

Capacity Table

Liquid line Capacity

CT. 38°C / ET. 5°C / SC. 0K

Catalog No.	Capacity (U.S.R.T. {kw})						
	R410A						
	Pressure Drop (MPa)						
	0.01		0.015		0.02		0.04
RPV-302BYF	0.93	{3.3}	1.1	{4.0}	1.3	{4.6}	1.9 {6.6}
RPV-303BYF	1.1	{3.7}	1.3	{4.5}	1.5	{5.1}	2.1 {7.3}
RPV-602BYF	2.1	{7.3}	2.5	{8.9}	2.9	{10}	4.1 {14}
RPV-603BYF	3.0	{10}	3.9	{14}	4.3	{15}	6.2 {22}
RPV-804BYF	4.7	{17}	6.0	{21}	6.9	{24}	9.8 {34}
RPV-1004BYF	8.4	{30}	10	{36}	12	{42}	16 {58}
RPV-1205BYF	13	{44}	15	{54}	18	{62}	25 {88}
RPV-1606BYF	19	{68}	24	{84}	28	{97}	39 {137}
RPV-302DYF	0.93	{3.3}	1.1	{4.0}	1.3	{4.6}	1.9 {6.6}
RPV-303DYF	1.1	{3.7}	1.3	{4.5}	1.5	{5.1}	2.1 {7.3}
RPV-602DYF	2.1	{7.3}	2.5	{8.9}	2.9	{10}	4.1 {14}
RPV-603DYF	3.2	{11}	3.8	{13}	4.4	{15}	6.1 {22}
RPV-804DYF	5.0	{17}	5.8	{21}	6.7	{24}	9.6 {34}
RPV-1004DYF	8.2	{29}	10	{36}	12	{41}	17 {59}
RPV-1205DYF	13	{44}	15	{53}	18	{62}	25 {87}
RPV-1606DYF	19	{68}	24	{83}	27	{97}	39 {137}
RPV-1607DYF	19	{68}	24	{83}	27	{97}	39 {137}

Catalog No.	Capacity (U.S.R.T. {kw})						
	R463A-J						
	Pressure Drop (MPa)						
	0.01		0.015		0.02		0.04
RPV-302BYF	0.91	{3.2}	1.1	{3.9}	1.3	{4.5}	1.8 {6.4}
RPV-303BYF	1.0	{3.6}	1.3	{4.4}	1.4	{5.0}	2.0 {7.1}
RPV-602BYF	2.0	{7.1}	2.5	{8.7}	2.8	{10}	4.0 {14}
RPV-603BYF	2.9	{10}	3.8	{14}	4.2	{15}	6.1 {21}
RPV-804BYF	4.6	{16}	5.8	{20}	6.7	{24}	9.5 {33}
RPV-1004BYF	8.2	{29}	9.9	{35}	12	{41}	16 {56}
RPV-1205BYF	12	{43}	15	{52}	17	{60}	24 {86}
RPV-1606BYF	19	{67}	23	{82}	27	{95}	38 {133}
RPV-302DYF	0.91	{3.2}	1.1	{3.9}	1.3	{4.5}	1.8 {6.4}
RPV-303DYF	1.0	{3.6}	1.3	{4.4}	1.4	{5.0}	2.0 {7.1}
RPV-602DYF	2.0	{7.1}	2.5	{8.7}	2.8	{10}	4.0 {14}
RPV-603DYF	3.1	{11}	3.7	{13}	4.3	{15}	6.0 {21}
RPV-804DYF	4.8	{17}	5.7	{20}	6.5	{23}	9.4 {33}
RPV-1004DYF	8.0	{28}	10	{35}	11	{40}	16 {57}
RPV-1205DYF	12	{43}	15	{52}	17	{60}	24 {85}
RPV-1606DYF	19	{66}	23	{81}	27	{94}	38 {133}
RPV-1607DYF	19	{66}	23	{81}	27	{94}	38 {133}

*Based on condensing temp. 38°C, evaporating temp. -5°C, sub-cooling 0°C. In case the conditions is different, the value is multiplied by the correction factor in the table.

Evaporating temperature correction factor

Evaporating Temp. (°C)	Correction factor	
	R410A	R463A-J
5	1	1
0	0.99	0.99
-10	0.97	0.96
-20	0.95	0.93
-30	0.92	0.90
-40	0.89	0.86

Subcooling correction factor

Subcooling (K)	Correction factor	
	R410A	R463A-J
0	1	1
10	1.14	1.14
20	1.27	1.28
30	1.41	1.41
40	1.53	1.54
50	1.66	1.67

Suction line Capacity

CT. 38℃ , Superheat at valve inlet 0K

Catalog No.	Pressure drop across the valve (MPa)	Capacity (U.S.R.T. {kw})											
		R410A											
		Evaporating Temp. (℃)											
		5		0		-10		-20		-30		-40	
RPV-302BYF	0.01	0.16	{0.56}	0.15	{0.51}	0.12	{0.43}	0.10	{0.36}	0.082	{0.29}	0.065	{0.23}
	0.02	0.22	{0.79}	0.21	{0.73}	0.17	{0.61}	0.15	{0.51}	0.12	{0.41}	0.091	{0.32}
	0.04	0.31	{1.1}	0.28	{1.0}	0.24	{0.86}	0.20	{0.71}	0.16	{0.57}	0.13	{0.44}
RPV-303BYF	0.01	0.18	{0.62}	0.16	{0.57}	0.14	{0.48}	0.11	{0.40}	0.091	{0.32}	0.074	{0.26}
	0.02	0.25	{0.87}	0.23	{0.81}	0.19	{0.68}	0.16	{0.56}	0.13	{0.45}	0.10	{0.36}
	0.04	0.34	{1.2}	0.31	{1.1}	0.27	{0.95}	0.22	{0.78}	0.18	{0.63}	0.14	{0.49}
RPV-602BYF	0.01	0.34	{1.2}	0.31	{1.1}	0.28	{0.97}	0.23	{0.80}	0.18	{0.65}	0.15	{0.51}
	0.02	0.48	{1.7}	0.45	{1.6}	0.40	{1.4}	0.31	{1.1}	0.26	{0.91}	0.20	{0.72}
	0.04	0.71	{2.5}	0.65	{2.3}	0.54	{1.9}	0.45	{1.6}	0.37	{1.3}	0.28	{0.98}
RPV-603BYF	0.01	0.54	{1.9}	0.48	{1.7}	0.42	{1.5}	0.35	{1.2}	0.28	{0.98}	0.22	{0.78}
	0.02	0.74	{2.6}	0.67	{2.4}	0.58	{2.0}	0.48	{1.7}	0.38	{1.4}	0.31	{1.1}
	0.04	1.1	{3.7}	0.96	{3.4}	0.80	{2.8}	0.67	{2.4}	0.54	{1.9}	0.42	{1.5}
RPV-804BYF	0.01	0.83	{2.9}	0.77	{2.7}	0.64	{2.3}	0.52	{1.8}	0.43	{1.5}	0.34	{1.2}
	0.02	1.2	{4.1}	1.1	{3.8}	0.89	{3.1}	0.73	{2.6}	0.61	{2.2}	0.49	{1.7}
	0.04	1.6	{5.7}	1.5	{5.3}	1.3	{4.4}	1.0	{3.7}	0.83	{2.9}	0.64	{2.3}
RPV-1004BYF	0.01	1.4	{4.9}	1.3	{4.6}	1.1	{3.8}	0.92	{3.2}	0.75	{2.6}	0.58	{2.0}
	0.02	2.0	{7.0}	1.8	{6.5}	1.5	{5.4}	1.3	{4.4}	1.0	{3.6}	0.82	{2.9}
	0.04	2.8	{9.8}	2.6	{9.0}	2.2	{7.7}	1.8	{6.2}	1.4	{5.0}	1.1	{4.0}
RPV-1205BYF	0.01	2.1	{7.4}	1.9	{6.9}	1.7	{5.8}	1.4	{4.8}	1.1	{3.9}	0.89	{3.1}
	0.02	3.0	{10}	2.7	{9.6}	2.3	{8.1}	1.9	{6.7}	1.6	{5.5}	1.2	{4.3}
	0.04	4.3	{15}	4.0	{14}	3.3	{11}	2.7	{9.4}	2.1	{7.5}	1.7	{5.9}
RPV-1606BYF	0.01	3.3	{12}	3.0	{11}	2.6	{9.0}	2.1	{7.5}	1.7	{6.1}	1.4	{4.8}
	0.02	4.6	{16}	4.3	{15}	3.6	{13}	3.0	{11}	2.4	{8.5}	1.9	{6.7}
	0.04	6.6	{23}	6.0	{21}	5.0	{18}	4.3	{15}	3.3	{12}	2.6	{9.2}
RPV-302DYF	0.01	0.16	{0.57}	0.14	{0.51}	0.12	{0.44}	0.10	{0.35}	0.084	{0.30}	0.065	{0.23}
	0.02	0.22	{0.79}	0.21	{0.72}	0.18	{0.62}	0.14	{0.50}	0.12	{0.41}	0.093	{0.33}
	0.04	0.31	{1.1}	0.28	{1.0}	0.24	{0.86}	0.20	{0.71}	0.16	{0.57}	0.13	{0.45}
RPV-303DYF	0.01	0.18	{0.6}	0.16	{0.6}	0.14	{0.48}	0.11	{0.40}	0.094	{0.33}	0.072	{0.25}
	0.02	0.25	{0.9}	0.23	{0.8}	0.19	{0.69}	0.16	{0.56}	0.13	{0.45}	0.10	{0.36}
	0.04	0.34	{1.2}	0.31	{1.1}	0.27	{0.95}	0.22	{0.79}	0.18	{0.63}	0.14	{0.49}
RPV-602DYF	0.01	0.34	{1.2}	0.34	{1.2}	0.27	{0.96}	0.23	{0.80}	0.18	{0.65}	0.15	{0.52}
	0.02	0.49	{1.7}	0.46	{1.6}	0.38	{1.3}	0.32	{1.1}	0.26	{0.91}	0.21	{0.72}
	0.04	0.71	{2.5}	0.64	{2.3}	0.53	{1.9}	0.45	{1.6}	0.36	{1.3}	0.27	{0.94}
RPV-603DYF	0.01	0.53	{1.9}	0.49	{1.7}	0.41	{1.4}	0.35	{1.2}	0.28	{0.98}	0.22	{0.77}
	0.02	0.74	{2.6}	0.68	{2.4}	0.60	{2.1}	0.48	{1.7}	0.39	{1.4}	0.30	{1.1}
	0.04	1.1	{3.7}	0.95	{3.3}	0.81	{2.9}	0.67	{2.4}	0.55	{1.9}	0.44	{1.5}
RPV-804DYF	0.01	0.84	{2.9}	0.77	{2.7}	0.62	{2.2}	0.54	{1.9}	0.42	{1.5}	0.33	{1.1}
	0.02	1.2	{4.1}	1.1	{3.8}	0.91	{3.2}	0.73	{2.6}	0.61	{2.2}	0.46	{1.6}
	0.04	1.6	{5.8}	1.5	{5.3}	1.3	{4.4}	1.1	{3.7}	0.84	{3.0}	0.67	{2.4}
RPV-1004DYF	0.01	1.4	{5.0}	1.3	{4.5}	1.1	{3.8}	0.91	{3.2}	0.74	{2.6}	0.59	{2.1}
	0.02	2.0	{7.0}	1.8	{6.4}	1.5	{5.4}	1.3	{4.5}	1.0	{3.6}	0.83	{2.9}
	0.04	2.8	{10}	2.5	{9.0}	2.2	{7.6}	1.8	{6.3}	1.4	{5.0}	1.1	{4.0}
RPV-1205DYF	0.01	2.1	{7.5}	1.9	{6.8}	1.7	{5.8}	1.4	{4.8}	1.1	{3.9}	0.88	{3.1}
	0.02	3.0	{10}	2.7	{9.6}	2.3	{8.2}	1.9	{6.7}	1.5	{5.4}	1.2	{4.3}
	0.04	4.3	{15}	4.0	{14}	3.1	{11}	2.7	{9.5}	2.1	{7.5}	1.7	{6.0}
RPV-1606DYF	0.01	3.4	{12}	3.0	{11}	2.6	{9.0}	2.1	{7.4}	1.7	{6.1}	1.4	{4.8}
	0.02	4.6	{16}	4.3	{15}	3.8	{13}	3.0	{10}	2.4	{8.5}	1.9	{6.8}
	0.04	6.5	{23}	5.8	{21}	5.0	{18}	4.2	{15}	3.2	{11}	2.6	{9.3}
RPV-1607DYF	0.01	3.4	{12}	3.0	{11}	2.6	{9.0}	2.1	{7.4}	1.7	{6.1}	1.4	{4.8}
	0.02	4.6	{16}	4.3	{15}	3.8	{13}	3.0	{10}	2.4	{8.5}	1.9	{6.8}
	0.04	6.5	{23}	5.8	{21}	5.0	{18}	4.2	{15}	3.2	{11}	2.6	{9.3}

Suction line Capacity

CT. 38℃ , Superheat at valve inlet 0K

Catalog No.	Pressure drop across the valve (MPa)	Capacity (U.S.R.T. {kw})											
		R463A-J											
		Evaporating Temp. (°C)											
		5		0		-10		-20		-30		-40	
RPV-302BYF	0.01	0.15	{0.52}	0.13	{0.47}	0.11	{0.40}	0.091	{0.32}	0.074	{0.26}	0.057	{0.20}
	0.02	0.21	{0.73}	0.19	{0.67}	0.16	{0.56}	0.13	{0.45}	0.10	{0.36}	0.080	{0.28}
	0.04	0.28	{1.0}	0.27	{0.94}	0.22	{0.78}	0.18	{0.63}	0.14	{0.50}	0.11	{0.38}
RPV-303BYF	0.01	0.16	{0.57}	0.15	{0.53}	0.13	{0.44}	0.10	{0.36}	0.08	{0.29}	0.063	{0.22}
	0.02	0.23	{0.81}	0.21	{0.74}	0.18	{0.62}	0.14	{0.50}	0.11	{0.40}	0.088	{0.31}
	0.04	0.31	{1.1}	0.28	{1.0}	0.24	{0.86}	0.20	{0.70}	0.16	{0.55}	0.12	{0.42}
RPV-602BYF	0.01	0.31	{1.1}	0.31	{1.1}	0.25	{0.88}	0.20	{0.72}	0.16	{0.57}	0.13	{0.45}
	0.02	0.45	{1.6}	0.43	{1.5}	0.34	{1.2}	0.28	{1.0}	0.23	{0.80}	0.18	{0.62}
	0.04	0.65	{2.3}	0.60	{2.1}	0.48	{1.7}	0.40	{1.4}	0.31	{1.1}	0.23	{0.80}
RPV-603BYF	0.01	0.48	{1.7}	0.45	{1.6}	0.38	{1.4}	0.32	{1.1}	0.24	{0.86}	0.19	{0.68}
	0.02	0.70	{2.5}	0.64	{2.3}	0.51	{1.8}	0.42	{1.5}	0.35	{1.2}	0.26	{0.90}
	0.04	0.96	{3.4}	0.90	{3.2}	0.74	{2.6}	0.61	{2.1}	0.48	{1.7}	0.35	{1.2}
RPV-804BYF	0.01	0.77	{2.7}	0.70	{2.5}	0.58	{2.0}	0.49	{1.7}	0.37	{1.3}	0.31	{1.1}
	0.02	1.1	{3.8}	0.98	{3.4}	0.83	{2.9}	0.67	{2.4}	0.52	{1.8}	0.40	{1.4}
	0.04	1.5	{5.3}	1.4	{4.8}	1.1	{4.0}	0.92	{3.2}	0.73	{2.6}	0.55	{1.9}
RPV-1004BYF	0.01	1.3	{4.6}	1.2	{4.2}	0.99	{3.5}	0.82	{2.9}	0.65	{2.3}	0.51	{1.8}
	0.02	1.8	{6.5}	1.7	{6.0}	1.4	{4.9}	1.2	{4.1}	0.92	{3.2}	0.72	{2.5}
	0.04	2.6	{9.1}	2.4	{8.4}	2.0	{7.0}	1.6	{5.6}	1.3	{4.4}	0.96	{3.4}
RPV-1205BYF	0.01	1.9	{6.9}	1.8	{6.3}	1.5	{5.2}	1.2	{4.3}	0.99	{3.5}	0.76	{2.7}
	0.02	2.6	{9.3}	2.5	{8.9}	2.1	{7.4}	1.7	{6.0}	1.4	{4.8}	1.1	{3.7}
	0.04	4.0	{14}	3.6	{13}	3.0	{10}	2.4	{8.4}	1.9	{6.6}	1.5	{5.1}
RPV-1606BYF	0.01	3.0	{11}	2.7	{9.3}	2.3	{8.2}	1.9	{6.7}	1.5	{5.4}	1.2	{4.2}
	0.02	4.3	{15}	4.0	{14}	3.3	{12}	2.7	{9.3}	2.1	{7.5}	1.7	{5.8}
	0.04	6.0	{21}	5.6	{20}	4.6	{16}	3.6	{13}	3.0	{11}	2.2	{7.8}
RPV-302DYF	0.01	0.15	{0.52}	0.13	{0.47}	0.11	{0.40}	0.091	{0.32}	0.074	{0.26}	0.057	{0.20}
	0.02	0.21	{0.73}	0.19	{0.67}	0.16	{0.56}	0.13	{0.45}	0.10	{0.36}	0.080	{0.28}
	0.04	0.28	{1.0}	0.26	{0.90}	0.22	{0.78}	0.18	{0.63}	0.14	{0.50}	0.11	{0.38}
RPV-303DYF	0.01	0.16	{0.6}	0.15	{0.53}	0.13	{0.44}	0.10	{0.36}	0.082	{0.29}	0.063	{0.22}
	0.02	0.23	{0.8}	0.21	{0.74}	0.18	{0.62}	0.14	{0.50}	0.11	{0.40}	0.088	{0.31}
	0.04	0.31	{1.1}	0.28	{1.00}	0.24	{0.86}	0.20	{0.70}	0.16	{0.55}	0.12	{0.42}
RPV-602DYF	0.01	0.31	{1.1}	0.31	{1.1}	0.25	{0.88}	0.20	{0.72}	0.16	{0.57}	0.13	{0.45}
	0.02	0.45	{1.6}	0.43	{1.5}	0.34	{1.2}	0.28	{1.0}	0.23	{0.80}	0.18	{0.62}
	0.04	0.65	{2.3}	0.60	{2.1}	0.48	{1.7}	0.40	{1.4}	0.31	{1.1}	0.23	{0.80}
RPV-603DYF	0.01	0.48	{1.7}	0.45	{1.6}	0.37	{1.3}	0.31	{1.1}	0.24	{0.86}	0.19	{0.67}
	0.02	0.68	{2.4}	0.63	{2.2}	0.54	{1.9}	0.43	{1.5}	0.34	{1.2}	0.26	{0.9}
	0.04	0.97	{3.4}	0.88	{3.1}	0.74	{2.6}	0.60	{2.1}	0.48	{1.7}	0.37	{1.3}
RPV-804DYF	0.01	0.77	{2.7}	0.71	{2.5}	0.57	{2.0}	0.48	{1.7}	0.37	{1.3}	0.28	{1.0}
	0.02	1.1	{3.8}	1.0	{3.5}	0.82	{2.9}	0.65	{2.3}	0.54	{1.9}	0.40	{1.4}
	0.04	1.5	{5.3}	1.4	{4.9}	1.1	{4.0}	0.94	{3.3}	0.74	{2.6}	0.57	{2.0}
RPV-1004DYF	0.01	1.3	{4.6}	1.2	{4.2}	1.0	{3.5}	0.82	{2.9}	0.65	{2.3}	0.51	{1.8}
	0.02	1.8	{6.5}	1.7	{5.9}	1.4	{4.9}	1.1	{4.0}	0.91	{3.2}	0.71	{2.5}
	0.04	2.6	{9.1}	2.4	{8.3}	2.0	{6.9}	1.6	{5.6}	1.3	{4.4}	1.0	{3.4}
RPV-1205DYF	0.01	2.0	{6.9}	1.8	{6.3}	1.5	{5.3}	1.2	{4.3}	1.0	{3.4}	0.77	{2.7}
	0.02	2.8	{10}	2.5	{8.9}	2.1	{7.4}	1.7	{6.0}	1.4	{4.8}	1.1	{3.7}
	0.04	4.0	{14}	3.7	{13}	2.8	{10}	2.4	{8.4}	1.9	{6.6}	1.5	{5.1}
RPV-1606DYF	0.01	3.1	{11}	2.8	{10}	2.3	{8.2}	1.9	{6.7}	1.5	{5.4}	1.2	{4.2}
	0.02	4.3	{15}	4.0	{14}	3.4	{12}	2.7	{9.4}	2.1	{7.5}	1.6	{5.8}
	0.04	6.0	{21}	5.4	{19}	4.5	{16}	3.7	{13}	2.8	{10}	2.2	{7.9}
RPV-1607DYF	0.01	3.1	{11}	2.8	{10}	2.3	{8.2}	1.9	{6.7}	1.5	{5.4}	1.2	{4.2}
	0.02	4.3	{15}	4.0	{14}	3.4	{12}	2.7	{9.4}	2.1	{7.5}	1.6	{5.8}
	0.04	6.0	{21}	5.4	{19}	4.5	{16}	3.7	{13}	2.8	{10}	2.2	{7.9}

Flow Rate

Hot Gas Defrost Line

CT. 38°C, hot Gas temperature at valve inlet 50°C

Catalog No.	Hot Gas Flow Rate (kg/h)							
	R410A				R463A-J			
	Pressure Drop (MPa)							
	0.05	0.10	0.15	0.30	0.05	0.10	0.15	0.30
RPV-302BYF	41	57	69	97	39	55	67	93
RPV-303BYF	45	63	77	107	44	61	74	103
RPV-602BYF	90	127	154	215	87	122	149	207
RPV-603BYF	135	190	232	322	131	183	224	311
RPV-804BYF	210	296	360	501	204	285	348	482
RPV-1004BYF	360	506	618	858	348	490	596	827
RPV-1205BYF	541	761	927	1288	523	734	894	1240
RPV-1606BYF	841	1183	1441	2003	813	1142	1391	1930
RPV-302DYF	40	57	69	97	39	55	67	93
RPV-303DYF	46	63	77	107	44	61	74	103
RPV-602DYF	90	127	154	215	87	122	149	207
RPV-603DYF	135	191	231	322	131	184	223	310
RPV-804DYF	210	297	360	500	203	286	348	482
RPV-1004DYF	360	508	617	858	348	490	596	827
RPV-1205DYF	540	761	926	1287	522	734	894	1240
RPV-1606DYF	841	1184	1439	2002	813	1142	1390	1929
RPV-1607DYF	841	1184	1439	2002	813	1142	1390	1929