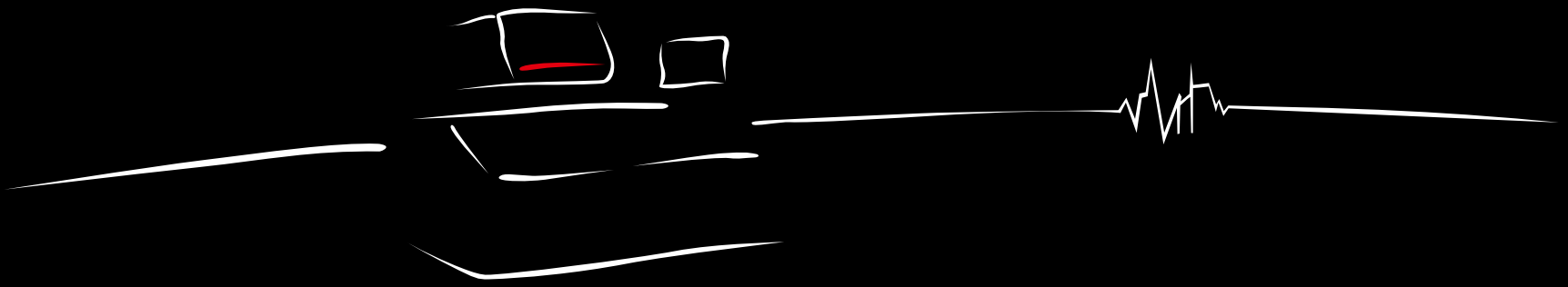
MITSUBISHI ELECTRIC

D-CUBES

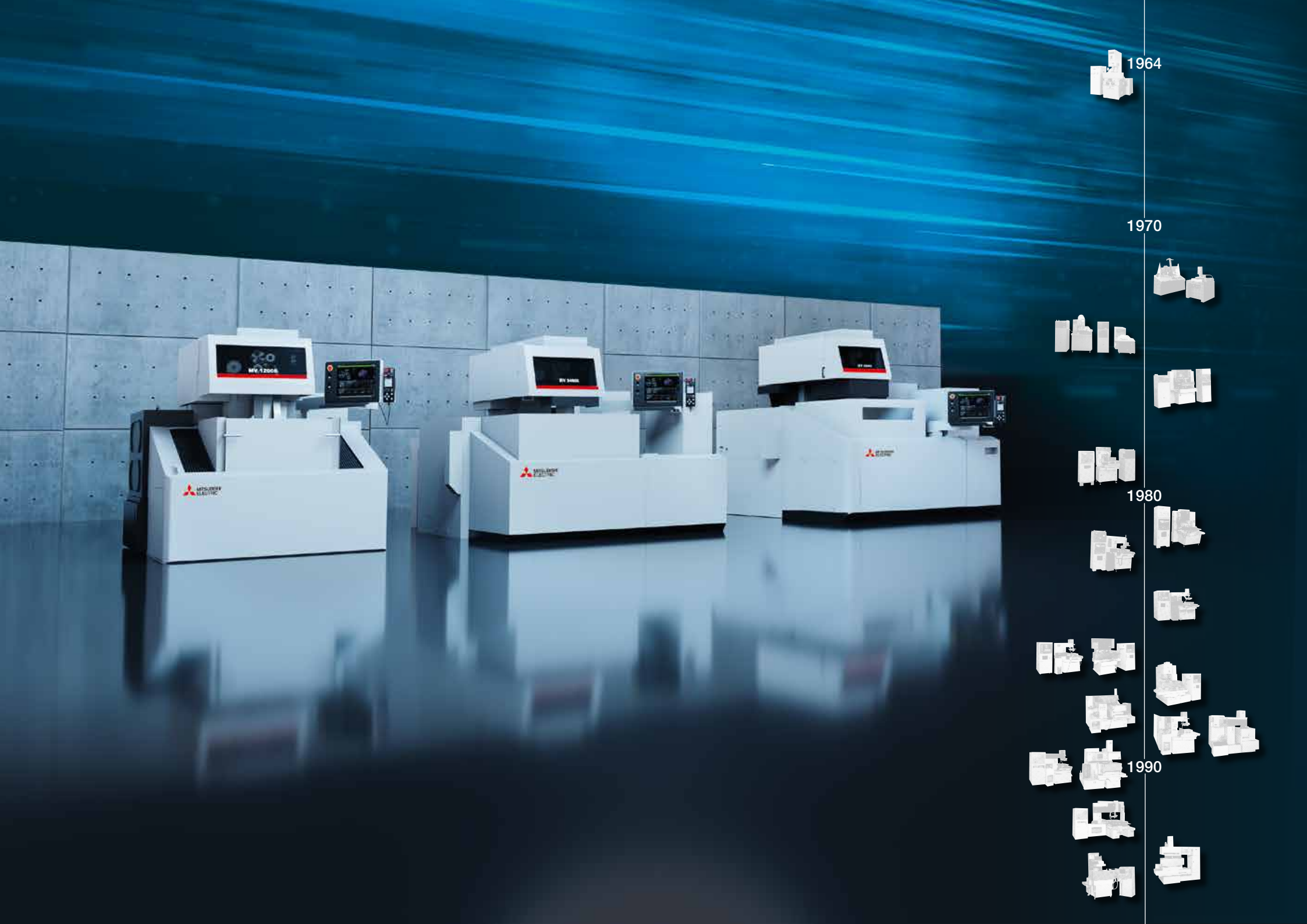
The Art of Economy



Wire-cut EDM

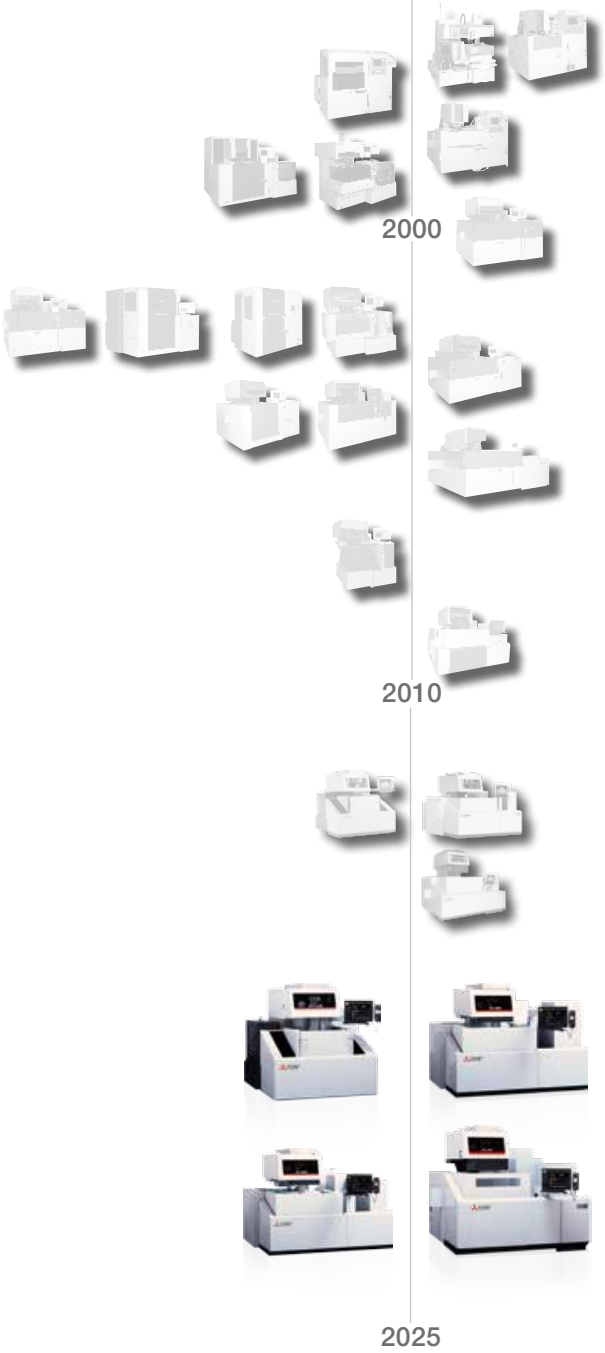
Ready for Production

MV-S NewGen


1964
1970
1980
1990

42 model series since 1964.

An assurance of innovation and dependability.




8,000 patent applications per year
70,000 produced EDM machines
142,000 employees
95 years of technology
MITSUBISHI ELECTRIC

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.

Intuitive operation – for the benefit of the machine operator.

The user interface is child's play to handle – gesture control inclusive. While some choose dialogue-supported user guidance, others opt for professional mode to get off to a speedy start. The control adapts to the user.

Continued on page 27

NUI
NATURAL USER INTERFACE

Extra precision and speed thanks to the generator that not only thinks, but also thinks ahead.

If you want to achieve better **results** with fewer recuts, you need the right blend of mutually adapted technologies. With Precise Finish Circuit, you achieve more precise results faster.

Continued on page 21

PFC
PRECISE FINISH CIRCUIT

An EDM system must help your company to make money.

The MV-S Series cuts expenditure on electricity, wire and filters considerably – so that you can earn more. The machine is designed for decades and has extra-low maintenance needs thanks to intelligent technologies.

Continued on page 39

LLS
LONG LIFE SYSTEM

Thrilling
technology.

The machine results you expect – in a playful, transparent, efficient and reliable process

These days, the operation of a CNC machine no longer has to be complicated – the dialogue guidance of the CNC helps less experienced machine operators to reliably accomplish their tasks. The transparency of the machining processes on the EDM system and overviews of the state of maintenance and resource consumption are a help with cost analysis and preventive maintenance. The analysis functions thus help to boost efficiency by exploiting capacities and resources better – and boost the proverbial reliability of the EDM systems from Mitsubishi Electric still further.

The speed of light...

...for communication by fibre optics.
The Tubular Shaft Motor with its highly responsive control on the main axes fully exploits the benefits of high communication speed. No heat, no maintenance and no contact – just extra precision for good. At Mitsubishi Electric, this is known as “Changes for the Better”.

Continued on page 13

ODS
OPTICAL DRIVE SYSTEM

Wire break point insertion even on thick and interrupted workpieces.

The time-consuming return to the starting point is omitted – and machining continues where it left off, thanks to the highly advanced wire annealing system. Depending on machining conditions, threading can be successfully performed with or without jet stream and even submerged – depending on workpiece thickness.

Continued on page 17

AT
INTELLIGENT AUTO THREADING

MV1200S NewGen – the perfect blend of performance and ergonomics

Ergonomic machine strategy

enabling you to concentrate on the essential.

Focus on ergonomics

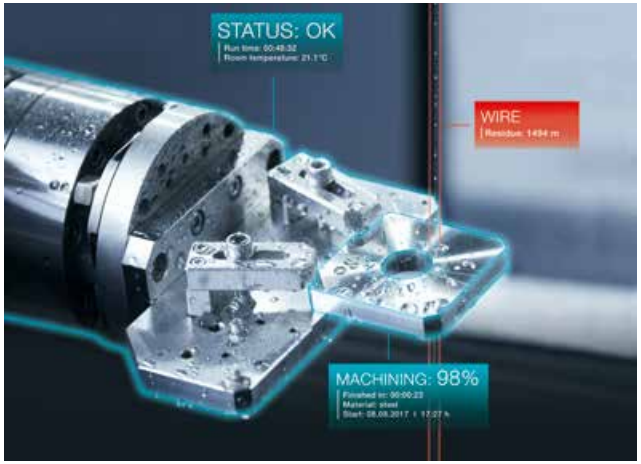
Set-up, programming, maintenance etc. – all the key elements are directly accessible at the front of the machine. The entire wire feed, automatic wire threading and wire guide heads plus the whole workspace are readily accessible – not least thanks to the open design and vertical sliding door.

Intelligent D-CUBES control

… simply shifts the future into the present. The user has almost half a metre of user interface to work with, assisted in this by the mouse and the usual computer keyboard. The monitoring of the machining process generates neatly displayed information at a glance and detailed analysis where desired.

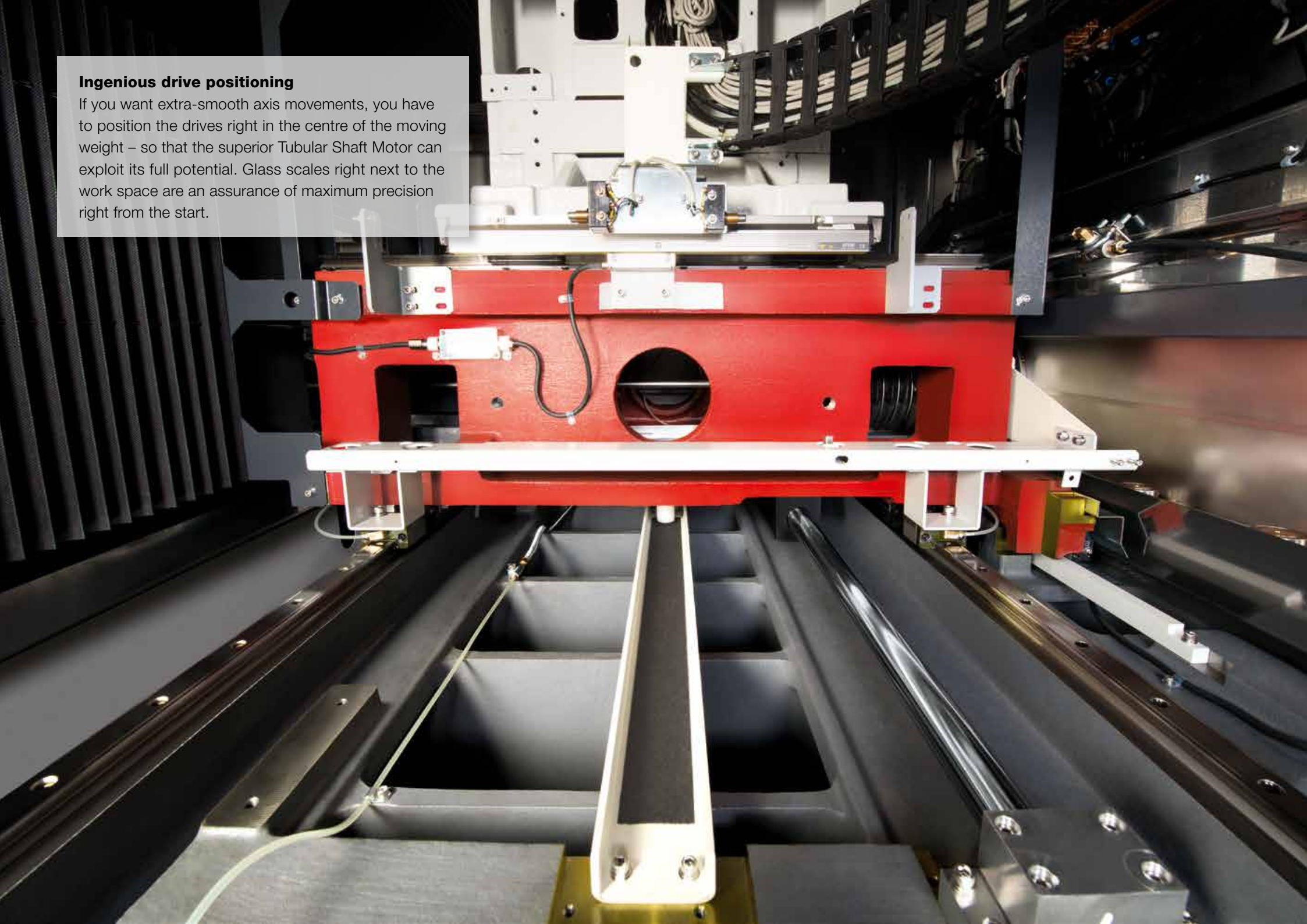
Network for productivity

Option



All the critical data can be conveniently retrieved through the ERP system. Open control interfaces make it easy to read out process and operating data. Important interfaces such as Ethernet TCP/IP are of course part of the package.

No more elegant way of mastering difficult tasks.



Ingenious drive positioning

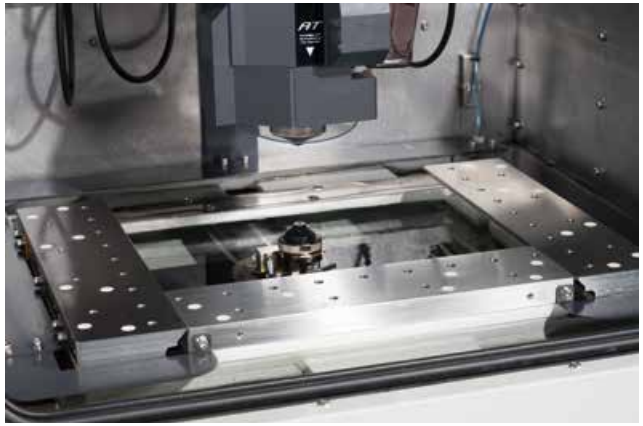
If you want extra-smooth axis movements, you have to position the drives right in the centre of the moving weight – so that the superior Tubular Shaft Motor can exploit its full potential. Glass scales right next to the work space are an assurance of maximum precision right from the start.

Tons of solidity
cast in steel.

Solid machine body

The specially selected Meehanite casting ensures durability that can be measured in decades and copes with high workpiece weights day after day. The rugged machine bed takes even the severest punishment in its stride – unlike many a less expensive material.

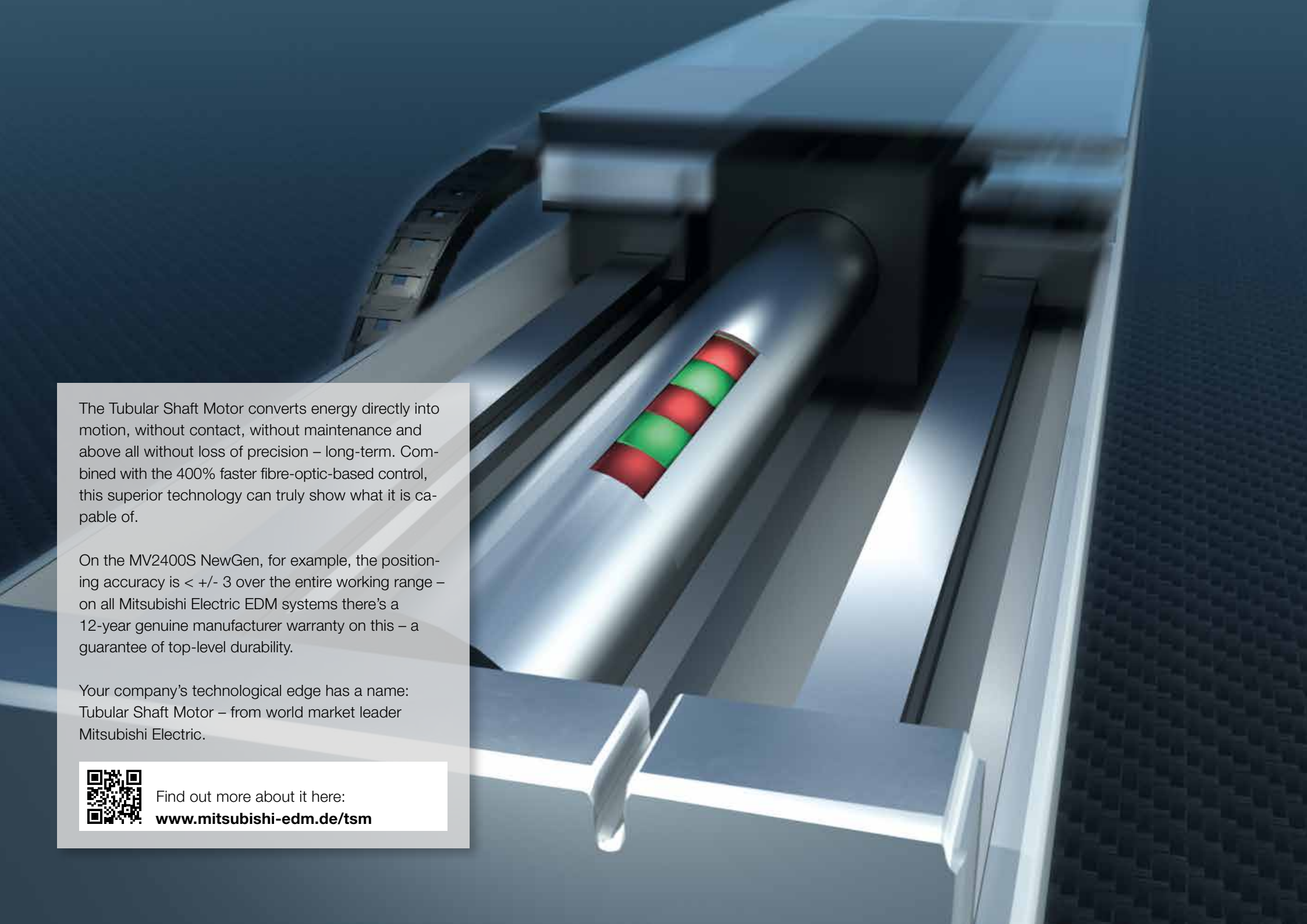
Ergonomics in the work space



The three-sided work table is ergonomically built on the Z = 0 level. This way workpieces can be perfectly positioned, even without clamping elements. High-grade stainless steel components and the stainless steel tank ensure dependability and maintenance-freedom.

The door that simply vanishes...

...so that you have direct access. This saves time and space and makes workpiece set-up that much easier.



The Tubular Shaft Motor converts energy directly into motion, without contact, without maintenance and above all without loss of precision – long-term. Combined with the 400% faster fibre-optic-based control, this superior technology can truly show what it is capable of.

On the MV2400S NewGen, for example, the positioning accuracy is < +/- 3 over the entire working range – on all Mitsubishi Electric EDM systems there's a 12-year genuine manufacturer warranty on this – a guarantee of top-level durability.

Your company's technological edge has a name: Tubular Shaft Motor – from world market leader Mitsubishi Electric.

Find out more about it here:
www.mitsubishi-edm.de/tsm

12-year warranty
on positioning accuracy.

ODS
OPTICAL
DRIVE
SYSTEM

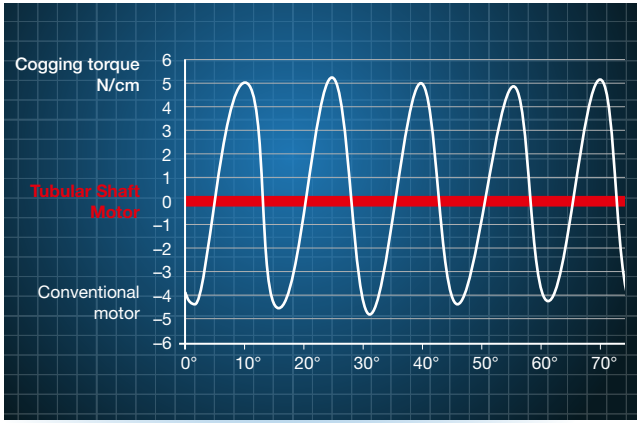
Perfect drive

What was it about the main x and Y axes of conventional drive systems that bothered developers at Mitsubishi Electric? The need for lubrication, the friction and frictional heat, power consumption, backlash, the cogging moment and above all the possible wear. Only a non-contact drive overcomes these drawbacks from the outset and is thus an assurance of better results and enhanced dependability over decades.

Speed of light

The Mitsubishi Electric polymer optical fibres have decisive advantages – not only over conventional copper cables, but also over glass fibres. Not only their total resistance to water, but also their high transmission rates combined with minimal space requirements and maximum flexibility are essential for truly progressive EDM systems. The only thing that you as a user notice is the longer service life and enhanced precision.

No disruptive cogging torque



You're surely familiar with the cogging torque manifested by a conventional electric motor. It is precisely this cogging torque that is undesirable, as are variations in torque. The Tubular Shaft Motor – the optimal drive for precision applications like electrical discharge machining.

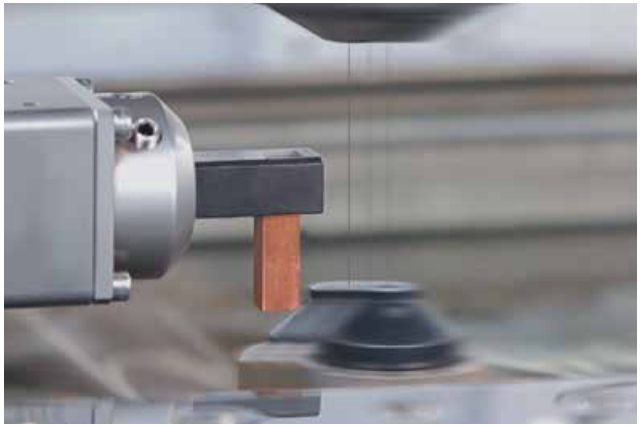
Non-contact drive = trouble-free long-term drive.

A considered and far-sighted approach is the best safety policy – but what if things have to be done in a rush? An intelligent EDM system that spots and prevents possible collisions contributes to safety at work and saves annoyance and time.

Crash Protection System
already installed.

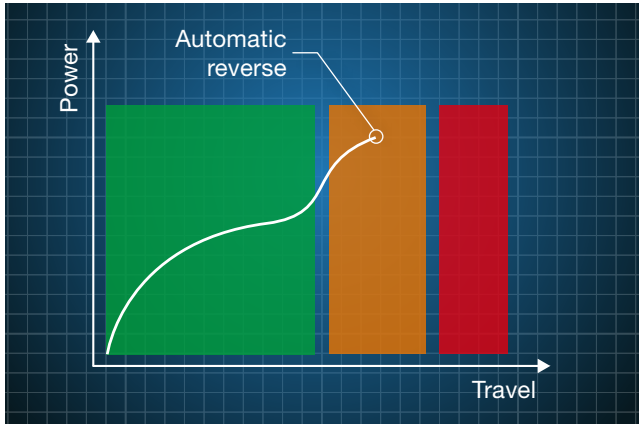
CPS
CRASH
PROTECTION
SYSTEM

The in-built “guardian angel”



Care, attention and good planning are an assurance of immaculate results, even with the most advanced technology. And should the unexpected nevertheless occur, all the wire-cut EDMs from Mitsubishi Electric come with an in-built “crash protection system”.

Fully automatic



The wire-cut EDM systems from Mitsubishi Electric constantly check current axial forces and thus fully automatically detect potential accidents before they happen. If there is an obstacle in the travel path, this is electronically detected on the basis of the drive’s load change during the approach and the control automatically reverses. Better safe than sorry!

Crash Protection System in action

See for yourself and watch the dependable Crash Protection System from Mitsubishi Electric in action!

Straight to the film:
www.mitsubishi-edm.de/cps-en

Threading even in the most difficult conditions

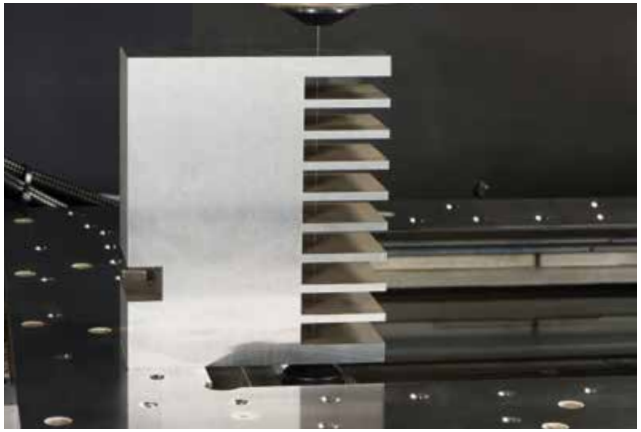
Watch film now:
www.mitsubishi-edm.de/threader

Vastly superior.

The wire threader for maximum dependability.

AT
INTELLIGENT
AUTO
THREADING

Wire break point insertion even on thick and interrupted workpieces

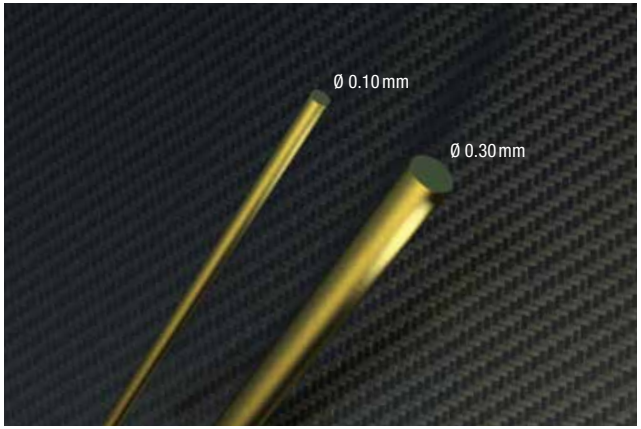


The time-consuming return to the starting point is omitted – and machining continues where it left off, thanks to the highly advanced wire annealing system. Depending on machining conditions, threading can be successfully performed with or without jet stream and even submerged – depending on workpiece thickness.

Round diamond guide

Maximum precision and durability ensure the best results in the long run – inclusive of maintenance-friendliness due to a small number of parts and simple design.

Flexibility – even when it comes to wire thickness



The Intelligent AT is designed for wire thicknesses of 0.10 to 0.30 mm. This way you can master even difficult threading situations with supreme ease.

Greater speed and accuracy –
and you save more.

PFC
PRECISE
FINISH
CIRCIUT

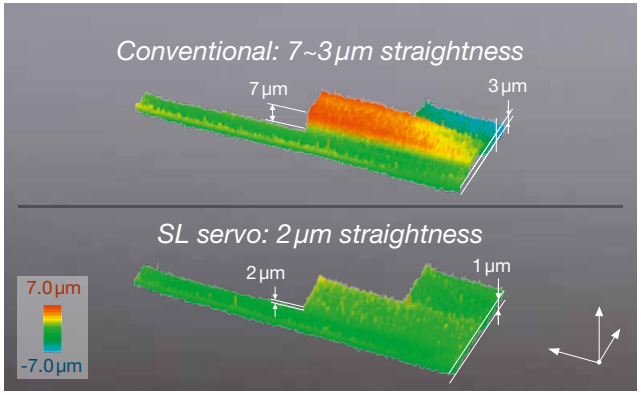
Response time is decisive

An EDM machine that reacts with greater speed and precision achieves better surface quality faster. The new V350 generator has a significantly higher effective clock rate. The voltage is built up faster and with greater precision thanks to reduced capacitance loss. Thanks to faster voltage build-up, spark duration and working voltage can be lowered. All that you will probably notice is higher surface quality and lower power costs.

17% faster multi-pass jobs

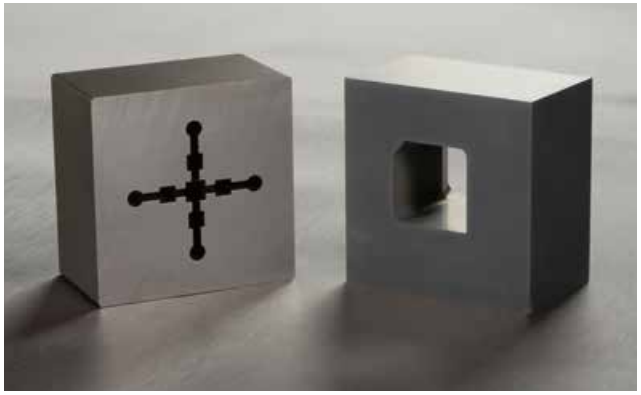
4 cuts of Ra 0.30 µm compared to a conventional machine.

2 µm straightness

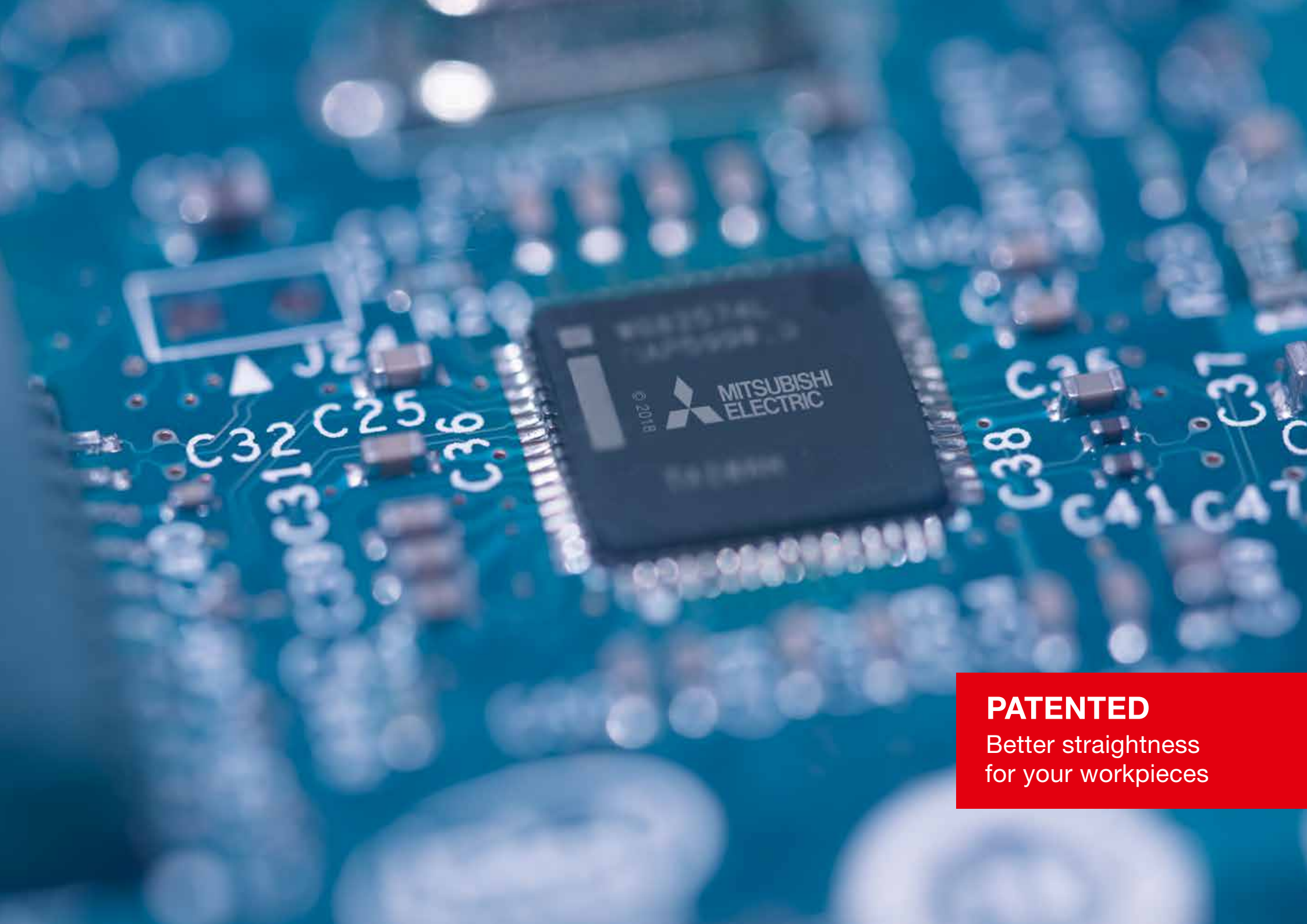


Even cuts with steps during machining are mastered with precision for reliable processes.

New V350 generator



Achieve excellent surface qualities with the V350 generator.

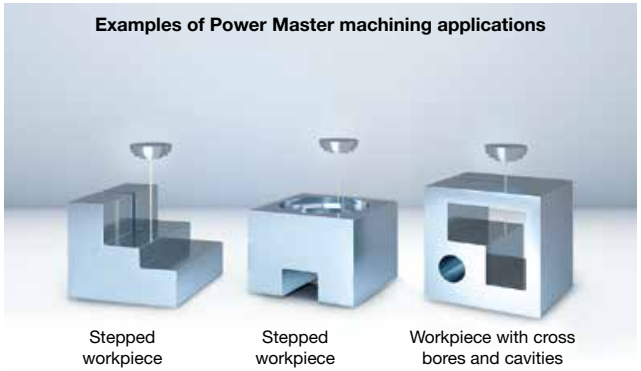


PATENTED
Better straightness
for your workpieces

Precision for steps
and around corners.

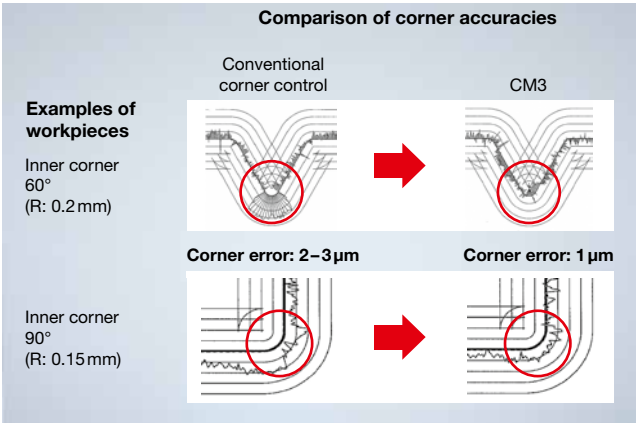
PFC
PRECISE
FINISH
CIRCUIT

Process control at its best – Power Master



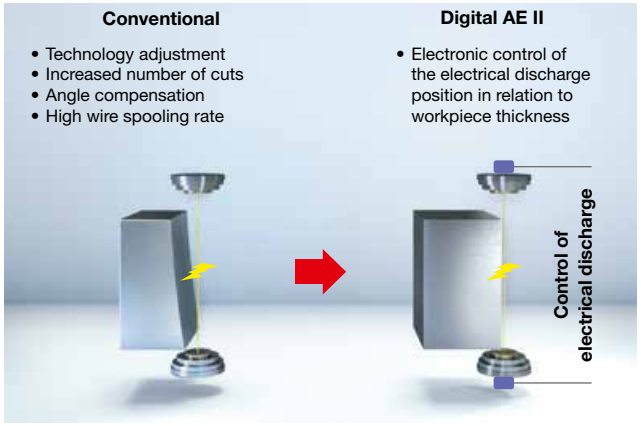
The Power Master Control gives the most highest level of process stability – whatever the shape being cut. Stepped workpiece shapes, boreholes and other obstacles to a stable cutting process are identified as soon as they appear and the control adopts cutting and flushing parameters for a safe process and superlative accuracy.

Getting a grip on radii and corners

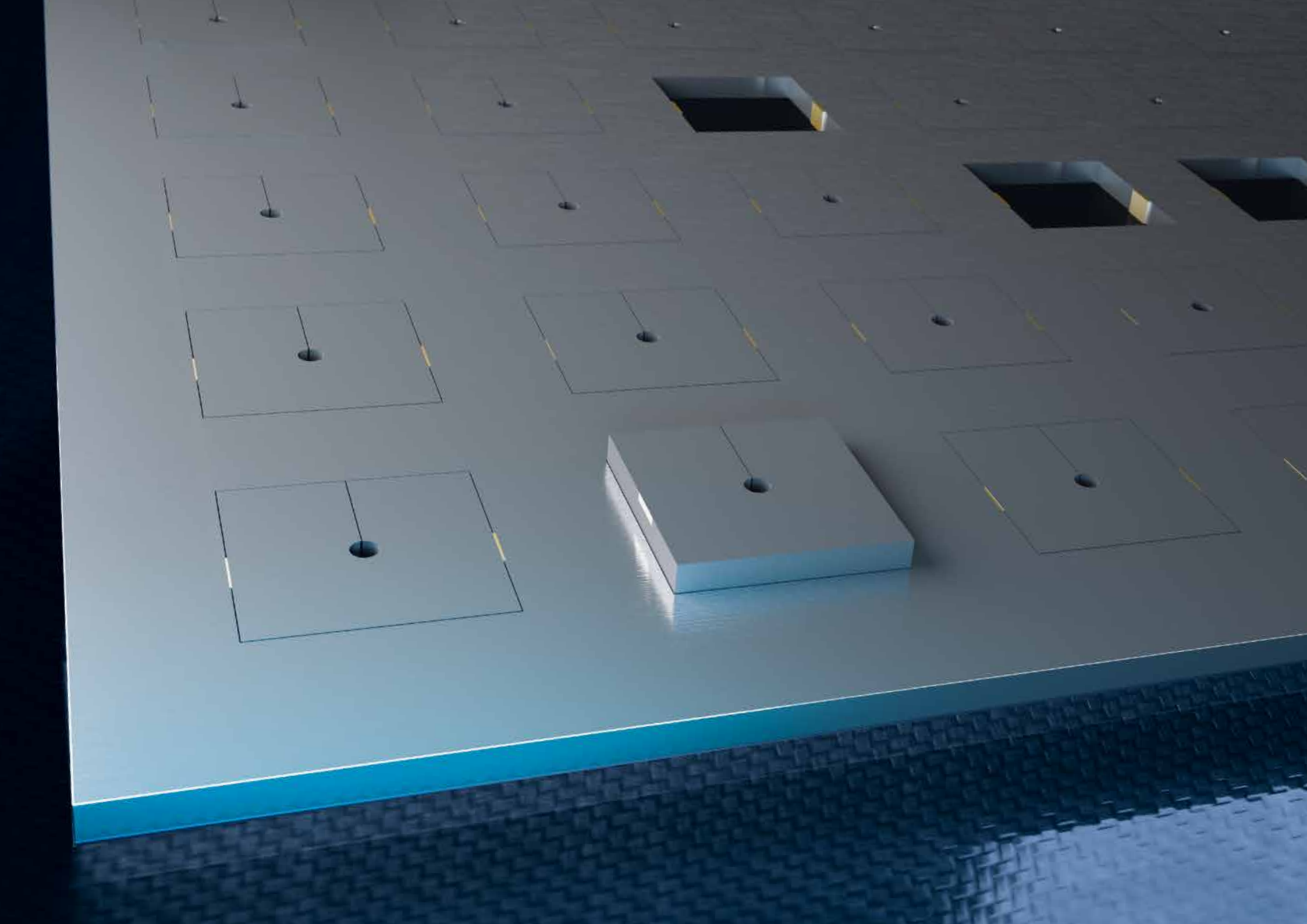


On small inner and outer corners and complicated geometries, Corner Master 3 comes to your aid. You merely define your priorities, and optimisation is performed accordingly.

Better straightness and shape accuracy



With precise control of the electrical discharge position, material is only removed where it needs to be. The patented functions of the Digital AE II improve rough and fine machining and fine finishing – in terms of both precision and machining time.



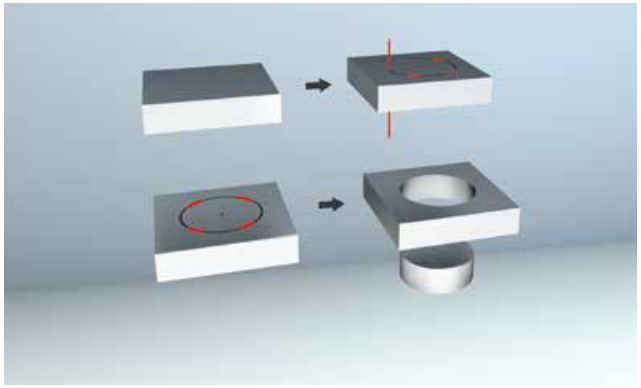
Option

Corehold.

Intercepting the waste – fully automatically.

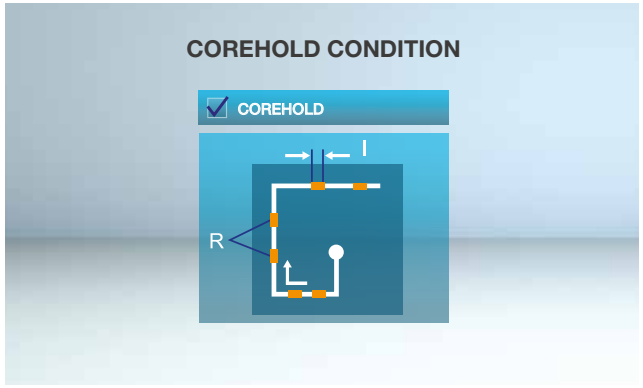
CHS
CORE
HOLD
SYSTEM

Intercepting the waste – fully automatically



During roughing, a bridge is controllably created to hold the waste material – the waste material cannot fall. In this way many features can be rough-machined and, after removal of the waste material, recut – fully automatically and unmanned, overnight and at weekends. Lower costs, higher profits.

Long-running jobs with multiple cut-outs



Jobs calling for a large number of shapes to be cut out of metal plate used to demand the toolmaker's presence for several hours. The shapes had to be cut out of the plate, leaving a small rib. The toolmaker then pressed out the rib and removed the metal part from the tank. With the machines from Mitsubishi Electric, such tasks can now be handled as long-running projects overnight or at the weekend without any need for manual intervention.

Reducing machine running time

During roughing, the EDM system separates the part from the waste, but after cutting joins them together again with one or more dot welds. After this, the waste pieces can be removed from the workpiece and collected. The machining programme can then be resumed. On long-running jobs with multiple cut-outs, machine running time is therefore considerably reduced.

Higher profits thanks to higher efficiency.

A masterpiece of intelligence – a control that pitches in.

Dialogue-supported navigation

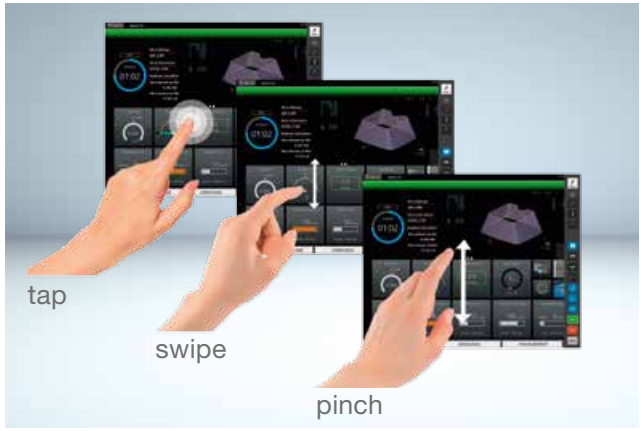
that beginners love and delivers results.

NUI
NATURAL
USER
INTERFACE

Slim ergonomic manual control box

The ergonomically designed, intelligent manual control box unites all the relevant functions for control and set-up in a single unit. The integrated LCD display can be individually configured by the operator. Inclusive of buttons for driving all 8 possible CNC axes.

Multi-touch display with gesture control



Intuitive operation from the large screen with modern gesture control boosts comfort, while the configurable user interface supports the user by allowing the main functional elements to be freely arranged during daily work.

An easy start thanks to dialogue guidance

With step-by-step dialogue guidance, less experienced users are piloted through the entire process, from programming through to the start of machining. Checklists make it possible to review all process-relevant settings and machine states so that machining yields the best-possible results without interruption.


History management
Inspection
Initial setting
Inspection
Operation
Parts list
Main Consumption
Miscellaneous Consumption

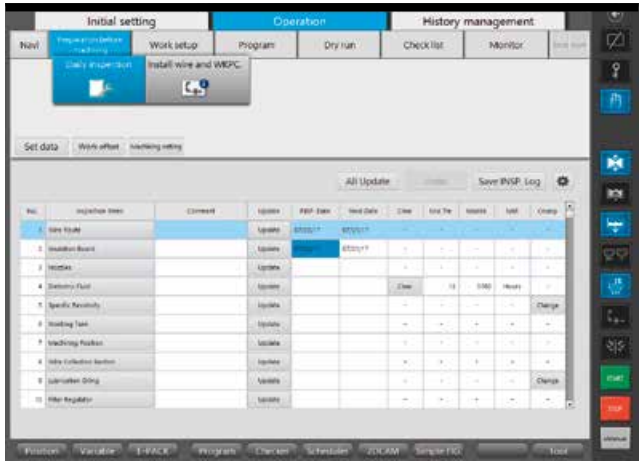
Professional mode –
tailored to your needs.

NUI
NATURAL
USER
INTERFACE

Everything at a glance

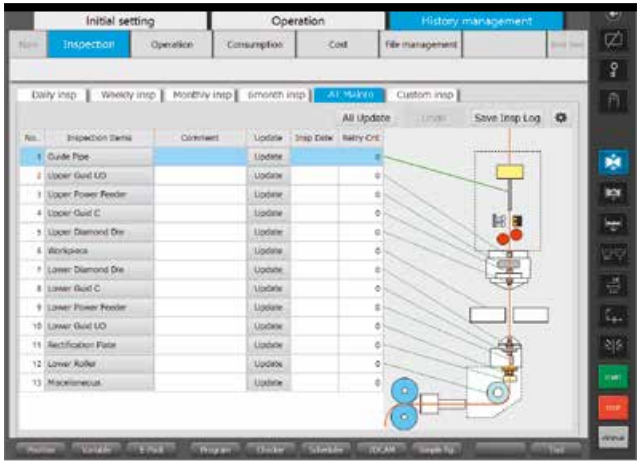
The easy-to-grasp display of all the key machining parameters in configurable form keeps everything under control at all times. Clearly visible at a glance are – if desired – machining status, elapsed times, state of maintenance and other data. Configuration couldn't be simpler.

Work scheduling – at the machine

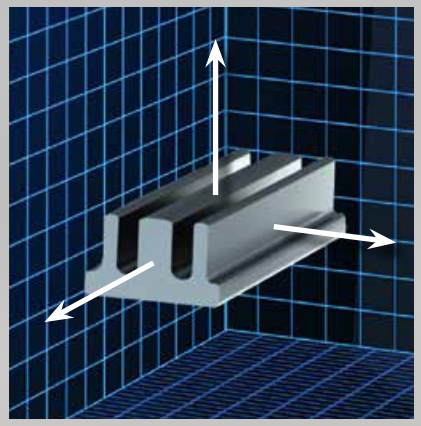


During the preparation of pending machining tasks, support is provided by overviews of the remaining wire, state of filter cartridges and deionisation resin, and other parameters. This way you can prevent outages caused by finite consumables or wear parts and optimise machine running times.

Help at a keystroke



The complete machine documents inclusive of maintenance instructions are always available, and the right help is quickly found. Comprehensibility is aided by photos and 3D depiction.



If time is of the essence or you want the machines to take some of the work off your shoulders. Set-up often takes too long; from now on, you can save this time.

Highly accurate probing cycles on the sides and corners measure the work-piece precisely. With or without jet stream or even submerged, by means of the cutting wire or with the optional 3D touch probe – just as you wish.

Clamp it and press *Start*!

Intelligent user guidance takes the effort out of work.

NUI
NATURAL
USER
INTERFACE

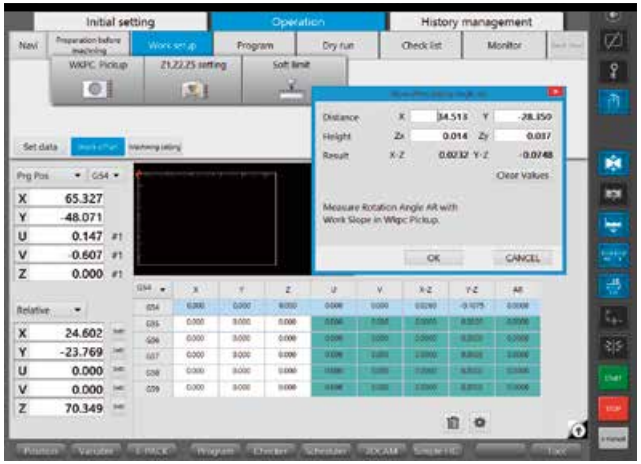
Fully automatic alignment cycles

Intelligent user guidance takes you to the finish. The electrical discharge machine takes you quickly to your goal.

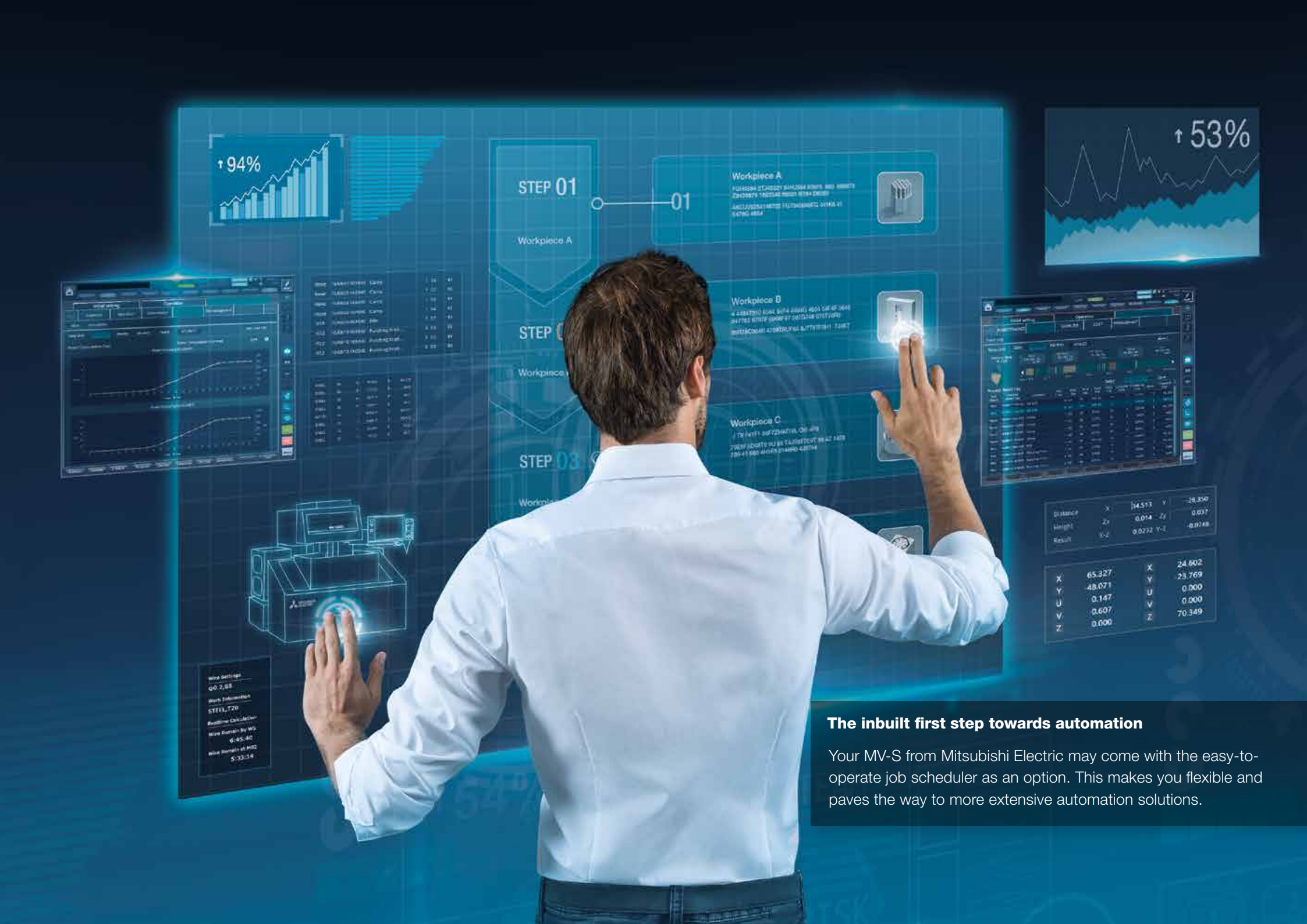
Manual control

Comfortable set-up with the manual control box: standard equipment with Mitsubishi Electric. All essential control functions at hand – wherever you need them.

3D position measuring – manual or automatic



Both are possible. As a user, you decide whether you do set-up classically by hand or the machine automatically defines the position of your workpiece. Using the cutting wire or pick-up coil – the machine takes care of it for you. It only takes the press of a button.



The inbuilt first step towards automation

Your MV-S from Mitsubishi Electric may come with the easy-to-operate job scheduler as an option. This makes you flexible and paves the way to more extensive automation solutions.

Option

JP
INTEGRATED JOB PLANNER

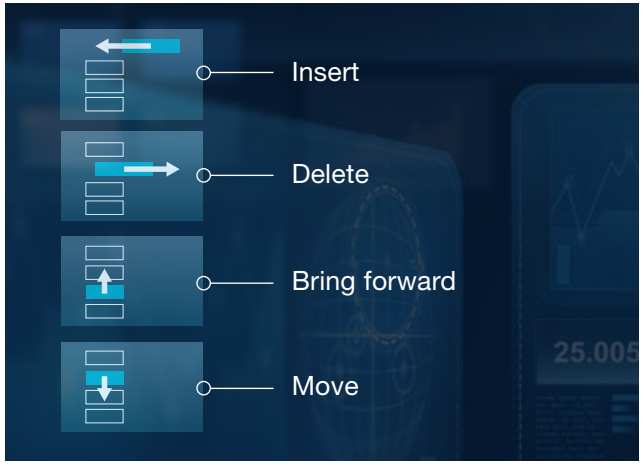
Job scheduler for inbuilt flexibility.

Manage, pause and resume jobs the easy way.

Integrated job scheduling

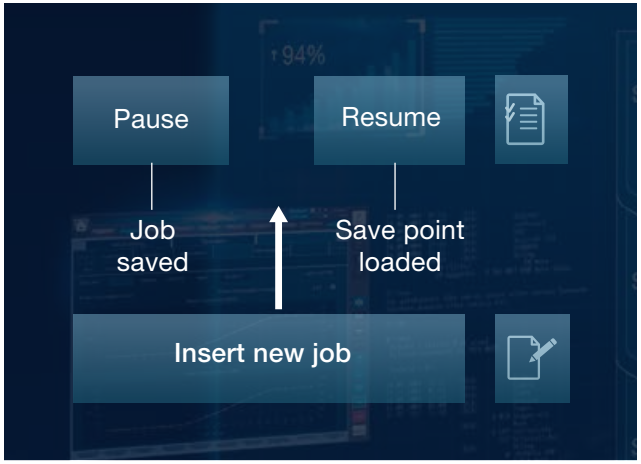
Greater flexibility thanks to adaptable job scheduling: with the simple assignment of priorities, you can quickly respond to changing requirements and squeeze in an urgently needed part with ease. Several machining programs can be deposited in the job scheduler and managed there.

Fast and flexible work planning



This is the easy way to add new jobs during machining or change the order of existing machining operations. The new job processing system with priority management makes it possible to amend a machining list without interrupting machining.

Pause a job – and resume



A machining process is easy to pause even in mid-flow when urgent jobs have to be processed. The control stores the current state of machining. When the inserted job has been completed, machining can be immediately resumed at the point of interruption. Pushbutton flexibility without programming effort.

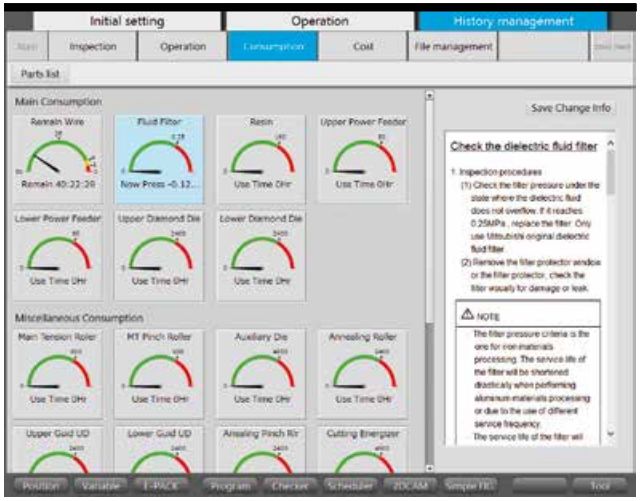
"Automation light" quickly integrated.


EURO
CENT
1

The machine that crunches numbers –

so that you can maximise your profits.

Far-sighted maintenance management



All the key consumables are monitored online and presented with their anticipated remaining life. This includes display of the remaining life of the wire spool installed in the machine as well as indication of filter pressure* and, calculated from this, the probable period until the next filter change.

* With an optional filter pressure sensor

Visual process management

Machine states depicted over time make capacity utilisation easier to grasp and assist forward-looking production planning. This overview is supplemented by a list of completed machining jobs and the associated machine times and unit costs.

Analysis of operating costs

Given knowledge of unit costs and their inclusion in the machine's own analysis, records of consumption data such as energy consumption*, wire consumption and component wear help with cost analysis and the costing of pending machining jobs.

* With optional digital electricity meter


MITSUBISHI
ELECTRIC

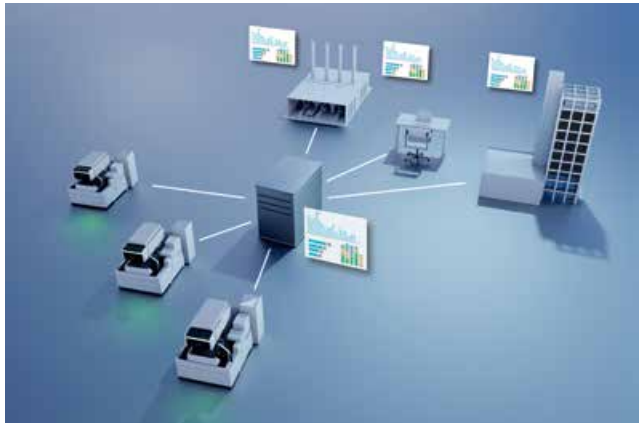
Online service for higher productivity.

Boost your transparency and simply get more out of your machine.

After-sales service online

Rapid online help to reduce downtime and expenditure on service assignments. Applications support with direct access to the machine control can provide the machine operator with optimum and rapid assistance when faced with difficult tasks. All in the aid of improving production operations.

Process data management



Operating and process data can be retrieved at the control. Available as standard is an export function for all process data, operating states, consumption data and maintenance states as well as alarms. This way the data from several machines can be viewed and evaluated in consolidated form, through to their integration in higher-order production management systems.

No compromising on security

Anti-virus protection is ensured by one of the world's leading software systems in security control.


Remote control
with mcAnywhere

Option

NUI
NATURAL USER INTERFACE

Always in charge –
wherever you are.

You can control the machine and keep an eye on processes, wherever you are. Intelligent communication takes the pressure out of work. Ideal combined with automation solutions and high process autonomy with the intelligent AT wire threader.

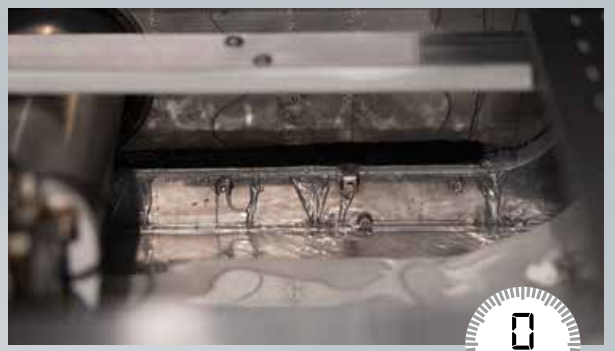
mcAnywhere Service
Rapid help from Mitsubishi Electric experts.

mcAnywhere Control
Comfortable and reliable remote control for your EDM system – powered by TeamViewer.

mcAnywhere Contact+
Any time, any place ... you're always up to date with direct status reports by email. Status reports can be optionally sent by text message – a GSM modem with a suitable driver can be added for this.

Cleaning the tank seal

With the ingenious auto-clean function, your tank seal always stays impeccably clean. This ensures long-term precision and saves labour for the user.



Quick replacement,
long-term savings.

LLS
LONG
LIFE
SYSTEM

Cutting wire replacement

92 sec.

Simply replace the spool and feed the cutting wire over the feed rollers. Everything ready for work again in 92 seconds.

Watch film now:
www.mitsubishi-edm.de/spool

Rapid filter change...

32 sec.

...without tools or wasted time. Two hands, 32 seconds – and the filter is replaced.

Straight to the movie:
www.mitsubishi-edm.de/filters

Changing the power feed contact

5 sec.

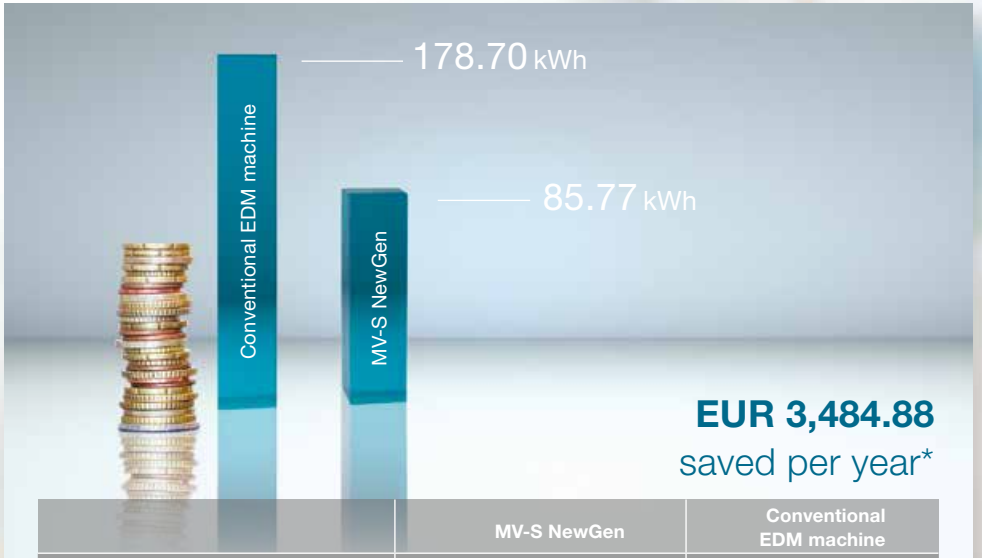
Replace the power feed contact with just one hand and a small gauge – at a speed befitting Formula One.

See for yourself:
www.mitsubishi-edm.de/power

Sample calculations

Workpiece . . . . . Punch, steel 1.2379 – 100 mm cutting length
Cutting height . . . 60 mm
Surface . . . . . Ra 0.32 µm (compared to Ra 0.35 µm for conventional EDM machine)
Wire electrode . . . Brass, 0.20 mm

Higher performance: Energy costs reduced by up to 55 %



EUR 3,484.88
saved per year*

	MV-S NewGen	Conventional EDM machine
Time period (24 h day)		
Productive wire cutting	10 h 32 min	14 h 06 min
Stand-by	1 h	9 h 54 min
Sleep Mode without wire cutting	12 h 28 min	–
Energy consumption in kWh		
Productive energy consumption	51.07	113.36
Energy consumption without wire cutting	32.38	65.34
Deactivating Sleep Mode	2.32	–

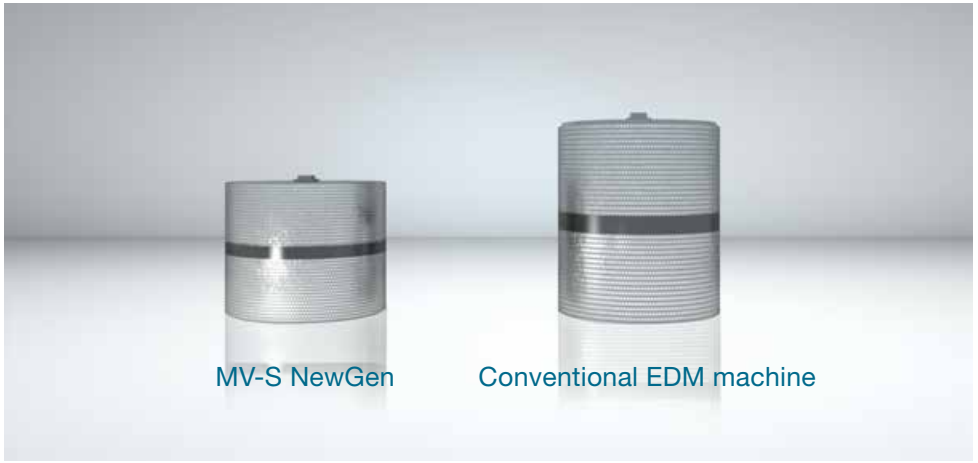
** Assuming production of six punches per working day, electricity price 0.15 euros/kW for 250 working days/year*

Greater precision faster

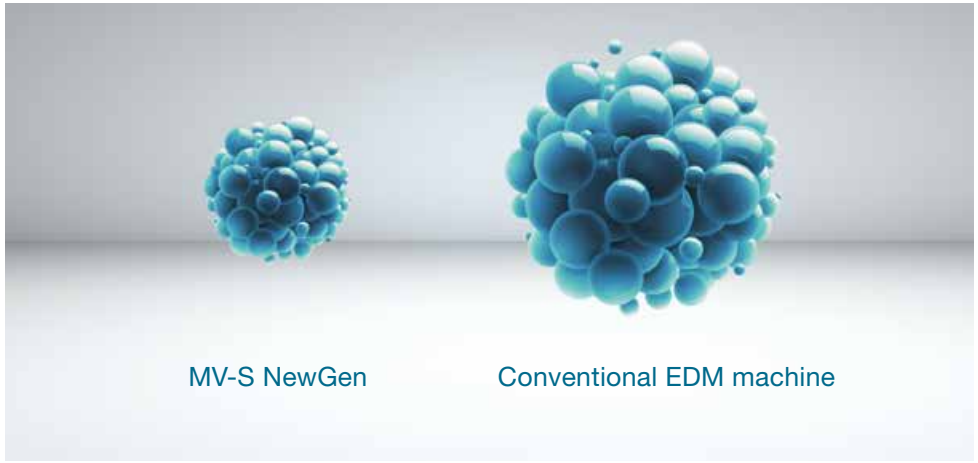
= lower piece costs.

LLS
LONG
LIFE
SYSTEM

Reduce filter costs by up to 45%



Reduce cost of ion exchange resin



Calculate the difference online at:
www.edm-calculator.com

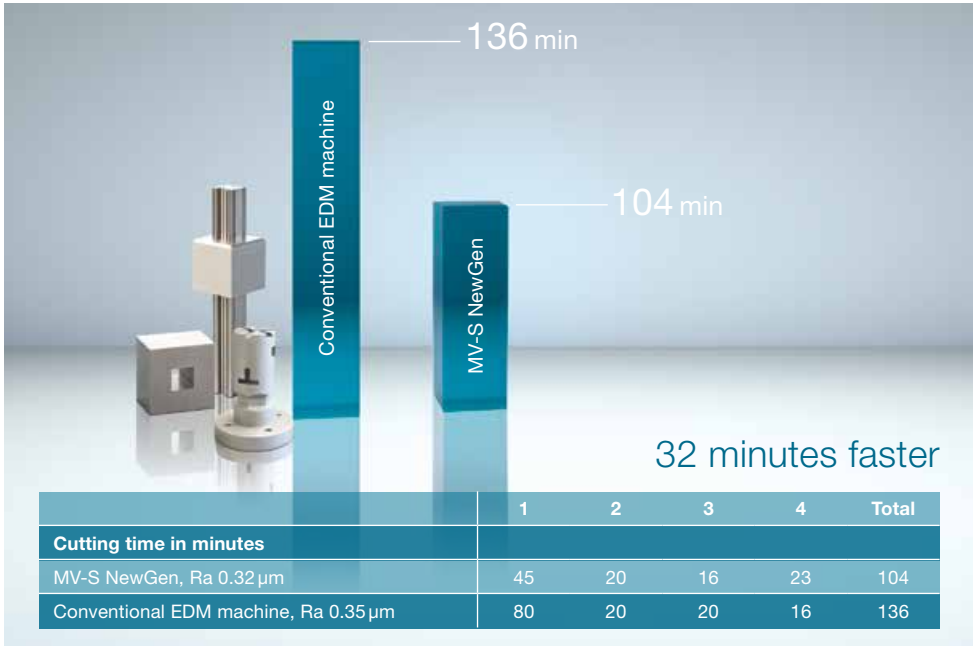

productivity

Producing more, less expensively.

How it's done.

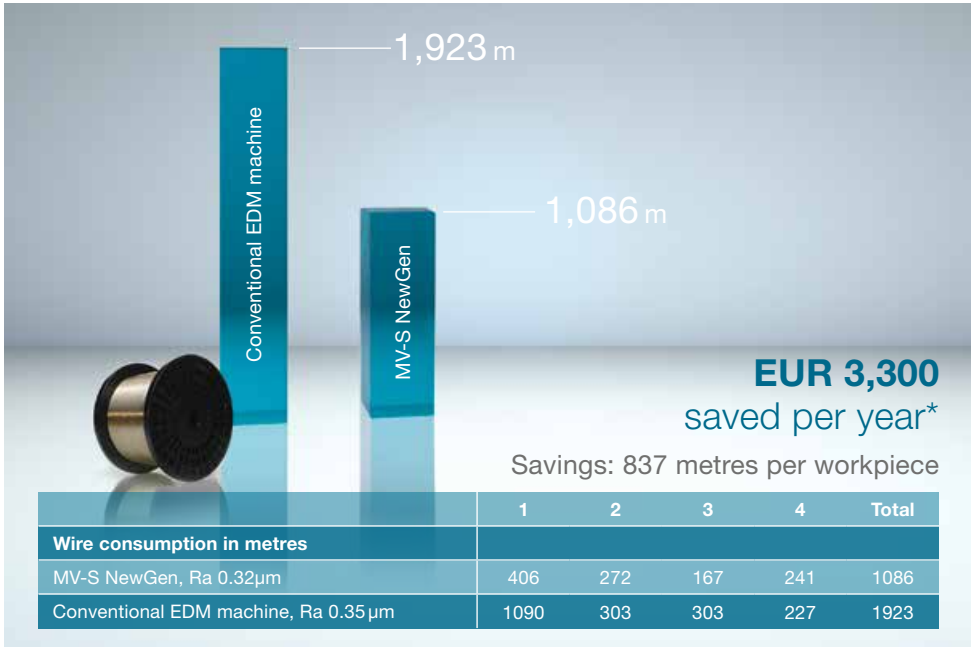
LLS
LONG
LIFE
SYSTEM

30.76% more productive capacity



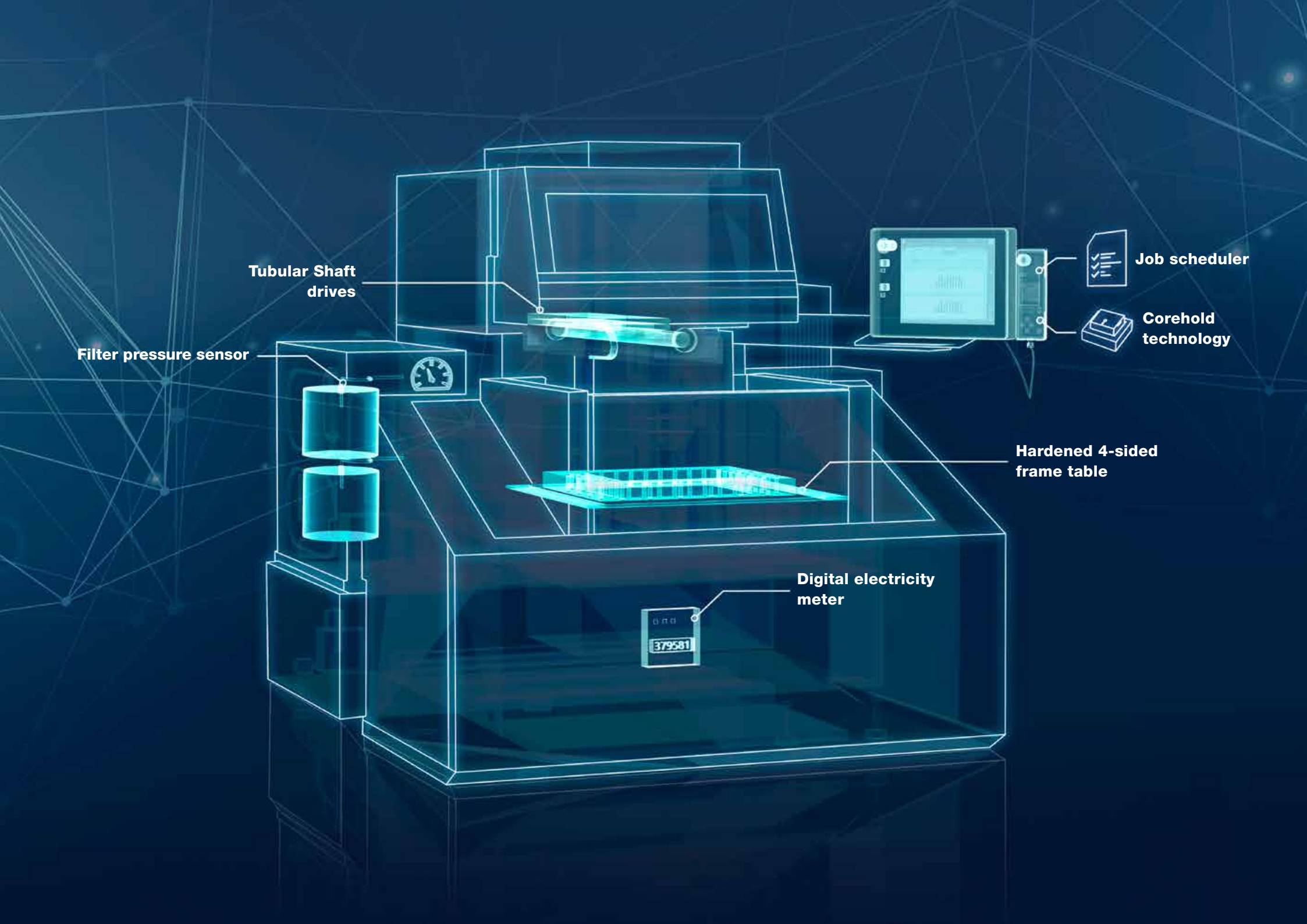
	1	2	3	4	Total
Cutting time in minutes					
MV-S NewGen, Ra 0.32 µm	45	20	16	23	104
Conventional EDM machine, Ra 0.35 µm	80	20	20	16	136

Better result: Wire consumption reduced by up to 46%



	1	2	3	4	Total
Wire consumption in metres					
MV-S NewGen, Ra 0.32µm	406	272	167	241	1086
Conventional EDM machine, Ra 0.35 µm	1090	303	303	227	1923

** Assuming production of six punches per working day, bare brass wire (0.20 mm) price 9.60 euros/kg for 250 working days/year*


Tubular Shaft drives
Filter pressure sensor
Job scheduler
Corehold technology
Hardened 4-sided frame table
Digital electricity meter
379581

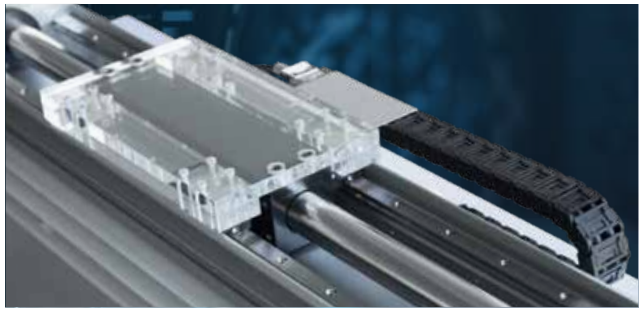
High-specification package.

The intelligent solution.

Hardened 4-sided frame table

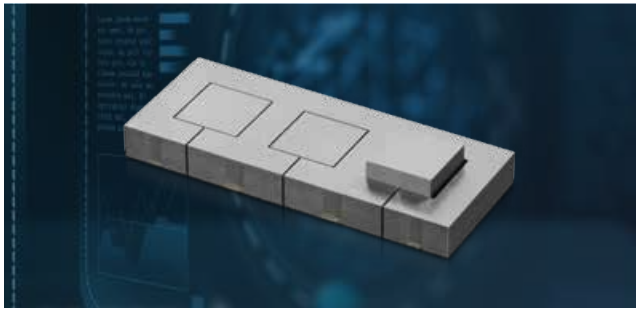
For recovering components also on four inner corners or as an extended support surface for larger components.

Tubular Shaft drives



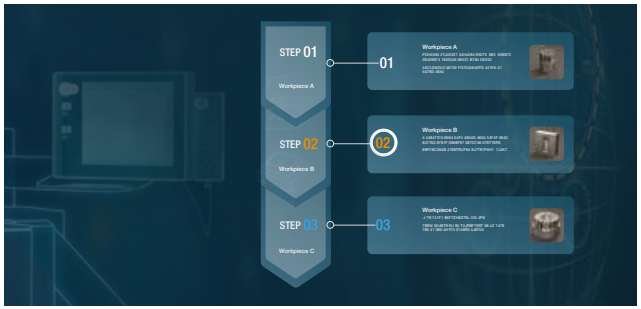
In the axes U/V for even more precise tapers.

Corehold technology



For boosting efficiency in the unmanned machining of multiple penetrations.

Job scheduler



Extended job scheduler makes it easier to flexibly work off jobs in hand.

Filter pressure sensor

For the more precise indication and evaluation of the filter condition (also via mcAnywhere and operating data output).

Digital electricity meter

For extended functionality in the indication and possibly output of operating data.


12:54pm
Higher performance

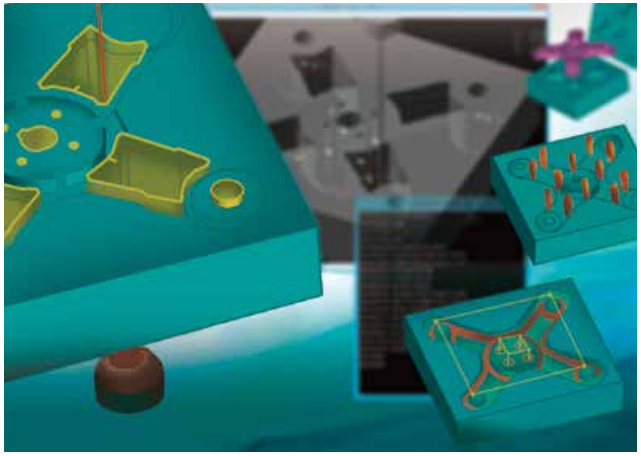
Connect Kit.

Higher performance thanks to additional software solutions.

If you want to get the most out of your MV-S NewGen, you integrate the system. The direct, time-saving processing of 3D Parasolid data is possible. So that the process continues in your absence as well, you conveniently receive status updates by email.

Operating data output for the processing of machining data on external software systems.

McAnywhere Contact+ automatically sends machine reports by email to defined recipients.



3D CamMagic – the on-board programming system that also processes 3D Parasolid data and enables programming straight from 3D models.

Automatic water top-up
Intelligent, continuous monitoring of the process water level and fully automatic top-up as required*

Connection to external cooling system
Precise temperature control thanks to microprocessor-controlled connection to a central cooling system**

Automatic filter switchover
Two pairs of filters can be optionally used together in the process or, when one pair of filters reaches its maximum pressure, the system switches over automatically to the second pair.

* Requires a connection to a water supply.
** Requires a central cooling system available on customer site.

Customised extension.

The intelligent solution.

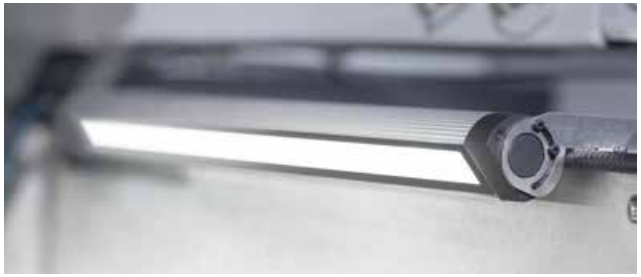
3D probing

Mounted on the machine head, activated on command. The intelligent solution.

Angle Master Advance II

Special wire guide and sequential calculation of the wire set-up point for precision angles.

ERGO-LUX (machine lights)



Working conditions that are kind to your eyes – for the sake of users and for the benefit of machining results.

Tool package

Complete kit for the machining of rotationally symmetrical tools with PCD or CBN cutting edges.

16/20/25 kg wire station

Accommodates large wire spools with ease. (Standard equipment on the MV4800S NewGen)

Warning lamp

Machine status is visible from a distance.

From grinding wheels to high-precision cones: a future-proof machine that you can upgrade at any time.

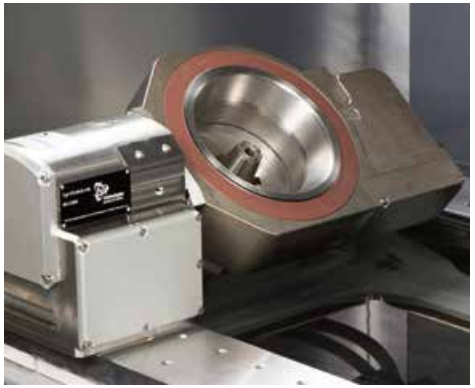
A turn for the better.

Extend your machine's functions.

B-axis

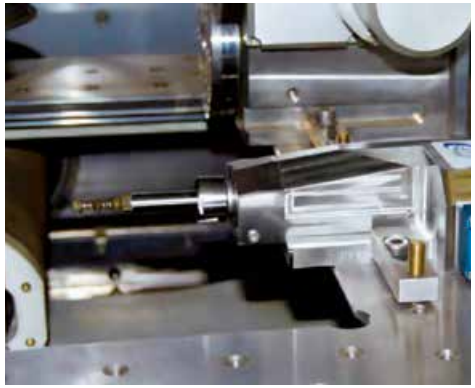
A servo-controlled B-axis fully integrated in the machine controls permits wire cutting on a rotating carried workpiece. Separation and multi-sided machining can be performed in a single clamping as well as simultaneously.

Rotational/swivel axis



Machining cones to the highest standards of precision: the rotational/swivel axis integrated in the machine controls. Multi-axis machining to the centre of the workpiece and multi-sided machining in a single clamping, plus the realisation of high-precision conical polygons.

Mini-rotational axis



Rotating spindle fully integrated in the machine control with positioning for the most minute high-precision components, e.g. the manufacture of ejector pins with a diameter of ≥ 0.05 mm, the realisation of conical threads in medical technology, erosive grinding, turning and simultaneous machining.

Rotational machining

Can be used for reliable indexing and simultaneous machining as well as high-speed rotation (EDM grinding): the servo-controlled rotational machining fully integrated in the machine controls. Discover new production scope!


MITSUBISHI ELECTRIC
EDM systems
Robots
Software
Controls
Mitsubishi Electric
Complete systems responsibility

Automation has to be flexible.

Reconciling different brands.

Optimum solutions – customised, configured or standardised

The handling systems and robots from different manufacturers can often be seamlessly integrated. Renowned for their dependability and productivity, the EDM machines of the MV-S Series from Mitsubishi Electric are automation-ready. We'd be happy to show you examples that have proven effective in practice and help you to cut costs and boost your productive capacity.

Handling equipment from different manufacturers – welcome and easily integrated.

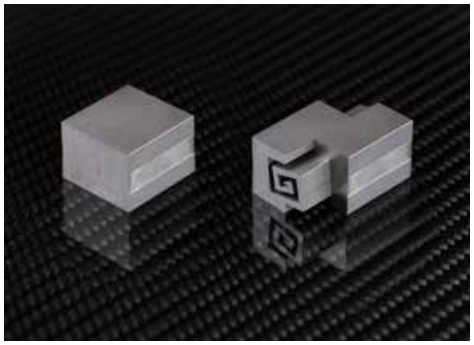
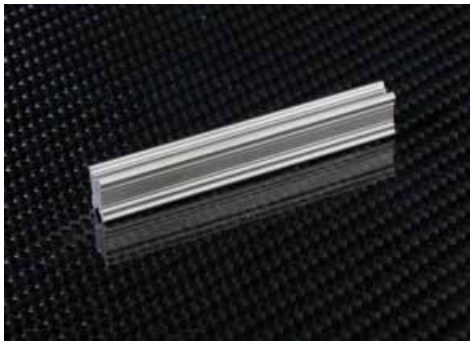
Flexible solution: Articulated-arm robot up to 15 kg of Mitsubishi Electric quality.

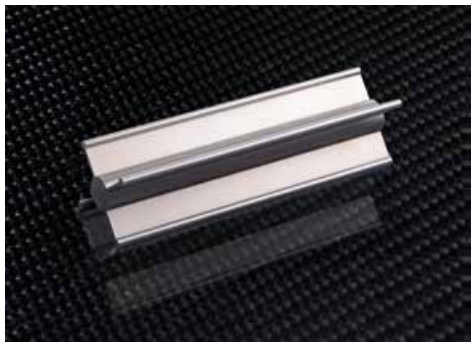
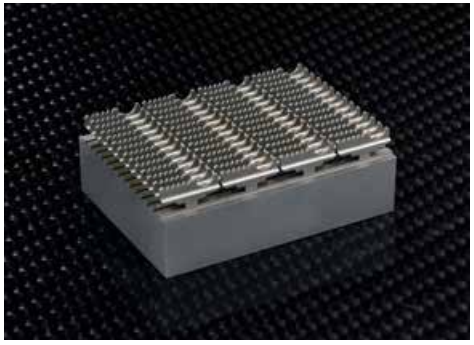
Automated integration – here with ZK Chameleon.

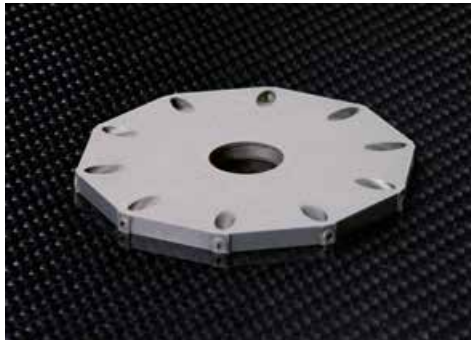
Successfully mastered!

The key to success in a wide range of fields.

Medicine · Vehicle industry · Communications/electrics · Aerospace




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.

Training.

Helping you to stay up to date.

Training

Users learn skilled operation right at the machine and at specially configured CNC workstations. This way you benefit most from a direct transfer of expertise. Training is available at the facilities of Mitsubishi Electric in Ratingen, Germany. Additionally, training courses are provided by our international partners.

Training centre

Training on our wire-cutting and die-sinking systems takes place at our own technology and training centre in Ratingen.

Courses, seminars and user workshops

The varied programme covers everything from basic knowledge through to customised training geared precisely to your employees' learning needs. In addition, we also hold regular applications workshops – free of charge to our customers – which always deal with current topics in theory and practice.

Equipment and instructors

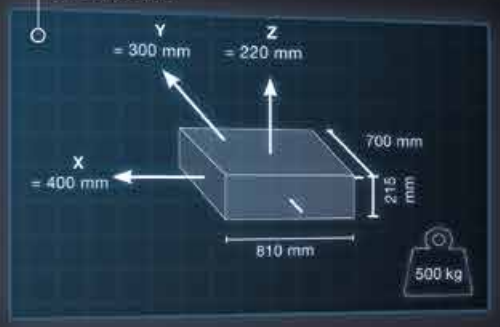
Our skilled instructors introduce you to our EDM systems in theory and practice. The training facilities are appointed with the latest technology, CNC simulators and peripheral equipment.

Certificates

All training participants receive a certificate on completing a course.

MV1200S NewGen

Workpiece

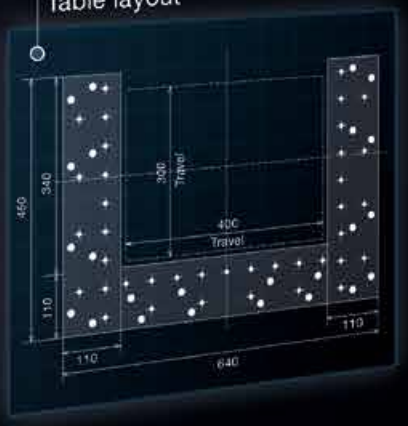


Machine weight.....2700 kg
Generator weight.....240 kg
Machine height.....2015 mm

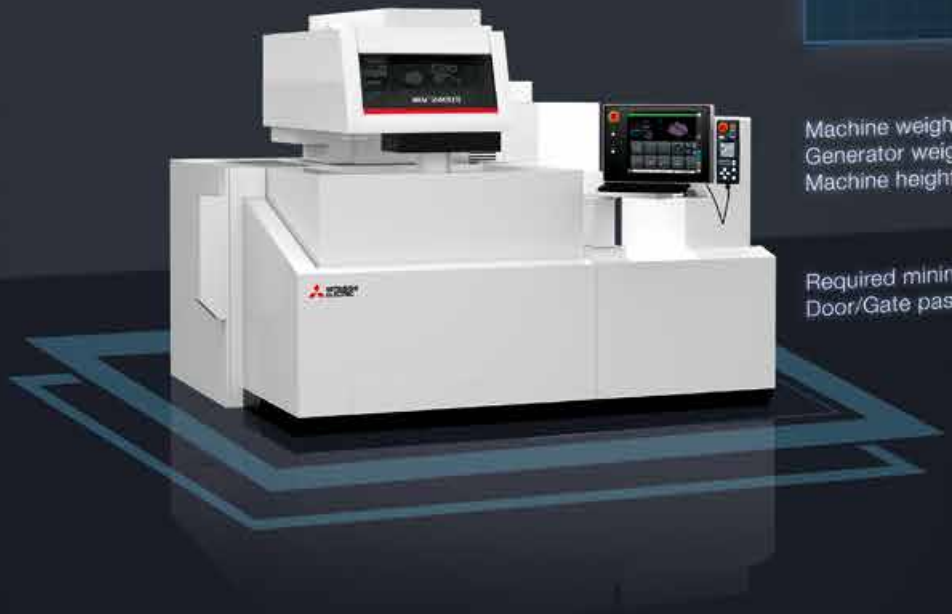
Required minimum dimensions for
Door/Gate passageways (w x h)...1910 x 2015 mm

Machine plan

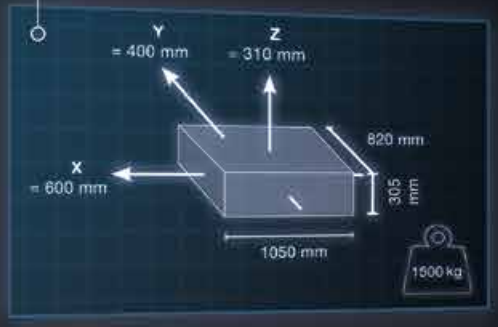
Table layout



MV2400S NewGen



Workpiece



Machine weight.....3500 kg
Generator weight.....240 kg
Machine height.....2150 mm

Required minimum dimensions for
Door/Gate passageways (w x h)...2103 x 2150 mm

Machine plan

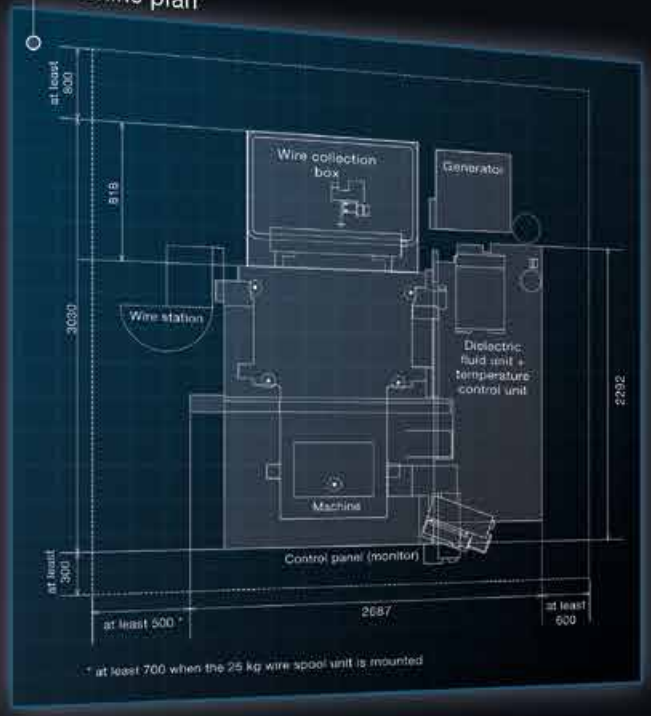
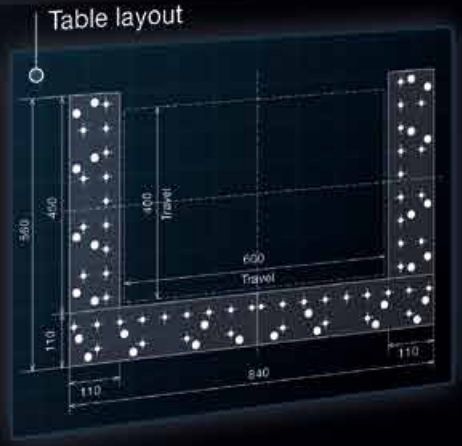
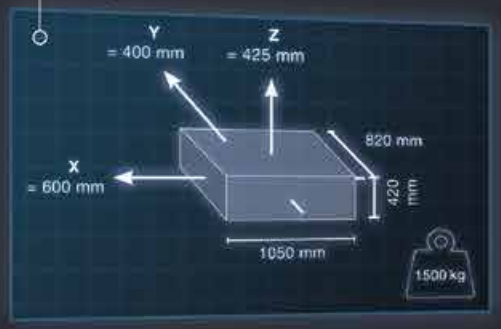


Table layout



MV2400S Z+ NewGen

Workpiece



Machine weight.....3650 kg
Generator weight.....240 kg
Machine height .....2380 mm

Required minimum dimensions for
Door/Gate passageways (w x h)...2085 x 2380 mm

Machine plan

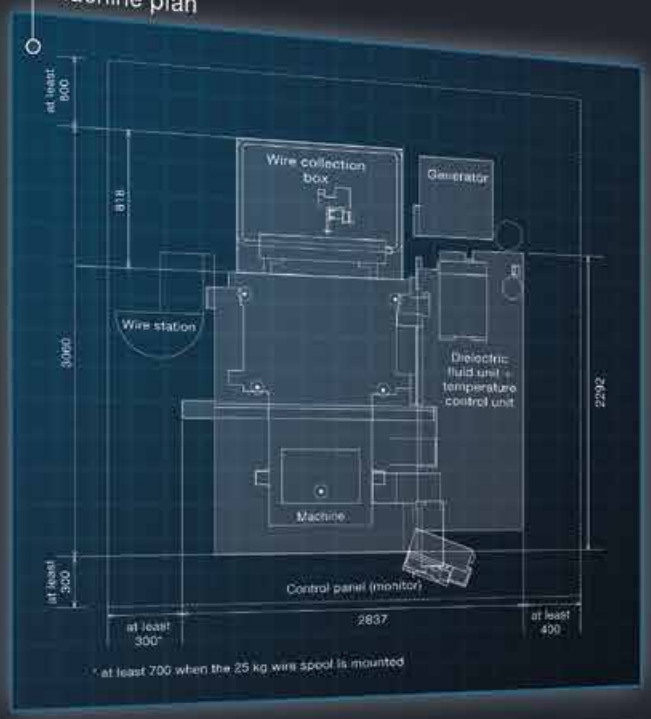
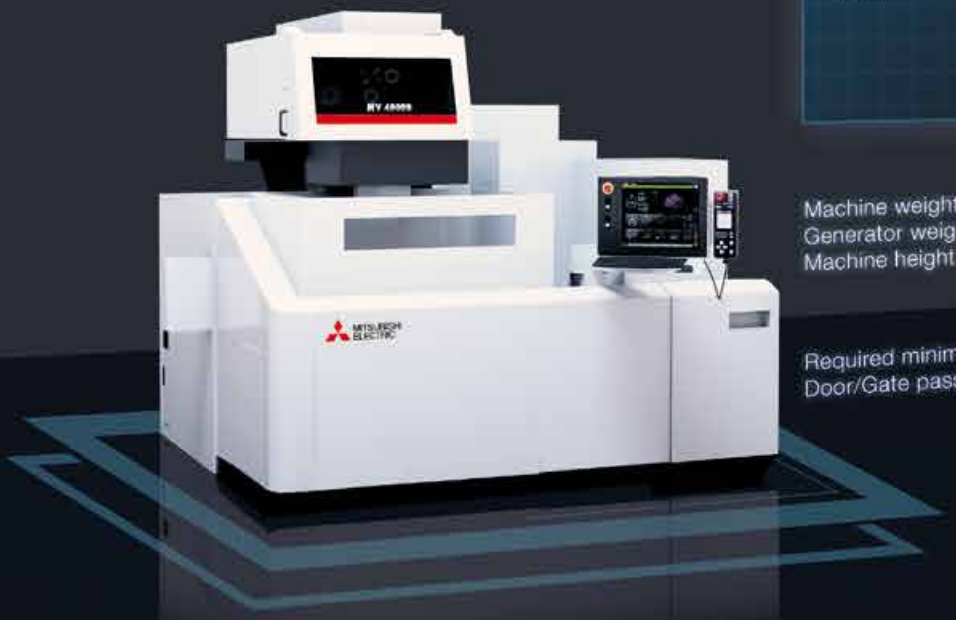
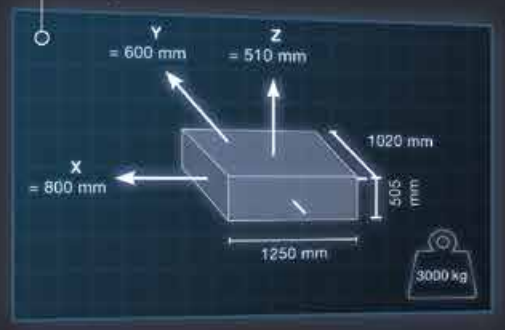


Table layout

MV4800S NewGen



Workpiece



Machine weight.....5700 kg
Generator weight.....240 kg
Machine height.....2815 mm

Required minimum dimensions for
Door/Gate passageways (w x h)...2587 x 2815 mm

Machine plan

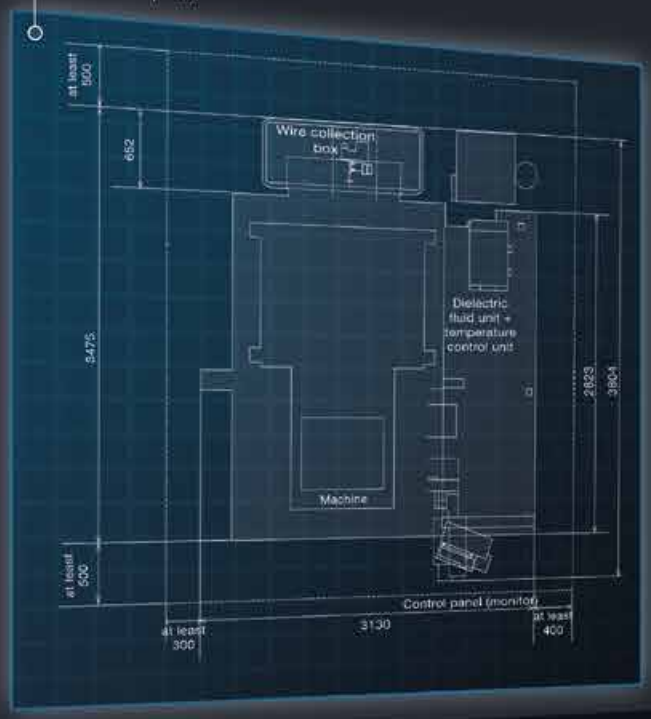
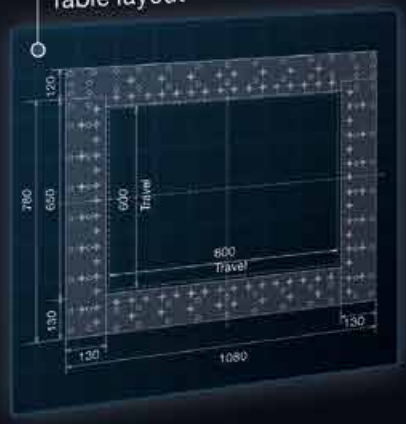


Table layout

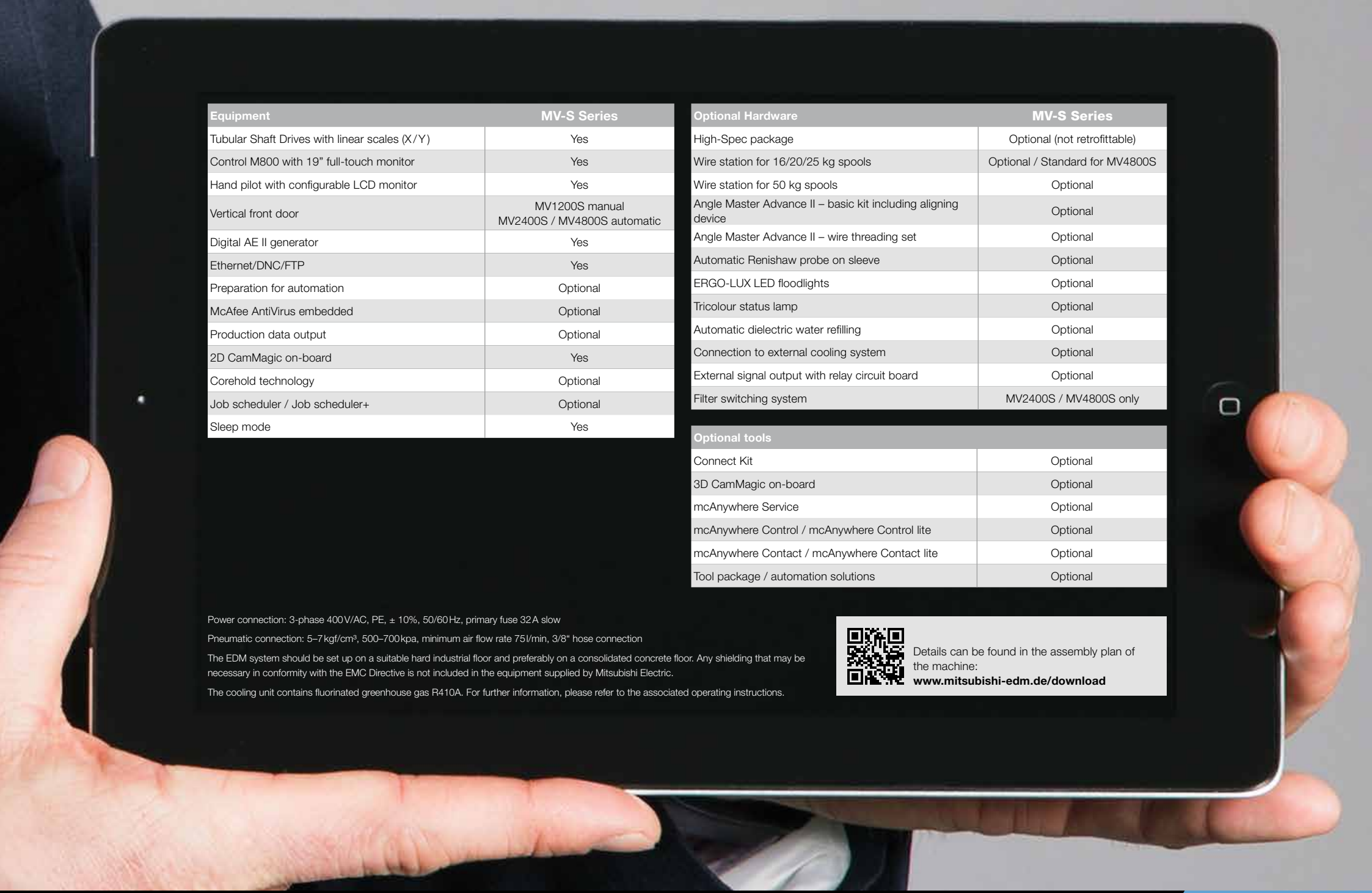


Machine	MV1200S	MV2400S	MV2400S Z+	MV4800S
Travel (X/Y/Z) in mm	400/300/220	600/400/310	600 / 400 / 425	800 / 600 / 510
Travel (U/V) in mm	120/120 (+/- 60)	150/150 (+/-75)	150/150 (+/-75)	200/200 (+/-100)
Taper angle (workpiece height) in °/mm	15 / 200 30 / 87	15 / 260 30 / 110	15 / 260 30 / 110	15 / 355 30 / 155
Max. workpiece dimensions (W x D x H) in mm	810 x 700 x 215	1050 x 820 x 305	1050 x 820 x 420	1250 x 1020 x 505
Max. workpiece weight in kg	500	1500	1500	3000
Table dimensions (W x D) in mm	640 x 450	840 x 560	840 x 640	1080 x 780
Table layout	Hardened three-sided table		Hardened four-sided table	
Possible wire diameters in mm	0.1–0.3			0.15–0.3
Wire spool capacity in kg	10			10 / 16 / 20 / 25
Automatic wire threader / wire chopper	Yes / Yes			
Overall dimensions (W x D x H) in mm	2025 x 2760 x 2015	2687 x 3030 x 2150	2837 x 3452 x 2380	3130 x 3475 x 2815
Machine weight in kg	2700	3500	3650	5700
Mains voltage	3-phase 400 V/AC ± 10 %, 50/60 Hz, 13 kVA			

Filter system				
Tank capacity in l	550	860	980	1480
Filter particle size in µm / filter elements	3 / 2			
Temperature control	Dielectric cooling unit			
Weight (dry) in kg	Included in machine weight	350	390	450

Generator	
Power supply unit	Regenerative transistor pulse type Regenerative transistor pulse type
Cooling method	Fully sealed / indirect air cooling
Max. output current in A	50
Dimensions (W x D x H) in mm	600 x 650 x 1765
Weight in kg	240

Control	
Input method	Keyboard, USB flash drive, Ethernet, 19” touchscreen
Control system	CNC, closed circuit
Min. command step (X/Y/Z/U/V) in µm	0.1
Min. axis resolution in µm	0.05



Equipment	MV-S Series
Tubular Shaft Drives with linear scales (X/Y)	Yes
Control M800 with 19” full-touch monitor	Yes
Hand pilot with configurable LCD monitor	Yes
Vertical front door	MV1200S manual MV2400S / MV4800S automatic
Digital AE II generator	Yes
Ethernet/DNC/FTP	Yes
Preparation for automation	Optional
McAfee AntiVirus embedded	Optional
Production data output	Optional
2D CamMagic on-board	Yes
Corehold technology	Optional
Job scheduler / Job scheduler+	Optional
Sleep mode	Yes

Optional Hardware	MV-S Series
High-Spec package	Optional (not retrofittable)
Wire station for 16/20/25 kg spools	Optional / Standard for MV4800S
Wire station for 50 kg spools	Optional
Angle Master Advance II – basic kit including aligning device	Optional
Angle Master Advance II – wire threading set	Optional
Automatic Renishaw probe on sleeve	Optional
ERGO-LUX LED floodlights	Optional
Tricolour status lamp	Optional
Automatic dielectric water refilling	Optional
Connection to external cooling system	Optional
External signal output with relay circuit board	Optional
Filter switching system	MV2400S / MV4800S only

Optional tools	
Connect Kit	Optional
3D CamMagic on-board	Optional
mcAnywhere Service	Optional
mcAnywhere Control / mcAnywhere Control lite	Optional
mcAnywhere Contact / mcAnywhere Contact lite	Optional
Tool package / automation solutions	Optional

Power connection: 3-phase 400 V/AC, PE, ± 10%, 50/60 Hz, primary fuse 32 A slow

Pneumatic connection: 5–7 kgf/cm³, 500–700 kpa, minimum air flow rate 75 l/min, 3/8“ hose connection

The EDM system should be set up on a suitable hard industrial floor and preferably on a consolidated concrete floor. Any shielding that may be necessary in conformity with the EMC Directive is not included in the equipment supplied by Mitsubishi Electric.

The cooling unit contains fluorinated greenhouse gas R410A. For further information, please refer to the associated operating instructions.

Details can be found in the assembly plan of the machine:
www.mitsubishi-edm.de/download

Partners

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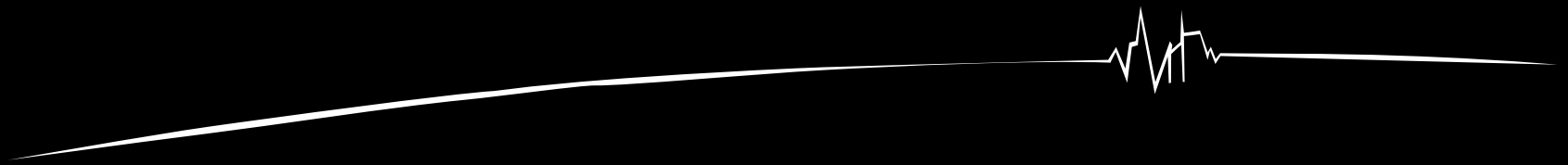

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