

Westlake, Louisiana
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E. A. Peveto - Westlake

Temperature Regulation of AlCl_3 Test Reactor

Granular AlCl_3 will melt at 194°C (382°F) at 5.2 atmospheres (76.4 psig) or can start subliming at 177.8°C (352°F). This 352°F subliming temperature corresponds to a saturated steam temperature of 125 psig. In order to control the AlCl_3 test reactor below its subliming (or melting) point, steam tracing on it should be controlled at about 125 psig. This will probably result in an AlCl_3 temperature in the test reactor of between 300 and 320°F depending on gas flow rates. This tracing should be tightly wrapped, Thermoned if possible and insulated with 1-1/2 or 2" of insulation.

The steam regulation for this tracing line can be obtained by purchasing a regulator as follows:

Masoneilan, Series 11-11, steam reducing valve rated 250 psig inlet, reduced range of 20 to 225 psig. Size 1/2" screwed, capacity >40 lbs/hr of steam at 250 psig inlet pressure.

This regulator is available (from stock) from Maintenance Engineering Company, Houston, for \$91.80.

JDM
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