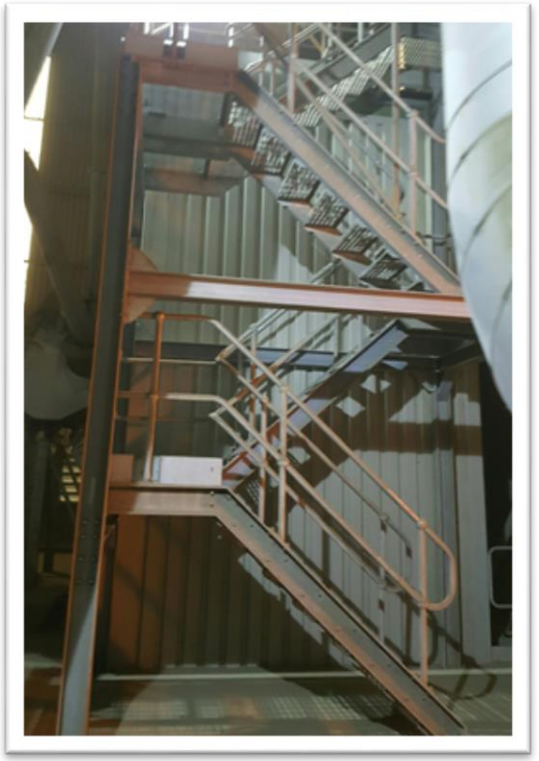
Case study

Conversion of electrostatic precipitator into bag filter after cement mill

Reasons for ESP conversions & retrofits

- ✓ Stricter emission regulation by the authorities
- ✓ Use of secondary fuels
- ✓ Reduction of operation costs



Benefits for ESP conversions & retrofits made by Intensiv-Filter

- ✓ Lower clean gas dust emissions (constantly) compared to the ESP operation
- ✓ Economical bag filter design using low pressure cleaning in combination with bag length up to 8m can be foreseen for ESP conversions, to decrease the pressure drop across the bag filter and to increase the bag life time
- ✓ Re-use of existing casing, duct work, steel support, dust transport and auxiliary equipment is possible subject to assessment study
- ✓ Flexible and pre-assembled filter head module design reduces down time to a minimum and enables the plant to execute ESP conversions during regular plant shutdown times
- ✓ Low cost solution (compared to a new installation)

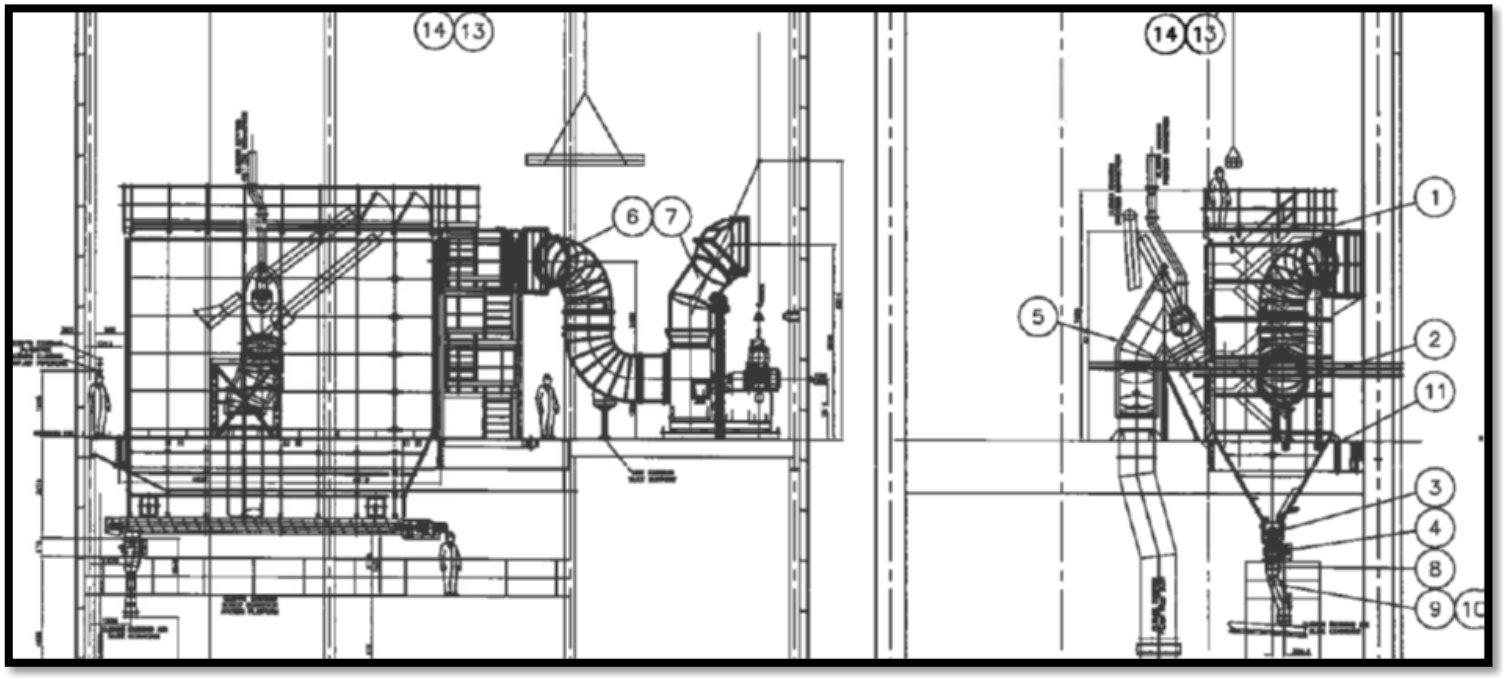
Case Study – United Kingdom

Initial Situation:

- 2 x cement mill,
- Year of installation : 1985
- Feed total: 350 t/h
- Dust concentration before with ESP : 360 g/m³
- Gas flow: 82200 Am³/h
- Temperature : 120 °C

Case Study – United Kingdom

Bag Filter – conversation:



Case Study – United Kingdom

ESP – conversation into bag filter:

- Filter type: IFJCC 70/8 – 5625
- New Housing, hopper and discharge system
- Replacement of fan and silencer
- Number of filter heads: 8
- Number of bags: 560
- Length of bags: 5625 mm
- Filter media: ProTex Meta-Aramid
- Filter area: 1630 m^2
- Cleaning system : patented 2-step Coanda-Injector
- Air to cloth ratio: 50.4 $m^3/m^2/h$
- Year of conversion: 2016 (CM9) and (CM10)

Case Study – United Kingdom

Given warranties:

- Dust emission : <10 mg/m³
- Pressure drop : <1.500 Pa
- Compressed air consumption: <80 Nm³/h
- Noise level : La < 80 dB(A) in 1.5 m distance (inside building)

Values during 2 year operation:

- Dust emission : < 5 mg/Nm3
- Pressure drop : 1.498 Pa
- Compressed air consumption: 75 Nm3/h
- Noise level : La 79 dB(A) in 1.5 m distance (inside building)

Case Study – United Kingdom

ESP – conversation into bag filter:

Emission from ESP was more than

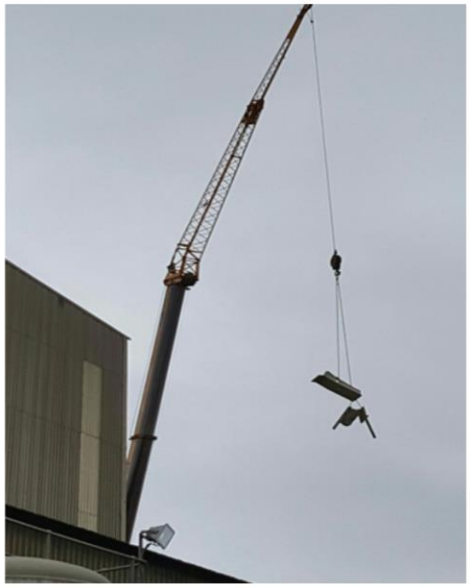
90 mg / Nm³

Emission after Intensiv Bag Filter installation

< 5 mg / Nm³

Case Study – United Kingdom

ESP dismentled



Material delivered

Module ground assembly

New Fan Installed

Filter heads during installation

www.intensiv-filter.com