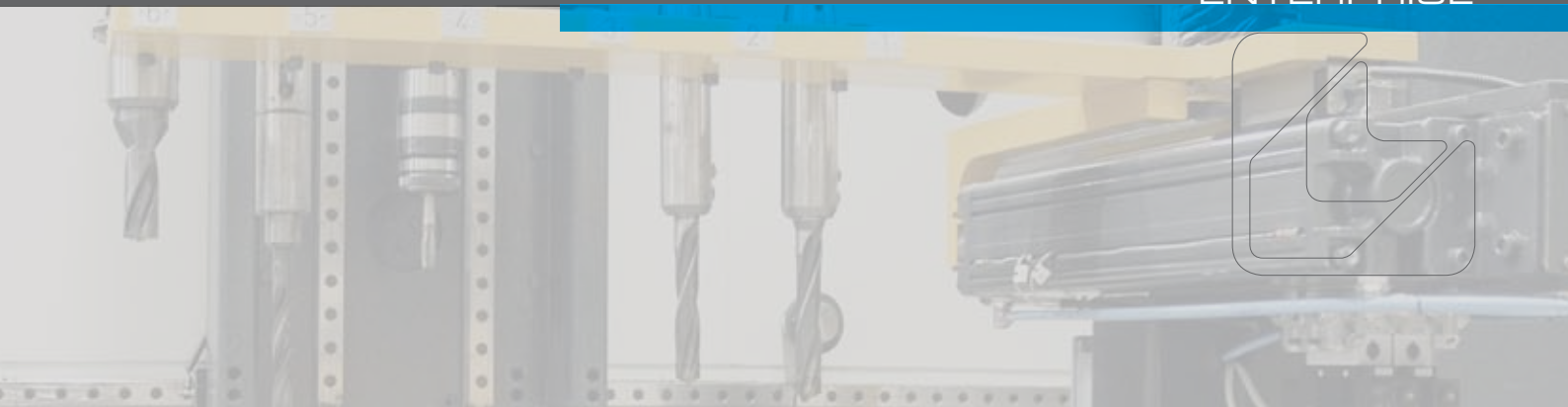
justify the strong demand for processed sections, and the parallel development of steel construction industries and service centres.



SCRIBING



Detail of beam with scribing managed by the software



The DJ drilling machines, versions Enterprise 12 or Enterprise 20 are drilling centres with 3 drill spindles each suitable for the processing of beams and shaped rolled sections with large dimensions.

- A sturdy and rigid electro-welded portal frame to avoid vibration.
- Prismatic self-lubricating linear guides to allow the heads to slide.
- 3 sturdy ball-screws for the positioning of drilling heads.
- Brushless motors with permanent magnets for feeding and positioning spindles.
- Drill Spindles with 19 kW motors and 3000 RPM speed to allow the use of self-lubricating insert tips and high penetration drills
- Automatic tools changer with 6 positions for each head.
- Vertical and horizontal hydraulic jaws to clamp the pieces being processed with a roll system to allow the work piece to advance during processing. (milling and scribing)
- 12 mt or more infeed and outfeed rollerway.
- Up-and-down adjustable carriage with pincher moved by rack and pinion (with CNC feeding and measuring functions) to control the bar movement.



Detail of the drilling head with tool changer

1203 DJ
ENTERPRISE 12



1204 DJRC ENTERPRISE 12

DJ machines are equipped with automatic tool-changer on each head and, thanks to the complete “closed loop” electronic control, in addition to drilling they can also carry out milling, tapping, countersinking and scribing in order to mark material with part numbering or layout marking for welding purposes.

- Automatic and centralized lubrication system
- Power pack and CNC developed with field bus technology (CAM-bus)
- Ficep Minosse control unit with 7+5 axes

DJ machines can be combined with Ficep saws (1203 DJB) to carry out straight or mitred cuts (+45/-65 degrees) or with plasma or oxy thermal cutting units (1204 DJRC/2004 DJTT) to automatically cut shapes in the section which cannot be done by a sawing unit.

OPTIONAL EQUIPMENTS

- Marking unit with 36 positions
- Electronic control of profile deformation on infeed side
- 6 mt and 20 mt infeed and outfeed conveyors
- Loading and unloading transfer tables with catches or carts.



1204 DJRC
drilling line with
thermal cutting





1203 DJB
ENTERPRISE 12

1203 DJB
drilling line
with band
sawing unit





HARDWARE and SOFTWARE

The new generation control unit, with controlled axes, is based on a fieldbus CANopen technology.

The CNC is positioned on a mobile control panel, so that the operator can have a complete view of the machine.

All the input and output cards are connected to the bus and lodged on the machine, if it's possible.

The CNC is equipped with:

- digital inputs (24V – optoinsulated)
- digital outputs (24V – protected transistors)

The control panel is an industrial PC containing the CNC and having the following specifications:

- 600 Mhz CPU with L2 512 KB “cache”
- 512 MB RAM memory
- Touch screen colour video TFT 12.1”
- Keyboard panel and auxiliary pushbutton panel
- 10/100 RJ45 Ethernet port
- USB modem
- 1 additional USB port
- WINDOWS XP Embedded operative system
- Teleservice software

Programming

- Simplified data input (with tables and workpiece on-screen graphics)
- Absolute and incremental values
- Diameters programming
- Linear, matrix and flange patterns
- Nesting of equal or different workpieces into the same bar, with on-screen graphics
- Automatic nesting

Processing

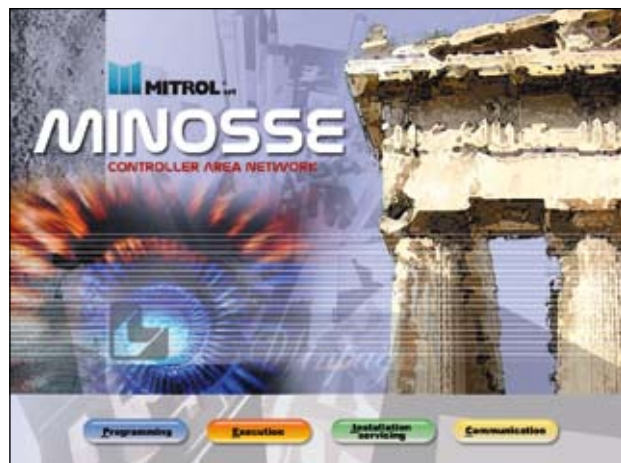
- Automatic tool assignment
- Unit offset sum
- Values ordering
- Automatic optimization on the basis of the quantities left for each single workpiece

Execution

- Automatic survey of the bar length, and re-calculation of the optimized accumulation
- Automatic cycle stop for “setup” modification, and on-screen indication of the tools to be changed
- Possibility for the drill heads to operate in “multitasking” mode in their working areas (even with automatic tool changer)
- Automatic control to prevent any possible collision of the drills
- Drilling parameters table

All the indications are clearly displayed on the screen, and concern:

- Current program indication, with clear description of the program running at the moment
- CNC inside and outside alarms
- Registration of the date and time of the last 100 alarm messages
- Diagnostic messages to the operator



Web and flange drilling of one section only, according to the following specifications:

| Main Technical Specifications | 1203 DJ ENTERPRISE 12 | 2003 DJ ENTERPRISE 20 |
|--|---|--|
| I-Beams (without camber) Web height Flange width | min. mm 80 max. mm 1220 min. mm 42 max. mm 600 | min. mm 200 max. mm 2000 min. mm 60 max. mm 600 |
| UNP Channels (web downwards) Web height Flange width | min. mm 80 max. mm 1220 min. mm 45 max. mm 300 | min. mm 200 max. mm 2000 min. mm 60 max. mm 300 |
| Angles Flange height (unequal flanges as well) | min. mm 80x80x8 max. mm 300x300x50 | min. mm 120x120x10 max. mm 300x300x50 |
| Flats Width | min. mm 100 max. mm 1220 | min. mm 200 max. mm 2000 |
| Square Tubes Size | min. mm 80x80 max. mm 600x600 | min. mm 200x200 max. mm 600x600 |
| Square Tubes Size | min. mm 80x40 max. mm 1200x600 | min. mm 200x100 max. mm 2000x600 |
| All Beams Max. thickness that can be drilled Max. length (can be extended with options) Minimum length to be transferred | mm 75 mm 12000 mm 2500 | mm 75 mm 12000 mm 2500 |
| Drilling Capacities Vertical drill head Horizontal drill heads Spindles per vertical drill head Spindles per horizontal drill head Maximum hole diameter Spindle rotation motor per head (a.c.) Program controlled spindle rotation speed with continuous variation | no. 1 no. 2 no. 1 no. 1 mm 40 (50) kW 19 RPM up 180 to 3000 | no. 1 no. 2 no. 1 no. 1 mm 40 (50) kW 19 RPM up 180 to 3000 |
| Other Specifications Maximum positioning weight Maximum linear weight of the section Maximum carriage speed Spindle positioning speed Working level height Controlled axes CNC | Kg 8000 Kg./m 375 m/min 40 m/min 10 mm 850 no. 7 Ficpep Minosse | Kg 10000 Kg./m 500 m/min 20 m/min 10 mm 850 no. 7 Ficpep Minosse |

NOTE: Dimensional tolerances of the raw sections are to UNI 5783-5784/73 standards.



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



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.ficep-france.fr
E-mail: ficep@ficep-france.fr



Poligono Industrial Alj-Gobeo
Calle Becolarra, N2 - Pabellón 30
01010 VITORIA (ALAVA) - SPAIN
Tel. +34 945.14.83.11
Fax +34 945.14.81.37
www.ficepiberica.com
E-mail: ficep@ficepiberica.com



Office, Tele/fax 0044-2886751150
Mobile 0044-7711610244
Office, Tele/fax 0044-1460239635
Mobile 0044-7876591176



10 The Courtyards - Victoria Park
Victoria Road, Leeds LS14 2LB - UNITED KINGDOM
Sales Tel: 0113 2653921
Service Tel: 0113 2653923
Fax: 0113 2653913
www.ficep.co.uk
E-mail: info@ficep.co.uk



Bernhard-Hahn-Str. 7-9
41812 Erkelenz GERMANY
Tel. 02431-80020
Fax 02431-800213
www.ficep-hmb.de
E-mail: info@ficep-hmb.de



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



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



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