About this document

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http://www.cheresources.com/cheplusstore/catalogue.php

Clicking the above link should activate your default browser and launch the site.

We recommend using our search feature to find the title.

If you haven't visited our site before, you can find the main page at:

http://www.cheresources.com

Thanks for visiting our site,

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Content Based
Chemical Engineering

VENT CONDENSER PROCESS CALCULATION

CLIENT	EQUIP. NO	PAGE
W.O.	REQUISITION NO.	SPECIFICATION NO.
UNIT AREA	PROCURED BY	INSTALLED BY

REV	PREPARED BY	DATE	APPROVAL
0			
1			
2			

SERVICE CONDITIONS AT KRYOCLEAN INLET

Carrier Gas Name	nitrogen
Vapor Rate entering Condenser, std.cu.ft./min	162
Pressure at Condenser Inlet, mm Hg	760
Temperature at Condenser Inlet, deg C	60
Enter up to three compounds in feed stream	
1 Compound Name	water
Dew point in feed stream (temperature, deg C)	45
Calculated vapor pressure (mm Hg)	80
2 Compound Name	methylene chloride
Dew point in feed stream (temperature, deg C)	-6
Calculated vapor pressure (mm Hg)	91
3 Compound Name	none
Dew point in feed stream (temperature, deg C)	20
Calculated vapor pressure (mm Hg)	0

COMPOSITION OF FEED AND PRE-COOLED STREAMS

Calculated composition of feed stream

Compound	Vol %	scfm	mw	lb/hr
nitrogen	0.7753	125.2	28	585.9
water	0.1046	16.9	18	50.8
methylene chloride	0.1201	19.4	84.94	275.4
none	0.0000	0.0	28	0.0
		161.5		912.1

Condensing Temperature (deg C): -90

Calculated composition of condensed stream

	VP @		------Vapor------		Liquid
Compound	-90 degC	Vol %	scfm	lb/hr	lb/hr
nitrogen	n/a	0.9999	125.2	585.9	0.0
water	0.0	0.0000	0.0	0.0	50.8
methylene chloride	0.1	0.0001	0.0	0.2	275.2
none	0.0	0.0000	0.0	0.0	0.0
			125.2	586.1	326.0

COOLING DUTY

Calculated cooling duty

Vapor cooling (assuming 0.25 Btu/lb-degF)	56,067	Btu/hr
Liquid condensing		
Compound	Hv	
water	972.0	49,412 Btu/hr
methylene chloride	141.5	38,937
none	0.0	0
Total duty		**144,415 Btu/hr**

Remarks