

Mactenn installation case study: Bed Ash Pneumatic Conveying Systems, Sardinia.

IN BRIEF

Three dense-phase pneumatic conveying systems were supplied to convey bed ash between 5t/h for the two smaller conveying systems and 56t/h for the larger system 3. Material transfer distances are between 48m and 70m. The ash systems use liter vessels with 100mm pipe lines and system 3 uses an 857 liter on a 250mm pipe line. All dense-phase systems are located under hoppers with start and stop controlled in automatic by the feed and silo reception level probes to maintain empty feed hoppers and reception silos. System 1 is used on the Economiser line with a cooled top plate and dome filling component to withstand the high temperatures. System 2 and 3 are standard in that no additional equipment is required to handle the 200°C material temperature. Ashveyor equipment supplied were switch type diverter valves, isolation high temperature knife gate valves, wear resistant bends end diverters placed on top of the reception silos. System 3 conveyed the ash material directly in to the fluid bed of the boiler.

MATERIAL CHARACTERISTICS

Bed Ash	0.1mm to 2.0mm
Bulk Density	1106 Kg/m ³
Temperature	200°C to 350°C
Moisture Content	Dry
Condition	Free Flowing

SYSTEM OBJECTIVES

1. Dense-phase low velocity conveying.
2. Reliable operation.

SYSTEM PERFORMANCE

Transfer Capacity	5 – 56t/h
Conveying Distance	48m to 70m
Reception Points	1 feed and 1 reception point per system.

IMPROVEMENTS ACHIEVED

1. Increased transfer rate.
2. Reduced compressed air requirements.
3. Spillage free conveying.



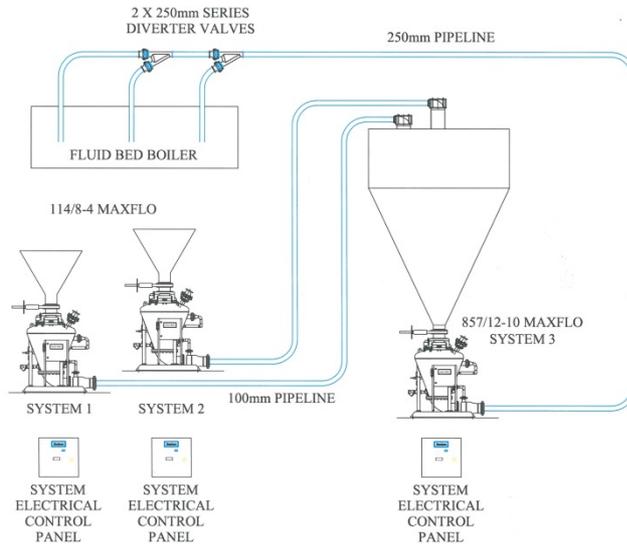
2 x 114
vessel
feed
hopper
full
water

Other
and

Power station boiler building – system 3



System 3 ready for delivery



System flow layout



High temperature vessel