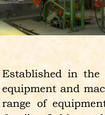
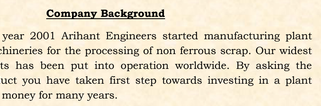
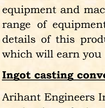
Arihant Engineers

A Complete Solutions For Metal Recycling
Arihant Recycling System







Arihant Engineers metal recycling system offers you plant and machineries exactly as per your requirement. Our widest range includes basic Shredding, Baling, De coating, Melting and Pulverizing equipment. We also offers machineries for Non ferrous metal. Our range includes Sbect and Wire rod rolling mill, Automatic coiler, Ingot caster, Net shape caster and special equipments for Non ferrous scrap processing.

Company Background

Established in the year 2001 Arihant Engineers started manufacturing plant equipment and machineries for the processing of non ferrous scrap. Our widest range of equipments has been put into operation worldwide. By asking the details of this product you have taken first step towards investing in a plant which will earn you money for many years.

Ingot casting conveyor and stacking machine

Arihant Engineers Ingot Casting machine has been developed to give trouble free production of Aluminum /Lead/Zinc and its alloy. Metal is poured from the furnace in to the casting wheel/Tundish and the system accurately controls the volume of metal in to each mould. The filled moulds travel up the incline , where they are water cooled. As the molds pass around the head sprocket , they invert , allowing the ingots to fall by gravity- assisted by two knock out hammer.

Data and Specification

1) Mould type - As per customer requirement
2) Mold Dimensions – Depends on above
3) Number of molds – varies from 60 to 240 (most popular sizes are 120,130 & 150 mold casting machine)
4) Mould material – Hermatite cast iron, material spec 420/12 To BS2789:1985
5) Production rate – 2 to 7 ton per hour for Aluminum and 8 to 24 tons per hour for lead
6) Mould cooling – Water spray , 9 spray heads, Total water consumption At 2 bar pressure 100 lts per hour
7) Knock out system – Automatic dual Knock out system operated by solenoid valve.
8) Pouring system – Casting wheel/ Cam operated tundish , Drive off main chain
9) Drive Motor – 3/5 HP AC variable frequency drive
10) Gear box – 500:1 double reduction worm gear
11) Conveyor chain – 150/160 mm pitch bolted assembly
12) Machine inclination – 13 degree
13) Machine construction – Robust frame fully welded Construction . Frame is made Out of 250 x100 mm C channel
14) Overall dimension – As per machine size normally between 6 to 20 meter.
15) Safety feature - Emergency stop on both side.

Arihant Ingot stacking machine

Combining our technical expertise with latest technological development, we offer ingot stacking line work in conjunction with our widest range of ingot casting machine.

We offer stacking system to suit your stacking and space requirement, included in this leaflet are some possible design.

Ingot stacking line

Overhead Gantry Type stacking machine

The stacking machine is suitable to receive ingots from casting conveyor . It can be arranged in various different configuration from in line to right angle system. It is PLC control and compressed air power system.

The configurations are as follows

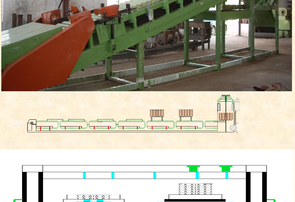
A chain type ingot receiving and accumulation conveyor and selective ingot turnover system.

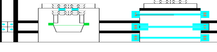
An overhead gantry type automatic stacking machine comprising of carriage mounted stacking grab.

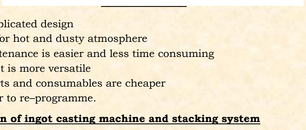
A six position stack storage conveyor of either twin chain ,chain and slat & stillage type according to stack type.

The stacker will build single square stacks of nested –cross layered ingots , on either pre cast or wooden pallet bases or regular foot ingots.

Automatic weighing machine and straping machine is also available at extra cost.







Less complicated design
Suitable for hot and dusty atmosphere
The maintenance is easier and less time consuming
The layout is more versatile
Spare parts and consumables are cheaper
It is easier to re-programme.

Combination of ingot casting machine and stacking system

To remove the need for external control of the ingots , each ingot is partially ejected from the mold using a synchronized hammer action connected to the movement of the mold conveyor.

A fixed guide is place below the mold ejection system to remove the ingot from the ingot casting line and guide it to the take away conveyor in an inverted position.

Lay out option

Different lay out option is available to suit customer requirement. The most common layouts are.

1. Straight line layout where ingots are stacked only at one end of the chain conveyor
2. Cross over layout where ingots are stacked at both the end of the Conveyor.

Turn over collator

Ingots will be presented from the out feed of the cooling conveyor generally cross wise on the conveyor having been pushed onto the short conveyor by a pusher bar mounted above the end of the cooling conveyor with a drive to the side out of the way of the heat build up.

Positioning stop will ensure that each ingot is stopped briefly to it straighten up.

The first ingot will be released from the stops and travel along the short conveyor. The next ingot will stop against the stops behind the first ingot.

Two grippers will locate on the ends of the next ingots and rotate about a horizontal axis lifting the ingot over the stops and placing it face down after the stop. The sequence will than be repeated.

The conveyor will be narrower than the length of the billets so that the gripper of the palletiser can pick a layer of billets by lifting under the exposed ends of the billets.

Palletiser unit

This is a gantry based unit . A basic gantry structure will carry a linear axis for horizontal motion , a vertical axis for picking up and placing of the ingot layer and a rotary unit to allow the collated ingots to be placed alternately at 90 degree to each other.

There are various layout that can be provided by Arihant Engineers to suit the customer requirement.

System operation

After receiving ingots from ingot casting machine. The ingots travel along the length of cooling conveyor. Exhaust fans are mounted above the cooling conveyor. At the end of the conveyor the ingots will be transferred positively on to the collation conveyor.

As necessary , ingots will be inverted and a layer of ingots will be built up against the end stop of the collation conveyor.

The layer will be lifted off the conveyor and moved laterally with either 0 or 90 degree rotation to create an interlocked pattern at the put down position.