

## Data Sheet

The Emerson 200RE Solenoid Valve is a pilot operated, 2-way, normally closed electrically operated valve, designed for liquid, discharge, and suction gas refrigerant service.

It offers precise control with minimal internal leakage that brings unique value for various applications including process chillers, electric bus air-conditioning, light commercial air-conditioning, precision cooling, cold room, test chambers among others.

200RE is optimum design with high MOPD and unparalleled waterproof protection performance and also take-apart body design which provide excellent field serviceability, flexibility, and superior reliability.



**200RE**

### General Specifications and Key Features

#	Attributes	Product Specification
1	Refrigerant Compatibility	R32, R410A, R448A, R449A, R450A, R407C, R404A, R513A, R134a, R507A, R290, R22, etc.
2	Nominal Liquid Line Capacity	11.9 / 15.8 / 26.1 / 27.1 / 31.3 kW @ R410A (200RE 2 / 3 / 4 / 5 / 6)
3	Function	Normally Closed (NC) With De-energized Coil
4	MOPD (Maximum Opening Pressure Differential)	550 PSIG (37.9 BARG)
5	Minimum Opening Pressure Differential	2 PSI (0.14 BAR)
6	Fluid Temperature Range	-40 ~ +121°C
7	Ambient Temperature Range	-40 ~ +55°C
8	Maximum Working Pressure (MWP)	680 PSIG (46.9 BARG)
9	Flow Direction	Uni-Flow
10	Insulation Grade	F(≤155°C)
11	Certification	UL

### Nomenclature (example: 200RE 6 T 4 VLC)

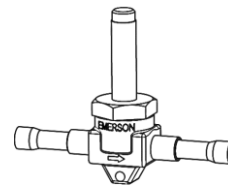
200RE	6	T	4	VLC
Series	Port Size	Connection Type	Connection Size	Coil*
200RE (Suzhou Made)	(in 1/16")	F= SAE (Flare) T= ODF Copper Extended Tube (Solder)	(in 1/8")	VLC= Valve Less Coil

\* Valves are shipped without the solenoid coils, please refer to ordering information for details.

# Data Sheet

## Ordering Information

### Step 1: Select Valve Bodies from Capacity Data & K<sub>v</sub> Value



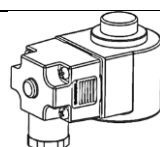
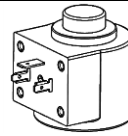
PCN	Model	Connection Size & Type	Nominal* Liquid Line Capacity (kW)								K <sub>v</sub> ** Value (m <sup>3</sup> /h)
			R410A	R404A/ R507A	R448A/ R449A	R290	R407C	R22	R134a	R450A/ R513A	
067135	200RE 2 T 2	1/4" ODF	11.9	6.7	12.7	13.4	12.0	12.7	9.5	8.7	0.36
067146	200RE 2 F 2	1/4" SAE									
067136	200RE 2 T 3	3/8" ODF									
067147	200RE 2 F 3	3/8" SAE									
067137	200RE 3 T 3	3/8" ODF	15.8	8.8	17.0	17.6	15.8	16.9	12.7	11.6	0.64
067148	200RE 3 F 3	3/8" SAE									
067139	200RE 3 T 4	1/2" ODF									
067138	200RE 4 T 3	3/8" ODF	26.2	14.8	28.1	29.2	26.4	28.1	21.1	19.3	1.17
067149	200RE 4 F 3	3/8" SAE									
067140	200RE 4 T 4	1/2" ODF									
067150	200RE 4 F 4	1/2" SAE									
067141	200RE 4 T 5	5/8" ODF	27.1	15.1	29.0	30.1	27.1	28.8	21.8	19.9	1.23
067142	200RE 5 T 4	1/2" ODF									
067152	200RE 5 F 4	1/2" SAE									
067144	200RE 5 T 5	5/8" ODF									
067153	200RE 5 F 5	5/8" SAE	31.3	17.6	33.5	34.7	31.3	33.4	25.3	23.0	1.44
067143	200RE 6 T 4	1/2" ODF									
067151	200RE 6 F 4	1/2" SAE									
067145	200RE 6 T 5	5/8" ODF									
067154	200RE 6 F 5	5/8" SAE									

\*Nominal capacities based at 37.8°C condensing temperature, 4.4°C evaporating temperature per ARI standard 760.

All ratings are based on largest connection size.

\*\*The K<sub>v</sub> value is the water flow in (m<sup>3</sup>/h) at a pressure drop across valve of 1 bar, ρ=1000 kg/m<sup>3</sup>.

### Step 2: Select Coil Kits

PCN	Model	Package Details**				Figure
		Coil* (1pcs)	Screw Cap (1pcs)	O-ring (2 pcs)	IP67 Coil Plug (1pcs)	
098036	200RE-C230 IP67 Kit	220~230 VAC-50/60Hz	Yes	Yes	Yes	
098037	200RE-C120 IP67 Kit	110~120 VAC-50/60Hz	Yes	Yes	Yes	
098038	200RE-C024 IP67 Kit	24 VAC-50/60Hz	Yes	Yes	Yes	
098033	200RE-C230	220~230 VAC-50/60Hz	Yes	Yes	No	
098034	200RE-C120	110~120 VAC-50/60Hz	Yes	Yes	No	
098035	200RE-C024	24 VAC-50/60Hz	Yes	Yes	No	

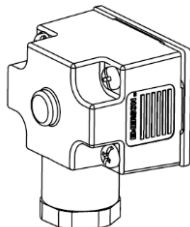
\* Power consumption less than 17/12W; Insulation Class F.

\*\*Please refer details in exploded view in page 5.

## Data Sheet

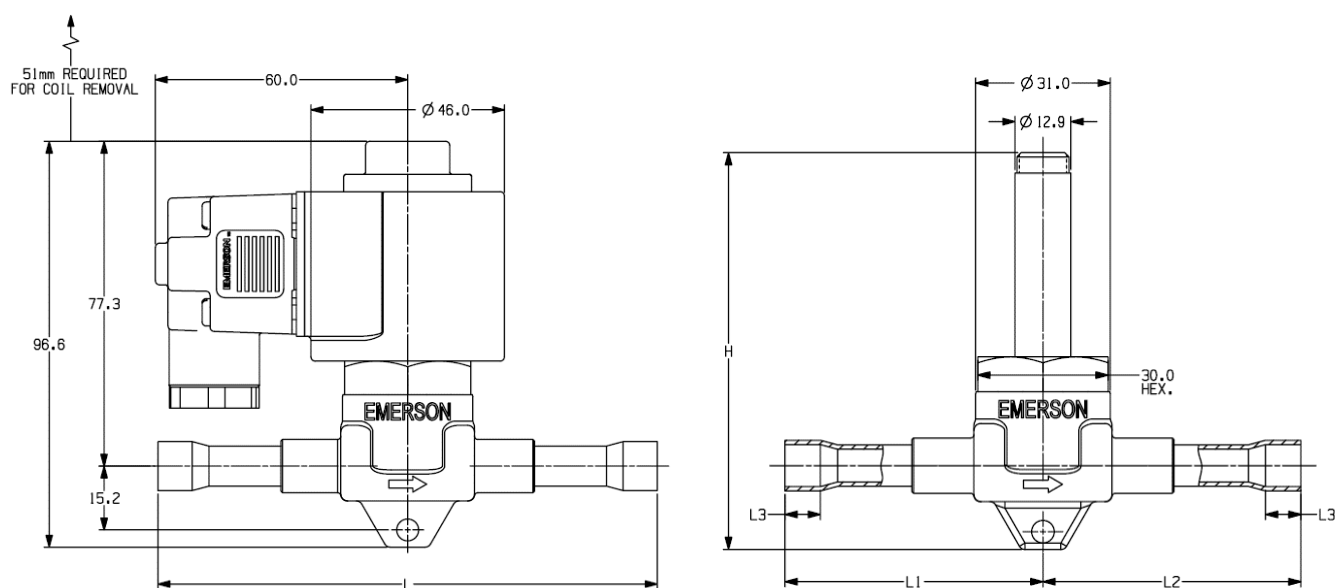
### Accessories and Spare Parts

PCN	Model
098351	IP67 Coil Plug



### Dimension Details

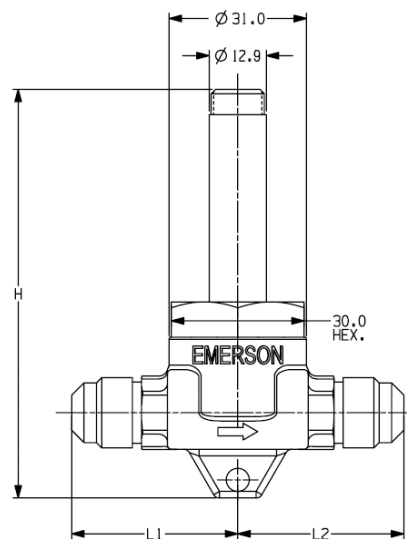
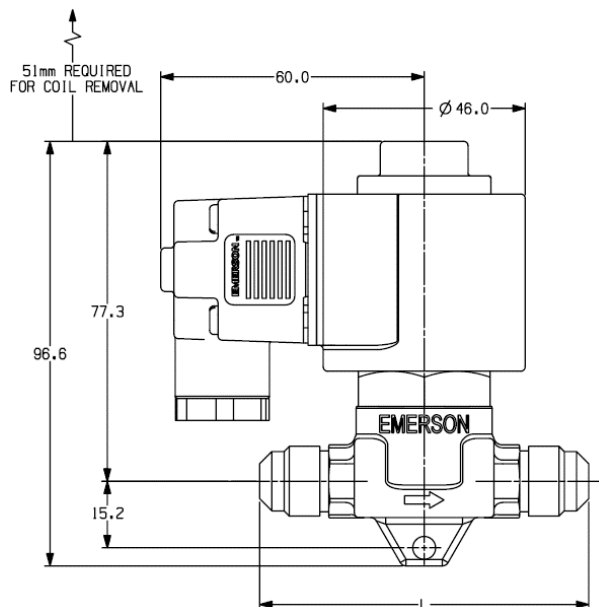
#### 200RE 2~6, Solder Connection:



Solder Connection				L±3.0 (mm)	L <sub>1</sub> (mm)	L <sub>2</sub> (mm)	L <sub>3</sub> Min. (mm)	H±2.5 (mm)	Weight with Coil IP67 Kit (g)
PCN	Model	Inlet	Outlet						
067135	200RE 2 T 2	1/4" ODF	1/4" ODF	118.7	59.35	59.35	8.1	92.3	260
067136	200RE 2 T 3	3/8" ODF	3/8" ODF	118.7	59.35	59.35	8.1	92.3	262
067137	200RE 3 T 3	3/8" ODF	3/8" ODF	118.7	59.35	59.35	8.1	92.3	264
067138	200RE 4 T 3	3/8" ODF	3/8" ODF	118.7	59.35	59.35	8.1	92.3	261
067139	200RE 3 T 4	1/2" ODF	1/2" ODF	118.7	59.35	59.35	9.7	92.3	278
067140	200RE 4 T 4	1/2" ODF	1/2" ODF	127.0	63.5	63.5	9.7	92.3	278
067141	200RE 4 T 5	5/8" ODF	5/8" ODF	164.6	82.3	82.3	12.7	92.3	298
067142	200RE 5 T 4	1/2" ODF	1/2" ODF	127.0	63.5	63.5	9.7	92.3	279
067143	200RE 6 T 4	1/2" ODF	1/2" ODF	127.0	63.5	63.5	9.7	92.3	279
067144	200RE 5 T 5	5/8" ODF	5/8" ODF	164.6	82.3	82.3	12.7	92.3	298
067145	200RE 6 T 5	5/8" ODF	5/8" ODF	164.6	82.3	82.3	12.7	92.3	312

# Data Sheet

## 200RE 2~6, Flare Connection:



<u>Flare Connection</u>				L±2.5 (mm)	L <sub>1</sub> (mm)	L <sub>2</sub> (mm)	H±2.5 (mm)	Weight with Coil IP67 Kit (g)
PCN	Model	Connection						
		Inlet	Outlet					
067146	200RE 2 F 2	1/4" SAE	1/4" SAE	75.0	37.5	37.5	92.3	260
067147	200RE 2 F 3	3/8" SAE	3/8" SAE	75.0	37.5	37.5	92.3	280
067148	200RE 3 F 3	3/8" SAE	3/8" SAE	75.0	37.5	37.5	92.3	280
067149	200RE 4 F 3	3/8" SAE	3/8" SAE	75.0	37.5	37.5	92.3	280
067150	200RE 4 F 4	1/2" SAE	1/2" SAE	100.0	50.0	50.0	92.3	300
067151	200RE 6 F 4	1/2" SAE	1/2" SAE	100.0	50.0	50.0	92.3	300
067152	200RE 5 F 4	1/2" SAE	1/2" SAE	100.0	50.0	50.0	92.3	300
067153	200RE 5 F 5	5/8" SAE	5/8" SAE	100.0	50.0	50.0	92.3	354
067154	200RE 6 F 5	5/8" SAE	5/8" SAE	100.0	50.0	50.0	92.3	353

## General information:

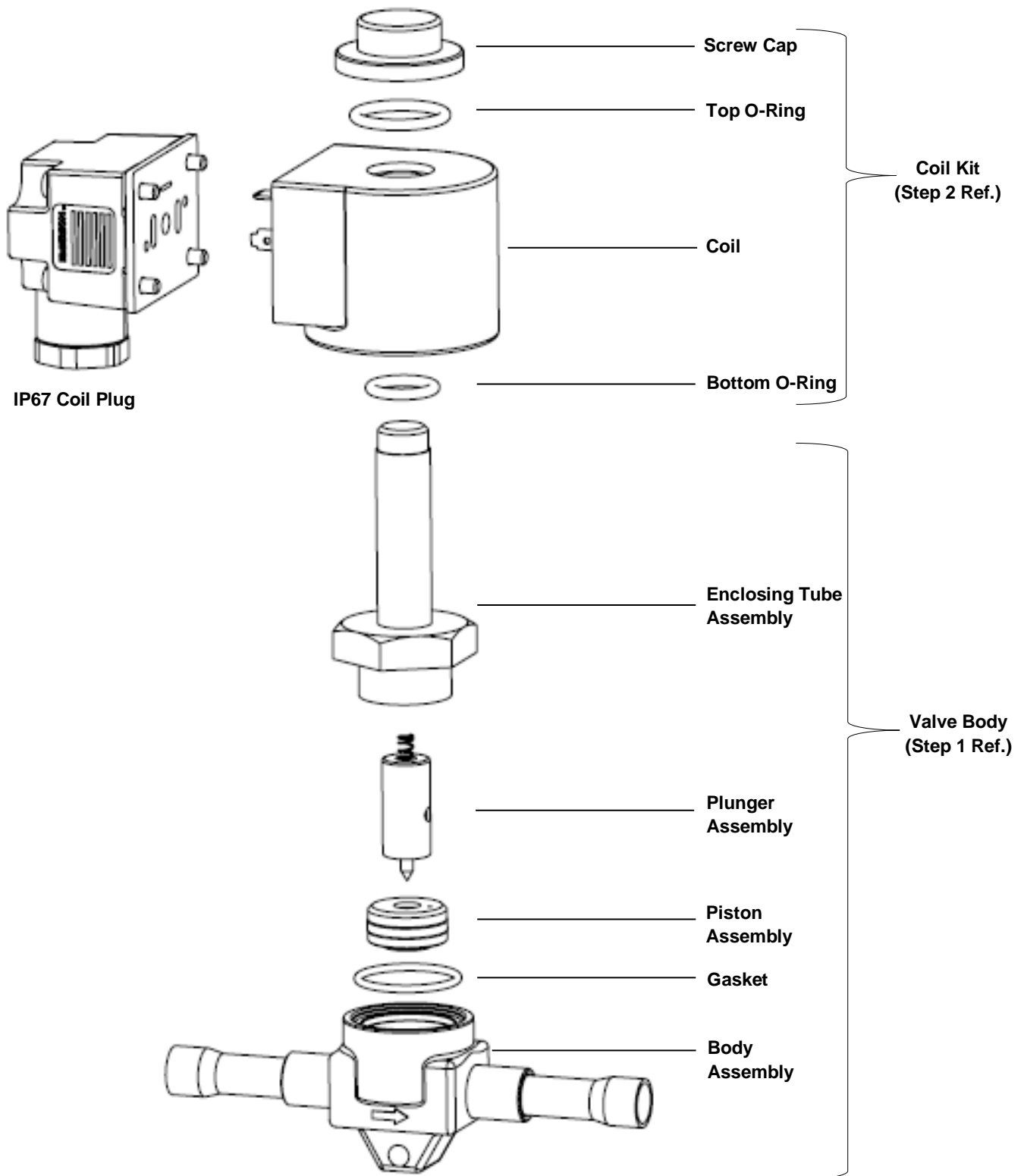
Technical data are correct at the time of printing. Updates may occur, and should you need confirmation of a specific value, please contact Emerson clearly stating the information required.

Emerson cannot be held responsible for errors in capacities, dimensions, etc., stated herein. Products, specifications and data in this literature are subject to change without notice.

The information given herein is based on data and tests which Emerson believes to be reliable and which are in accordance with today's technical knowledge. It is intended for use by persons having the appropriate technical knowledge and skill, at their own discretion and risk.

# Data Sheet

## 200RE Solenoid Valve Exploded View



## Data Sheet

### 200RE – Extended Capacities (kW) Table:

Refrigerant	Liquid capacity in normal flow direction [kW]				Model
	Pressure drop across valve kPa [PSI]				
	13.8 [2]	20.7 [3]	27.6 [4]	34.5 [5]	
R410A	9.71	11.89	13.72	15.33	200RE 2
	12.91	15.83	18.25	20.40	200RE 3
	21.42	26.20	30.28	33.83	200RE 4
	22.12	27.12	31.30	34.99	200RE 5
	25.53	31.27	36.12	40.37	200RE 6
R404A/R507A	6.68	8.16	9.43	10.55	200RE 2
	8.86	10.87	12.56	14.07	200RE 3
	14.70	18.01	20.82	23.25	200RE 4
	15.23	18.64	21.52	24.06	200RE 5
	17.55	21.49	24.83	27.75	200RE 6
R448A/R449A	10.38	12.71	14.68	16.41	200RE 2
	13.84	16.95	19.57	21.88	200RE 3
	22.92	28.07	32.41	36.24	200RE 4
	23.70	29.02	33.51	37.47	200RE 5
	27.33	33.47	38.65	43.21	200RE 6
R290	10.76	13.19	15.23	17.02	200RE 2
	14.35	17.58	20.33	22.72	200RE 3
	23.77	29.12	33.66	37.60	200RE 4
	24.58	30.14	34.78	38.90	200RE 5
	28.38	34.75	40.13	44.84	200RE 6
R407C	9.74	11.92	13.75	15.40	200RE 2
	12.94	15.86	18.32	20.47	200RE 3
	21.49	26.31	30.39	33.97	200RE 4
	22.19	27.19	31.41	35.10	200RE 5
	25.60	31.37	36.22	40.51	200RE 6
R22	10.34	12.66	14.63	16.35	200RE 2
	13.79	16.88	19.48	21.77	200RE 3
	22.82	27.96	32.29	36.08	200RE 4
	23.6	28.91	33.38	37.31	200RE 5
	27.22	33.34	38.51	43.05	200RE 6
R134a	9.57	11.71	13.54	15.12	200RE 2
	12.73	15.62	18.01	20.15	200RE 3
	21.10	25.58	29.86	33.38	200RE 4
	21.84	26.73	30.88	34.54	200RE 5
	25.18	30.84	35.63	39.81	200RE 6
R450A/ R513A	8.73	10.69	12.35	13.80	200RE 2
	11.64	14.26	16.46	18.40	200RE 3
	19.28	23.61	27.26	30.48	200RE 4
	19.93	24.41	28.19	31.52	200RE 5
	22.99	28.15	32.51	36.35	200RE 6

The above table provides the liquid capacity of valves at different pressure drop across valve.

All ratings are based on largest connection size.

All capacities are based on liquid temperature 37.8°C, evaporating temperature 4.4°C.

**Data Sheet**

Refrigerant	Suction gas capacity in normal flow direction [kW]					Model
	Evaporating Temperature [°C]					
	4	-7	-18	-29	-40	
R410A	0.98	0.77	0.70	0.74	0.56	200RE 2
	2.00	1.62	1.30	1.02	0.81	200RE 3
	3.76	3.09	2.46	1.93	1.51	200RE 4
	4.57	3.73	2.99	2.36	1.79	200RE 5
	4.82	3.94	3.17	2.53	1.93	200RE 6
R404A/R507A	1.02	0.81	0.63	0.49	0.35	200RE 2
	1.37	1.09	0.84	0.67	0.46	200RE 3
	2.60	1.90	1.62	1.23	0.91	200RE 4
	3.17	2.50	1.97	1.48	1.06	200RE 5
	3.34	2.67	2.07	1.58	1.13	200RE 6
R448A/R449A	1.11	1.07	0.87	0.68	0.53	200RE 2
	1.53	1.48	1.20	0.94	0.74	200RE 3
	2.90	2.80	2.28	1.78	1.40	200RE 4
	3.52	3.40	2.76	2.16	1.70	200RE 5
	3.72	3.59	2.92	2.28	1.79	200RE 6
R290	2.08	2.92	2.29	1.76	1.34	200RE 2
	2.88	4.04	3.17	2.46	1.83	200RE 3
	5.45	7.63	6.01	4.64	3.48	200RE 4
	6.61	9.28	7.32	5.63	4.22	200RE 5
	7.00	9.78	7.70	5.94	4.47	200RE 6
R407C/ R22	1.20	0.98	0.77	0.63	0.46	200RE 2
	1.65	1.34	1.09	0.84	0.63	200RE 3
	3.13	2.57	2.04	1.62	1.20	200RE 4
	3.80	3.09	2.50	1.93	1.37	200RE 5
	4.01	3.27	2.64	2.07	1.51	200RE 6
R134a	0.91	0.74	0.56	0.39	0.28	200RE 2
	1.27	1.02	0.74	0.53	0.35	200RE 3
	2.43	1.90	1.48	0.98	0.56	200RE 4
	2.92	2.29	1.65	1.20	0.81	200RE 5
	3.09	2.43	1.83	1.30	0.91	200RE 6
R450A/ R513A	0.84	0.67	0.52	0.39	0.28	200RE 2
	1.16	0.93	0.72	0.54	0.39	200RE 3
	2.19	1.77	1.36	1.02	0.74	200RE 4
	2.66	2.14	1.65	1.24	0.90	200RE 5
	2.80	2.26	1.74	1.31	0.95	200RE 6

The above table provides the suction gas capacity of valves at different evaporating temperature.  
 All ratings are based on largest connection size.  
 Pressure drop across valve is 14.0kPa [2Psi].

# Data Sheet

Refrigerant	Discharge gas capacity in normal flow direction [kW]						Model
	Pressure drop across valve kPa [PSI]						
	13.8 [2]	34.5 [5]	69 [10]	172.5 [25]	345 [50]	690 [100]	
R410A	1.93	3.17	4.57	7.21	9.67	11.96	200RE 2
	2.81	4.40	6.15	9.85	13.19	16.53	200RE 3
	5.28	8.44	11.78	18.82	23.91	32.00	200RE 4
	6.51	10.37	14.95	23.74	29.19	39.74	200RE 5
	7.03	10.90	15.30	24.09	32.53	43.08	200RE 6
R404A/R507A	1.58	2.46	3.52	5.28	6.86	7.91	200RE 2
	2.11	3.34	4.57	7.03	9.32	11.08	200RE 3
	3.87	6.15	8.79	12.84	17.41	22.68	200RE 4
	4.75	7.21	10.55	15.30	20.40	28.66	200RE 5
	5.10	7.74	11.08	15.65	21.10	30.49	200RE 6
R448A/R449A	1.82	2.86	4.00	6.14	8.24	10.40	200RE 2
	2.63	4.13	5.78	8.87	11.91	15.02	200RE 3
	5.05	7.94	11.12	17.06	22.90	28.89	200RE 4
	6.06	9.53	13.35	20.48	27.48	34.67	200RE 5
	6.47	10.17	14.24	21.84	29.31	36.98	200RE 6
R290	2.74	4.33	6.05	9.18	12.10	14.63	200RE 2
	3.97	6.26	8.72	13.26	17.48	21.14	200RE 3
	7.67	12.03	16.78	25.50	33.62	40.62	200RE 4
	9.21	14.42	20.15	30.60	40.34	48.74	200RE 5
	9.81	15.40	21.49	32.64	43.05	52.01	200RE 6
R407C	1.58	2.46	3.34	5.10	6.68	7.91	200RE 2
	2.11	3.17	4.40	6.86	8.97	10.73	200RE 3
	3.69	5.98	8.44	12.31	16.71	21.80	200RE 4
	4.57	7.39	10.55	14.77	20.40	27.61	200RE 5
	4.92	7.74	10.90	16.71	26.55	29.37	200RE 6
R22	1.58	2.64	3.69	5.80	7.39	8.44	200RE 2
	2.29	3.69	5.10	7.91	10.37	11.78	200RE 3
	4.40	6.86	9.85	14.24	19.34	24.79	200RE 4
	5.28	8.34	12.31	17.23	23.74	31.65	200RE 5
	5.63	8.97	12.66	19.34	26.03	33.23	200RE 6
R134a	1.41	2.29	3.17	4.57	5.45	4.92	200RE 2
	1.93	2.99	4.22	6.15	7.56	7.21	200RE 3
	3.52	5.80	8.09	11.43	15.12	18.29	200RE 4
	4.40	7.03	10.02	14.07	18.99	24.09	200RE 5
	4.75	7.56	10.55	15.65	20.40	24.44	200RE 6
R450A/ R513A	1.03	1.61	2.23	3.28	4.07	4.16	200RE 2
	1.49	2.33	3.22	4.74	5.89	6.01	200RE 3
	2.87	4.48	6.19	9.12	11.32	11.55	200RE 4
	3.44	5.37	7.43	10.94	13.58	13.86	200RE 5
	3.67	5.73	7.92	11.67	14.49	14.79	200RE 6

The above table provides the discharge gas capacity of valves at different pressure drop across valve.  
All ratings are based on largest connection size.  
All capacities are based ARI temperature condition.