

1 Lab data

1.1 1 bar

- $T_0 = 25\text{ }^{\circ}\text{C}$
- $T_1 = 23\text{ }^{\circ}\text{C}$
- $P_0 = 1\text{ bar}$
- $P_1 = 0.05\text{ bar}$
- $P_2 = 1\text{ bar}$
- $V_{in} = 285\text{ L min}^{-1}$
- $N = 1430\text{ rev s}^{-1}$
- $F = 1.5\text{ kg}$
- $\dot{W}_{el} = 1150\text{ W}$

1.1.1 T_2 readings

Time (min)	T_2 (degrees C)
0	95
1	98
2	101
3	104
4	106
5	108
6	110
7	112
8	114
9	116
10	118
11	119
12	121
13	122
14	124
15	125
16	127
17	128
18	130
19	131
20	131

Table 1: T_2 readings from apparatus with 1 bar compressor

1.2 0.6 bar

- $T_0 = 25\text{ }^\circ\text{C}$
- $T_1 = 24\text{ }^\circ\text{C}$
- $P_0 = 1\text{ bar}$
- $P_1 = 0.06\text{ bar}$
- $P_2 = 1\text{ bar}$
- $V_{in} = 310\text{ L min}^{-1}$
- $N = 1445\text{ rev s}^{-1}$
- $F = 1.5\text{ kg}$
- $\dot{W}_{el} = 1000\text{ W}$

1.2.1 T_2 readings

Time (min)	T_2 (degrees C)
0	63
1	68
2	71
3	74
4	77
5	79
6	81
7	84
8	86
9	88
10	89
11	91
12	92
13	94
14	95
15	97
16	98
17	99
18	101
19	102
20	103

Table 2: T_2 readings from apparatus with 0.6 bar compressor

1.3 0.3 bar

- $T_0 = 25\text{ }^\circ\text{C}$
- $T_1 = 25\text{ }^\circ\text{C}$
- $P_0 = 1\text{ bar}$
- $P_1 = 0.08\text{ bar}$
- $P_2 = 1\text{ bar}$
- $V_{in} = 320\text{ L min}^{-1}$
- $N = 1459\text{ rev s}^{-1}$
- $F = 1.5\text{ kg}$
- $\dot{W}_{el} = 850\text{ W}$

1.3.1 T_2 readings

Time (min)	T_2 (degrees C)
0	52
1	55
2	58
3	60
4	62
5	63
6	65
7	67
8	68
9	69
10	70
11	71
12	72
13	73
14	74
15	75
16	76
17	76
18	77
19	78
20	78