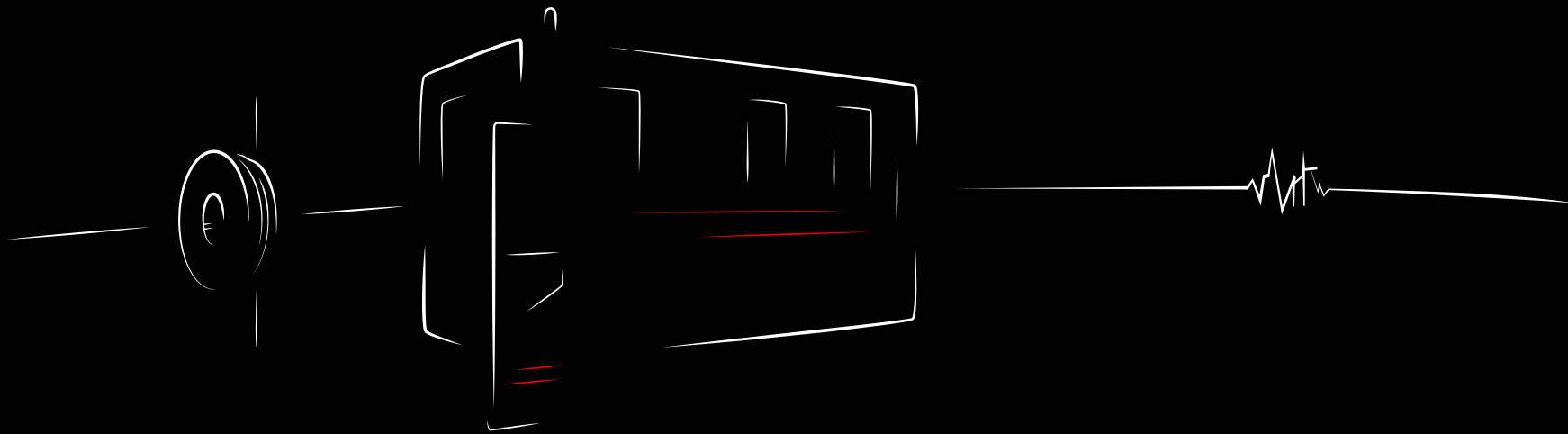


The Art of *Economy*



Wire EDM dressing of CBN and diamond grinding wheels



EDM DRESS



The future is now

The V350 generator from Mitsubishi Electric has outstanding properties for the dressing process and makes it possible to produce grinding wheels with a sharp cut. The result is open-porous grinding wheels with the best possible grain protrusion – for optimum grinding.

Complex and intricate profiles

Freely programmable and contactless dressing process permits precise and complex geometries. No need for additional grinding wheels for some grinding operations.

Industrial repeatability

An autonomous and unmanned process which frees up resources and guarantees industrial production quality.

Eco-friendly

EDM DRESS takes place under water and is therefore a clean technology.

Up to 280% more feed, 400% longer tool life.

By EDM dressing with the Mitsubishi Electric **V350** EDM generator.

Exploit the advantages of metal-bonded grinding wheels in the grinding process

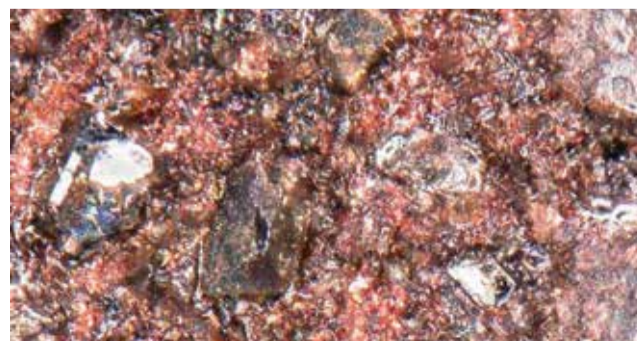
In the grinding of tungsten carbide, ceramics and hardened steels, metal-bonded grinding wheels have huge advantages over the grinding wheels with synthetic resin bonds currently in frequent use. They are much more dimensionally stable and permit significantly higher grinding feed rates – for previously unattained productivity.

The constant challenge of boosting precision and effectiveness while reducing costs can be achieved with metal-bonded grinding wheels. The previously highly elaborate dressing process can now be superseded by wire EDM systems with the V350 generator from Mitsubishi Electric.

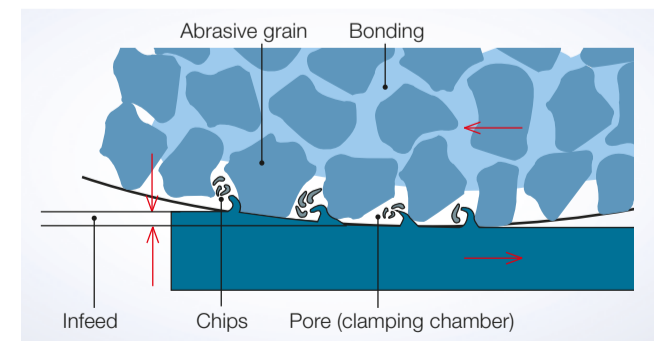
Grinding wheel surface before erosive processing



Grinding wheel surface after erosive processing



The EDM Dress grinding process – revolutionary and highly effective

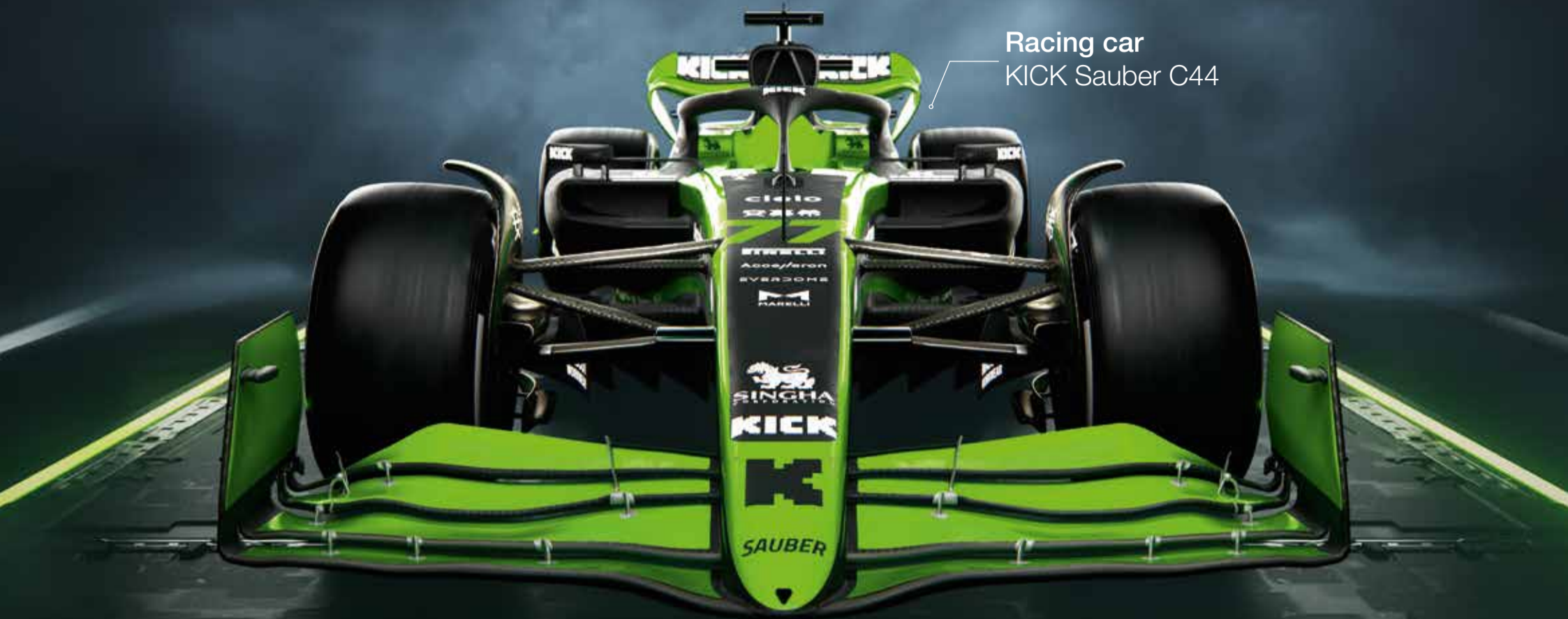


During machining with EDM-DRESS, only the bond is removed, the abrasive grain remains untouched. Free space is created between the sharp grains for cooling lubricant and grinding chips. This guarantees higher removal rates and a cool grinding process.



Mitsubishi Electric has been a partner of the KICK Sauber F1® Team for many years, and over 26,400 workpieces are machined on Mitsubishi Electric EDM systems each season.

Racing car
KICK Sauber C44



For KICK Sauber F1® Team, every millisecond of lap time counts and the demands on precision and performance are at the highest level. Why shouldn't you benefit from this?

We got what you need.

Our commitment to a better future.

Integrated design for manufacturing and assembly



We all suffer from higher energy and production costs. With EDM Dress you can make sure that these costs are as low as possible, and your future products are even more efficient. On top of that you gain a much better quality.

The unmanned industrial process guarantees 100% repeatability



Due to its repeatability and the unmanned process our product helps you to fight the lack of skilled employees. With the possibility of a fully optimized production you can use your resources wherever needed.

EDM-Dress is clean – for the benefit of people and nature



EDM-Dress is a process that takes place entirely under water. The process water is purified in the cycle, eliminating dust and dirt. With our clean and environmentally friendly technology, you are contributing to a sustainable future.

Globally established
Many tool manufacturers
worldwide already benefit from
EDM-Dress.

“ Some manufacturing companies achieve up
to five times the service life with the wire EDM
profiled grinding wheels. ”

Markus Steinhilb

Application engineer
at Riegger Diamond tools
in Germany



TO THE VIDEO

Scan the code now!
qr.mitsubishielectric-edm.de/steinhilb



Installed on the quiet countless times – and not only in Germany.
You can't afford to miss out on a competitive advantage of this magnitude.

Economic benefits



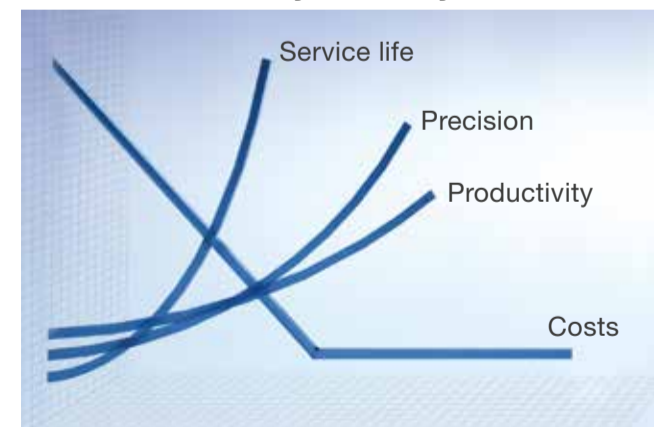
- Up to 280% increase in grinding productivity
- Up to 400% increase in grinding wheel service life
- Available anytime
- Reduced number of grinding wheels required
- Reduced number of grinding machines required
- Significant competitive edge due to lower costs below €10/h

Technical advantages



- Reproducible dressing results
- Complex geometries can be produced – hence fewer grinding wheels required in some cases
- Intricate structures produced with ease – extension of grinding possibilities
- Metallic, bonded, sintered grinding discs can sometimes replace expensive and not immediately available electroplated discs

Investment – worth your money



EDM Dress is a series solution:

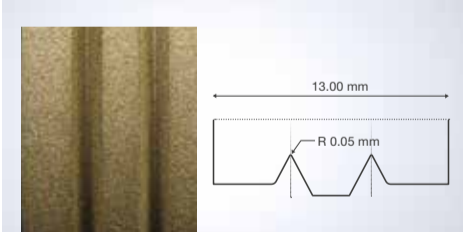
- Mitsubishi EDM generator V350
- Standard wire EDM system
- Rotating spindles with standard clamping fixtures
- Ready-to-go technology




EDM-DRESS VIDEO
Scan the code now!
qr.mitsubishielectric-edm.de/edmdressen

Electrical sparks as a dressing tool – contactless, precise and no compromises.

Contour fidelity



Metal-bonded D46 diamond grinding wheel, diameter 70 mm, double V-groove with inner radius $r = 0.05$ mm

Wire EDM dressing of the grinding wheel enables the **finest and most complex geometries**. By using thin erosion wires, inner radii of $r = 0.05$ mm can be achieved on the grinding wheel. Outer radii are only limited by the grain size of the grinding wheel, and tapered contours can be produced with geometrical accuracy.

Contactless



Metallically bonded CBN grinding wheel B25/V240, tapered geometry with a 60° angle accurately produced all-round

EDM dressing is a **contactless process** that does not apply any mechanical forces to the grinding wheel. This completely eliminates break-outs and contour damage in the dressing process.

Intact grains



Metal-bonded D46 diamond grinding wheel, multiple profile $D = 150$ mm, inner and outer radius $r = 0.12$ mm $\pm 30^\circ$

The wire EDM dressing of grinding wheels is remarkable because only the bond of the grinding wheel is machined. The **abrasive grains remain unaffected by the process** and thus retain their natural shape and sharpness.

Take advantage of:

The high performance of Metal-bonded grinding wheels and their unbeatable dimensional stability.

Besides the dressing of metal-bonded grinding wheels EDM DRESS also generates improvements in performance and form-stability with polymer or hybrid bonded grinding wheels.

Therefore the possibilities are almost unlimited.

“ A new age in dressing has dawned thanks to wire EDM. Undreamt-of possibilities can now become reality. ”

Prof. Dr.-Ing. Bahman Azarhoushang

Head of Competence Centre for Machining
 Professor at Furtwangen University of Applied Sciences
 Faculty of Mechanical and Medical Engineering
 Campus Schwenningen



TO THE VIDEO

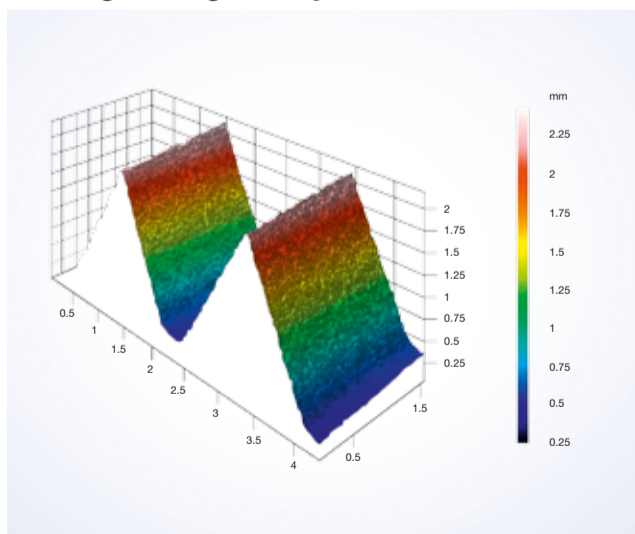
Scan the code now!

qr.mitsubishielectric-edm.de/azarhoushang



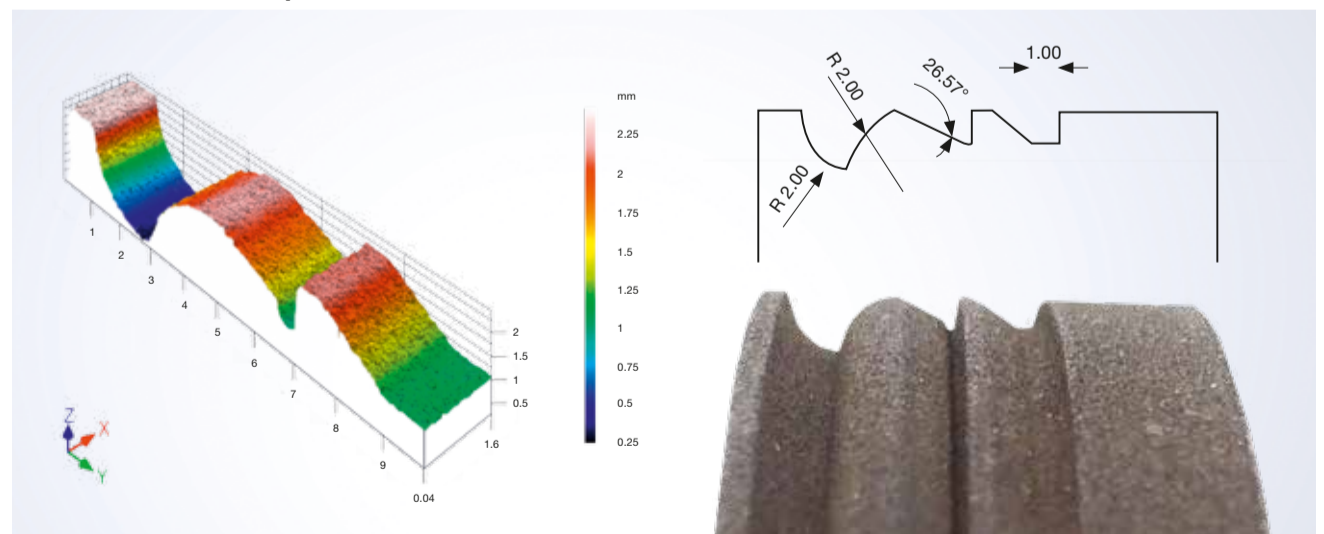
No mechanical forces, sharp abrasive grain and complex contours.
 Reproducibly precise results.

Grinding wheel geometry



Precise grinding wheel geometry with a deep profile. Just an example of the limitless degrees of freedom in the grinding wheel geometry that can be produced.

Concave and convex profiles



Increasing efficiency and production are the goal of every new process. This can be done straight away with EDM dress multiple. Even complex geometries can be realised on a grinding wheel with wire EDM. For conventional dressing, three grinding wheels would be required for this geometry – with EDM, a single wheel is sufficient.

Image source
 Competence Centre for Machining
 Furtwangen University





Smart technology, simple, exact, first class.

Simple



EDM Dress – the package for wire EDM dressing is supplied as a turnkey solution and can go into production straight after commissioning. All the necessary components and technologies are made available ready for use.

Exact



The wire EDM dressing technology is fully CNC-controlled and reproducible. Each grinding wheel is produced with geometrical precision and within the same tolerances every time.

First class

	Cut resistance	Heat resistance	Dimensional stability	Dressability	Thermal conductivity
Bindings					
Metal with EDM-DRESS	+	+	+	+	+
Conventional metal	-	+	+	-	+
Hybrid	o	+	o	o	o
Ceramic	+	+	o	+	-
Synthetic resin	o	o	o	+	o

+ very good o good - unsatisfactory

Increase your competitiveness with EDM dressed metal bonded grinding wheels. In contrast to vitrified or resin-bonded wheels, which offer less precise contours and shorter lifetimes, EDM Dress grinding wheels enable more efficient processes, resulting in significant cost savings and quality improvements.



With properly prepared DXF data – such as that generated by ANCA grinding machines – two mouse clicks are all it takes to create a ready-to-use EDM dress processing programme. It really couldn't be simpler!



VIDEO AND MORE

Scan the code now!

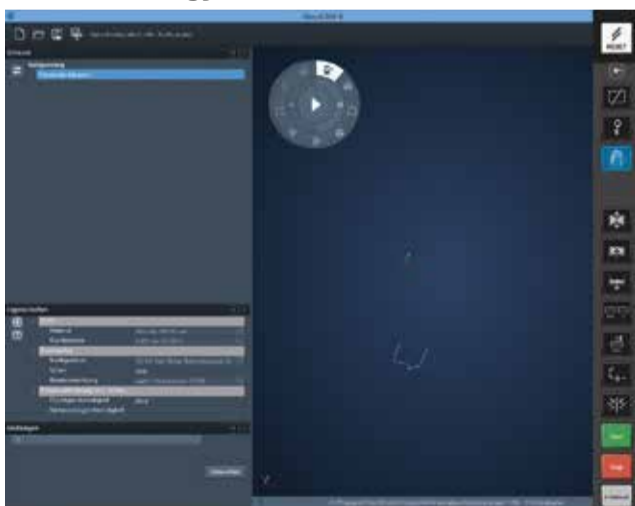
qr.mitsubishielectric-edm.de/dresscamx

DressCAM X

The unique EDM Dress solution

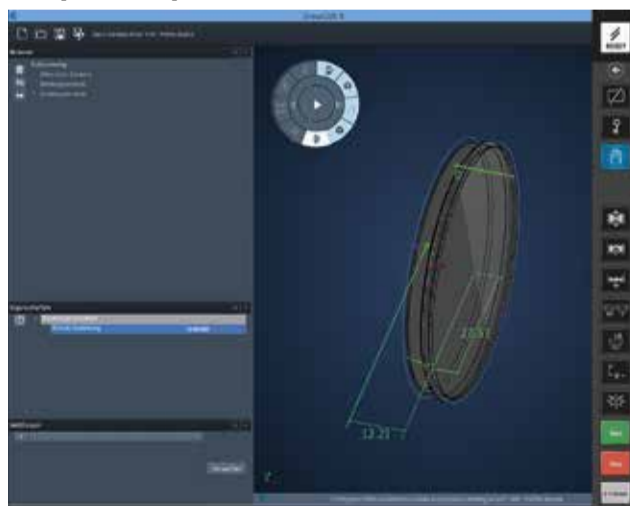


The technology



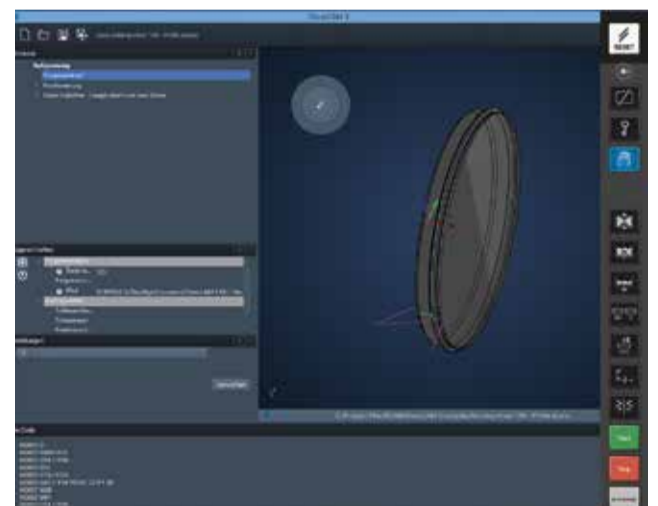
The EDM Dress package contains ready-made parameter settings for all grinding wheels with different grit sizes and diameters. Benefit from Mitsubishi Electric's many years of experience.

Simple and precise

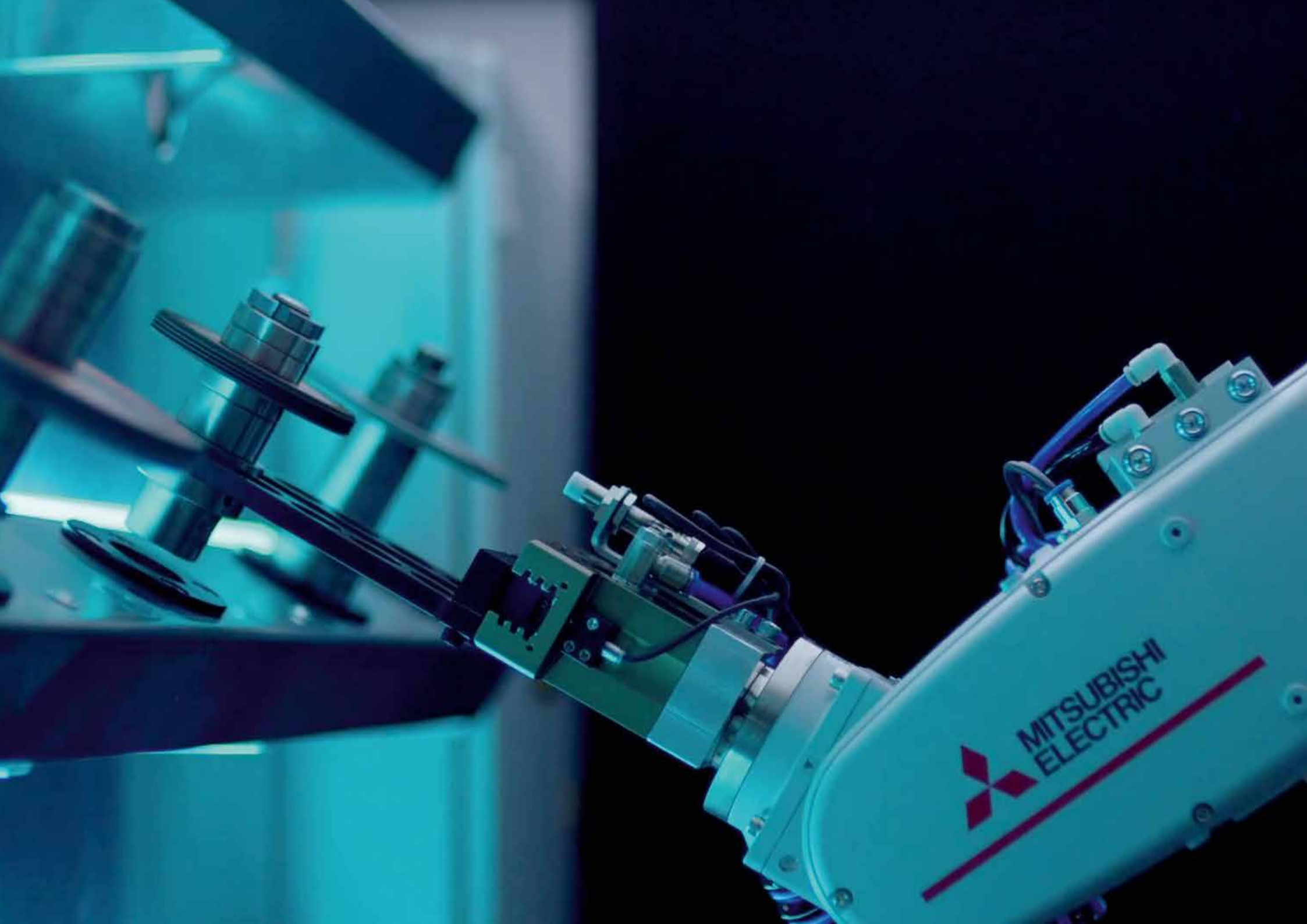


With DressCAM X, wire-erosive dressing of profiled grinding wheels can be realised easily and precisely directly on the machine control thanks to intuitive user guidance. The PROCESS GENERATOR, the central control element in DressCAM X, guides the user automatically to the target with just a few mouse clicks, even without a great deal of prior knowledge.

Within seconds ...



From the grinding wheel profile to the technology and the respective properties to the finished control code for 100% machine control in just a few seconds



Unmanned operation.

24/7/365? You decide for yourself how far you want to go.

Automated single-unit production



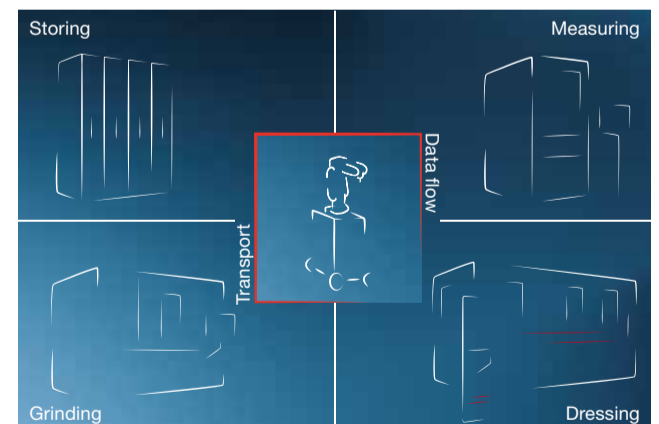
All Mitsubishi Electric V350 EDMs are always ready for the unmanned automatic production of individual grinding wheels. All the rotating spindles used by ITS Technologies are available with a range of standard automatic clamping interfaces and adapters.

Fully automated single machine



“DiamondCell” EDM Dress cell – single machine automated with handling robot and magazine in variable configurations. The solution for total autonomy: unsupervised running time is determined by the size of the magazine.

Automation – multi-machine line



EDM-Dress and DiamondCell can be intelligently integrated into automated processes in grinding operations. EDM-Dress closes the gap before the grinding process by also integrating the grinding tool into automated processes.

One of the best-kept secrets of leading cutting tool and grinding wheel manufacturers



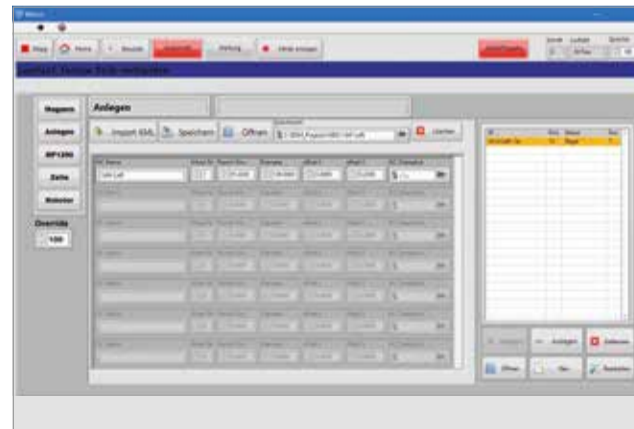
Gold is not enough. Discover our DiamondCell.

More possibilities – fully automated



With a scalable magazine for a large number of grinding discs with a diameter of up to 250 mm, your production is prepared for fully automated operation throughout the week, even at weekends. No manual intervention is required. Utilise your time more efficiently.

Everything under control



Order management has never been so easy. With our software, you can easily create your production plan. Simply and without much effort. The future is now!

Robotics for higher productivity 24/7



Our in-house MELFA robots are optimised for use in our cell. Mitsubishi Electric offers you all the solutions you need from a single source.



DiamondCell equipment options.

For even more functionality and automation.

In and out station



Front airlock for loading or removing grinding wheel packs during ongoing automatic processing.

Preservation station



Integrated dip tray for wetting the grinding disc packs with grinding oil – corrosion protection without introducing foreign oil into the grinding machine. Including drip channels on the magazine and drainable drip tray under the system.

RFID station



Integrated, automatic unit for reading and writing RFID chips in the grinding wheel holders. Data format according to Mitsubishi Electric standard, can be modified according to customer requirements.

Diamond White console



Ergonomic, upright control console including control computer and operating elements.



If you've got grand designs,
you need someone strong you can count on.



Since 1970, a growing number of European companies have therefore been turning to high-performance EDM machines from world market leader Mitsubishi Electric.

Only by producing components in-house is it possible to tailor them perfectly to the intended task. Mitsubishi Electric resorts to its own controls, semiconductors, motors and other items, which are adapted in detail to all requirements. The only thing you notice is that it works – and often for many decades after purchase.

If you want to invest soundly in a durable EDM machine, choose **Mitsubishi Electric**.



Service hotline: +49 (0) 2102 486 7600
Application support: +49 (0) 2102 486 7700
Monday to Friday: 7.30 am to 8 pm / Saturday: 9 am to 4 pm

Service.

We're there to help you.

You don't like call centres and queuing systems? We don't either. With every Mitsubishi Electric EDM system you buy excellent service as part of the package. Service is performed by our own highly skilled service technicians so that production is kept dependably up and running. Users are assisted over the phone and benefit from the expertise and wealth of experience of Mitsubishi Electric specialists.

Warehousing and logistics

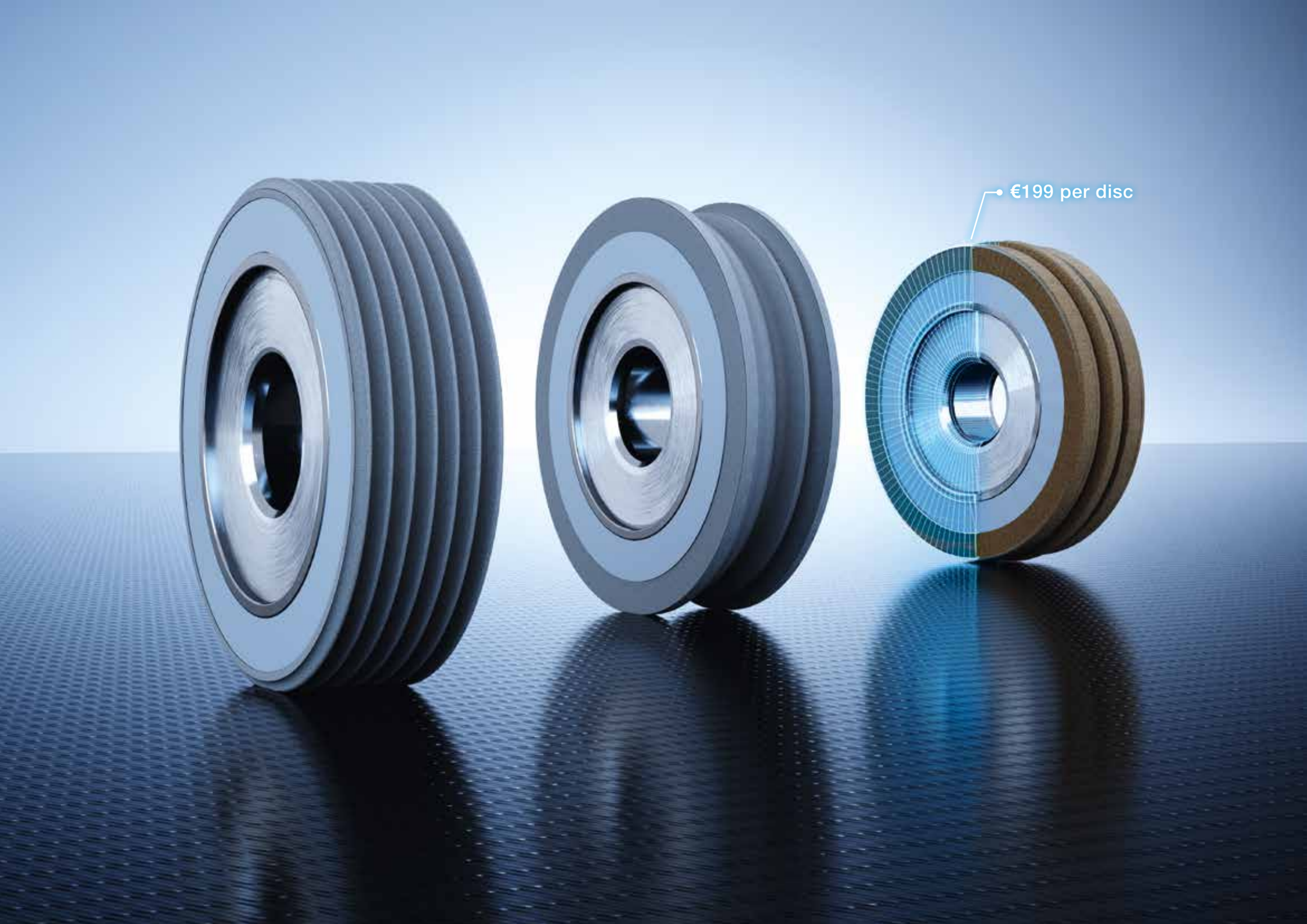


We supply all in-stock products (wear and spare parts) even outside normal business hours, e.g. by courier or collection. Our proximity to Düsseldorf Airport and motorway links enables us to ship parts at high speed.

Original Mitsubishi Electric parts



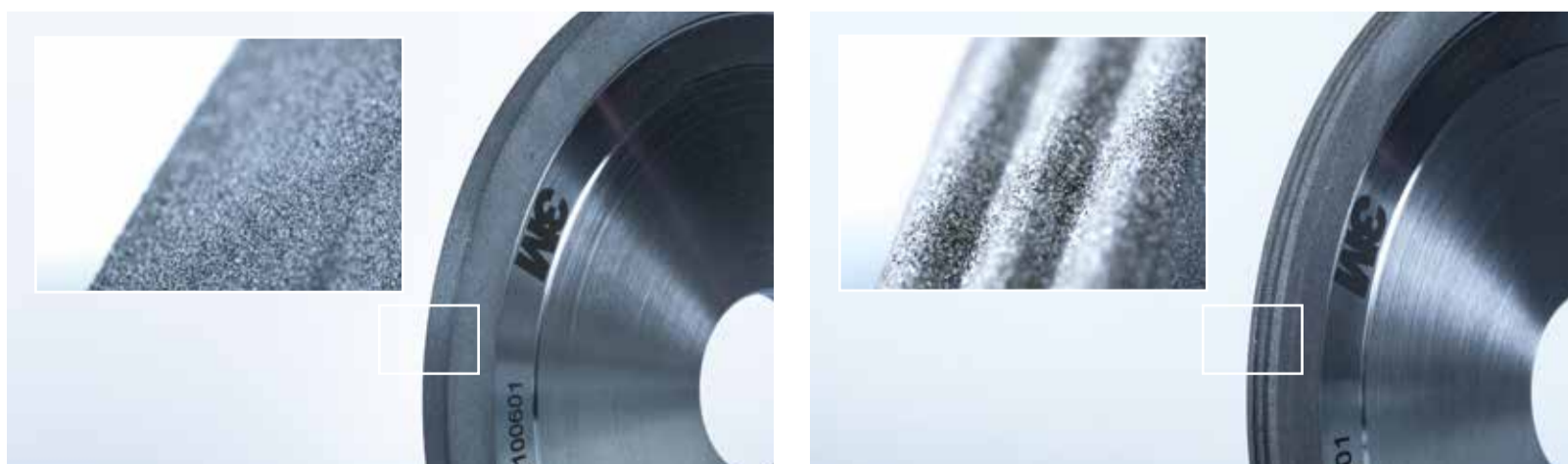
All standard spare parts of the Mitsubishi Electric consumables line are original imports or fabricated in Germany in accordance with the development and design specification. You receive original parts of immaculate quality at attractive prices.



Knowledge beats belief.

Bring your own grinding wheel and experience the process live. The grinding wheel is profiled to your wishes. Test the feed rates and service life on the real-life job. You'll be delighted with the superior productivity and potential for savings.

For only €199 per disc – the offer is limited to one grinding disc, max. diameter 150 mm, per customer.



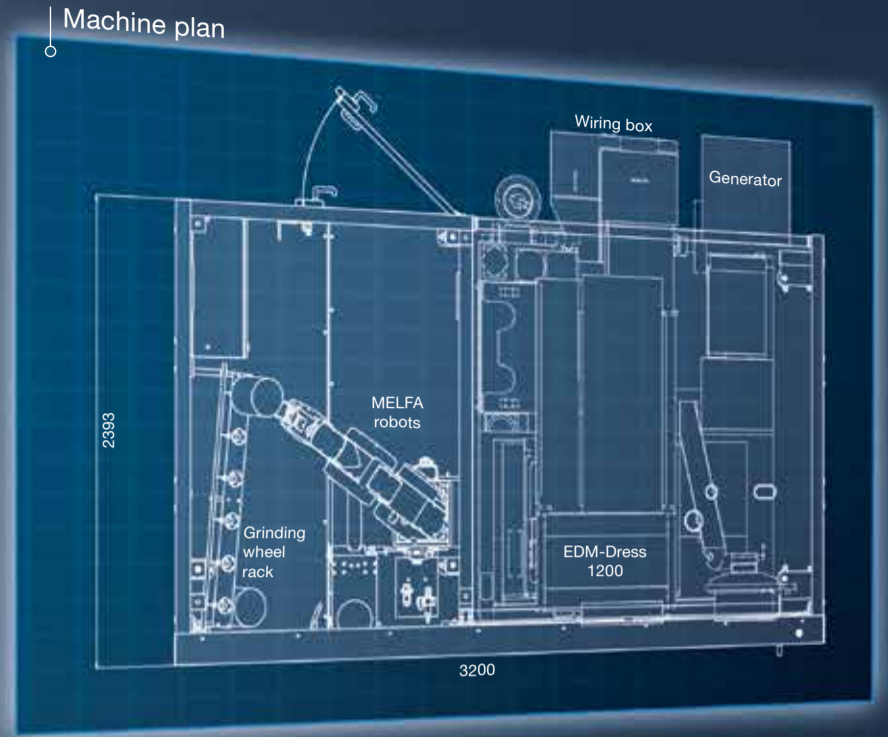
Grinding wheel 3M 6PHN 1A1 150×6×10 D46 in its untreated state and finished profile.
Processing time: Initial profiling 1 h 42 min / follow-up profiling 44 min

Customer	Order No.	Order Date	Order Status	Order No.	Order Date
3M	100601	2018-01-10	Produktionsbestellung	100601	2018-01-10
Produktname	Produktgruppe	Produkttyp	Produktcode	Produktname	Produktgruppe
Produktname	Produktgruppe	Produkttyp	Produktcode	Produktname	Produktgruppe

Item	Qty	Unit	Price	Total
100601	1	Stk	199,00	199,00
Summe	1		199,00	199,00

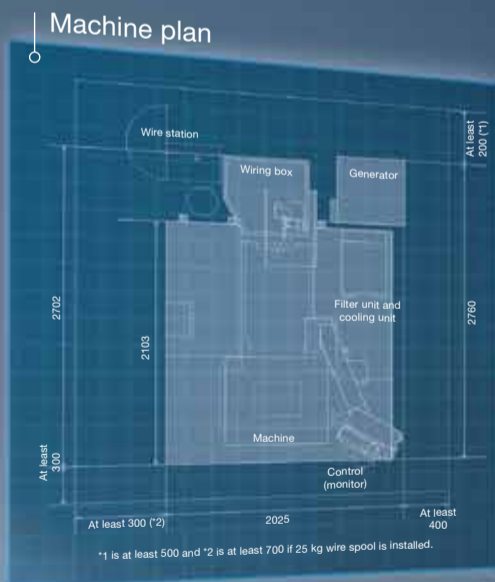
DIAMONDCELL

Fully automated machining process



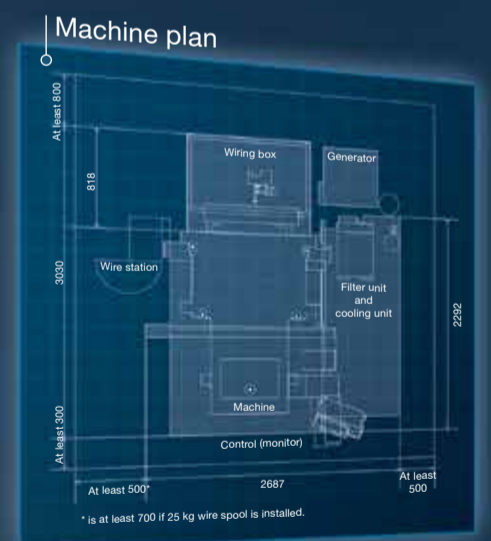
EDM-DRESS 1200

Grinding wheel diameter up to 250 mm



EDM-DRESS 2400

Grinding wheel diameter up to 450 mm



Partners



Find out what's new first



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[mitsubishielectric-edm.eu/ig](https://www.instagram.com/mitsubishielectric-edm)



[mitsubislectric-edm.eu/li](https://www.linkedin.com/company/mitsubishielectric-edm)



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