

STACKER RECLAIMER





Wheel on Boom Reclaimer with 40 meters Boom Length handling Iron ore at 4000 MTPH capacity at izag Port Trust

For continuous stacking and reclaiming of crushed bulk materials, economic solutions can only be achieved by the use of combined bucket wheel stacker reclaimer. Our bucket wheel stacker reclaimer machine can stack the material to form the stockpile or reclaim the stockpiled material and feed onto the main line conveyor.

DESIGN FEATURES

TRAVEL BOGIES

Travel bogies are of robust construction and are provided with case hardened steel travel wheels. Travel drive is provided with spiral bevel and helical gear units of dust proof construction with gear casings of fabricated steel Cast-Iron.

THREE-POINT SUPPORT

The lower carriage is of sturdy box type design and is supported on the travel mechanism. It has statically determined three points support, which ensures stability and guarantees an even distribution of load over the entire assembly.

SLEWING MECHANISM

The slewing mechanism has direct current drives/ vvvf drives. The speeds of these motors are variable over a specified range controlled by a potentiometer provided on control desk with the sector-wise position left -O- right. Slewing range is ± 105 degrees. The super structure, which is of welded plate construction, is supported on ball bearing/roller bearing slewing ring.

BUCKET WHEEL BOOM

The bucket wheel boom is of sturdy welded plate construction or lattice girder construction.

BUCKET WHEEL

The bucket wheel is cell or cell-less and fitted with replaceable buckets. The tips of the bucket are of wear resisting steel.

A Fluid coupling is provided between the motor and the bucket wheel gear. The bucket wheel drive is reversible type to facilitate withdrawal of wheels in the event of excessive under cutting. Bucket wheel drive gear is of spiral bevel helical or planetary design.

HYDRAULIC LUFFING

Hydraulic cylinders and power pack do hoisting or lowering of the bucket wheel boom. The upper and lower positions of the bucket wheel boom are limited by control and limit switches.

BELT WEIGH SCALE

Electronic belt weigh scale is provided optionally on the boom conveyor to measure the flow and also to regulate the reclaiming capacity of the stacker-cum-reclaimer.

POWER AND CONTROL CABLE REELING DRUMS

Motorised cable reeling drums, complete with suitably rated contorque drive motor, with gear unit and

OPERATOR'S CABIN

The operator's cabin is made of sheet metal with provision for adequate ventilation and lighting. Adequate numbers of glass panels are fitted to provide a panoramic view. Control Panel for the entire electrical equipment is also provided. Air-conditioner unit is installed on request.

LOCKING ARRANGEMENT

Adequate locking arrangement is provided between the super structure and lower structure to make the machine withstand storms and cyclonic winds.

WIND WARNING DEVICE

Our stacker-reclaimer machine is provided with wind warning device. When the velocity of wind exceeds the set value, the alarm/trip signals in the control systems of the machine activate the audio/visual Signal to the machine operator in the operator's cabin. The operator thereby applies the rail clamps and Stops the travel movement of the machine.

AUTOMATIC OPERATION

Stacker-cum-reclaimers can be designed for unidirectional flow or instantaneously reversible flow depending upon the application. In case of reversible stacker-cum-reclaimer, with the provision of a tripper car, in combination with an intermediate conveyor, material is conveyed in the same direction as it was stockpiled (this is done by reversing the main line conveyor).

ELECTRICAL EQUIPMENT AND CONTROLS FOR STACKER- RECLAIMER

The stacker-reclaimer machine must run reliably and without interruption, round the clock, if necessary, in all climates and under all conditions. This means top dependability in hottest temperature in any part of the world. The recognition of these circumstances has formed the basis for the design of the electrical equipment for our stacker-cum-reclaimer. Electrical equipment includes large range and type like HT trailing cable, cable reeling drum, special torque motor, HT switchgear, transformers LT switchgear, variable speed AC, DC or VVVF drives, resistance boxes, heavy-duty limit switches, safety devices, Motors, Operator's desk, wind warning alarm and protection (optional) etc. These are all carefully selected to suit operational requirements, ease of maintenance, vibration and jerks, dusty, hot and humid weather. Various mode of controls exists to meet stacking and reclaiming systems. Special controls and high degree of automation can be provided according to the needs of the customer. Controls and automation design is available with conventional type relay logic as well as with programmable type logic controller. Many more special functions, indications, fault annunciation, alarm, communication and interlocks with



Stacker-Cum-Reclaimer in Operation at Thermal Power Station of Maharashtra State Electricity Board