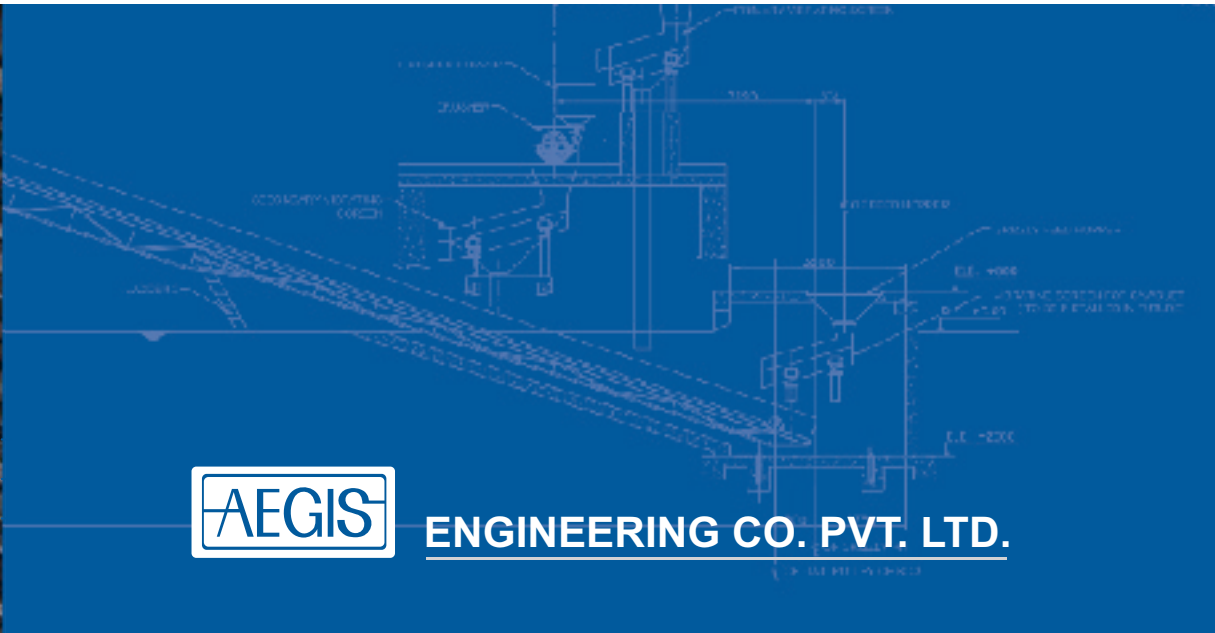


# COAL / LIGNITE PROCESSING AND HANDLING SYSTEM



15 TPH coal/lignite processing & handling system with pre-screening arrangement at Gokul Overseas Gandhidham.

- **GENEROUS DESIGN**
- **QUALITY INPUTS**
- **EXCELLENT WORKMANSHIP**
- **SYSTEM RELIABILITY**



**ENGINEERING CO. PVT. LTD.**



Customer Satisfaction  
 Cost Effectiveness  
 Technical Soundness

## A BRIEF OVERVIEW

Coal/Lignite processing & Handling system is used for preparation of coal / lignite to be used as a fuel in FBC boiler, hot air generator and other fossil fuel fired system where coal / lignite of specific size is required. Coal handling & processing system is one of the many areas / activities company is engaged in. It is manifestation of quarter century of experience & expertise of team of hard core professionals in meeting challenging and daunting demands of vast expanse of industries and projects such as,

- Mega Irrigation Projects
- Heavy Chemical Complexes
- Sea Ports & Shipping Industries
- Alloy Steel Producing Plants
- Oil Seed Processing & Solvent Extraction Plants
- Cement Manufacturing Units
- Steam Generation & Power Plants
- O.E.M. Industries

For their specific, specialized & exacting requirements of systems and equipments - in many a cases from concept to commissioning on turnkey basis, that too under third party inspection of consulting luminaries like **Tata Consultants, Udhe India, Humphrey and Glasgow, Linde, an mnc, Multi Media Consultants, Dalal Consultants** & host of others of equal repute.

### THE DRIVING FORCE

- The driving force behind AEGIS is customer satisfaction, cost effectiveness and technical soundness.
- AEGIS fully supports customer before and after the sale with services to help them derive full value from their system purchase.
- Through its people, as much as its technology, AEGIS is able to deliver systems & equipments that consistently provide high level of performance and long lasting value.
- Over last 25 years, we have served several satisfied customers like **GMB, GNFC Ltd, Birla VXL Ltd, IPCL, NDDB, Gujarat Ambuja Cement Ltd., Mahindra UGINE Steel Co Ltd., Jaiprakash Inds Ltd., HCC Ltd., Continental Construction Co. Ltd., H & R Johnson (I) Ltd., Parle Products Ltd., Claris Lifescience Ltd., Gokul Overseas** to name a few.



Belt conveyor feeding bunker



Belt conveyor under erection



Recycling belt conveyor feeding oversize particles back to feed conveyor



Small capacity plain roll crusher for crushing mineral material to - 2 mm size



Pulse jet type bag filter



Four roll crusher and vibratory screen mounted on a common base frame

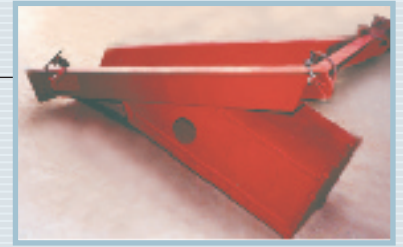
### A TYPICAL COAL/LIGNITE PROCESSING AND HANDLING SYSTEM COMPRISES OF FOLLOWING EQUIPMENTS/ COMPONENTS :

- 1) Feed hopper with grizzly and out flow control gate.
- 2) Vibratory feeder or belt feeder.
- 3) Feed belt conveyer with magnetic pulley.
- 4) Metal detector (optional).
- 5) Suspension magnet (optional) in lieu of magnetic pulley - required when metal detector is employed.
- 6) Primary vibratory screen (optional for pre-screening) - recommended when percentage of fines in raw coal/lignite is high.
- 7) Crusher.
- 8) Secondary vibratory screen.
- 9) Recycling belt conveyer or bucket elevator.
- 10) Product belt conveyer or bucket elevator (for feeding bunker).
- 11) On - line belt weigher (optional).
- 12) Dust collection system (optional).
- 13) Motor control center.

# MAJOR EQUIPMENTS/COMPONENTS

## VIBRATORY FEEDER OR BELT FEEDER

It is installed /suspended below feed hopper to control and regulate the discharge of material on to feed conveyor and in turn uniformly feed the system irrespective of manual rate of feeding. It is preferred for smooth and streamline operation of the system.



Vibratory feeder.



Inclined feed belt conveyor with bag filter in the background.

## BELT CONVEYOR

It is 20 deg./30 deg. troughing type belt conveyor with bridge type supporting structure with walk way and railing. It is provided with G.I. sheet hood. Gantry type structure can also be provided against specific requirement.



Close-up view of belt conveyor showing, belt, troughing idlers, deck plate, grating & bridge type structure.

## METAL DETECTOR WITH SUSPENSION MAGNET (OPTIONAL)

Metal detector along with suspension magnet can be provided on feed conveyor to remove iron particles (by suspension magnet, before metal detector) and detect other metal particles (by metal detector) and give signal to control panel to stop the conveyor for further manual removal. For small capacity systems, normally magnetic pulley is provided on feed conveyor for removal of iron particles prior to feeding crusher.

## VIBRATORY SCREEN

Completely enclosed vibratory screen is provided before crusher (when pre-screening is done ) and after crusher. Pre-screening is recommended when raw coal/lignite contains considerable fines. Screens with bouncing ball deck can be provided for continuous de-clogging of screen when processing small size moist product.



Totally enclosed vibratory screen



Primary vibratory screen feeding crusher in coal handling system with pre-screening arrangement.

## CRUSHER

Type of crusher to be selected for particular application depends on final product size of coal/lignite required by boiler. We provide rotating knittle type impact hammer crusher for secondary crushing . Following are the salient features of our crusher :

- Economical and power efficient.
- Simple and easy to maintain.
- Vibration and noise free operation.
- Less wear and tear.
- Compact and sturdy design.
- Relatively dust free operation.

Note : Additional mechanised system for receiving raw coal/lignite and primary crushing can also be supplied for bigger capacity plants



Four roll crusher with self compensating gear train mechanism



Knittle type hammer crusher

## BUCKET ELEVATOR

It is employed when space is constraint and an economical option in place of belt conveyor. Bucket elevator can be provided in place of belt conveyor for either recycling oversize particles back to the crusher and for feeding sized particles to bunker. Bucket Elevator can be centrifugal discharge type with spaced buckets or gravity type with continuous buckets. It is totally enclosed



View showing recycling bucket elevator feeding crusher and product bucket elevator feeding bunker.

## DUST COLLECTION SYSTEM (OPTIONAL)

Dust collection system complete with set of suction hoods, ducting, dampers, bagfilter and exhauster can be supplied to make coal handling plant totally dust free.



Ducting of dust collection system incorporated with coal handling system to make system totally dust free.

Note : Due to constant improvisation, specifications and design of equipments are subject to change without prior notice.

## REFERENCES

Since late 70's, **AEGIS** have taken a major step into various industries whereby our overall engineering skill, expertise in system design, automation, project innovation and practical awareness have successfully been used, whether it be **first chilled concrete dam project of Gujarat** or **1500 meters long Antivibrational Suspension System for 1 meter diameter water pipeline suspended on one of the most heavily trafficed railway bridge in India**, only one of its kind in the world or one of the largest **Pneumatic Handling System in Asia** or **import substitute Pneumatic Concrete Buckets** and its transportation system or be it **Gear Reducers rated upto 400 HP for application in thermal power plants**. **AEGIS'S** capabilities to assume responsibilities with regard to full turnkey projects includes its inhouse ability to commission complete system right from conception, design, detail engineering, manufacturing, erection, trial running and offering performance to the satisfaction of the client.

**Get in touch with AEGIS when planning your bulk handling requirement - any material from acrylic fibres to river rubbles - all under one roof.**

- BULK MATERIAL HANDLING**
- COAL PROCESSING & HANDLING**
- MECHANISATION**
- LEASING INFRASTRUCTURE FOR BULK CARGO HANDLING AT SEA PORT**



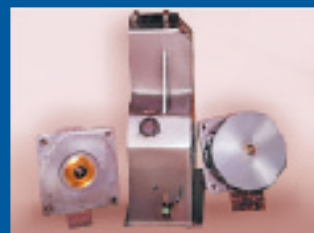
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Range of single and double stage worm gear reducers.



Import substitute set of planetary and differential gearboxes for drive of caterpillar machine.



Caterpillar for haulage of high voltage power cable.



Apron feeder.



Pneumatically operated concrete buckets used at dam site.



Tapper screw type feeder for pneumatic conveying of rice husk.



Manganese steel lined screw for sand washer.



Telescopic chute discharging DOC at port site.



Toothed roll crusher.



Mobile stacker conveyor with adjustable boom.



Back side view of caterpillar.



Belt conveyor for conveying iron ore-part at alloy steel addition system.



Screw conveyors.



MOL (Milk of lime) classifier - flight type.



Blow-through rotary air lock valve for pneumatic conveying of groundnut husk.



Mobile barge loading system with capacity of 450 TPH at Ruchi Soya jetty, Jamnagar.



Godown feeding and reclaiming system (under ground) with 100 TPH capacity.



1000 TPH Barge loading infrastructure at Bedi Port, Jamnagar.