

SAMPLE PREPARATION

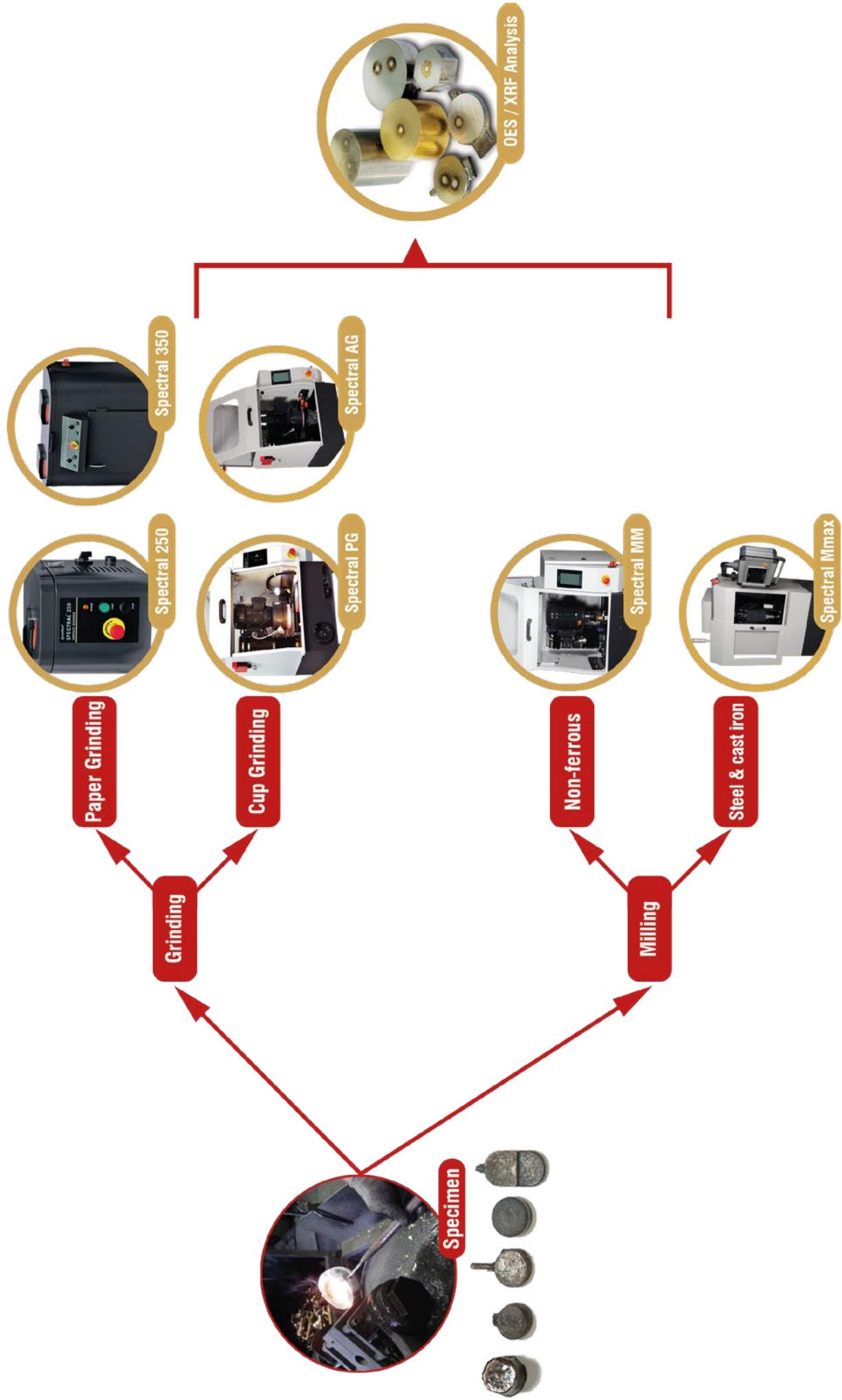
# SPECTRAL

Series



**metken**<sup>®</sup>  
Technology behind Specimen

**Kemet**



# SPECTRAL<sup>®</sup> 250/350



Sample preparation of metals and materials have become more and more important because of the rapid development and improvement of both software as well as OES and XRF-devices during the past few years that shifts the detection limit for trace analyses. It is crucial to have the sample properly prepared. The sample needs to be both representative, homogeneous and with an even surface in order to eliminate factors that can influence the results.



## SPECTRAL 250



SPECTRAL 250 is a table-top portable surface grinder for the preparation of steel samples for spectroscopy. Its compact design with vibration free operation makes it a practical instrument to work with. Low noise and dust generation levels as well as standard outlet for dust exhauster are additional advantages.

250 mm grinding disc is dynamically balanced for smooth running. Grinding paper is sucked to the grinding disc which does not require any glue. Papers with 40-120 grit can be used to obtain the desired surface quality. The grinding disc is covered halfway by a lid, allowing grinding only in a segment. A safety switch guarantees automatic switch off when the lid is opened.



## SPECTRAL 350



SPECTRAL 350-1 Single Disc Grinder

SPECTRAL 350 is used to achieve excellent precision flat surfaces of iron and steel samples for spectroscopic analysis. The robust and vibration-free construction has been designed for continuous operation at high sample throughput.

SPECTRAL 350 Series of instruments are available as Single Disc and Dual Disc Units with 350 mm wheel size which is dynamically balanced for smooth running. Due to its special design, grinding paper is sucked to the grinding disc which does not require any glue.

SPECTRAL 350 Series are equipped with a strong aspiration device in addition to its special design, increasing vacuum for suction which retains the abrasive paper on the disc, eliminating the requirement for any adhesives or fixing attachments. Therefore, the abrasive papers can be used on their full widths and are very easy to exchange. The integrated dedusting system with spark trap allows a dust-free operation.

The grinding disc is covered halfway by a lid and the sheet metal allows grinding only in a segment for operator comfort and protection.

The machine is fitted with an interlocking safety device. When the lid is opened or the emergency button is depressed, the motors are stopped immediately.

**SPECTRAL 350-1** Single Disc Grinder with 2800 rpm fixed speed is the most basic unit of Spectral 350 series.

**SPECTRAL 350-2** Dual Disc Grinder has two discs with fixed speed of 2800 rpm.

**SPECTRAL 350-2S** has two grinding discs with dual speed as 1400 and 2800 rpm. It's the most unique grinder, especially for foundries or steel plants having variety of materials.

## Clamping Vices

The heat generated during grinding operation can create difficulties in handling for the operator. To overcome these difficulties METKON offers a number of special clamping devices for use with SPECTRAL Series.

Magnetic and mechanical specimen holders for samples up to 50 mm. dia. available ensure maximum operator safety.



SPECTRAL 350-2S Double Disc Dual Speed Surface Grinder



Magnetic Type Sample Holder



Mechanical Type Sample Holder

## Specifications

### 80 06 SPECTRAL250

#### Table-top Surface Grinder

for spectroscopic sample preparation of steels and irons, vibration-free construction, robust steel housing, strong 1,1 kW motor, working disc of 250 mm dia., with rotation speed of 2800 rpm, a rapid stop of the turning disc, suction created by special design retaining the abrasive paper on the disk (no need to glue or fix), disc covered halfway by lid allowing grinding only on a segment, spark trap, dust box and standard outlet for exhauster, easy to clean and ready for operation.  
230 V, 1-phase, 50 Hz.

### 80 02-1 SPECTRAL 350-1

#### Single Disc Surface Grinder

for spectroscopic sample preparation of steels and irons, single disc of 350 mm dia., dynamically balanced, with 2,2 kW driving motor, with rotation speed of 2800 rpm, suction created by special design retaining the abrasive paper on the disk (no need to glue or fix), discs covered halfway by lids allowing grinding only on a segment, dedusting system with spark trap and easily replaceable filters, with interlocking safety switch not allowing the top cover being opened before the motors are stopped, ergonomically designed and ready for operation. (wooden packing included)  
400V, 3-phase, 50 Hz.

### 80 02 SPECTRAL 350-2

#### Dual Disc Surface Grinder

for spectroscopic sample preparation of steels and irons, course and fine grinding possible on two separate independent discs of 350 mm dia. which are dynamically balanced, two individual driving motors (2,2 kW each) with 2800 rpm, suction created by special design retaining the abrasive paper on the disk (no need to glue or fix), discs covered halfway by lids allowing grinding only on a segment, dedusting system with spark trap and easily replaceable filters, with interlocking safety switch not allowing the top cover being opened before the motors are stopped, ergonomically designed and ready for operation. (wooden packing included)  
400V, 3-phase, 50 Hz.

### 80 02-2S SPECTRAL 350-2S

Dual Disc Surface Grinder  
as above, but with two speeds 1400/2800 rpm.

#### Sample Holders for SPECTRAL 250/350

- GR 1804** Sample Holder for round specimens, Magnetic type.  
**GR 1805** Sample Holder for round specimens, Mechanical type.

#### Spare Part Kit for SPECTRAL 350

- GR 1850** Recommended Set of Spare Parts, SPC 350



EQUIPMENT	SPECTRAL 250	SPECTRAL 350-1	SPECTRAL 350-2	SPECTRAL 350-2S
Number of Stations	1	1	2	2
Wheel Diameter	250	350	350	350
Wheel Speed, rpm	2800	2800	2800	1400/2800
Motor Power	1,1	2,2	2 x 2,2	2 x 2,2
Dust exauster	Yes	Yes	Yes	Yes
Paper Adjustment	Vacuum	Vacuum	Vacuum	Vacuum
Dimensions, WxDxH, cm	35 x 45 x 33	75 x 60 x 90	110 x 60 x 95	119 x 60 x 95
Weight	40	120	205	205

# SPECTRAL<sup>®</sup> PG/AG



Sample preparation of metals and materials have become more and more important because of the rapid development and improvement of both software as well as OES and XRF-devices during the past few years that shifts the detection limit for trace analyses. It is crucial to have the sample properly prepared. The sample needs to be both representative, homogeneous and with an even surface in order to eliminate factors that can influence the results.

## SPECTRAL PG

SPECTRAL PG is a compact bench-top pendulum grinder for fast grinding of iron and steel samples for spectroscopic analysis. It has a simple and reliable design with low noise and dust generation levels. It is completely enclosed and dustproof with LED spot light. The front cover can be completely opened for easy access to all sides.



Ergonomic Operation

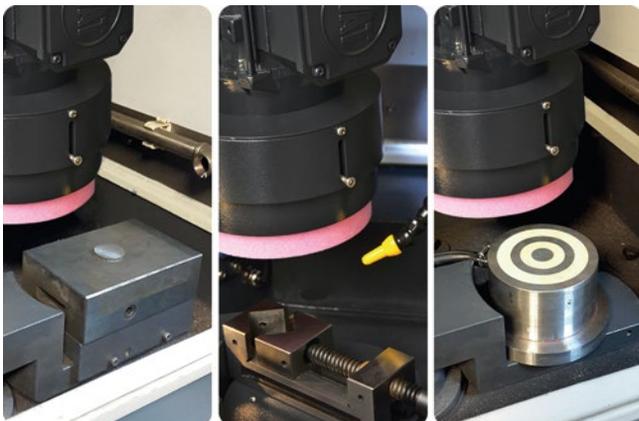


SPECTRAL PG Grinding Machine

SPECTRAL PG is suitable for wet and dry grinding with minimum maintenance required which is mainly cleaning. It is possible to attach an external dust exhauster to the standard outlet at the rear side. The grinding arm is placed just in front of the machine making it ergonomic and easy to handle. SPECTRAL PG is especially suitable to grind hard materials like white cast irons. It is also possible to prepare other materials by using special stone cup wheels which are easy to exchange.

Vertical movement (Z-axis) of grinding head is by handwheel in front and positioning with 0,01 mm accuracy is possible. Reproducible flat surfaces are achieved with column mounted on taper bearings. Manual V-shaped clamping vice and Mechano-magnetic plates are available as accessories.

Spectral PG is equipped with braking device permitting a rapid stop of the grinding wheel. The machine is fitted with an interlocking safety device not allowing the hood being opened before the grinding motor is stopped.



Magnetic Clamping Device

Mechanical Clamping Device

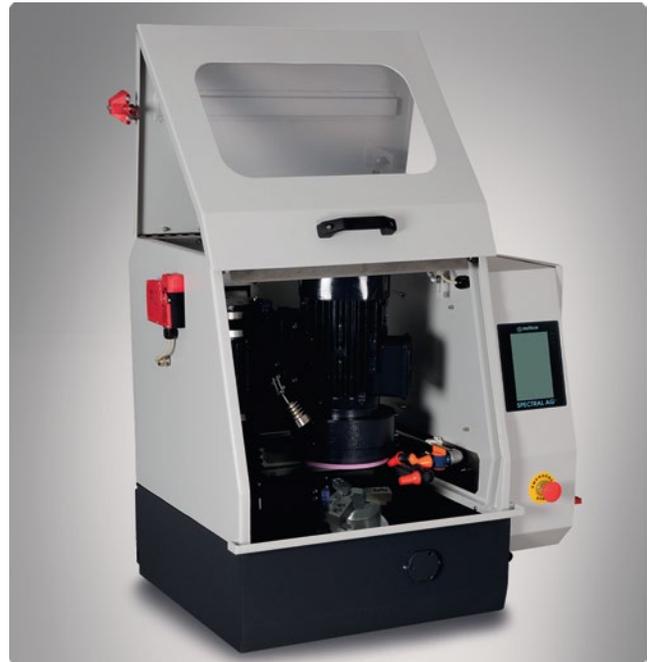
Electromagnetic Clamping Device

## SPECTRAL AG

SPECTRAL AG is an automatic cup grinder for spectroscopic sample preparation of iron and steel samples.

Heavy duty cast aluminum base with motorized vertical drive provides accurate control. High-torque grinding motor rotating at 2800 rpm guarantees high material removal rate. SPECTRAL AG is equipped with automatic sample feed with fine speed control. Fast advance and reverse are available. Automatic cup wheel positioning is done with a laser measurement station. This ensures extremely precise positioning with shorter times. All important parameters of the grinding process like feedrate and grinding depth are preset with digital display. Pneumatic Clamping Device, Electromagnetic clamping device and T-slotted table are offered as optional accessories.

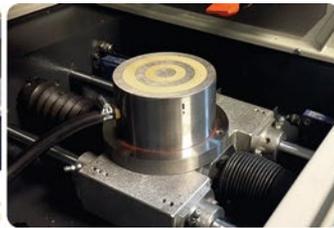
Air cooling unit is strongly recommended so that the surface temperature of the sample is kept at an optimum. The entire working area is totally enclosed. Electronic brake is integrated to the system for a rapid stop of the grinding stone. The interlocking safety device does not allow the hood to be opened before the grinding motor is stopped.



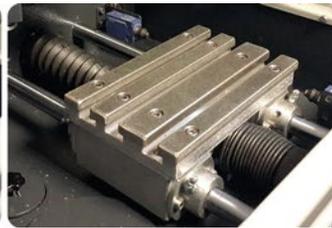
SPECTRAL AG Automatic Cup Grinder



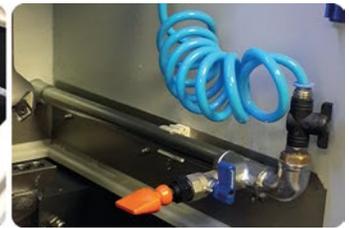
Pneumatic Clamping Device



Electromagnetic Clamping Device



T-Slotted Table



Air Colling System

## AUTOMATIC OPERATION

### Automatic Operation

SPECTRAL AG has advanced techniques and software with programmable HMI touch screen controls increasing the productivity, sample consistency and operator comfort.

### Controlled Material Removal

SPECTRAL AG allows you to preset the amount of material to be removed very accurately. The vertical movement of the grinding head is motorized with digital positioning and display on the touch screen LCD. The robust design of the column guarantees high reproducibility. The material to be removed from the specimen can be preset in increments of 10 microns

### Grinding Parameters:

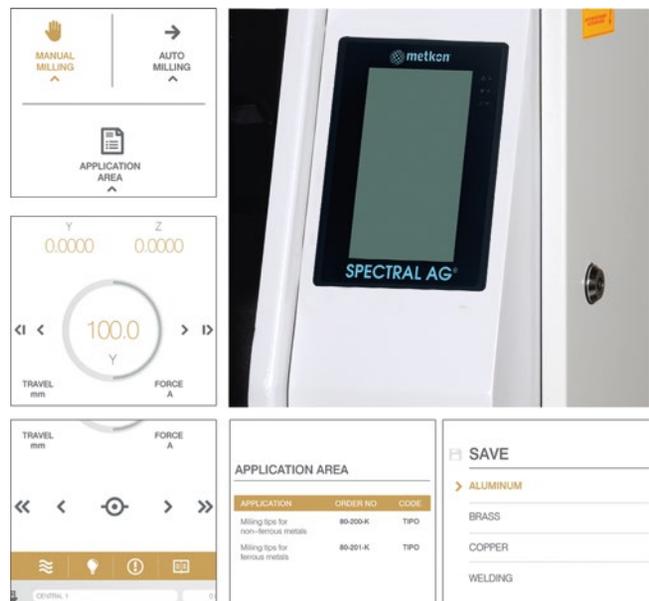
The preselection of the grinding feed rate is possible from the touch screen LCD. The feed rate is automatically adjusted, if needed reduced, resulting in perfect surfaces and eliminating sample and machine damage.

### Multi-pass Grinding

SPECTRAL AG can be programmed to make multi-pass plane parallel grinding operations. It is possible to set the number of passes and the grinding depth of each pass which can be stored under a program number or name.

### Programmable Return Positions

SPECTRAL AG has 3 different stop modes: Auto stop: Stops when the specimen holder has been through. Relative Stop: Stops when it has returned to its starting point. Absolute Stop: Stops when the ultimate reset point in all axes has been reached.



HMI touch screen controls with various cutting methods and database with cutting programs and maintenance monitoring

### Database

A library of 25 different grinding programs with related specimen name or number can be saved with all grinding parameters which can be recalled at any time. Data with Metkon grinding cups is also listed for easy selection.

## Specifications

**80 03 SPECTRAL PG Swing Grinding Machine,**  
for fast spectroscopic sample preparation of iron and steel samples, bench top compact design, closed housing, max. safety provided with interlocking switch, robust column mounted in taper roller bearings, low noise with motor of 2,2 kW and 2800 rpm., easy handling with sample swing movement from the front side of the machine, vertical precision positioning of the grinding head with an accuracy of 0,01 mm., large working space with LED lamp, standard outlet for dust exhauster, Sample cooling available with water cooling complete and ready for operation. Standard packing included.  
Without clamping devices.  
Without cooling tank.  
400V, 3-phase, 50 Hz.

### Accessories for SPECTRAL PG

**GR 1801** Mechanical clamping device for samples upto 60 mm.  
**GR 1807** Permanent Magnetic Clamping Device, 100x150 mm.  
**GR 1820** Electromagnetic clamping plate  
**GR 1394-00** Recirculating coolant tank, stainless steel, 40 lt. capacity, with pump, hoses etc.  
**GR 1802-01** Floor Cabinet Forci Plan/DGP Plan/SPC MM/PG/AG

### Spare Part Kit for SPECTRAL PG

**GR 1851** Recommended Set of Spare Parts, SPC PG

**80 05 SPECTRAL AG Automatic Grinding Machine,**  
for fast spectroscopic sample preparation of iron and steel samples, bench top compact design, Programmable with coloured 5,7" HMI touch screen control, with Siemens PLC control unit, closed housing, max. safety provided with interlocking switch, large working space with LED lighting, automatic sample feeding with adjustable fine speed, automatic height positioning of the grinding wheel for operation. controlled material removal with digital setting of grinding depth with accuracy of 0,01 mm., high torque 2,2 kW grinding motor, with 2800 rpm speed to obtain optimum surfaces on different materials, all parameters on coloured LCD display, Sample cooling available with water cooling and/or compressed air. ready for operation.  
Without clamping devices.  
Without cooling system.  
400V, 3-phase, 50Hz.

### Accessories for SPECTRAL AG

**GR 1819** Pneumatic Clamping Device with 3-Jaws  
(To be ordered simultaneously together with the machine order)  
**YM 7550-00** Soft Jaws for Pneumatic Clamping Device (GR 1819)  
**GR 1829** Mechanical 3-jaw chuck  
**GR 1820** Electromagnetic clamping plate  
(To be ordered simultaneously together with the machine order)  
**GR 1828** Automatic Sample Height Measurement System for full cyclic operation, with automatic dressing of cup grinding stone.  
(To be ordered simultaneously together with the machine order)  
**GR 1816** T-slotted table  
**GR 1394-00** Recirculating coolant tank, stainless steel, 40 lt. capacity, with pump, hoses etc.  
**GR 1802-01** Floor Cabinet Forci Plan/DGP Plan/SPC MM/PG/AG



Order No	80 03	80 05
Model	SPECTRAL PG	SPECTRAL AG
Grinding motor power, Kw, (S1)	2,2	2,2
Grinding motor power, Kw, (S3)	3	3
Grinding wheel Speed, (rpm)	2800	2800
Cup wheel Diameter, (mm)	150	150
Radius of arc	52	-
Travel, mm	203	-
Table Feedrate, (mm/sn)	-	20-120
Y-Axis Stroke, (mm)	-	160
Z-Axis Stroke, (mm)	80	80
Operation	Manual	Automatic
HMI Touch Screen	-	7"
Program Memory	-	25
Grinding Depth Accuracy, ( $\mu$ )	-	10
Dimensions, WxDxH, (cm)	69 x 83 x 73	88 x 66 x 74
Dimensions, WxDxH, (cm),with cabine	69 x 83 x 155	88 x 66 x 155
Weight, (kgs)	170	155

# SPECTRAL<sup>®</sup> MM



SPECTRAL MM is designed for automatic sample preparation of OES and XRF analysis. It is fast and efficient in providing high quality specimen surface thus saving time. SPECTRAL MM has advanced techniques and software with programmable HMI touch screen controls increasing the productivity, sample consistency and operator comfort. With the ability to store and recall preparation programs on the LCD screen, same consistent results are obtained. SPECTRAL MM is a perfect choice for milling of all non-ferrous materials. It can also be used for milling steels upto 55 HRC

## SPECTRAL MM

SPECTRAL MM is an automatic milling machine for fast milling of non-ferrous, iron&steel samples for emission and X-ray spectrometer analysis. Automatic fine surface milling guarantees the highest level of reproducibility through automatic processing of the specimen. SPECTRAL MM has a robust and reliable design with low noise and emission levels. It is completely enclosed and sound-insulated with LED spot-light. The front cover can be completely opened for easy access to all sides.

SPECTRAL MM is equipped with automatic sample feed with fine speed control. Fast advance and reverse are available. All important parameters of the milling process like feedrate, milling depth, spindle speed are adjustable on the touch screen LCD. The spindle speed can be adjusted to different materials to achieve optimum surfaces. Reproducible flat surfaces are obtained with column mounted on taper bearings.

SPECTRAL MM is suitable for different sample shapes (cylindrical, mushroom shaped etc.) with diameters upto 60 mm. It can be fitted with special cutter head with diamond or tungsten carbide tips. The clamping devices are available as optional accessories.

Running a small job on a big machine can be inefficient, and may even cut into profits. Spectral MM provide an economical solution for milling iron, steel and stainless steel samples upto 50 - 55 HRC and max 80 samples per shift in a compact package that is loaded with full-size features.

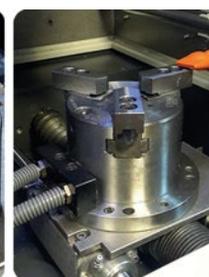
Spectral MM is perfect for small to medium size foundries or plants. And it's a valuable addition for plants needing a "second-op" machine, or an additional sample milling machine where space is limited.



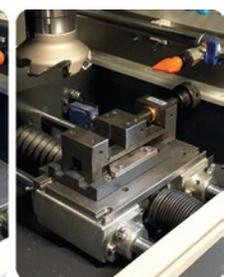
SPECTRAL MM is equipped with highest level of safety standards. Several safety circuits guarantee optimum protection for the operator. An electronic brake system is integrated to the system for rapid stop of the milling head. The interlocking safety device does not allow the hood to be opened before the milling motor is stopped.



3-Jaw Chuck



Pneumatic Clamping Device



Mechanical Sample Clamping Device

A smart clamping solution for practical daily use: pneumatic clamping device offers advantages in milling and general use. The pneumatic clamping device can be used for accurate clamping and increase productivity and ensure repeatable alignment. Air cooling system is also offered optionally which is ideal for applications hard material.

SPECTRAL MM has advanced techniques and software with programmable HMI touch screen controls increasing the productivity, sample consistency and operator comfort.

**Controlled Material Removal**

SPECTRAL MM allows you to preset the amount of material to be removed very accurately. The vertical movement of the milling head is motorized with digital positioning and display on the touch screen LCD. The robust design of the column guarantees high reproducibility. The material to be removed from the specimen can be preset in increments of 10 microns

**Milling Parameters:**

The preselection of the milling feed rate (0,2-16mm/sec) is possible from the touch screen LCD. The feed rate is automatically adjusted, if needed reduced, resulting in perfect surfaces and eliminating sample and machine damage.

**Multi-pass Milling**

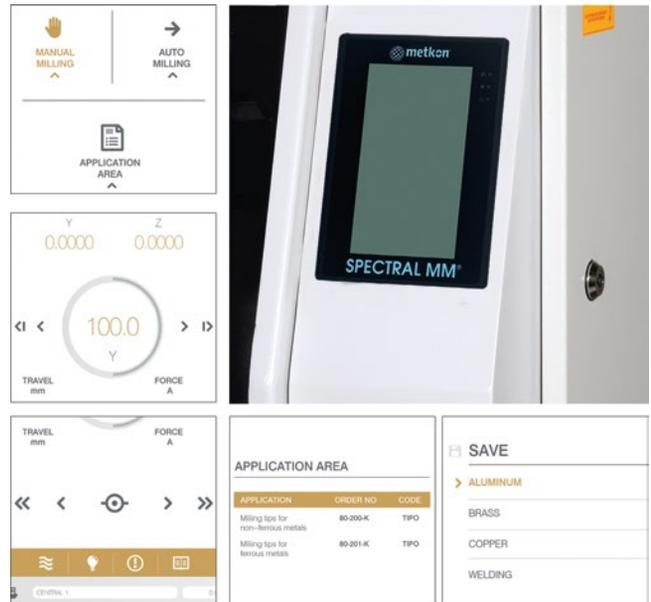
SPECTRAL MM can be programmed to make multi-pass milling operations. It is possible to set the number of passes and the milling depth of each pass which can be stored under a program number or name.

**Programmable Return Positions**

SPECTRAL MM has 3 different stop modes: Auto stop: Stops when the specimen has been through. Relative Stop: Stops when it has returned to its starting point. Absolute Stop: Stops when the ultimate reset point in all axes has been reached.

**Database**

A library of 25 different milling programs with related specimen name or number can be saved with all milling parameters which can be recalled at any time. Data with Metkon milling tips is also listed for easy selection.



HMI touch screen controls with various milling methods and database with milling programs and maintenance monitoring



Container for Milling Tips



Air Cooling System



Spectral MM with Floor Cabinet

## Specifications

### 80 04 SPECTRAL MM

#### Automatic fine surface milling machine,

for preparation of non-ferrous, steel samples upto 55 HRC for OES and XRF analysis, bench top compact design, Siemens PLC control unit, Programmable with coloured 7" HMI touch screen control, closed housing, max. safety provided with interlocking switch, large working space with LED lighting, chip container, for samples upto 60 mm dia. automatic sample feeding with adjustable fine speed control, digital depth setting, digital setting of milling height with accuracy of 0,01 mm., cutting motor 2,2 kW, digital setting of cutter rotational speed to obtain optimum surfaces for different materials, ready for operation.

Without milling head.

Without clamping devices.

Without cooling system.

400 V, 3-phase, 50 Hz.

#### Accessories for SPECTRAL MM

- GR 1808** Milling head 63 mm for 5 cutting tips, for specimens up to 55mm dia.
- GR 1809** Milling head 80 mm for 6 cutting tips, for specimens up to 70mm dia.
- GR 1810** Manual measuring tool for cutter positioning
- GR 1827** Automatic Sample Height Measurement System for full cyclic operation. To be ordered simultaneously together with the machine order)
- GR 1801** Mechanical clamping device for samples upto 60 mm.
- GR 1829** Mechanical 3-jaw chuck
- GR 1819** Pneumatic clamping device 3-jaw chuck  
(To be ordered simultaneously together with the machine order)
- YM 7550-00** Soft Jaws for Pneumatic Clamping Device (GR 1819)
- GR 1816** T-slotted table
- GR 1821** Air cooling system for Spectral MM  
(To be ordered simultaneously together with the machine order)
- GR 1802-01** Floor Cabinet Forci Plan/DGP Plan/SPC MM/PG/AG

#### Spare Part Kit for SPECTRAL MM

- GR 1852** Recommended Set of Spare Parts, SPC MM



Order No	80 04
Model	Spectral MM
Milling Head Movement	Auto
Table Feeding Y-axis	Auto
HMI Touch Screencontroller, (inch)	7"
Milling Dia. Capacity, (mm)	Ø60
Max Sample Size, Height (mm)	60 mm
Y-axis travel, (mm)	140 mm
Z-axis travel, (mm)	60 mm
Milling Power kW(S1)	2,2
Milling Head Speed, (rpm)	500 - 4000
Table Feedrate, (mm/s)	200µ-16000µ
Size WxDxH (cm)	64x83x73
Size WxDxH (with cabinet), (cm)	64x83x154
Weight, (kg)	165
Weight, (kg) (with cabinet)	225
Max Milling Depth (mm)	3
Axial Feeding (mm)	Auto

# SPECTRAL<sup>®</sup> MMax



The SPECTRAL MMax is designed for fully automatic sample preparation of steel and cast iron as well as nonferrous samples for OES and XRF analysis. The automatic processing cycle ensures extremely fast and reproducible results with programmable 10” HMI touch screen controls. The milling preparation procedure reduces the contamination drastically and effectively.

- Modern and sturdy design
- Fully automatic, easy and quick operation
- Programmable with coloured HMI touch screen controls
- Automatic specimen height measurement for automatic Z-axis positioning
- Preparation of production and calibration samples
- Quick and easy exchange of milling head
- Standard air cooling
- Special clamping device to hold a wide variety of sample shapes and sizes
- Reproducible and plane sample surface
- Inbuilt chip collection unit
- Side openings for Robotic feeding systems

## SPECTRAL MMax

SPECTRAL MMax is a fully automatic milling machine for fast milling of steel, cast iron and nonferrous samples for optic emission and X-ray spectrometer analysis. Automatic fine surface milling guarantees the highest level of reproducibility through automatic processing of the specimen. SPECTRAL MMax has a robust and reliable design with low noise and emission levels. It is completely enclosed and sound-insulated with LED spot-light. The front cover can be completely opened for easy access to all sides.

SPECTRAL MMax is equipped with automatic sample feed with fine speed control. Fast advance and reverse are available. All important parameters of the milling process like feedrate, milling depth, spindle speed are adjustable on the touch screen LCD. The spindle speed can be adjusted to different materials to achieve optimum surfaces.

SPECTRAL MM is suitable for different sample shapes with diameters upto 60 mm. and max. 65 HRC hardness. The special clamping device is included in the standard scope of supply of the machine. The clamping device is designed for fast and positive clamping of a wide variety of sample sizes and shapes as round/cylindrical or conical), oval, mushrooms, or lollipop.



Ergonomic Operation



Reproducible Sample Surface



Spectral MMax Fully Automatic fine surface milling machine

SPECTRAL MMax has advanced techniques and software with programmable 10" large HMI touch screen controls increasing the productivity, sample consistency and operator comfort.

### Controlled Material Removal

SPECTRAL MMax allows you to preset the amount of material to be removed very accurately. The vertical movement of the milling head is motorized with digital positioning and display on the touch screen LCD. The robust design of the column guarantees high reproducibility. The material to be removed from the specimen can be preset in increments of 10 microns

### Milling Parameters:

The preselection of the milling feed rate (0,1-16 mm/sec) is possible from the touch screen LCD. The feed rate is automatically adjusted, if needed reduced, resulting in perfect surfaces and eliminating sample and machine damage.

### Multi-pass Milling

SPECTRAL MMax can be programmed to make multi-pass milling operations. It is possible to set the number of passes and the milling depth of each pass which can be stored under a program number or name.

### Programmable Return Positions

SPECTRAL MMax has 3 different stop modes:

Auto stop: Stops when the specimen has been through.

Relative Stop: Stops when it has returned to its starting point.

Absolute Stop: Stops when the ultimate reset point in all axes has been reached.

Apart from these there are also different stop modes available for special applications such as "Back to starting point without milling" and "Spectral Milling: Fine milling on return position".

### Database

A library of 25 different milling programs with related specimen name or number can be saved with all milling parameters which can be recalled at any time. Data with Metkon milling tips is also listed for easy selection.



HMI touch screen controls with various milling methods and database with milling programs and maintenance monitoring



Inbuilt chip collection unit

Sample positioning time is drastically reduced and overall efficiency improved with the ability of automatic sample height measurement.

The spindle changing time is kept at minimum with the quick release function of the spindle without the need for any special tools.

The deburring device is an optional accessory for Spectral MMax. The deburring of round calibration samples within dia. 35 – 50 mm. is possible with the special milling head.

The large hood enables easy access for operation and maintenance. De-dusting system is not required as the milling swarf is collected in an easy removable collector tray.

SPECTRAL MMax is equipped with highest level of safety standards. Several safety circuits guarantee optimum protection for the operator. An electronic brake system is integrated to the system for rapid stop of the milling head. The interlocking safety device does not allow the hood to be opened before the milling motor is stopped.



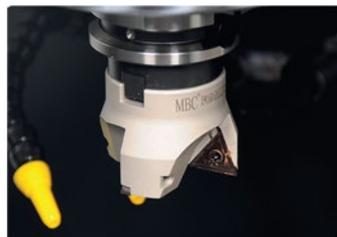
Pneumatic Clamping Device



Automatic Clamping And Sample Height Measurement



Easy Exchange Milling Head



Optional Deburring Device

## Specifications

### 80 06 SPECTRAL MMax

#### Fully Automatic fine surface milling machine,

for preparation of steels, cast iron and non-ferrous metal samples for OES and XRF analysis, Programmable with coloured 10" HMI touch screen control, Siemens PLC control unit, closed housing, max. safety provided with interlocking switch, large working space with LED lighting, chip container, special clamping device suitable for all shapes of sample forms, (cylindrical, round, oval, etc.), for samples upto 60 mm dia., with max. 65 HRC, integrated air cooling system, automatic height positioning of the milling head for operation, automatic sample feeding with adjustable fine speed control, digital depth setting, digital setting of milling height with accuracy of 0,01 mm., milling motor 5,5 kW, digital setting of head rotational speed to obtain optimum surfaces for different materials, ready for operation. Without milling head.  
400 V, 3-phase, 50 Hz.

#### Accessories for SPECTRAL MMax

- GR 1823** Milling Head for ferrous materials 80 mm. with 7 cutting tips
- GR 1824** Milling Head for ferrous materials 100 mm. with 8 cutting tips
- GR 1834** Milling Head for nonferrous materials, 100 mm. with 8 cutting tips
- GR 1825** Milling Head with integrated deburring
- GR 1826** Automatic height calibration after changing of milling head type for different materials



Ergonomic Operation



Spectral MMax Fully Automatic fine surface milling machine



Order No	80 06
Model	Spectral MMax
Sample Positioning before Operation	Automatic
Motor power, kW	5,5 kW
HMI Touch Screen Controller, (inch)	10"
Program Capacity	25
Sample Height Measurement	Automatic
Processable sample material	Iron, carbon steel, high-grade steel, non-ferrous metal
Sample Shapes	Without pin, round (cylindrical or conical), oval, double thickness
Sample Height	Min. 7 mm. Max. 60 mm.
Sample Dia., mm	Max. Ø60 mm
Sample Hardness	Max. 65 HRC
Cooling System	Standard Air Cooling
Sample Holder System	Pneumatic Automatic Clamping
Milling Head Dia. (mm)	80/100
Milling Head Speed, (rpm)	200-1500 rpm
Table Feedrate, (mm/s)	0,2 – 16
Size, WxDxH, (cm)	100 x 110 x 220
Weight, kgs	1400

# Kemet

## UK DISTRIBUTOR

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