

*Limitless Solutions, Single Source*

# WHO WE ARE

- Corporate Headquarters in Germantown, WI
- Operations began in 1982
- Revenue over \$300MM
  - Molding 70% – Tooling 20% – Equipment 10%
- Markets Served
  - Healthcare 50% Automotive 20%
  - Electronics 15% Consumer 15%
- Global Footprint



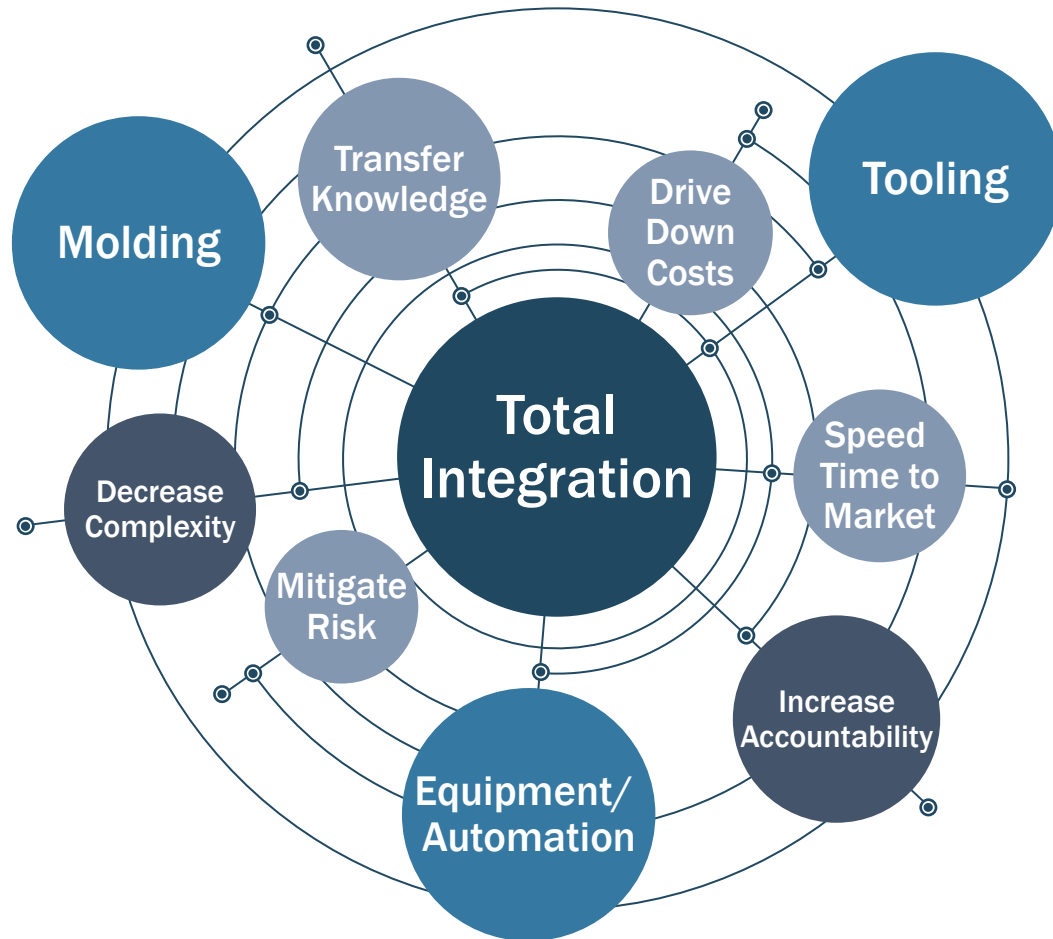
*Maintaining the vision and values that MGS was founded upon, the company's leadership team personifies our core values of teamwork, integrity, passion, and safety. Meanwhile, their 360-degree perspective across tooling, molding, and equipment technology continue to drive the company's growth and success. Focusing on "One MGS," they help provide the singular answer to customers' wide range of complex manufacturing challenges.*





# | Three Businesses – One Complete Solution

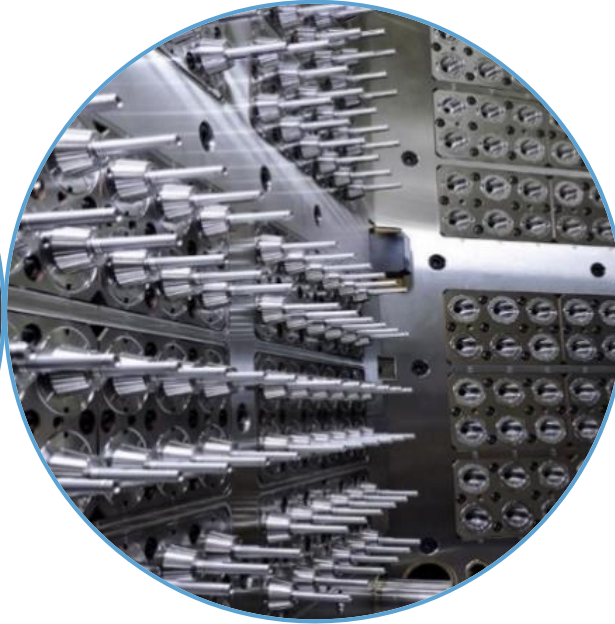
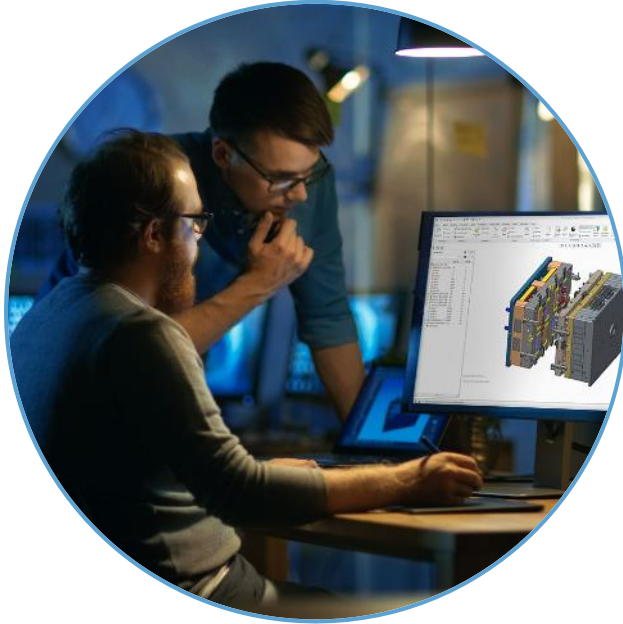
Being world-class in tooling, molding, or equipment / automation technology is challenging enough. At MGS, we pride ourselves in combining excellence in integration across all three.



# | One Source to 'De-Risk' Your Supply Chain

With our internal expertise and extensive investment in machinery, we provide a single point of accountability to deliver your entire project on-time, within budget, using state-of-the-art innovation at each phase.

## MGS INTEGRATED SOLUTIONS



Design/Development

Tooling

Molding  
(multishot expertise)

Equipment /  
Automation

**One Source, One Process, One Contact**



As a top healthcare manufacturer, we are ISO 13485 certified and are FDA registered when required. All of our facilities also practice Good Manufacturing Practices (GMPs), and our robust capabilities can be operated on our over 300 injection molding machines (28 – 1400 ton).



**Germantown**

180,000 Sq. Ft.  
ISO 13485  
IATF 16949  
ISO 9001  
FDA Registered



**Ireland**

80,000 Sq. Ft.  
ISO 13485



**Chihuahua**

130,000 Sq. Ft.  
IATF 16949  
ISO 14001  
C-TPAT



**Juarez**

125,000 Sq. Ft.  
IATF 16949  
ISO 9001  
C-TPAT



**Corporate  
Headquarters**

Tooling Technology Center  
Engineering & Design  
Administration



**Equipment  
Group**

Multishot Technologies  
Portable Injection Units  
Rotary Platens  
Rotary Stack Frames  
Specialty Molding Equipment  
Automation Systems –  
Engineering, Design, Build,  
Validation



**Distribution  
Center**

Finished Goods  
Materials Inventory  
Management

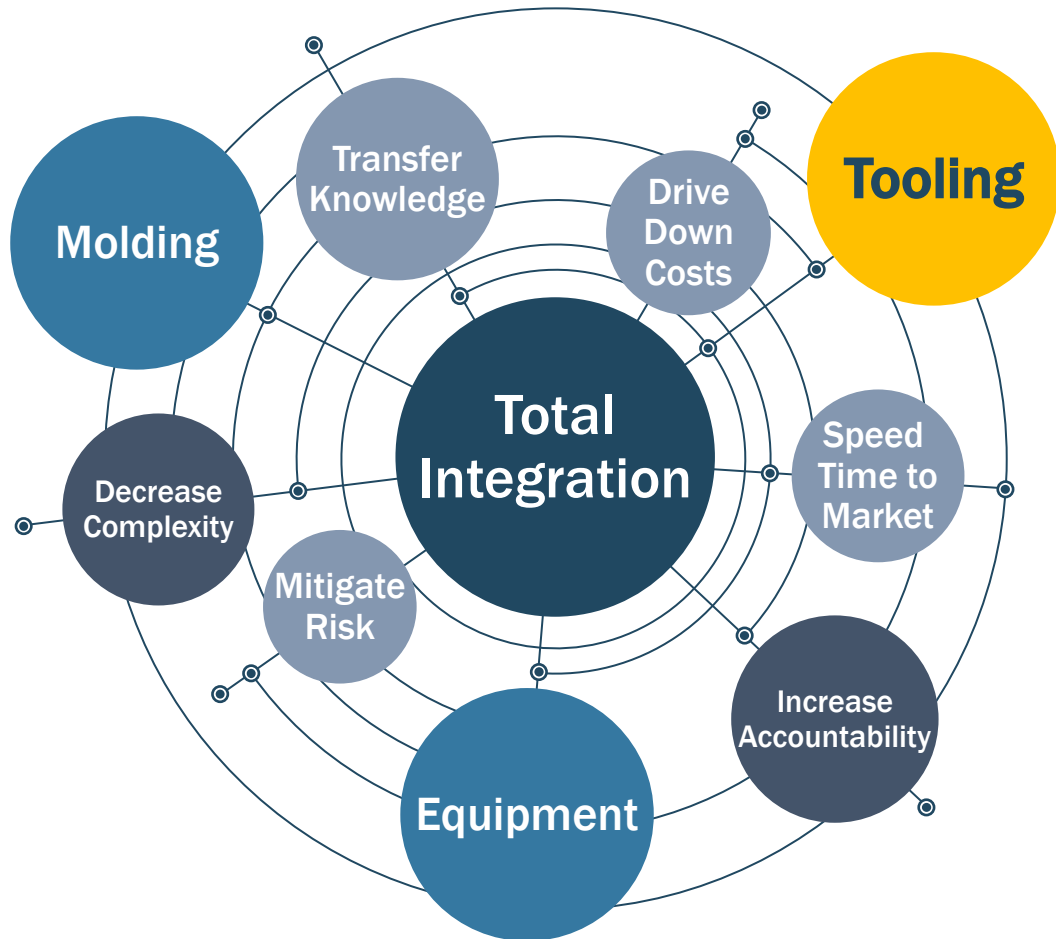


**Sampling  
Facility**

Engineering & Design  
Tooling  
Sampling  
Turnkey Manufacturing  
System Development

# | TOOLING – Extensive and Capable

Our state-of-the-art tooling technology center is one of the 10 largest custom tool shops in North America. Our investments in capital infrastructure and engaging the highest caliber toolmakers set us apart.



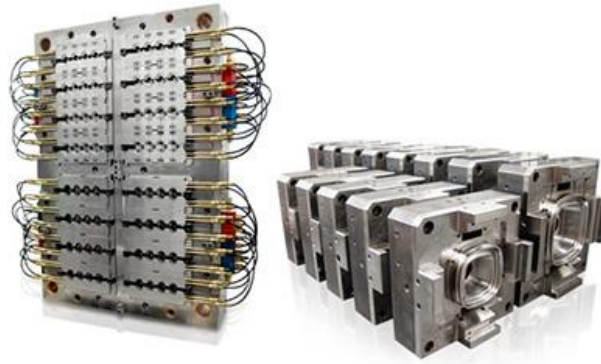
- 80,000 square feet/80+ toolmakers, 20+ Mold Designers
- 24 hour machine operation
- Fully automated Wire EDM cell featuring 8 machines with gantry fed robotic tooling systems and two integrated CMMs
- High-speed/high-precision machining, and die sinking EDM
- Three & five-axis graphite and steel milling with integrated CMM validation
- Leading edge robotic tooling and automation



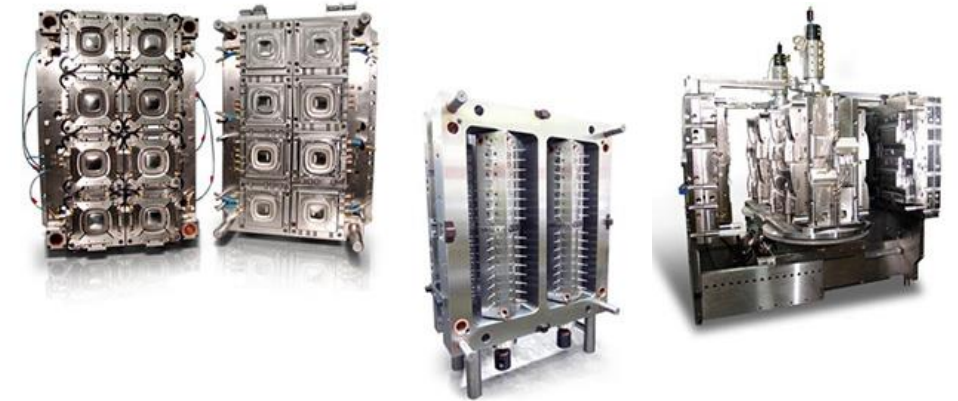




PROTOTYPE



PRODUCTION MOLDS



MULTISHOT (multiple material)



Multicavity  
Auto-Unscrewing  
In-Mold Closing  
Thin Wall  
Insert  
Hot Runner  
Collapsible Core

Robotic Transfer  
Core Back  
Rotary Platen  
Indexing Plate  
Rotary Cube  
Rotary Stack  
Rotary Spindle

*Able to handle your toughest applications, we can hold repeatability of tolerances daily at  $\pm .0005$ , and when the project and budget can support it, our shop can hold  $\pm .0001$ .*



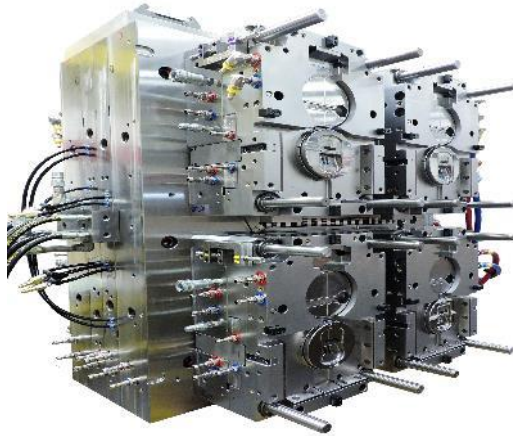
# | TOOLING – Mold Technology

Our vast scope of knowledge and experience from our extensively trained toolmakers means you get the best resources for the best results



## Multi-component

- Part consolidation. Features multiple materials (up to four molded components) within same production cell
- Can introduce inserts through robotic placement during molding process
- Results in reduction of downstream assembly and multiple manufacturing cells



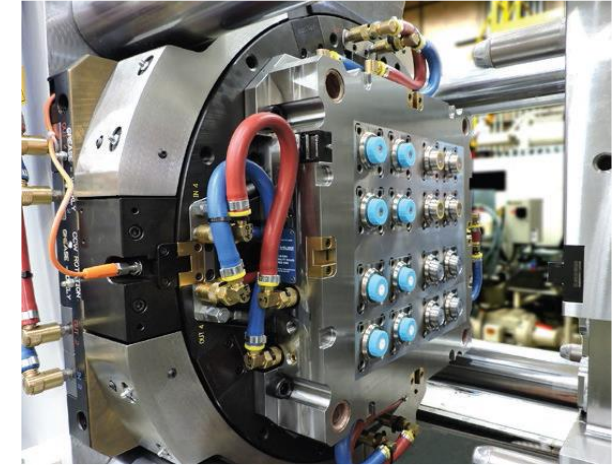
## Stack Molds

- For High volume production
- Multiple parting lines and faces to maximize the use of single machine tonnage
- Can produce 2-4 times the volume of single face molds while utilizing one



## High Speed and Cavitation

- High volume production
- Up to 228 cavities
- Sub 5 second cycles



## Auto Unscrewing

- Allows for the production of molded-in threads
- System actuation offerings are Servo, hydraulic, or mechanical

## 2021 expansion with acquisition of European tooling operation - Formtechnik

- Full design and manufacturing of high cavitation precision injection molds
- Extensive DFM and simulation capabilities – dedicated team
- Modular pilot fast track tooling for early product launch
- Additive manufacturing capabilities (EOS)
- Dedicated mold qualification technology center. Class 8 cleanroom (15 presses). Metrology lab.



**MGS/FORMTEKNIK DENMARK**  
Vestre Hedevej 16  
DK-4000 Roskilde

**MGS/FORMTEKNIK SWEDEN**  
Västra Götgatan 5  
SE-334 32 Anderstorp

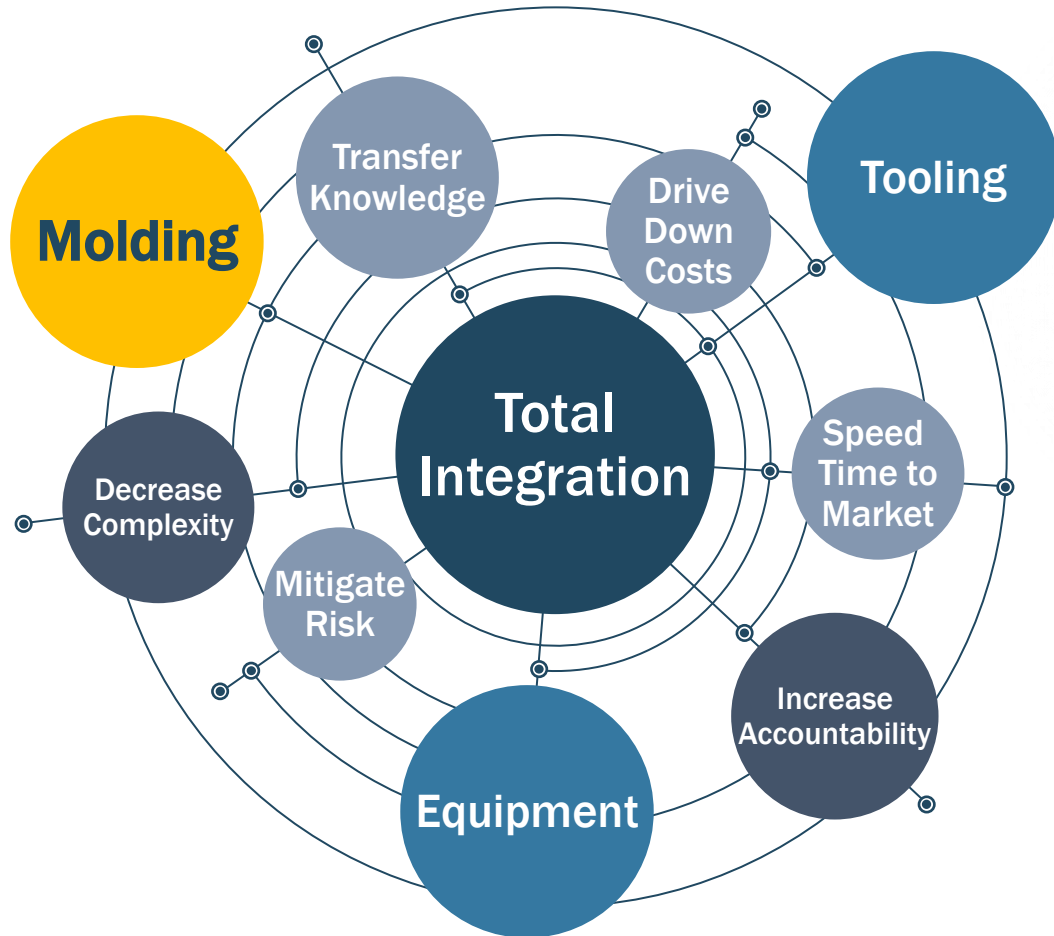


**MGS/FORMTEKNIK GERMANY**  
Carlo-Schmid-Allee 3  
D-44263 Dortmund



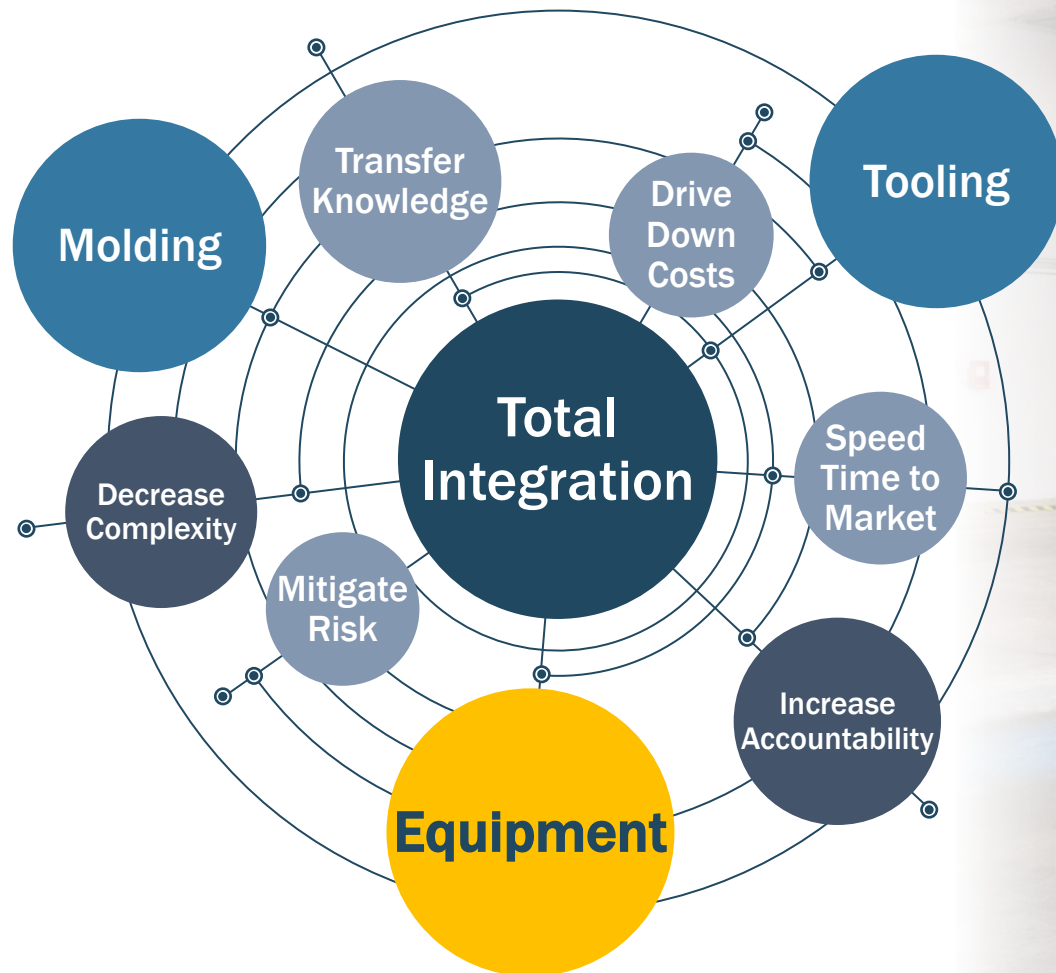
# | MOLDING – Supported by a Unique Foundation

We support our healthcare customers with world class mold making and custom automation for assembly.



# | EQUIPMENT / AUTOMATION – Specialized Customer Solutions

Our 40,000 Square Foot dedicated Equipment/Automation Technology Center and team delivers assembly automation, testing, and automated packaging systems so that you have the choice of buying equipment should you prefer to manufacture on your own.

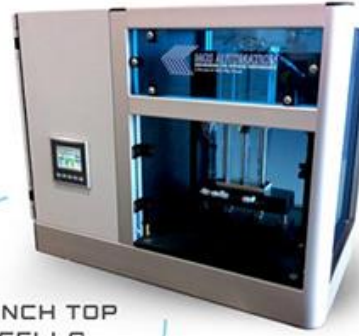




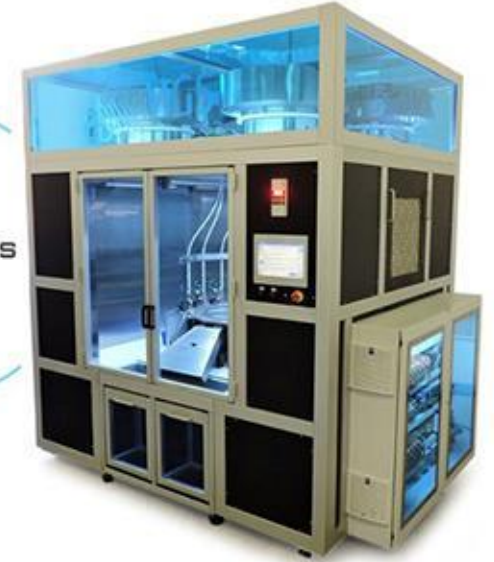
# | Automation Capabilities



END OF  
ARM TOOLING  
(EOAT)



BENCH TOP  
CELLS



CONTINUOUS  
MOTION

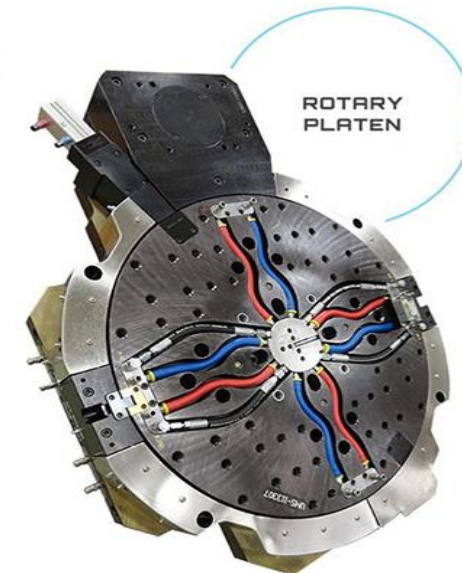


PRESS SIDE



INDEXING  
ROTARY &  
LINEAR

# | Equipment / Multishot Capabilities





# | Customized Outsourcing Solutions

Whether consolidating your supply base or outsourcing an internal molding operation, the MGS experience and processes are extensive.

## Through The Wall



Extension of your  
day-to-day operation

## Strategic Location



Within close proximity  
to your business

## Dedicated Bay Or Cell (Onsite At MGS)



Integration with an existing  
MGS facility

## Strategic Purchase



Willing to buy your  
existing facility

**‘MGS’ strength is their willingness to have ready capacity,  
sort of a Field of Dreams mentality.’**

*–Global U.S.-based medical and diagnostic device manufacturer*

# | Transfer Experience – Precision Industrial

MGS learns and shares across industries, cross-pollinating to grow our knowledge base and yours.

## Electronics Company

- Transferred & Online: 80% Production Hours in 5 months, 100% in 12 months
- 1585 Part Numbers/952 Tools
- 3 Assembly Cells
- 1 Fully Automated Molding Machine
- 4 Vertical Molding Presses
- 140MM parts per year

## Network Infrastructure Company

- Transferred & Online: 100% Production Hours in 8 months
- 650 Part Numbers/500+ Assembly Part Numbers
- 200MM parts per year
- 26 Injection Molding Machines
- Four Kit Packaging Assembly Cells



## Computer Technologies Company

- 30+ Part Numbers/30+ Tools
- Mold Design, Build & Qualification (MGS Germantown)
- Robotics & Automation Design & Build (MGS Germantown)
- Mold & Production Equipment Transfer, Integration and Re-Validation (MGS Ireland)
- Established a “push through the wall” solution

## Industrial Company

- “Push thru the Wall” Supply Chain Solution
- 8 Vendors to 1 Consolidation (10% Cost Savings)
- Reverse Engineered 6 Component Valve Assembly Part
- 15MM assemblies per year





# MGS JUAREZ OVERVIEW

- Strategically located at the border with Texas and New Mexico
- Key geographical position to access North American markets
- Employees: 343 (Juarez)



## MGS Juarez

Across from El Paso TX



## Markets Served

Consumer  
& Telcom

Automotive

Industrial

Medical



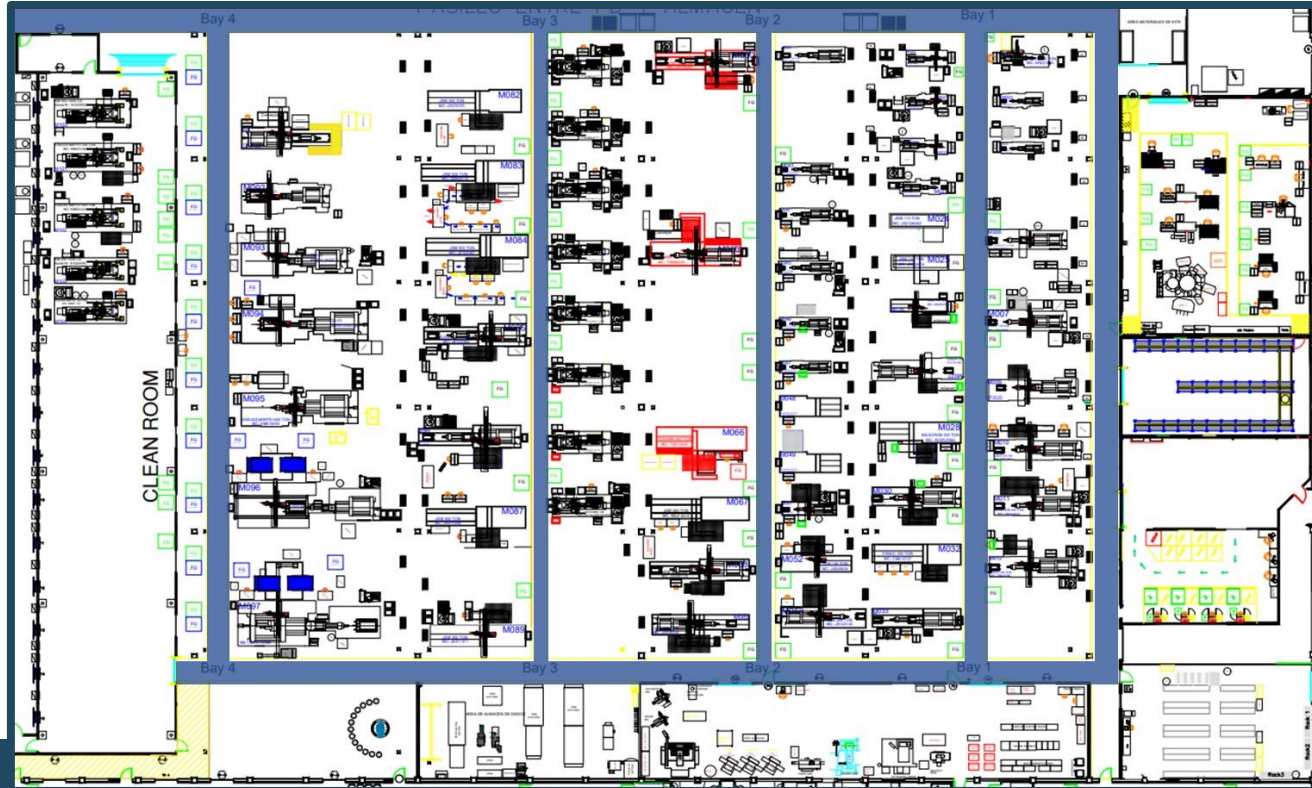
# MGS JUAREZ

- 65 Injection Molding Machines, 50 – 1400T
- 125,000 sq. ft. of manufacturing space
- ISO Class 8 Cleanroom
- Single shot & multi-shot molding
- Value-added operations
- IATF 16949 Certified
- ISO 9001 Certified
- ISO13485 Certification in process
- C-TPAT Certified
- UL Certified
- GMP Compliant

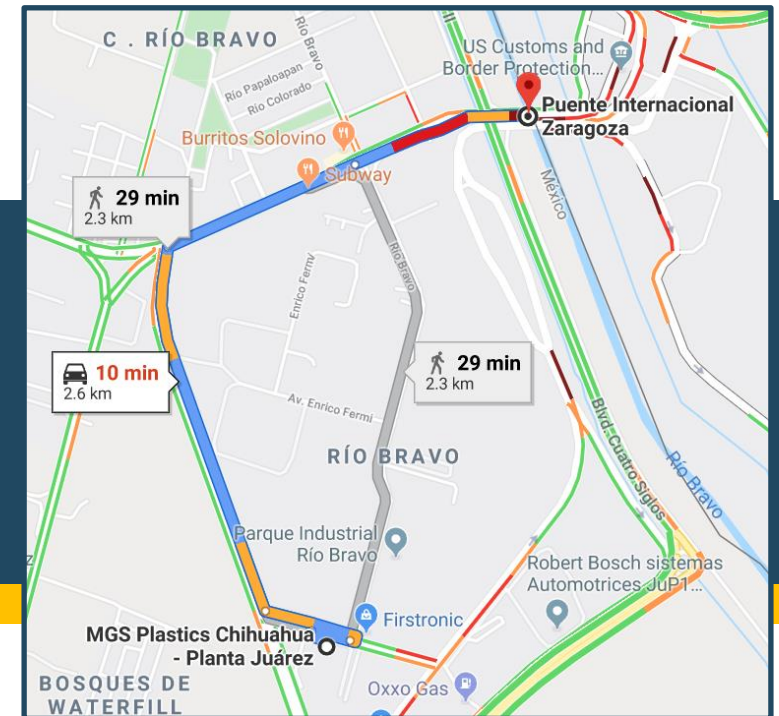




# MGS JUAREZ FACILITY AT-A-GLANCE



*Located directly across the border from El Paso, Texas, the MGS Juarez facility is the second MGS facility in the Mexico region. Featuring a diverse range of customers, press tonnage, and capabilities, the Juarez facility is ready to handle any customer, in any industry.*



# MGS JUAREZ CAPABILITIES

**PROGRAM MANAGEMENT & ENGINEERING**

**VALIDATION**

*(Scientific Injection Molding)*

**VALUE-ADDED  
SECONDARY  
OPERATIONS &  
ASSEMBLY**

**HIGH-SPEED AUTOMATION**

**TOOLING DEVELOPMENT & SAMPLING**

**QUALITY LAB**

**24/7 ONSITE TOOL SHOP**

*(tool & insert maintenance,  
refurbishment & repair)*



*MGS Juarez offers a robust one-stop solution for all of your needs. From program management & engineering to our 24/7 onsite tool shop, our integrated teams are here to ensure your programs run smoothly and efficiently from start to finish.*



**REGULATED ENVIRONMENT**

*(ISO Class 8 Cleanroom)*





# | TOOLROOM

*Our robust mold maintenance process ensures your tools are performing optimally at all times. Our onsite toolmakers use a maintenance schedule with the timing & checklist based on your mold maker's recommendations.*

Our state-of-the-art equipment includes:

- CNC Machining Center
- CNC Lathe
- TIG & Laser Welder
- EDM
- Grinders, Mills
- Wire EDM
- Ultrasonic Cleaner
- Dry Ice Blaster



# QUALITY LAB

- 5S Metrology Lab
- PDCA Processes
- SPC, Statistics, Calibration & Document Control software and procedures
- 2 CMM
- 1 OGP Vision System
- 1 Keyence Optical Comparator
- Force Tests / Oven / Calipers
- Spectrophotometer



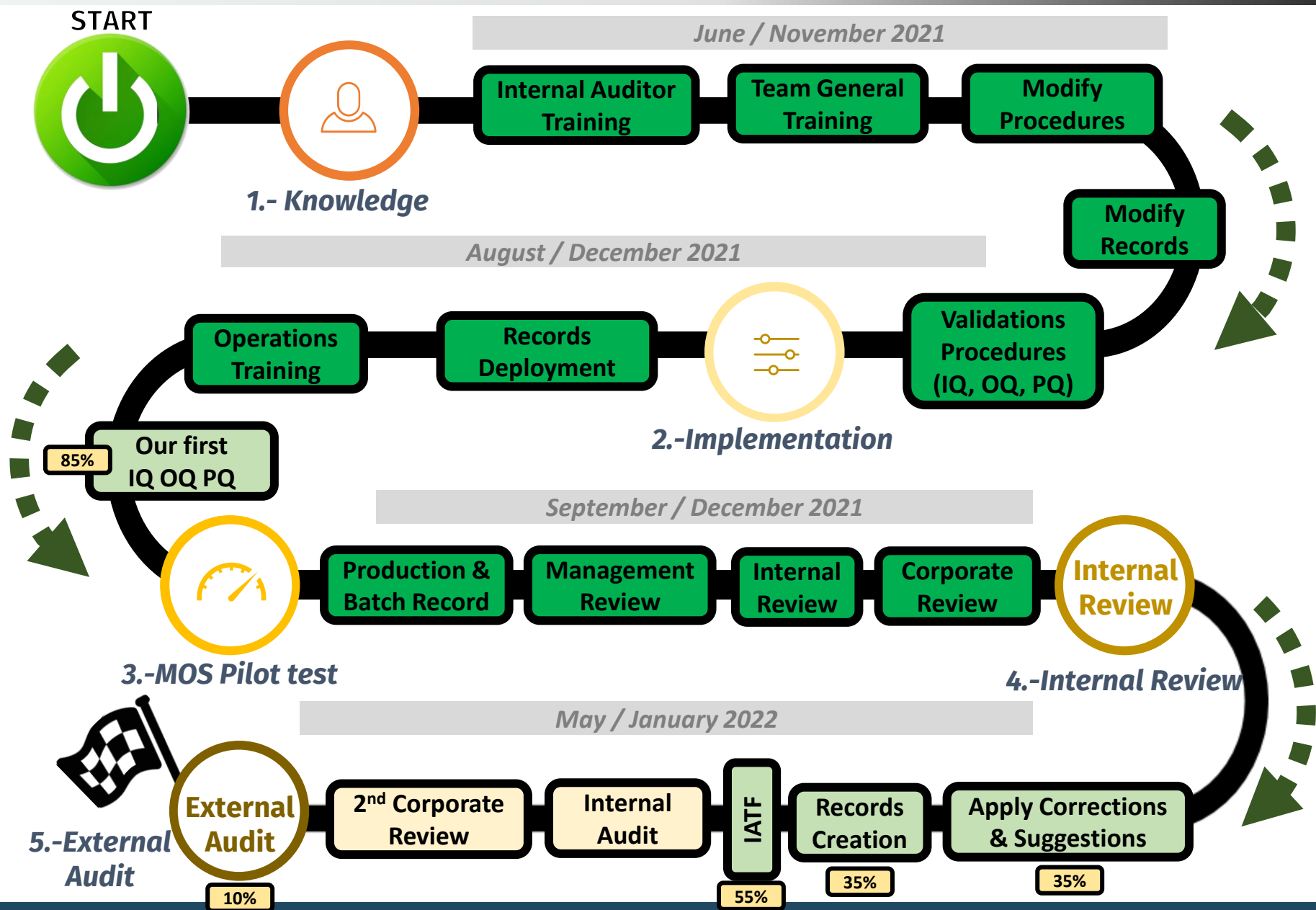


# MOLDING CAPACITY

	Number of Machines	Available Hours *	Total Hours Used	Utilization %	OEE
Small < 200 Ton	30	19,440	10,872	56%	68%
Medium 200 Ton – 450 Ton	23	14,904	5,896	40%	49%
Large > 450 Ton	12	7,776	2,883	37%	46%
Total	65	42,120	19,651	47%	58%

\* Available Hours Calculated Based on 365 Days, 24/7

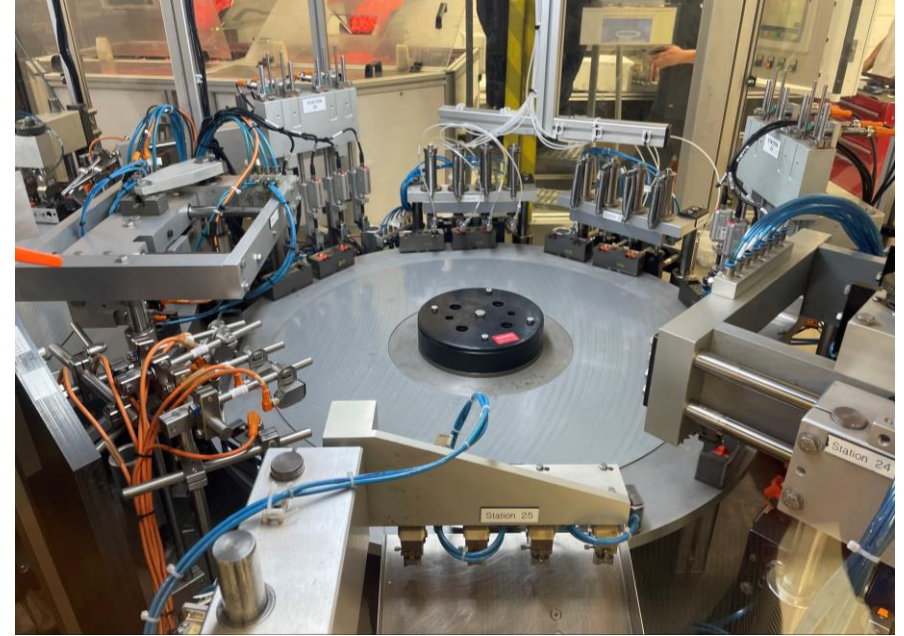
# ISO 13485 Overall Plan





# VALUE-ADDED SECONDARY OPERATIONS

- Dedicated area for assembly & final packaging
- Fully integrated assembly areas & testing capabilities
- Direct shipping to retailers/distribution centers
- Flexible production lines to meet customer process requirements
- Heat Transfer/Hot Stamping
- Ultrasonic Welding
- Manual & Automated Assembly Operations
- Packaging
- Pad Printing
- Screen Printing



# TRANSFER PROGRAMS

*MGS Juarez has excellent depth and breadth of knowledge when it comes to transfer experience. We're willing to invest to do whatever it takes to work with OEMs to help consolidate and streamline operations.*

*Our dedicated team of project engineers and program managers are focused on the complex needs of each program.*

*In the past four years we have transferred over 430 tools for 25 programs*

## FY2021

- 7 Programs
- 44 Tools
- 186 part numbers
- Secondary Operations, including:
  - 2 shot
  - Assembly
  - Threaded inserts installation

## FY2020

- 6 Programs
- 35 Tools
- Secondary Operations, including:
  - 2 shot
  - Assembly
  - Ultrasonic welding
- First Medical Product transfer
  - 4 tools
  - Assembly and Ultrasonic welding

## FY2019

- 5 Programs
- 50+ Tools
- 5 Molding Machines
- Secondary Operations, including:
  - 2 shot
  - Assembly
  - Ultrasonic welding

## FY2018

- 7 Programs
- 300+ Tools
- 15 Molding Machines
- Secondary Operations, including:
  - Assembly
  - Hi-pot testing
  - Laser engraving
  - Kitting
  - Ultrasonic welding
  - Pad printing
  - Heat staking



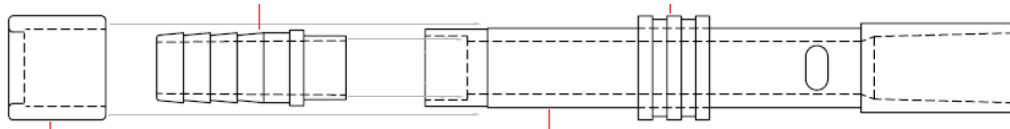
# Metric Management System

- Tier/Accountability Meetings
  - Huddle board – for day to day follow up
    - Mold changes
    - Molds in TR
    - Set-up/Start-up
  - Information boards – for metric follow up
- Real Time Monitoring



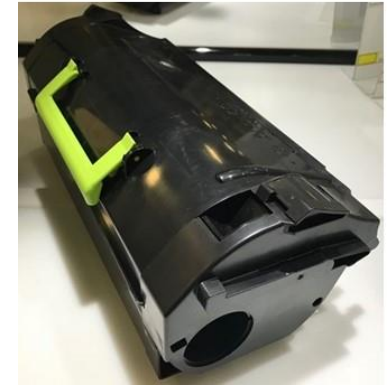
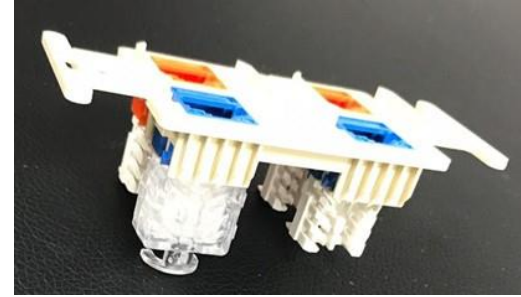
# Healthcare Parts Transfer

*Transfer from Germantown  
4 Molds / 4 Part Numbers  
Intended Use: D&C procedure.*





# | SOME OF OUR PRODUCTS



## SECONDARY OPERATIONS

Ultrasonic Welding



Hot foil



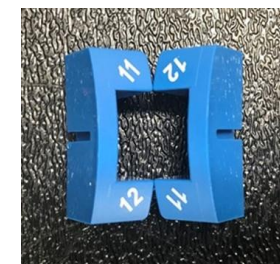
Laser engraving



Component assembly and Hi-Pot testing



Heat Transfer / Hot Stamping / Pad Printing





# KITTING / AUTOMATED ASSEMBLY OPERATIONS

## Manual assembly, kitting and package sealing



## Air valve automated assembly and test



## Product Kitting



# | Our T.I.P.S. for Success

