

## Invotech Selection Software

REFRIGERANT R404A

### Operation Conditions

Evaporating Temperature(ℓ):	-40.0
Condensing Temperature(ℓ):	45.0
Liquid subcooling:	0.0
Suction Superheat:	58.3

### Required Capacity(Kw):

Compressor Selected: YSF100E1G-V100

#### PERFORMANCE AT SPECIFIED OPERATING POINT

Capacity (KW)	7.75
Power Input (KW)	7.91
COP	0.98
Current (A)	15.55

#### COMPRESSOR MECHANICAL AND PHYSICAL DATA

Length/Width/Height (mm)	317.5/309.5/533.9
Weight (kg)	91
Stub Suction (inch)	1 1/8
Stub Discharge (inch)	7/8
Base mounting (hole dia)	190X190(8.5)
Oil type	POE
Initial charge of oil quantity (L)	3.4
Recharge of oil quantity (L)	3.25
High Side PS Max., (MPa)	3.2
Low Side PS Max., (MPa)	2.0
Displacement(m <sup>3</sup> /h)	34.3

#### COMPRESSOR ELECTRICAL DATA

Electricity	380V/50Hz/3P
Standard Conditions	-31.6/40.6/36/0
Normal Power (HP)	13
Normal Capacity (ℓ)	11800
Normal Power input(ℓ)	7284
Normal COP(ℓ/ℓ)	1.62
Normal Current(ℓ)	13.3
Locked Rotor Current(ℓ)	121
Maximum operating current(ℓ)	27

Model: YSF100E1G-V100

Refrigerant: R404A

Suction Superheat: 58.3

Liquid subcooling: 0.0

**Capacity(KW)**

Tc\Te	-40	-35	-30	-25	-20	-15	-10	-5	0	
10	11.16	13.63	16.51	19.85	23.7	28.12	33.16	38.87	45.31	
15	10.69	13.1	15.88	19.09	22.78	27	31.81	37.26	43.41	
20	10.24	12.58	15.27	18.35	21.87	25.9	30.48	35.66	41.52	
25	9.78	12.07	14.65	17.6	20.96	24.79	29.14	34.06	39.62	
30	9.32	11.54	14.03	16.85	20.04	23.67	27.79	32.45	37.7	
35	8.83	10.99	13.38	16.07	19.1	22.53	26.41	30.81	35.76	
40	8.31	10.4	12.7	15.25	18.11	21.35	25	29.13	33.78	
45	7.75	9.77	11.97	14.38	17.08	20.12	23.53	27.39	31.75	
50	7.13	9.08	11.17	13.46	15.99	18.82	22.01	25.6	29.65	
55	6.43	8.32	10.31	12.46	14.82	17.45	20.4	23.73	27.48	
60						16	18.71	21.77	25.22	

**Power Input(KW)**

Tc\Te	-40	-35	-30	-25	-20	-15	-10	-5	0	
10	5.21	5.52	5.76	5.94	6.07	6.16	6.22	6.25	6.27	
15	4.91	5.17	5.38	5.54	5.67	5.76	5.83	5.88	5.93	
20	4.89	5.12	5.31	5.46	5.58	5.68	5.77	5.85	5.94	
25	5.13	5.34	5.51	5.65	5.78	5.9	6.01	6.13	6.26	
30	5.59	5.78	5.94	6.08	6.22	6.36	6.51	6.67	6.85	
35	6.23	6.4	6.56	6.72	6.88	7.04	7.23	7.44	7.68	
40	7.01	7.18	7.35	7.52	7.7	7.91	8.14	8.4	8.71	
45	7.91	8.08	8.26	8.45	8.67	8.91	9.2	9.53	9.91	
50	8.88	9.06	9.26	9.48	9.73	10.03	10.38	10.78	11.24	
55	9.89	10.08	10.31	10.56	10.87	11.22	11.63	12.11	12.66	
60						12.45	12.93	13.5	14.14	

Model: YSF100E1G-V100

Refrigerant: R404A

Suction Superheat: 58.3

Liquid subcooling: 0.0

**Current(A)**

Tc\Te	-40	-35	-30	-25	-20	-15	-10	-5	0
10	14.44	15.13	15.73	16.24	16.69	17.08	17.44	17.78	18.12
15	12.99	13.56	14.05	14.48	14.85	15.2	15.53	15.86	16.22
20	12.25	12.7	13.1	13.46	13.79	14.1	14.42	14.77	15.15
25	12.09	12.46	12.79	13.09	13.39	13.7	14.03	14.4	14.84
30	12.44	12.74	13.01	13.29	13.57	13.89	14.25	14.67	15.18
35	13.2	13.44	13.69	13.95	14.24	14.58	14.99	15.48	16.07
40	14.27	14.48	14.71	14.97	15.29	15.68	16.16	16.73	17.43
45	15.55	15.75	15.98	16.27	16.64	17.09	17.65	18.34	19.16
50	16.96	17.16	17.42	17.75	18.18	18.72	19.38	20.19	21.16
55	18.4	18.61	18.92	19.31	19.82	20.47	21.26	22.21	23.34
60						22.24	23.17	24.29	25.6

**Mass Flow(Kg/h)**

Tc\Te	-40	-35	-30	-25	-20	-15	-10	-5	0
10	184.4	226.78	279.13	343.67	422.59	518.09	632.36	767.6	926
15	182.22	225.79	279.12	344.4	423.82	519.59	633.91	768.96	926.94
20	180.02	224.53	278.57	344.32	423.99	519.78	633.88	768.48	925.78
25	177.78	222.97	277.45	343.42	423.08	518.62	632.24	766.13	922.5
30	175.48	221.09	275.76	341.68	421.06	516.09	628.97	761.89	917.06
35	173.09	218.86	273.45	339.07	417.91	512.17	624.05	755.74	909.44
40	170.59	216.25	270.51	335.56	413.6	506.83	617.45	747.65	899.62
45	167.96	213.25	266.91	331.13	408.12	500.05	609.15	737.59	887.58
50	165.16	209.83	262.63	325.76	401.42	491.81	599.12	725.54	873.29
55	162.18	205.96	257.64	319.42	393.5	482.07	587.34	711.49	856.72
60						470.82	573.78	695.39	837.85

## Invotech Selection Software

REFRIGERANT R404A

### Operation Conditions

Evaporating Temperature(ℓ):	-25.0
Condensing Temperature(ℓ):	45.0
Liquid subcooling:	0.0
Suction Superheat:	43.3

### Required Capacity(Kw):

Compressor Selected: YSF100E1G-V100

#### PERFORMANCE AT SPECIFIED OPERATING POINT

Capacity (KW)	14.38
Power Input (KW)	8.45
COP	1.7
Current (A)	16.27

#### COMPRESSOR MECHANICAL AND PHYSICAL DATA

Length/Width/Height (mm)	317.5/309.5/533.9
Weight (kg)	91
Stub Suction (inch)	1 1/8
Stub Discharge (inch)	7/8
Base mounting (hole dia)	190X190(8.5)
Oil type	POE
Initial charge of oil quantity (L)	3.4
Recharge of oil quantity (L)	3.25
High Side PS Max., (MPa)	3.2
Low Side PS Max., (MPa)	2.0
Displacement(m <sup>3</sup> /h)	34.3

#### COMPRESSOR ELECTRICAL DATA

Electricity	380V/50Hz/3P
Standard Conditions	-31.6/40.6/36/0
Normal Power (HP)	13
Normal Capacity (ℓ)	11800
Normal Power input(ℓ)	7284
Normal COP(ℓ/ℓ)	1.62
Normal Current(ℓ)	13.3
Locked Rotor Current(ℓ)	121
Maximum operating current(ℓ)	27

Model: YSF100E1G-V100

Refrigerant: R404A

Suction Superheat: 43.3

Liquid subcooling: 0.0

**Capacity(KW)**

Tc\Te	-40	-35	-30	-25	-20	-15	-10	-5	0	
10	11.16	13.63	16.51	19.85	23.7	28.12	33.16	38.87	45.31	
15	10.69	13.1	15.88	19.09	22.78	27	31.81	37.26	43.41	
20	10.24	12.58	15.27	18.35	21.87	25.9	30.48	35.66	41.52	
25	9.78	12.07	14.65	17.6	20.96	24.79	29.14	34.06	39.62	
30	9.32	11.54	14.03	16.85	20.04	23.67	27.79	32.45	37.7	
35	8.83	10.99	13.38	16.07	19.1	22.53	26.41	30.81	35.76	
40	8.31	10.4	12.7	15.25	18.11	21.35	25	29.13	33.78	
45	7.75	9.77	11.97	14.38	17.08	20.12	23.53	27.39	31.75	
50	7.13	9.08	11.17	13.46	15.99	18.82	22.01	25.6	29.65	
55	6.43	8.32	10.31	12.46	14.82	17.45	20.4	23.73	27.48	
60						16	18.71	21.77	25.22	

**Power Input(KW)**

Tc\Te	-40	-35	-30	-25	-20	-15	-10	-5	0	
10	5.21	5.52	5.76	5.94	6.07	6.16	6.22	6.25	6.27	
15	4.91	5.17	5.38	5.54	5.67	5.76	5.83	5.88	5.93	
20	4.89	5.12	5.31	5.46	5.58	5.68	5.77	5.85	5.94	
25	5.13	5.34	5.51	5.65	5.78	5.9	6.01	6.13	6.26	
30	5.59	5.78	5.94	6.08	6.22	6.36	6.51	6.67	6.85	
35	6.23	6.4	6.56	6.72	6.88	7.04	7.23	7.44	7.68	
40	7.01	7.18	7.35	7.52	7.7	7.91	8.14	8.4	8.71	
45	7.91	8.08	8.26	8.45	8.67	8.91	9.2	9.53	9.91	
50	8.88	9.06	9.26	9.48	9.73	10.03	10.38	10.78	11.24	
55	9.89	10.08	10.31	10.56	10.87	11.22	11.63	12.11	12.66	
60						12.45	12.93	13.5	14.14	

Model: YSF100E1G-V100

Refrigerant: R404A

Suction Superheat: 43.3

Liquid subcooling: 0.0

**Current(A)**

Tc\Te	-40	-35	-30	-25	-20	-15	-10	-5	0
10	14.44	15.13	15.73	16.24	16.69	17.08	17.44	17.78	18.12
15	12.99	13.56	14.05	14.48	14.85	15.2	15.53	15.86	16.22
20	12.25	12.7	13.1	13.46	13.79	14.1	14.42	14.77	15.15
25	12.09	12.46	12.79	13.09	13.39	13.7	14.03	14.4	14.84
30	12.44	12.74	13.01	13.29	13.57	13.89	14.25	14.67	15.18
35	13.2	13.44	13.69	13.95	14.24	14.58	14.99	15.48	16.07
40	14.27	14.48	14.71	14.97	15.29	15.68	16.16	16.73	17.43
45	15.55	15.75	15.98	16.27	16.64	17.09	17.65	18.34	19.16
50	16.96	17.16	17.42	17.75	18.18	18.72	19.38	20.19	21.16
55	18.4	18.61	18.92	19.31	19.82	20.47	21.26	22.21	23.34
60						22.24	23.17	24.29	25.6

**Mass Flow(Kg/h)**

Tc\Te	-40	-35	-30	-25	-20	-15	-10	-5	0
10	184.4	226.78	279.13	343.67	422.59	518.09	632.36	767.6	926
15	182.22	225.79	279.12	344.4	423.82	519.59	633.91	768.96	926.94
20	180.02	224.53	278.57	344.32	423.99	519.78	633.88	768.48	925.78
25	177.78	222.97	277.45	343.42	423.08	518.62	632.24	766.13	922.5
30	175.48	221.09	275.76	341.68	421.06	516.09	628.97	761.89	917.06
35	173.09	218.86	273.45	339.07	417.91	512.17	624.05	755.74	909.44
40	170.59	216.25	270.51	335.56	413.6	506.83	617.45	747.65	899.62
45	167.96	213.25	266.91	331.13	408.12	500.05	609.15	737.59	887.58
50	165.16	209.83	262.63	325.76	401.42	491.81	599.12	725.54	873.29
55	162.18	205.96	257.64	319.42	393.5	482.07	587.34	711.49	856.72
60						470.82	573.78	695.39	837.85

## Invotech Selection Software

REFRIGERANT R404A

### Operation Conditions

Evaporating Temperature(ℓ):	-8.0
Condensing Temperature(ℓ):	45.0
Liquid subcooling:	0.0
Suction Superheat:	26.3

### Required Capacity(Kw):

Compressor Selected: YSF100E1G-V100

#### PERFORMANCE AT SPECIFIED OPERATING POINT

Capacity (KW)	25.02
Power Input (KW)	9.32
COP	2.68
Current (A)	17.91

#### COMPRESSOR MECHANICAL AND PHYSICAL DATA

Length/Width/Height (mm)	317.5/309.5/533.9
Weight (kg)	91
Stub Suction (inch)	1 1/8
Stub Discharge (inch)	7/8
Base mounting (hole dia)	190X190(8.5)
Oil type	POE
Initial charge of oil quantity (L)	3.4
Recharge of oil quantity (L)	3.25
High Side PS Max., (MPa)	3.2
Low Side PS Max., (MPa)	2.0
Displacement(m <sup>3</sup> /h)	34.3

#### COMPRESSOR ELECTRICAL DATA

Electricity	380V/50Hz/3P
Standard Conditions	-31.6/40.6/36/0
Normal Power (HP)	13
Normal Capacity (ℓ)	11800
Normal Power input(ℓ)	7284
Normal COP(ℓ/ℓ)	1.62
Normal Current(ℓ)	13.3
Locked Rotor Current(ℓ)	121
Maximum operating current(ℓ)	27

Model: YSF100E1G-V100

Refrigerant: R404A

Suction Superheat: 26.3

Liquid subcooling: 0.0

**Capacity(KW)**

Tc\Te	-40	-35	-30	-25	-20	-15	-10	-5	0	
10	11.16	13.63	16.51	19.85	23.7	28.12	33.16	38.87	45.31	
15	10.69	13.1	15.88	19.09	22.78	27	31.81	37.26	43.41	
20	10.24	12.58	15.27	18.35	21.87	25.9	30.48	35.66	41.52	
25	9.78	12.07	14.65	17.6	20.96	24.79	29.14	34.06	39.62	
30	9.32	11.54	14.03	16.85	20.04	23.67	27.79	32.45	37.7	
35	8.83	10.99	13.38	16.07	19.1	22.53	26.41	30.81	35.76	
40	8.31	10.4	12.7	15.25	18.11	21.35	25	29.13	33.78	
45	7.75	9.77	11.97	14.38	17.08	20.12	23.53	27.39	31.75	
50	7.13	9.08	11.17	13.46	15.99	18.82	22.01	25.6	29.65	
55	6.43	8.32	10.31	12.46	14.82	17.45	20.4	23.73	27.48	
60						16	18.71	21.77	25.22	

**Power Input(KW)**

Tc\Te	-40	-35	-30	-25	-20	-15	-10	-5	0	
10	5.21	5.52	5.76	5.94	6.07	6.16	6.22	6.25	6.27	
15	4.91	5.17	5.38	5.54	5.67	5.76	5.83	5.88	5.93	
20	4.89	5.12	5.31	5.46	5.58	5.68	5.77	5.85	5.94	
25	5.13	5.34	5.51	5.65	5.78	5.9	6.01	6.13	6.26	
30	5.59	5.78	5.94	6.08	6.22	6.36	6.51	6.67	6.85	
35	6.23	6.4	6.56	6.72	6.88	7.04	7.23	7.44	7.68	
40	7.01	7.18	7.35	7.52	7.7	7.91	8.14	8.4	8.71	
45	7.91	8.08	8.26	8.45	8.67	8.91	9.2	9.53	9.91	
50	8.88	9.06	9.26	9.48	9.73	10.03	10.38	10.78	11.24	
55	9.89	10.08	10.31	10.56	10.87	11.22	11.63	12.11	12.66	
60						12.45	12.93	13.5	14.14	



Model: YSF100E1G-V100

Refrigerant: R404A

Suction Superheat: 26.3

Liquid subcooling: 0.0

**Current(A)**

Tc\Te	-40	-35	-30	-25	-20	-15	-10	-5	0
10	14.44	15.13	15.73	16.24	16.69	17.08	17.44	17.78	18.12
15	12.99	13.56	14.05	14.48	14.85	15.2	15.53	15.86	16.22
20	12.25	12.7	13.1	13.46	13.79	14.1	14.42	14.77	15.15
25	12.09	12.46	12.79	13.09	13.39	13.7	14.03	14.4	14.84
30	12.44	12.74	13.01	13.29	13.57	13.89	14.25	14.67	15.18
35	13.2	13.44	13.69	13.95	14.24	14.58	14.99	15.48	16.07
40	14.27	14.48	14.71	14.97	15.29	15.68	16.16	16.73	17.43
45	15.55	15.75	15.98	16.27	16.64	17.09	17.65	18.34	19.16
50	16.96	17.16	17.42	17.75	18.18	18.72	19.38	20.19	21.16
55	18.4	18.61	18.92	19.31	19.82	20.47	21.26	22.21	23.34
60						22.24	23.17	24.29	25.6

**Mass Flow(Kg/h)**

Tc\Te	-40	-35	-30	-25	-20	-15	-10	-5	0
10	184.4	226.78	279.13	343.67	422.59	518.09	632.36	767.6	926
15	182.22	225.79	279.12	344.4	423.82	519.59	633.91	768.96	926.94
20	180.02	224.53	278.57	344.32	423.99	519.78	633.88	768.48	925.78
25	177.78	222.97	277.45	343.42	423.08	518.62	632.24	766.13	922.5
30	175.48	221.09	275.76	341.68	421.06	516.09	628.97	761.89	917.06
35	173.09	218.86	273.45	339.07	417.91	512.17	624.05	755.74	909.44
40	170.59	216.25	270.51	335.56	413.6	506.83	617.45	747.65	899.62
45	167.96	213.25	266.91	331.13	408.12	500.05	609.15	737.59	887.58
50	165.16	209.83	262.63	325.76	401.42	491.81	599.12	725.54	873.29
55	162.18	205.96	257.64	319.42	393.5	482.07	587.34	711.49	856.72
60						470.82	573.78	695.39	837.85