MAHAGANPATI FURNACE
ENGINEERING PVT. LTD.

PRODUCT CATALOGUE / 2026

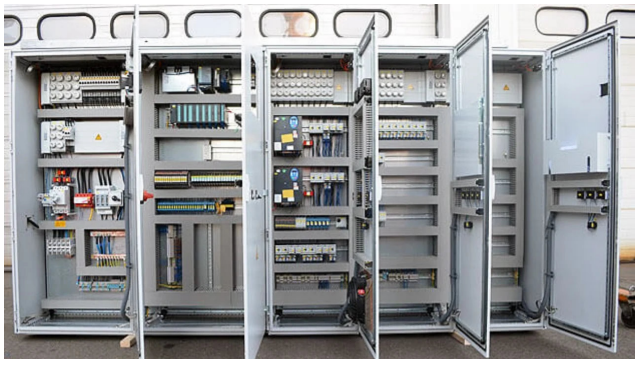
ALUMINIUM FOUNDRY EQUIPMENT

Furnaces. Casting Machines. Automation. Panels.









ENGINEERED FOR FOUNDRY PRODUCTIVITY

Custom-built configurations | Pune, India | Global enquiries welcome

INDEX

Explore the product range

Twenty-one equipment and service categories for foundry manufacturing.

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All equipment images are reference photographs or illustrative product renders, as labeled. Capacity, layout, safety provisions, component makes and commercial terms are confirmed in approved quotations and drawings.

FURNACES / PRODUCT 01

Tower Furnace



ILLUSTRATIVE PRODUCT RENDER

APPLICATION

Vertical aluminium melting equipment with controlled charging, process heating and access systems engineered for the chosen alloy, fuel and operating duty.

ENGINEERING HIGHLIGHTS

- Tower-style charging and melting arrangement
- Fuel and alloy-specific process engineering
- Safety and access provisions to suit the layout

TYPICAL TECHNICAL SELECTION

Control & safety	PLC/HMI, electrical/hydraulic/pneumatic/gas safety as applicable	**Equipment**	Tower Furnace
Operating capacity	As specified by customer and approved drawings		

FURNACES / PRODUCT 02

Skelner Furnace



WEBSITE REFERENCE PHOTOGRAPH

APPLICATION

Industrial aluminium melting furnace construction, repair and refractory reconditioning tailored to the existing installation and process requirements.

ENGINEERING HIGHLIGHTS

- Furnace construction and structural refurbishment
- Refractory relining and thermal insulation
- Application-specific melting installation

TYPICAL TECHNICAL SELECTION

Control & safety	PLC/HMI, electrical/hydraulic/pneumatic/gas safety as applicable	**Equipment**	Skelner Furnace
Operating capacity	As specified by customer and approved drawings		

FURNACES / PRODUCT 03

Round Holding Furnace



ILLUSTRATIVE PRODUCT RENDER

APPLICATION

Round aluminium holding vessel designed to keep molten metal at a controlled temperature close to the casting process.

ENGINEERING HIGHLIGHTS

- Round vessel for molten aluminium holding
- Temperature measurement and regulation
- Heating and insulation tailored to process

TYPICAL TECHNICAL SELECTION

Furnace design	Crucible or crucible-less holding furnace	**Heating**	SiC elements, resistance coils or gas firing, by model
Holding capacity	Based on required molten metal inventory (kg)	**Safety**	Independent over-temperature protection; suitable electrical / gas interlocks

FURNACES / PRODUCT 04

Dosing Furnace



ILLUSTRATIVE PRODUCT RENDER

APPLICATION

Controlled delivery of molten aluminium to a casting line, with instrumentation and automation options selected for required dosing duty.

ENGINEERING HIGHLIGHTS

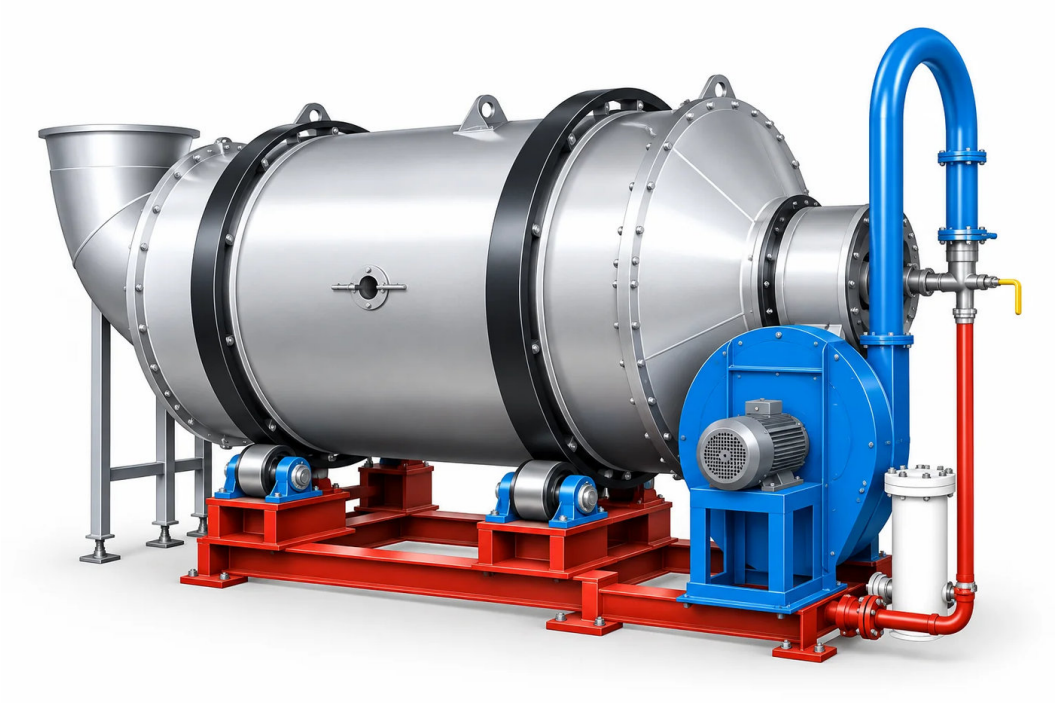
- Controlled molten-metal transfer and dosing
- Level and temperature instrumentation options
- Interlocks and casting-line integration

TYPICAL TECHNICAL SELECTION

Control & safety	PLC/HMI, electrical/hydraulic/pneumatic/gas safety as applicable	**Equipment**	Dosing Furnace
Operating capacity	As specified by customer and approved drawings		

FURNACES / PRODUCT 05

Rotary Melting Furnace



ILLUSTRATIVE PRODUCT RENDER

APPLICATION

Industrial rotary-drum furnace engineered for aluminium melting and recycling applications with application-specific drive and heating arrangements.

ENGINEERING HIGHLIGHTS

- Rotating drum for aluminium melting/recycling
- Burner, drive and exhaust engineered to duty
- Custom capacity and handling arrangement

TYPICAL TECHNICAL SELECTION

Furnace type	Rotary or tilting rotary melting furnace	**Batch capacity**	Selected in kg or tonnes per charge
Charge material	Approved aluminium scrap / alloy feedstock	**Fuel**	PNG / oil firing option, by approved burner selection

FURNACES / PRODUCT 06

Melting Furnace



WEBSITE REFERENCE PHOTOGRAPH

APPLICATION

Foundry melting system for aluminium production, configured to suit required metal capacity, fuel, handling method and plant utilities.

ENGINEERING HIGHLIGHTS

- Foundry aluminium melting equipment
- Fuel, crucible and tapping as specified
- Integrated temperature and safety controls

TYPICAL TECHNICAL SELECTION

Furnace type	Melting-cum-holding / tower / crucible type, selected to suit process	**Holding capacity**	Selected to match casting demand in kg
Metal	Aluminium and approved aluminium alloys	**Melting rate**	Selected to match output in kg/h

METAL HANDLING / PRODUCT 07

Melting Ladle



ILLUSTRATIVE PRODUCT RENDER

APPLICATION

Purpose-built ladle for safe molten-aluminium transfer and pouring, with mechanical handling and refractory arrangements selected per process.

ENGINEERING HIGHLIGHTS

- Heavy-duty ladle for hot-metal transfer
- Pouring and handling arrangements by process
- Refractory and mechanical configuration by duty

TYPICAL TECHNICAL SELECTION

Control & safety	PLC/HMI, electrical/hydraulic/pneumatic/gas safety as applicable	**Equipment**	Melting Ladle
Operating capacity	As specified by customer and approved drawings		

METAL TREATMENT / PRODUCT 08

Degassing Machine



ILLUSTRATIVE PRODUCT RENDER

APPLICATION

Rotor-based molten-aluminium treatment system combining speed-controlled stirring and suitable inert-gas delivery for melt-quality improvement.

ENGINEERING HIGHLIGHTS

- Rotary degassing with inert-gas injection
- Controlled rotor speed and lift sequence
- Fixed or travelling arrangement as required

TYPICAL TECHNICAL SELECTION

Machine type	Stationary or travelling rotary degassing unit	**Rotor and shaft**	Graphite or process-compatible rotor and shaft
Degassing medium	Suitable inert gas selected for alloy/process	**Travel system**	Fixed stand or rail-mounted traversing arrangement

CASTING SYSTEMS / PRODUCT 09

GDC Machine



ILLUSTRATIVE PRODUCT RENDER

APPLICATION

Gravity die casting machine incorporating guided platen motion, engineered tilting and die-handling arrangements, with integrated controls.

ENGINEERING HIGHLIGHTS

- Guided 4-rod platen arrangement
- Hydraulic/servo machine integration
- Die handling, tilting and safety interlocks

TYPICAL TECHNICAL SELECTION

Machine type	4-rod tilting gravity die casting (GDC)	**Maximum die size**	1,200 × 800 mm
Minimum / maximum daylight	500 / 1,500 mm	**Tilting angle**	−45° to +90° (135° total)

CASTING SYSTEMS / PRODUCT 10

LPDC Machine



WEBSITE REFERENCE PHOTOGRAPH

APPLICATION

Low-pressure aluminium die-casting system using programmable pressure stages and recipe-controlled cooling for repeatable mould filling.

ENGINEERING HIGHLIGHTS

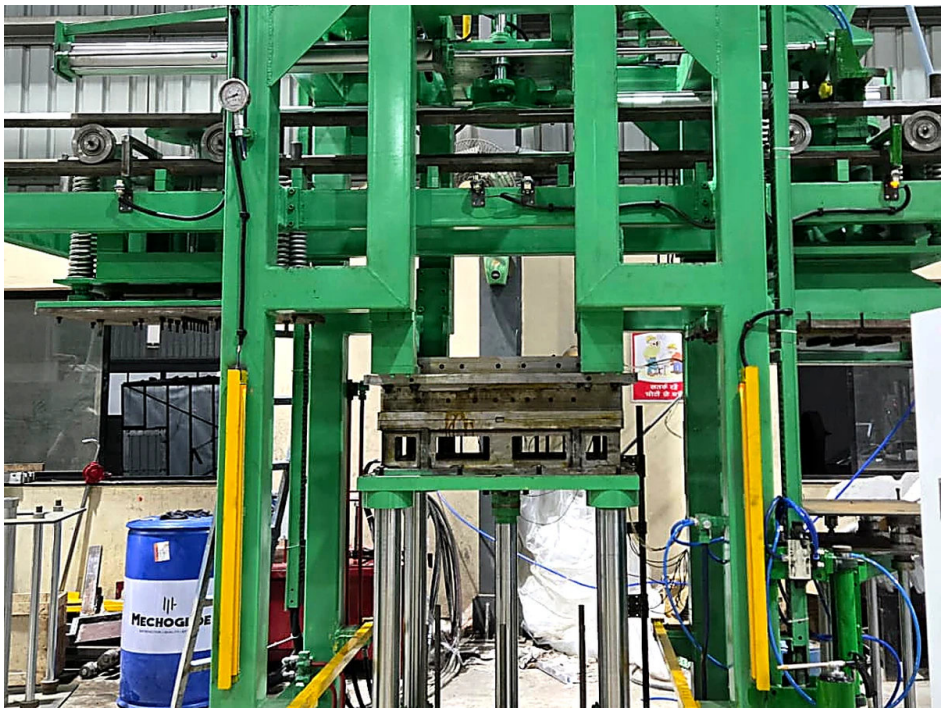
- Programmable pressure ramp and hold stages
- Recipe-based cooling and process sequencing
- PLC/HMI recipe, alarms and monitoring

TYPICAL TECHNICAL SELECTION

Machine type	Low pressure die casting (LPDC)	**Furnace type**	Crucible or crucible-less, capacity selected per cycle
Die envelope / weight	Selected from casting drawing and tooling layout	**Pressure control**	Closed-loop pressure regulation with programmable ramp and hold stages

CORE MAKING / PRODUCT 11

Core Shooter Machine



WEBSITE REFERENCE PHOTOGRAPH

APPLICATION

Sand-core production equipment designed for repeatable shooting, core-box handling, sequencing and industrial safety.

ENGINEERING HIGHLIGHTS

- Repeatable sand-core forming sequence
- Tooling and actuation for approved core box
- Integrated pneumatic/hydraulic machine controls

TYPICAL TECHNICAL SELECTION

Machine type	Core shooting machine for foundry sand cores	**Control system**	PLC/HMI; automatic/manual, recipes, timers and alarms
Safety	Guarding, access interlocks and emergency stop	**Process**	Core shooting and curing; process selected for sand/binder system

HANDLING & COOLING / PRODUCT 12

Cooling Conveyor



WEBSITE REFERENCE PHOTOGRAPH

APPLICATION

Conveyor handling equipment for transporting hot castings while managing cooling with application-specific forced-air fans.

ENGINEERING HIGHLIGHTS

- Conveyor-based casting transfer
- Forced-air cooling fans and timed control
- Line layout engineered for production flow

TYPICAL TECHNICAL SELECTION

Control system	PLC/HMI, motor control and line interlocks	**Safety**	Guarding of drive and pinch points, emergency stop and safe access
Conveyor type	Belt / roller / chain / engineered conveyor per casting	**Length and width**	Selected from plant layout and load envelope

FINISHING / PRODUCT 13

RCM Machine - Gate Cutting



ILLUSTRATIVE PRODUCT RENDER

APPLICATION

Cutting equipment for cast aluminium runners, risers and gates, with custom fixtures, selected spindle duty and guarding.

ENGINEERING HIGHLIGHTS

- Runner, riser and gate cutting
- Work-holding fixtures and guarded stations
- Cutting and feed controls per casting

TYPICAL TECHNICAL SELECTION

Machine type	Single-cutter, single-side gate & riser cutting machine	**Control system**	PLC + HMI, Delta proposed
Safety	Guard door, overload, servo fault, home/end limits and emergency stop	**Feed motion**	Servo-driven linear forward/reverse feed

FINISHING / PRODUCT 14

Decoring Machine



ILLUSTRATIVE PRODUCT RENDER

APPLICATION

Foundry casting decoring equipment using controlled vibration and mechanical movements for effective sand-core removal.

ENGINEERING HIGHLIGHTS

- Vibration/controlled movement for core removal
- Machine guarding and timed sequences
- Automation integrated with plant flow

TYPICAL TECHNICAL SELECTION

Decoring guns	2 pneumatic guns; adjustable mounting	**Vibration motor**	1 × 3 HP (approx. 2.2 kW)
Rotation	Motorized forward/reverse with speed control	**Rotary drive**	Geared motor with VFD; rating by load study

THERMAL PROCESS / PRODUCT 15

Core Oven



WEBSITE REFERENCE PHOTOGRAPH

APPLICATION

Insulated industrial oven for baking and curing sand cores with controlled temperature, timing and loading configurations.

ENGINEERING HIGHLIGHTS

- Insulated sand-core baking/curing chamber
- Temperature and timer controls
- Loading arrangement to suit core batches

TYPICAL TECHNICAL SELECTION

Control & safety	PLC/HMI, electrical/hydraulic/pneumatic/gas safety as applicable	**Equipment**	Core Oven
Operating capacity	As specified by customer and approved drawings		

THERMAL PROCESS / PRODUCT 16

Ladle Preheater



ILLUSTRATIVE PRODUCT RENDER

APPLICATION

Preheating equipment for aluminium transfer ladles, integrating an engineered burner/blower, hood and timed control sequence.

ENGINEERING HIGHLIGHTS

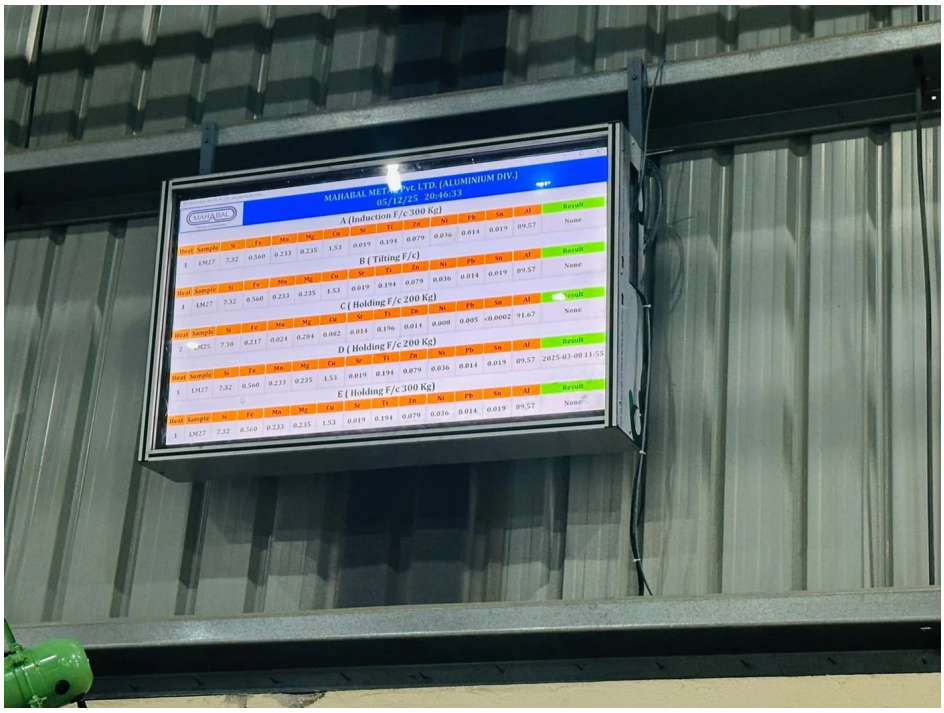
- Preheating aluminium transfer ladles
- Fuel train, blower and safe burner sequencing
- Timed heating and temperature indication

TYPICAL TECHNICAL SELECTION

Heating system	Gas-fired burner with combustion blower	**Ladle capacity**	Selected in kg according to ladle dimensions and lining
Burner duty	Sized to heat-up requirement, ladle lining and fuel	**Fuel train**	Matched valves, regulators, pressure switches and safety shutoff

DIGITAL / IOT / PRODUCT 17

IoT Display & Data Recording



WEBSITE REFERENCE PHOTOGRAPH

APPLICATION

Digital monitoring and data acquisition for foundry equipment, capturing production counts, machine cycles and process values.

ENGINEERING HIGHLIGHTS

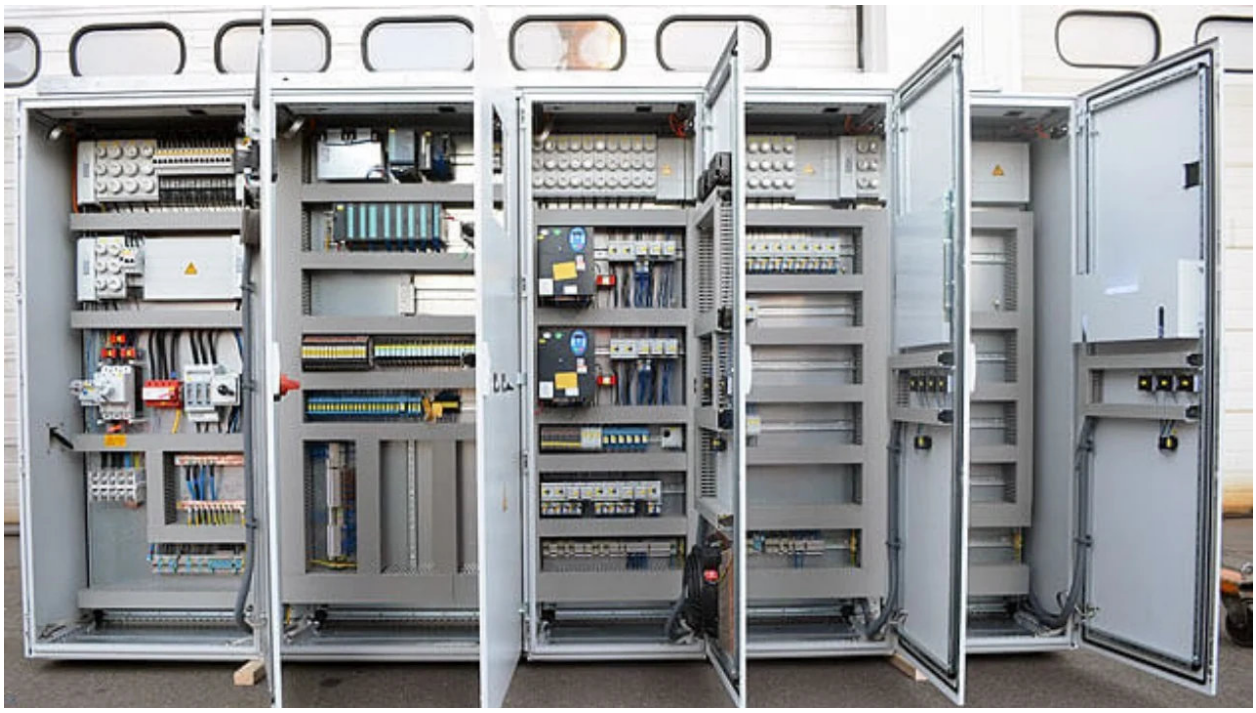
- PLC data acquisition and dashboard display
- Production, cycle and temperature tracking
- Historical and shift-wise reporting options

TYPICAL TECHNICAL SELECTION

Control & safety	PLC/HMI, electrical/hydraulic/pneumatic/gas safety as applicable	**Equipment**	IoT Display & Data Recording
Operating capacity	As specified by customer and approved drawings		

ELECTRICAL / AUTOMATION / PRODUCT 18

Industrial Control Panel Manufacturing



SUPPLIED PANEL REFERENCE PHOTOGRAPH

APPLICATION

Design, manufacture and testing of electrical and automation panels for furnaces, casting systems, conveyors and special-purpose equipment.

ENGINEERING HIGHLIGHTS

- PLC, HMI, MCC and machine control panels
- VFD/servo power and control integration
- Documented wiring, testing and commissioning

TYPICAL TECHNICAL SELECTION

PLC & HMI	Selected from approved I/O count, communications and customer make preference	**Panel type**	Machine control / MCC / PLC automation panel
Wiring	Numbered terminals, ferrules, cable ducts and earthing	**Safety**	Emergency stop / safety circuits and interlocks based on risk assessment

AUTOMATION / PRODUCT 19

Robotic Automation



WEBSITE REFERENCE PHOTOGRAPH

APPLICATION

Integrated robotic foundry solutions for pouring, part extraction and handling, coordinated with PLC and machine safety systems.

ENGINEERING HIGHLIGHTS

- Pouring, extraction and foundry handling cells
- Robot/PLC safety and communication interface
- Integration and commissioning support

TYPICAL TECHNICAL SELECTION

Safety	Risk-assessed fencing, interlocked access, safety circuits and emergency stop	**Robot application**	Molten metal pouring, casting extraction, core handling, degating or pick-and-place
Robot configuration	Industrial articulated robot / gantry, selected by application	**Payload and reach**	Calculated from part, tooling/ladle mass, centre of gravity and reach

SERVICES / PRODUCT 20

Furnace Lining & Reconditioning



WEBSITE REFERENCE PHOTOGRAPH

APPLICATION

Furnace refurbishment services including removal of damaged refractory, new lining and insulation, assembly and commissioning support.

ENGINEERING HIGHLIGHTS

- Refractory removal and relining
- Thermal insulation and shell assessment
- Repair, commissioning and site support

TYPICAL TECHNICAL SELECTION

Existing condition	Inspection of shell, lining, anchors and heater/burner interface	**Removal**	Controlled demolition and removal of worn lining as agreed
Hot face material	Refractory grade selected for operating temperature, alloy and chemical exposure	**Insulation**	Backup insulation selected for thermal duty

CUSTOM ENGINEERING / PRODUCT 21

Special Purpose Machines



WEBSITE REFERENCE PHOTOGRAPH

APPLICATION

Custom machines, tooling, fixtures and automated systems developed around a specific manufacturing task or foundry application.

ENGINEERING HIGHLIGHTS

- Application-specific equipment and tooling
- Mechanical, electrical and controls engineering
- Design-to-commissioning project delivery

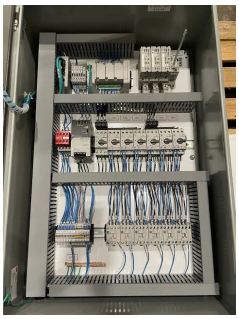
TYPICAL TECHNICAL SELECTION

Safety	Risk-assessed guarding, interlocks and emergency stop	**Equipment type**	Custom special purpose machine
Applications	Leak testing, pipe cutting, handling, inspection or assembly	**Workpiece**	Material, weight and geometry per approved part drawing

PANEL MANUFACTURING

Electrical panels: photo gallery

Reference photographs supplied with the latest website revision.



PLC & terminal wiring



VFD / servo drive cabinet



Automation drive controls



Control panel front



Multi-door industrial panels



Power & control distribution

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CUSTOMER ENGINEERING ENQUIRY

SPECIFY. ENGINEER. BUILD. COMMISSION.

Share your equipment type, casting material, capacity, drawing, plant utilities, installation location and target production cycle for a suitable technical and commercial proposal.





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