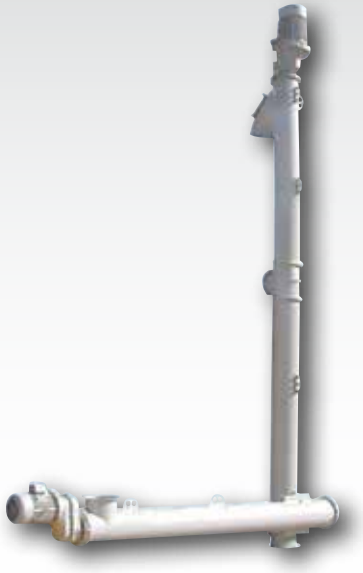
Concrete Production

Vertical Screw Lift System

3





Description

The VE Vertical Screw Lift System consists of a Horizontal Screw Feeder and a Vertical Screw Conveyor.The Horizontal Screw Feeder, which may feed material from a silo or hopper or simply convey it being fed by an upstream feeding device, consists of a U-shape or tubular trough in carbon steel with appropriate surface finishing. In any case the outlet zone consists of a short tubular section flanged at a right angle on the bottom section of the Vertical Screw Conveyor. A flange is welded at each end of the Horizontal Screw Feeder. The trough / tube contains a rotating screw with shaft coupling bushes at each end that are connected with the shafts of the two end bearing assemblies. The Horizontal Screw Feeder is equipped with one or more intermediate hanger bearings should its overall length require any. Furthermore, it is equipped with a drive unit suitable for the application. The Vertical Screw Conveyor consists of a tubular housing complete with a tangential inlet in the bottom section which connects with the outlet of the Horizontal Screw Feeder, an inclined outlet spout in the top section, end flanges welded on each conveyor tube section, a rotating screw in one or more sections with shaft coupling bush at each end, a base bearing assembly complete with slide bush, and a number of intermediate hanger bearings should the overall height of the conveyor require any. The top-mounted drive unit with integrated end bearing assembly (from which the screw is suspended) and self-adjusting shaft sealing unit is suitable for the application. The VE Vertical Screw Lift System is available in a medium-heavy-duty version only.

Function

The VE Vertical Screw Lift System consists of two units: a Horizontal Screw Feeder which receives material from a silo, hopper, or another feeder or conveyor, and a Vertical Screw Conveyor that lifts the material to a certain level. Material may be discharged into a weigh hopper, into one or more bins or silos, or into another conveyor or conveying system.Fabricated components, screws, and bearing assemblies have been specially designed for this system to facilitate maintenance.The VE Vertical Screw Lift System, which excels through high volumetric efficiency and excellent mechanical features, was patented in various countries in the 1980s.





Application

The application in the photographs shows an arrangement with manual bag opening hopper, a standard length horizontal screw feeder and a vertical screw conveyor. The picture on the left shows filling of a single silo, whereas the picture on the right shows an installation with a pneumatically operated diverter valve for filling of two silos.

Benefits

In comparison with bucket elevators or pneumatic conveying systems, the VE Vertical Screw Lift System has the smallest overall dimensions, is easier to maintain, requires the smallest number of spare parts, and offers the best price-performance ratio.

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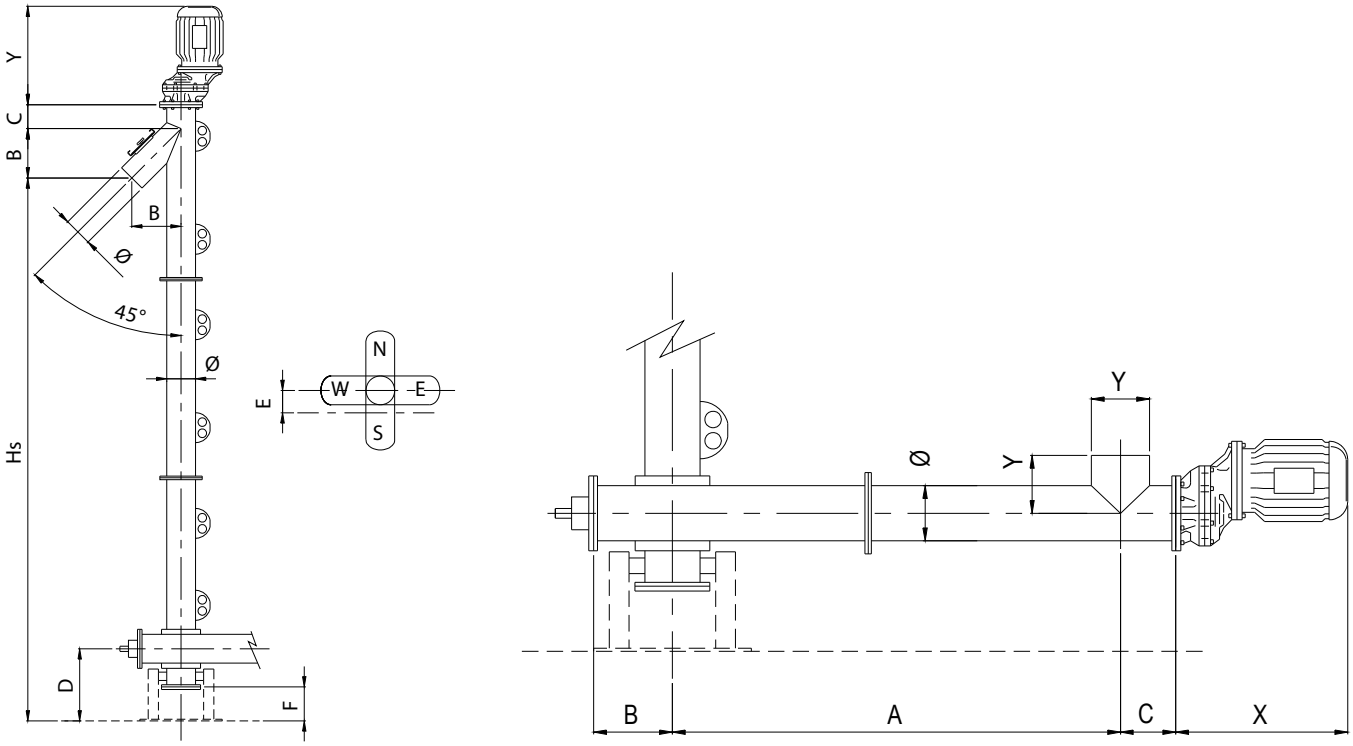
Vertical Screw Lift System



Technical Features / Performance

- Small footprint
- Few parts subject to wear
- External tube diameter: 114mm (4.5 in), 139mm (5.5 in), 168mm (6.6 in), 193mm (7.6 in), 219mm (8.6 in), 273mm (10.7 in), 323mm (12.7 in)
- Elevation height in steps of 1 metre (3.3 ft) up to a maximum of 20 metres (65.6 ft)
- Throughput rates: between 3m³/h (1.8 cfm) and 95m³/h (56 cfm) considering the volumetric efficiency of Portland cement

Overall Dimensions



Ø	114	139	168	193	219	273	323
B	212	212	283	283	354	354	354
C	100	100	115	115	130	130	145
D	350	350	440	440	500	500	550
E	70	90	115	125	140	165	220
F	150	150	200	200	200	200	200

This datasheet does not show the complete range but only the models most suitable for the application.

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