Micromatic Grinding TECHNOLOGIES LTD.
In the Pursuit of Zero

Equilibrium

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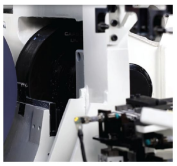
New Products

CNC Circular Slitting Blade Grinder

*Circular Slitting Blades are commonly used for sizing paper, plastic, wood, sheet metal etc. & in many other industries. CNC Circular Blade Grinding machine (CBG CNC) is designed to automatically, accurately & economically grind the lip and face of these slitting blades.....****Read More at page 07***



Understanding Voice of the Customer

Customer Services

*Customer was facing heavy production losses due to frequent breakdown of the CNC system on an old Centerless Grinder. To minimize the down time & production losses, MGT's Value Added Services-VAS team offered the solution of replacing the CNC system on-site.....****Read More at page 13***

INNOVATING TO GROW

Going Global

*Micromatic Grinding Technologies has appointed Master Abrasive as its sole sales & service representative for MGT Grinders in the United Kingdom & Ireland.....****Read More at page 04***

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New Applications

*The solution required MGT to overcome the biggest obstacles while clamping of the Graphite Bush due to its brittle nature & yet to achieve the CTQ-Critical to Quality-parameters.....****Read More at page 06***

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Loved and experienced by Customers since early 1973

Micromatic Grinding Technologies Ltd.

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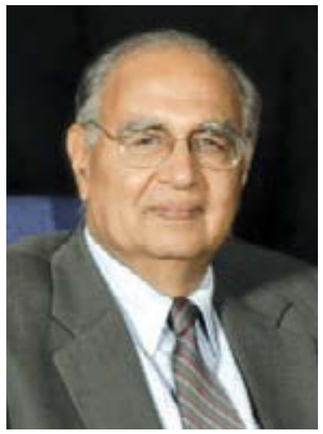
Welcome to our Newsletter



N K DHAND
Chairman

Innovating to grow

The manufacturing scene in the country has never been this bright. It has emerged as one of the high growth sectors of the country, which will be a major thrust to our economy. It is largely expected that it will earn its name as the fifth largest manufacturing country by 2020.

The 'Make in India' initiative by the Govt. is a step towards realising this goal. The objective is to create more jobs and enhance skill sets of the workforce in 25 sectors of the economy, which will effortlessly make way for capital and technological investments in the country. The call is to put in your best, create, enhance, improve and fill in the gaps to reach global standards.

This compilation of our first e-newsletter, covering the Jan.-July 2017 period, comprises our portfolio and consistent efforts to grow Micromatic Grinding Technologies by persistently innovating, stems from the same spirit of things that cannot help being contagious.

With the hope that it inflicts you too in the same manner, I wish you an insightful read.

Going Global

MGT appoints
Master Abrasive in UK

Micromatic Grinding Technologies has appointed Master Abrasive as its sole sales & service representative for MGT Grinders in the United Kingdom & Ireland.

Selling high precision grinding machines requires in-depth technical knowledge of not only the machine, but also the application process. According to MGT, it has found a suitable partner in Master Abrasives who understands this requirement, being sellers of Abrasive Tools for over the past 40 years in the UK market. It has built a reputation for providing high-quality products and professional service under the MASTER brand. It specialises in Precision Abrasives, Surface Finishing, Tool Services and Grinding Machines.

(L-R): Mr. Martin Steven, Technical Sales Representative,Mr. Dave Grice, Tool Services Technician,Mr. Sachin Kumar(MGT)@Service Engineer and Mr Richard Clarke, Maintenance and Facilities Technician

Master Abrasives has installed 1st MGT Cylindrical Grinder model eco 200 U at its Daventry facility. This showroom machine will be used for demonstration, cutting trials & training for the potential customers.

New products

CNC CIRCULAR BLADE GRINDER,
Model CBG CNC

Circular Slitting blades are commonly used for sizing paper,plastic,wood, sheet metal etc. & in many other industries. These blades fitted on cut-off machines tend to get blunt very fast due to continuous sizing operations & therefore require frequent re-sharpening& replacement. Presently New Blade manufacturing is carried out on manual devices resulting in poor quality & inefficient operations.A major manufacturer of such Circular Blades approached MGT to get a Total Solution for enhancing Production & Quality of his products. CNC Circular Blade Grinding machine (CBG CNC) was designed to automatically, accurately & economically grind the lip and face of slitting blades. Now, these Blades offer accurate sizing, longer life &do not require frequent re-sharpening as before. Achieving required accuracies is easier & faster now! CBG CNC is available in two Version CBG 40 CNC and CBG 63 CNC.

Unique Features

- Economical
- Suitable for Lip & Face grinding solution for straight plunge & traverse application
- Customized Menu base programming for ease in setting

Model Type: CBG40
Grinding Type: Lip Grinding (Face Grinding is possible with Setup change for work holding arrangement)

Model Type: CBG63
Grinding Type: Lip Grinding +Face Grinding (Without change in Setup for work holding arrangement)

New Applications

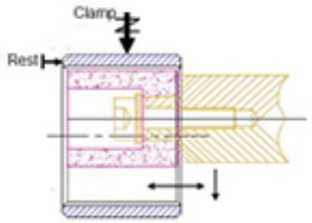
1. Carbon Graphite Bush

Bore Grinding

Carbon graphite bushes are used in pump shafts as bearings, providing self lubrication. Graphite provides higher running life (lower wear) due to its much lower coefficient of friction than metals & bronzes.

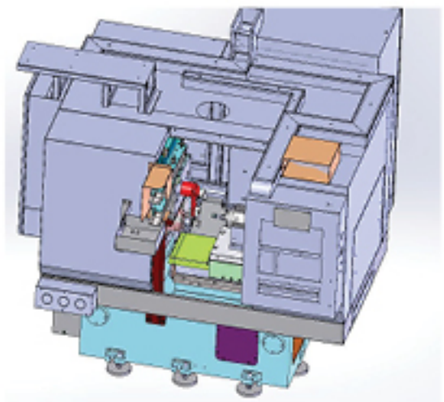
The solution required MGT to overcome the biggest obstacles while clamping of the Graphite Bush due to its brittle nature & yet to achieve the CTQ-Critical to Quality- parameters. The innovation lies in designing specialised tooling wherein force used for clamping is balanced. Hence, zero damage to the ground bush is ensured while maintaining CTQ roundness and size accuracies. Even after de-clamping from the grinding machine, it maintains its achieved accuracies.

MGT worked towards engineering and developing suitable work holding for such precision Graphite Bush Bearings and achieved higher level of accuracies plus low cycle time, suitable for high production and economical grinding cost per part.



Results Achieved

Machine	CNC Internal Grinder IG 50 CNC
Operation	Bore Grinding
Cycle Time	55 Sec Including Dressing
CpK	> 1.68 for tolerance of 30 microns
Roundness	Within 2 Microns
Cylindricity W	Within 3 Microns
Surface Roughness	With 0.37 µ Ra



New Applications

2. Molybdenum Coated Pin

Centreless Grinding

Challenges:

- Grinding Molybdenum coated parts is tough as it clogs wheel
- An overused wheel makes accuracy difficult to achieve

Solutions MGT established:

- Grinding process was optimized
- Input Grinding stock was distributed to 3 levels i.e. Roughing, semi finishing and finishing
- All required critical parameter Taper, ovality & straightness were achieved within 4 microns

Results Achieved

Machine C	Centreless Grinding CL6020
Operation	Thru Feed Grinding
Total Cycle Time In 3 Passes	18.5 Seconds
CpK	>=1.33 for tolerance of 12 microns
Total Stock Removal	0.3 MM on OD
Hardness	62 HRC
Ovality	Within 4 Microns
Taper	Within 4 Microns
Straightness	Within 4 Microns
Surface Roughness	Within 0.8 µ Ra

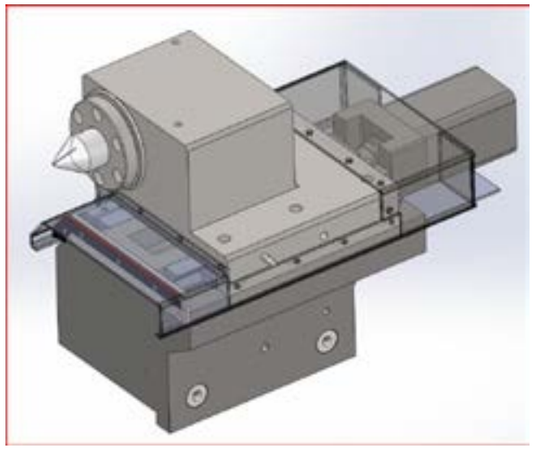
New Features

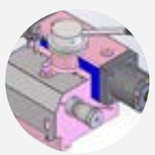
1. Tailstock With Antifriction Guideways

Objective: Rigid Tail stock, providing consistency in ground components output quality i.e. taper, cylindricity etc.

Tailstock with Antifriction Guideways is designed suitably for MGT's OD Grinding machines available with MT 4 or MT 5 taper, having below benefits

- Quick and ease in setting due to smooth movement on Antifriction Guideways.
- Higher accuracy of position due to no quill movement.
- Increase in Tail stock stiffness by 25% in comparison with other available tailstocks .
- Total Cycle time reduction by 3 sec to 4 sec due to less movement of quill



PARAMETERS	TAIL STOCK		
Type of Tail Stock	Double Acting Tail Stock Quill Dia : 100	Single Acting Tail Stock Quill Dia : 63	Tail Stock With No Quill & With Antifriction Guice Ways
Stiffness @Centre in Kgf/microns	3.43 Kgf/µm	1.82 Kgf/µm	4.57 Kgf/µm
			

New Features

2. Rotary disc dresser Vs. blade type diamond dresser

Rotary disc dresser

This is a disc with diamond held in metal bond in multi layer. Thedisc rotates at very high RPM for the generation of profile on conventional wheels. These dressing discs are also widely used for truing of vitrified CBN wheel.

Blade type diamond dresser

These are stationary dressing tools, having single layer of multipoint diamonds rigidly held in a set pattern through a bonding system. These dressers are suitable for profile generation on conventional abrasive wheels but due to only limited no. of diamond points available, the life is limited & needs frequent replacement.

Meeting the objective

The need was to achieve consistency in profile dressing with longer life of the dresser and grinding wheel. ***MGT's built-in motor-driven indigenously-made rotary disc dressing unit proved instrumental in getting the desired profile accuracies along with increased productivity.*** This unit can be mounted on the workhead or on the table of MGT Grinders as per the application requirement. RPM of the unit can also be programmed according to the need.

New Features

3. Load-Unload system for Shaft Type Components

Challenge:

Large production of medium weight parts e.g. automotive transmission shafts, etc. requires loading & unloading of the same on to the machine by the operator, approx. every minute, depending on the cycle time. This is very tiring & sometimes wrong loading causes serious accidents.

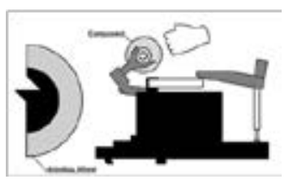
Typically, such grinding machines now run 24X7 these days & to maintain consistency in line output, respected supply chain vendors are demanding automatic loading unloading systems on new machines. Such systems can be very costly, at times as much as additional 50% of the price of a new machine.

Challenge therefore is always to bring out an economic-cost effective Load-Unload system which doesn't affect the overall grinding cost per part.

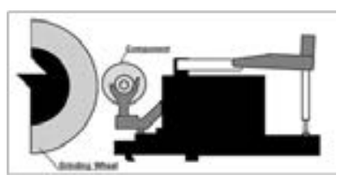
Benefits of the loader unit

- Low maintenance cost
- Economic cost automation
- Reduced component loading-unloading distance to minimize the operator fatigue
- One operator can tend to two machines simultaneously

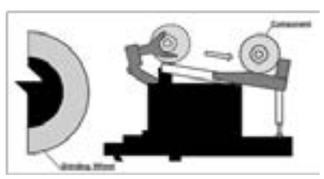
Sequence



1.Manual Loading of Component



2.Grinding position of Component



3.Unloading of Component on the tray

Customer Services
VAS-Value Added Services

CNC system replacement at Customer's end in 3 days

Challenges:

Customer was facing heavy production losses due to frequent breakdown of the CNC system on their old Centerless Grinding machine. Troubleshooting during maintenance was also posing problems.

Solutions:

The only solution that the situation demanded was the replacement of the CNC System with minimum stopover of the machine to minimise the losses.

Approach:

MGT's Value Added Services-VAS team studied the complete requirement of the customer and prepared a written down procedure for the CNC System replacement, marking all elements as needed-to-be-replaced for the proper function of the machine. Activities were broken down focusing on minimum on-site and maximum off-site actions.

All off-site activities were completed at MGT including Function check for PLC logics as required for the machine. The CNC System, drives, servo motors and other related elements were replaced on the machine at the customer's site as per the on-site activity schedules.

Result:

The MGT VAS team carried out the entire procedure with utmost coordination. They were able to replace the CNC System in a stipulated time limit of three days & the machine was up for production on the fourth day.

Off-Site Activities

- Replacement of CNC System at customer end
- Preparation of Drawings
- B.O.P procurement as per drawings
- PLC Programing &design
- Manufacturing of Mech. items
- PLC Checking on Simulator

On-Site Activities

- Elements Interfacing
- Assembly of parts on machine
- Uploading PLC prog.& function check
- Trial run & machine handover
- End

New Employee Recognition Program

Best Kaizens of the year Awards for 2016-17

MGT has launched a new "Employee Recognition Program" under the title, "Best Kaizen's of the year" Award. Objective of the program is to identify & recognize top 3 implemented suggestions during the last FY which Reduced Costs, improved Quality, Delivery of the product/service orResulted in significant improvement to workplace safety, Environment and wellness of MGTians. A committee has been formed to identify, assess and evaluate all the suggestions against defined criteria(QCDSEM).

During FY 2016-17 at Ghaziabad plant we had received total 1738 nos. of suggestions out of which approx. 75% (1288 nos.) were feasible. In feasible suggestions, 25 nos. of suggestions had been recognized in "A" grade during the year. Committee has selected & recommended below three suggestions for the "Best Kaizen of the year" Awards.

1. Optimum Equipment Utilization to reduce Carbon Foot Print by Mr. Jitendra & Team
2. Value Engineering in MGT products by Mr. NS Verma & Team
3. Reduced Spindle repairing time by Mr. Rajeshwar Singh & Team

Besides, the certificates, Cash Awards of Rs. 10000, 7500/- & 5000/- were given to first, second & third team respectively.

Optimum Equipment Utilization to reduce Carbon Foot Print

Kaizen 1st Prize Award for the year 2016-17 goes to ***Mr. Jitendra Singh & his PES Team***

The Centralised AC unit installed at MGT Plant has a chiller line which includes Chiller Pump Motors. The motor power being used was only at 30 percent utilization even though the available motor power capacity was more.

To optimise the available motor power, MGT Maintenance team took the initiative and installed VFD to tune the RPM of Chiller Pump Motor to adjust the throttle valves to 100 percent. By installation of this system, the team was able to reduce electric power consumption by 60 percent, thereby contributing to reduced carbon foot print.

Environmentally conscious MGTians

Mr. Jitendra Singh

Mr. Irshad Ali

Mr. Bhupender Kumar

Newly installed VFD for Motor

Value Engineering in MGT Products

Kaizen 2nd Prize Award for the year 2016-17
goes to ***Mr. N.S. Verma & Team***

MGT wanted to enhance productivity by upgrading quality standards for the bed assembly of heavy duty hydraulic grinding machines. The Design team arrived at the idea of merging two parts i.e. carriage base with bed.

This resulted in multiple benefits:

- Increased productivity (reduced lead time; now assembly takes 8 man-hours instead of 16 man-hours)
- Consistent quality levels & Higher Rigidity achieved due to reduced number of parts
- Cost saving of Rs.15,000 per unit.

Value Engineering Team:


Mr. N.S. Verma


Mr. Nuruddin

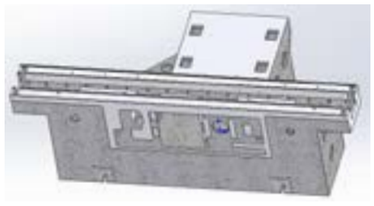

Mr. Jeet Singh


Mr. Bhagwan Singh

Before

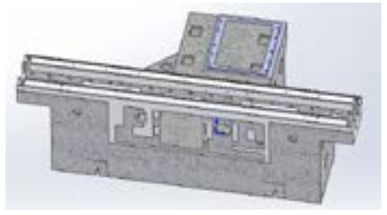
Carriage Base

Both casting are seperated



Machine Bed

After



Base Integrated with bed

Reduced Spindle repairing time

Kaizen 3rd Prize Award for the year 2016-17
goes to ***Mr. Rajeshwar Singh & Team***

To help reduce downtime at customer's end, MGT was working towards reducing wheel head spindle repairing time. However, there were a number of issues that had to be addressed before achieving that. The old wheel head spindle bronze bush would get hard due to temperature. The old bushes were rejected in most cases and the customer was asked to pay for the new bushes. In the case of old bushes, the manual relief operation was time-consuming.

Finding a solution:

The Spindle Assembly and Machine Shop teams worked together to find the solution for preparing of profile in the old spindles on the SPM boring machine, just as being done for the new spindles. The Machine Shop team calculated and set the adjustments required to be done on the machine for the required operations on the old spindles.

Benefits:

- Time for manual work was reduced from 20 hours to 4 hours;
- Consistent quality level was achieved due to using the same manufacturing process as for the new spindles.
- The problem of old bushes getting rejected was overcome, thus not only savings but applying the "Reuse" environ-friendly solution.

The motivated team:

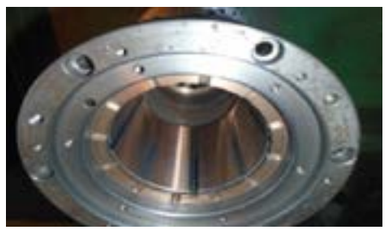

Mr. Khajan Singh


Mr. Shrawan Kumar


Mr. Yadram Singh


Mr. Rajeshwar Singh


Before: Relieve was done manually


After: Relieve done on boring machine

CSR-MGT & The Society

Caring the MGT way

The best companies are those with happy employees. Companies today provide plentiful perks and a conducive work culture to motivate their employees who spend most of their time and energy for the company's progress.

Taiyari Udaan Ki

MGT ensures that its employees are well taken care of since only then will they be in a position to take care of the company. Towards this, it has brought in a unique initiative, Taiyari Udaan Ki. The program comprises training the children of its mployees and equipping them with the right skills to be ready to work in the industry. That way, the newly passed graduates will find themselves at par with the others with experience. For this, MGT has roped in industry professionals to work along with the in-house trainers to train, guide and motivate the youngsters eager to prove themselves. The formal structured manner of the program aims to provide them the mentoring and direction which will help them focus on getting the jobs that are right for them.

mentoring youngsters in a formal and structured manner

Awards & Recognitions

MGT's BOTH PLANTS ARE NOW CERTIFIED WITH THE LATEST ISO 9001:2015 QMS by TUV-NORD

Since its incorporation in 1973, MGT had always been following Quality Systems for its high-precision grinding machines from start-to-end, Design to Manufacturing, Machine Commissioning & all related Quality Assurance activities. This surely contributed towards Micromatic being awarded the "PMT-CMTI Best Design" & "FIE Best Product" Prizes for the first model GCU 200 at IMTEX 1979 at Bombay (Mumbai now).

When the ISO: 9001 Quality Systems came to India in the early nineties, MGT was among the first 100 companies to be certified by ISO: 9001 QMS in 1995. This laid the foundations for a Quality Culture at MGT, now reflected in its tagline, "In the Pursuit of Zero" i.e. Zero Defects, Zero Downtime & Zero Emissions, in all its operations.

We are proud to confirm that in keeping up with the tradition of updating to the latest ISO QMS standards, MGT's Ghaziabad plant has been upgraded to the ISO 9001:2015 standard certified by M/s TUV–NORD in Dec. 2016 . Additionally MGT's Bangalore plant has also been upgraded to this latest QMS standard (ISO 9001:2015) and the Environment Management System(ISO 14001:2015) in April 2017 by the same certification body.

CERTIFICATE TÜV NORD

Management system as per
ISO 9001 : 2015

In accordance with TÜV INDIA procedures, it is hereby certified that

MICROMATIC GRINDING TECHNOLOGIES LTD.
5/A, KIADB Industrial Area, Somapura Village,
Dobaspet, Nelamangala Taluk,
Bengaluru - 562 111, Karnataka,
India

applies a quality management system in line with the above standard for the following scope

Design, Manufacture, Supply and Service of Grinding Machines

Certificate Registration No. **QM 08 01446** Valid until **15.04.2020**
Audit Report No. **Q 4594/2012**

Certification Body
at TÜV INDIA PVT. LTD.

Issue **16.04.2017**
Place : **Mumbai**

This certification was conducted in accordance with the TÜV INDIA auditing and certification procedures and is subject to regular surveillance audits.

TUV India Pvt. Ltd., 801, Raheja Plaza – 1, L.B.S. Marg, Ghatkopar (W), Mumbai - 400 086, India www.tuv-nord.com/in

TÜV NORD

CERTIFICATE

Management system as per
ISO 9001 : 2015

In accordance with TÜV NORD CERT procedures, it is hereby certified that

MICROMATIC GRINDING TECHNOLOGIES LTD.
C-27 & 28, Meerut Road, Industrial Area,
Ghaziabad - 201 003, Uttar Pradesh,
India

applies a management system in line with the above standard for the following scope

Design, Development, Manufacture and Servicing of Conventional and CNC Grinding Machines

Certificate Registration No. **04 100 980981** Valid until **06.02.2020**
Audit Report No. **2.5-169/2002** Valid from **07.02.2017**
Initial certification **17.12.1998**

Certification Body
at TÜV NORD CERT GmbH

Issue **29.12.2016**
Place : **Mumbai**

This certification was conducted in accordance with the TÜV NORD CERT auditing and certification procedures and is subject to regular surveillance audits.

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Head office & North India Plant

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