

VEL GRATE COOLER WATER SPRAY SYSTEM



APPLICATION :

In Cement Industries, VEL Grate Cooler Water Spray System is used for cooling the vent gas for any of these purposes:

- To increase the efficiency of ESP by reducing fugitive dust emission.
- To reduce the power consumption of the vent outlet fan.
- To maintain a slightly more negative pressure at vent outlet thus contributing in reducing fugitive emission.
- To reduce the temperature so that the upstream conveying equipments could be designed for lower temperatures thus reducing the capital cost.
- To cool the clinker directly so that the inlet temperature to cement mill is within controllable limits.
- To control the depth of the clinker bed both to avoid grate burn-out due to low bed depth, and to avoid stalling the cooler fans due to excessive bed depth.
- To limit fluctuations in the secondary air temperature as this can upset the kiln temperature profile and adversely affect clinker quality.

VEL GRATE COOLER WATER SPRAY SYSTEM CAN BE ADAPTED TO ALL COMMON TYPES AND MAKES OF GRATE COOLER, FOR INCREASED CAPACITY AT MINIMUM COST AND MINIMUM LOSS OF PRODUCTION TIME.

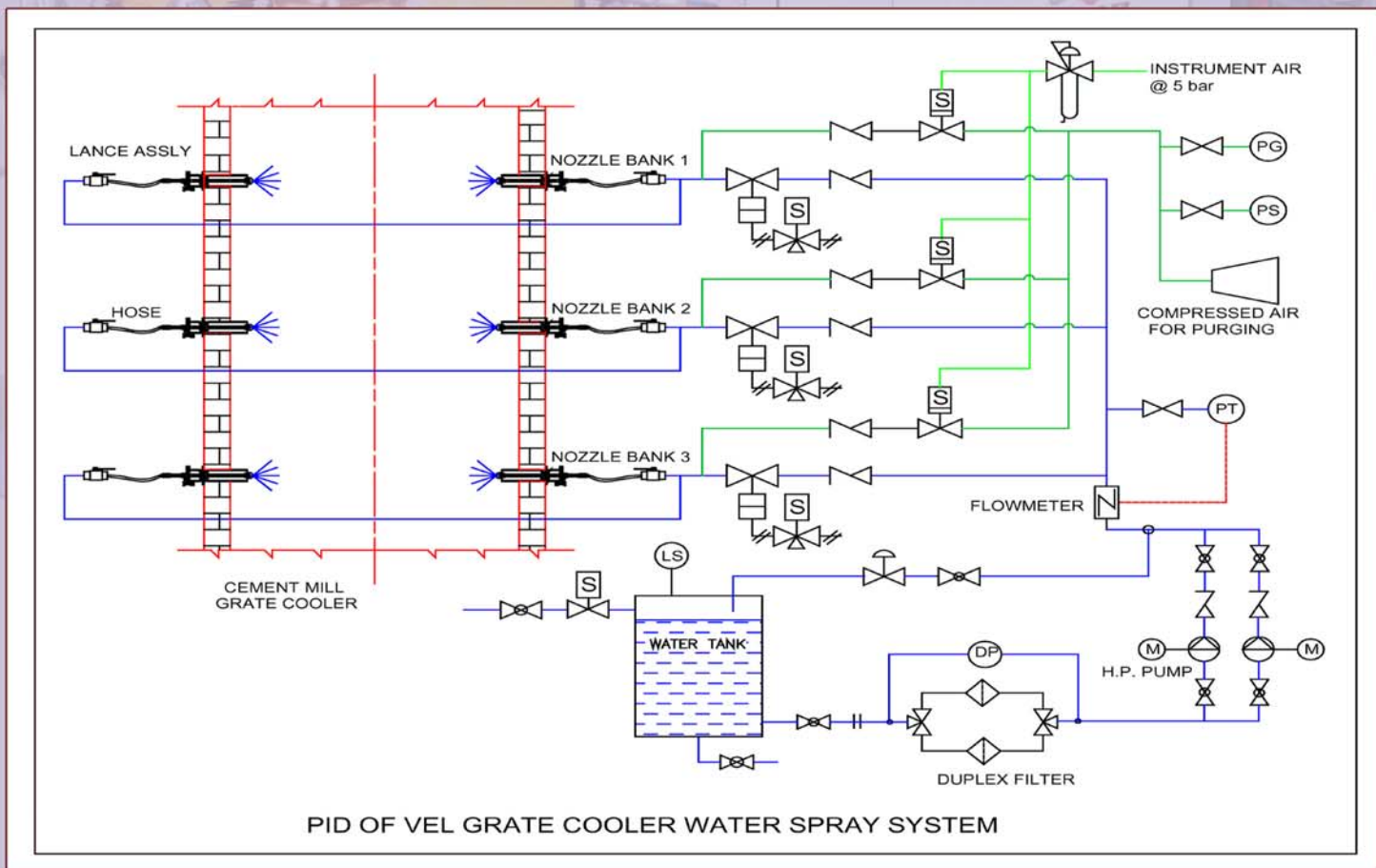
SYSTEM DESCRIPTION:

VEL Cooler water spray system comprises of complete set of skid mounted pumping & valve train system along with spray nozzles & relevant accessories. All necessary instruments, control valves etc are provided. All closed loop controls, sequence of operation, alarms & safety interlocks are provided. The system may be interfaced to your existing PLC/DCS or may be provided with a standalone control panel.

DESIGN CRITERIA:

The purpose or application, dimensions of the Grate Cooler, the height of the clinker bed, the overall gas flow, the gas temperature, the clinker temperature profile, number of nozzles needed and the height at which the lances are to be fixed in the cooler compartment, the degree of cooling required put together determines the type of spray system to be used, that is:

- ✓ Compressed air atomized water spray system
- ✓ Spillback water spray system
- ✓ Fogjet / Multicone water spray system
- ✓ Flatjet water spray system



PRINCIPAL OF OPERATION:

In VEL Grate Cooler Water Spray System, the temperature of the stream of gas / clinker is cooled in three stages:

- 1) Heating of the injected liquid to the boiling point temperature corresponding to the system pressure.
- 2) Conversion of part of the liquid into a gaseous state by evaporation of the liquid.
- 3) Superheating of the evaporated liquid.

We can also provide Grate Cooler Water Spray System especially for Direct Cooling of Clinker bed. This is normally required when the cooler is operated above its designed capacity.

We design, manufacture, supply to achieve your ultimate goal.

Manufactured By,

VEL ENGINEERING SERVICES

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