# THEREO ENGINEERING 8 CONSULTING COLLID. THEREC PROCESSING MACHINE CO.,LTD

Designer of Material handling System & Process for **PVC & CaCo**<sub>3</sub>



Manufacturer & Importer of Plastic Powder Handling, Machines, Equipment & Components



Therec Engineering & Consulting Co, Ltd.

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88 Soi Karnjanapisek 4/2 Karnjanapisek Rd. Bangbon Bangkok 10150 Thailand www.thereceng.com Sugar Processing TRE&C 01 / 2018 PVC & CaCO<sub>3</sub> Silo Loading & Unloading Systems

PVC & CaCO<sub>3</sub> Pneumatic Conveying & Bulk truck loading system

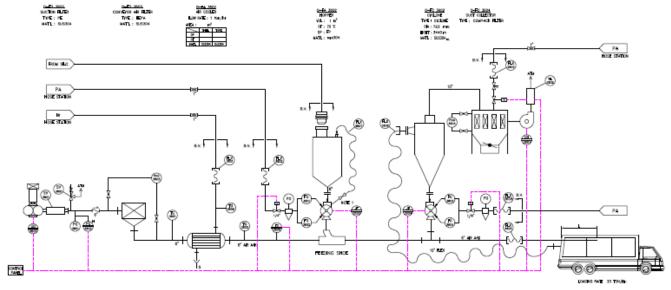
Air cooling for PVC temperature control

PVC, CaCO<sub>3</sub> & Additive Weighing, Dosing, and Mixing Systems

PVC, CaCO<sub>3</sub> Big bag unloading and filling system

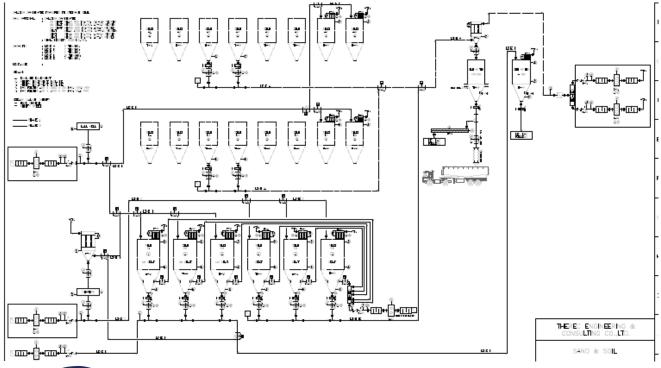
Computerized Automatic & SCADA control system

## PVC container truck feeding system



## CaCO<sub>3</sub> Bulk truck loading system

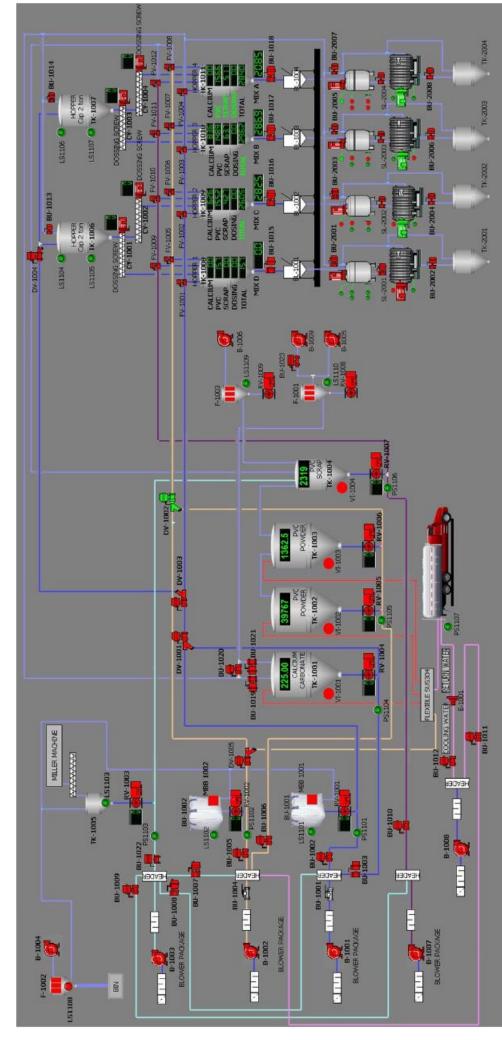
Picture from the system of TPC

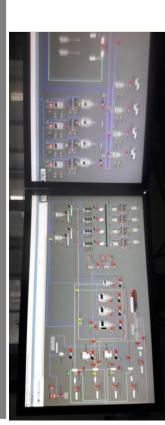






PVC- DOA-PN1030 Silo loading , Process feeding, Weighting & Mixing





Picture from the new design line of PVC Pipe Factory



PVC- Scrap-CaCO<sub>3</sub> Silo loading ,Process feeding, Weighting & Mixing



#### Sea Bulk loading system (PVC Powder) SCG Chem (TPC) Warehouse

- 1 of 18.0 tons Pneumatic conveying systems
- 1 of Fixed feeding gun for container truck, 4 directions and swing
- 1 of High pressure Roots blower 45kw / 60.0 hp
- 1 of Cyclone for dust controlling system, with 1,300 m<sup>3</sup> centrifugal fan
- 1 of Bag filters for dust controlling system, with 1,300 m<sup>3</sup> centrifugal fan
- 2 of Heavy duty air lock rotary valves (powder valve), Stainless steel 304
- 1 Carbon steel air cooler, air to water (cooling tower water) type
- 1 Stainless steel housing in line air filter, Mini plete element
- 1 of Electrical control box, with Mitsubishi PLC





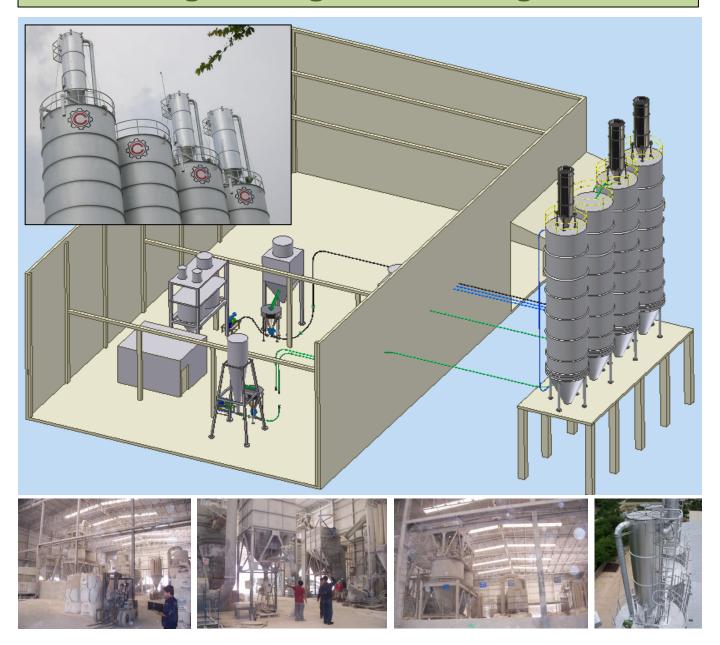




#### Sea Bulk loading system (PVC Powder) SCG Chem (TPC) Warehouse

- 1 of 18.0 tons Pneumatic conveying systems
- 1 of Fixed feeding gun for container truck, 4 directions and swing
- 1 of High pressure Roots blower 37kw / 50.0 hp
- 1 of Cyclone for dust controlling system, with 1,300 m³ centrifugal fan
- 1 of Bag filters for dust controlling system, with 1,300 m<sup>3</sup> centrifugal fan
- 2 of Heavy duty air lock rotary valves (powder valve), Stainless steel 304
- 1 Stainless steel air cooler, air to water (cooling tower water) type
- 1 Stainless steel housing in line air filter, HEPPA element
- 1 of Electrical control box, with SEMENS LOGO PLC

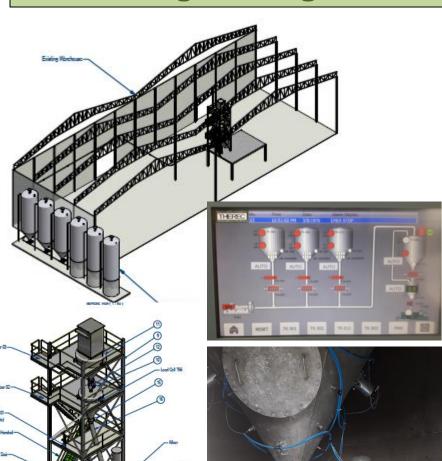




## Storage silos loading system (CaCo<sub>3</sub> Powder) Chinchana Co.,Ltd., Lopburi

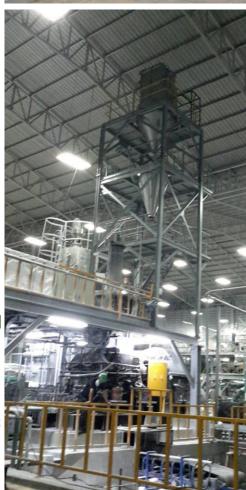
- 1 of 6.0 tons Pneumatic conveying systems
- 1 of High pressure Roots blower 37kw / 50.0 hp
- 3 of Bag filters for dust controlling system, with 1,000 m³ centrifugal fan
- 3 of Heavy duty air lock rotary valves (powder valve), Carbon steel hard chromed
- 1 of Electrical control box, with SEMENS LOGO PLC









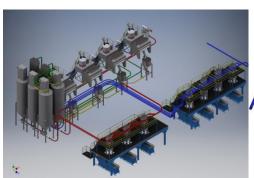


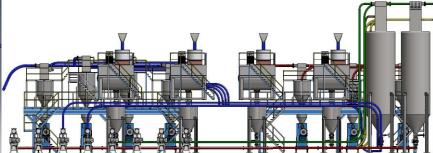
#### PE Plastic bag (CaCa<sub>3</sub>) processing system / TPBI

- 3 of 30.0 m<sup>3</sup> Stainless steel AISI304 Silos
- 2 of 2.0 m<sup>3</sup> Carbon steel weighting hoppers
- 1 of 200 kg Weighting system with anti vibrating load cell set
- 1 of 1.2 tons Pneumatic conveying systems
- 1 of High pressure Roots blowers 5.5 kw
- 3 of Heavy duty air lock rotary valves, SUS304
- 1 of Volumetric dosing machine/ with dosing rotary valves
- combination system accuracy at +/- 0.5%
- 1 of Bag filters for dust controlling system SUS 304
- 1 Complete operation plate form / 100% Knock down type
- 1 of Electrical control box, with SEMENS S7 1200 PLC with SIEMENS touch screen ,and SCADA system









#### PVC pipe (PVC resin, PVC scrap and CaCa<sub>3</sub>) / Twin Lion

- 3 of 200.0 m<sup>3</sup> Stainless steel AISI304 Silos
- 1 of 20.0 m3 Stainless steel silos
- 4 of 1.0 m<sup>3</sup> Carbon steel weighting hoppers
- 1 of 300 kg Weighting system for 3 types of raw material to 4 ribbon mixers with 10 formulas of raw material mixing, automatic memories operation with adjustable page, allow only the authorized person with pass word add and renew
- 5 of 5.0 tons Pneumatic conveying systems
- 2 of Big bag unloading stations
- 4 of High pressure Turbotron blowers 30 kw
- 1 of Truck blower for bulk truck to silos 50 kw
- 7 of Heavy duty air lock rotary valves , Carbon steel body with hard chromed
- 12 of Scale valves for Weighting system
- 4 of Volumetric dosing machine/ with dosing rotary valves
- 2 of Bag filters for dust controlling system
- 1 of Electrical control box, with SEMENS S7 1200 PLC with SIEMENS touch screen ,and SCADA system







High pressure Roots blower Package with Acoustic Enclosure for PVC Bulk truck to Silo loading line with air cooler unit



PVC Bulk truck ,silo feeding system 18 Tons / hr



PVC & CaCo<sub>3</sub> Bulk Bag , Silo feeding system, 5 Tons / hr





Thames Side

PVC & CaCo<sub>3</sub> Bulk Bag , Unloading station / Fork lift type

PVC & CaCo<sub>3</sub>, Silos weight monitoring system



## PVC pipe (PVC resin, DOA & PN1030) / Hymix Co.,Ltd

- 1 of 100.0 m<sup>3</sup> Stainless steel AISI304 Silos for PVC resin
- 2 of 30.0 m<sup>3</sup> Stainless steel silos for DOA
- 3 of 1.0 m<sup>3</sup> Stainless steel weighting hoppers
- 2 of 1.5 tons Pneumatic conveying systems
- 2 of receiving hopper for PVC and dry mix
- 3 of High pressure Roots blowers 11 kw
- 1 of Truck blower for bulk truck to silos 50 kw
- 2 of Heavy duty air lock rotary valves, SUS 304
- 12 of Scale valves for Weighting system
- 1 of Volumetric dosing machine/ with dosing rotary valves
- 2 of Bag filters for dust controlling system
- 1 of Electrical control box, with SEMENS S7 1200 PLC with SIEMENS touch screen ,and SCADA system



PVC Resin, DOA, DOTP Automatic Weighting System





Stainless steel 304 PVC Resin Silo, Size 100 m<sup>3</sup>



Stainless steel 304 DOA Storage Tank, Size 34 m<sup>3</sup>





**PVC Silo & DOA Storage tanks /weight** monitoring system







PVC Powder Silo loading & Weighting system / deliver from 16 tons bulk truck



PVC Powder Silo loading & Weighting system / deliver from 16 tons bulk truck



Stainless steel 304
DOA & DOTP Tanks
Size 30 m<sup>3</sup>
With the Loading in and Pumping Out
System arrangement





#### PVC 25 kg bag filling machine loading system (PVC resin) / TPC

- 1 of 2.0 tons Pneumatic conveying systems
- 1 of Big bag unloading stations
- 1 of High pressure ring blowers 22 kw
- 2 of Heavy duty air lock rotary valves, SUS316 DMN MALD 150
- 1 of Bag filters for dust controlling system
- 1 of Electrical control box, with SEMENS LOGO



#### High pressure Roots blower Package for PVC conveying line



Nawa Plastic Co.,Ltd. / Saraburi SCG Plastic Group of company



Sahaaree Co.,Ltd. / Chachengsao



Advance pipe Co.,Ltd. / Rayong CPPC Group of company

#### Air lock Rotary valve for PVC dry mixed



TPC / Marbtapud Rayong



Bangkok PVC Co., Ltd. / Nakornprathom



TPC / Marbtapud Rayong



Big Bag Unloading Station
Thai Plastic and Chemical (Public)
Co.,Ltd. / TPC



**ROOTS Bulk Truck blower 1.1-1.8 Bar** 



DMN Rotary, Diverter & Scale (weighting) Valve



**DMN Scale (weighting) Valve** 



### **Silos System Component**



Silo feeding Multi ways diverter valve

Silo pressure & vacuum valve

Cast iron and Stainless steel Slide gate valve









Vibrofluidizer

Fluidification plate PF & FLUO

Level sensor

Air Knocker





























Coupling





Silo Loading Bellow











**Smart Digital** Display

Junction box

Low profile mounting assembly

Install and Removal without lifting tool

Silo mount, Atex & **IECEx Certification** 





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