

# Model: D8DJ-600 X

## Data

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Type: Semi-hermetic piston compressors

Producer: Copeland

Series: DISCUS

## Model: D8DJ-600 X

### Technical data

Cylinder count:	8
Displacement [m <sup>3</sup> /h]:	181
Weight [kg]:	352
Oil charge [dm <sup>3</sup> ]:	7,7
Max. operating current [A]:	114
Locked rotor current [A]:	544
Power supply [V/~/Hz]:	380-420V/3/50Hz

### Connections

	<u>milimeters</u>	<u>inches</u>
Suction line:		3 1/8"
Discharge line:		1 5/8"

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## Capacity

R22

### Cooling capacity [kW]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
30	53.48	68.44	86.25	107.23	131.68	159.91	192.23	228.95
35	49.79	64.13	81.12	101.09	124.32	151.14	181.85	216.76
40	46.29	59.99	76.14	95.06	117.06	142.45	171.52	204.61
45	43.03	56.06	71.35	89.21	109.95	133.87	161.30	192.52
50	-	52.40	66.80	83.58	103.03	125.48	151.22	180.57
55	-	-	62.55	78.22	96.37	117.31	141.35	168.79
60	-	-	-	73.19	90.01	109.42	131.73	157.25

### Power input [kW]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
30	23.99	26.39	28.58	30.49	32.02	33.08	33.60	33.48
35	25.10	27.81	30.36	32.69	34.69	36.29	37.40	37.93
40	26.21	29.19	32.09	34.80	37.25	39.36	41.02	42.17
45	27.35	30.58	33.78	36.85	39.73	42.30	44.50	46.23
50	-	31.99	35.47	38.88	42.14	45.17	47.87	50.16
55	-	-	37.19	40.91	44.53	47.98	51.15	53.98
60	-	-	-	42.97	46.93	50.77	54.39	57.71

# Model: D8DJ-600 X

## Capacity

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### Current [A]

<b>t<sub>c</sub> \ t<sub>e</sub></b>	<b>-25</b>	<b>-20</b>	<b>-15</b>	<b>-10</b>	<b>-5</b>	<b>0</b>	<b>5</b>	<b>10</b>
<b>30</b>	59.62	62.05	64.45	66.67	68.53	69.87	70.53	70.34
<b>35</b>	60.72	63.58	66.49	69.30	71.84	73.95	75.45	76.18
<b>40</b>	61.87	65.16	68.59	71.99	75.20	78.06	80.40	82.05
<b>45</b>	63.09	66.80	70.73	74.72	78.60	82.21	85.38	87.95
<b>50</b>	-	68.50	72.93	77.49	82.04	86.39	90.39	93.87
<b>55</b>	-	-	75.17	80.31	85.52	90.61	95.43	99.82
<b>60</b>	-	-	-	83.18	89.04	94.87	100.51	105.79

### Mass flow [kg/s]

<b>t<sub>c</sub> \ t<sub>e</sub></b>	<b>-25</b>	<b>-20</b>	<b>-15</b>	<b>-10</b>	<b>-5</b>	<b>0</b>	<b>5</b>	<b>10</b>
<b>30</b>	989.54	1 301.76	1 660.73	2 078.44	2 566.84	3 137.89	3 803.55	4 575.80
<b>35</b>	957.23	1 264.72	1 618.15	2 029.49	2 510.70	3 073.74	3 730.57	4 493.17
<b>40</b>	927.24	1 229.19	1 576.26	1 980.42	2 453.63	3 007.85	3 655.04	4 407.18
<b>45</b>	901.26	1 196.86	1 536.77	1 932.94	2 397.33	2 941.92	3 578.66	4 319.51
<b>50</b>	-	1 169.42	1 501.34	1 888.71	2 343.48	2 877.62	3 503.09	4 231.86
<b>55</b>	-	-	1 471.68	1 849.43	2 293.76	2 816.64	3 430.04	4 145.91
<b>60</b>	-	-	-	1 816.78	2 249.87	2 760.68	3 361.18	4 063.34

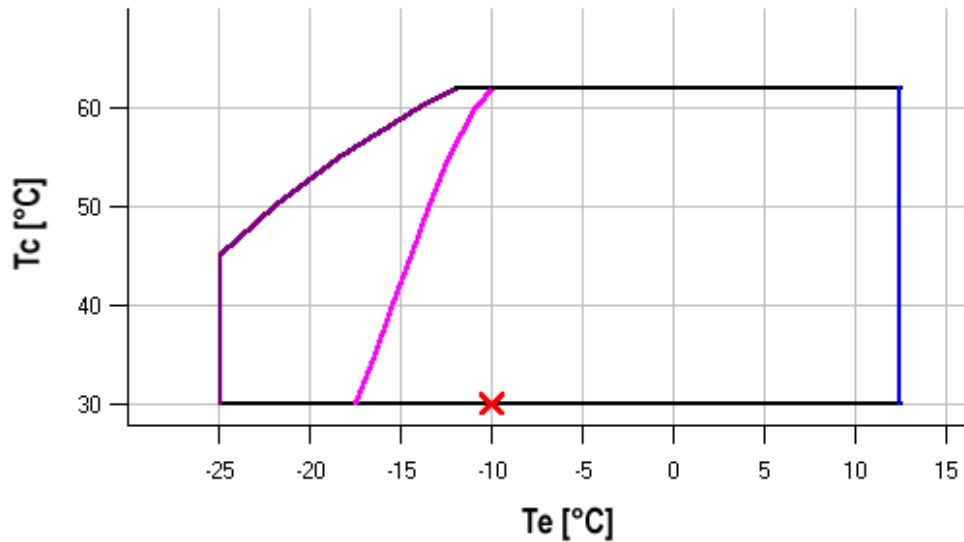
# Model: D8DJ-600 X

Capacity

## C.O.P. [W/W]

$t_c \setminus t_e$	-25	-20	-15	-10	-5	0	5	10
30	2.23	2.59	3.02	3.52	4.11	4.83	5.72	6.84
35	1.98	2.31	2.67	3.09	3.58	4.16	4.86	5.72
40	1.77	2.05	2.37	2.73	3.14	3.62	4.18	4.85
45	1.57	1.83	2.11	2.42	2.77	3.16	3.62	4.16
50	-	1.64	1.88	2.15	2.44	2.78	3.16	3.60
55	-	-	1.68	1.91	2.16	2.45	2.76	3.13
60	-	-	-	1.70	1.92	2.16	2.42	2.72

## 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]

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## Capacity

R134a

### Cooling capacity [kW]

<b>t<sub>c</sub> \ t<sub>e</sub></b>	<b>-20</b>	<b>-15</b>	<b>-10</b>	<b>-5</b>	<b>0</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>
<b>40</b>	35.18	44.61	56.12	70.02	86.57	106.06	128.77	154.98	184.97	219.03
<b>45</b>	31.66	40.85	51.93	65.17	80.87	99.29	120.73	145.46	173.76	205.92
<b>50</b>	28.38	37.30	47.89	60.45	75.24	92.56	112.68	135.88	162.46	192.67
<b>55</b>	25.36	33.96	44.03	55.85	69.70	85.87	104.63	126.26	151.06	179.30
<b>60</b>	22.59	30.83	40.33	51.37	64.24	79.21	96.57	116.60	139.57	165.78
<b>65</b>	20.08	27.92	36.80	47.02	58.86	72.60	88.51	106.88	128.00	152.14
<b>70</b>	17.82	25.21	33.44	42.80	53.57	66.02	80.45	97.12	116.34	138.36
<b>75</b>	-	22.72	30.26	38.71	48.36	59.49	72.38	87.32	104.58	124.45
<b>80</b>	-	-	27.24	34.74	43.23	53.00	64.32	77.48	92.75	110.42

### Power input [kW]

<b>t<sub>c</sub> \ t<sub>e</sub></b>	<b>-20</b>	<b>-15</b>	<b>-10</b>	<b>-5</b>	<b>0</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>
<b>40</b>	17.81	20.01	22.17	24.23	26.13	27.80	29.17	30.19	30.79	30.90
<b>45</b>	18.24	20.67	23.09	25.43	27.63	29.63	31.37	32.77	33.78	34.33
<b>50</b>	18.69	21.32	23.97	26.57	29.06	31.37	33.44	35.20	36.60	37.57
<b>55</b>	19.14	21.96	24.81	27.65	30.39	32.99	35.37	37.47	39.23	40.59
<b>60</b>	19.60	22.57	25.61	28.65	31.63	34.48	37.15	39.56	41.67	43.39
<b>65</b>	20.04	23.14	26.34	29.56	32.75	35.84	38.77	41.48	43.89	45.96
<b>70</b>	20.45	23.66	26.99	30.38	33.76	37.06	40.23	43.20	45.91	48.29
<b>75</b>	-	24.13	27.57	31.09	34.63	38.13	41.51	44.72	47.70	50.37
<b>80</b>	-	-	28.06	31.69	35.37	39.03	42.60	46.03	49.25	52.19

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## Capacity

### Current [A]

<b>t<sub>c</sub> \ t<sub>e</sub></b>	<b>-20</b>	<b>-15</b>	<b>-10</b>	<b>-5</b>	<b>0</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>
<b>40</b>	49.88	52.23	54.68	57.12	59.44	61.53	63.28	64.57	65.31	65.38
<b>45</b>	50.41	53.02	55.79	58.61	61.37	63.95	66.25	68.17	69.57	70.37
<b>50</b>	50.93	53.79	56.86	60.04	63.21	66.27	69.10	71.60	73.66	75.17
<b>55</b>	51.45	54.53	57.87	61.39	64.95	68.46	71.81	74.88	77.56	79.76
<b>60</b>	51.95	55.22	58.82	62.65	66.59	70.53	74.36	77.98	81.27	84.13
<b>65</b>	52.43	55.87	59.70	63.82	68.10	72.45	76.75	80.89	84.77	88.27
<b>70</b>	52.86	56.45	60.49	64.88	69.49	74.22	78.97	83.61	88.05	92.17
<b>75</b>	-	56.96	61.19	65.82	70.74	75.84	81.00	86.13	91.11	95.82
<b>80</b>	-	-	61.78	66.64	71.84	77.28	82.84	88.43	93.92	99.22

### Mass flow [kg/s]

<b>t<sub>c</sub> \ t<sub>e</sub></b>	<b>-20</b>	<b>-15</b>	<b>-10</b>	<b>-5</b>	<b>0</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>
<b>40</b>	633.01	917.67	1 222.13	1 562.34	1 954.27	2 413.88	2 957.13	3 599.99	4 358.41	5 248.37
<b>45</b>	602.72	886.35	1 189.39	1 527.80	1 917.55	2 374.59	2 914.89	3 554.41	4 309.12	5 194.97
<b>50</b>	576.07	857.49	1 157.94	1 493.37	1 879.76	2 333.06	2 869.23	3 504.24	4 254.05	5 134.63
<b>55</b>	553.80	831.84	1 128.51	1 459.80	1 841.65	2 290.03	2 820.90	3 450.22	4 193.96	5 068.08
<b>60</b>	536.67	810.14	1 101.88	1 427.83	1 803.97	2 246.26	2 770.65	3 393.11	4 129.61	4 996.10
<b>65</b>	525.42	793.16	1 078.78	1 398.23	1 767.48	2 202.50	2 719.23	3 333.66	4 061.73	4 919.42
<b>70</b>	520.82	781.65	1 059.97	1 371.74	1 732.93	2 159.50	2 667.41	3 272.62	3 991.10	4 838.80
<b>75</b>	-	776.35	1 046.20	1 349.12	1 701.07	2 118.02	2 615.92	3 210.74	3 918.45	4 755.00
<b>80</b>	-	-	1 038.23	1 331.12	1 672.65	2 078.80	2 565.52	3 148.78	3 844.54	4 668.75

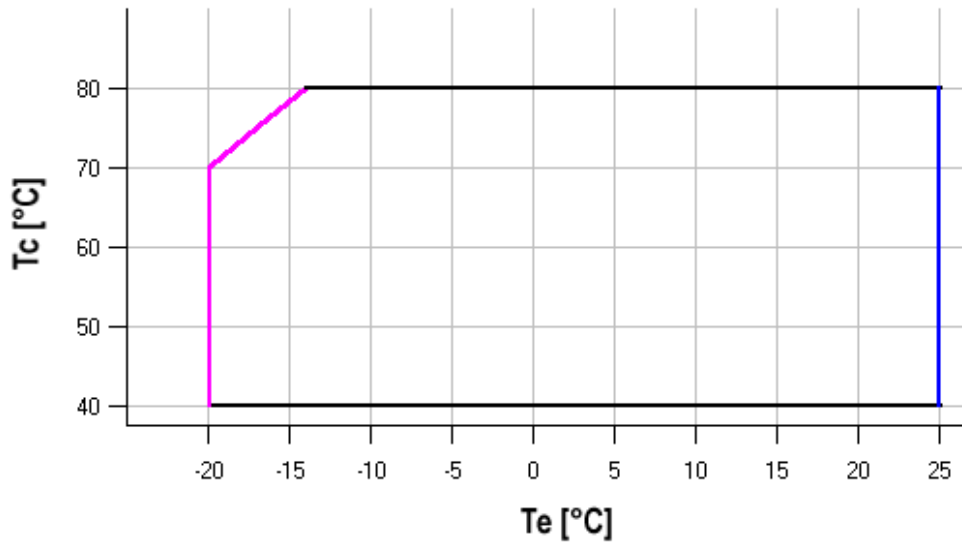
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Capacity


## C.O.P. [W/W]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15	20	25
40	1.98	2.23	2.53	2.89	3.31	3.82	4.41	5.13	6.01	7.09
45	1.74	1.98	2.25	2.56	2.93	3.35	3.85	4.44	5.14	6.00
50	1.52	1.75	2.00	2.28	2.59	2.95	3.37	3.86	4.44	5.13
55	1.32	1.55	1.77	2.02	2.29	2.60	2.96	3.37	3.85	4.42
60	1.15	1.37	1.58	1.79	2.03	2.30	2.60	2.95	3.35	3.82
65	1.00	1.21	1.40	1.59	1.80	2.03	2.28	2.58	2.92	3.31
70	0.87	1.07	1.24	1.41	1.59	1.78	2.00	2.25	2.53	2.87
75	-	0.94	1.10	1.24	1.40	1.56	1.74	1.95	2.19	2.47
80	-	-	0.97	1.10	1.22	1.36	1.51	1.68	1.88	2.12

## 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: D8DJ-600 X

## Capacity

R404A/R507

### Cooling capacity [kW]

<b>t<sub>c</sub> \ t<sub>e</sub></b>	<b>-40</b>	<b>-35</b>	<b>-30</b>	<b>-25</b>	<b>-20</b>	<b>-15</b>	<b>-10</b>	<b>-5</b>	<b>0</b>	<b>5</b>
<b>20</b>	34.89	44.95	57.33	72.35	90.31	111.52	136.30	164.94	197.75	235.05
<b>25</b>	31.16	40.95	52.81	67.05	83.99	103.93	127.18	154.05	184.84	219.87
<b>30</b>	27.65	37.12	48.42	61.86	77.73	96.37	118.06	143.12	171.85	204.58
<b>35</b>	-	33.45	44.15	56.74	71.53	88.82	108.91	132.13	158.77	189.15
<b>40</b>	-	29.92	39.99	51.70	65.35	81.26	99.73	121.06	145.58	173.58
<b>45</b>	-	26.50	35.91	46.70	59.18	73.67	90.48	109.90	132.25	157.84
<b>50</b>	-	23.18	31.88	41.72	53.00	66.04	81.14	98.62	118.77	141.90
<b>55</b>	-	-	27.90	36.75	46.79	58.34	71.71	87.19	105.11	125.76

### Power input [kW]

<b>t<sub>c</sub> \ t<sub>e</sub></b>	<b>-40</b>	<b>-35</b>	<b>-30</b>	<b>-25</b>	<b>-20</b>	<b>-15</b>	<b>-10</b>	<b>-5</b>	<b>0</b>	<b>5</b>
<b>20</b>	17.92	20.38	22.76	24.98	26.96	28.60	29.84	30.59	30.75	30.26
<b>25</b>	18.33	21.05	23.74	26.32	28.72	30.84	32.60	33.92	34.72	34.92
<b>30</b>	18.68	21.63	24.61	27.54	30.33	32.89	35.16	37.04	38.45	39.31
<b>35</b>	-	22.15	25.40	28.64	31.80	34.80	37.54	39.96	41.96	43.46
<b>40</b>	-	22.63	26.11	29.66	33.17	36.57	39.77	42.70	45.27	47.39
<b>45</b>	-	23.08	26.79	30.60	34.44	38.22	41.86	45.28	48.39	51.11
<b>50</b>	-	23.52	27.43	31.49	35.64	39.78	43.83	47.72	51.35	54.64
<b>55</b>	-	-	28.06	32.35	36.78	41.26	45.70	50.03	54.16	58.01



# Model: D8DJ-600 X

## Capacity

### Current [A]

$t_c \setminus t_e$	-40	-35	-30	-25	-20	-15	-10	-5	0	5
<b>20</b>	49.05	52.09	55.12	57.98	60.55	62.69	64.25	65.09	65.09	64.10
<b>25</b>	49.85	53.12	56.48	59.80	62.94	65.76	68.12	69.88	70.91	71.07
<b>30</b>	50.47	53.95	57.64	61.40	65.10	68.59	71.74	74.41	76.46	77.74
<b>35</b>	-	54.64	58.65	62.84	67.08	71.23	75.15	78.71	81.76	84.17
<b>40</b>	-	55.23	59.54	64.15	68.92	73.72	78.41	82.84	86.89	90.40
<b>45</b>	-	55.77	60.37	65.38	70.67	76.10	81.54	86.84	91.87	96.48
<b>50</b>	-	56.30	61.17	66.57	72.37	78.43	84.60	90.75	96.75	102.44
<b>55</b>	-	-	62.00	67.78	74.08	80.74	87.64	94.63	101.58	108.35

### Mass flow [kg/s]

$t_c \setminus t_e$	-40	-35	-30	-25	-20	-15	-10	-5	0	5
<b>20</b>	674.97	951.05	1 257.01	1 607.74	2 018.13	2 503.08	3 077.45	3 756.16	4 554.08	5 486.10
<b>25</b>	638.99	912.78	1 215.53	1 562.12	1 967.45	2 446.40	3 013.86	3 684.73	4 473.88	5 396.22
<b>30</b>	605.84	876.30	1 174.79	1 516.21	1 915.43	2 387.35	2 946.86	3 608.85	4 388.20	5 299.80
<b>35</b>	-	841.28	1 134.48	1 469.67	1 861.75	2 325.60	2 876.12	3 528.18	4 296.69	5 196.53
<b>40</b>	-	807.39	1 094.25	1 422.18	1 806.08	2 260.82	2 801.30	3 442.41	4 199.03	5 086.06
<b>45</b>	-	774.30	1 053.78	1 373.42	1 748.09	2 192.68	2 722.08	3 351.19	4 094.89	4 968.06
<b>50</b>	-	741.68	1 012.75	1 323.04	1 687.44	2 120.84	2 638.13	3 254.20	3 983.93	4 842.21
<b>55</b>	-	-	970.81	1 270.72	1 623.81	2 044.98	2 549.12	3 151.10	3 865.83	4 708.18

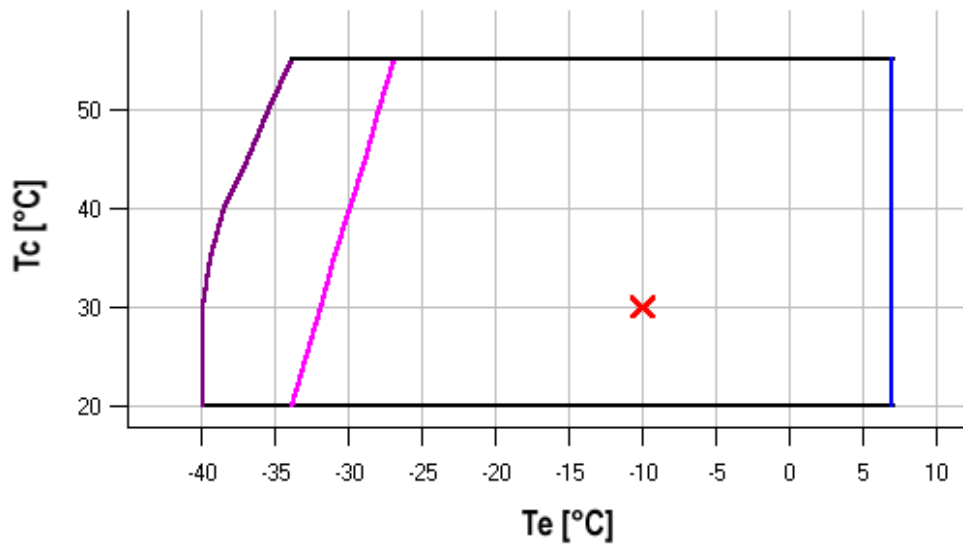
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## Capacity

### C.O.P. [W/W]

$t_c \setminus t_e$	-40	-35	-30	-25	-20	-15	-10	-5	0	5
20	1.95	2.21	2.52	2.90	3.35	3.90	4.57	5.39	6.43	7.77
25	1.70	1.95	2.22	2.55	2.92	3.37	3.90	4.54	5.32	6.30
30	1.48	1.72	1.97	2.25	2.56	2.93	3.36	3.86	4.47	5.20
35	-	1.51	1.74	1.98	2.25	2.55	2.90	3.31	3.78	4.35
40	-	1.32	1.53	1.74	1.97	2.22	2.51	2.84	3.22	3.66
45	-	1.15	1.34	1.53	1.72	1.93	2.16	2.43	2.73	3.09
50	-	0.99	1.16	1.32	1.49	1.66	1.85	2.07	2.31	2.60
55	-	-	0.99	1.14	1.27	1.41	1.57	1.74	1.94	2.17

### Application range



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

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

$t_c$  - Condensing temperature [°C]

$t_e$  - Evaporating temperature [°C]

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## Capacity

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R407C

### Cooling capacity [kW]

<b>t<sub>c</sub> \ t<sub>e</sub></b>	<b>-20</b>	<b>-15</b>	<b>-10</b>	<b>-5</b>	<b>0</b>	<b>5</b>	<b>10</b>	<b>15</b>
<b>35</b>	55.49	71.53	91.24	114.78	142.30	173.95	209.89	-
<b>40</b>	51.44	66.32	84.65	106.59	132.29	161.91	195.60	-
<b>45</b>	47.51	61.25	78.23	98.59	122.50	150.11	181.57	-
<b>50</b>	43.83	56.45	72.08	90.89	113.03	138.65	167.91	-
<b>55</b>	-	52.00	66.33	83.60	103.99	127.65	154.73	-
<b>60</b>	-	-	61.07	76.84	95.50	117.21	142.13	-

### Power input [kW]

<b>t<sub>c</sub> \ t<sub>e</sub></b>	<b>-20</b>	<b>-15</b>	<b>-10</b>	<b>-5</b>	<b>0</b>	<b>5</b>	<b>10</b>	<b>15</b>
<b>35</b>	24.48	27.19	29.85	32.31	34.36	35.85	36.60	-
<b>40</b>	25.88	28.82	31.80	34.64	37.18	39.23	40.62	-
<b>45</b>	27.32	30.44	33.69	36.88	39.86	42.43	44.42	-
<b>50</b>	28.73	31.99	35.47	38.97	42.34	45.38	47.93	-
<b>55</b>	-	33.42	37.08	40.85	44.56	48.04	51.10	-
<b>60</b>	-	-	38.47	42.46	46.48	50.34	53.87	-

# Model: D8DJ-600 X

## Capacity

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### Current [A]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
35	59.28	62.56	65.89	69.03	71.71	73.67	74.66	-
40	60.98	64.57	68.35	72.05	75.42	78.19	80.11	-
45	62.77	66.64	70.81	75.04	79.05	82.59	85.39	-
50	64.55	68.65	73.18	77.88	82.49	86.75	90.40	-
55	-	70.51	75.35	80.48	85.65	90.59	95.03	-
60	-	-	77.21	82.73	88.41	93.98	99.18	-

### Mass flow [kg/s]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
35	1 048.90	1 373.19	1 765.27	2 235.23	2 793.18	3 449.23	4 213.48	-
40	1 019.87	1 332.44	1 712.73	2 170.84	2 716.89	3 360.97	4 113.20	-
45	989.99	1 291.20	1 660.07	2 106.70	2 641.21	3 273.69	4 014.25	-
50	963.06	1 253.27	1 611.08	2 046.60	2 569.93	3 191.17	3 920.44	-
55	-	1 222.44	1 569.56	1 994.32	2 506.84	3 117.21	3 835.54	-
60	-	-	1 539.28	1 953.66	2 455.72	3 055.58	3 763.34	-

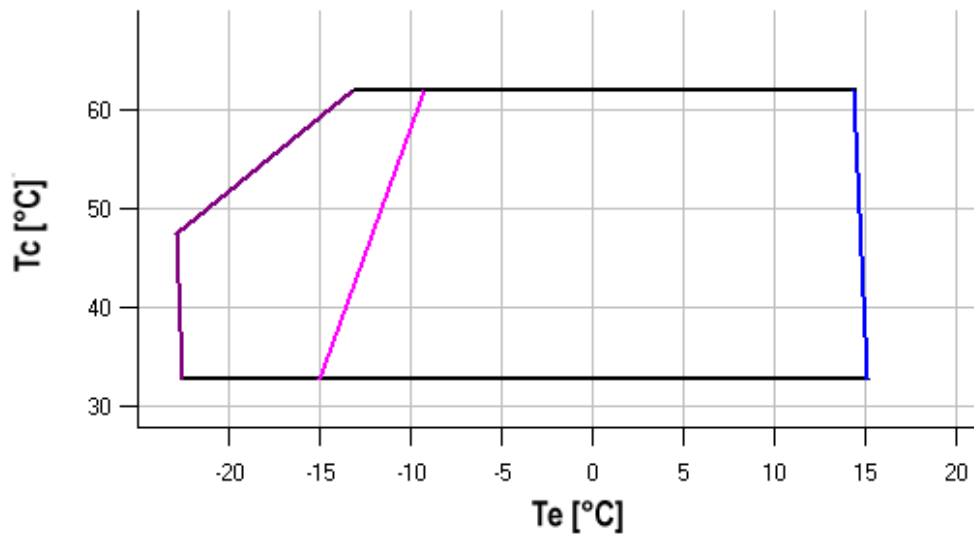
# Model: D8DJ-600 X




Capacity

## C.O.P. [W/W]

$t_c \setminus t_e$	-20	-15	-10	-5	0	5	10	15
35	2.27	2.63	3.06	3.55	4.14	4.85	5.73	-
40	1.99	2.30	2.66	3.08	3.56	4.13	4.82	-
45	1.74	2.01	2.32	2.67	3.07	3.54	4.09	-
50	1.53	1.76	2.03	2.33	2.67	3.06	3.50	-
55	-	1.56	1.79	2.05	2.33	2.66	3.03	-
60	-	-	1.59	1.81	2.05	2.33	2.64	-

## 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]