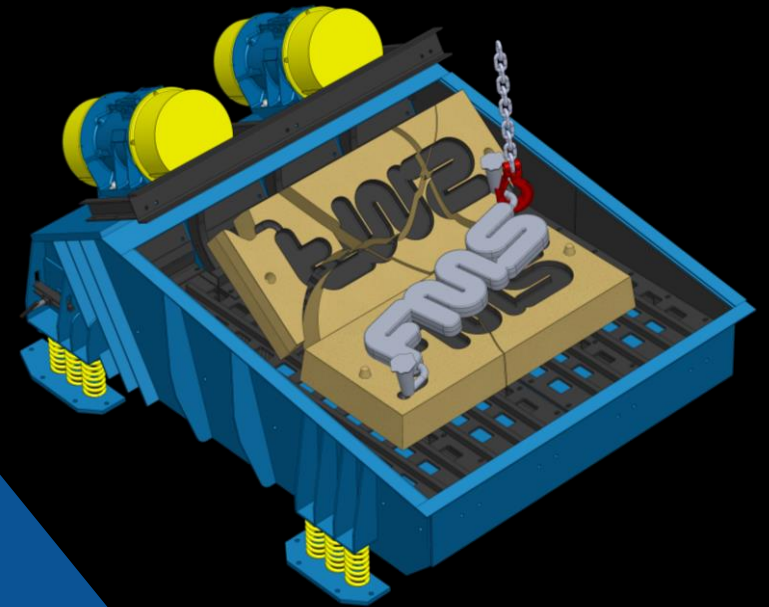
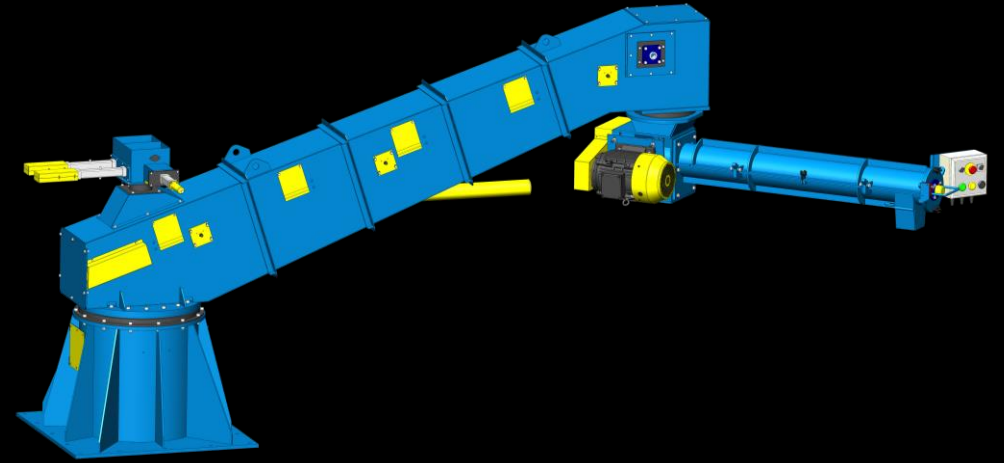




Foundry Machinery and Spares Limited

Product Catalogue





Introduction

FMS have been serving the Foundry Industry for 20 years (established in 1999). However, add another 19 years of intellectual property knowledge and expertise, thanks to the owner's family involvement in companies like Integrated Sand Systems and Award Manufacturing.

We now operate from our combined large industrial units, where we carry out all our own in house design, manufacture, assembly and pre-delivery inspections, for new and existing customers.

FMS's representation is on a global scale with an export portfolio exceeding 50 countries, supported by our large product range which specializes in the field of no bake foundry equipment, which is also part of our continued research and development programme.

To compliment the FMS product range we are the exclusive partners and distributors of the Transtek Foundry Equipment range, which includes the patent pending 'Rapid' Vertical Moulding Line and ancillary items of equipment.

SAND MIXERS

- ☐ SINGLE ARM MIXERS
'TS'
- ☐ SCREW ARTICULATED MIXERS
'TA_SC'
- ☐ BELT ARTICULATED MIXERS
'TA_BC'
- ☐ PORTABLE MIXERS
- ☐ MOBILE MIXERS
- ☐ DOUBLE TROUGH MIXERS
- ☐ TRIPLE ARM MIXERS
- ☐ VARIABLE HEIGHT MIXERS

MIXER CONTROLS

- ☐ BASIC CONTROLS 'ICS'
- ☐ TEMPERATURE BLENDING 'IBS'
- ☐ PATTERN RECOGNITION 'APROS'

MIXER OPTIONS

- ☐ RF CONTROL 'SMART CONTROL'
- ☐ POWDER FEEDER 'SMART-ADDITION'
- ☐ SAND HEATERS 'SMART-HEAT'
- ☐ AUTO SAND GATE 'SMART-SAND'
- ☐ FLOW METERING 'SMART-FLOW'
- ☐ DOCUMENTATION HMI VIEW
'DOC-VIEW'
- ☐ REMOTE PLC & HMI CONNECTION
'REM-CON'

MOULD HANDLING

- ☐ COMPACTION TABLES
- ☐ GRAVITY ROLLER TRACK
- ☐ CAROUSEL SYSTEMS
- ☐ HORIZONTAL MOULDING LOOP
'FAST LOOP'
- ☐ VERTICAL MOULDING LOOP
'RAPID'
- ☐ SHUTTLE MOULDING LOOP
'SHUTTLE'
- ☐ AUTOMATIC ROLLOVER/STRIP
'STRIPMASTER'
- ☐ FLOOD COATING 'FLOW-TO-COAT'
- ☐ AUTOMATIC COATING STATIONS
'ROLL-TO-COAT'
- ☐ MOULD DRYING STATIONS
- ☐ MANIPULATORS ('A' FRAME & BEAM)
- ☐ BESPOKE MOULD STRIPPING &
CLOSING
- ☐ AUTO MOULD CLOSING
'EASY CLOSE'

CASTING & COOLING

- ☐ MANUAL POURING & COOLING LINES
- ☐ AUTOMATED POURING & COOLING
LINES 'TRANSLOOP'
- ☐ CLIMBING TRANSFER CARS
- ☐ MOULD WIPE OFF STATION
- ☐ MOULD LIFT & TILT STATION
- ☐ MOULD ROTATE & WIPE OFF STATION

SAND RECLAMATION

- ☐ MINI RECLAMATION 'COMPACT'
- ☐ LOW LEVEL RECLAMATION 'VD'
- ☐ HIGH LEVEL RECLAMATION 'ED'
- ☐ HEAVY DUTY RECLAMATION 'BD'
- ☐ SHAKEOUT DECKS
- ☐ SAND CLASSIFYING & SAND COOLING
- ☐ SAND CONVEYING 'DENSE PHASE'
- ☐ SAND STORAGE – SAND SILOS
- ☐ SECONDARY ATTRITION
'SAND SCRUB'
- ☐ THERMAL 'HPG'
- ☐ CHROMITE SEPARATION

FMS REMCON

- ☐ REMOTE CONNECTION OPTIONS

CORE MACHINES (SEE SEPARATE BROCHURE)

- ☐ CORE MACHINES
- ☐ GASSING GENERATORS
- ☐ RESIN & AMINE STORAGE



FMS

Foundry Machinery and Spares Limited

Sand Mixers

FMS offer a range of continuous sand mixers with capacities ranging from 1-60 tonnes per hour. The FMS range of continuous sand mixers have been developed over the past 35 years with a proven robust design.

The Triton range of mixers are available in many combinations from single arm, articulated and many other bespoke designs such as portable, mobile, triple arm and much more...

All FMS mixers come with easy to open split tube design with a quickly removable mixing shaft, our mixing shaft arrangements are an FMS proven design with shaft configurations to suit the chemical process. All our mixing shafts use our own patterned blades, which are available in SG Iron, HF600 Hardened Tipped or Tungsten Carbide Tipped.

All FMS mixers come with a standard high specification including:-

ICS 'Intelligent Control System' which is a Mitsubishi based PLC with full colour HMI touch screen, gear driven AC Inverter controlled Resin pumps, magnetically driven AC Inverter controlled Catalyst/Ester pumps, sand level detection and low air pressure monitoring.

Optional Mixer Features include:-

IBS 'Intelligent Blending System' which is a temperature controlled Catalyst/Ester Auto-blending system, air purge on chemical inlets, flow monitoring of chemicals, RF control, powered mixing head/primary arm movement, multiple sand gates with optional low/high tonnage facility.

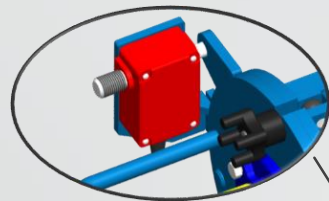




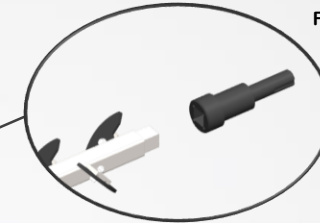
SINGLE ARM SAND MIXERS



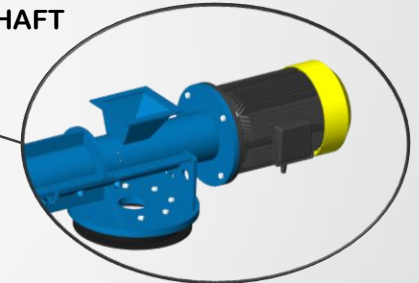
Foundry Machinery and Spares Limited



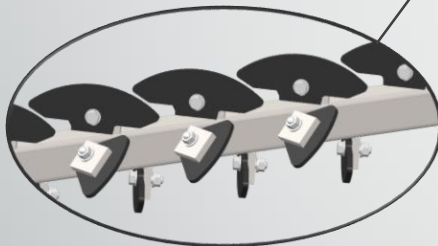
GUARDMASTER SAFETY



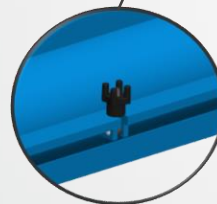
QUICK RELEASE SHAFT



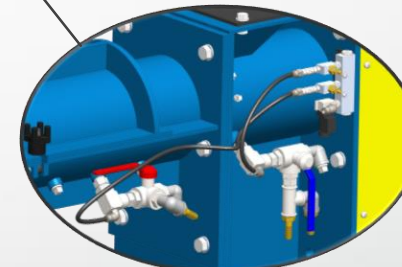
DIRECT DRIVE (TS5-DD)



**BOLT ON ADJUSTABLE
SG IRON BLADES**



**EASY TO OPEN
MIXER LID**



**AIR PURGE AND
CALIBRATION VALVES**

Key Features

- Throughputs of 1-40 tph
- Single or multiple sands
- PLC & Colour HMI standard
- Calibration valves on chemical inlet
- Quick release shaft
- Optional HF600 or Tungsten Carbide Tipped blades
- Optional air purge on chemical inlet
- Optional dual tonnage facility
- Optional automatic temperature blending
- Optional fume extraction

DIRECT DRIVE MIXERS (DD)		
MODEL	TPH	REACH (mm)
TS2-DD	1-3	735
TS5-DD	3-5	1250

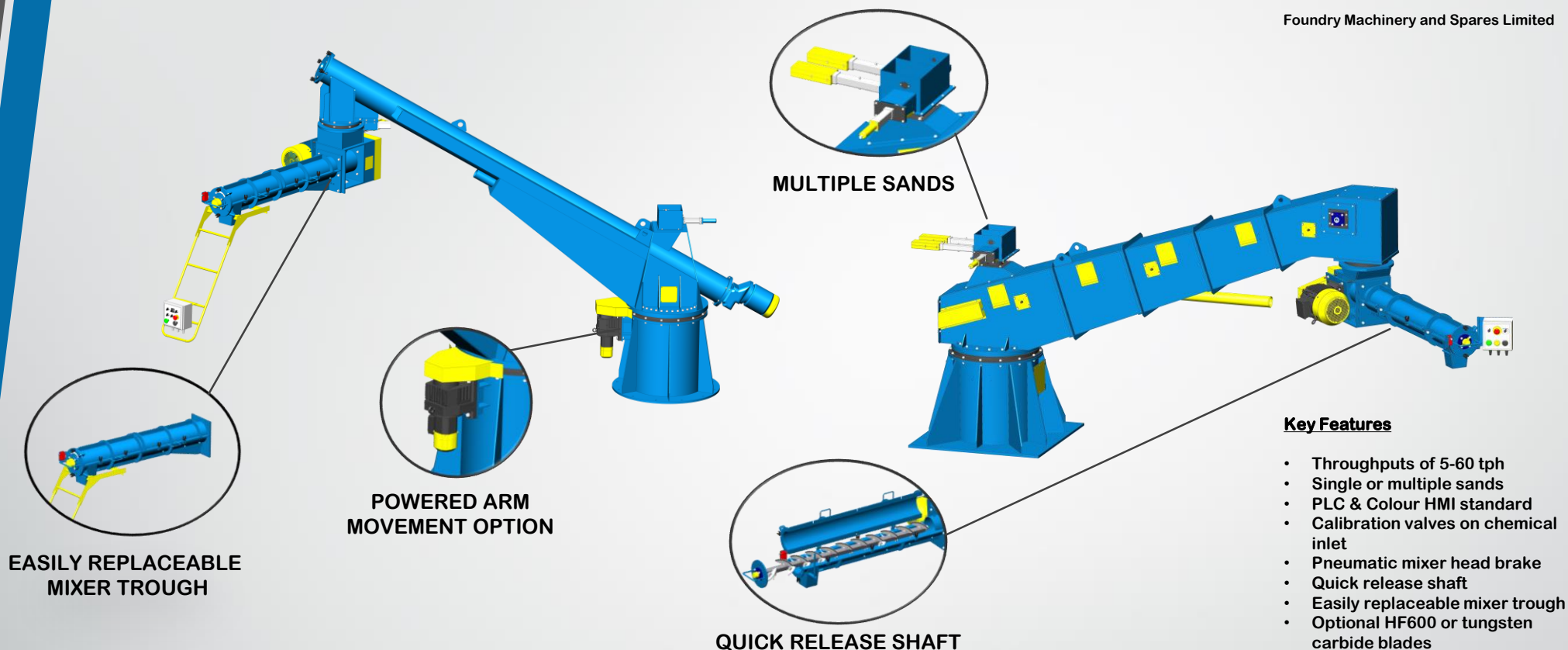
GEARBOX DRIVE MIXERS (GB)		
MODEL	TPH	REACH (mm)
TS5-GB	3-5	1250
TS5MR-GB	3-5	1500
TS5LR-GB	3-5	2000
TS10-GB	6-10	1750
TS15-GB	10-15	2000

BELT DRIVE MIXERS (BD)		
MODEL	TPH	REACH (mm)
TS10-BD	6-10	1750
TS10LR-BD	6-10	2000
TS15-BD	10-15	1750
TS15LR-BD	10-15	2000
TS20-BD	15-20	1750
TS30-BD	15-20	2000

ARTICULATED SAND MIXERS



Foundry Machinery and Spares Limited



Key Features

- Throughputs of 5-60 tph
- Single or multiple sands
- PLC & Colour HMI standard
- Calibration valves on chemical inlet
- Pneumatic mixer head brake
- Quick release shaft
- Easily replaceable mixer trough
- Optional HF600 or tungsten carbide blades
- Optional air purge on chemical inlet
- Optional dual tonnage facility
- Optional automatic temperature blending
- Optional fume extraction
- Optional powered arm movement

SCREW ARTICULATED MIXERS

MODEL	TPH	PRIMARY ARM REACH (mm)	MIXING HEAD REACH (mm)
TA5-SC	3-5	2000 - 7000	1250
TA10-SC	6-10	2000 - 7000	1750
TA15-SC	10-15	3000 - 7000	2000
TA20-SC	15-20	3000 - 7000	2000
TA30-SC	20-30	3000 - 7000	2000
TA40-SC	30-40	3000 - 7000	2000
TA60-SC	40-60	3000 - 7000	2500

BELT ARTICULATED MIXERS

MODEL	TPH	PRIMARY ARM REACH (mm)	MIXING HEAD REACH (mm)
TA5-BC	3-5	2000 - 7000	1250
TA10-BC	6-10	2000 - 7000	1750
TA15-BC	10-15	3000 - 7000	2000
TA20-C	15-20	3000 - 7000	2000
TA30-BC	20-30	3000 - 7000	2000
TA40-BC	30-40	3000 - 7000	2000
TA60-BC	40-60	3000 - 7000	2500

PORTABLE SAND MIXERS

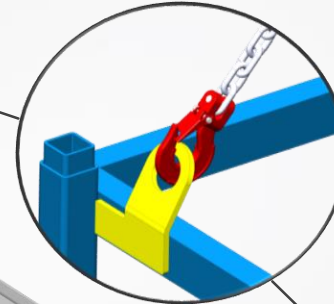


Foundry Machinery and Spares Limited

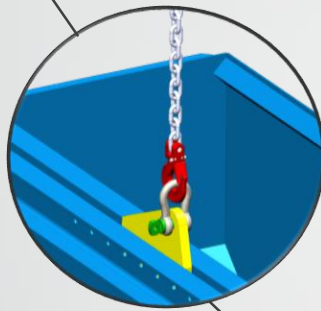
Key Features

- Throughputs of 1-10 tph
- Single or multiple sand gate
- PLC & Colour HMI standard
- Calibration valves on chemical inlet
- Easily removable shaft
- On board chemical drum storage
- Optional HF600 or Tungsten Carbide Tipped blades
- Optional air purge on chemical inlet
- Optional dual tonnage facility
- Optional automatic temperature blending
- Optional on board compressor
- Optional micro batch powder feeder

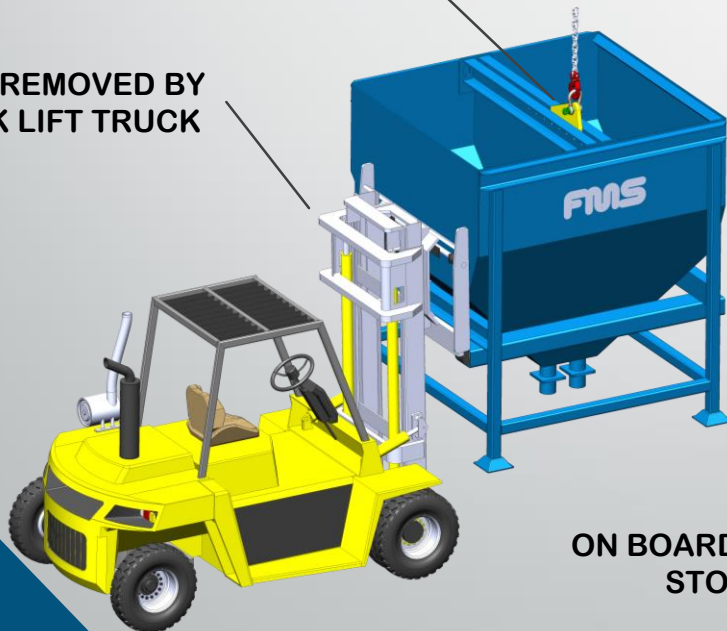
MIXER MOVED BY CRANE



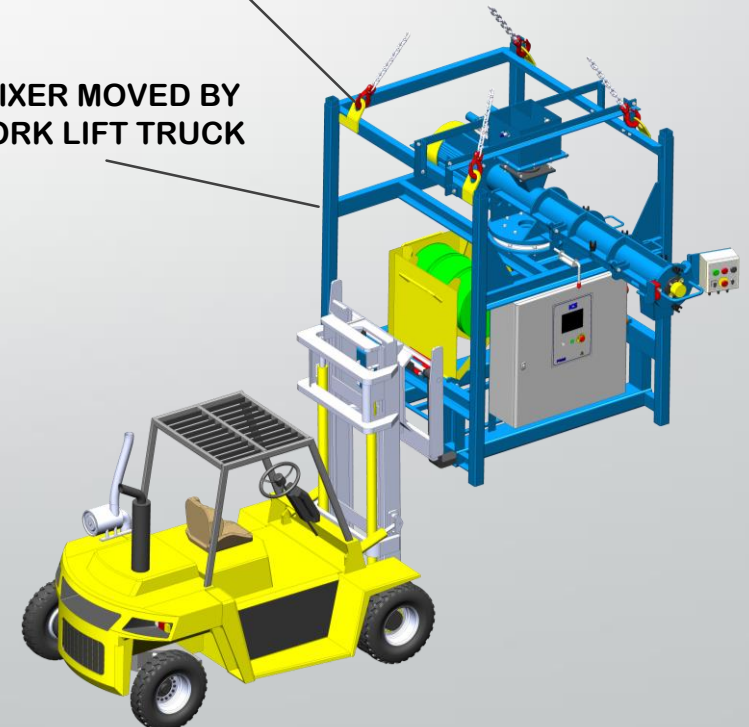
SILO REMOVED BY CRANE



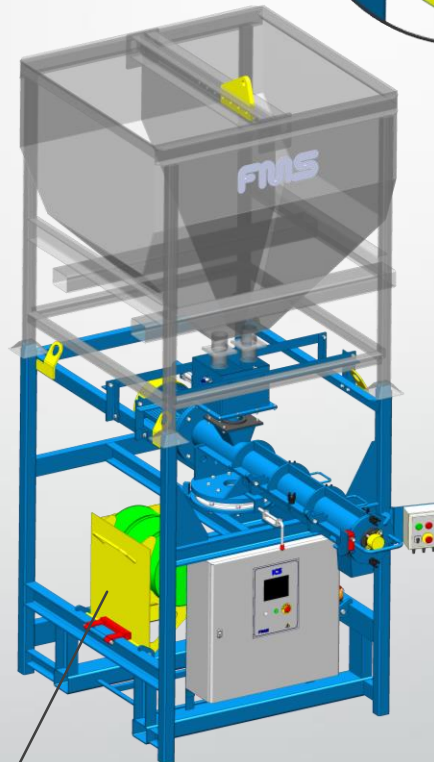
SILO REMOVED BY
FORK LIFT TRUCK



MIXER MOVED BY
FORK LIFT TRUCK



ON BOARD CHEMICAL
STORAGE

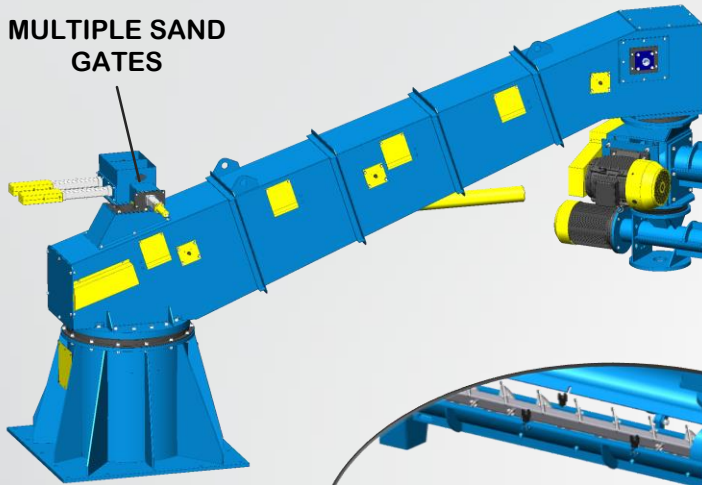


BESPOKE SAND MIXERS

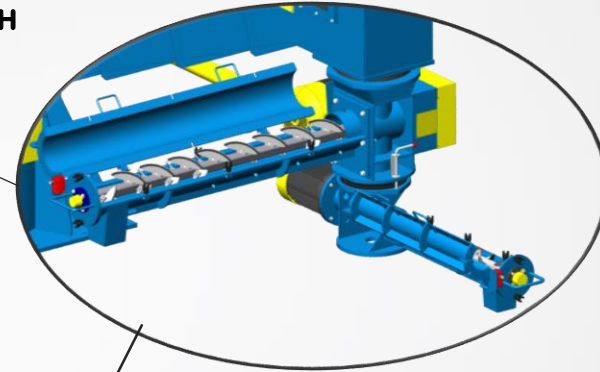


Foundry Machinery and Spares Limited

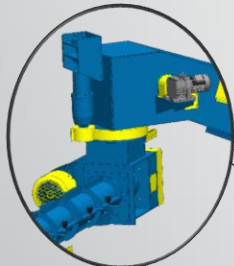
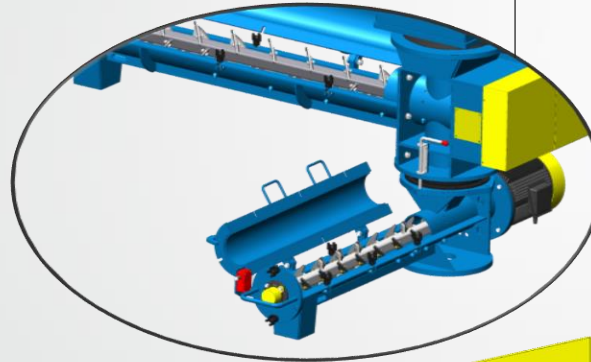
MULTIPLE SAND GATES



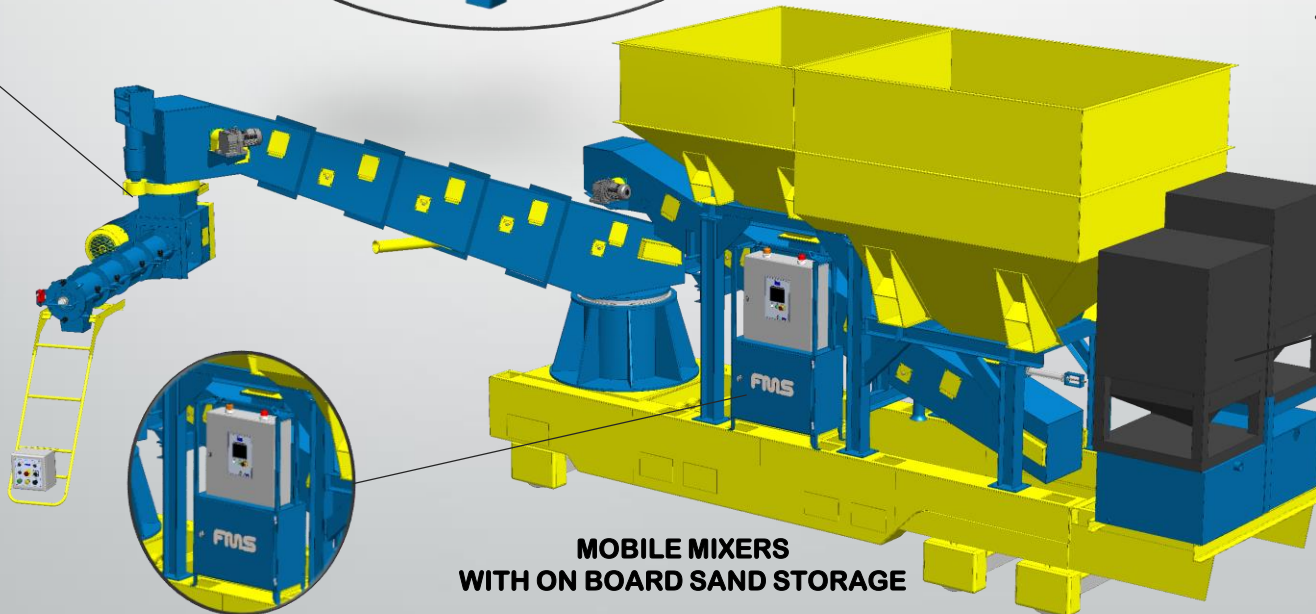
DOUBLE TROUGH SAND MIXERS



QUICKLY REMOVABLE MIXER SHAFTS



POWERED ARM MOVEMENT



MOBILE MIXERS WITH ON BOARD SAND STORAGE

ON BOARD CHEMICAL STORAGE

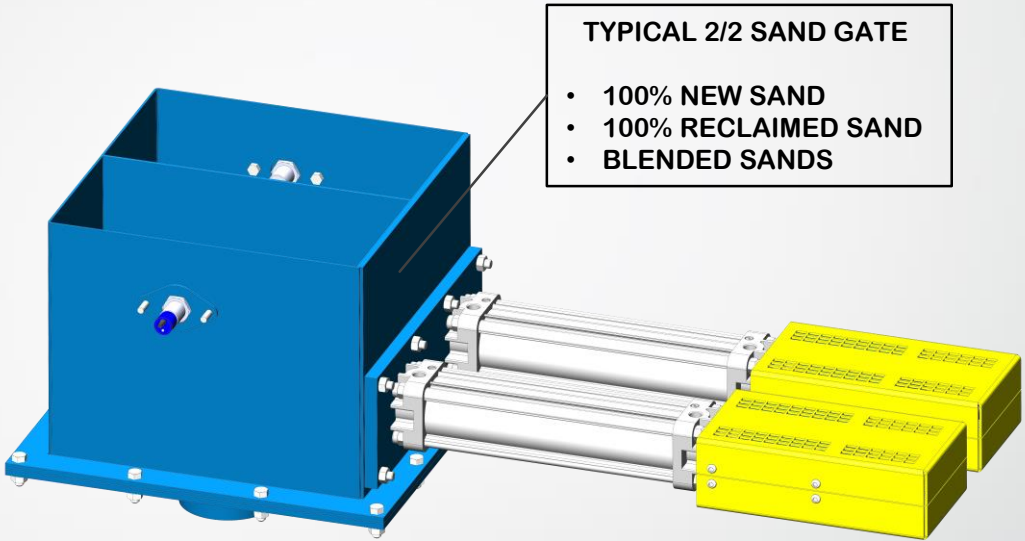
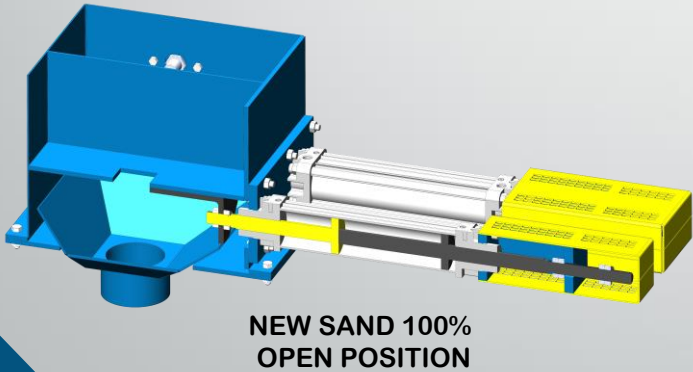
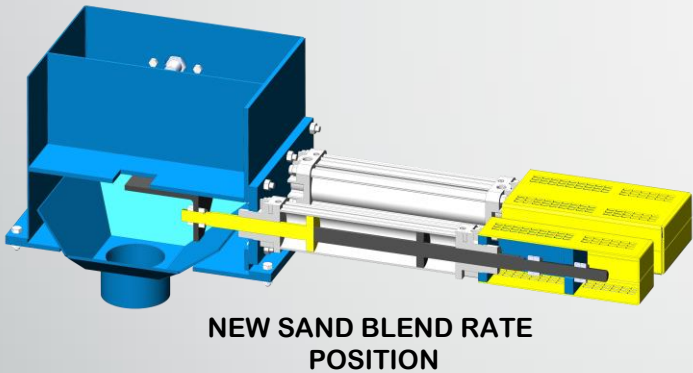
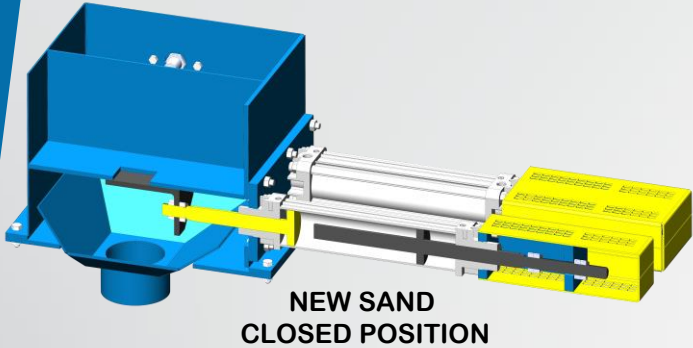
OPTIONAL FLOW MONITORING FOR LARGE MOULDS



Other Bespoke Sand Mixers available

- Triple arm both available in screw or belt type design
- Hydraulic variable height both available in screw or belt type design
- Mixers for applications outside of the foundry industry

MIXER SAND GATES



TYPICAL SAND GATES					
MODEL	NUMBER OF SANDS	NUMBER OF SAND PROG	NEW SAND	REC SAND	BLENDED SANDS
1/0	1	1	YES	NO	NO
1/1	1	2	YES	NO	NO
2/0	2	2	YES	YES	NO
2/1	2	2	YES	NO	YES
2/2	2	3	YES	YES	YES
OTHER SAND GATES ON REQUEST					

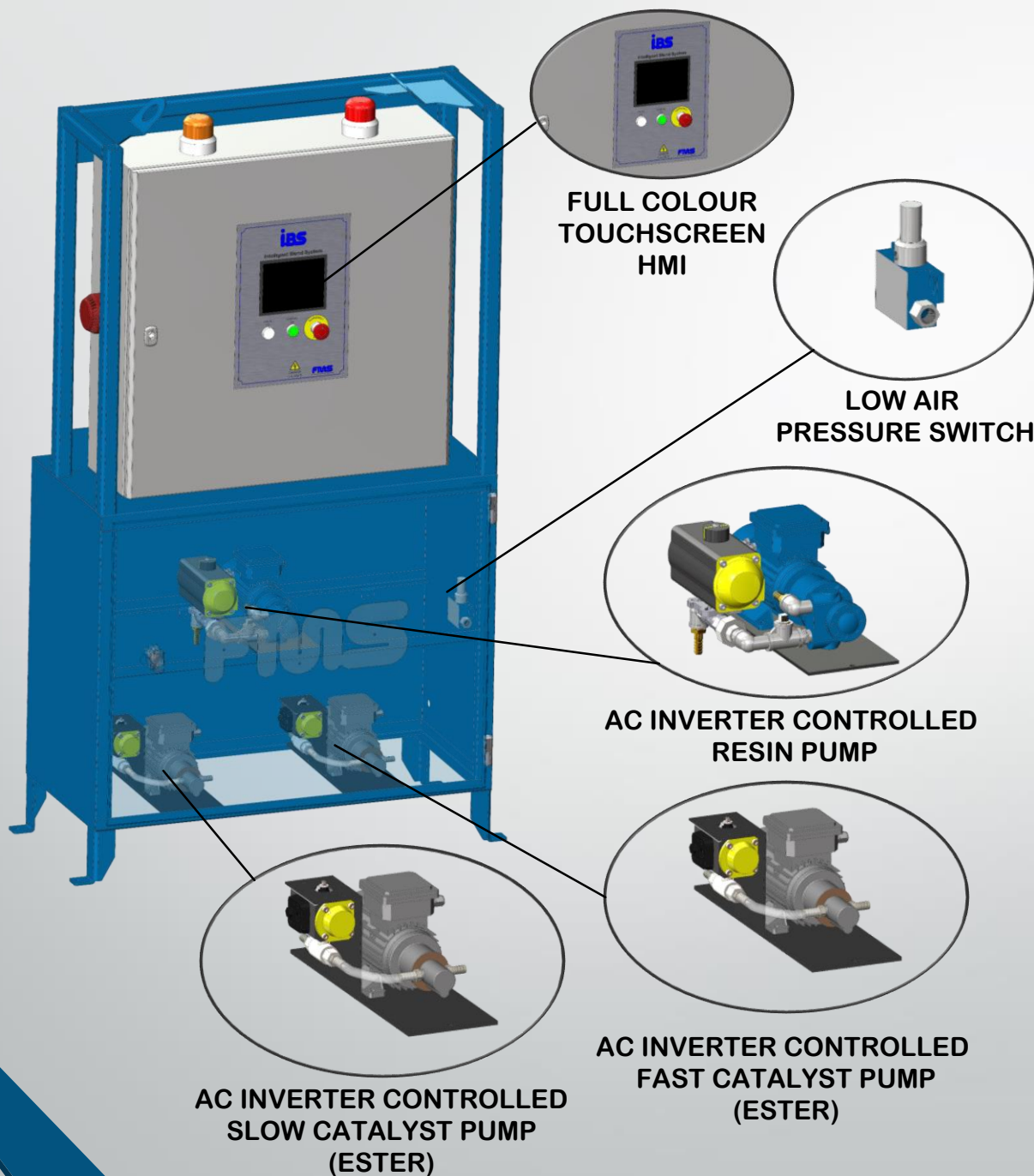
Key Features

- Low maintenance
- Easily replaceable cylinders
- Sand level detection
- Sand temperature (IBS only)
- Special tandem cylinder design
- Compact design

PUMP PACKS & CONTROLS



Foundry Machinery and Spares Limited



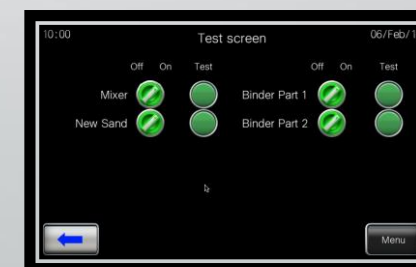
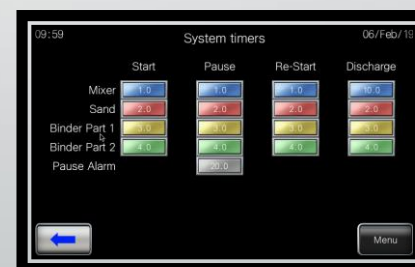
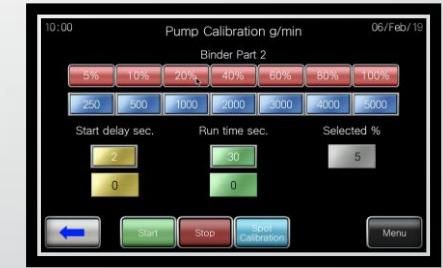
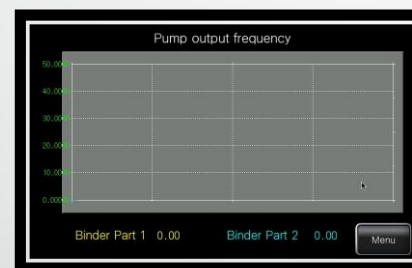
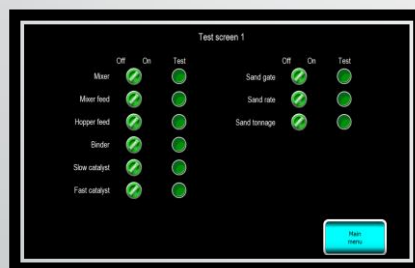
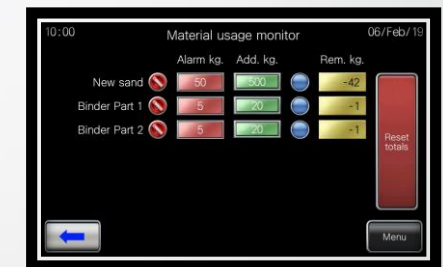
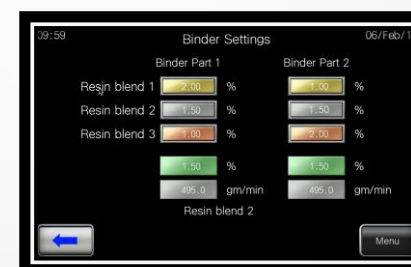
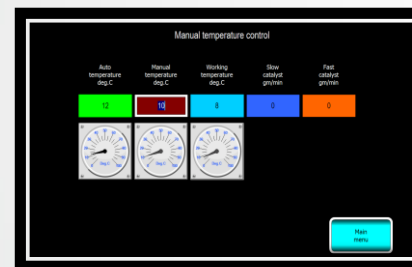
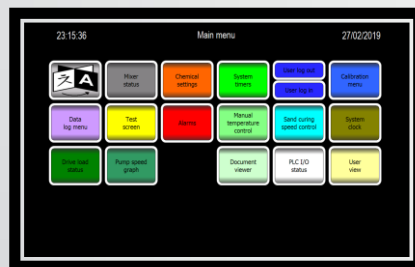
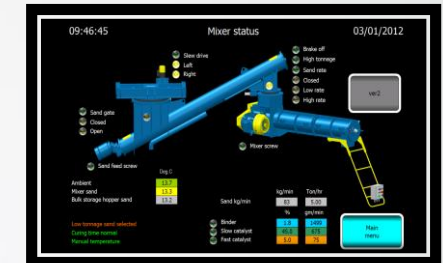
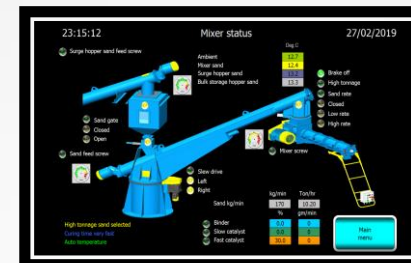
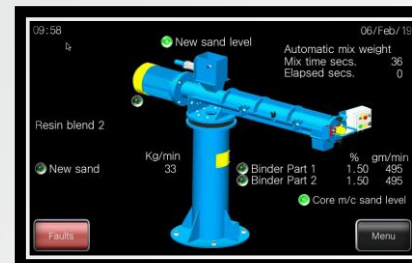
Key Features

- Suitable for FMS and other brand sand mixers
- Single or multiple sand gate control
- PLC & Colour HMI standard
- Low air pressure monitoring
- AC Inverter driven Tuthill gear pumps (resins)
- AC Inverter driven Tuthill magnetically driven gear pumps (Esters and Catalysts)
- Quickly removable pump plates for ease of maintenance
- Sand level detection and visual indication
- Pause alarm
- Optional upgrade to 9", 12" and 15" HMI screen
- Optional automatic temperature blending
- Optional flow monitoring

TYPICAL MIXER HMI SCREENS



Foundry Machinery and Spares Limited



Mould Handling

FMS is proud to offer a wide range of specialised mould handling equipment, from horizontally arranged simple manual systems to fully automated carousels, fast loops and shuttle systems as well as an innovative vertical system known as the 'RAPID' a revolutionary concept by Transtek.

The RAPID has an very small foot print when compared to conventional horizontal fast loops. Due to the nature of the design the unit is faster, safer and quieter.

All our mould handling plants can be made to suit flask and flaskless moulds as well as manual loops, carousels and fast loop systems.

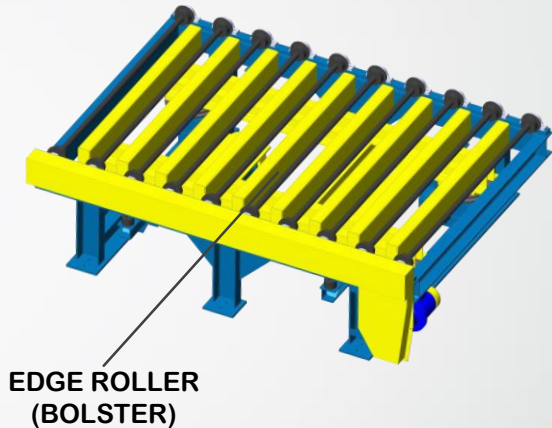
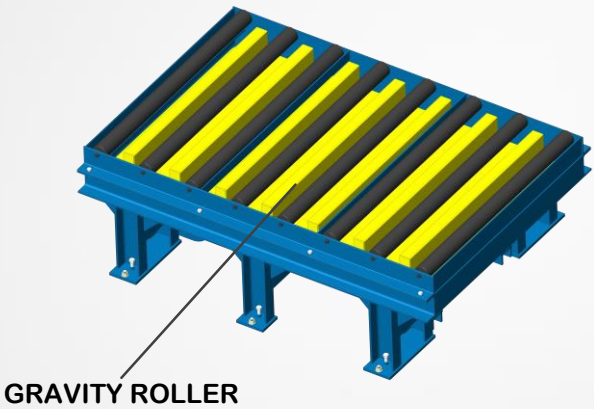
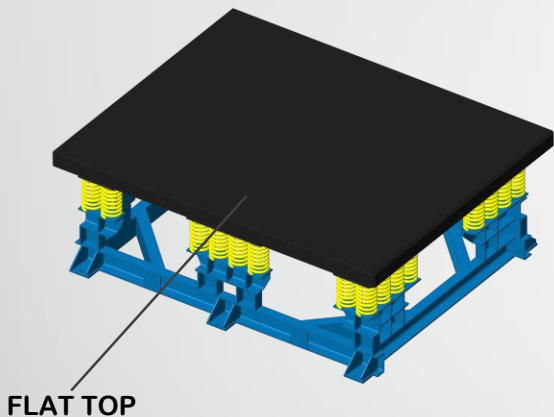
We offer a full range of handling equipment to compliment typical moulding plants, such as rollover strip units, flood coating stations, mould manipulators and mould closing units.

Each and every mould handling project is different due to different foundry working practices, we highly recommend you contact FMS for our standard questionnaire, to allow us to understand the level of automation required.





COMPACTION TABLES



Key Features

- Available in flat top, gravity roller and edge roller design
- AC Inverter controlled vibration frequency either fully adjustable or with pre-set speeds
- Table raise via air bellows and quick exhaust system
- Independent operator controls or incorporated into mixer operator station
- Easy clean design
- No pits required
- Optional quick release rollers (manual roller only)
- Optional AC Inverter driven powered rollers

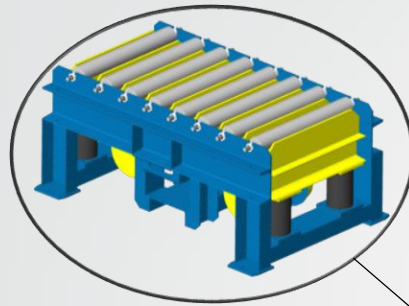
COMPACTION TABLES			
MODEL1525	LOAD (KG)	LENGTH (mm)	WIDTH (mm)
CT1	750	610	455
CT2	1000	915	610
CT3	1000	915	760
CT4	1000	915	915
CT5	1250	1220	915

COMPACTION TABLES			
MODEL	LOAD (KG)	LENGTH (mm)	WIDTH (mm)
CT6	1350	1525	915
CT7	2000	1525	1220
CT8	3000	1900	1220
CT9	5000	2500	1500
CT10	6000	3000	2000

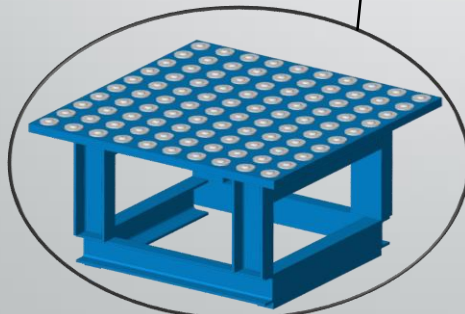
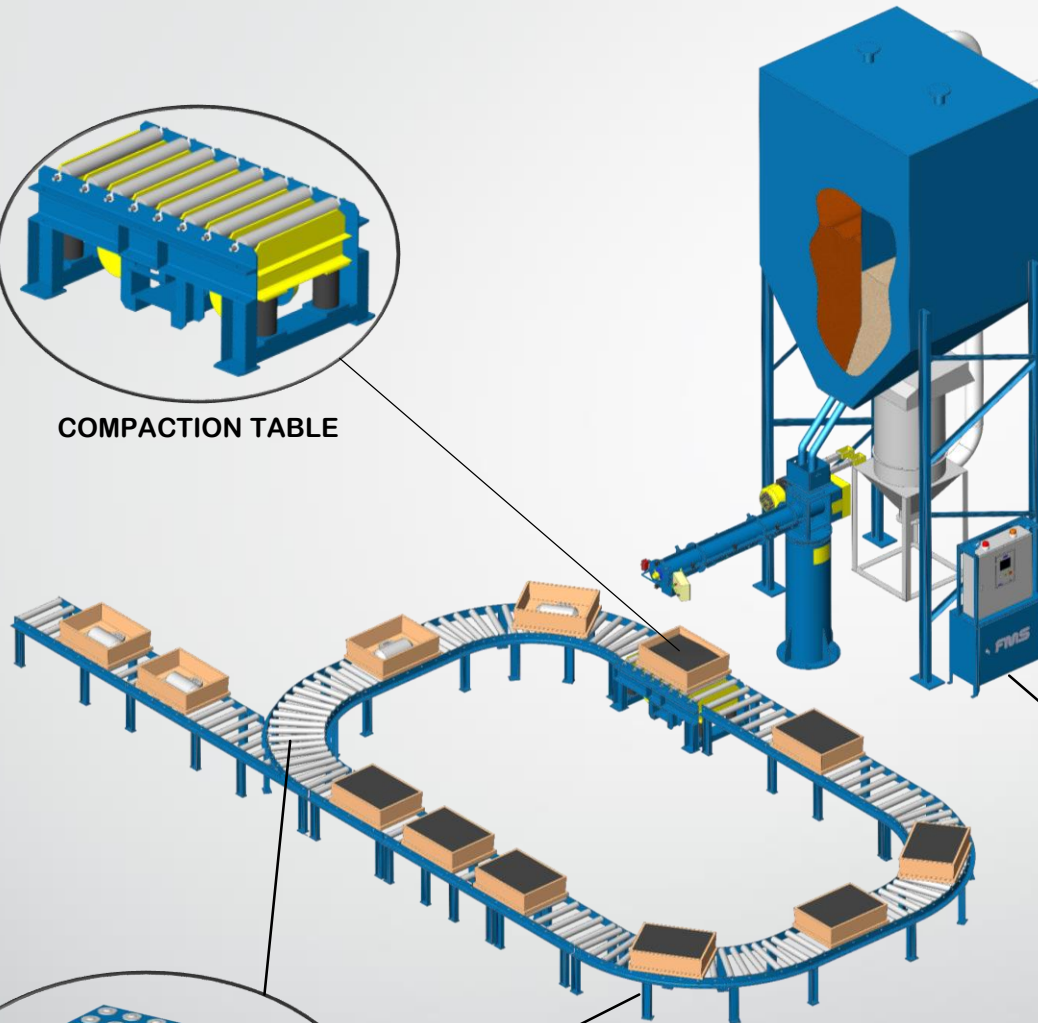
GRAVITY ROLLER TRACK MOULDING



Foundry Machinery and Spares Limited



COMPACTION TABLE



BALL ROLLER OPTION



MIXER CONTROL PANEL

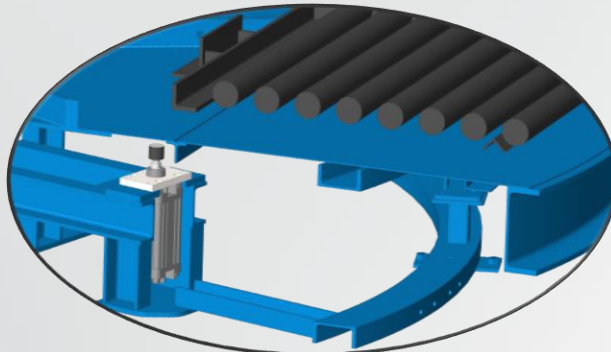
Key Features

- Flexible design to suit most foundries
- Installation with existing or new equipment
- Designs to suit minimum installation area
- Ideal for the smaller foundry or jobbing foundries
- Can be used in conjunction with overhead crane with spreader beam or mould manipulator
- Optional scissor lift for lowering to low level casting lines
- Optional junctions, ball tables or 90° bends
- Optional manual rotary turntables
- Optional lift up access gates
- Optional transfer cars for pattern change or mould storage

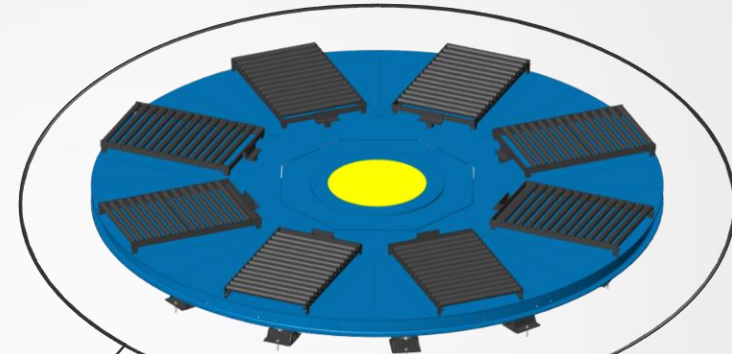
BASIC CAROUSELS



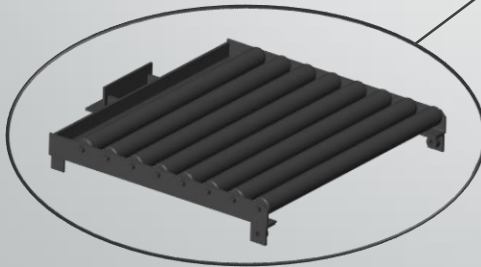
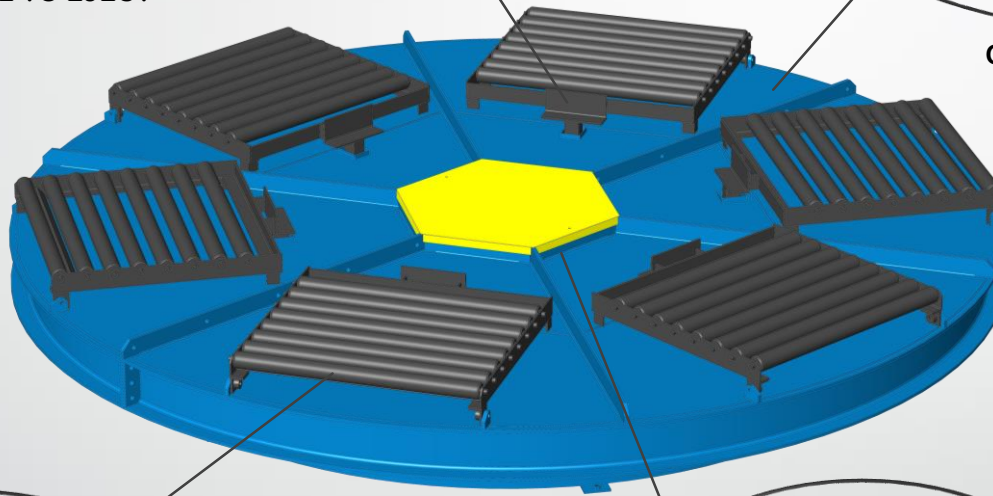
Foundry Machinery and Spares Limited



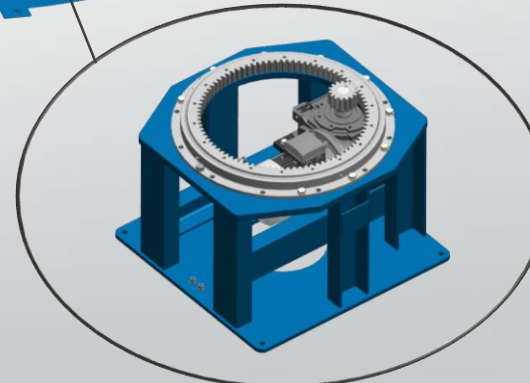
OPERATOR PNEUMATIC
RAISE TO EJECT



OPTIONAL 8 STATION
DESIGN



GRAVITY ROLLER DESIGN



AC INVERTER DRIVEN
INTERNAL DRIVE

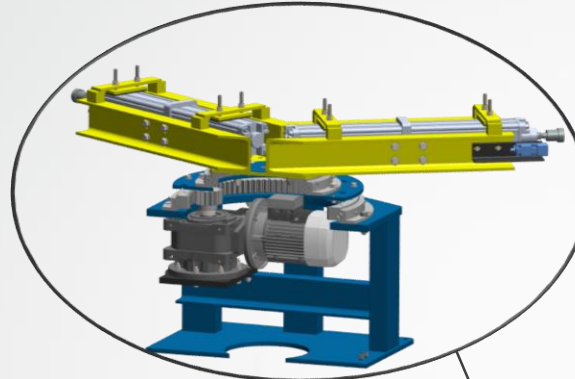
Key Features

- Central drive with AC inverter speed control
- Supporting rollers under table
- Auto load due to rollers angled to the centre
- Pneumatic operator controlled raise to automatically eject to fill or strip station
- Quickly removable maintenance panels
- Slow down and stop limits
- Modular design
- Low maintenance
- Interlocked controls for 2 person authorisation before rotation
- Easily integrated into manual or automated production lines
- Optional 4, 6 or 8 station design
- Standard and bespoke sizes available

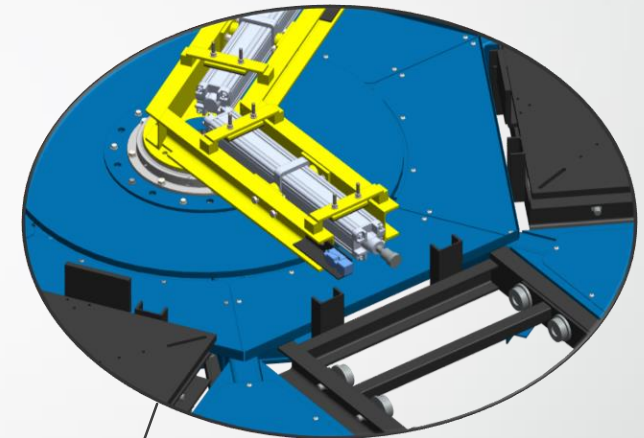
CAROUSELS (FOR USE WITH ROLLOVER)

Key Features

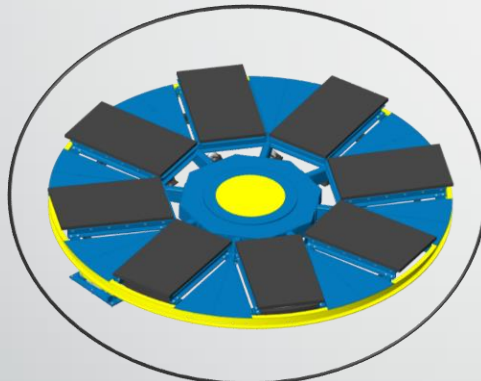
- AC inverter driven drive from centre
- Support rollers under table
- Auto load due to rollers angled to the centre
- Pneumatic auto eject
- Quickly removable maintenance panels
- Slow down and stop limits
- Modular design
- Low maintenance
- Interlocked controls for 2 person authorisation before rotation
- Edge roller and bolster plate design
- Optional 4, 6 or 8 station design



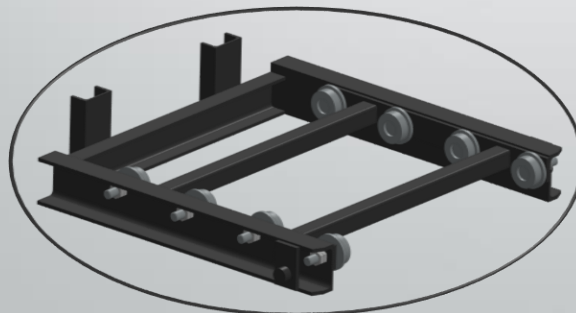
INTERNAL GEAR DRIVE



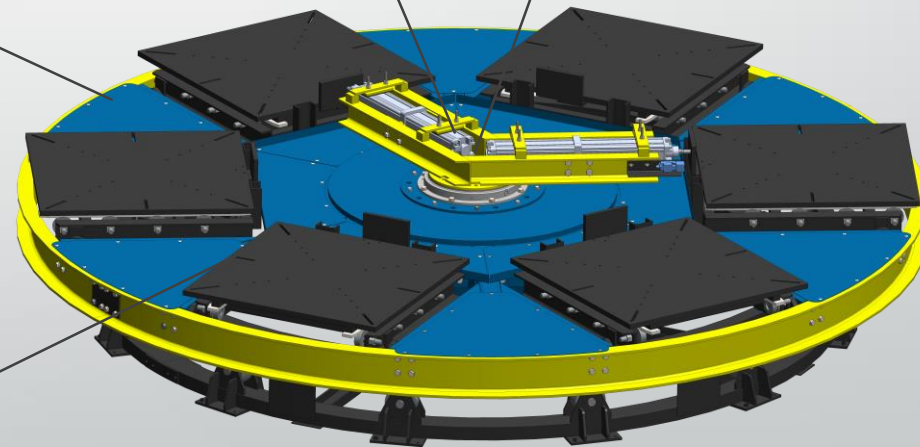
PNEUMATIC AUTO EJECT



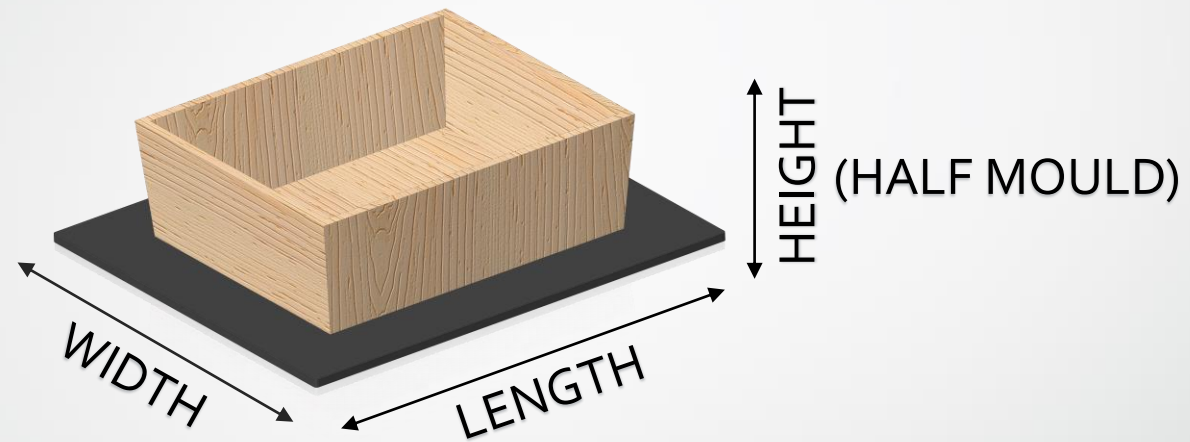
8 STATION OPTION



EDGE ROLLER DESIGN



MOULDING LINE SIZE GUIDE

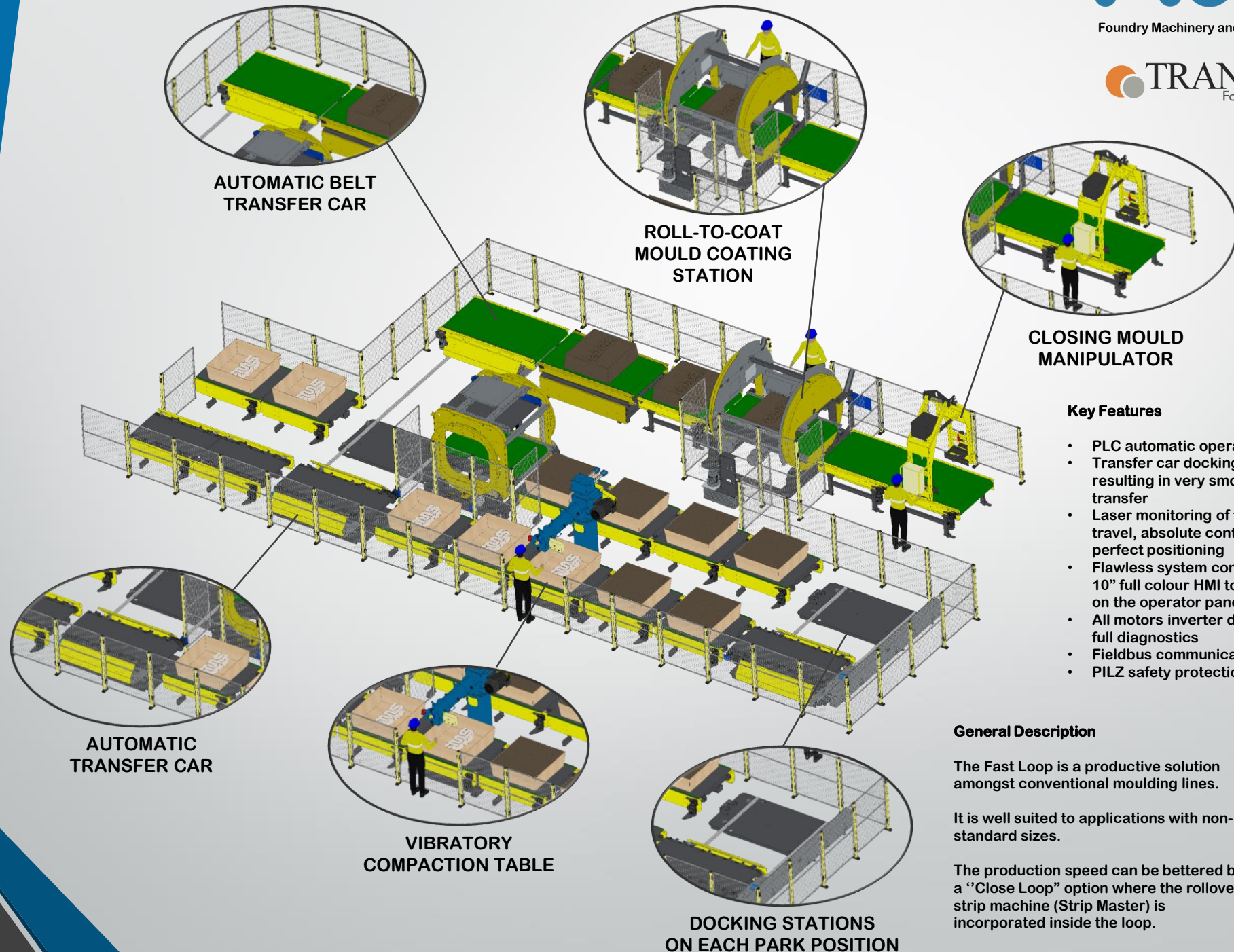


SYSTEM			CAROUSEL								
			RAPID								
					SHUTTLE						
		FAST LOOP									
	BOLSTER SIZE	SIZE 1	SIZE 2	SIZE 3	SIZE 4	SIZE 5	SIZE 6	SIZE 7	SIZE 8	SIZE 9	
BOLSTER SIZE	LENGTH (mm)	800	1000	1300	1600	2000	2200	2600	3300	3500	
	WIDTH (mm)	600	800	1000	1200	1550	1800	2300	2000	2500	
	HALF MOULD (mm)	300	350	500	500	650	800	800	900	900	

HORIZONTAL MOULDING 'FAST LOOP'



Foundry Machinery and Spares Limited



Key Features

- PLC automatic operation
- Transfer car docking onto lines resulting in very smooth bolster transfer
- Laser monitoring of transfer car travel, absolute control and perfect positioning
- Flawless system control via a 10" full colour HMI touchscreen on the operator panel
- All motors inverter driven with full diagnostics
- Fieldbus communication
- PILZ safety protection

General Description

The Fast Loop is a productive solution amongst conventional moulding lines.

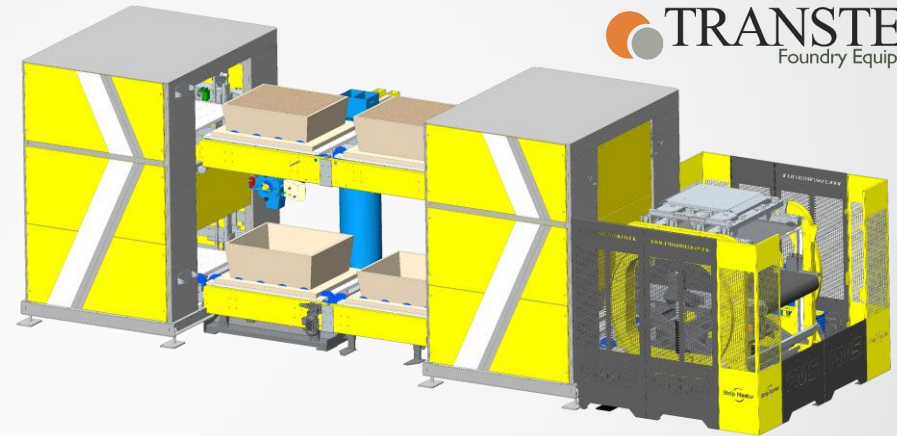
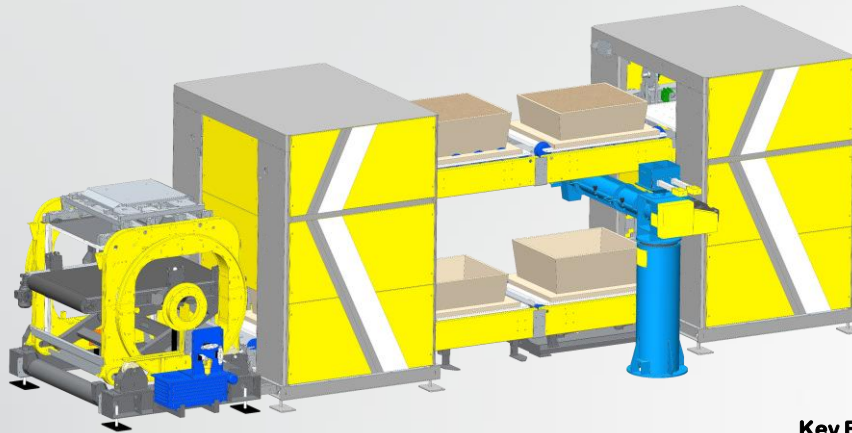
It is well suited to applications with non-standard sizes.

The production speed can be bettered by a "Close Loop" option where the rollover strip machine (Strip Master) is incorporated inside the loop.

VERTICAL MOULDING 'RAPID'



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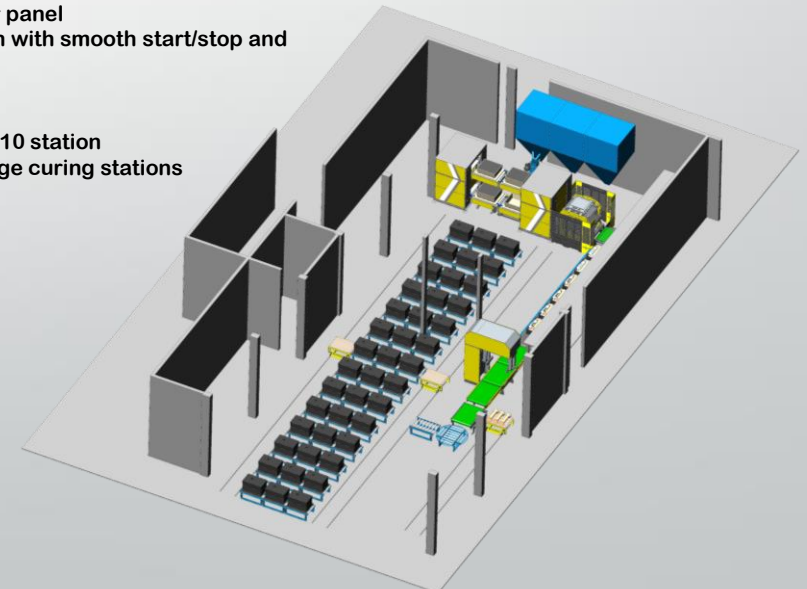
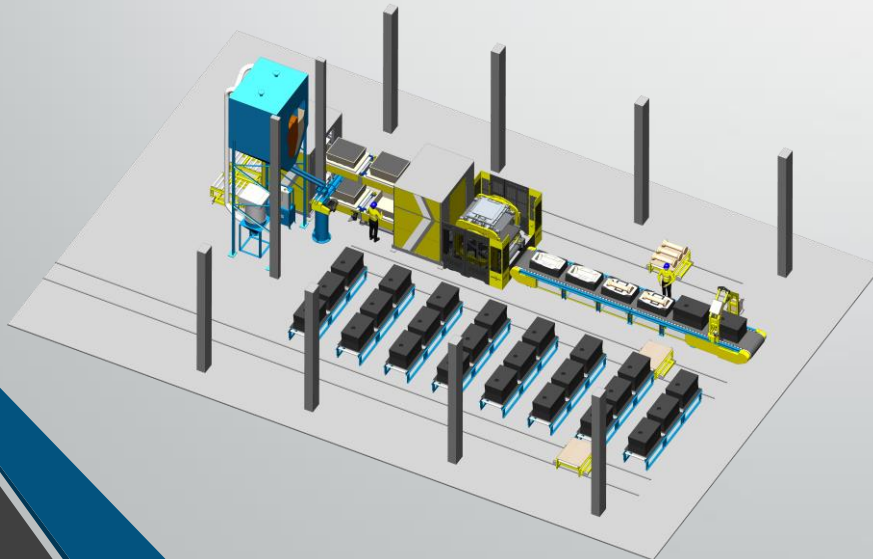
General Description

The 'RAPID' with its vertically arranged loop is unique in its field, especially in respect of its reduced footprint area.

- Thanks to the operation of the system, the cycle is uninterrupted within the loop making the RAPID up to 20% faster than that of our competitors, using a traditional loop with the same size continuous sand mixer.

Key Features

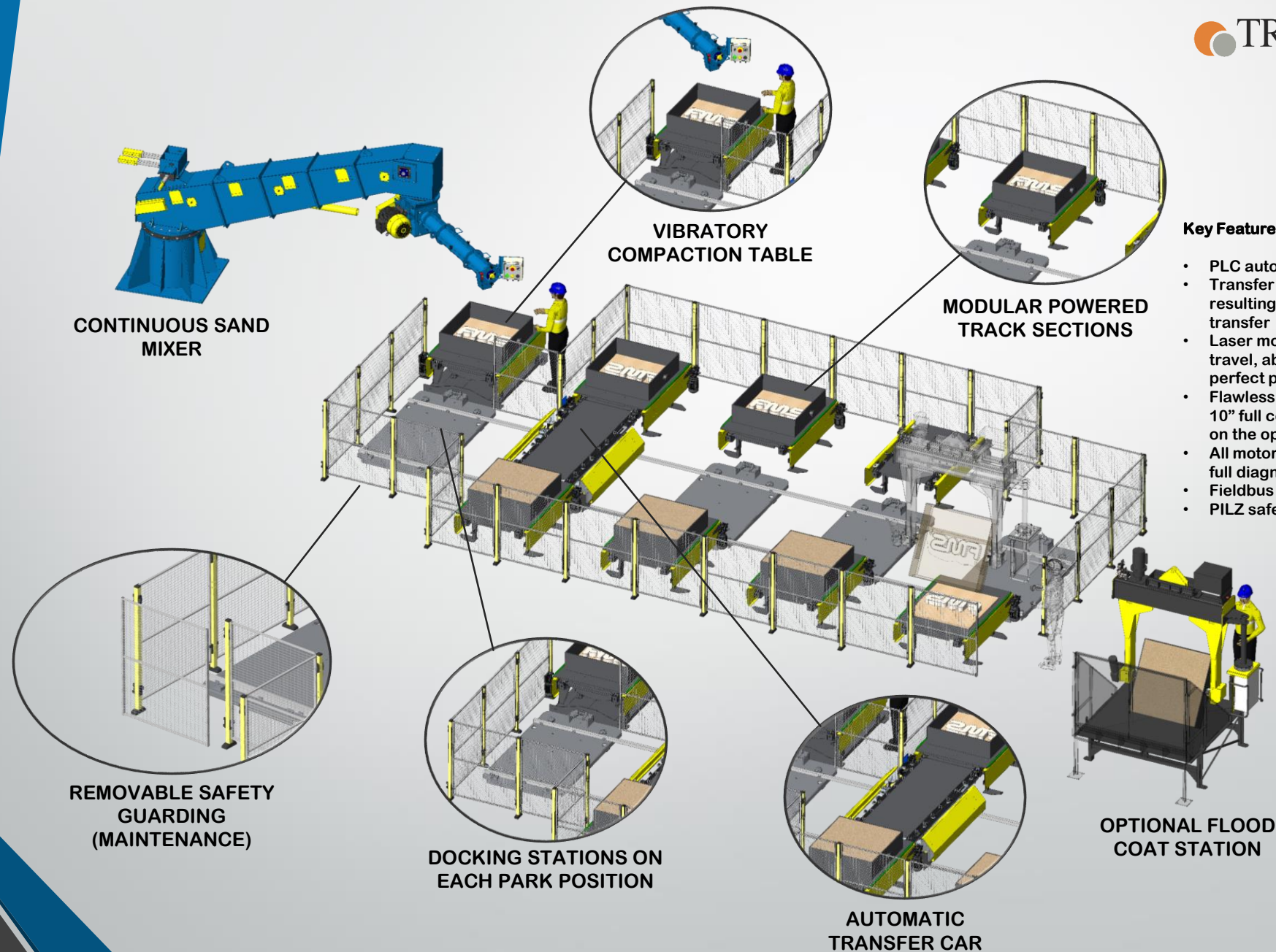
- 60% Less footprint area when compared to a conventional horizontal moulding loop
- PLC automatic operation
- Safer working operation (safest automated loop available)
- Modern design, with easy modular installation
- Easy integration into existing plants
- Access for both sides
- Can be used with flask and flaskless moulds
- Full control and visualisation with 7" full colour HMI touchscreen on operator panel
- All motors inverter driven with smooth start/stop and full diagnostics
- Fieldbus communication
- PILZ safety protection
- Optional upgrade to 8 or 10 station
- Optional heat above bridge curing stations



SHUTTLE MOULDING LINES



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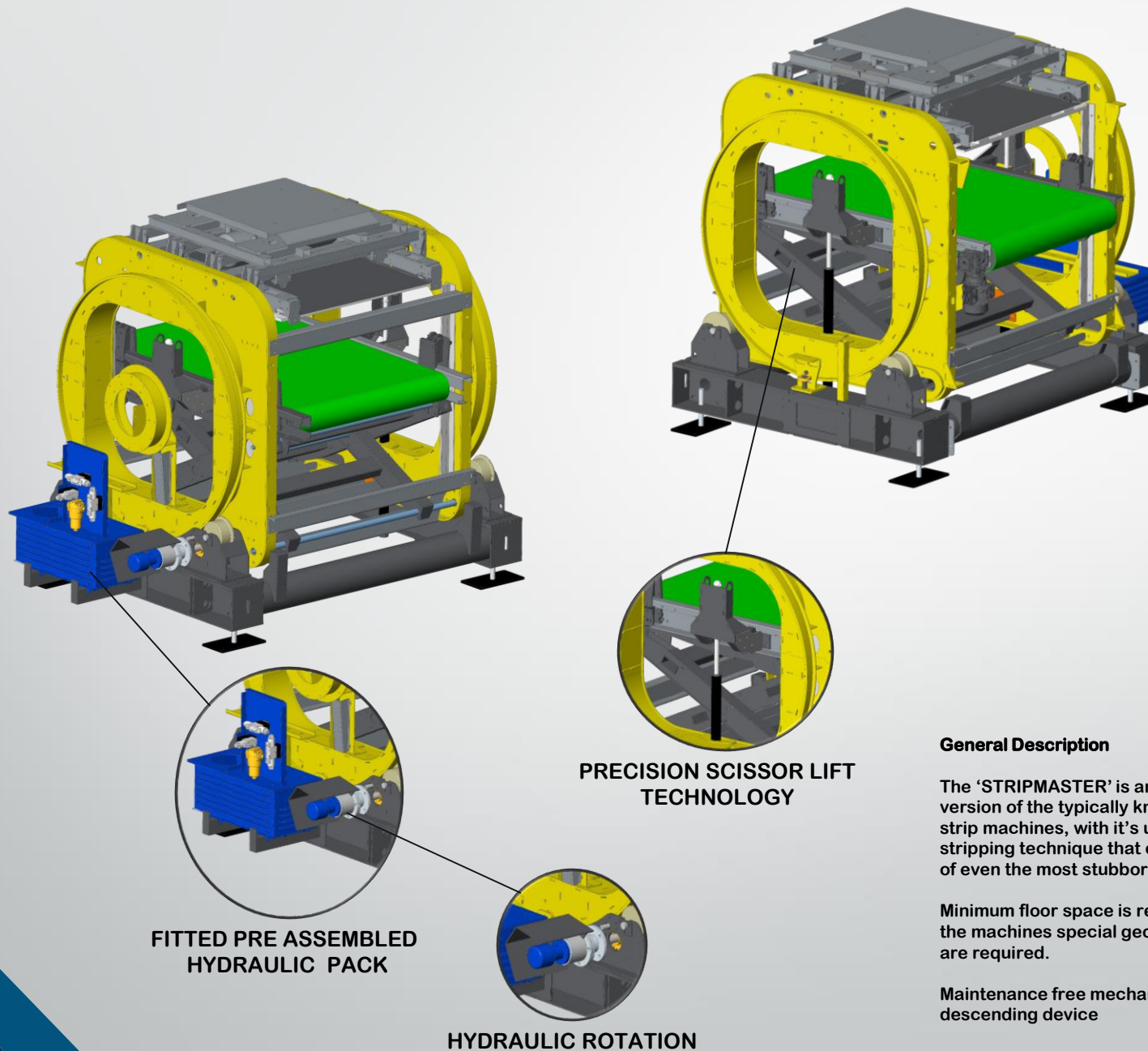
Key Features

- PLC automatic operation
- Transfer car docking onto lines resulting in very smooth bolster transfer
- Laser monitoring of transfer car travel, absolute control and perfect positioning
- Flawless system control via a 10" full colour HMI touchscreen on the operator panel
- All motors inverter driven with full diagnostics
- Fieldbus communication
- PILZ safety protection

ROLLOVER STRIP 'STRIPMASTER'



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Key Features

- PLC automatic operation
- Programmable strip cycle by operator (every operation fully adjustable such as strip speed, vibration frequency or the unique shock-strip system)
- 4 zone strip control which doesn't require operator input
- No tall drag chain post due special geometry of machine making the unit completely plug and play
- Integrated hydraulics, pneumatics and electrics
- Full control via a 7" full colour HMI touchscreen on the operator panel
- All motors inverter driven with full diagnostics
- All hydraulics on proportional valves
- Profibus communication
- PILZ safety protection

General Description

The 'STRIPMASTER' is an improved version of the typically known rollover strip machines, with it's unrivalled stripping technique that enables stripping of even the most stubborn moulds easily.

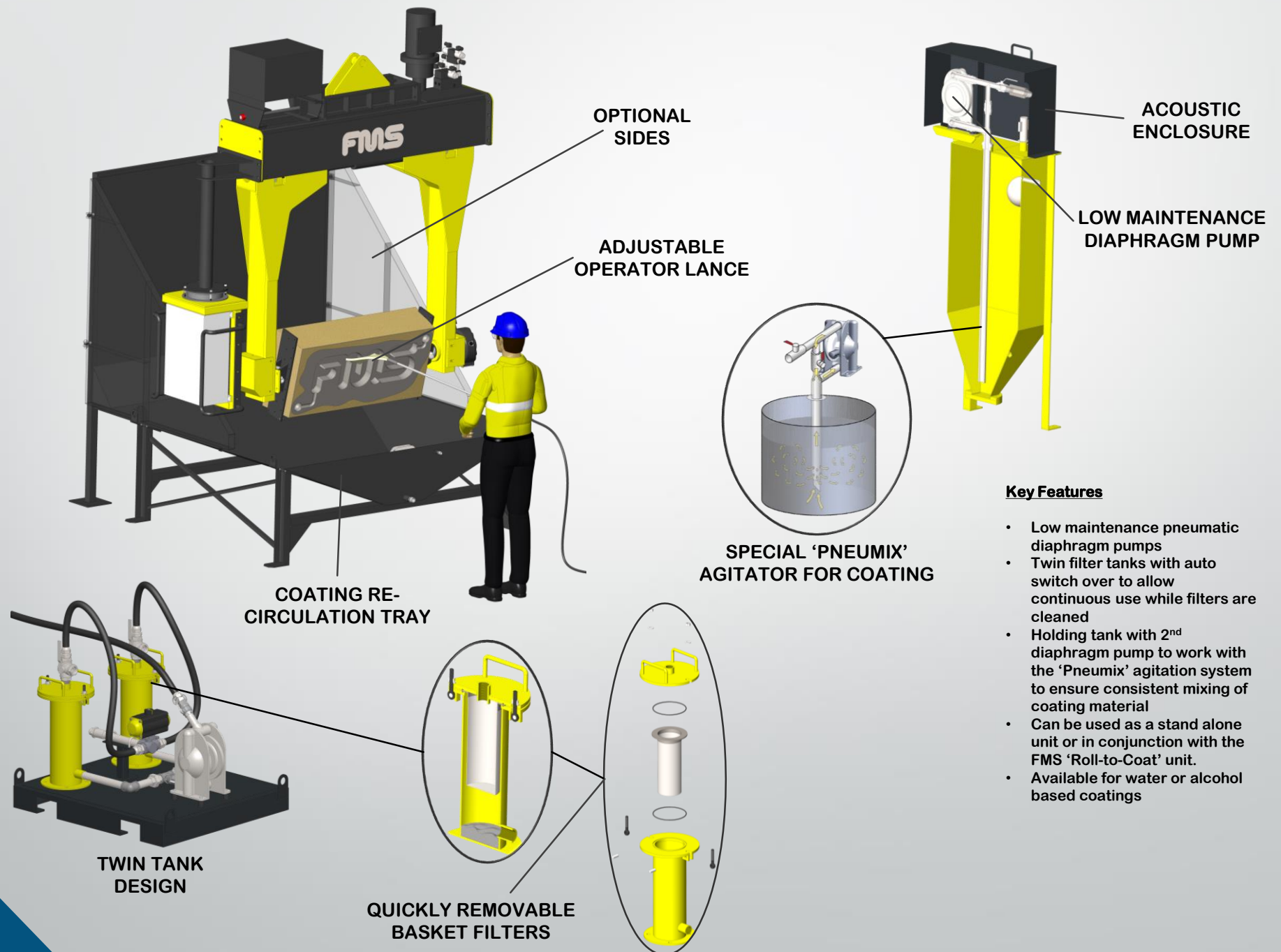
Minimum floor space is required, due to the machines special geometry no pits are required.

Maintenance free mechanical lifting and descending device

MOULD FLOOD COATING



Foundry Machinery and Spares Limited



Key Features

- Low maintenance pneumatic diaphragm pumps
- Twin filter tanks with auto switch over to allow continuous use while filters are cleaned
- Holding tank with 2nd diaphragm pump to work with the 'Pneumix' agitation system to ensure consistent mixing of coating material
- Can be used as a stand alone unit or in conjunction with the FMS 'Roll-to-Coat' unit.
- Available for water or alcohol based coatings

ROLL TO COAT & IN-LINE COATING



Foundry Machinery and Spares Limited



ROLL-TO-COAT
(ROLLOVER COATING UNIT)

ADJUSTABLE PRESSURE
CLAMPS

HYDRAULIC MOTOR
DRIVE

COATING HOLDING
TANK WITH AGITATOR

OPERATOR CONTROL
STATION

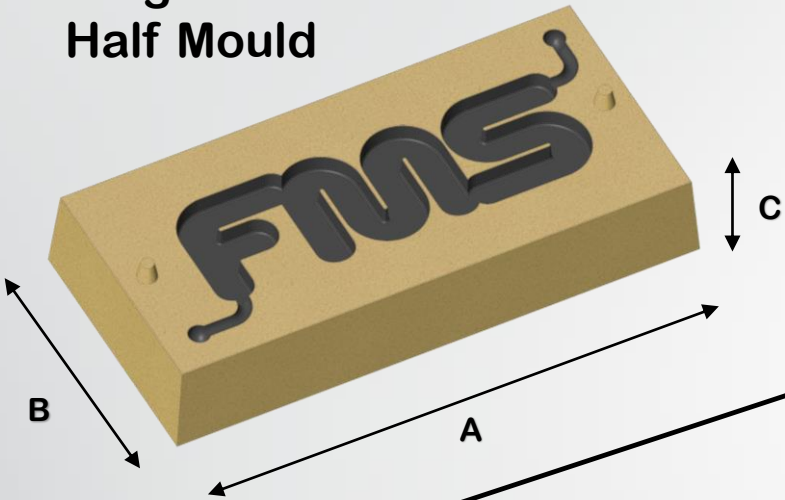
COATING RE-CIRCULATION
TRAY

Key Features

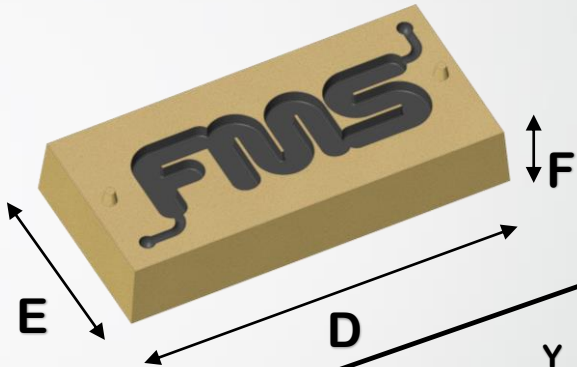
- Two independent clamps with independent pressure settings
- Can coat two moulds at the same time
- Flask and flaskless moulds using same clamps with no structural change
- Full control and diagnostics with 7" full colour HMI touchscreen on the operator panel
- Clamp pressures adjustable on screen, fast changeover between pre-set values
- Two adjustable positions; coating and dripping
- Belt inverter driven, all hydraulic motions on proportional speed control
- Can be adapted to fit existing plants

MANIPULATOR REQUEST GUIDE

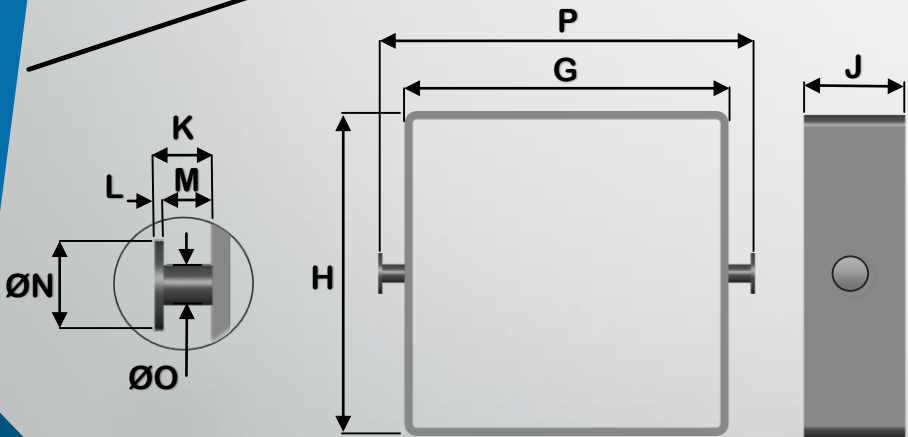
**Largest
Half Mould**



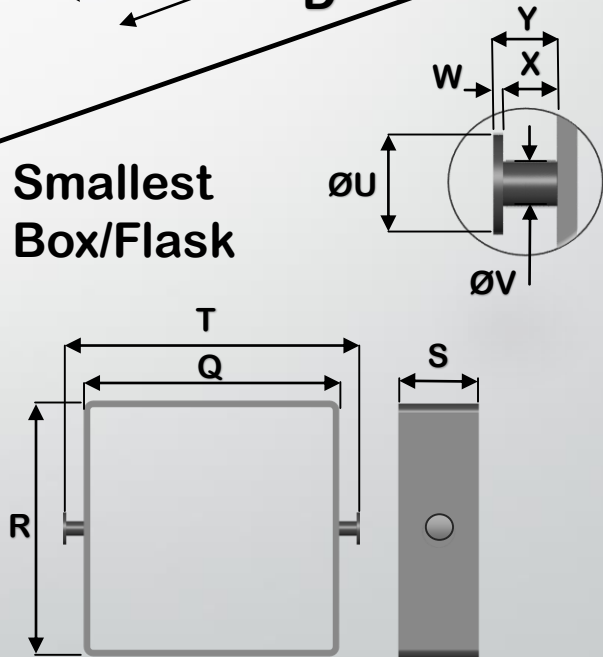
**Smallest
Half Mould**



**Biggest
Box/Flask**



**Smallest
Box/Flask**

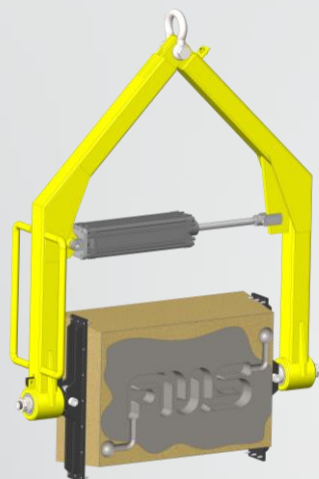


LABEL	DIMENSION
A	
B	
C	
D	
E	
F	
G	
H	
J	
K	
L	
M	
N	
O	
P	
Q	
R	
S	
T	
U	
V	
W	
X	
Y	
Z	

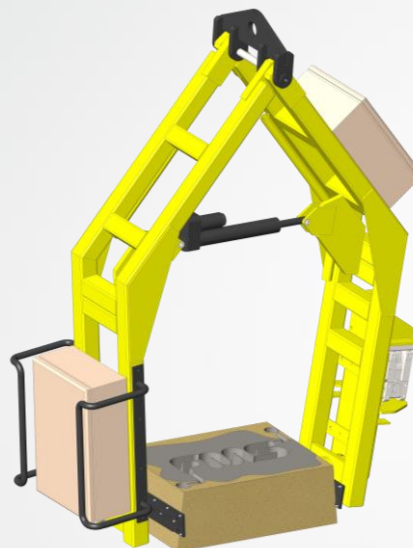
MOULD MANIPULATORS



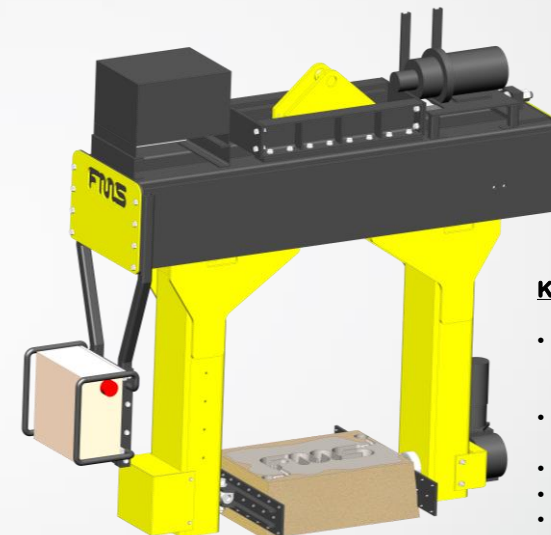
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**'A' FRAME TYPE PNEUMATIC
WITH MANUAL ROTATION
AS STANDARD**



**'A' FRAME TYPE
WITH OPTIONAL POWERED ROTATION
AVAILABLE IN ELECTRIC OR HYDRAULIC**



**BEAM TYPE HYDRAULIC
WITH HYDRAULIC POWERED
ROTATION AS STANDARD**

Key Features

- Available as pneumatic, electric or hydraulic design
- 'A' frame or beam type design
- Low maintenance
- Robust design
- Fully load tested
- Optional integrated crane controls
- Optional powered rollover
- Optional facility for use with trunnions/flasks

PNEUMATIC OPERATION				
MODEL	MIN CLAMP	MAX CLAMP	SWING RADIUS	MAX LOAD (KG)
MM2P	300	750	350	250
MM3P	400	900	500	500
MM4P	600	1100	600	500
-	-	-	-	-

ELECTRIC OPERATION				
MODEL	MIN CLAMP	MAX CLAMP	SWING RADIUS	MAX LOAD (KG)
MM2E	300	750	350	500
MM3E	400	900	500	750
MM4E	600	1100	600	750
MM5E	650	1200	750	1000

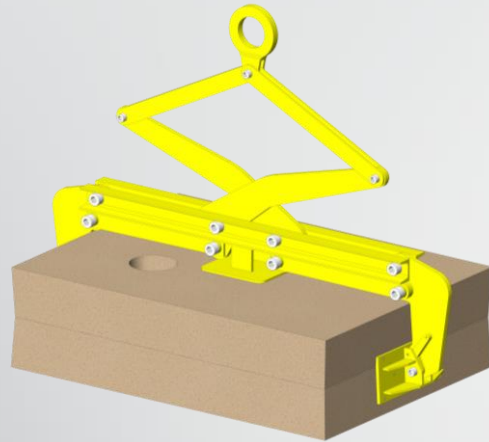
HYDRAULIC OPERATION				
MODEL	MIN CLAMP	MAX CLAMP	SWING RADIUS	MAX LOAD (KG)
-	-	-	-	-
MM3H	400	900	500	1000
MM4H	600	1100	600	1000
MM5H	650	1200	750	2000

**** DIMENSIONS AND DATA ABOVE FOR 'A' FRAME TYPE ONLY ****

MOULD MANIPULATORS 'BESPOKE'



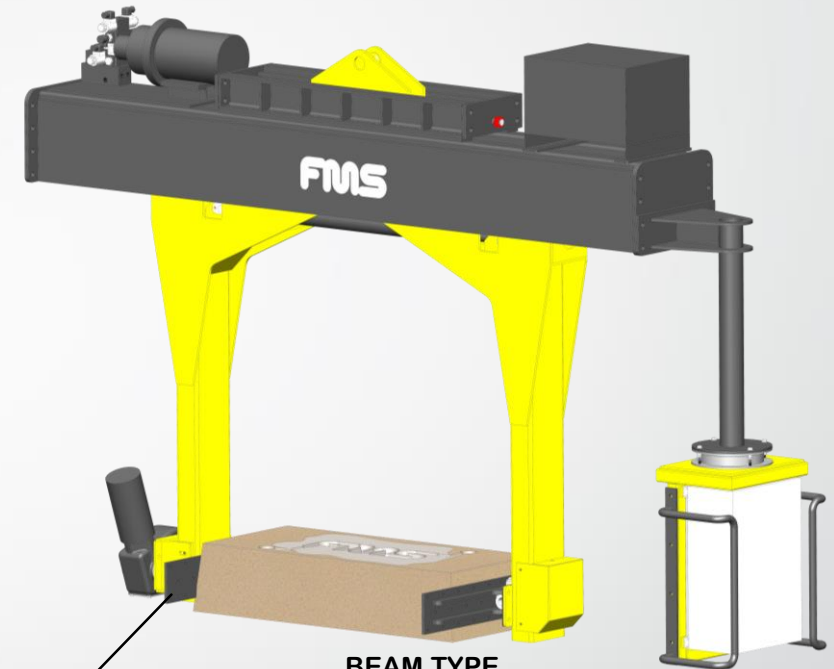
Foundry Machinery and Spares Limited



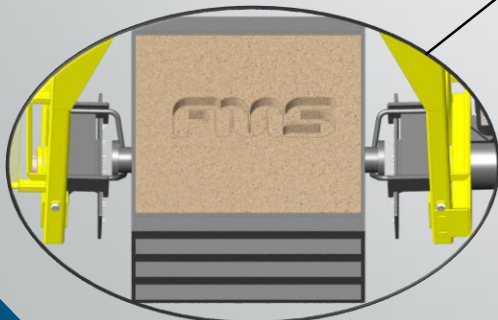
MANUAL SCISSOR
TYPE DESIGN
SHOWN



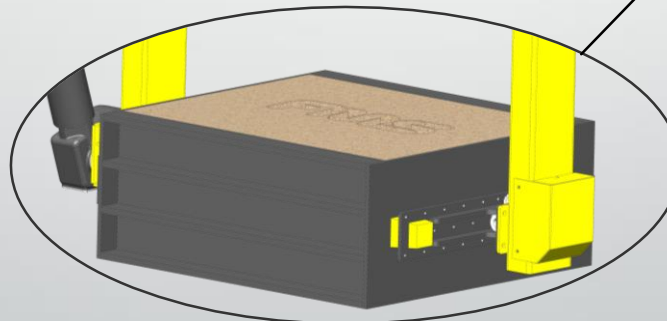
'A' FRAME TYPE
(HYDRAULIC DESIGN SHOWN FITTED
WITH OPTIONAL TRUNNION FACILITY)



BEAM TYPE
HYDRAULIC DESIGN
SHOWN



OPTIONAL TRUNNION
FACILITY



OPTIONAL TRUNNION
FACILITY

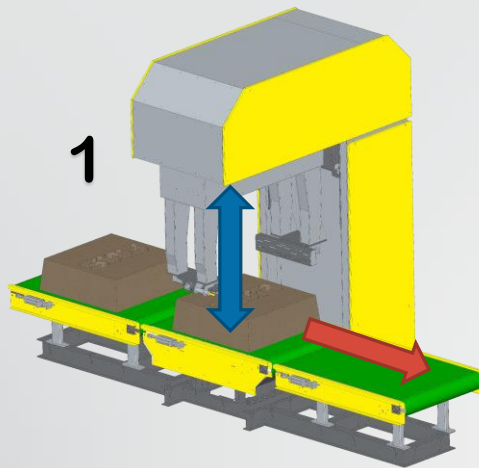
Key Features

- Available as manual, pneumatic, electric or hydraulic design
- 'A' frame or beam type design
- Low maintenance
- Robust design
- Fully load tested
- Sizes to suit special moulds
- Optional integrated crane controls
- Optional powered rollover
- Optional facility for use with trunnions/flasks

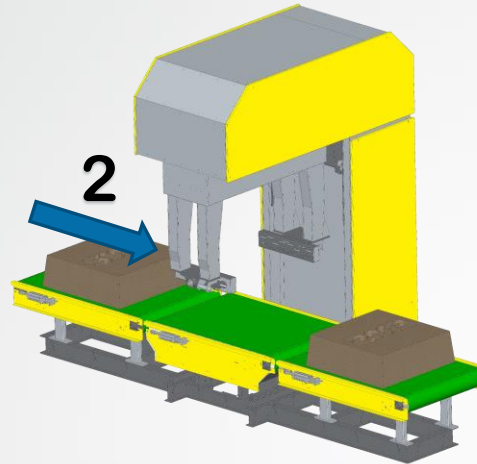
MOULD CLOSING 'EASY-CLOSE'



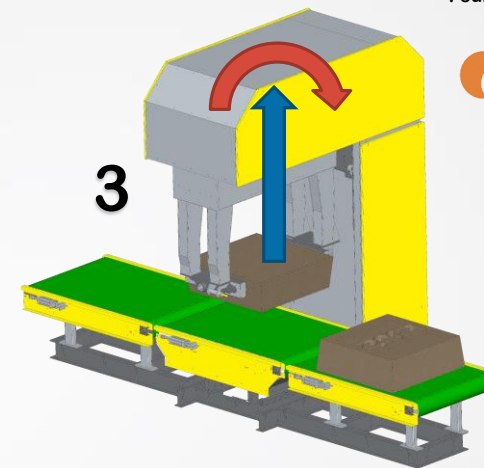
Foundry Machinery and Spares Limited



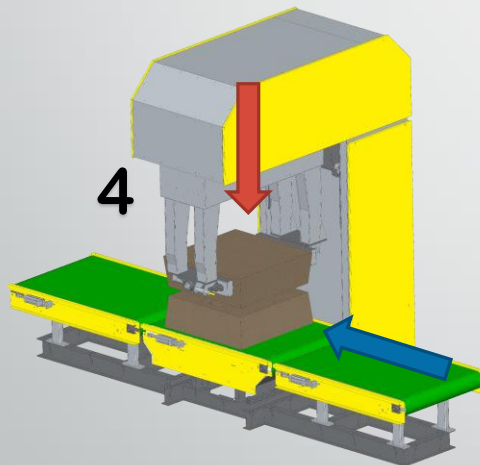
1
DRAG ENTERS TO BE CENTRALISED



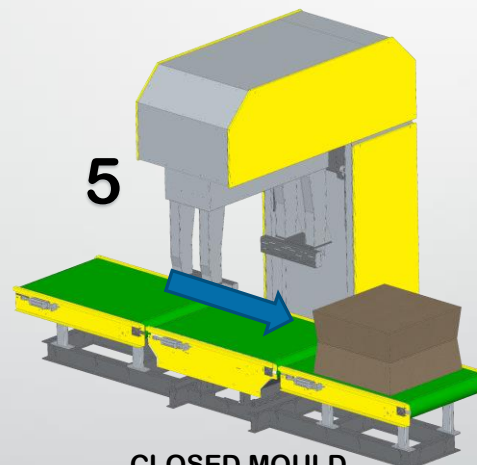
2
DRAG EXITS READY FOR CLOSING



3
COPE ENTERS TO BE CENTRALISED AND ROTATED



4
DRAG RE-ENTERS TO BE CLOSED



5
CLOSED MOULD EXITS FOR TRANSFER

Key Features

- PLC automatic operation
- Precise parallel closing
- Balanced manipulator weight so no risk of mould damage during closing
- Robust mechanical design
- Full control via a 7" full colour HMI touchscreen on the operator panel
- Smooth floating table
- Unbeatably low energy consumption
- Automatic centralising both length and width
- All motors inverter driven, smooth start and stop
- Profibus communication
- PILZ safety protection
- Adaptable to all existing lines

General Description

The 'EASY-CLOSE' is a bespoke device that makes it possible to close moulds (cope & drag) that are not properly designed for closing. This is because the machine is designed to enable the operator to have manual input at the last stage of the process.

However, provided that the mould pattern is properly designed at the first stage of the pattern, then it is possible to close the mould in fully automatic cycle if required.

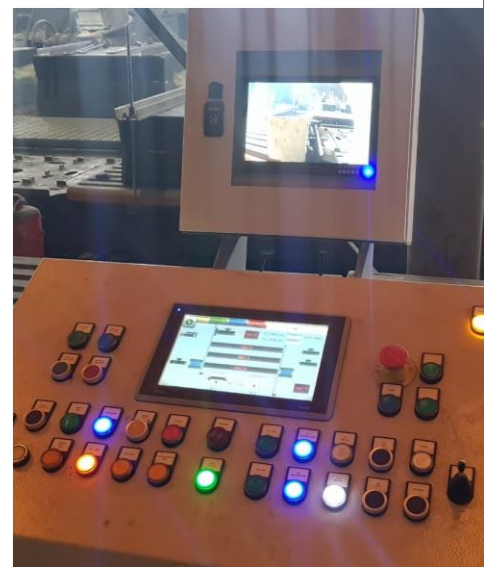
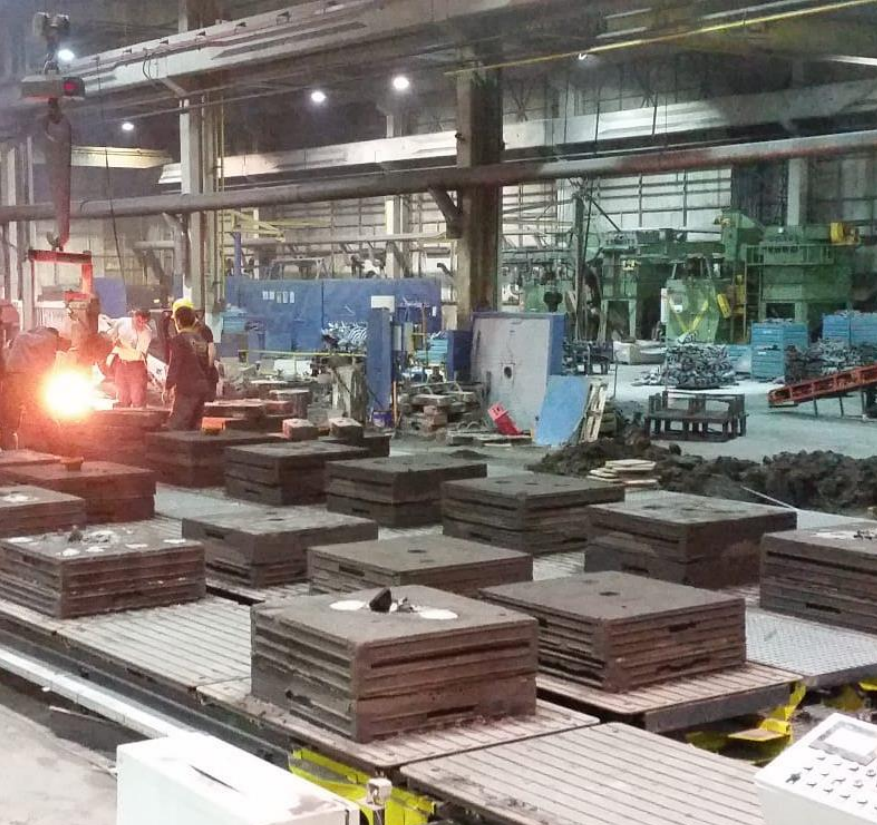
Casting & Cooling

FMS offer a range of casting & cooling lines with our partner Transtek ranging from simple gravity roller design to fully automated PLC controlled lines

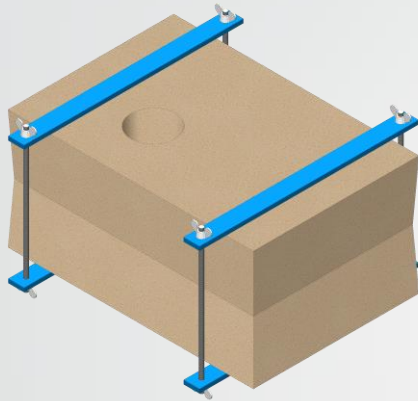
The automatic systems can be designed in many variants to suit the installation area available. These can include:-

- Multiple casting & cooling lines, all with individual hydraulic pushers (no hydraulics, pneumatics or electrics under or near the lines for low maintenance)
- Automatic transfer cars with safety bumpers
- Mould wipe off stations
- Mould transfer, lift and tilt into mechanical reclamation
- CCTV monitoring at either end of the line, enabling full control and diagnostics
- Optional Mould logging and tracking to ensure correct metals and cooling times

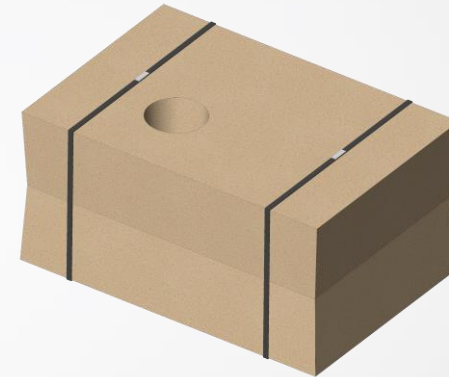




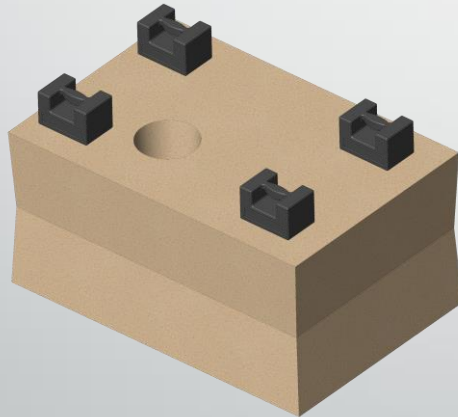
METHODS OF CLAMPING COPE & DRAG FOR POURING



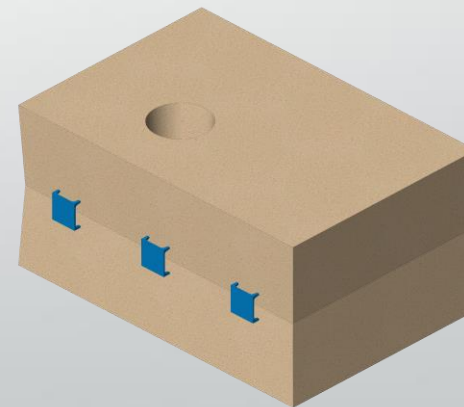
Clamping bars



Metal banding



Weights



Clamping spikes

AUTOMATIC CASTING & COOLING LINES 'TRANSLOOP'

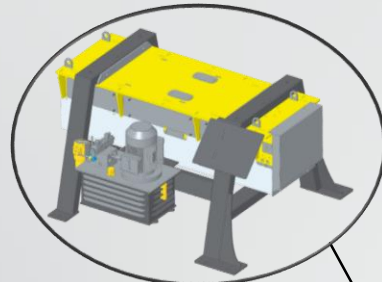


Foundry Machinery and Spares Limited

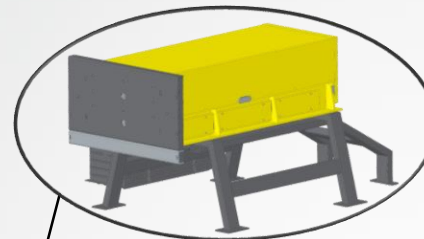


Key Features

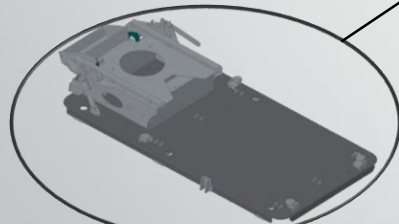
- Unique car and pallet design which allows for maintenance without stopping the production line
- Air gap between car and pallet for heat removal
- No hydraulics, pneumatics or electrics under or near lines so that each pallet can be used for pouring
- Mechanical docking of transfer cars to the lines, flawless indexing
- Laser monitoring or transfer car travel, absolute control and perfect positioning
- Independent pusher for each line
- Pusher position and proportional speed control, inverter driven transfer car motors, smooth start and stop
- Can be adapted to fit any reclamation system with wipe off station and/or hydraulic tilting station
- PLC automatic operation
- 10" full colour HMI touchscreen on the operator panel & 10" CCTV monitoring at either side of the lines giving full control and diagnostics



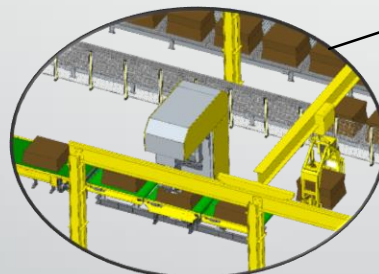
HYDRAULIC PUSHER FOR
PALLET RETURN LINE



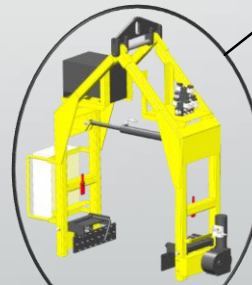
MOULD WIPE OFF
UNIT



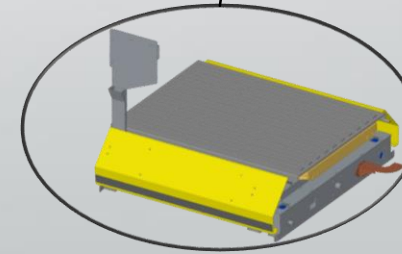
DOCKING STATIONS
ON EACH PARK POSITION



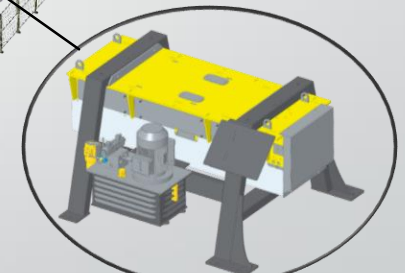
EASY CLOSE
MOULD CLOSING UNIT



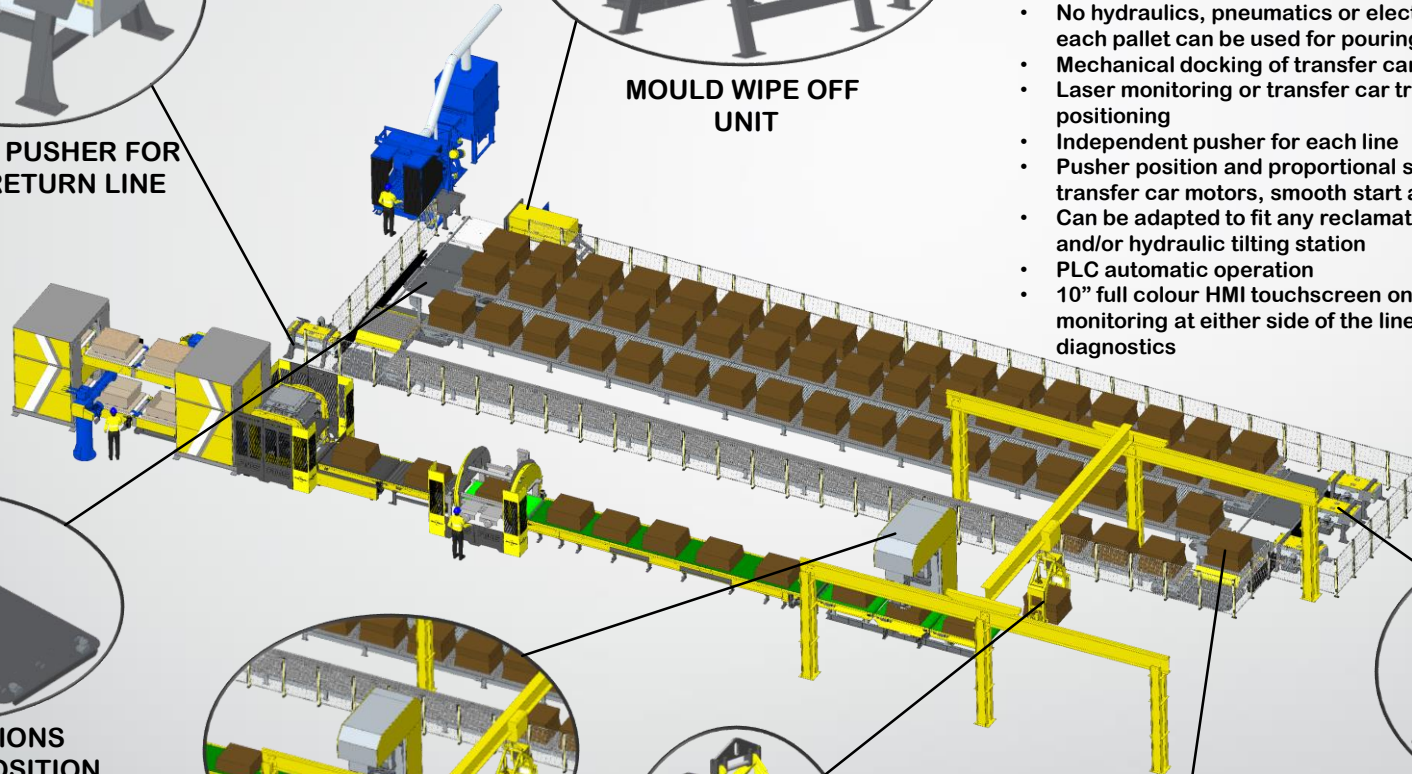
MANIPULATOR FOR TRANSFERING
CLOSED MOULDS TO CASTING LINE



AUTOMATIC TRANSFER
CARS AT BOTH ENDS



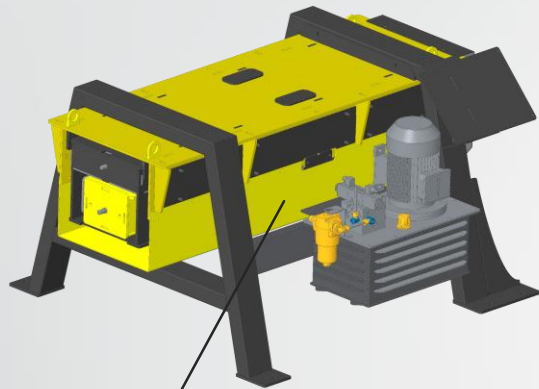
INDIVIDUAL HYDRAULIC
PUSHERS FOR ALL
CASTING LINES



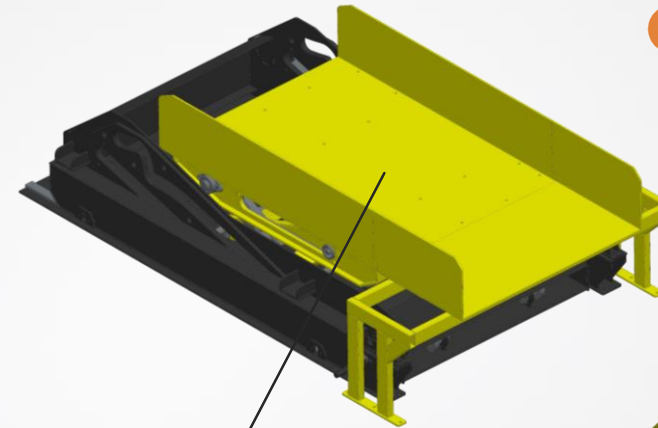
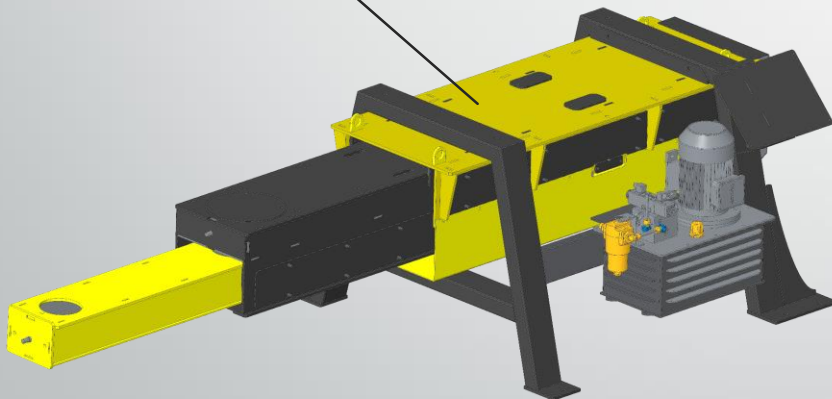
CASTING & COOLING LINE ANCILLARY ITEMS



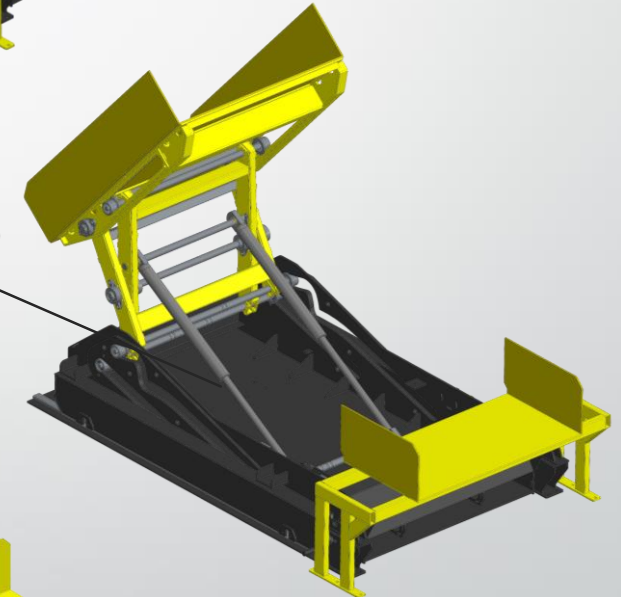
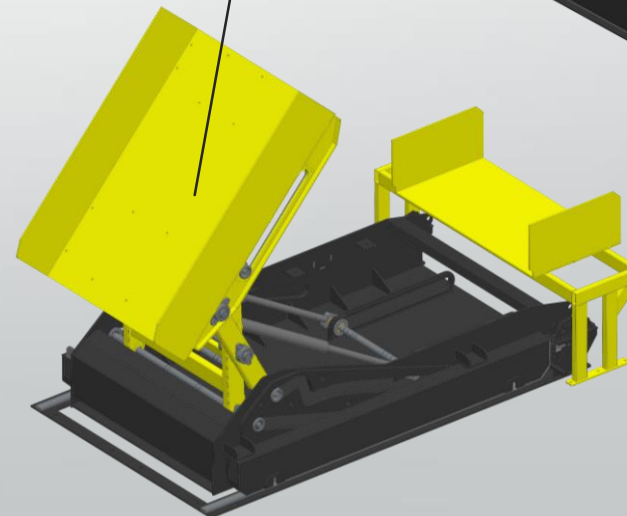
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TELESCOPIC MOULD
WIPE OFF STATION CONTROLLED BY
HYDRAULIC PROPORTIONAL SPEED CONTROL



TRANSFER CAR (FROM WIPE OFF)
WITH LIFT AND TILT INTO
LOW LEVEL ATTRITION UNIT



Sand Reclamation

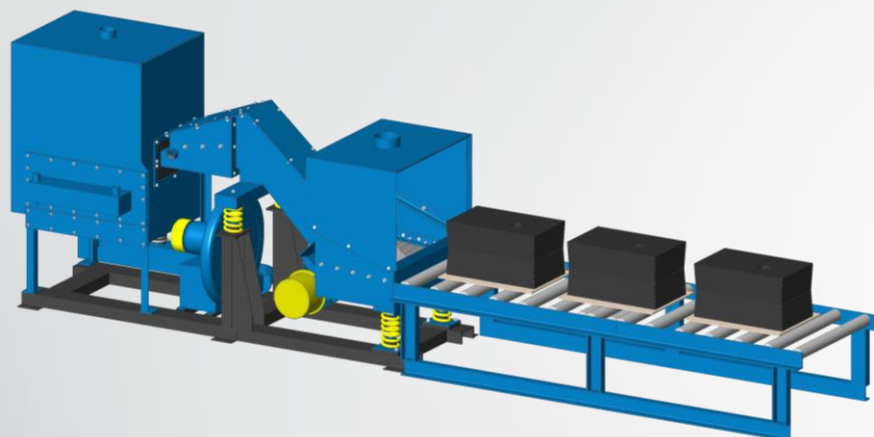
FMS offer a range of sand reclamation systems ranging from 1-30 tph, the range includes mechanical, secondary and thermal plants generally as listed below:-

- Compact Mechanical Reclamation. 1-3 Tph
- Vertical Discharge Mechanical Reclamation. 6-12 Tph
- Elevated Discharge Mechanical Reclamation. 5-20 Tph
- Bottom Discharge Mechanical Reclamation. 5-15 Tph
- Shakeout & Reclamation combination. 5 – 30 Tph
- Sand Classifier & Sand Coolers. 1-30 Tph
- Pneumatic Sand Conveyors. 1 – 30 Tph
- Secondary Reclamation. 500kgs - 2 Tph
- Thermal Reclamation. 250kgs – 2 Tph
- Chromite Separation. 1 – 6 Tph

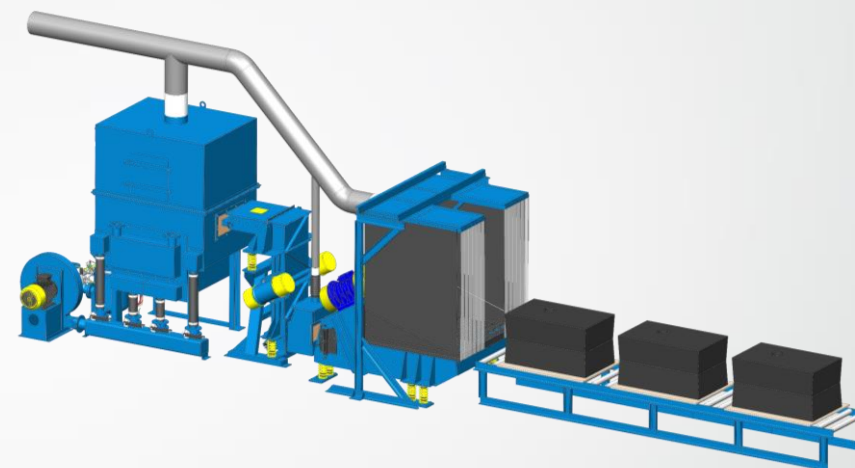




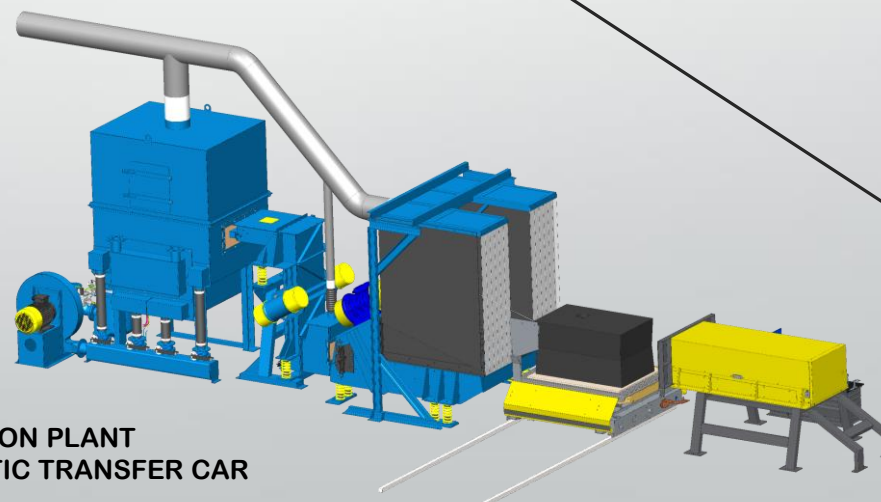
MOULD LOADING STYLES



**COMPACT RECLAMATION PLANT
LOADED BY HAND OR FROM TRACKS**

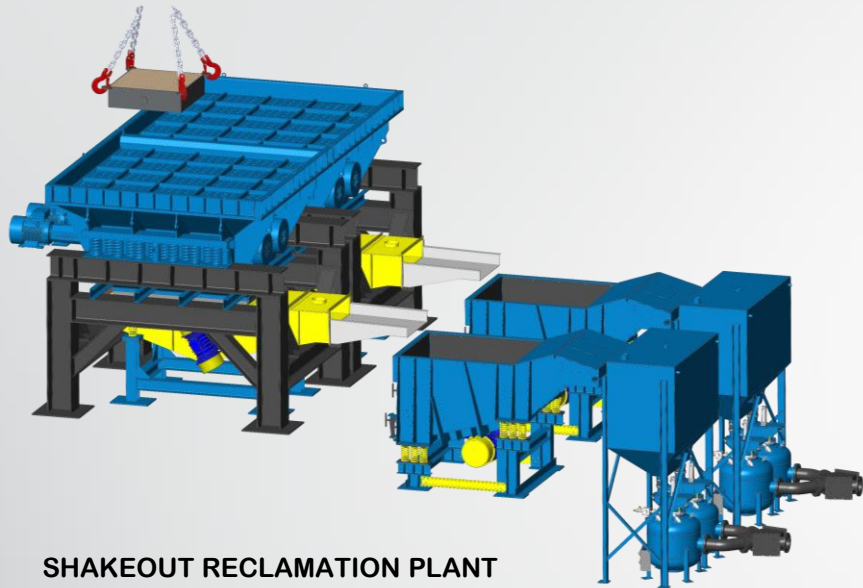


**LOW LEVEL 'VD' RECLAMATION PLANT
LOADED BY HAND OR FROM TRACKS**

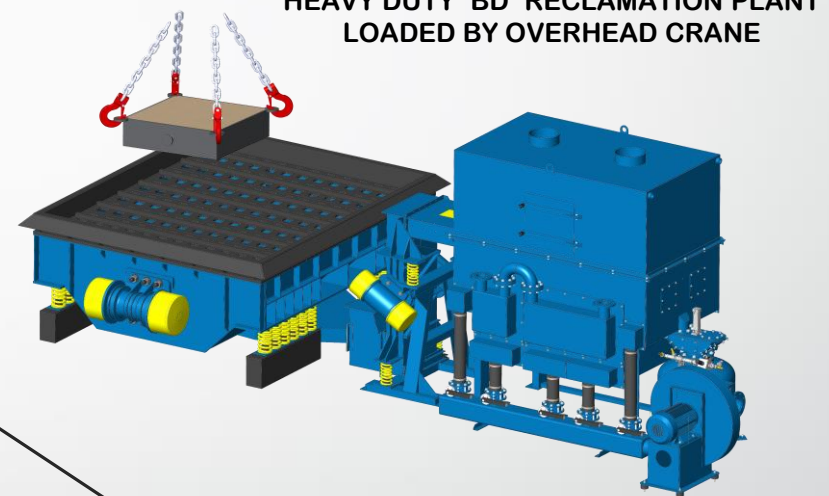


**LOW LEVEL 'VD' RECLAMATION PLANT
LOADED BY WIPE OFF AND AUTOMATIC TRANSFER CAR**

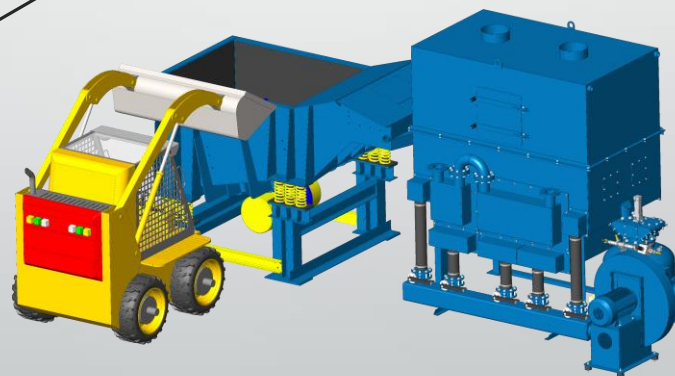
MOULD LOADING STYLES



**SHAKEOUT RECLAMATION PLANT
LOADED BY OVERHEAD CRANE**

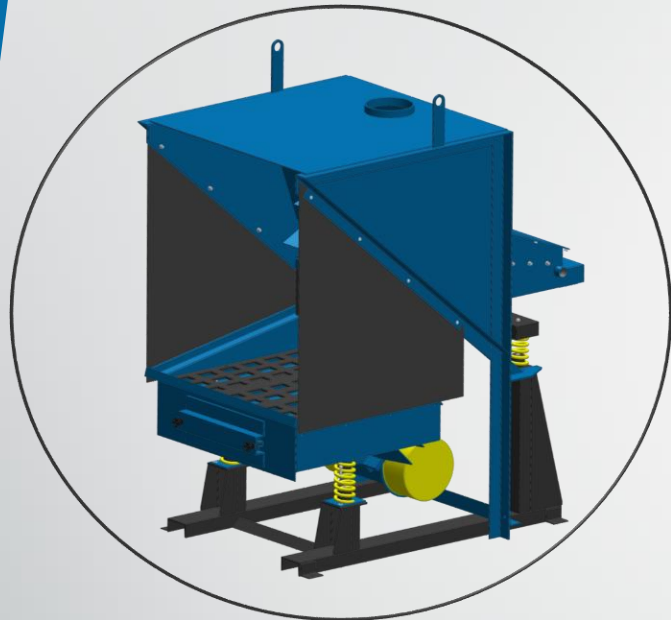


**HEAVY DUTY 'BD' RECLAMATION PLANT
LOADED BY OVERHEAD CRANE**

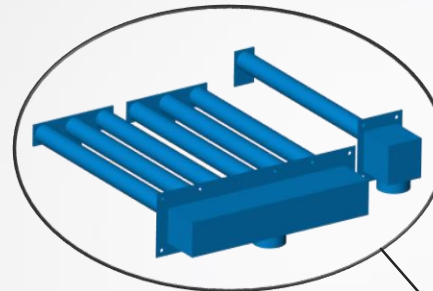


**HIGH LEVEL 'ED' RECLAMATION PLANT
LOADED BY PAYLOADER**

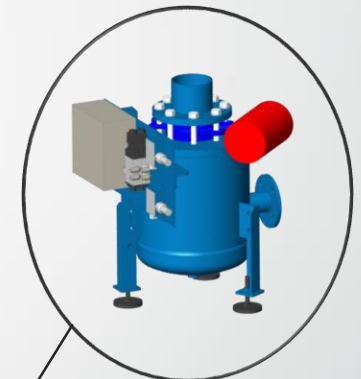
SAND RECLAMATION 'COMPACT' SYSTEMS



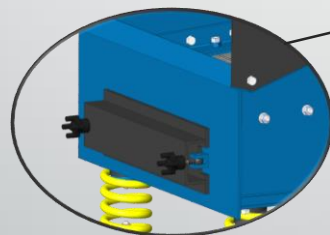
COMPACT 3 DESIGN



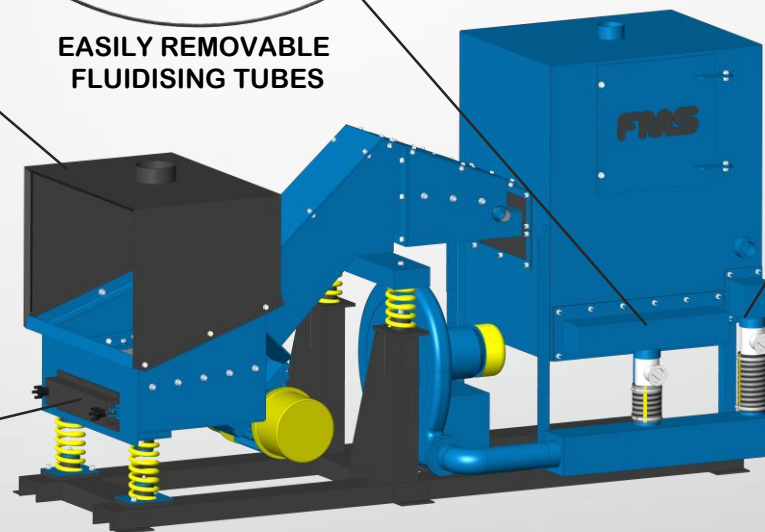
EASILY REMOVABLE
FLUIDISING TUBES



SAND TRANSPORTER



QUICK RELEASE
CLEAN OUT DOOR



COMPACT 1 DESIGN

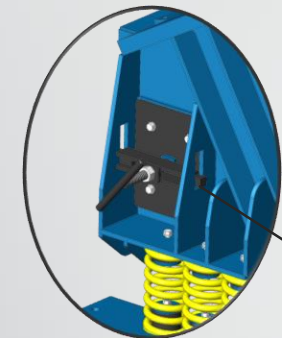
Key Features

- Throughputs from 1-3 tph
- No need for expensive pits
- Ideal for the smaller foundry
- Cold or hot sand plants available
- Robust design with easily replaceable internal wearing screens
- Load from floor or track

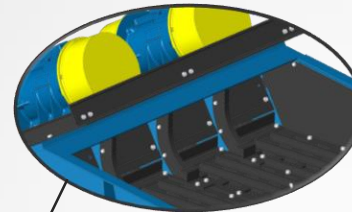
COMPACT RECLAMATION SYSTEMS

MODEL	TPH	DECK SIZE (mm)	LOAD (KG)
COMPACT 1	1	900 X 550	250
COMPACT 3	3	1200 X 1200	500

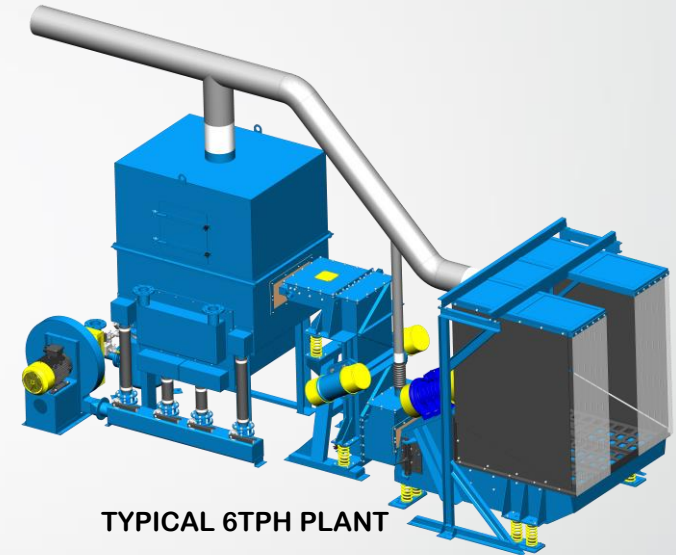
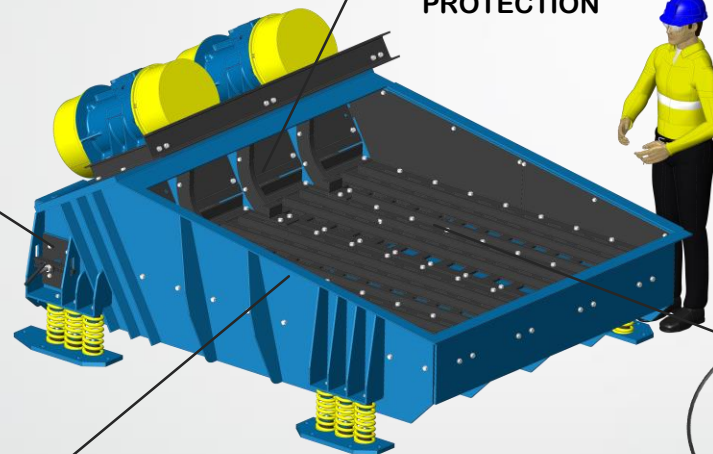
SAND RECLAMATION 'VERTICAL DISCHARGE' SYSTEMS



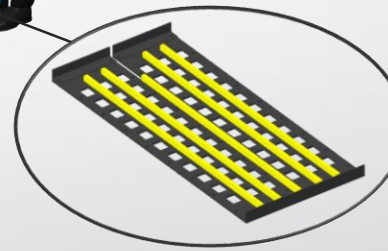
**EASILY REMOVABLE
CLEAN OUT DOORS**



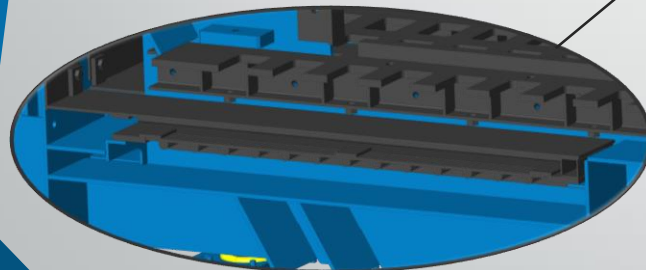
**ADVANCED WEAR
PROTECTION**



TYPICAL 6TPH PLANT



**OPTION FOR NYLON
BREAKER BARS**



**EASILY REPLACEABLE
WEARING SCREENS**

VD RECLAMATION SYSTEMS			
MODEL	TPH	DECK SIZE (mm)	LOAD (KG)
VD6B	6	1500 X 1150	1000
VD6S	6	1500 X 1500	1000
VD9B	9	2000 X 1600	2000 – 3000
VD9S	9	2000X 2000	2000 – 5000
VD9/XL	9	2500 X 2000	2000 – 5000
VD12	12	2000 X 2000	2000 - 5000

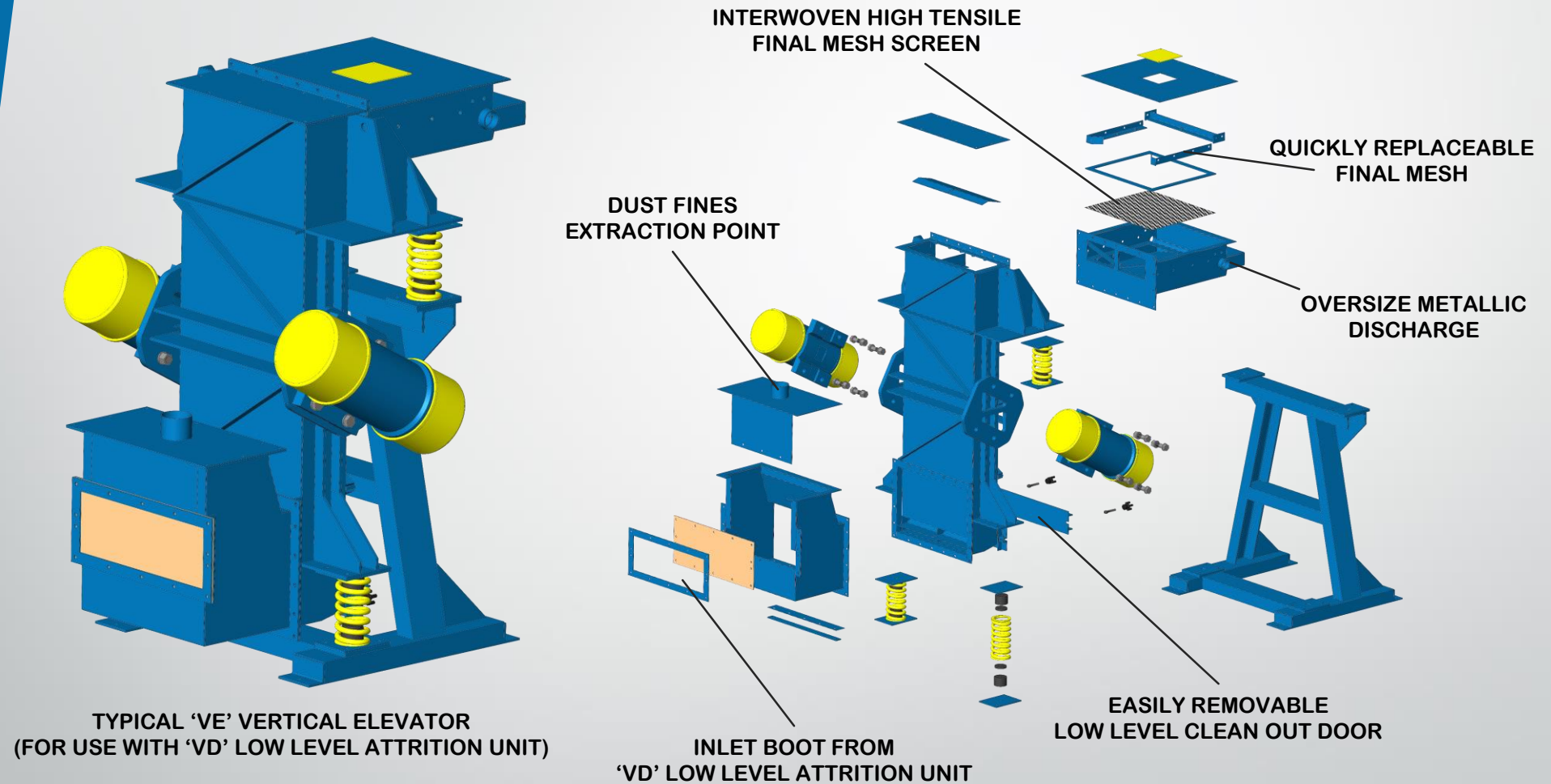
Key Features

- Throughputs from 6-12 tph
- No need for expensive pits
- Cold or hot sand plants available
- Robust design with easily replaceable internal wearing screens
- Load from floor or track
- Option to use with mould wipe off station
- Choice of deck sizes
- Deck loadings from 1000 – 6000kgs

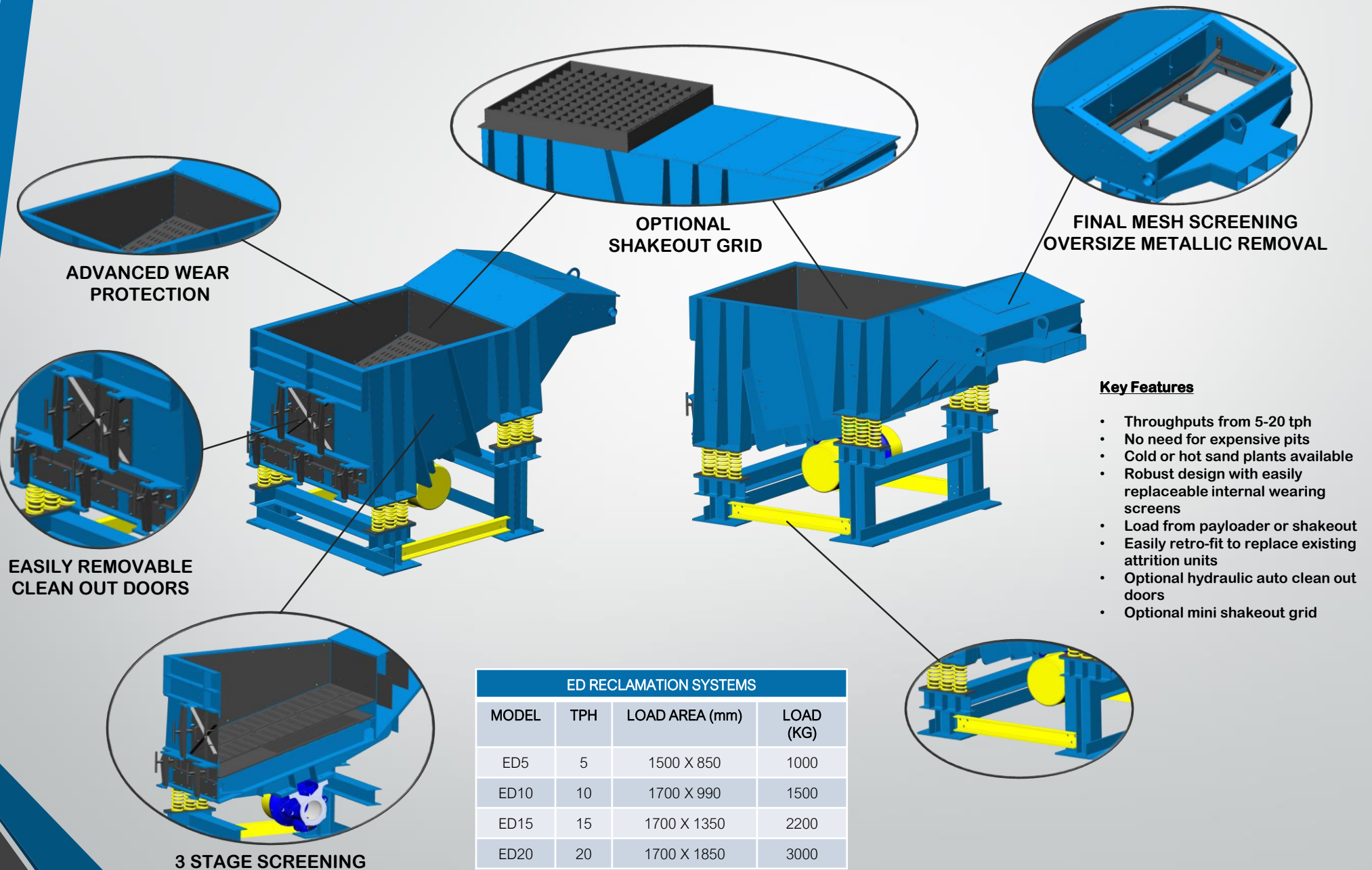
VIBRATORY ELEVATORS



Foundry Machinery and Spares Limited



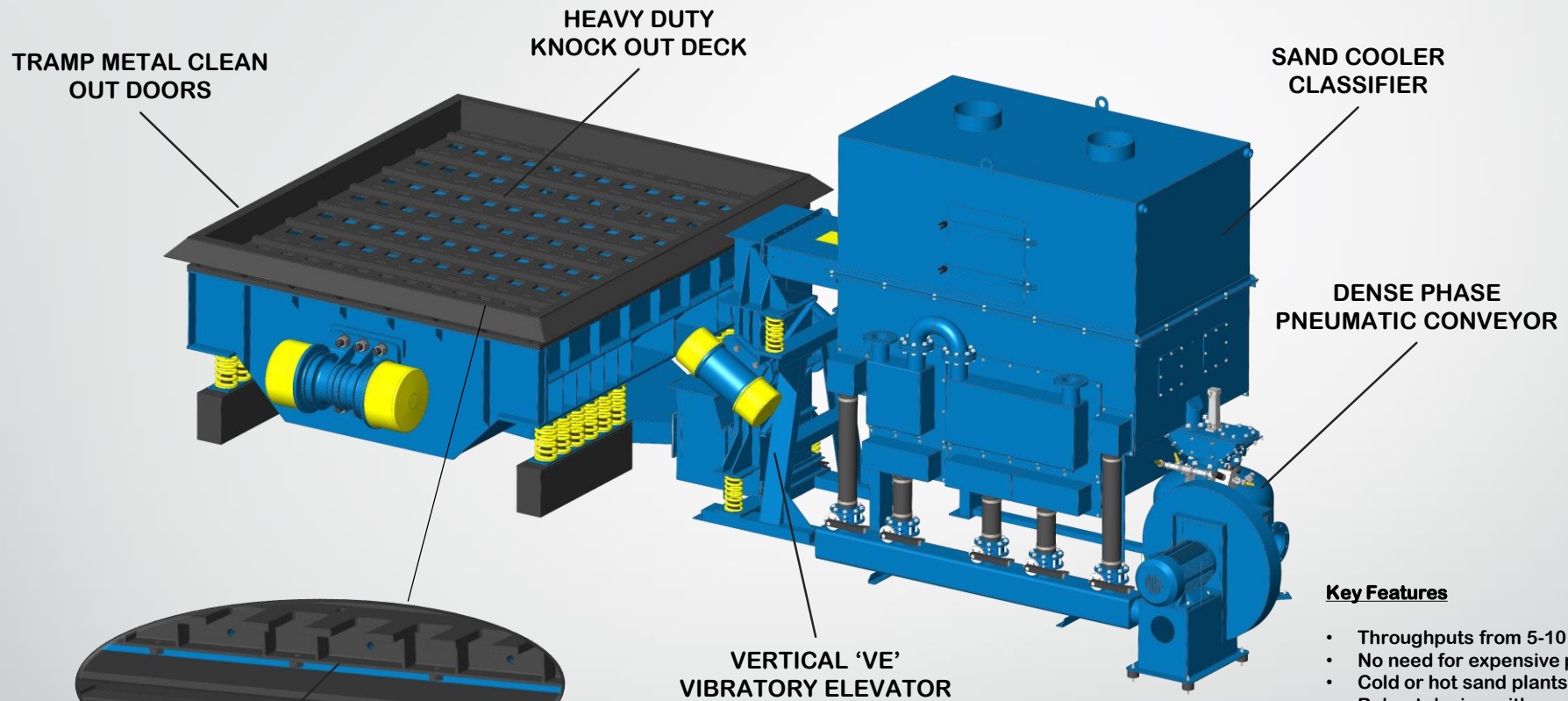
SAND RECLAMATION 'ELEVATED DISCHARGE' SYSTEMS



Key Features

- Throughputs from 5-20 tph
- No need for expensive pits
- Cold or hot sand plants available
- Robust design with easily replaceable internal wearing screens
- Load from payloador or shakeout
- Easily retro-fit to replace existing attrition units
- Optional hydraulic auto clean out doors
- Optional mini shakeout grid

SAND RECLAMATION 'BOTTOM DISCHARGE' SYSTEMS

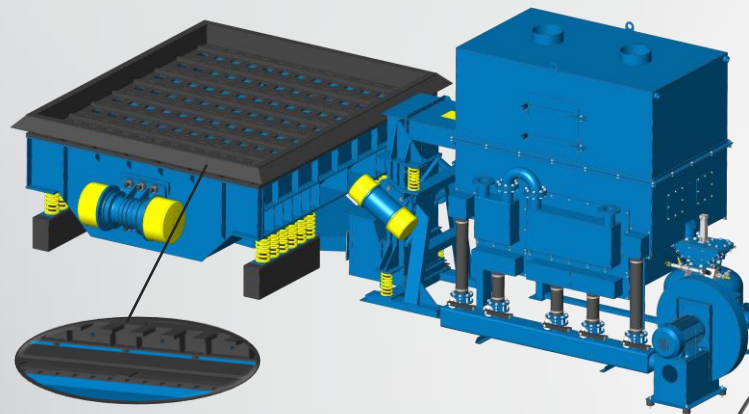


Key Features

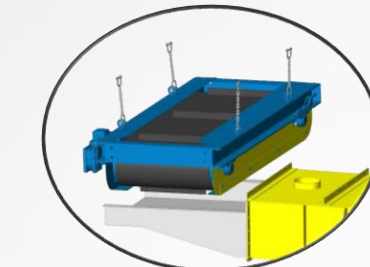
- Throughputs from 5-10 tph
- No need for expensive pits
- Cold or hot sand plants available
- Robust design with easily replaceable internal wearing screens
- Load from floor or track
- Choice of deck sizes
- Deck loadings from 5000 – 10000kgs
- Option to use with mould wipe off station
- Option to install magnetic over band

BD RECLAMATION SYSTEMS			
MODEL	TPH	DECK SIZE (mm)	LOAD (KG)
BD5	5	2000 X 2000	5000
BD5/L	5	2500 X 2000	5000
BD5/XL	5	3000 X 2000	5000
BD10	10	2000 X 2000	10000
BD10/L	10	2500X 2000	10000
BD10/XL	10	3000 X 2000	10000

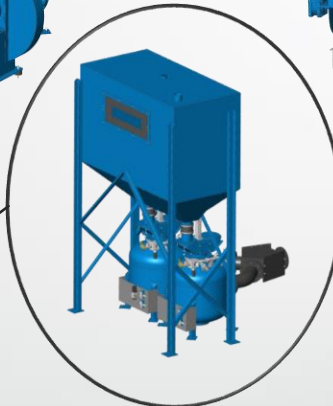
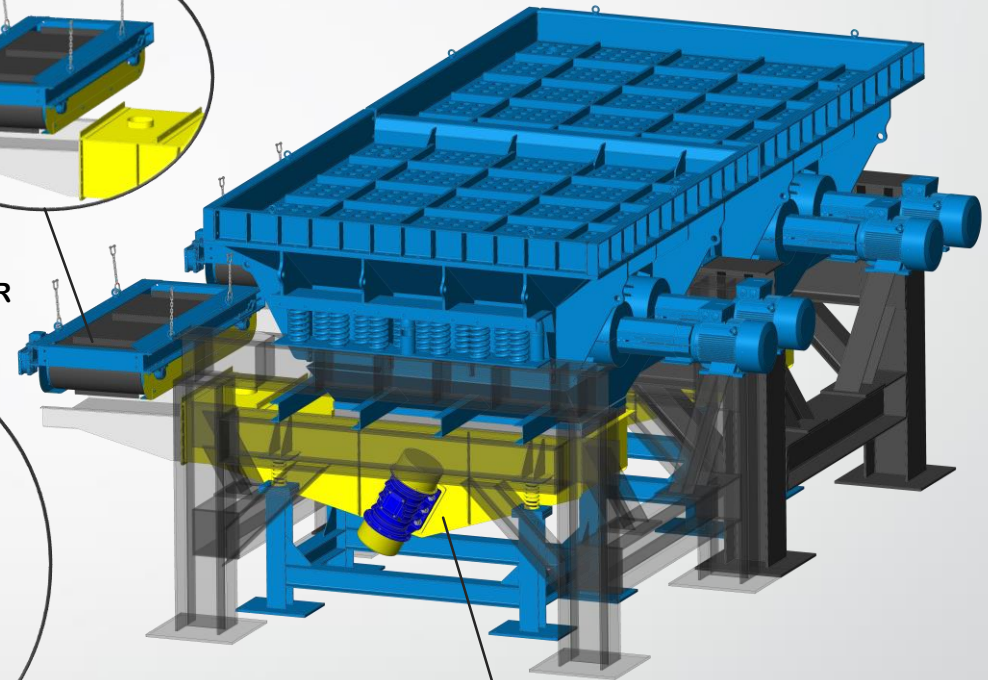
SAND RECLAMATION BOTTOM DISCHARGE AND SHAKEOUT SYSTEMS



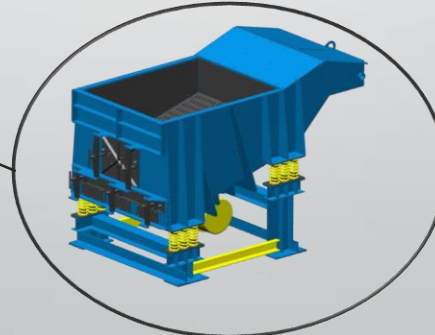
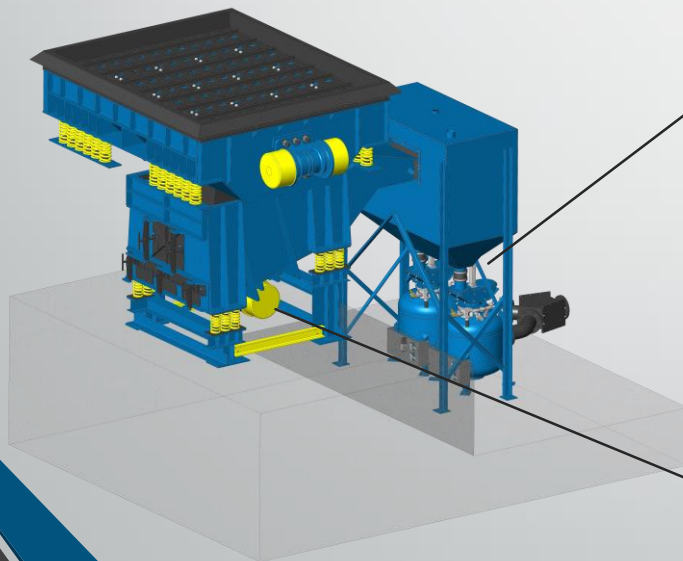
REPLACEABLE SCREENS



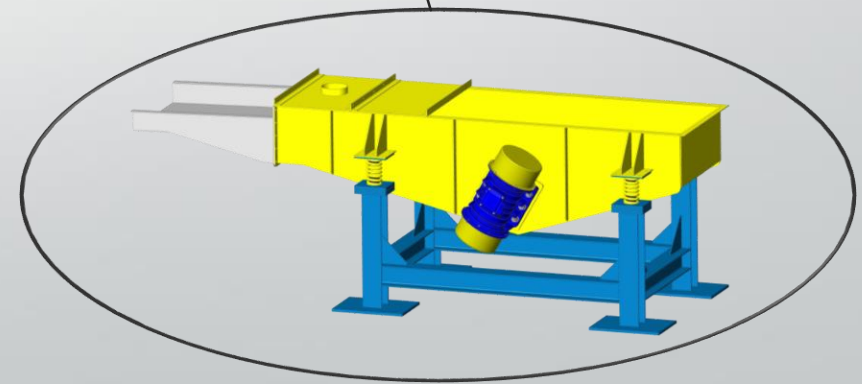
OPTIONAL
MAGNETIC
SEPERATOR



SURGE HOPPER &
SAND TRANSPORTERS



SAND RECLAMATION (ED TYPE)

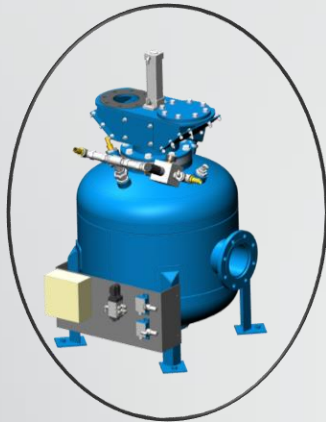


DRAG OUT VIBRATORY FEEDER

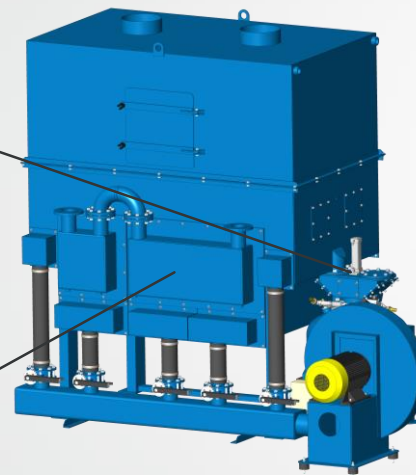
SAND RECLAMATION COOLER & CLASSIFIER

Key Features

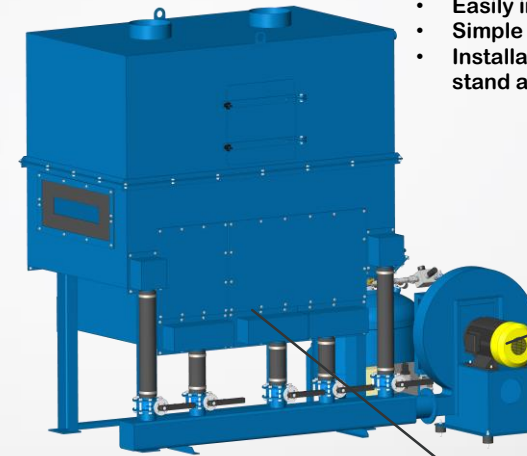
- Throughputs from 1-30 tph
- Cold sand classifiers suitable for sand up to 130°C
- Hot sand Cooler Classifiers suitable for sand up to 300°C
- Fluidised bed type design by high pressure fan set
- High level (full) sensor for automatic start stop
- Easily incorporated in to new or existing plants
- Simple design for easy maintenance
- Installation as part of mechanical reclamation plant or stand alone unit i.e. under sand silo



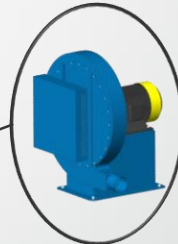
PNEUMATIC SAND TRANSPORTER



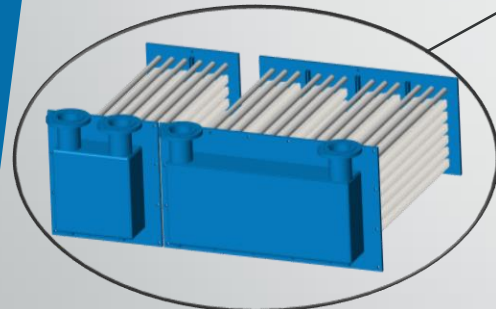
HOT SAND COOLER CLASSIFIER



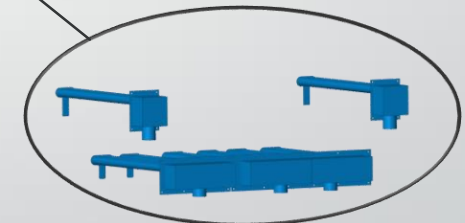
COLD SAND CLASSIFIER



HIGH PRESSURE FAN SET



**EASILY REMOVABLE
HEAT EXCHANGERS
MADE WITH CARBON STEEL
FINNED TUBES**



**EASILY REMOVABLE
FLUIDISING TUBES**

HOT SAND COOLER CLASSIFIERS

MODEL	TPH	MAX SAND °C
T3	3	300
T6	6	300
T9	9	300
T12	12	300
T15	15	300
T18	18	300
T21	21	300

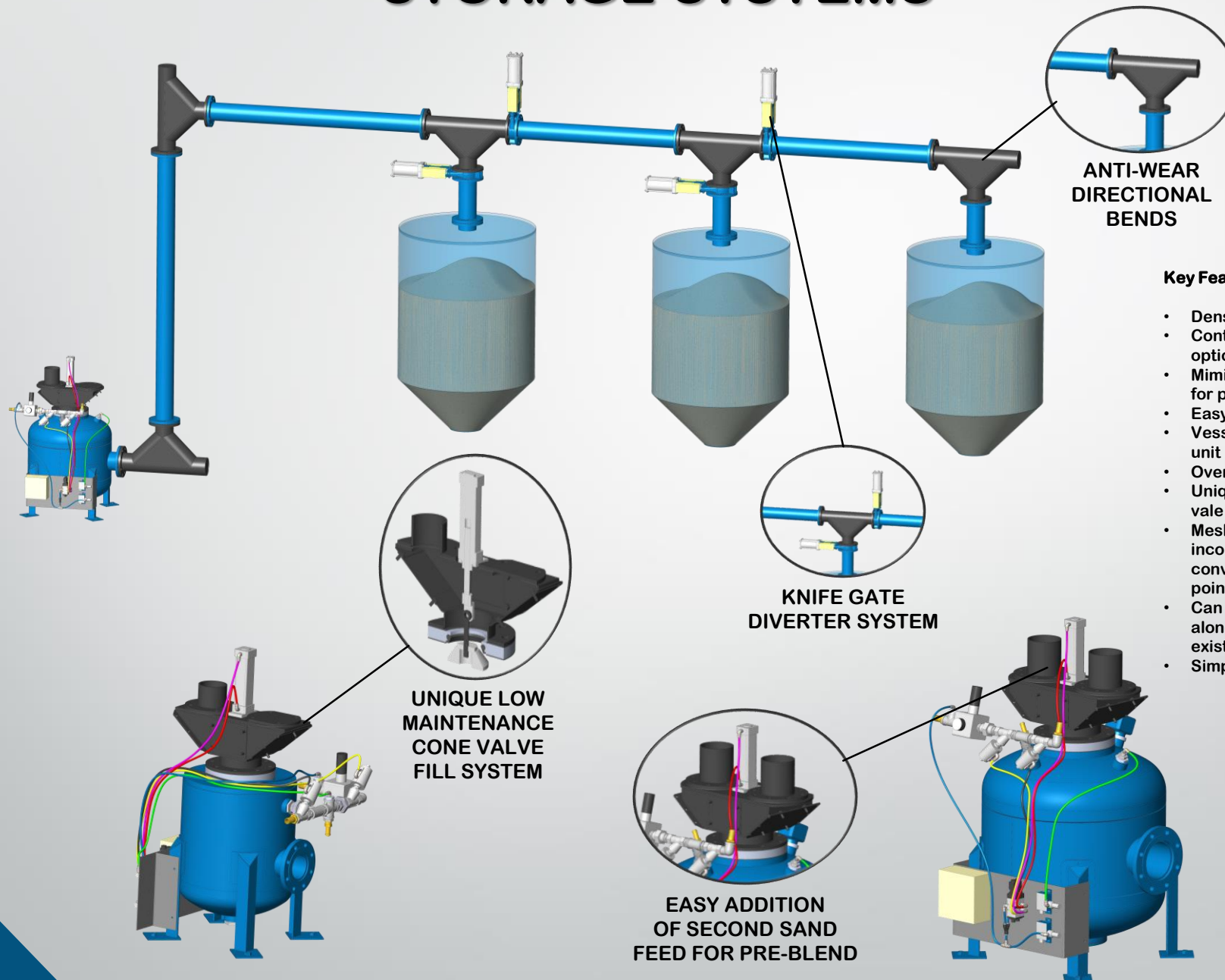
COLD SAND CLASSIFIERS

MODEL	TPH	MAX SAND °C
T3	3	130
T6	6	130
T9	9	130
T12	12	130
T15	15	130
T18	18	130
T21	21	130

SAND CONVEYING & STORAGE SYSTEMS



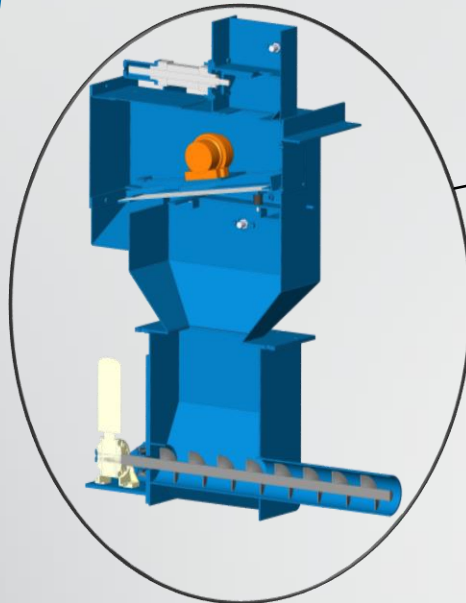
Foundry Machinery and Spares Limited



Key Features

- Dense phase operating system
- Controlled by intelligent relay or optional PLC
- Mimic display on control panel for plant status
- Easy to replace diverter valves
- Vessel certification with each unit
- Overpressure safety relief valve
- Unique low maintenance cone valve fill valve
- Mesh filters fitted to both incoming air valves and conveying pressure indication point.
- Can be installed as a stand alone unit or retro fitted to existing plants
- Simple low maintenance design

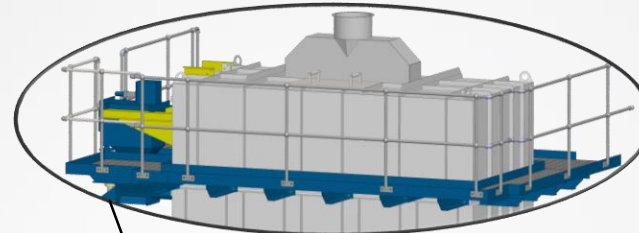
SAND RECLAMATION 'THERMAL' SYSTEMS



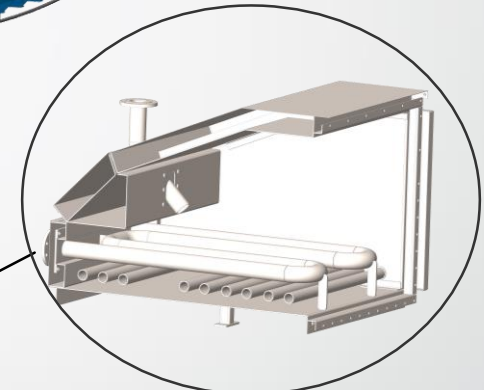
**INFEED SAND GATE,
VIBRATORY SCREEN & FEED SCREW**



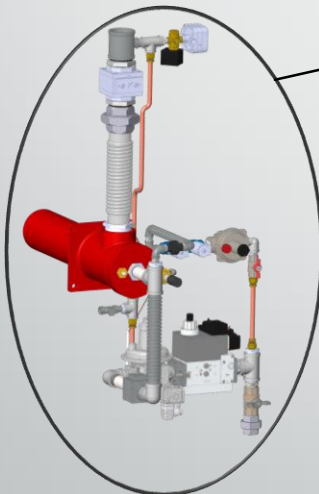
**OPTIONAL
MAGNETIC DRUM**



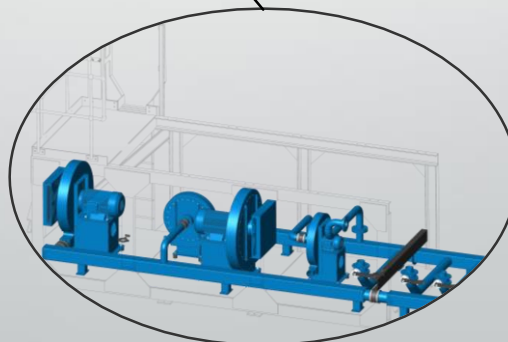
**MAINTENANCE ACCESS
PLATFORM**



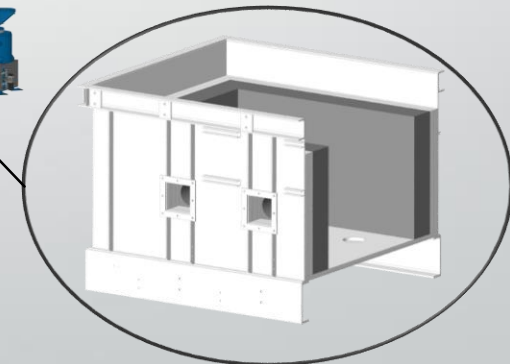
**STAINLESS STEEL HEAT
TRANSFER UNIT WITH
HEAT RE-GENERATION**



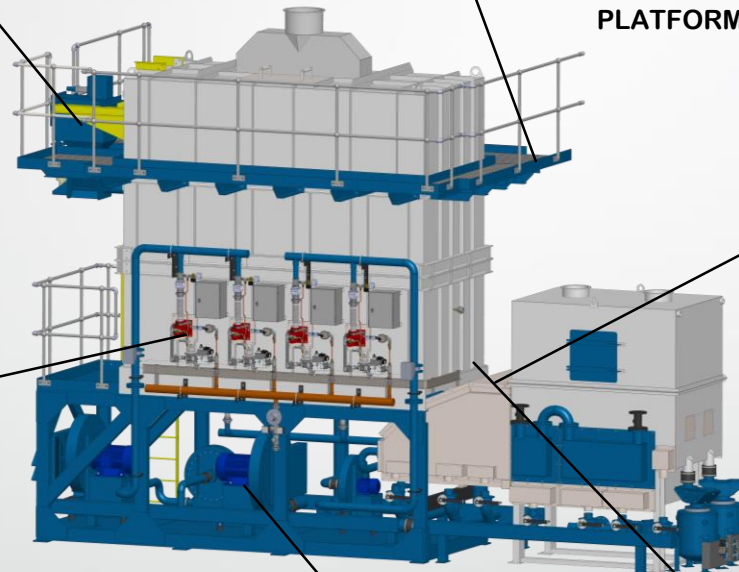
**BURNER ARRANGEMENT
(SHOWN WITHOUT BURNER TUBE)**



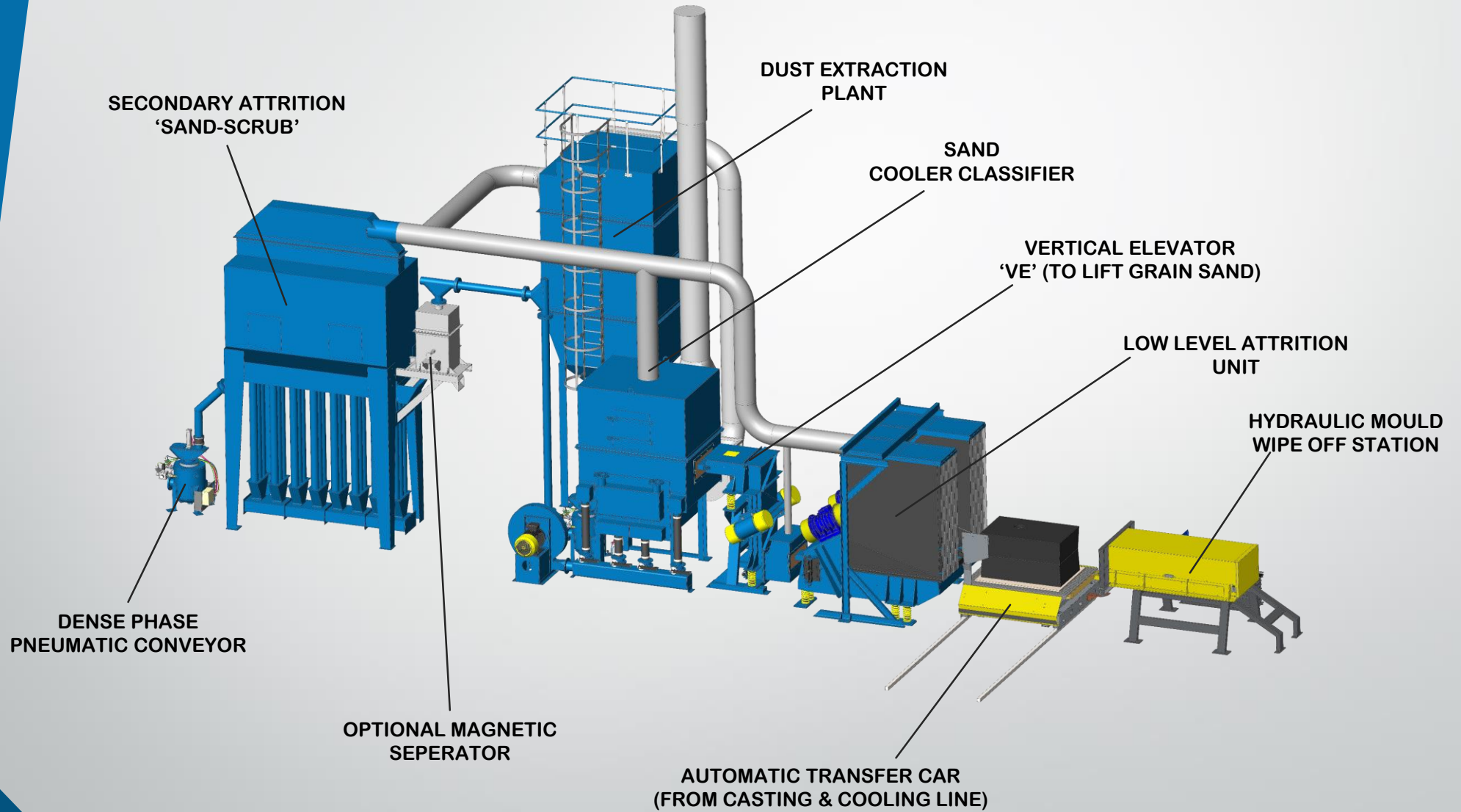
**INDIVIDUAL FLUIDISING AND
COMBUSTION FANS**



**HIGH TEMPERATURE (1400°C)
CAST LINING 200mm THICK
WITH BED OF SAND FOR
OPTIMUM PROTECTION**



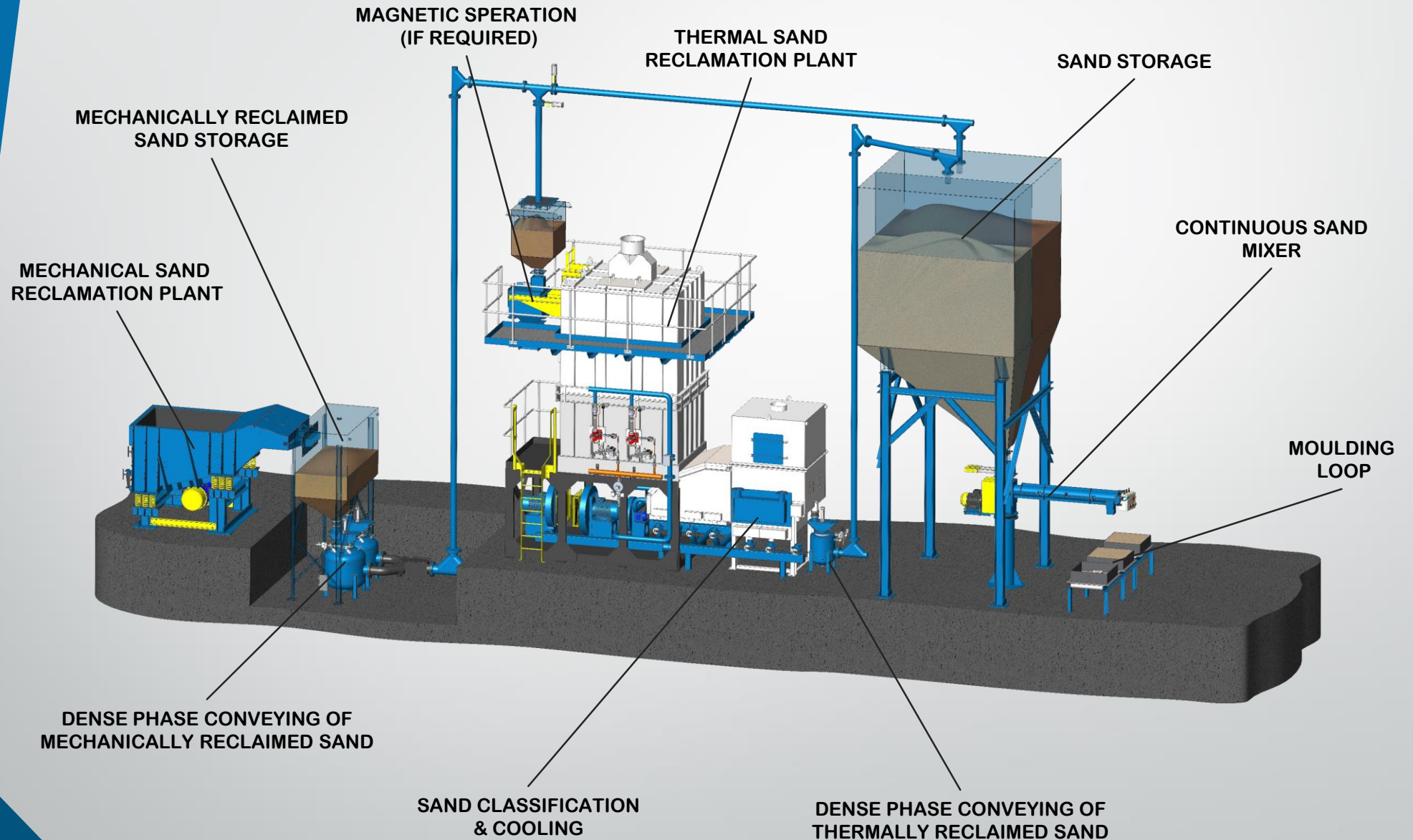
SAND RECLAMATION 'SAND-SCRUB'



SAND LIFE CYCLE



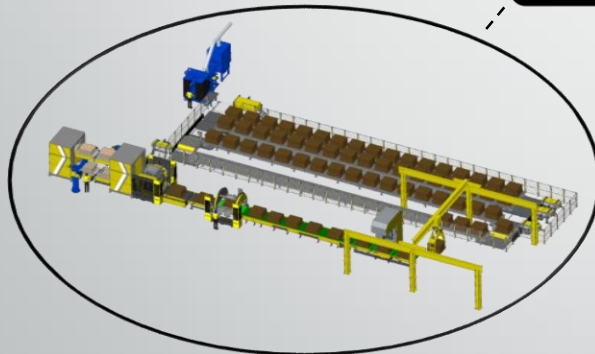
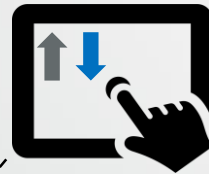
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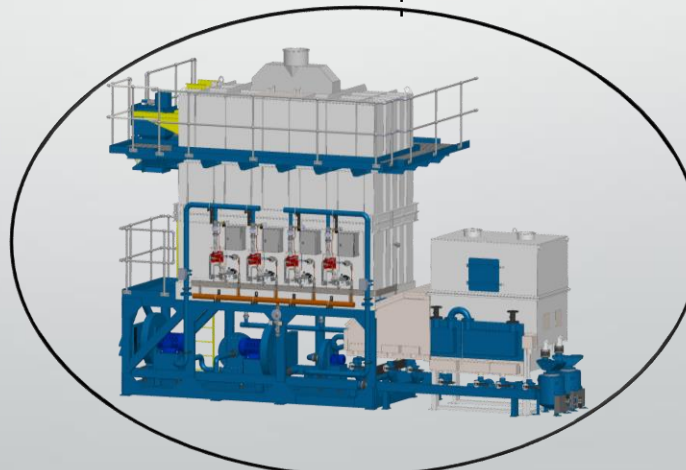
FMS REMCON

"SUPPORT WHEN YOU NEED IT"

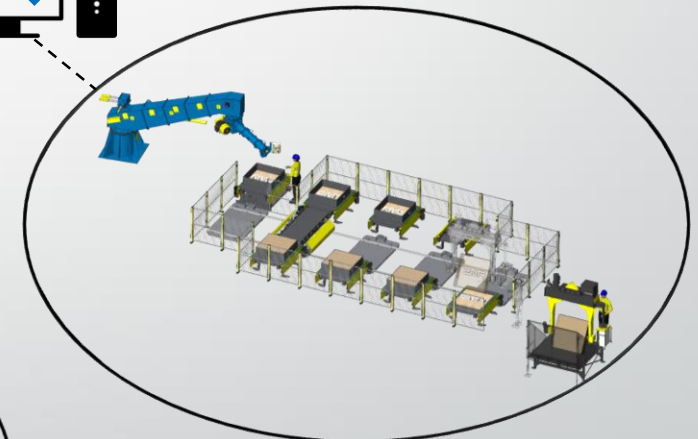
FMS
Foundry Machinery and Spares Limited



MOULDING & CASTING LINE
(TURKEY)



THERMAL PLANT
(FRANCE)



SHUTTLE MOULDING LOOP
(POLAND)

Key Benefits

- Connecting foundry to FMS engineers
- Remote access for global support
- PLC updates and back up remotely
- Real time machine status
- Less downtime
- Preventative maintenance
- SMS/Email notifications
- Material usage to consumable suppliers
- Off site monitoring

Speak to FMS for further details and full features available



Foundry Machinery and Spares Limited

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