

Type: Semi-hermetic piston compressors

Producer: Copeland

Series: S

Model: D3SS-100 X

Technical data

Cylinder count:	3
Displacement [m ³ /h]:	49,9
Weight [kg]:	173
Oil charge [dm ³]:	3,7
Max. operating current [A]:	26
Locked rotor current [A]:	109
Power supply [V/~/Hz]:	400V/3/50Hz

Connections

	<u>milimeters</u>	<u>inches</u>
Suction line:		1 3/8"
Discharge line:		1 1/8"

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Cooling capacity [kW]

$t_c \setminus t_e$	-45	-40	-35	-30	-25	-20	-15	-10	-5
10	5.97	8.54	11.67	15.41	19.81	24.93	30.83	37.55	45.17
15	5.14	7.61	10.61	14.19	18.41	23.33	29.00	35.48	42.82
20	4.33	6.69	9.56	12.98	17.03	21.74	27.18	33.41	40.48
25	3.55	5.80	8.54	11.80	15.66	20.17	25.38	31.36	38.15
30	2.82	4.95	7.55	10.65	14.33	18.63	23.61	29.32	35.83
35	2.12	4.15	6.60	9.54	13.03	17.12	21.86	27.32	33.54
40	1.48	3.39	5.70	8.48	11.77	15.65	20.15	25.35	31.28
45	0.91	2.69	4.86	7.46	10.57	14.22	18.49	23.42	29.07
50	-	2.06	4.08	6.51	9.42	12.86	16.88	21.54	26.90
55	-	1.49	3.36	5.63	8.34	11.55	15.33	19.72	24.78

Power input [kW]

$t_c \setminus t_e$	-45	-40	-35	-30	-25	-20	-15	-10	-5
10	3.72	4.33	4.93	5.53	6.16	6.84	7.58	8.40	9.34
15	3.77	4.44	5.10	5.76	6.43	7.15	7.92	8.78	9.74
20	3.78	4.52	5.24	5.95	6.68	7.44	8.26	9.15	10.14
25	3.75	4.57	5.35	6.13	6.91	7.73	8.59	9.53	10.55
30	3.69	4.58	5.44	6.28	7.13	8.00	8.92	9.90	10.97
35	3.60	4.57	5.51	6.43	7.34	8.28	9.25	10.29	11.40
40	3.48	4.54	5.56	6.56	7.55	8.55	9.59	10.68	11.84
45	3.33	4.49	5.60	6.68	7.75	8.83	9.93	11.09	12.31
50	-	4.43	5.63	6.80	7.95	9.11	10.29	11.51	12.80
55	-	4.35	5.65	6.92	8.16	9.40	10.66	11.95	13.31

Current [A]

$t_c \setminus t_e$	-45	-40	-35	-30	-25	-20	-15	-10	-5
10	8.77	9.97	11.09	12.14	13.15	14.14	15.14	16.18	17.27
15	9.18	10.34	11.44	12.49	13.51	14.54	15.59	16.69	17.86
20	9.55	10.70	11.79	12.84	13.90	14.96	16.07	17.25	18.51
25	9.88	11.02	12.11	13.19	14.28	15.40	16.58	17.84	19.21
30	10.16	11.29	12.40	13.51	14.65	15.84	17.10	18.46	19.94
35	10.36	11.50	12.64	13.80	15.00	16.26	17.62	19.09	20.69
40	10.47	11.64	12.82	14.03	15.30	16.65	18.11	19.70	21.45
45	10.49	11.69	12.92	14.19	15.55	17.00	18.58	20.30	22.19
50	-	11.63	12.92	14.28	15.73	17.29	18.99	20.86	22.91
55	-	11.46	12.82	14.26	15.82	17.50	19.34	21.36	23.59

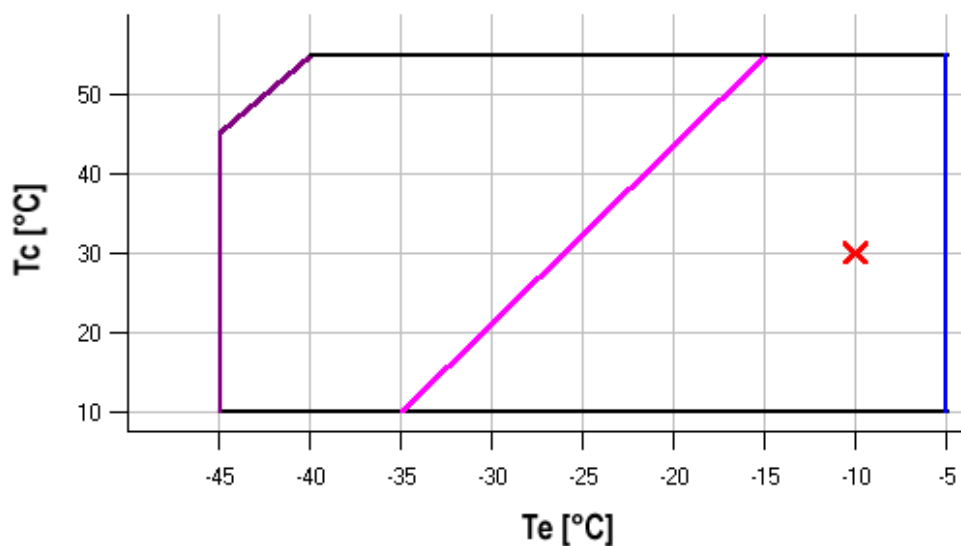
Mass flow [kg/s]

$t_c \setminus t_e$	-45	-40	-35	-30	-25	-20	-15	-10	-5
10	118.57	168.34	227.19	295.94	375.44	466.54	570.06	686.85	817.76
15	105.64	154.97	213.31	281.52	360.42	450.86	553.68	669.71	799.81
20	92.33	141.14	198.92	266.50	344.73	434.45	536.49	651.70	780.91
25	78.77	126.99	184.13	251.02	328.51	417.43	518.63	632.94	761.21
30	65.10	112.66	169.09	235.22	311.90	399.96	500.24	613.58	740.83
35	51.45	98.29	153.94	219.24	295.03	382.15	481.45	593.75	719.91
40	37.95	84.00	138.80	203.20	278.04	364.16	462.40	573.59	698.59
45	24.76	69.93	123.81	187.24	261.06	346.10	443.22	553.24	677.00
50	-	56.22	109.11	171.50	244.23	328.13	424.05	532.82	655.29
55	-	43.01	94.84	156.12	227.68	310.37	405.02	512.47	633.57

C.O.P. [W/W]

$t_c \setminus t_e$	-45	-40	-35	-30	-25	-20	-15	-10	-5
10	1.61	1.97	2.37	2.78	3.21	3.65	4.07	4.47	4.84
15	1.36	1.71	2.08	2.47	2.86	3.26	3.66	4.04	4.40
20	1.15	1.48	1.82	2.18	2.55	2.92	3.29	3.65	3.99
25	0.95	1.27	1.59	1.93	2.27	2.61	2.95	3.29	3.62
30	0.76	1.08	1.39	1.70	2.01	2.33	2.65	2.96	3.27
35	0.59	0.91	1.20	1.48	1.77	2.07	2.36	2.66	2.94
40	0.43	0.75	1.02	1.29	1.56	1.83	2.10	2.37	2.64
45	0.27	0.60	0.87	1.12	1.36	1.61	1.86	2.11	2.36
50	-	0.46	0.72	0.96	1.18	1.41	1.64	1.87	2.10
55	-	0.34	0.59	0.81	1.02	1.23	1.44	1.65	1.86

Application range



- Maximum evaporating temperature
- 25°C suction gas temperature
- 25°C suction gas return + liquid injection

Operating conditions: ISO; subcooling: 0 K, suction superheat: 10 K, return gas temperature: -
 t_c - Condensing temperature [°C]
 t_e - Evaporating temperature [°C]

R404A/R507

Cooling capacity [kW]

$t_c \setminus t_e$	-45	-40	-35	-30	-25	-20	-15	-10	-5
20	6.58	8.92	11.78	15.23	19.33	24.17	29.80	36.29	43.72
25	5.88	8.13	10.84	14.10	17.96	22.50	27.79	33.90	40.89
30	5.20	7.35	9.93	12.99	16.61	20.86	25.81	31.53	38.08
35	4.55	6.60	9.03	11.89	15.27	19.23	23.84	29.17	35.29
40	3.92	5.87	8.15	10.82	13.96	17.62	21.89	26.83	32.51
45	3.31	5.16	7.29	9.77	12.66	16.03	19.95	24.50	29.74
50	-	4.47	6.45	8.73	11.37	14.45	18.03	22.19	26.99
55	-	3.79	5.63	7.71	10.11	12.89	16.13	19.89	24.25

Power input [kW]

$t_c \setminus t_e$	-45	-40	-35	-30	-25	-20	-15	-10	-5
20	4.26	5.04	5.85	6.66	7.44	8.15	8.77	9.25	9.55
25	4.29	5.09	5.95	6.85	7.73	8.58	9.35	10.02	10.53
30	4.32	5.13	6.03	6.99	7.97	8.94	9.86	10.70	11.41
35	4.35	5.17	6.10	7.11	8.18	9.25	10.30	11.30	12.20
40	4.42	5.22	6.17	7.22	8.35	9.52	10.69	11.84	12.91
45	4.52	5.30	6.25	7.34	8.52	9.77	11.05	12.33	13.57
50	-	5.42	6.36	7.46	8.69	10.01	11.39	12.78	14.17
55	-	5.60	6.52	7.62	8.88	10.25	11.71	13.22	14.74

Current [A]

$t_c \setminus t_e$	-45	-40	-35	-30	-25	-20	-15	-10	-5
20	10.62	11.58	12.59	13.63	14.67	15.72	16.74	17.72	18.66
25	10.70	11.72	12.80	13.93	15.09	16.27	17.45	18.61	19.74
30	10.74	11.81	12.97	14.19	15.47	16.78	18.11	19.45	20.78
35	10.73	11.85	13.09	14.41	15.80	17.25	18.75	20.26	21.79
40	10.66	11.85	13.16	14.58	16.10	17.69	19.34	21.04	22.77
45	10.55	11.80	13.19	14.71	16.35	18.08	19.90	21.78	23.72
50	-	11.70	13.17	14.80	16.56	18.44	20.42	22.49	24.63
55	-	11.55	13.11	14.85	16.73	18.76	20.91	23.16	25.51

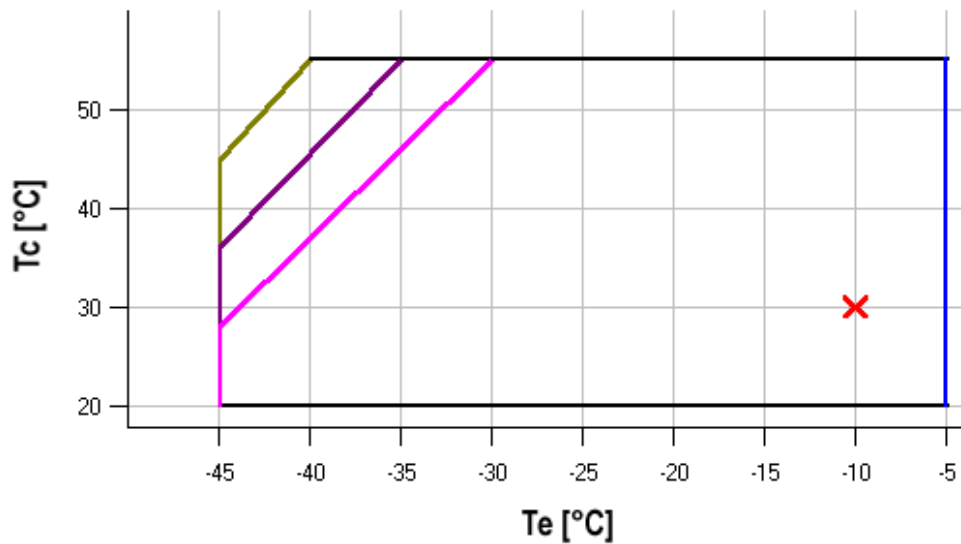
Mass flow [kg/s]



$t_c \setminus t_e$	-45	-40	-35	-30	-25	-20	-15	-10	-5
20	141.85	195.62	259.72	336.57	428.59	538.21	667.83	819.89	996.79
25	134.07	187.20	250.49	326.36	417.21	525.48	653.58	803.94	978.96
30	126.04	178.54	241.02	315.90	405.60	512.53	639.11	787.77	960.93
35	117.87	169.76	231.44	305.34	393.88	499.47	624.55	771.52	942.81
40	109.70	160.97	221.85	294.78	382.17	486.44	610.01	755.30	924.73
45	101.64	152.30	212.40	284.36	370.60	473.55	595.63	739.24	906.82
50	-	143.87	203.19	274.19	359.30	460.94	581.52	723.47	889.20
55	-	135.81	194.36	264.41	348.38	448.71	567.81	708.09	871.98



C.O.P. [W/W]

$t_c \setminus t_e$	-45	-40	-35	-30	-25	-20	-15	-10	-5
20	1.54	1.77	2.02	2.29	2.60	2.96	3.40	3.92	4.58
25	1.37	1.60	1.82	2.06	2.32	2.62	2.97	3.38	3.88
30	1.21	1.43	1.65	1.86	2.08	2.33	2.62	2.95	3.34
35	1.05	1.28	1.48	1.67	1.87	2.08	2.31	2.58	2.89
40	0.89	1.13	1.32	1.50	1.67	1.85	2.05	2.27	2.52
45	0.73	0.97	1.17	1.33	1.49	1.64	1.81	1.99	2.19
50	-	0.82	1.01	1.17	1.31	1.44	1.58	1.74	1.90
55	-	0.68	0.86	1.01	1.14	1.26	1.38	1.50	1.65

Application range



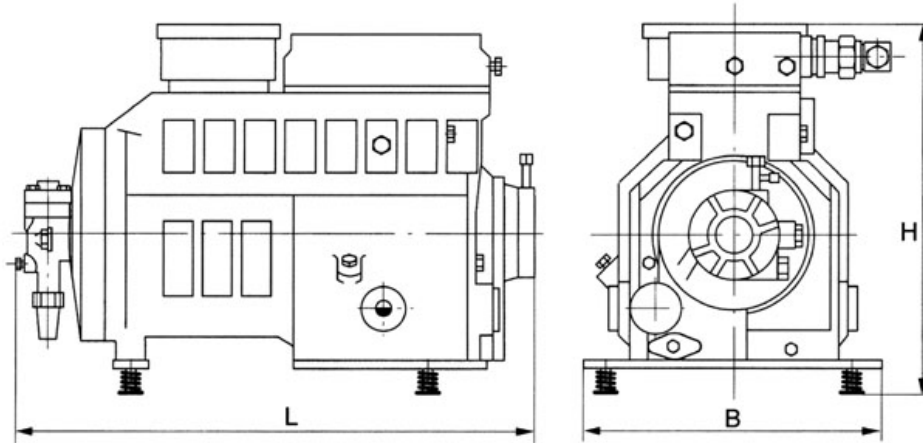
 Maximum evaporating temperature
 25°C suction gas temperature

 0°C suction gas return
 0°C suction gas return + additional cooling

Operating conditions: ISO; subcooling: 0 K, suction superheat: - K, return gas temperature: 20

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]



L	680 mm
B	370 mm
H	480 mm

