

ANNEXURE - I - IMF SCOPE OF SUPPLYA -MIXERS

A 10 - Double arm high speed continuous mixer, type T36/20-S, for a production of 20 Ton/hour (lbs/min.) of chemically bonded sand. The mixer is complete with :

- Steel structure base;
- Support geared bearing connecting the mixer base to the first arm to allow the rotation;
- Sand feeding arm (first arm) which is completely closed and contains a high speed belt conveyor. The high speed belt conveyor conveys the sand from the feeding point to the mixing trough;
- Rotation geared bearing connecting the first to the second arm (mixing trough) to allow the rotation;
- The mixing trough (second arm) is made of an horizontal tubular casing inside which there is a rotating shaft with blades driven by a motor reducer supported by a frame. The blades are specially designed to guarantee sand forwarding and the best possible sand mixing with high wear resistance by means of special anti-wear plates in high stress areas and easy maintenance fixing system.

The trough tubular casing is divided in two parts along its entire length. The two halves of the trough are joined together with special connections designed to assure perfect trough closure and at the same time to facilitate the opening and they are hinged at one end to allow to open them completely for inside cleaning operations.

- Powered rotation of the sand feeding arm;
- Sand discharge mouth including the dust suction hood and pipes for connection to a suitable dust collection and exhaust system (optional).
- Electric wiring on board to feed the actuators, and the signals from the limit switches and the detectors, up to a connection box at the base of the machine.

Technical characteristics:

- Maximum capacity : 20 Ton/hour
- Length of mixing trough : 2120 mm
- Length of first arm : 2700 mm
- Discharge gate height : 1470 mm
- Installed power : 16 kW

Quantity NR 1

A 20 - Sand feeding system, for two different types of sand and one blend according to the following combinations:

- 100% sand type A
- 100% sand type B
- Blend of sand A and B.

The system is composed of :

- 2 pneumatically-operated gates, each with double adjustable opening on two positions to calibrate the delivery to the mixer for each of the possible combinations;

- 2 manually-operated gates for maintenance operations;
- Hopper for sand conveying into the mixer.

Quantity NR 1

- A 30 - Circuits for furan or acid-phenolic binder process, 2 pumps, mixer delivery 10-20 ton/hour, made up of two separate circuits, one for the resin and one for the catalyst including powered pumps with speed variator, pipings and valves necessary for the circulation and distribution inside the mixer. Pumps, seals, pipes and fittings are made of materials suitable to the fluids process with valves and joints for easy maintenance operations. The circuits include :
- Resin dosing pump;
 - Catalyst dosing pump;
 - Pumps powered by variable-speed motors with electronic control of the output RPM, and gearboxes;
 - Injection valves on the mixing trough, with electro-pneumatic drive and manual valve to control the delivery;
 - Injectors with compressed air nebulizers for a better distribution and mixing of the fluids with the sand;
 - Connection piping between tanks, pumps and valves;
 - Pipes, fittings and valves.

Quantity NR 1

- A 40 - Additional circuits for watery solution, made up of one pump, pipings and valves necessary for the circulation and distribution inside the mixer. Pumps, seals, pipes and fittings are made of materials suitable to the fluids process with valves and joints for easy maintenance operations. The circuits include :
- Pump;
 - Injection valves on the mixing trough;
 - Connection piping between tank, pump and valves;

Quantity NR 1

- A 40 - Main standard electrical power and control panel for T36/20-S mixer, complete with electronic control system up to 4 programs designed to manage the pumps and the sand gates. The supply includes the operator panel with alphanumeric display for the adjustment and supervision of the machine working and the control push-button panel at the operator position.

Item code AQK000ST

Quantity NR 1

TOTAL ITEMS A 10 - A 40

F - SHAKE OUT / PRE - RECLAMATION AREA

- F 10 - Shake-out grid, type GDR 200/250, to knock down No-Bake moulds

complete with integrated pre-reclame unit.

The grid is composed of anti-wear material consisting of flat laser cut elements and welded reinforcement bars.

Inner pre-reclamation perforated plate with special anti-obstruction perforations, complete with pneumatically operated door to damp debris.

Driven by motorvibrators on both sides of the machine.

The machine is supported by a spring system.

Sand discharge gate-lock designed to withstand heavy duty conditions both mechanical and thermal deigned without sliding parts and rubber seals.

The machine must be equipped with:

- General control electric panel (supplied separately).

Technical characteristics

- Vibrating section width: 2000 mm
- Vibrating section length: 2500 mm
- Weight: 5150 Kg
- Installed power: 15 kW
- Max. load capacity: 8000 Kg

Quantity NR 1

F 20 -

General power and control Switchboard for the Vibrating Grid operation.

The cased-switchboard designed for the machine control is equipped with start buttons and warning lights.

Installed power: max. 15 kW

Quantity NR 1

TOTAL ITEMS F 10 - F 50

PNEUMATIC TRANSPORT SYSTEMS FOR SAND TO BE RECLAIMED FROM SHAKE OUT TO SILO

G 20 -

PL 500 Pneumatic propulsor unit certified as a pressure vessel, for high temperature operation, complete with:

- Pneumatically-operated butterfly valve for loading with special seals to withstand high temperatures

- Nr. 2 capacitive probes to control max. and min. sand levels and withstand high temperatures

- Pneumatic blowing unit complete with breather valve

- Outlet elbow

- Clapet valve on the sand discharge

- Pneumatic line booster

- Electro-pneumatic panel for automatic and manual control of solenoid valves

Technical data

- Capacity : 500 lt.

- Dimensions (mm) :Dia. 900 x 1675 h
- Max working pressure : 8 Bar
- Working pressure : from 2 to 6 Bar
- Piping diameter : 100 mm

Quantity NR 1

- G 50 - Line booster to help sand transport, it blows air under pressure into the piping through a series of nozzles disposed in circle. The booster is complete with an independent pneumatic control appliance, (gauge, pressure reducer, electropneumatic 2-way valve, manual ball-valve, accessories and fittings for assembly).
 Max. working pressure : 8 bar
 Section diameter : 100 mm

Quantity NR 1

- G 60 - Line terminal for 100 mm diameter piping with interchangeable back wear plate, complete with flanges to be welded, seals, bolts and nuts.

Quantity NR 1

- G 80 - Anti-explosion security valve, to be installed on silo, operating by a pre-set spring to operate within stated pressure values (Safety valves).

Quantity NR 1

- G 85 - Anti-implosion security valve, to be installed on silo, operating by a pre-set spring to operate within stated pressure values (Safety values).

Quantity NR 1

- G 90 - Blade probe to check the sand level composed of an aluminium water-tight body and of a PVC screw.

Quantity NR 2

- G 120 - Electrical power and control panel for both manual and automatic operations of the pneumatic sand transport system, physically integrated in the mechanical reclamation system's control panel.

Quantity NR 1

TOTAL ITEMS G 10 - G 120

A-

RECLAMATION SYSTEM

- H 10 - Sand feeding system to the mixer. The system is composed of :
- 1 adjustable pneumatically-operated gate to calibrate the sand delivery to the mixer;
- 1 manually-operated gate for maintenance operations.

Quantity NR 1

- H 20 - Channel type vibrating screen for hot sand.
The supply includes:
Carbon steel channel with pierced screening plate complete with side channel for scraps discharge , supported by springs and counterplates.
2 motor-vibrators
Max. Capacity 20 Ton/Hour
Dimension 450 X 2500 mm
Max. sand temperature 200 - 250 °C
Support structure excluded.

Quantity NR 1

- H 40 - Fluid bed type cooler classifier to cool and scrub the sand coming out of the mechanical pre-reclamation unit complete with fans for fluidize the sand and finned pipe type heat exchanger .
- Sand delivery: 8-10 Tons/hour

Quantity NR 1

- H 90 - Steel hopper with support legs to load the PL750 propulsor.
The hopper equipped with loading flange with seal and assembly flange for level probe (quoted separately).
Dimensions : 1200x1200x h 3000 mm
Capacity: 0,75 m3

Quantity NR 1

- H 100 - Blade probe to check the sand level composed of an aluminium water-tight body and of a PVC screw.

Quantity NR 1

- H 110 - Main electrical power and control panel for the sand mechanical reclamation plant, complete with operator panel with graphic and synoptic

display to show the system functioning. The electrical panel is designed to manage a pneumatic transport system to load the sand, the reclamation tower complete with water cooling plant, a pneumatic transport system for the reclaimed sand forwarding.

Quantity NR 1

TOTAL ITEMS H 10 - H 110

J -

PNEUMATIC TRASPORT FOR RECLAIMED SAND AND NEW SAND FROM RECLAMATION UNIT TO SILOS

J 10 -

PL 500 Pneumatic propulsor unit certified as a pressure vessel, complete with:

- Pneumatically-operated butterfly valve for loading
- 2 off capacitive probes to control max. and min. sand levels
- Pneumatic blowing unit complete with breather valve
- Outlet elbow
- Clapet valve on the sand discharge
- Pneumatic line booster
- Electro-pneumatic panel for automatic and manual control of solenoid valves

Technical data

- Capacity : 500 lt.
- Dimensions (mm) :Dia. 900 x 1675 h
- Max working pressure :8 Bar
- Working pressure : from 2 to 6 Bar
- Piping diameter : 100 mm

Quantity NR 1

J 40 -

Line booster to help sand transport, it blows air under pressure into the piping through a series of nozzles disposed in circle. The booster is complete with an independent pneumatic control appliance, (gauge, pressure reducer, electropneumatic 2-way valve, manual ball-valve, accessories and fittings for assembly).

Max. working pressure : 8 bar
Section diameter : 100 mm

Quantity NR 1

J 50 -

Line terminal for 100 mm diameter piping with interchangeable back wear plate, complete with flanges to be welded, seals, bolts and nuts.

Quantity NR 1

70 - Anti-explosion security valve, to be installed on silo, operating by a pre-set spring to operate within stated pressure values (Safety valves).

Quantity NR 1

J 80 - Anti-implosion security valve, to be installed on silo, operating by a pre-set spring to operate within stated pressure values (Safety valves).

Quantity NR 1

J 90 - Blade probe to check the sand level composed of an aluminium water-tight body and of a PVC screw.

Quantity NR 2

CUSTOMER SUPPLY ON IMF SKETCHES

120 - Electrical power and control panel for both manual and automatic operations of the pneumatic sand transport system, physically integrated in the mechanical reclamation system's control panel.

Quantity NR 1

TOTAL ITEMS J 10 - J 120

K - NEW SAND SAND LOADING

K 20 - PL 125 Pneumatic propulsor unit certified as a pressure vessel, complete with:

- Pneumatically-operated butterfly valve for loading
- 2 off capacitive probes to control max. and min. sand levels
- Pneumatic blowing unit complete with breather valve
- Outlet elbow
- Clapet valve on the sand discharge
- Pneumatic line booster
- Electro-pneumatic panel for automatic and manual control of solenoid valves

Technical data

- Capacity : 125 lt.
- Dimensions (mm) : Dia.550 x 1205 h
- Max working pressure : 8 Bar
- Working pressure : from 2 to 6 Bar
- Piping diameter : 80 mm

Quantity NR 1

K 50 - Line booster to help sand transport, it blows air under pressure into the piping through a series of nozzles disposed in circle. The booster is

complete with an independent pneumatic control appliance, (gauge, pressure reducer, electropneumatic 2-way valve, manual ball-valve, accessories and fittings for assembly).

Max. working pressure : 8 bar

Section diameter : 80 mm

Quantity NR 4

K 60 - Line terminal for 80 mm diameter piping with interchangeable back wear plate, complete with flanges to be welded, seals, bolts and nuts.

Quantity NR 1

K 80 - Anti-explosion security valve, to be installed on silo, operating by a pre-set spring to operate within stated pressure values (Safety valves).

Quantity NR 1

K 90 - Anti-implosion security valve, to be installed on silo, operating by a pre-set spring to operate within stated pressure values (Safety valves).

Quantity NR 1

K 100 - Blade probe to check the sand level composed of an aluminium water-tight body and of a PVC screw.

Quantity NR 2

K 160 - Electrical power and control panel for both manual and automatic operations of the pneumatic sand transport system, physically integrated in the main control panel.

Quantity NR 1

TOTAL ITEMS K 10 - K 160
