

TXcell



*eXcellence in cellular
tool manufacturing*

ANCA[®]



Cellular tool manufacturing

Are your profits being squeezed from all sides by falling prices, rising costs and more difficult tolerances, but you can't seem to get the productivity you need from your plant?

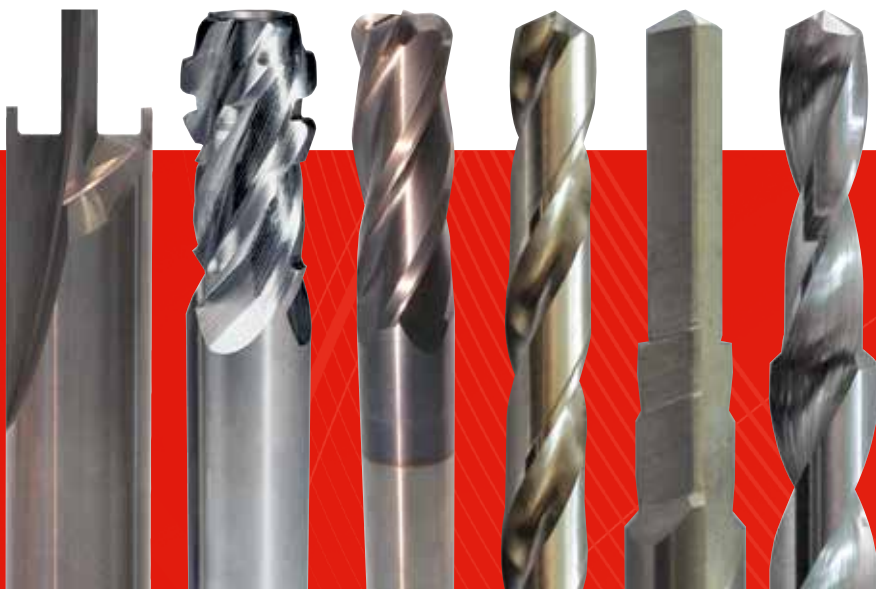
Installing a dedicated production line of single process machines is no longer the answer because your market changes too quickly these days. Just when a dedicated line is starting to generate profit, the market shifts and you need to re-tool. Your customers demand an ever increasing range of tools, in smaller batches and of higher quality, and they want them quicker and cheaper than ever!

You know you need to become more agile to these market pressures, but how do you do this and at the same time, drive costs down and productivity up.

Seem impossible? ...

ANCA's **TXcell** is a revolutionary new **system for cellular tool manufacturing** that fights the profit squeeze on 3 vital fronts – **flexibility, productivity and precision.**

*revolutionary
new
system...*



TXcell at a glance

- Includes TX7+ machine: an industry benchmark for precision and productivity
- Robot cell covers wheel pack and tool loading



- 9 wheel packs as standard, with options of up to 24, means the machine does not have to be reset between tool types. Wheel diameters can be up to 300mm.
- 2 pallets as standard with the option of up to 4 pallet stations. This extends your unmanned grinding production with zero retooling between batches
- Flexible tooling and software facilitates manufacture of varying tool diameters and types
- Cellular concept allows robot functionality to be utilised for additional operations eg. Laser etch, tool finishing, fine brush honing



Responds to your needs

eXcellent Flexibility

From the simplest end-mill to the most complex stepped drill insert you can imagine, **ANCA's software sets the benchmark for ease of use and flexibility.** For over 40 years, ANCA has been the brand of choice when you need to grind a huge variety of tools in a hurry. Simply use the inbuilt tool wizards or dive deep into advanced features like the Special Operations Manager and Program Scripting which let you create user interfaces for your own uniquely designed families of tools. The choice is yours.

TXcell's integrated robotic work cell takes ANCA's renowned flexibility to new heights. Whether manufacturing new tools, or automating your regrinding operations, TXcell combines features to allow you to **schedule mixed batches and run unmanned with zero re-tooling time in between.**

- Library of up to 24 fully automated wheel packs*
- ANCA Robomate job scheduling software
- Variable-diameter tooling‡

How about brush honing or laser etching? Draw on ANCA's engineering capabilities to **include a variety of pre and post grinding operations directly into the cell.** And since the robot handles these operations while the machine is busy grinding, that's money saved.

eXcellent Productivity

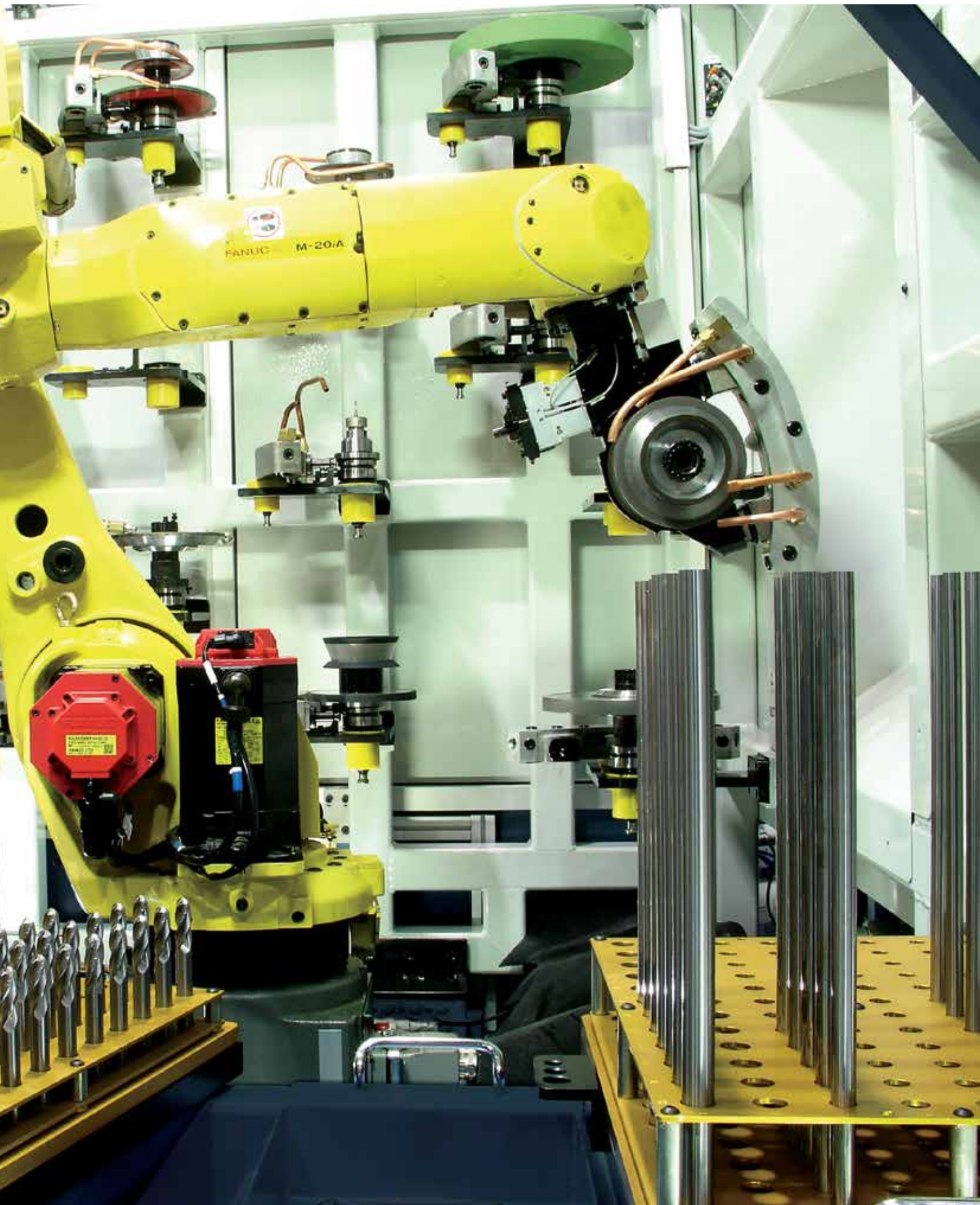
You know that if you can increase machine up-time whilst reducing set-up time and manual interventions you will increase grinding efficiency. These factors will also combine to give you a **quicker and superior return on your investment.**

TXcell excels at productivity. It can work through 3 full pallets* of tools in a single unmanned run. TXcell's 37kW (49hp) spindle and wheels of up to 300mm (12") give you maximum grinding efficiency and wheel life. Two optional NC wheel dressers and white-sticking ensure you maintain wheel form and condition, even across very large batches of tools. Alternatively, for very large batches, you can load your TXcell up with duplicate wheels and automatically switch them, mid batch if you prefer. Up to 24 wheel packs* gives you **plenty of scope to optimise your manufacturing or regrinding throughput.**

Remember, your machine's not making money for you if you're wasting time tweaking the set-up for each batch. **Re-tooling time between batches can effectively be zero** using TXcell's flexible tooling and scheduling software.

What about programming a new tool? With CIMulator3D#, you can program and simulate the entire grinding process offline. On the machine, ANCA's patented MPG Feed is the fastest and safest-prove out technique available anywhere. The onboard iView camera† lets you measure to quickly make sure your new tool design is ready for unmanned production.





eXcellent Precision

Count the microns! Have you noticed there are less of them on your customers' tolerance spec's each year? Ultra-accurate tools receive premium pricing and we want to help our customers achieve a bigger piece of that market.

Four things are vital if you want to reliably produce accurate tools. These are:

- machine stability
- process stability
- accurate wheels
- accurate tool holding

Based on ANCA's highly respected TX7+ platform, TXcell's rigid gantry design, vibration dampening ANCAcrete base and direct drive technology is perfectly accompanied by touch or laser probing and software compensation options for statistical process control (SPC) and temperature variation compensation (CTV). These features all combine to assure process stability.

Excessive wheel runout is now a thing of the past with TXcell. NC controlled spindle orientation ensures that each wheel change occurs with perfect angular re-alignment. Onboard dressing and the ANCA iBalance system will keep your wheels running fast and true.

Multiple tool holding options help you **eliminate runout and profile errors from your tools**. The NC controlled P-axis steady can be tooled up with bush, tailstock or a hydraulic Arobotech tool support system for added stability.

*TXcell is available in configurations from 9, up to 24 wheel packs and either 2 or 4 pallets. †Option to handle variable tool diameter achieved with automatic collet changing or multi-jaw chucking. #CIMulator3D software optional. † iView optional





***eXcellent
Flexibility
eXcellent
Productivity
eXcellent
Precision***

Can you see Cellular Tool Manufacturing in your future? Or would you rather struggle with the profit squeeze and leave it for your competitors to explore?

Call ANCA to book your flexible demo **today!**

TXcell 
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ANCA®

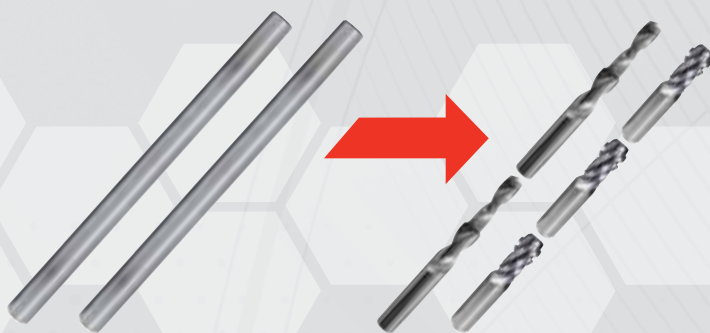


Introducing... Blanket Grinding

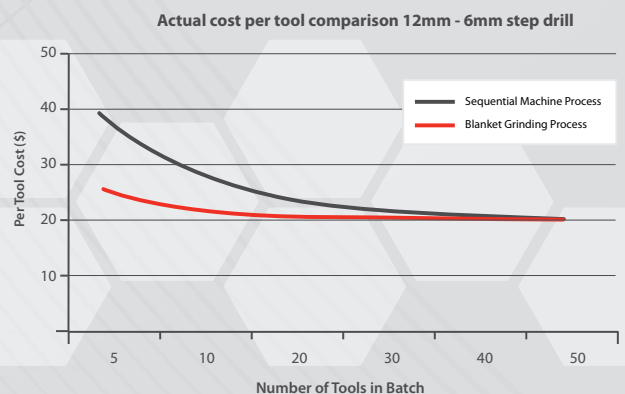
Blanket grinding is a new process approach to tool production where all tool manufacturing operations from **Blank** stock to finished **Tool** are achieved within a single manufacturing cell.

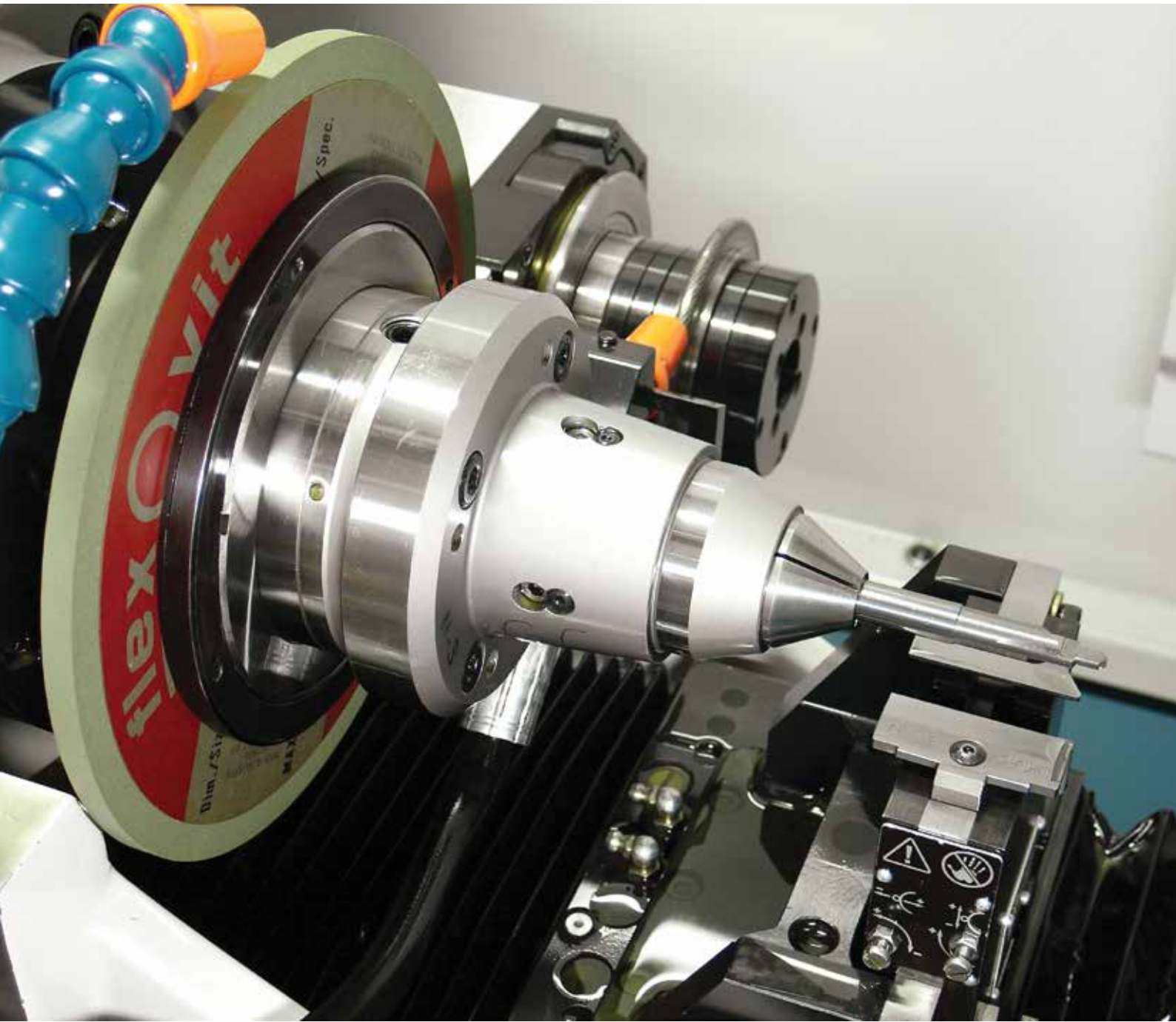
Drive down per tool cost by reducing capital costs, factory floor space requirements, inventory stock and most importantly labour for manual handling and machine setup.

Available only on TXcell



Bar stock to finished tools in a single set-up!





and for those who like the details...

Wheel Changer

- 9 wheel packs standard, up to 24 wheel packs as optional.
- Wheel packs and coolant manifold changed together
- Maximum wheel diameter 300mm (12")
- 14 sec wheel pack change time



Tool Loading

- 2 pallets as standard, up to 4 pallets as optional.
- Takes all standard TX7+ pallets (up to 220 tools per pallet, diameter dependent)
- Diameter range : 3-32mm
- Maximum Tool Length: 325mm
- 14 sec tool change time



Grinding Spindle

- Direct drive 37kW (49HP) induction motor. High torque at low RPM. Standard 10,000RPM (15,000RPM version is optional). Wheel arbors held by BigPlus BT 40 taper

Workpiece Grinding

- Maximum tool diameter for OD grinding: 300mm (12")*
- Maximum tool length for OD and end face grinding: 400mm (16")*
- Maximum workpiece weight: 25kg (55lbs)
- 4 quadrant grinding
- All combinations of LH and RH helix and cut

*dependent on tool type, grinding operations required, tooling and wheel pack setup.



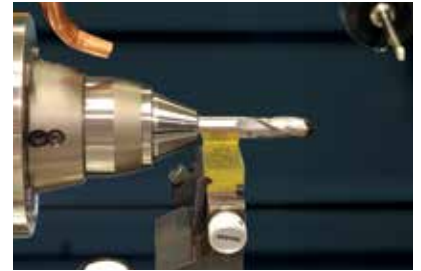
Dressing Options

- Headstock (A-axis) dresser: Dresser diameter – 200mm (8") precision fit up to 3000RPM
- Secondary side dresser: Dresser diameter – 125mm (5"), mounted on quick change HSK arbor up to 6000RPM



Tool Support Options

- Micro adjustable pop up steady



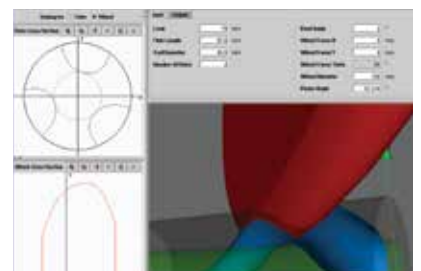
- P-axis traveling steady for use with bush or hydraulic Arobotec



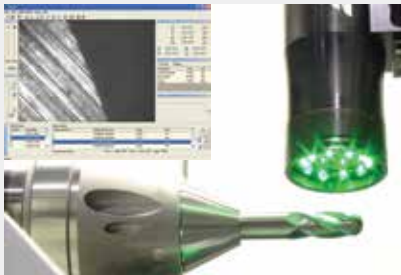
- P-axis with CNC force controlled tailstock

Other Options

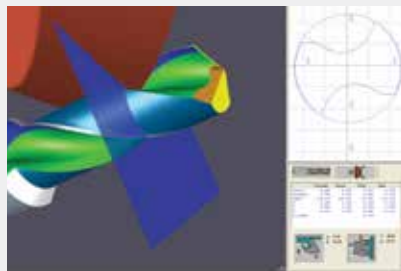
- Automatic white stick
- iFlute – Software to calculate required wheel form from known flute shape, or resulting flute shape from known wheel form. iFlute then outputs fluting operation parameters and wheel form for on machine dressing and grinding



- iView – on machine tool measurement with CCD camera to 0.002mm (0.00008”) accuracy

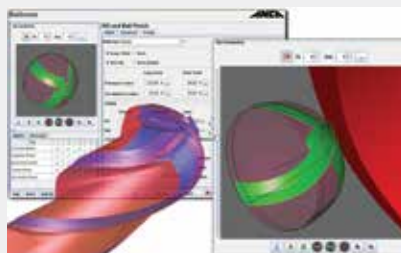


- iBalance – on-machine semi automatic wheel balancing system
- CIMulator3D – Software for full off line programming and simulation of the complete tool grinding process. Confirm your program, identify and eliminate collisions, measure your tool



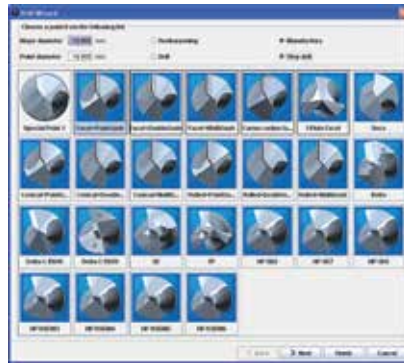
Application Software

- ToolRoom comes as standard with endmill and step tool grinding software and 'Drill Wizard'



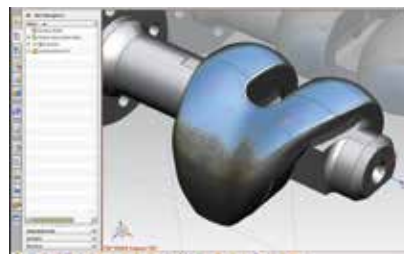
Optional Software Packages

- Drill Points – Delta Drill, Hertel drill, Kennametal HP drill, Seco drill, Multi-drill



- Profile tool
- Punch tool (conventional and keyhole)
- Profile blade
- Compression router
- Side and face
- Burr tool
- ANCrest – wave form cutters
- Tap blank preparation
- SPC – statistical process control
- 3D form grinding with **ANCAM NX**, CAD-CAM grinding

To name just a few...!



CNC-Data

ANCA 5DX , Core 2 Duo, min. 3 GB RAM, 15” Touch Screen, DVD RW, USB connectivity

Servo Drive system

ANCA Digital (Sercos standard).
Direct drive on linear and rotary axes

Machine Base

ANCAcrete polymer concrete (Patented)

Mechanical axes

Position feedback resolution

X-axis 0.0001mm (0.0000039”)
Y-axis 0.0001mm (0.0000039”)
Z-axis 0.0001mm (0.0000039”)
A-axis 0.0001mm (0.0000039”)
C-axis 0.0001deg
P-axis 0.0001deg

Programming resolution

X-axis 0.001mm (0.000039”)
Y-axis 0.001mm (0.000039”)
Z-axis 0.001mm (0.000039”)
A-axis 0.001mm (0.000039”)
C-axis 0.001deg
P-axis 0.001deg

Software axes (patented)

B, V, U, W

Dimensions

	TXcell with 2 PALLETS*	TXcell with 4 PALLETS*
W	2.53m (8.30')	2.53m (8.30')
D	3.07m (10.07')	3.54m (11.61')
H	2.26m (7.14')	2.26m (7.14')
* excludes stand alone robot controller		
W 0.75m(2.46') x D 0.55m (1.80') x H 1.1m (3.61')		

Other data

	Power	Weight (approx)
TX7+	25kVA	7500kg - 16,500lbs
Robot	3kVA	2500kg - 5500lbs

ANCA reserves the right to alter or amend specifications without prior notice

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