TECNICAS REUNIDAS

espindesa

CAN GRANULATION

Ammonium Nitrate (AN) and Calcium Ammonium Nitrate (CAN) as described in this brochure, are produced by granulation and used as fertilizers.

The ESPINDESA process allows the manufacture in the same plant of different types of fertilizers based on ammonium nitrate, such as: ammonium nitrate 33.5%; calcium ammonium nitrate 26 – 20.5%. Even NPK fertilizers can be produced by the addition of other raw materials to the plant.

The Versatility is the key advantage of the ESPINDESA process.

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CAN GRANULATION

High quality Ammonium Nitrate (AN) and Calcium Ammonium Nitrate (CAN) fertilizer grades can be obtained by means of ESPINDESA process.

PROCESS DESCRIPTION

96% ammonium nitrate solution obtained in the AN Solution plant is pumped to granulation zone.

(for further information related to the AN Solution preparation, please refer to AN Solution Technology Sheet)

Granulation Zone

The granulation is performed in a pugmill granulator, that allows the manufacture of any fertilizer based on ammonium nitrate

The concentrated AN solution is sprayed into the granulator through several spray nozzles, over a bed of recycled particles and solid raw material (limestone or dolomite).

Granulation process is controlled by adjusting the following variables: concentration and temperature of AN solution, and solid recycle rate and temperature.

Drying, Screening, Conditioning and Coating zone

Ammonium nitrate granules fall to the rotary drier where its moisture content is reduced by a co•current flow of hot air.
The dried product is then classified into three sizes: coarse, on-size and fines. The coarse fraction is sent to the mills, mixed with the fines fraction and returned to the granulator as recycle.
The on-size product is cooled in a Fluidized Bed Cooler, which is fed with conditioned air.

After cooling, the granules are sprayed with a coating agent in the Coating Drum, to prevent product caking during storage and transport.

The dust contained in the various air streams is recovered in cyclones and the final air stream is discharge to the atmosphere after beign scrubbed, to adjust the gases to the environmental regulations.

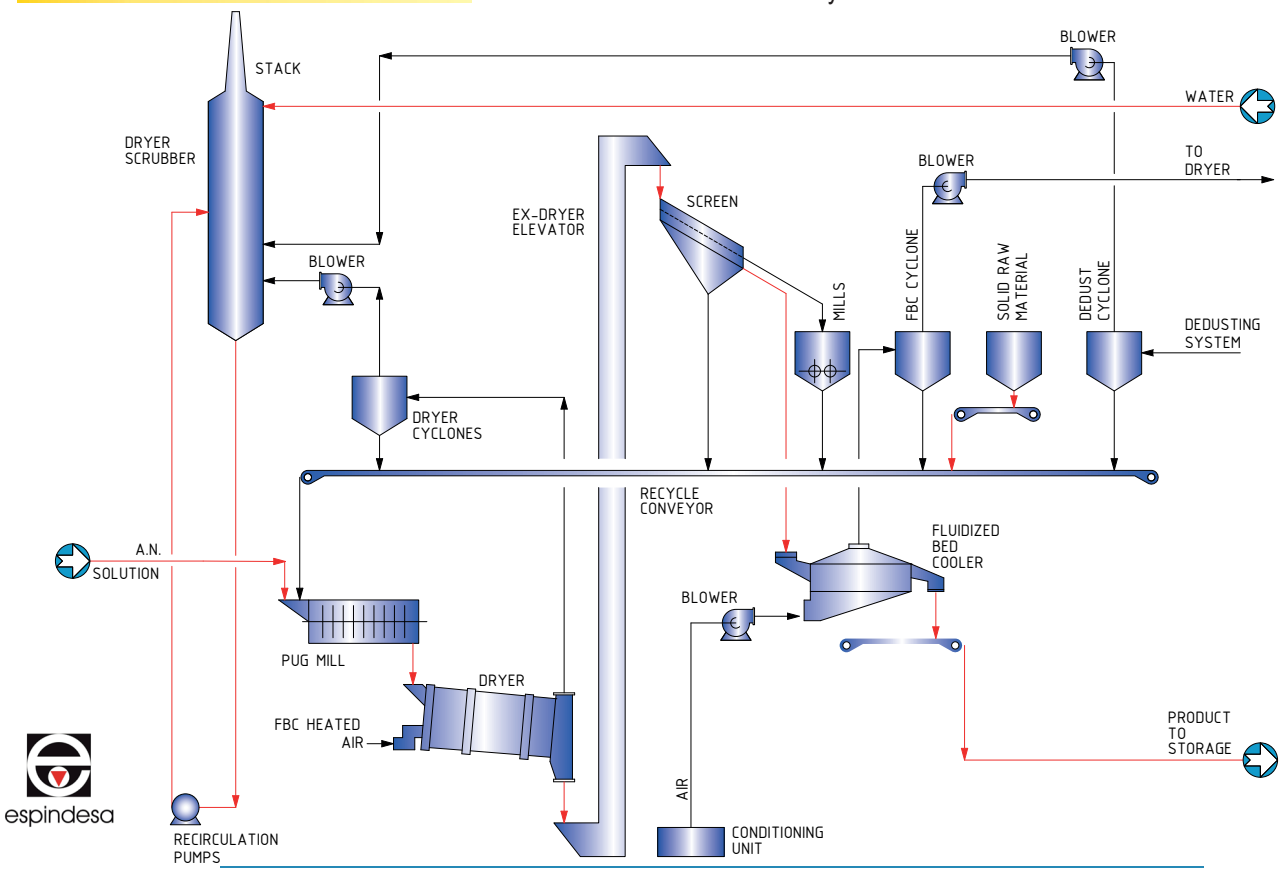
Product Specifications (typical)

	CAN	AN
Nitrogen content (% by weight)	20.5–26	33.5–34.5
Moisture content (% by weight)	≤ 0.5	≤ 0.25

Utilities Consumption

Steam	30 kg
Cooling Water (DT: 10ºC)	15 m³
Electricity	30 kWh

PROCESS FLOW DIAGRAM



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