



www.mecpl.com



THERMAL SPRAY

*Complete Solution Provider
since 1967*

Glorious
50
Years

50 years ago, when I started a small unit with four workers in a small auto repair shop, "Thermal Spray" of today was known as "Metallizing" and given status of a black art. Time passed gradually, we grew with mission and vision bringing MEC - now a legend in Thermal Spray Technology. Collective efforts have transformed that black art into a precise science now attracting qualified engineers and experts from world over.

Asia is now on steep growth curve. MEC is poised to contribute value to this coating technology. I express my gratitude to team over 225 persons working with great passion and talent in our organization. Thanks to all suppliers, big and small, who helped to sustain us. Finally, I wish cherished tradition of dignity and fair play will continue to percolate to young generation now conducting the business of MEC.

Thanks a lot, with best luck and warm regards.



M. D. Modi. Chairman

WHAT IS THERMAL SPRAY ?

Thermal spraying is a group of coating processes in which finely divided metallic or non-metallic materials are deposited in a molten or semi molten condition with excessively high velocity to form a coating. The coating material is in any form as powder, wire or rod of pure metals and alloys of iron, tungsten, nickel, chromium etc. and wide range of oxides and nitrates. Thermal spray process has advantage over other processes as it is cold process so it never distorts parent material. Thickness of coating is controllable with no limitations of job size.

OUR VISION

Think High – Aim High
 Innovation is the key to progress.
 Build New Product, Make it better
 and efficient.



OUR POLICY

Customer is the boss. He is profit, all rest are expenses.
 A satisfied customer brings more than salesman.
 MEC believes in special relationship with customers.

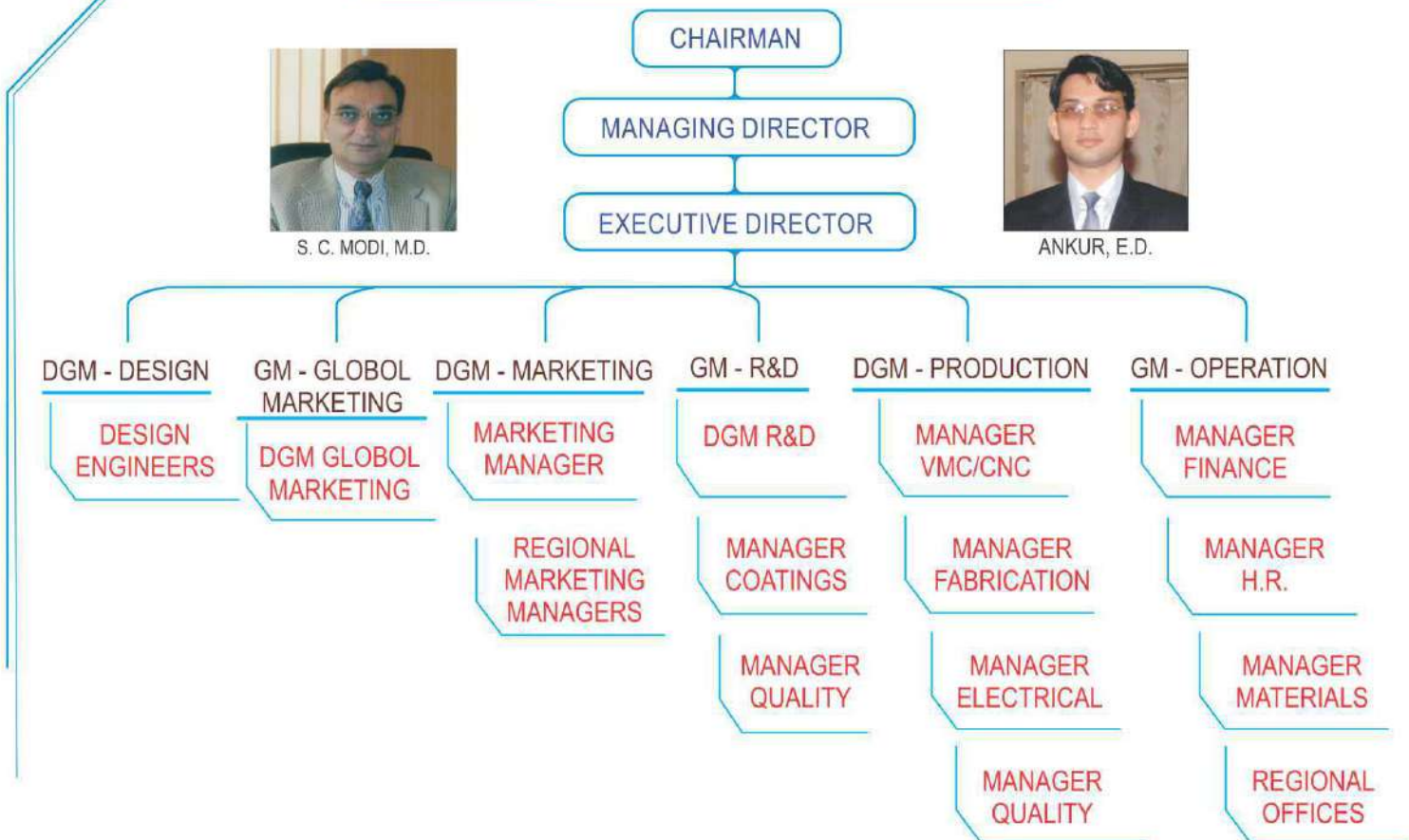


OUR POWER POINT

Truth always triumphs.
 Goodwill to all, malice to none.
 Share the profit with the co-workers.
 Create Solution with innovation.



ORGANIZATION CHART



RESEARCH & DEVELOPMENT

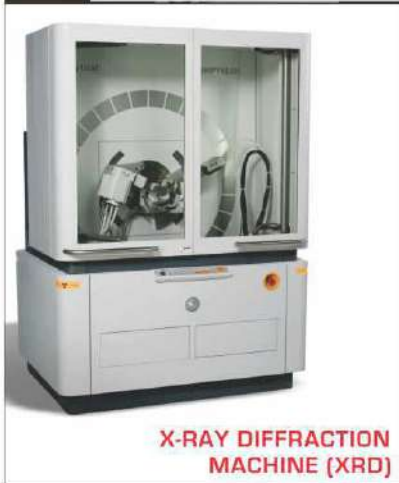
MEC is proud to have In-house R&D equipped with highly sophisticated instruments and recognized by DEPARTMENT OF SCIENCE & INDUSTRIAL RESEARCH, GOVT. OF INDIA to examine and provide best solution for processes and parameters of a defined application. Customer samples are processed to achieve desired results. Continuous research is going on to develop new applications & processes in field of Thermal Spray Coatings.

For technology upgradation and know-how, our R&D is associated with various prestigious research institutes of India as IIT's, BHEL (R&D), PESIT, GTRE, NML, CERCL and many renowned Universities.

MEC owns several patents such as ZINCAL Coating, Combustion Wire HVOF Gun, Special Cool Head for Arc Spray Gun.



SCANNING ELECTRON MICROSCOPE WITH EDS



X-RAY DIFFRACTION MACHINE (XRD)



BOND STRENGTH TEST MACHINE

MEC has state of art coating facilities such as:

- Robotic Plasma Spray System
- Robotic HVOF (Liquid & Gas) Spray System
- Combustion Wire/Rod Spray System
- Combustion Powder Spray System
- Twin Arc Spray System
- Robotic Shot Peening System
- Post treatments (Sealing & Finishing)

MEC R&D houses numerous testing facilities that meet ASTM Standards to characterize the coatings in terms of:

- | | |
|---|-------------------------|
| • Wear Testing | • Erosion Testing |
| • Bond Strength | • Porosity Testing |
| • Hardness (micro / macro) | • Thickness Measurement |
| • Surface Roughness Measurement | |
| • Online particle diagnostic system by sophisticated camera | |

TRAINING



PRODUCTION FACILITY

Our competent team of designers are always on the task of delivering the best which would give the optimum performance. MEC has a fully computerized CAD operated design department backed with a team of qualified and experienced engineers.

The designs generated are made to reality by our ultra modern facility consisting CNC's, VMC's & various other High Tech Precision Machines, followed by rigorous testing of components at each level before it reaches to final assembly.

The new products of MEC are tested thoroughly at Test Cells and then sent for field trial before being launched in the market. SAFETY is keyword to MEC, hence almost all products carry CE mark of European Inspection & Certification Co. S.A.



QUALITY CONTROL USING MODERN CMM



FIVE AXES VMC : HIGHEST LEVEL OF PRECISION WORK



MODERN DESIGN SECTION



SPARE PARTS IN BATCH



PRODUCTION CELL (CNC)



MASS PRODUCTION AVAIL READY STOCK DELIVERY



ASSEMBLY SECTION

THERMAL SPRAY COATING APPLICATIONS



GAS TURBINE COMPONENTS
BY HVOLF COATINGS



HVOF ON BALL VALVES



GUN EXTENSION FOR
INTERNAL COATING



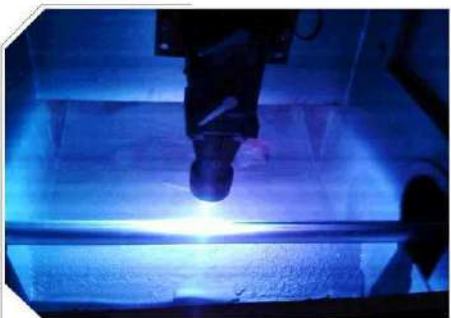
HVOF WIRE SPRAY



COATING ON DEFENCE &
AEROSPACE COMPONENTS



HVOF COATING ON
HYDRO TURBINE PARTS



Zn SPRAY ON ERW
TUBE SEAM



ANTI - CORROSION COATING
ON WIND MILL PARTS



ANTI-WEAR COATINGS FOR
AUTOMOBILE INDUSTRY



HARD COATING ON
TEXTILE INDUSTRY PARTS



PLASMA COATING ON
HYDRO TURBINE PARTS



GAS TURBINE COMPONENTS
BY HVOLF COATING

ALSO, MEC UNDERTAKE HI-TECH JOBS OF COATINGS



HARD COATING ON
HYDRO TURBINE
COMPONENTS



ANTI-WEAR COATING ON
HYDRO TURBINE
COMPONENTS



ANTI-WEAR & ANTI CORROSION
COATING ON HYDRO TURBINE
COMPONENTS



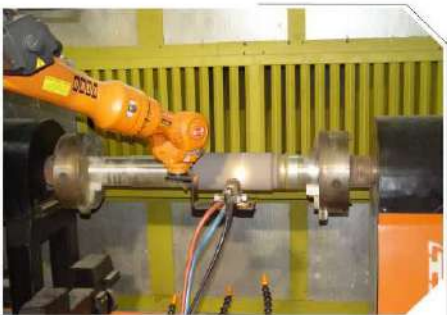
HARD COATING ON
GATE VALVES



ANTI-WEAR COATING
ON SCREW



ANTI-EROSION &
ANTI-CORROSION COATING
ON BOILER TUBES



ANTI-WEAR COATING
ON STEEL INDUSTRY PARTS



ANTI-WEAR & ANTI-CORROSION
COATINGS ON RUBBER
INDUSTRY PARTS



ANTI-WEAR COATING
ON TEXTILE INDUSTRY
PARTS



ANTI-WEAR SPRAY ON
PAPER INDUSTRY PARTS



ORTHOPEDIC IMPLANTS
COATING BY PLASMA

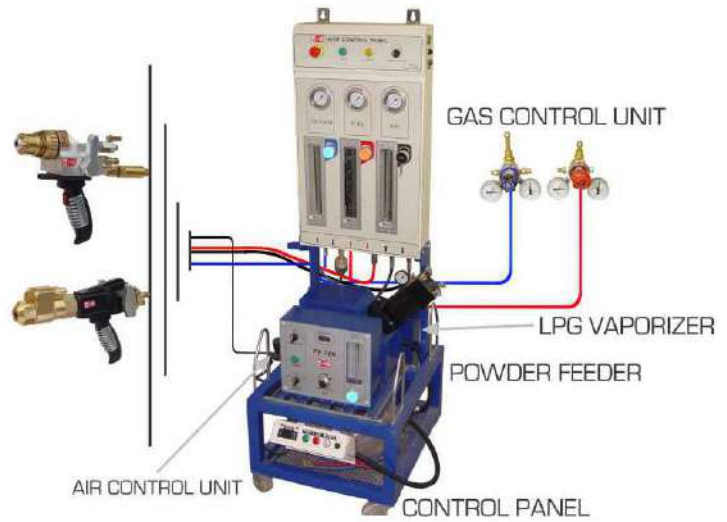


HIGH TEMPERATURE
RESISTANCE COATING ON
GAS TURBINE PARTS

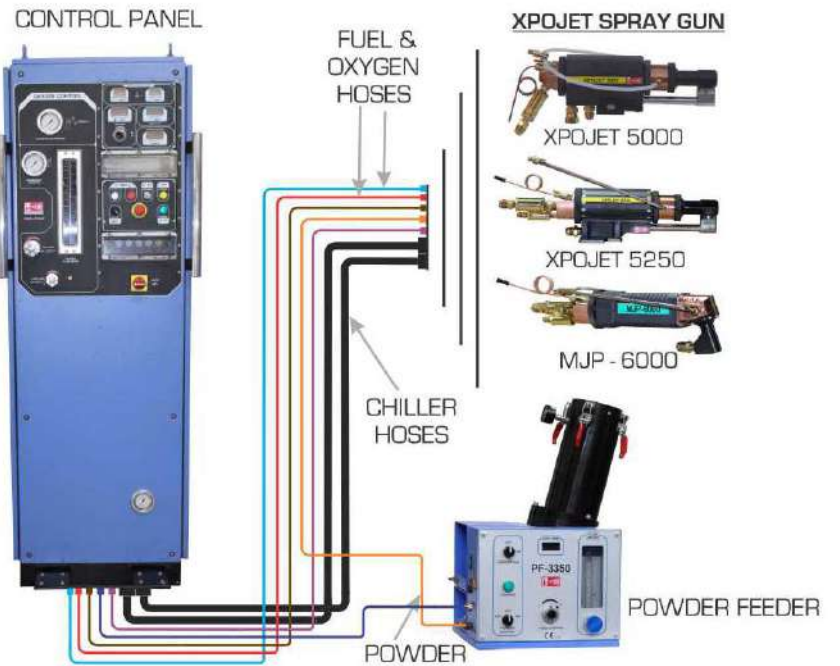
WIDE RANGE OF PRODUCTS



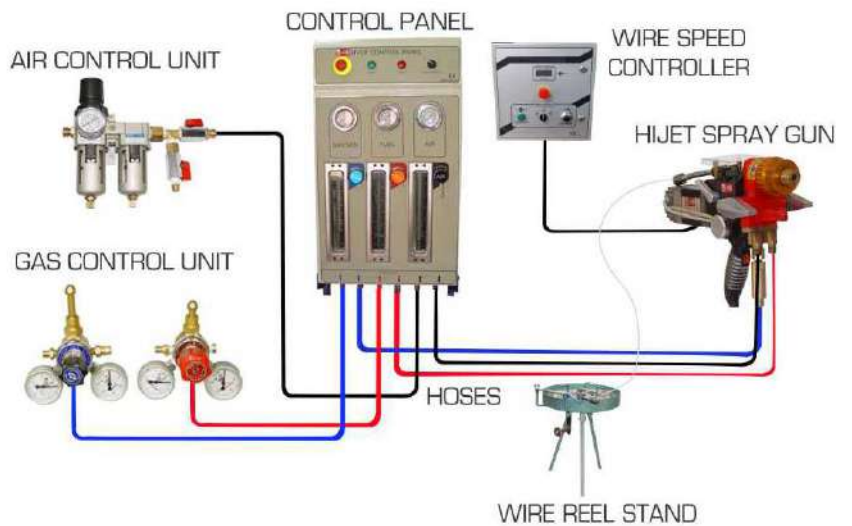
HIPOJET[®]
HVOF POWDER SPRAY SYSTEM



XPOJET
LIQUID FUEL HVOF[®] SPRAY SYSTEM



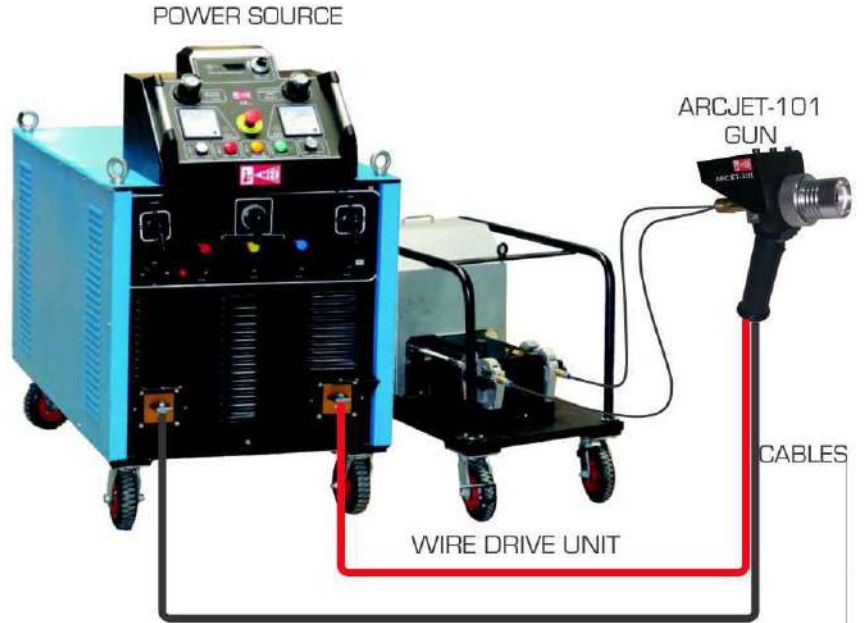
HIJET
HVOF WIRE SPRAY SYSTEM



WIDE RANGE OF PRODUCTS



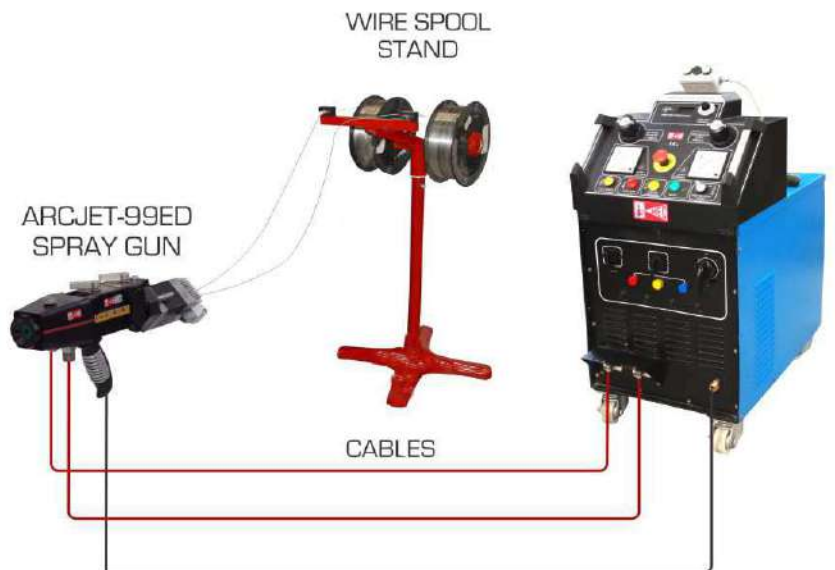
ARCJET[®]-101
TWIN WIRE ARC-SPRAY
SYSTEM



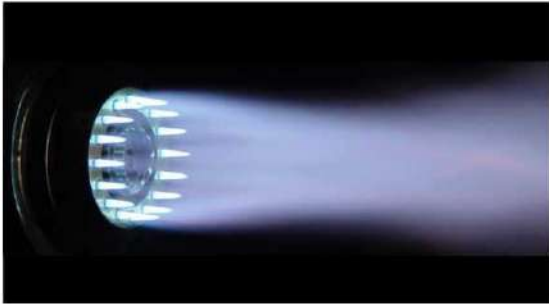
ARCJET[®]-99
TWIN WIRE ARC-SPRAY
SYSTEM



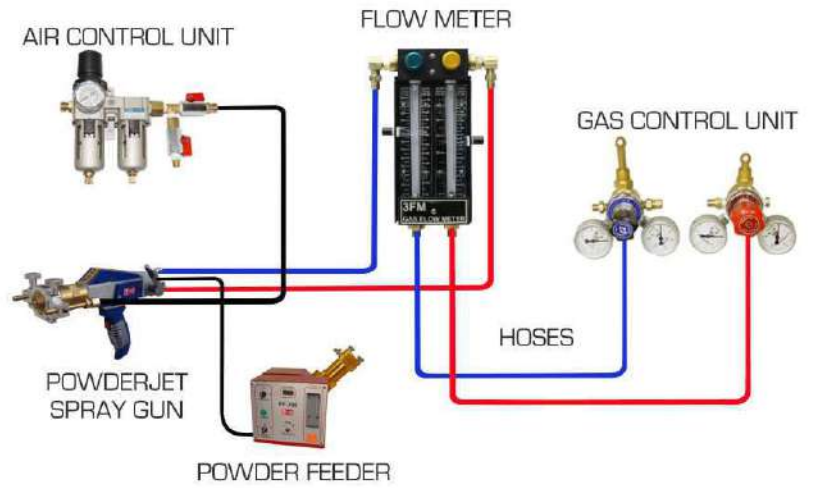
ARCJET[®]-99ED
TWIN WIRE ARC-SPRAY
SYSTEM



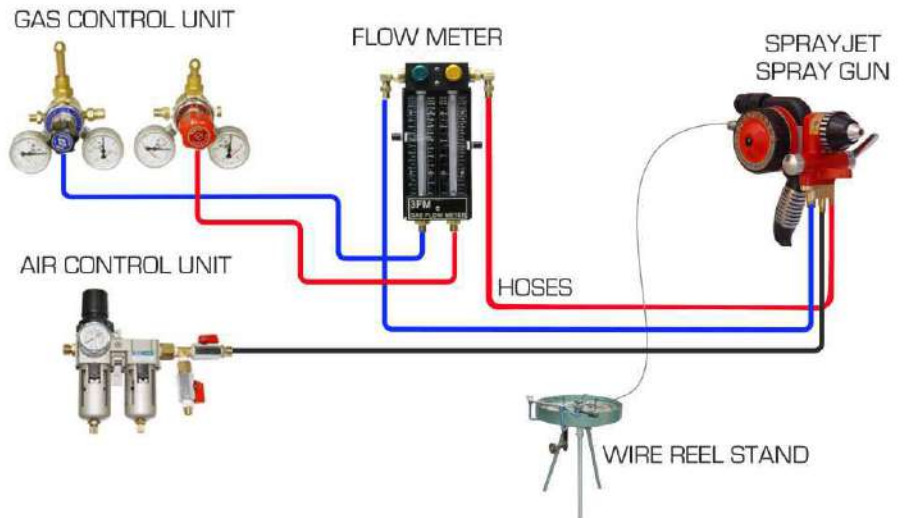
WIDE RANGE OF FLAME SPRAY SYSTEM



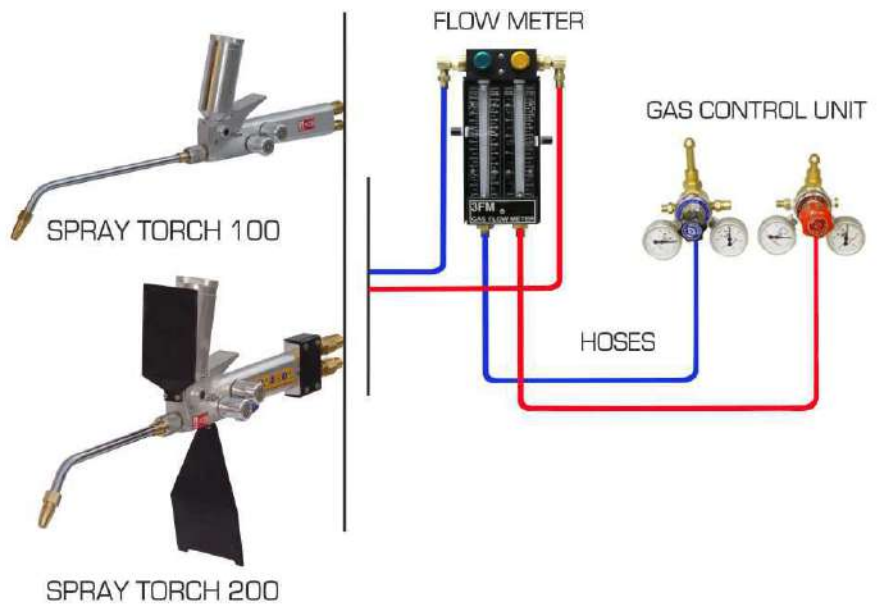
POWDERJET[®]
FLAME POWDER SPRAY
SYSTEM



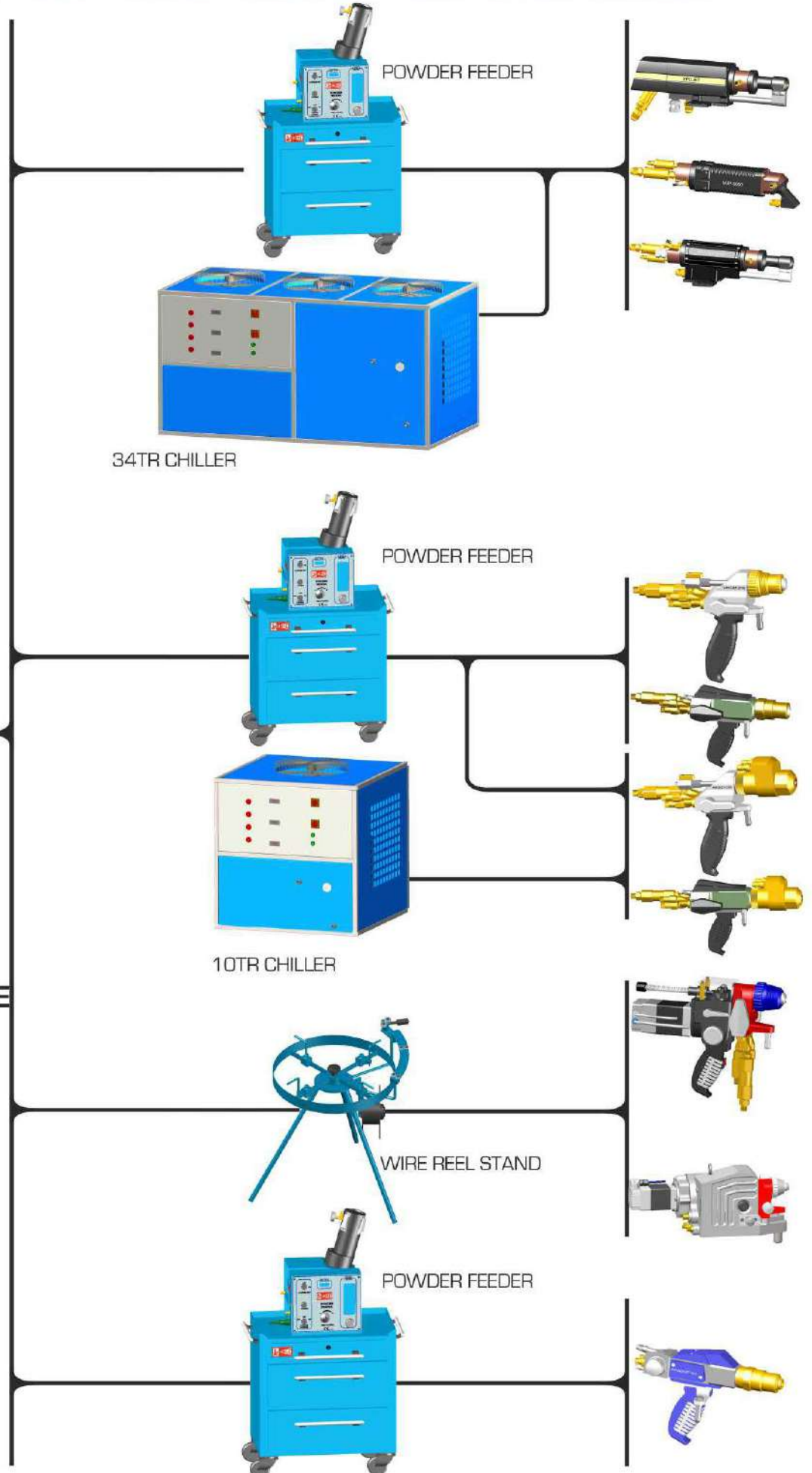
**FLAME WIRE SPRAY
SYSTEM**



SPRAY TORCH
POWDER FLAME SPRAY
& FUSE SYSTEM



MASS FLOW CONTROLLED SYSTEMS

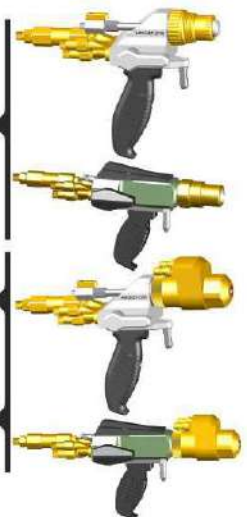


POWDER FEEDER



34TR CHILLER

POWDER FEEDER



10TR CHILLER

WIRE REEL STAND



POWDER FEEDER



PLC CONTROL MODULE
WITH TOUCH HMI
INTERFACE

COMPLETE TURNKEY PROJECT



5 ROOMS SETUP FOR DETONATION GUN, HVOF & PLASMA



INTEGRATED BLASTING & ACOUSTIC ROOMS



9 AXES ROBOTIC HVOF, PLASMA, FLAME & ARC SYSTEMS

PLASMA SYSTEM - MASS FLOW CONTROLLED

MEC offer mass flow Plasma Spray System that are capable to spray using almost all popular guns available. Special extensions for long reach in internal diameter are available. Customized coating cells are also available to meet the special coating requirements.

PLASMA SYSTEM - 50 KW



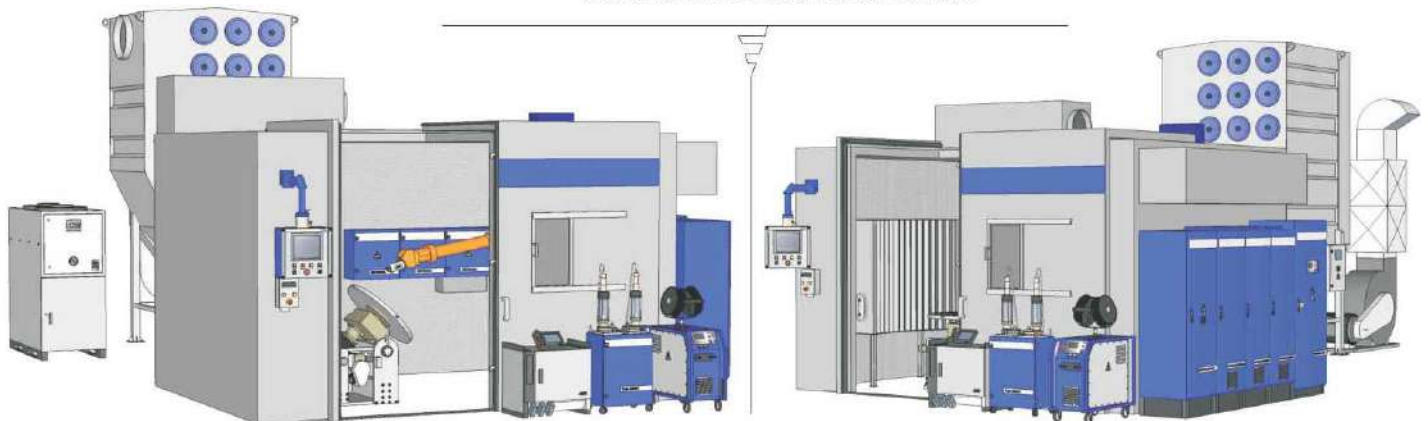
- Touch Screen
- Recipie Storage
- External Integration

PLASMA SYSTEM - 100 KW



- Multiple Guns Capable
- Multiple Powder Feeder Capable
- Upgradable to operate HVOR / HVOLF

CUSTOMIZED COATING CELLS



PLASMA SYSTEM - MASS VIEW CONTROLLED



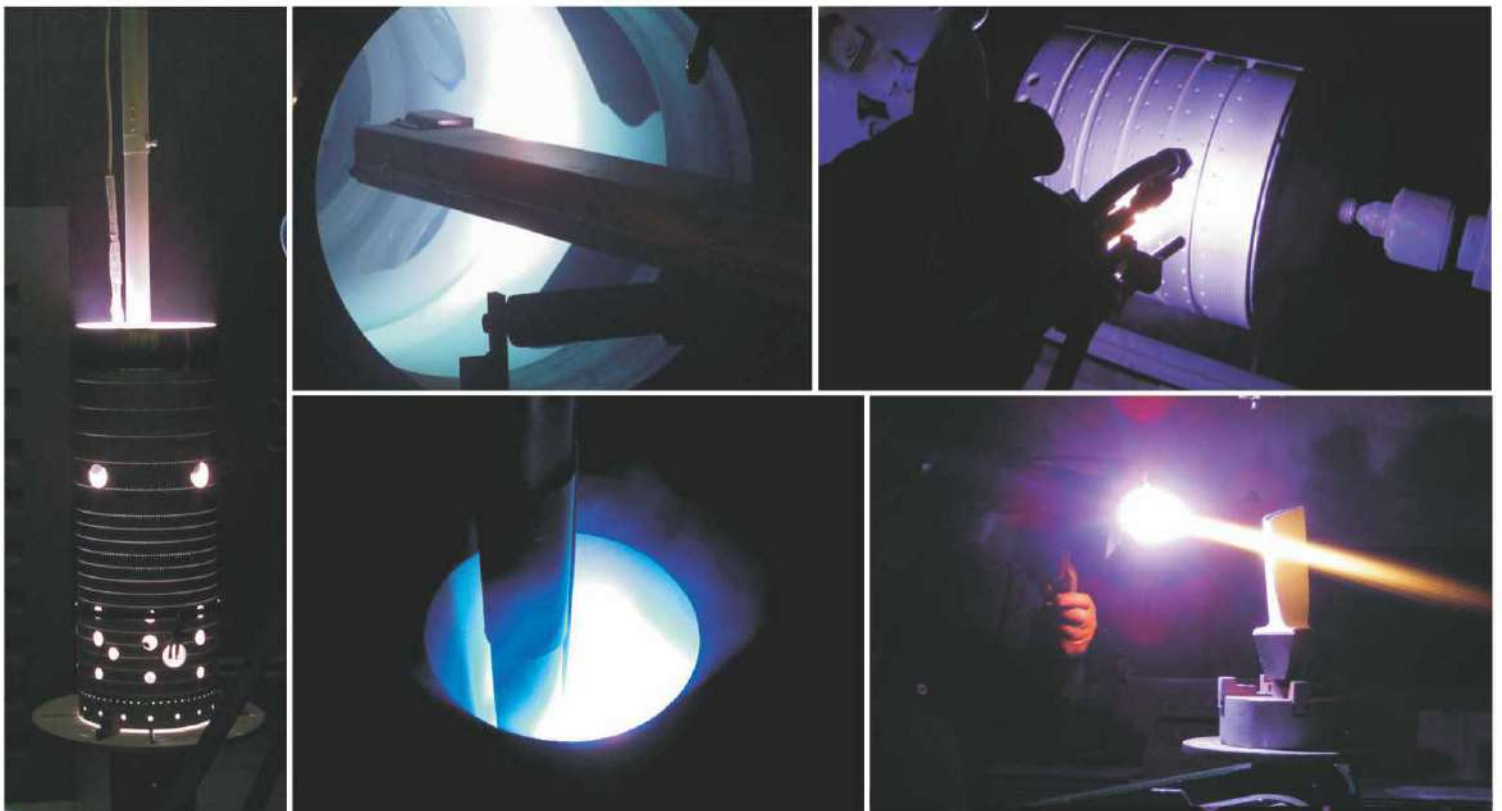
PLASMA GUNS & EXTENSIONS

The MPS-50/100* Plasma Spray System is affordable and operation friendly system and excellently suited for job-shops and high volume production applications requiring a high degree of flexibility and repeatability.

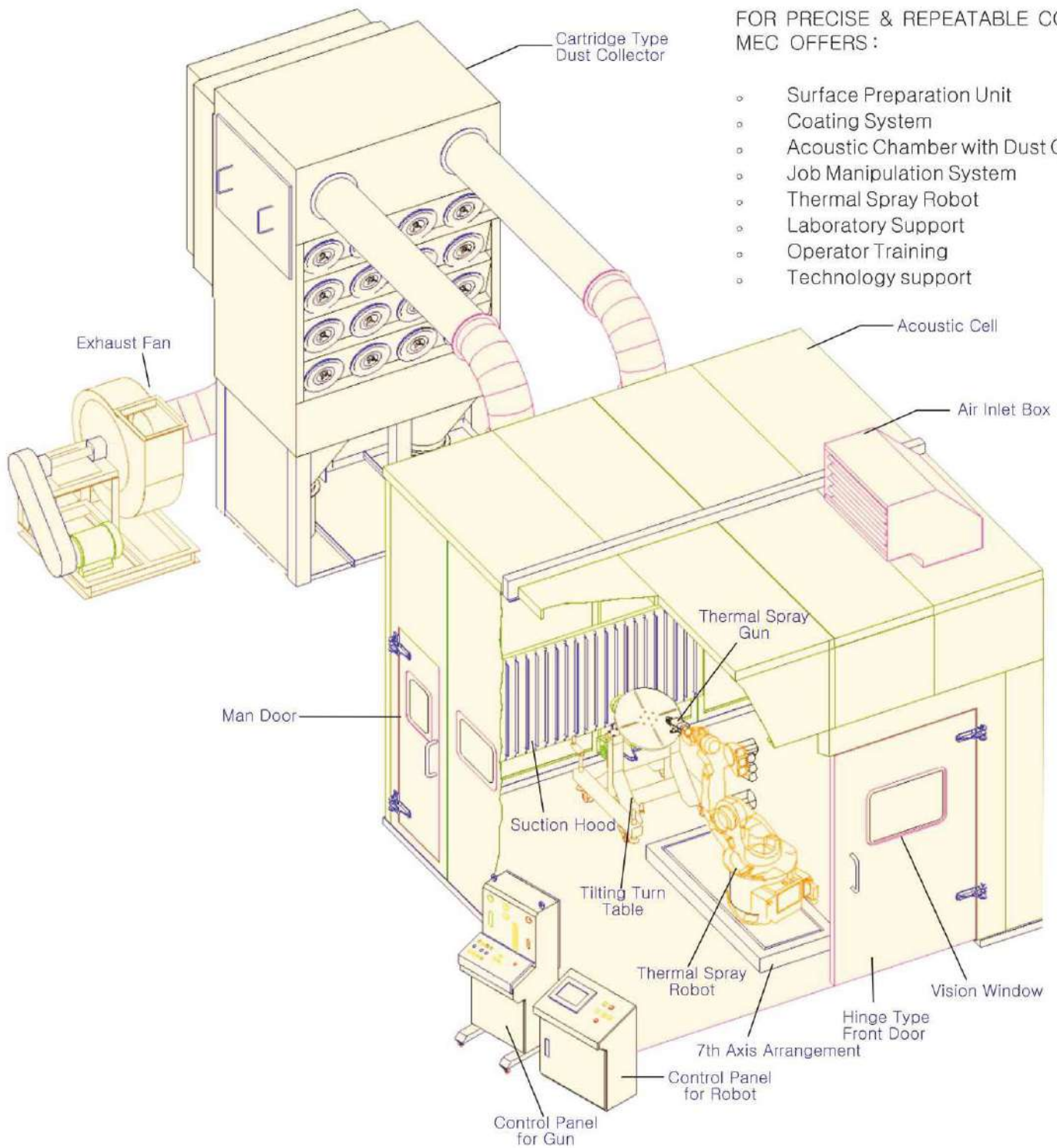
WIDE CHOICE FOR SELECTION:-

- It is available with power source of 50 KW and 100 KW. Most of plasma coatings need up to 50 KW system.
- In powder feeder the choice of having single/double and dual types of hoppers for continuous operation are available.
- All popular plasma guns can be used.

COMPACT PLASMA SPRAY SYSTEM



ROBOTIC THERMAL SPRAY CELL



FOR PRECISE & REPEATABLE COATINGS, MEC OFFERS :

- Surface Preparation Unit
- Coating System
- Acoustic Chamber with Dust Collector
- Job Manipulation System
- Thermal Spray Robot
- Laboratory Support
- Operator Training
- Technology support



ANCILLARY EQUIPMENTS

- HEAD STOCK**
- Upto 10MT
 - Upto 600RPM
 - Servo or AC Motor

- TAIL STOCK**
- Manual or Motorized
 - Gear Lock Holding
 - Optional Chuck
 - Optional Pneumatic

- ROBOT**
- Upto 9 axis
 - Additional carriage axis
 - Upto 60 Kg. payloads

- ADD-ON'S**
- Additional T.T.
 - Multi spindle T.T.
 - Multi Chuck
 - Vertical Job holding



6 AXES ROBOT WITH 7TH AXIS LINER TRACK



PF-700



PF-3350



PF-3350-D FEEDER



3350-DA-MF
MASS FLOW CONTROLLED

POWDER FEEDER SERIES

JOB/GUN HANDLING EQUIPMENTS



XYZ / XYZ-R GUN MANIPULATOR



TILTING TURN TABLE



MULTI SPINDLE
TURN TABLE

SPARES & CONSUMABLES



MEC supplies Spare Parts for all popular brands:
PLASMA [SG-100/ 3MB/ 9MB/ F4/ F1]
HVOF [JP-5000/ Diamond Jet/ Jet Kote/ Wokajet]
FLAME SPRAY [11E/ 12E/ 14E/ 5K/ 5P II/ 6P II]
ARC SPRAY [8830/ LDU2]

WIRES & RODS



We recognize that high quality spray equipment without compatible, first-rate coating material can lead to less than desirable coatings. For arc spray, only wires designed and produced for thermal spraying ensure trouble free application and superior, consistent coatings.

MEC has complete portfolio of ARC WIRES & FLAME WIRES with over 100 standard materials include Aluminium, Aluminium Alloy, Tin, Tin Alloy, Nickel, Nickel Alloy, Zinc, Stainless Steel, Brass, Monel, Copper & many more.

MEC is also able to fulfill the requirement of Cored Wires, the latest development in coating consumables. Ceramic Rods are available being used with CERAMIC ROD SPRAY SYSTEM.

MEC can assist in the selection of the correct material for specified applications.

POWDERS



MEC Thermal Spray Powders are mainly used in aircraft, power generation, automotive industry. But other applications like steel industry, textile industry, paper/print or offshore industry are served too. MEC has complete powder product range which include:

Full range of Carbides
 Tungsten & Chromium Carbides

Metals, Alloys & Composites
 NiAl, NiCrSiB, Stellite 6, Alloy 625 etc.

Ceramics
 Ytria stabilized Zirconia, Chrome Oxide Alumina-Titania etc.

Abradables
 Nickel Graphite, Aluminium Polyester etc.

MASKING TAPES



MEC has a complete range of high performance masking tapes specifically designed to meet the needs of the Thermal Spray Industry.

These tapes provide superior mechanical and thermal protection, Excellent abrasion resistance makes these tapes ideal for Grit Blasting and Plasma, HVOF applications.

These tapes are available in width from 1/8" to 48" standard roll length is 36 yards.

- Silicone Coated Fiberglass Tapes
- Fiberglass Cloth Tapes
- Fiberglass Cloth Tapes, Double Coated
- Aluminium Foil Tapes

SURFACE PREPARATION EQUIPMENTS

ECO FRIENDLY



PRESSURE BLASTER



SUCTION BLASTER



VACUUM BLASTER

ABRASIVE BLAST ROOM: FULLY AUTOMATIC & SEMI AUTOMATIC RECOVERY TYPES



PORTABLE MACHINE



MEC "P-14" HANDY BLAST CLEANER

A small blasting tool for instant cleaning & preparing of fairly plain surface.

Features:

- It works only on compressed air.
- Auto-recycling of abrasive.
- Dust Free operation.
- Special blast heads for corners and angles.

SPECIAL BLASTING MACHINES



3-AXES AUTOMATIC BLASTING MACHINE



INLINE PIPE BLASTING & COATING MACHINE



CNC BLASTING MACHINE



GLASS BEED BLASTING MACHINE

SHOT PEENING MACHINES



CNC 2 AXES CERAMIC/GLASS BEAD PEENING MACHINE



8 AXES ROBOTIC SHOT PEENING MACHINE



CNC 3-AXES CERAMIC BEAD PEENING MACHINE FOR AERO ENGINE PARTS

SHOT PEENING MACHINES

MEC Robotic & CNC multi-axis shot peening represents the state-of-the-art with a process integrated monitoring system to achieve consistent and unerring results in compliance with International Specifications & Standards. The features :

- Built to customer's specifications
- Integrated in customer's process
- Closed looped control for air and shots
- Designed to use with shots, glass beads etc.
- Servo controlled nozzle movement.
- High accuracy & reproducibility of process parameters
- Optional internal peening device & shot separate unit.

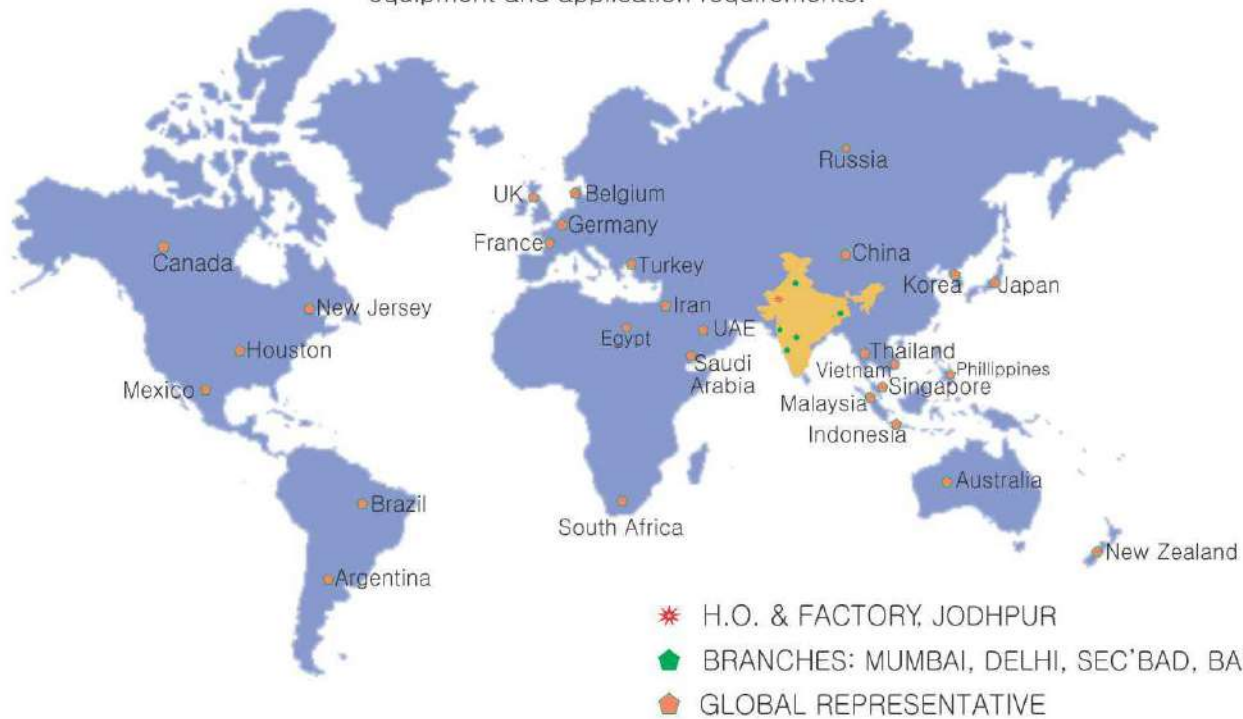


ROBOTIC 7 AXES SHOT PEENING MACHINE



MARKETING NETWORK

MEC has a wide marketing network of its branch offices and representatives throughout the globe. Our sales outlet is backed with good strength of highly experienced engineers having expertise to advise selection for both equipment and application requirements.

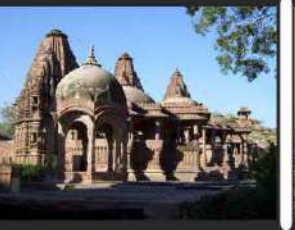


OUR VALUED CUSTOMERS





HEAD OFFICE



VISIT JODHPUR



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