

## Invotech Selection Software

REFRIGERANT R410A

### Operation Conditions

Evaporating Temperature(ℓ):	7.2
Condensing Temperature(ℓ):	54.4
Liquid subcooling:	8.3
Suction Superheat:	11.1

### Required Capacity(Kw):

Compressor Selected: YH450C1-105

#### PERFORMANCE AT SPECIFIED OPERATING POINT

Capacity (KW)	44.31
Power Input (KW)	13.79
COP	3.21
Current (A)	26.32

#### COMPRESSOR MECHANICAL AND PHYSICAL DATA

Length/Width/Height (mm)	248/272/556.7
Weight (kg)	59
Stub Suction (inch)	1 1/8
Stub Discharge (inch)	7/8
Base mounting (hole dia)	190.5X190.5(8.5)
Oil type	POE
Initial charge of oil quantity (L)	3.7
Recharge of oil quantity (L)	3.5
High Side PS Max., (MPa)	4.3
Low Side PS Max., (MPa)	2.0
Displacement(m <sup>3</sup> /h)	29.1

#### COMPRESSOR ELECTRICAL DATA

Electricity	380V/50Hz/3P
Standard Conditions	7.2/54.4/11.1/8.3
Normal Power (HP)	15
Normal Capacity (ℓ)	45044
Normal Power input(ℓ)	13759
Normal COP(ℓ/ℓ)	3.27
Normal Current(ℓ)	24.1
Locked Rotor Current(ℓ)	148.5
Maximum operating current(ℓ)	36

Model: YH450C1-105

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**Capacity(KW)**

Tc\Te	-25	-20	-15	-10	-5	0	5	10	12.5	
25	19.21	23.12	28	33.91	40.95	49.2	58.74			
30	17.91	21.7	26.38	32.03	38.73	46.57	55.64			
35	16.8	20.48	24.97	30.36	36.72	44.16	52.74	62.56	67.96	
40	15.77	19.33	23.63	28.75	34.79	41.82	49.92	59.19	64.29	
45		18.11	22.23	27.09	32.79	39.42	47.05	55.77	60.57	
50			20.63	25.24	30.61	36.84	43.99	52.17	56.67	
55				23.07	28.11	33.94	40.62	48.25	52.45	
60					25.16	30.59	36.8	43.89	47.79	
65						26.66	32.4	38.95	42.56	

**Power Input(KW)**

Tc\Te	-25	-20	-15	-10	-5	0	5	10	12.5	
25	7.09	7.22	7.39	7.58	7.79	8.02	8.26			
30	7.89	7.97	8.08	8.2	8.35	8.5	8.65			
35	8.76	8.82	8.89	8.98	9.07	9.17	9.26	9.34	9.37	
40	9.73	9.78	9.84	9.91	9.98	10.04	10.09	10.12	10.13	
45		10.86	10.93	11	11.07	11.12	11.15	11.15	11.14	
50			12.16	12.26	12.34	12.4	12.44	12.44	12.43	
55				13.69	13.81	13.91	13.97	13.99	13.98	
60					15.48	15.63	15.74	15.81	15.82	
65						17.59	17.77	17.9	17.94	

Model: YH450C1-105  
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Refrigerant: R410A  
 Liquid subcooling: 8.3

**Current(A)**

Tc\Te	-25	-20	-15	-10	-5	0	5	10	12.5
25	17.33	17.36	17.29	17.19	17.14	17.2	17.46		
30	18.41	18.34	18.13	17.87	17.62	17.46	17.45		
35	19.88	19.79	19.53	19.18	18.81	18.49	18.29	18.29	18.39
40	21.58	21.54	21.3	20.94	20.52	20.13	19.82	19.68	19.69
45		23.4	23.26	22.96	22.58	22.19	21.85	21.64	21.61
50			25.23	25.08	24.81	24.49	24.2	24	23.97
55				27.1	27.02	26.85	26.69	26.58	26.57
60					29.03	29.1	29.13	29.19	29.26
65						31.05	31.36	31.66	31.84

**Mass Flow(Kg/h)**

Tc\Te	-25	-20	-15	-10	-5	0	5	10	12.5
25	318.97	411.49	504.23	603.87	717.09	850.56	1010.96		
30	300.13	393.94	486.36	584.08	693.75	822.06	975.69		
35	288.71	385.59	479.47	577.02	684.93	809.85	958.48	1137.48	1240.46
40	278.69	380.41	477.52	576.69	684.6	807.91	953.32	1127.48	1227.43
45		372.38	474.5	577.06	686.75	810.23	954.18	1125.28	1223.09
50			464.39	572.12	685.35	810.77	955.05	1124.86	1221.42
55				555.83	674.4	803.53	949.91	1120.2	1216.4
60					647.86	782.49	932.74	1105.29	1202.02
65						741.61	897.51	1074.1	1172.24