

2. SUBJECT

LINE FOR MIXING AND PRODUCTION PVC COMPOUND

LINE CONTENTS:

- **MIXING SECTION :**
PVC MIXER MACHINES (DM-HC400) SERIES (2 pc)
- **RAW MATERIALS DOSING SECTION :**
9 DIFFERENT RAW MATERIALS (DM-DPW9) (1 set)
- **EXTRUSION FEEDING SECTION**
FEEDING OF EXTRUSION (DM-F7) AND STORAGE FOR DRY BLEND (1 set)

2.1 SCOPE OF SUPPLY OF RAW MATERIALS AUTOMATIC DOSING SECTION

De bagging section :

- Including equipment indicated below :

(BB1)	Pvc Big bag loading unit with screw conveyor (SC1)	1 piece
(BB2)	Caco3 Big bag loading unit with screw conveyor(SC2)	1 piece
(H1-7)	Storage hopper for additives	7 piece
(SCDZ1-7)	Screw conveyors for loading additives to weighing unit	7 piece
(PT1)	Platform for additives storage hoppers	1 piece
(SC3,4)	Screw conveyors for loading mixers	2 piece
(HD1,2)	Intermediate hoppers for load mixers	2 piece

Weighing section (Dosing unit)

- Including equipment indicated below :

Automatic Dosing system include weighing system for 9 components ; Pvc1 ,Caco3 and 7 types of additives Including platform, service hoppers dosing and electrical devices controled by PLC

2.2 SCOPE OF SUPPLY OF THE PVC MIXING SECTION

Pvc Mixer machine (DM-HC400) series

2 piece

DM-HC300 consist :

Heater mixer (vertical type)

Cooler mixer (horizontal type)

Control panel of the mixer machine

Production Details :

Product : Rigid PVC pipes

Material : PVC Resin & Additives

Average Batch Size : 400 Kg / batch (depends on the recipe)

Average No.of Batches / Hr. : 4 – 5 (depends on recipe & loading efficiency)

Average Hourly Production : 1600-2000 Kg / Hr. (depends on recipe & loading efficiency)

Equipment included :

Control of the machine automatic and Manual by PLC system

Frequency inverter (Schneider)

Tungsten carbide cover of edges for heater mixer blades

Central automatic lubrication system (programmed by mixer PLC)

GENERAL TECHNICAL DETAILS HEATER MIXER

Charge capacity	400 Kg.
Average production Capacity	1600-2000 kg/h
Cauldron Type	Vertical
Mixer's inner volume	1040 Lt.
Trademark of motor	Volt/Omega
Power of motor	200 Kw- 1500 r.p.m
Energy efficiency	IE3
Protection standard	IP55
Heating method	Self – friction
Motor Starter Type	Frequency inverter
Thermocouple Type	PT100 (Kobold)
Filtration	Dehumidifier
Thickness of Inner Wall	10 mm.
Material	(AISI 304) Stainless Steel
Thickness of Outer Wall	5 mm.
Material	ST37 Sheet Iron
Material Discharge System	Pneumatic Piston

GENERAL TECHNICAL DETAILS COOLER MIXER

Cauldron Type	Horizontal
Mixer's inner volume	3000 Lt.
Power of motor	18,5 Kw reducer
Thickness of Inner Wall	6 mm.
Material	(AISI 304) Stainless Steel
Thickness of Outer Wall	4 mm
Material	ST37 Sheet Iron
Thermocouple Type	PT100 (Kobold)

Material Discharge System	Pneumatic Butterfly Valve
Motor Starter Type	Soft Starter
Cooling water inlet temperature range	12 °C - 14 °C
Cooling water inlet pressure	2-4 bar
Cooling water consumption	15 tons /h
Air consumption for the pneumatic system	0.70 - 0,95 m ³ /h
Pressure range of the pneumatic system	6 - 10 bar
Total Electrical installation power	218,5 KW
Electrical power voltage	380 V 50 Hz.
Input Power Cable (Copper)	120 mm ²

Safety

Both the vessel will not operate with the door open.
Engines with voltage protection-device,
Engines protect with automatic current cut-device.

ELECTRIC CONTROL PANEL

Electric control panel closed in electric cabinet made from metalwork IP 54 protection with lock & key doors. Control panel is designed for housing all the necessary electric components like Frequency inverter , soft starter , switches, ammeters , Isolators , contactors , Push buttons, Temperatures indicators , etc for safe operation of Mixer & cooler. Components are wired with ferrule numbers for easy identification & traceability of the complete wiring system. System is designed to control the machine automatic and Manual by Schneider Electric PLC programmable logic controller with CPU module "Schneider unity pro" to control working cycles, complete with Memory Card to store the software. All electrical material trademark will be Schneider Electric.

2.3 SCOPE OF SUPPLY OF AT.FEEDING SECTION

- Including equipment indicated below :

(HD3,4) Discharging hoppers under cooler mixers	2 piece
(SC5,6) Screw conveyors for loading storage silos	2 piece
(S1,2) Storage silos for ready material (7 tons capacity)	2 piece
(SC7,8) Screw conveyors for transfer material into feeding unit	2 piece
(SC9,10) Screw conveyors above feeding platform	2 piece
(PT2) Feeding platform	1 piece
(HF1-7) Feeding hoppers above platform	7 piece

3. SERVICES , ASSEMBLING AND COMMISSIONING :**3.1. SERVICES****Electrical wiring**

Where is possible, the main electrical utilities as switches, coils, etc. are pre-wired to local junction boxes (included in our scope of supply) will be fitted on the equipment themselves. Set of cables connecting the components of the system and cables tray shall be included.

Supporting frameworks

All the necessary metal frameworks to support the automatic dosing system and the mixer machine will be produced by Der-San .

Health / safety regulations and rules

From the point of view regarding health and safety the plant this plant has been designed and offered as per consolidated technology, experience and standards that, to our knowledge, should be applicable in the customer's country too.

3.2. MECHANICAL ASSEMBLING

After the mutual agreement for schedule and beginning of the start mechanical assembling of the system , Der-San will send two technicians :

- one for mechanical works
- another for electrical wiring and connections

Estimated time for this works is 2 weeks excluding travel time (assuming 8 working hours/day). It is understood that during installation jobs, our technicians will be responsible for assembling. In case that they will need some assistance (human or machine) they will have to rely on local workers to install the plant.

In addition to our technicians' costs, the Buyer will be charged with following expenses:

- Round air tickets, accommodation and subsistence costs. (Hotel not a less then 3*)
- Local transportation and any local expenses related to the presence/works of our technicians.

Note :

- *The buyer must prepare the air, the electricity and the water connections before the technicians arrive to the buyer's factory, and also the buyer will inform the seller about this preparations and readiness.*