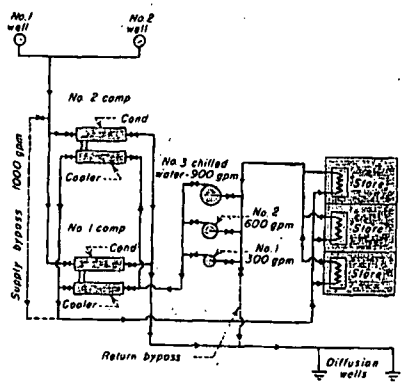
More PRACTICAL IDEAS

Begins on page 15



Beating the Demand Meter

Our CENTRAL air-conditioning plant serves shopping area, including large store, two banks, a super market, two restaurants, bowling alley, theater and about 20 small shops. Maximum load is 1000 tons.

Plant has two 600-ton centrifugals, driven by 600-hp 4160-volt wound-rotor motors. Condensing water at 54 F is supplied by two 500-gpm deepwell pumps. After passing through condensers, water is returned to same aquifer (well) it's taken from, but downstream so there's no chance of recirculation.

Chilled water at 45 F is pumped at varying gallonage to maintain differential between supply and return of 10-12 F. Minimum is 600 gpm, but various pump combinations can increase it to 900-1200-1500-1800 gpm.

Because of private utility operation, chilled water is pumped from 7 am to 2 am from May 15 to Nov 15 to meet consumers' requirements.

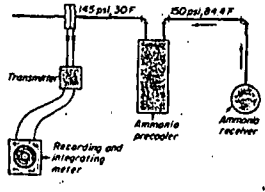
Because of motor's size, there's a heavy demand charge. We learned during first operating season that load during May, June, Sept, Oct and Nov was light, as weather was cool. But demand charge was imposed if motors were used only a half hour during month.

We figured we could obtain about 400 tons of cooling from 54-F well water, but could not get much dehumidification. But then humidity during these months is usually low. We installed a bypass line so the well pumps discharged directly into chilled-water loop, sketch. Another bypass diverted returns back into diffusion wells.

Results were very good. We cool with well water during May and June, use compressors during July, Aug and Sept. We return to well water during Oct and the few days in Nov that require cooling. Job more than paid for itself in one season, saving demand charge for four months as well as reducing energy charge which all adds up to savings.

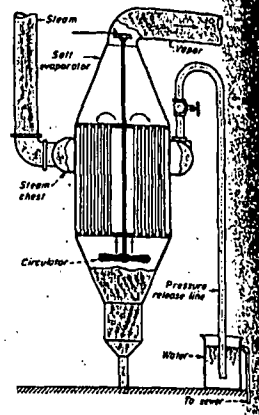
W J STEINERT *Flushing, N. Y.*

How to Meter Liquid Ammonia



SKETCH SHOWS a good method of metering liquid ammonia. Water is calibrated directly in tons of refrigeration. Previous attempt to install orifice plate on outlet side of precooler was unsatisfactory because of the "flash gas" problem. It is not necessary to precool to this low a temperature but to about 10 degrees below condensing temperature corresponding to system head-pressure.

M E EVANS *Chicago, Ill.*



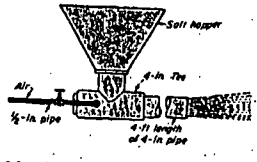
Pressure-Release Line Serves as Safety Valve

Our SALT EVAPORATORS at this salt plant did not have any way of releasing pressure in steam space. Under normal conditions they are placed under a vacuum.

Steam space is under considerable pressure at various times, because of abnormal conditions.

Since shells of those vessels were designed to operate in a vacuum, this could cause a dangerous explosion. With no safety device available, I tried the foolproof idea in the sketch. This cost us very little money and works swell.

D JENNINGS *Sarnia, Ont.*



Moving Dry Salt

WHEN OUR BULK-SALT STORAGE became filled so our present conveyors couldn't fill remaining space, I made the blower in sketch. One man can handle this apparatus. Salt can be blown in any direction and needs little or no attention. It can be used for any dry, free-running material that causes trouble.

D JENNINGS *Sarnia, Ont.*

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The equipment reaches production temperature in the quickest possible time.

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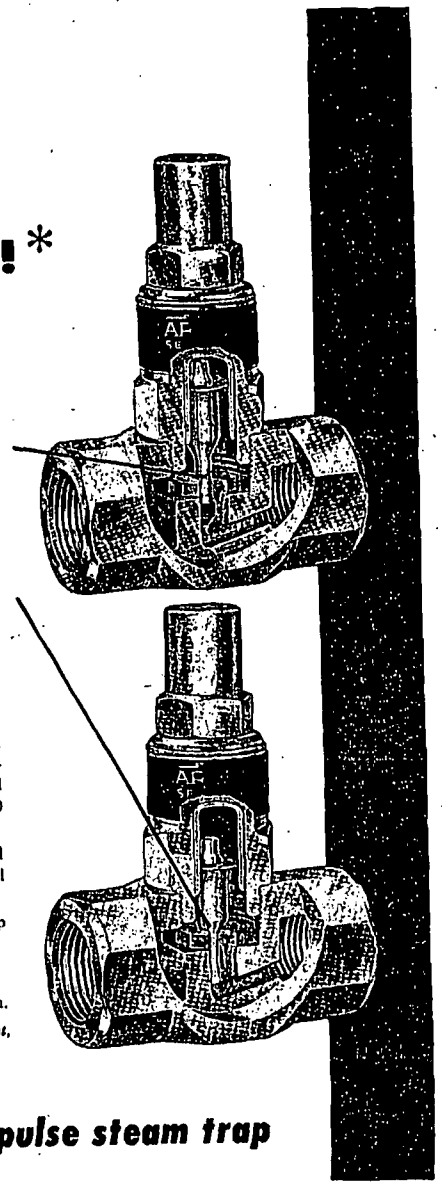

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