

PRODUCT SHEET

Fly Ash Handling System

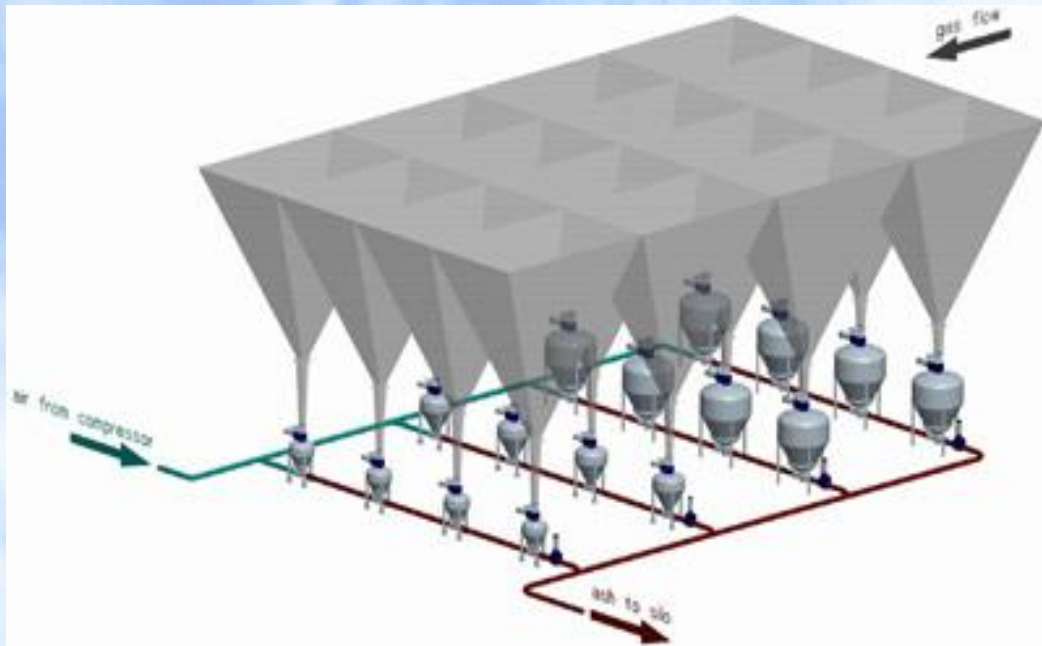
When we burn fuel such as oil, coal, bagasse, etc., it causes some residual products to be released into the atmosphere, in which those residual product (or fly ashes) may contain ashes, gases, moisture, etc, The residual product will be collected by electrostatic precipitator (ESP) and are then temporarily stored in the hoppers located at the bottom of the ESP. After that, they will be evacuated and transported out of the ESP's hopper with the help of ash handling system (or ash conveying system) by means of compressed or vacuum air. At the end, the ashes will be conveyed in batches and stored in a storage silo.

Ash handling is the process of collecting, conveying, temporary storage and transportation of fly ash residue. The ash handling system is designed specifically for transporting hot, abrasive ashes collected from ESPs. It should be able to remove the collected ashes from the hopper without causing re-entrainment into the gas flow. The key factor determining the ash handling system design is the properties of the ashes, for example the cohesiveness, moisture content, temperature, friction, permeability, etc. which in turn affects the flow pattern of the fly ash.

For designing a reliable system, the flow pattern is a very important determinant. As we all know, the ashes collected by the ESP are very fine particles and usually are highly cohesive. For such kind of ashes, mass flow is recommended. Mass flow is the flow pattern where all the ashes are in motion whenever they are evacuated from the hoppers. This kind of flow is recommended so as to prevent the ashes from sticking together and solidifying. The design of the ash handling system should allow for flexibility of scheduling the hopper discharges according to the ash being collected in these hoppers.



**Ash Handling
System in ESP**



Ash Handling System Diagram

The sizing of the ash handling system depends on the following factors:

1. Capacity;
2. Distance to storage silo;
3. Pressure source;
4. Working pressure;
5. Ash characteristic;
6. Pipe diameter (air);
7. Transmitting pipe diameter (ash line)

The ash handling system can be manually or automatically operated to transport the fly ashes out from the ESP so as to prevent clogging of ashes. Also, depending on the characteristic of the ashes collected, they can be reused for purposes such as producing cement, etc. At Tai & Chyun, the ash handling systems can be tailored according to customer's requirements.

For more information, please contact us at the contact information below or visit our website.

