

Model: D3DA-75 X

Data

Type: Semi-hermetic piston compressors

Producer: Copeland

Series: DISCUS

Model: D3DA-75 X

Technical data

Cylinder count:	3
Displacement [m ³ /h]:	32,2
Weight [kg]:	163
Oil charge [dm ³]:	3,4
Max. operating current [A]:	17,5
Locked rotor current [A]:	106
Power supply [V/~/Hz]:	380-420V/3/50Hz

Connections

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

Model: D3DA-75 X

Capacity

R22

Cooling capacity [kW]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
30	9.29	12.27	15.73	19.72	24.31	29.57	35.57	42.37
35	8.39	11.28	14.60	18.42	22.82	27.85	33.59	40.11
40	7.53	10.31	13.49	17.14	21.34	26.14	31.62	37.84
45	-	9.37	12.41	15.89	19.88	24.44	29.66	35.58
50	-	8.49	11.38	14.68	18.45	22.78	27.72	33.34
55	-	-	10.40	13.52	17.08	21.16	25.82	31.13
60	-	-	9.50	12.42	15.76	19.58	23.96	28.96

Power input [kW]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
30	4.20	4.59	4.93	5.18	5.33	5.36	5.25	4.98
35	4.33	4.79	5.20	5.55	5.80	5.95	5.96	5.83
40	4.44	4.97	5.46	5.89	6.24	6.50	6.64	6.65
45	-	5.13	5.70	6.21	6.66	7.03	7.29	7.42
50	-	5.29	5.92	6.52	7.06	7.53	7.90	8.17
55	-	-	6.15	6.82	7.45	8.01	8.50	8.89
60	-	-	6.37	7.11	7.82	8.49	9.08	9.59

Model: D3DA-75 X

Capacity

Current [A]

t_c \ t_e	-25	-20	-15	-10	-5	0	5	10
30	9.32	9.87	10.34	10.70	10.92	10.97	10.81	10.41
35	9.49	10.14	10.73	11.23	11.60	11.82	11.84	11.65
40	9.65	10.40	11.10	11.73	12.25	12.63	12.84	12.85
45	-	10.64	11.45	12.21	12.87	13.41	13.80	14.01
50	-	10.87	11.78	12.66	13.47	14.17	14.73	15.13
55	-	-	12.11	13.11	14.05	14.90	15.64	16.23
60	-	-	12.43	13.54	14.62	15.62	16.53	17.30

Mass flow [kg/s]

t_c \ t_e	-25	-20	-15	-10	-5	0	5	10
30	201.87	263.68	333.61	412.85	502.59	604.02	718.33	846.73
35	189.99	251.83	321.60	400.49	489.70	590.42	703.85	831.17
40	178.14	239.88	309.37	387.80	476.37	576.27	688.69	814.82
45	-	228.16	297.25	375.11	462.92	561.87	673.17	797.99
50	-	216.99	285.58	362.74	449.67	547.57	657.62	781.02
55	-	-	274.66	351.02	436.95	533.67	642.37	764.23
60	-	-	264.84	340.27	425.09	520.52	627.73	747.93

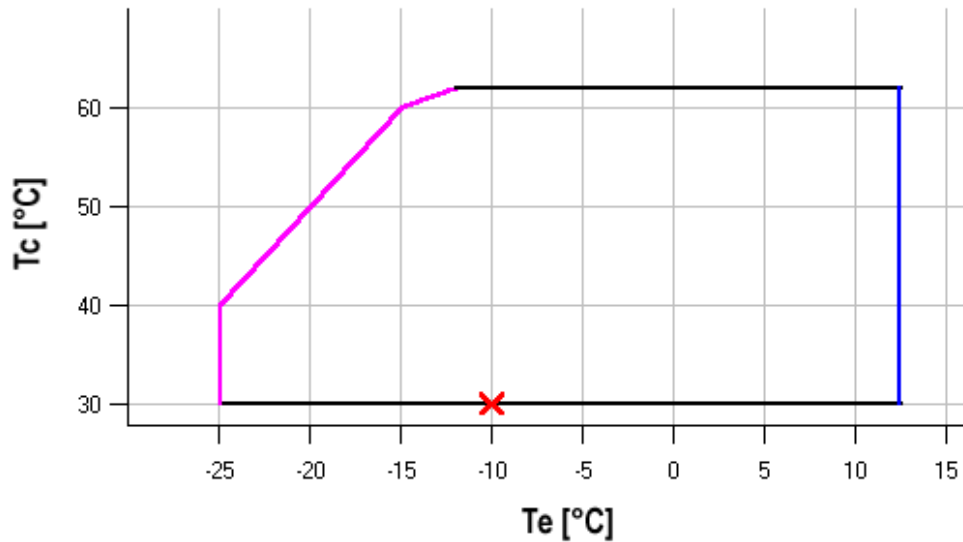
Model: D3DA-75 X

Capacity

C.O.P. [W/W]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
30	2.21	2.67	3.19	3.81	4.56	5.52	6.77	8.51
35	1.94	2.35	2.81	3.32	3.93	4.68	5.63	6.88
40	1.70	2.07	2.47	2.91	3.42	4.02	4.76	5.69
45	-	1.83	2.18	2.56	2.98	3.48	4.07	4.79
50	-	1.60	1.92	2.25	2.61	3.03	3.51	4.08
55	-	-	1.69	1.98	2.29	2.64	3.04	3.50
60	-	-	1.49	1.75	2.01	2.31	2.64	3.02

Application range



- █ Maximum evaporating temperature
- █ 25°C suction gas return

Operating conditions: ISO; subcooling: 0 K, suction superheat: 10 K, return gas temperature: -

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]

Model: D3DA-75 X

Capacity

R134a

Cooling capacity [kW]

t_c \ t_e	-20	-15	-10	-5	0	5	10	15	20	25
40	5.16	7.20	9.63	12.50	15.89	19.87	24.51	29.87	-	-
45	4.45	6.42	8.73	11.46	14.68	18.46	22.87	27.97	33.83	40.53
50	3.79	5.67	7.87	10.45	13.50	17.07	21.24	26.07	31.64	38.01
55	3.18	4.97	7.04	9.48	12.34	15.70	19.63	24.19	29.45	35.48
60	-	4.31	6.26	8.53	11.21	14.35	18.03	22.31	27.26	32.96
65	-	3.70	5.51	7.63	10.11	13.02	16.45	20.45	25.08	30.44
70	-	-	4.82	6.76	9.04	11.73	14.89	18.60	22.92	27.92
75	-	-	-	5.93	8.01	10.46	13.36	16.77	20.76	25.40
80	-	-	-	5.15	7.02	9.23	11.85	14.96	18.62	22.90

Power input [kW]

t_c \ t_e	-20	-15	-10	-5	0	5	10	15	20	25
40	3.08	3.44	3.78	4.08	4.32	4.49	4.57	4.55	-	-
45	3.08	3.49	3.89	4.25	4.57	4.82	4.99	5.07	5.03	4.87
50	3.08	3.54	3.99	4.41	4.80	5.13	5.39	5.57	5.64	5.60
55	3.08	3.58	4.08	4.56	5.02	5.43	5.77	6.05	6.23	6.30
60	-	3.61	4.16	4.70	5.22	5.70	6.14	6.50	6.78	6.96
65	-	3.63	4.22	4.82	5.40	5.96	6.47	6.93	7.31	7.60
70	-	-	4.28	4.93	5.57	6.19	6.79	7.33	7.81	8.21
75	-	-	-	5.01	5.71	6.41	7.07	7.70	8.27	8.78
80	-	-	-	5.08	5.84	6.59	7.33	8.04	8.71	9.31

Model: D3DA-75 X

Capacity

Current [A]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15	20	25
40	7.91	8.29	8.67	9.03	9.32	9.53	9.63	9.59	-	-
45	7.92	8.35	8.80	9.24	9.63	9.95	10.18	10.27	10.22	9.98
50	7.93	8.41	8.92	9.43	9.92	10.35	10.70	10.94	11.05	10.98
55	7.93	8.45	9.03	9.62	10.20	10.74	11.22	11.60	11.86	11.96
60	-	8.49	9.12	9.79	10.46	11.11	11.71	12.23	12.64	12.92
65	-	8.50	9.20	9.94	10.70	11.46	12.18	12.84	13.41	13.86
70	-	-	9.26	10.07	10.93	11.79	12.64	13.43	14.15	14.77
75	-	-	-	10.19	11.13	12.10	13.07	14.00	14.87	15.66
80	-	-	-	10.28	11.31	12.39	13.47	14.54	15.56	16.51

Mass flow [kg/s]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15	20	25
40	133.59	184.16	241.44	306.69	381.15	466.06	562.69	672.26	-	-
45	122.86	173.69	231.14	296.47	370.90	455.70	552.11	661.38	784.74	923.46
50	112.05	163.04	220.57	285.86	360.18	444.75	540.85	649.70	772.55	910.67
55	101.43	152.49	209.98	275.14	349.23	433.48	529.16	637.49	759.73	897.13
60	-	142.30	199.65	264.58	338.33	422.16	517.31	625.02	746.55	883.14
65	-	132.74	189.85	254.44	327.76	411.06	505.58	612.57	733.27	868.95
70	-	-	180.85	245.00	317.78	400.44	494.23	600.39	720.18	854.83
75	-	-	-	236.52	308.66	390.58	483.54	588.77	707.52	841.05
80	-	-	-	229.27	300.67	381.75	473.77	577.96	695.59	827.89

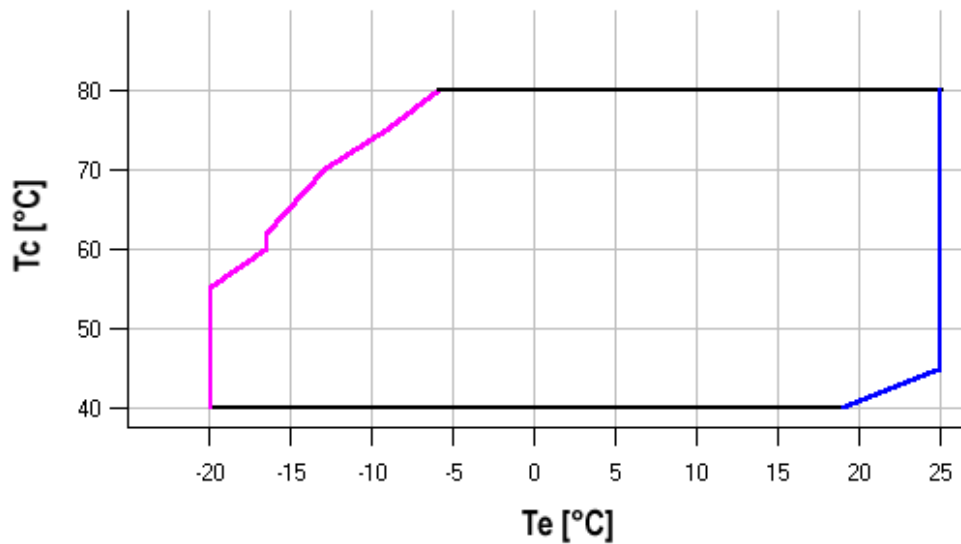
Model: D3DA-75 X

Capacity


C.O.P. [W/W]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15	20	25
40	1.68	2.09	2.54	3.06	3.67	4.42	5.36	6.57	-	-
45	1.45	1.84	2.24	2.70	3.21	3.83	4.58	5.52	6.72	8.32
50	1.23	1.60	1.97	2.37	2.81	3.33	3.94	4.68	5.61	6.79
55	1.03	1.39	1.73	2.08	2.46	2.89	3.40	4.00	4.73	5.64
60	-	1.19	1.51	1.82	2.15	2.52	2.94	3.43	4.02	4.73
65	-	1.02	1.30	1.58	1.87	2.19	2.54	2.95	3.43	4.00
70	-	-	1.13	1.37	1.62	1.89	2.19	2.54	2.93	3.40
75	-	-	-	1.18	1.40	1.63	1.89	2.18	2.51	2.89
80	-	-	-	1.01	1.20	1.40	1.62	1.86	2.14	2.46

Application range



 Maximum evaporating temperature

 20K suction superheat

Operating conditions: ISO; subcooling: 0 K, suction superheat: 10 K, return gas temperature: -

t_c - Condensing temperature [°C]

t_e - Evaporating temperature [°C]

Model: D3DA-75 X

Capacity

R404A/R507

Cooling capacity [kW]

t_c \ t_e	-40	-35	-30	-25	-20	-15	-10	-5	0	5
20	5.60	7.55	9.94	12.82	16.26	20.29	24.97	30.35	36.50	43.44
25	5.17	7.05	9.32	12.05	15.29	19.09	23.50	28.57	34.35	40.91
30	4.67	6.46	8.61	11.18	14.21	17.77	21.89	26.64	32.06	38.21
35	4.13	5.82	7.84	10.23	13.06	16.35	20.18	24.60	29.65	35.38
40	3.58	5.18	7.05	9.26	11.86	14.89	18.42	22.49	27.15	32.46
45	-	4.55	6.27	8.29	10.65	13.41	16.63	20.34	24.61	29.49
50	-	3.99	5.55	7.36	9.48	11.96	14.85	18.20	22.06	26.50
55	-	-	4.92	6.52	8.38	10.56	13.12	16.10	19.55	23.53

Power input [kW]

t_c \ t_e	-40	-35	-30	-25	-20	-15	-10	-5	0	5
20	3.03	3.46	3.86	4.22	4.50	4.70	4.79	4.75	4.56	4.21
25	3.11	3.58	4.04	4.46	4.83	5.12	5.32	5.40	5.35	5.15
30	3.16	3.67	4.17	4.66	5.10	5.48	5.78	5.98	6.06	6.00
35	3.19	3.73	4.28	4.82	5.33	5.79	6.19	6.50	6.71	6.78
40	3.23	3.79	4.37	4.96	5.53	6.07	6.56	6.97	7.30	7.51
45	-	3.85	4.46	5.09	5.72	6.33	6.91	7.42	7.85	8.18
50	-	3.93	4.56	5.23	5.92	6.59	7.24	7.84	8.38	8.83
55	-	-	4.70	5.40	6.12	6.86	7.58	8.27	8.90	9.47

Model: D3DA-75 X

Capacity

Current [A]

$t_c \setminus t_e$	-40	-35	-30	-25	-20	-15	-10	-5	0	5
20	7.99	8.52	9.01	9.45	9.80	10.04	10.13	10.04	9.75	9.23
25	8.03	8.61	9.18	9.72	10.18	10.55	10.79	10.88	10.78	10.48
30	8.05	8.69	9.33	9.95	10.53	11.02	11.41	11.67	11.76	11.66
35	8.07	8.75	9.46	10.17	10.85	11.46	12.00	12.41	12.68	12.78
40	8.08	8.81	9.58	10.36	11.14	11.88	12.55	13.12	13.56	13.86
45	-	8.87	9.69	10.55	11.42	12.27	13.07	13.79	14.41	14.89
50	-	8.93	9.80	10.73	11.69	12.64	13.57	14.44	15.22	15.88
55	-	-	9.92	10.92	11.95	13.01	14.06	15.06	16.00	16.85

Mass flow [kg/s]

$t_c \setminus t_e$	-40	-35	-30	-25	-20	-15	-10	-5	0	5
20	119.78	166.68	221.24	285.79	362.68	454.24	562.81	690.73	840.35	1 013.99
25	116.69	163.29	217.45	281.50	357.78	448.63	556.39	683.40	832.00	1 004.53
30	111.31	157.34	210.81	274.08	349.48	439.34	546.01	671.83	819.13	990.26
35	104.60	149.77	202.29	264.49	338.72	427.31	532.61	656.96	802.69	972.14
40	97.50	141.53	192.80	253.66	326.45	413.49	517.14	639.74	783.61	951.10
45	-	133.56	183.31	242.55	313.61	398.83	500.55	621.11	762.84	928.10
50	-	126.81	174.76	232.10	301.15	384.26	483.77	602.02	741.34	904.07
55	-	-	168.09	223.24	290.01	370.73	467.75	583.41	720.03	879.97

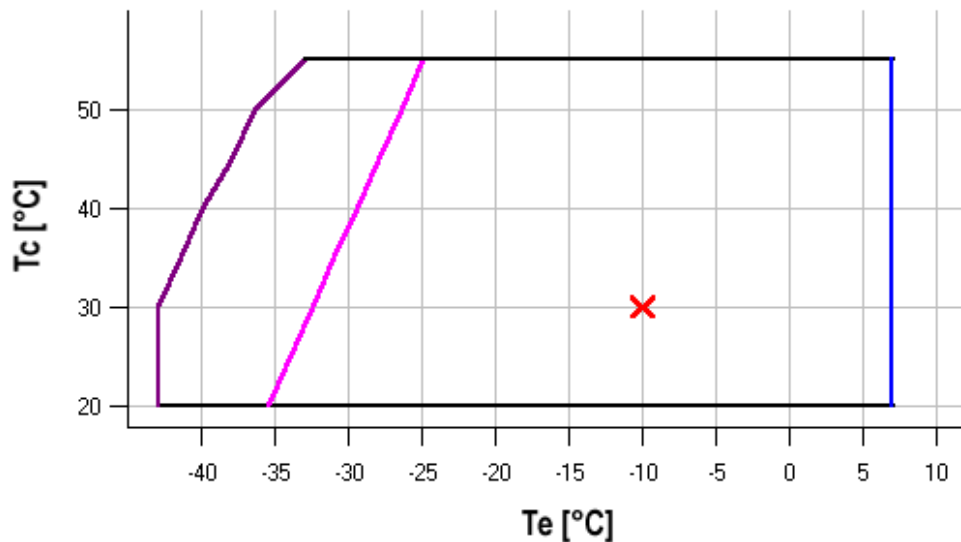
Model: D3DA-75 X




Capacity

C.O.P. [W/W]

$t_c \setminus t_e$	-40	-35	-30	-25	-20	-15	-10	-5	0	5
20	1.85	2.18	2.57	3.04	3.61	4.32	5.22	6.40	8.00	10.32
25	1.66	1.97	2.31	2.70	3.17	3.73	4.42	5.29	6.42	7.94
30	1.48	1.76	2.06	2.40	2.79	3.24	3.79	4.45	5.29	6.36
35	1.29	1.56	1.83	2.12	2.45	2.82	3.26	3.78	4.42	5.21
40	1.11	1.37	1.61	1.87	2.14	2.45	2.81	3.22	3.72	4.32
45	-	1.18	1.41	1.63	1.86	2.12	2.41	2.74	3.14	3.60
50	-	1.02	1.22	1.41	1.60	1.81	2.05	2.32	2.63	3.00
55	-	-	1.05	1.21	1.37	1.54	1.73	1.95	2.20	2.48

Application range



-  Maximum evaporating temperature
-  25°C suction gas return
-  25°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]

Model: D3DA-75 X

Capacity

R407C

Cooling capacity [kW]

t_c \ t_e	-20	-15	-10	-5	0	5	10	15
35	9.54	12.61	16.37	20.85	26.10	32.15	39.05	-
40	8.61	11.45	14.95	19.14	24.06	29.76	36.28	-
45	7.75	10.37	13.60	17.50	22.11	27.45	33.59	-
50	-	9.35	12.33	15.94	20.22	25.23	30.98	-
55	-	8.40	11.12	14.45	18.42	23.08	28.46	-
60	-	-	9.99	13.04	16.70	21.01	26.01	-

Power input [kW]

t_c \ t_e	-20	-15	-10	-5	0	5	10	15
35	4.35	4.77	5.16	5.48	5.71	5.81	5.75	-
40	4.52	4.99	5.45	5.87	6.21	6.44	6.53	-
45	4.68	5.20	5.73	6.23	6.68	7.03	7.27	-
50	-	5.40	5.99	6.57	7.12	7.59	7.96	-
55	-	5.60	6.24	6.90	7.54	8.12	8.62	-
60	-	-	6.49	7.21	7.93	8.62	9.25	-

Model: D3DA-75 X

Capacity

Current [A]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
35	9.49	10.09	10.65	11.12	11.45	11.60	11.51	-
40	9.73	10.41	11.08	11.69	12.19	12.53	12.67	-
45	9.96	10.71	11.48	12.23	12.89	13.42	13.77	-
50	-	11.00	11.87	12.73	13.55	14.25	14.81	-
55	-	11.29	12.24	13.22	14.17	15.05	15.81	-
60	-	-	12.60	13.69	14.77	15.82	16.76	-

Mass flow [kg/s]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
35	210.52	273.73	349.35	437.77	539.39	654.63	783.88	-
40	200.30	261.48	335.15	421.72	521.59	635.15	762.83	-
45	190.65	249.83	321.59	406.34	504.48	616.42	742.56	-
50	-	239.00	308.89	391.85	488.31	598.65	723.28	-
55	-	229.21	297.26	378.48	473.28	582.05	705.22	-
60	-	-	286.93	366.44	459.61	566.86	688.59	-

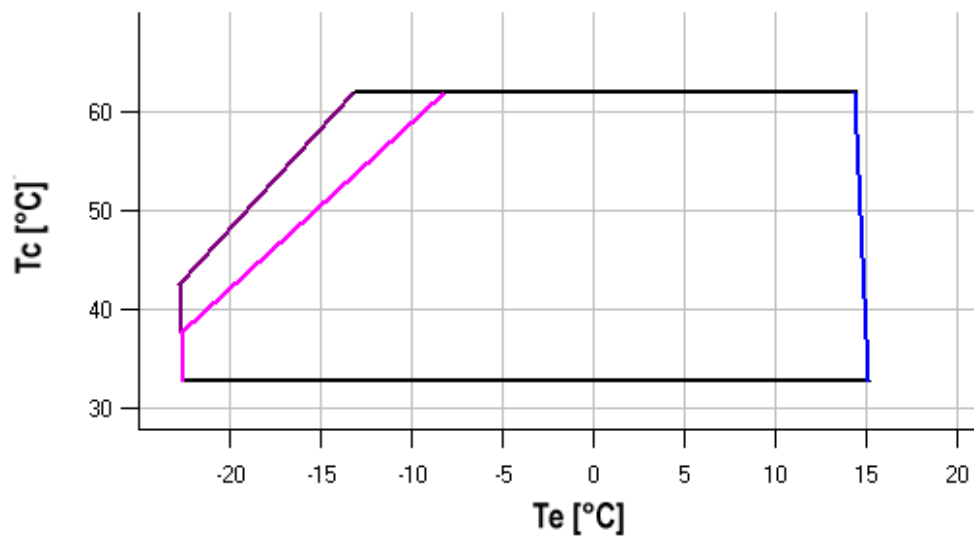
Model: D3DA-75 X

Capacity

C.O.P. [W/W]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
35	2.19	2.64	3.17	3.80	4.57	5.53	6.79	-
40	1.91	2.29	2.74	3.26	3.87	4.62	5.56	-
45	1.66	1.99	2.37	2.81	3.31	3.90	4.62	-
50	-	1.73	2.06	2.42	2.84	3.32	3.89	-
55	-	1.50	1.78	2.09	2.44	2.84	3.30	-
60	-	-	1.54	1.81	2.10	2.44	2.81	-

Application range

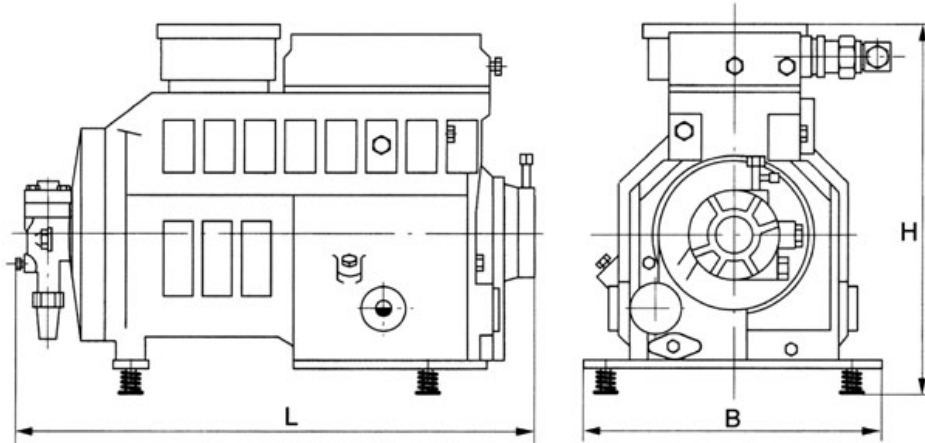


- Maximum evaporating temperature
- 25°C suction gas return
- 20K suction superheat

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

Model: D3DA-75 X

Dimensions



L	680 mm
B	370 mm
H	480 mm

Model: D3DA-75 X

Image

