



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

Ech. 1	
LMTD	6,337 K
UA (Calculated)	7496 W/C
Hot Pinch Temperature	308,0 K
Cold Pinch Temperature	305,2 K
Minimum Approach	2,814 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	4,750e+004 W*

Ech. 2	
LMTD	2,262 K
UA (Calculated)	3804 W/C
Hot Pinch Temperature	82,19 K
Cold Pinch Temperature	81,39 K
Minimum Approach	0,8001 K
Side Pressure Drop (Side Pressure Drop_1)	7,532 mbar
Side Pressure Drop (Side Pressure Drop_2)	6,278 mbar
Exchanger Cold Duty	8603 W*

Ech. 3	
LMTD	2,587 K
UA (Calculated)	246,3 W/C
Hot Pinch Temperature	36,29 K
Cold Pinch Temperature	35,27 K
Minimum Approach	1,016 K
Side Pressure Drop (Side Pressure Drop_1)	12,553 mbar
Side Pressure Drop (Side Pressure Drop_2)	26,357 mbar
Exchanger Cold Duty	637,4 W*

Ech. 4	
LMTD	1,261 K
UA (Calculated)	3415 W/C
Hot Pinch Temperature	35,23 K
Cold Pinch Temperature	34,81 K
Minimum Approach	0,4242 K
Side Pressure Drop (Side Pressure Drop_1)	19,0000 mbar
Side Pressure Drop (Side Pressure Drop_2)	2,702 mbar
Side Pressure Drop (Side Pressure Drop_3)	6,895 mbar
Exchanger Cold Duty	4307 W*

Ech. 5	
LMTD	1,391 K
UA (Calculated)	430,6 W/C
Hot Pinch Temperature	11,59 K
Cold Pinch Temperature	11,08 K
Minimum Approach	0,5088 K
Side Pressure Drop (Side Pressure Drop_1)	1,144 mbar
Side Pressure Drop (Side Pressure Drop_2)	14,75 mbar
Exchanger Cold Duty	599,1 W*

Ech. 6	
LMTD	0,4297 K
UA (Calculated)	367,1 W/C
Hot Pinch Temperature	11,59 K
Cold Pinch Temperature	11,49 K
Minimum Approach	9,996e-002 K
Side Pressure Drop (Side Pressure Drop_1)	1,221 mbar
Side Pressure Drop (Side Pressure Drop_2)	2,529 mbar
Exchanger Cold Duty	157,7 W*

Ech. 7	
LMTD	1,853 K
UA (Calculated)	207,5 W/C
Hot Pinch Temperature	10,18 K
Cold Pinch Temperature	9,185 K
Minimum Approach	0,9974 K
Side Pressure Drop (Side Pressure Drop_1)	2,689 mbar
Side Pressure Drop (Side Pressure Drop_2)	1,301 mbar
Exchanger Cold Duty	384,5 W*

LHe	
Mass Flow	4,160 g/s
Actual Liquid Flow	125,9 L/h
Pressure	1,300 bar
Temperature	4,496 K

LN2	
Mass Flow	11,13 g/s
Actual Liquid Flow	50,07 L/h
Temperature	79,192 K
Pressure	1,250 bar

T1	
Power	1,160 kW
Mass Flow	26,03 g/s
Feed Pressure	13,76 bar
Feed Temperature	43,58 K
Product Pressure	6,419 bar
Product Temperature	35,23 K
Adiabatic Efficiency	73

T2	
Power	0,7731 kW
Mass Flow	25,92 g/s
Feed Pressure	6,419 bar
Feed Temperature	17,13 K
Product Pressure	1,227 bar
Product Temperature	10,88 K
Adiabatic Efficiency	72