

**HELIAL ML HEFEI - AVEC LN2
DSDX302 50 HZ 14,5 BARS - 160
KW
LIGNE D'ECHANGE ML
TURBINES OPTIMISES EN
REFRIGERATION**

Ech. 1	
LMTD	6,450 K
UA (Calculated)	7879 W/C
Hot Pinch Temperature	308,0 K
Cold Pinch Temperature	304,8 K
Minimum Approach	3,206 K
Side Pressure Drop (Side Pressure Drop_1)	36,74 mbar
Side Pressure Drop (Side Pressure Drop_2)	103,2 mbar
Side Pressure Drop (Side Pressure Drop_3)	0,0000 mbar
Exchanger Cold Duty	5,082e+004 W*

Ech. 2	
LMTD	2,245 K
UA (Calculated)	4009 W/C
Hot Pinch Temperature	82,19 K
Cold Pinch Temperature	81,32 K
Minimum Approach	0,8729 K
Side Pressure Drop (Side Pressure Drop_1)	7,532 mbar
Side Pressure Drop (Side Pressure Drop_2)	6,278 mbar
Exchanger Cold Duty	9002 W*

Ech. 3	
LMTD	2,721 K
UA (Calculated)	259,9 W/C
Hot Pinch Temperature	37,51 K
Cold Pinch Temperature	36,23 K
Minimum Approach	1,287 K
Side Pressure Drop (Side Pressure Drop_1)	2,553 mbar
Side Pressure Drop (Side Pressure Drop_2)	6,357 mbar
Exchanger Cold Duty	707,3 W*

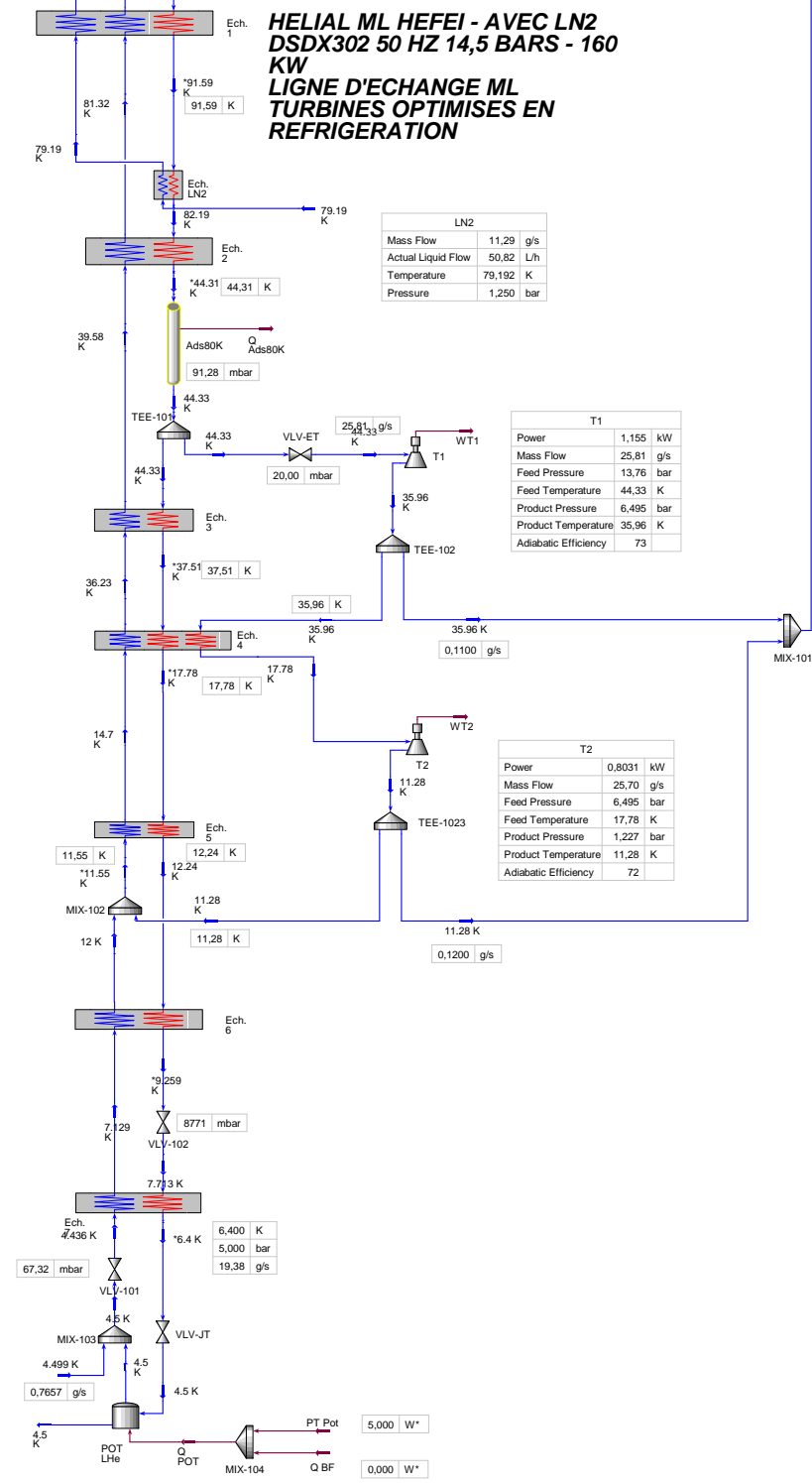
Ech. 4	
LMTD	1,300 K
UA (Calculated)	3597 W/C
Hot Pinch Temperature	35,96 K
Cold Pinch Temperature	35,47 K
Minimum Approach	0,4854 K
Side Pressure Drop (Side Pressure Drop_1)	0,0000 mbar
Side Pressure Drop (Side Pressure Drop_2)	2,702 mbar
Side Pressure Drop (Side Pressure Drop_3)	6,895 mbar
Exchanger Cold Duty	4675 W*

Ech. 5	
LMTD	1,541 K
UA (Calculated)	452,8 W/C
Hot Pinch Temperature	12,24 K
Cold Pinch Temperature	11,55 K
Minimum Approach	0,6885 K
Side Pressure Drop (Side Pressure Drop_1)	1,144 mbar
Side Pressure Drop (Side Pressure Drop_2)	14,75 mbar
Exchanger Cold Duty	697,5 W*

Ech. 6	
LMTD	0,8890 K
UA (Calculated)	480,8 W/C
Hot Pinch Temperature	12,24 K
Cold Pinch Temperature	12,00 K
Minimum Approach	0,2442 K
Side Pressure Drop (Side Pressure Drop_1)	1,221 mbar
Side Pressure Drop (Side Pressure Drop_2)	2,529 mbar
Exchanger Cold Duty	427,4 W*

Ech. 7	
LMTD	1,207 K
UA (Calculated)	241,1 W/C
Hot Pinch Temperature	7,713 K
Cold Pinch Temperature	7,129 K
Minimum Approach	0,5840 K
Side Pressure Drop (Side Pressure Drop_1)	2,689 mbar
Side Pressure Drop (Side Pressure Drop_2)	1,301 mbar
Exchanger Cold Duty	291,1 W*

LHe	
Mass Flow	4,128 g/s
Actual Liquid Flow	125,0 L/h
Pressure	1,300 bar
Temperature	4,5004 K



LN2	
Mass Flow	11,29 g/s
Actual Liquid Flow	50,82 L/h
Temperature	79,192 K
Pressure	1,250 bar

T1	
Power	1,155 kW
Mass Flow	25,81 g/s
Feed Pressure	13,76 bar
Feed Temperature	44,33 K
Product Pressure	6,495 bar
Product Temperature	35,96 K
Adiabatic Efficiency	73

T2	
Power	0,8031 kW
Mass Flow	25,70 g/s
Feed Pressure	6,495 bar
Feed Temperature	17,78 K
Product Pressure	1,227 bar
Product Temperature	11,28 K
Adiabatic Efficiency	72