

Q1:

You need to purchase the vacuum pump rated for 250 acfm at 72 °F and 50 mmHg to insert it in your design but commercially, the info on vacuum pump measured at standard conditions, estimate the required vacuum pump specification in standard condition (scfm, and mass flow rate in lbm per s).

Q2:

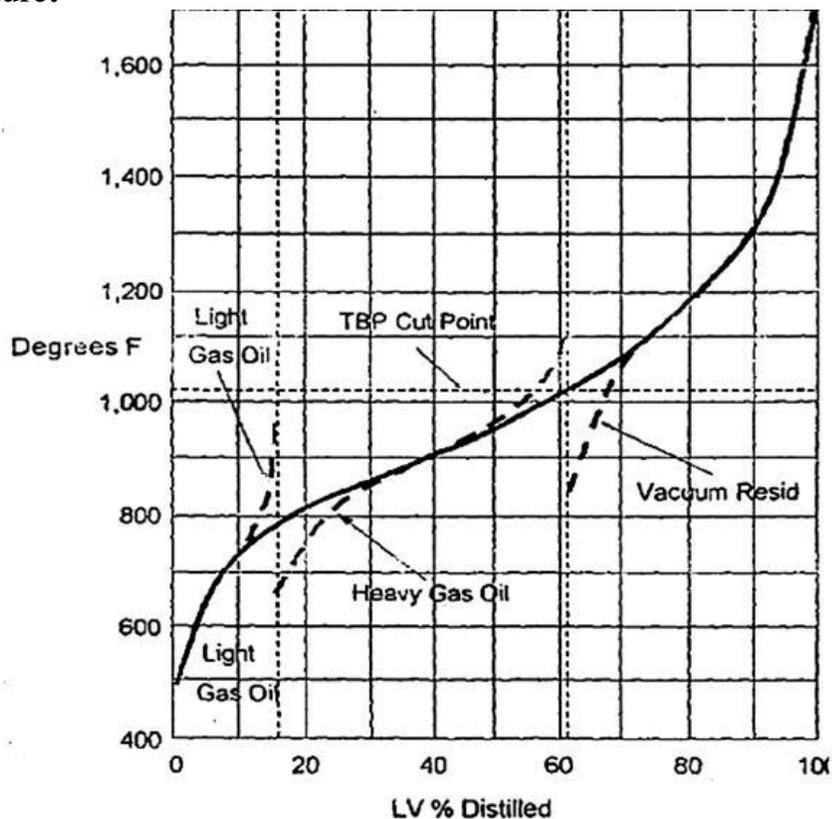
Why and when you as designer engineer prefer the steam jets over other forms of vacuum pumps?

Q3:

How the Critical Discharge Pressure Chart of steam jet is determined, and what it means?

Q4:

The TBP cut-point is the temperature for a perfect separation between the petroleum cuts. Estimate (from the side chart), the TBP cut point of light gas oil and heavy gas oil and the liquid volume distilled ratio of heavy gasoil at this temperature.



Q5: Answer in brief (Hydrocracking).

(a) Process conditions vary widely for hydrocrackers. Why?

(b) What catalysts types are used in Hydrocracking process?

Q6:

What are the type of catalytic reforming process in use today? write them and talk in details about the most efficient type.
