

ROTARY TUBES



PRINCIPLE

Rotary tube is composed of one slightly sloped shell, fitted with two riding rings supported by four rollers and driven by a chain drive or a girth gear assembly. Internal spiral flights and lifters allow conveying of product from the inlet to the outlet of the shell and insure a proper and efficient thermal exchange between product and process gas.

Rotary tubes can be used in various configurations : co-current, counter current, indirectly heated through the shell or by means of internal tubular exchanger.

They are dedicated to a large range of divided solids from fine powders to large particles.

ADVANTAGES OF THIS TECHNOLOGY

- Handling of heterogeneous products with a large range of shape size and density
- Proven technology
- Heavy duty
- High drying / calcining temperature
- High flexibility
- High evaporation
- Large capacity



▲ Indirect rotary tube with heat exchanger



▲ Direct rotary tube

MAIN APPLICATIONS

All kind of powders, crystals, beads, granules, fibers, cakes, chips, for all industries (chemical, food, mineral, etc.)

MAIN PROCESSES

Drying, cooling, calcining, reaction, reduction, dehydration, solvent removal, granulation, coating, polishing, shake-out, etc.

PILOT TEST LABORATORY

For determination of rotary tube parameters and possibility to perform semi industrial tests.



comessa can propose different types of rotary tubes

COMBINED DRYER / COOLER

This kind of convective rotary tube is composed of two distinct sections (drying and cooling).

WITH INTERMEDIATE TRANSFER BOX



Independent sections separated by a partition wall allowing :

- Transfer of product through this intermediate partition
- Injection or exhaust of process air through this partition

WITH CENTRAL TUBE



No internal separation between drying and cooling zones. Cooling air is re-used for drying after getting mixed with additional make-up air injected through central pipe.

INDIRECTLY HEATED

WITH HEATING MANTEL



Heating through the wall by :

- Electrical coils
- Gas burners

WITH "BUILT-IN" FLUID EXCHANGER



Steam tubes dryer or water tubes cooler. Can be operated under controlled atmosphere.

WITH "BUILT-IN" AIR EXCHANGER



Air coolers, dedicated to very fine or highly hygroscopic products.

SPECIAL APPLICATIONS

GRANULATOR



For granulation of fertilizers.

SHAKE OUT DRUM



For casting cleaning out. Can be combined with cooling.

COATER / POLISHER



For final treatment of granulated or compacted fertilizers.

COMPLETE PROCESS UNITS

Depending on customer's requirements and applications, COMESSA can provide a complete process unit including ancillaries equipment such as : air preparation assemblies, dedusting units, automation, etc.

