

Mactenn installation case study: Fly Ash Conveying Systems, Ukraine.

IN BRIEF

Three systems were supplied to convey 35,500Kg/h of Fly Ash over a total distance of 110m. System 1 is designed for the first field of the ESP feed hopper system using a 140 liter vessel while fields 2, 3 and 4 use smaller 20 liter vessels. There are 4 ESP feed hoppers each with four fields requiring 16 vessels. These systems then convey to an intermediate single large conveying system using an 1800 liter vessel on a 200mm pipe line to cover the remaining 400m including a 50m vertical lift in to the reception silo. Each of the 5 complete systems have local PLC control using Siemens S7-200 PLC and touch screens with centralized operation possible from the control room using the Profibus communication protocol.



MATERIAL CHARACTERISTICS

Fly Ash	0.1 – 0.25mm
Bulk Density	795 -1020 Kg/m ³
Temperature	200°C
Moisture Content	0%
Condition	Free Flowing

SYSTEM OBJECTIVES

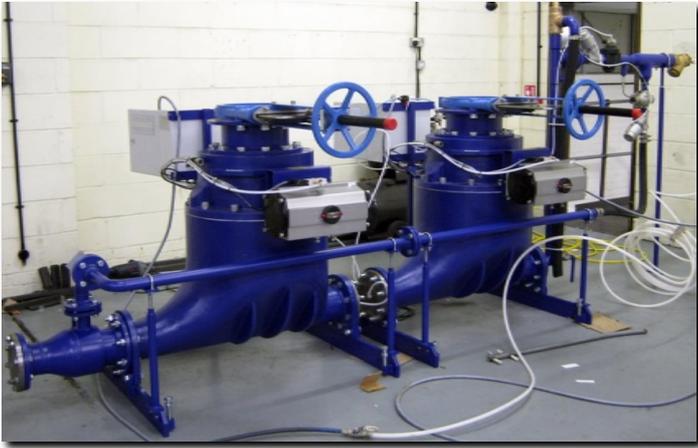
1. Dense phase low velocity conveying.
2. Short delivery.
3. Reliable operation.

SYSTEM PERFORMANCE

Transfer Capacity	35,500Kg/h
Conveying Distance	510m
Reception Points	1
Feed points	16

IMPROVEMENTS ACHIEVED

1. Increased transfer rate.
2. Reduced compressed air requirements.
3. Low grain damage.



Part of system 2 during functional testing & pressure test.



System 3 conveying vessel during assembly.