

PARKER

R Series Refrigeration Solenoid Valves

Note:

RB Series was replaced at the end of 2006. Please transition to the R Series valves and RK Series coils.

The Parker Refrigeration Valves consist of a family of direct and pilot operated solenoid valves for liquid, suction and hot gas defrost application requirements. The valves are compatible with virtually all of today's commercially available CFC, HCFC and HFC refrigerants and blends. The Parker refrigeration valves meet a broad range of system needs including refrigeration, air conditioning and freezing applications. From small fractional tonnage to large systems.



The portfolio is endowed with numerous benefits including:

- A full-line of normally closed and normally open valves
- State of the art operator performance for long life, ease of service and tighter system integrity
- Patent pending manual stem functionality
- High pressure ratings to comply with newer refrigerants
- Extended end sweat connections enable brazing installation without disassembly
- Complete line of high temperature watertight coil designs suitable for all valves
- AC & DC coils are interchangeable on all valve body versions

"R" Series Normally Closed Refrigeration Solenoid Valves

Part Number	Connection Size & Type	Port Size	Rated Capacity R-22 (liquid)	Rated Capacity R-134a (liquid)	Rated Capacity R-404/507 (liquid)	Cv
R10 E22	1/4 ODF	5/64	0.73	.56	.49	.13
R10 E23	3/8 ODF					
R10 E32	1/4 ODF	3/32	1.18	.91	.79	.21
R10 E33	3/8 ODF					
R20 E42	1/4 ODF	1/8	2.09	1.62	1.41	.40
R20 E43	3/8 ODF					
R20 E62	1/4 ODF	3/16	3.8	2.95	2.56	.75
R20 E63	3/8 ODF					
R20 E83	3/8 ODF	1/4	5.53	4.29	3.73	1.09
R20 E84	1/2 ODF					
R30 E103	3/8 ODF	5/16	8.42	6.53	5.67	1.77
R30 E104	1/2 ODF					
R30 E105	5/8 ODF	3/8	10.8	8.38	7.27	1.86
R30 E124	1/2 ODF					
R30 E125	5/8 ODF	15/32	16.2	12.5	10.9	2.86
R30 E154	1/2 ODF					
R30 E155	5/8 ODF	9/16	24.9	19.3	16.7	4.40
R30 E157	7/8 ODF					
R40 E185	5/8 ODF	7/8	44	34.1	29.6	7.90
R40 E187	7/8 ODF					
R40 E189	1-1/8 ODF	1	81.7	63.4	55.0	12.30
R40 E287	7/8 ODF					
R40 E289	1-1/8 ODF	1-1/4	120.7	93.6	81.3	21.40
R40 E2811	1-3/8 ODF					
R50 E329	1-1/8 ODF	1-1/4	120.7	93.6	81.3	21.40
R50 E3211	1-3/8 ODF					
R50 E4013	1-5/8 ODF	1-1/4	120.7	93.6	81.3	21.40
R50 E4017	2-1/8 ODF					
R50 E4021	2-5/8 ODF					

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"R" Series Normally Closed Refrigeration Solenoid Valves Manual Override

Part Number	Connection Size & Type	Port Size	Rated Capacity R-22 (liquid)	Rated Capacity R-134a (liquid)	Rated Capacity R-404/507 (liquid)	Cv
R10 E22M	¼ ODF	5/64	0.73	.56	.49	.13
R10 E23M	3/8 ODF					
R10 E32M	¼ ODF	3/32	1.18	.91	.79	.21
R10 E33M	3/8 ODF					
R20 E42M	¼ ODF	1/8	2.09	1.62	1.41	.40
R20 E43M	3/8 ODF					
R20 E62M	¼ ODF	3/16	3.8	2.95	2.56	.75
R20 E63M	3/8 ODF					
R20 E83M	3/8 ODF	1/4	5.53	4.29	3.73	1.09
R20 E84M	½ ODF					
R30 E103M	3/8 ODF	5/16	8.42	6.53	5.67	1.77
R30 E104M	½ ODF					
R30 E105M	5/8 ODF	3/8	10.8	8.38	7.27	1.86
R30 E124M	½ ODF					
R30 E125M	5/8 ODF	15/32	16.2	12.5	10.9	2.86
R30 E154M	½ ODF					
R30 E155M	5/8 ODF	9/16	24.9	19.3	16.7	4.40
R30 E157M	7/8 ODF					
R40 E185M	5/8 ODF	7/8	44	34.1	29.6	7.90
R40 E187M	7/8 ODF					
R40 E189M	1-1/8 ODF	1	81.7	63.4	55.0	12.30
R40 E287M	7/8 ODF					
R40 E289M	1-1/8 ODF	1-1/4	120.7	93.6	81.3	21.40
R40 E2811M	1-3/8 ODF					
R50 E329M	1-1/8 ODF	1-1/4	120.7	93.6	81.3	21.40
R50 E3211M	1-3/8 ODF					
R50 E4013M	1-5/8 ODF	2-5/8 ODF				
R50 E4017M	2-1/8 ODF					
R50 E4021M	2-5/8 ODF					

R Series Solenoid Valve Repair Kits

Normally Closed Valves

Valve Series	Rebuild Kit Part Number
R10	RK1001
R20	RK2001
R30	RK3001
R40	RK4001
R50	RK5001

Normally Open Valves

R15	RK1501
R25	RK2501
R35	RK3501
R45	RK4501
R55	RK5501

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"R" Series Normally Open Refrigeration Solenoid Valves

Part Number	Connection Size & Type	Port Size	Rated Capacity R-22 (liquid)	Rated Capacity R-134a (liquid)	Rated Capacity R-404/507 (liquid)	Cv
R15 E22	1/4 ODF	5/64	0.73	.56	.49	.13
R15 E23	3/8 ODF					
R15 E32	1/4 ODF	3/32	1.18	.91	.79	.21
R15 E33	3/8 ODF					
R25 E42	1/4 ODF	1/8	2.09	1.62	1.41	.40
R25 E43	3/8 ODF					
R25 E62	1/4 ODF	3/16	3.8	2.95	2.56	.75
R25 E63	3/8 ODF					
R25 E83	3/8 ODF	1/4	5.53	4.29	3.73	1.09
R25 E84	1/2 ODF					
R35 E103	3/8 ODF	5/16	8.42	6.53	5.67	1.77
R35 E104	1/2 ODF					
R35 E105	5/8 ODF					
R35 E124	1/2 ODF	3/8	10.8	8.38	7.27	1.86
R35 E125	5/8 ODF					
R35 E154	1/2 ODF	15/32	16.2	12.5	10.9	2.86
R35 E155	5/8 ODF					
R35 E157	7/8 ODF					
R45 E185	5/8 ODF	9/16	24.9	19.3	16.7	4.40
R45 E187	7/8 ODF					
R45 E189	1-1/8 ODF					
R45 E287	7/8 ODF	7/8	44	34.1	29.6	7.90
R45 E289	1-1/8 ODF					
R45 E2811	1-3/8 ODF					
R55 E329	1-1/8 ODF	1	81.7	63.4	55.0	12.30
R55 E3211	1-3/8 ODF					
R55 E4013	1-5/8 ODF	1-1/4	120.7	93.6	81.3	21.40
R55 E4017	2-1/8 ODF					
R55 E4021	2-5/8 ODF					

Compressors,
Chillers, Condensers

Motors

Electrical

Heating
Components

Indoor Air
Quality

Thermostats

Oils &
Chemicals

Accessories, Supplies
& Commodities

Tools &
Instruments

Refrigeration

Refrigeration

Compressors, Chillers, Condensers
 Motors
 Electrical
 Heating Components
 Indoor Air Quality
 Thermostats
 Oils & Chemicals
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R25 E43	3/8 ODF					
R25 E62	1/4 ODF	3/16	3.8	2.95	2.56	.75
R25 E63	3/8 ODF					
R25 E83	3/8 ODF	1/4	5.53	4.29	3.73	1.09
R25 E84	1/2 ODF					
R35 E103	3/8 ODF	5/16	8.42	6.53	5.67	1.77
R35 E104	1/2 ODF					
R35 E105	5/8 ODF	3/8	10.8	8.38	7.27	1.86
R35 E124	1/2 ODF					
R35 E125	5/8 ODF	15/32	16.2	12.5	10.9	2.86
R35 E154	1/2 ODF					
R35 E155	5/8 ODF					
R35 E157	7/8 ODF	9/16	24.9	19.3	16.7	4.4
R45 E185	5/8 ODF					
R45 E187	7/8 ODF					
R45 E189	1-1/8 ODF					
R45 E287	7/8 ODF	7/8	44	34.1	29.6	7.9
R45 E289	1-1/8 ODF					
R45 E2811	1-3/8 ODF					
R55 E329	1-1/8 ODF	1	81.7	63.4	55	12.3
R55 E3211	1-3/8 ODF					
R55 E4013	1-5/8 ODF	1-1/4	120.7	93.6	81.3	21.4
R55 E4017	2-1/8 ODF					
R55 E4021	2-5/8 ODF					

Refrigeration Coils – 10 Watt, Class F for Normally Closed Valves

Part Number	Enclosure	Class	Watts	Voltage
RK1B2	Junction Box – 6" leads	F	10	24/60
RK1P3	Junction Box – 6" leads	F	10	120/60, 110/50
RK12K	Junction Box – 6" leads	F	10	208/60
RK1Q3	Junction Box – 6" leads	F	10	208/240/60, 220/50
RK1C1	Junction Box – 6" leads	F	10	12VDC
RK1C2	Junction Box – 6" leads	F	10	24VDC

Refrigeration Coils – 10 Watt, Class F for Normally Closed Valves

Part Number	Enclosure	Class	Watts	Voltage
RK3B2	Junction Box – 6" leads	H	22	24/60
RK3P3	Junction Box – 6" leads	H	22	120/60, 110/50
RK32K	Junction Box – 6" leads	H	22	208-240/60
RK3Q3	Junction Box – 6" leads	H	22	240/60, 220/50
RK3C1	Junction Box – 6" leads	H	22	12VDC
RK3C2	Junction Box – 6" leads	H	22	24VDC

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Port/Orifice Size	Normally Closed Valves		Normally Open Valves	
	Existing Parker/Jacks-Evans Model	NEW Parker Part Number	Existing Parker/Jacks-Evans Model	NEW Parker Part Number
.078	NEW	R10E22	NEW	R15E22
		R10E23		R15E23
3/32	RB1E2	R10E32	ORB1E2	R15E32
	RB1E3	R10E33	ORB1E3	R15E33
1/8	NEW	R20E42	NEW	R25E42
		R20E43		R25E43
3/16	NEW	R20E62	NEW	R25E62
		R20E63		R25E63
1/4	RB3E2		ORB3E2	
	RB3E3	R20E83	ORB3E3	R25E83
	RB3E4	R20E84	ORB3E4	R25E84
.315	NEW	R30E103	NEW	R35E103
		R30E104		R35E104
		R30E105		R35E105
.375	RB6E4	R30E124	ORB6E4	R35E124
	RB6E5	R30E125	ORB6E5	R35E125
		R30E127		R35E127
.468	RB9E4	R30E154	ORB9E4	R35E154
	RB9E5	R30E155	ORB9E5	R35E155
	RB9E7	R30E157	ORB9E7	R35E157
.562	RB15E5	R40E185	ORB15E5	R45E185
	RB15E7	R40E187	ORB15E7	R45E187
	RB15E9	R40E189	ORB15E9	R45E189
.875	RB21E7	R40E287	ORB21E7	R45E287
	RB21E9	R40E289	ORB21E9	R45E289
		R40E2811		R45E2811
1	RB41E9	R50E329	ORB41E9	R55E329
	RB41E11	R50E3211	ORB41E11	R55E3211
1-1/4		R50E4011		R55E4011
	RB81E13	R50E4013	ORB81E13	R55E4013
	RB81E17	R50E4017	ORB81E17	R55E4017
		R50E4021		R55E4021

Table shown with extended end part numbers.

Compressors,
Chillers, Condensers

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Heating
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& Commodities

Tools &
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Refrigeration

PARKER General Specifications

Refrigerants
R-22, R-134a, R-404a, R-507, R-410A, etc.

Maximum Safe Working Pressure: 650psi

Operating Temperature Range:

Fluid: -20°F to 285°F (140°C)
 Ambient: -20°F to 120°F (49°C) for AC voltages
 Ambient: -20°F to 120°F (49°C) for DC voltages

UL Listed & CSA Certified with Standard Voltages:

AC Voltages 24/50, 24/60, 110/50, 120/60, 208-240/60, 220/50, 240/60
 DC Voltages 12 VDC, 24VDC

Coil Enclosures:
Reference Electrical Specifications for Coil Enclosures

Valve Specifications

Valve Series	Port Size	Cv	Operating Pressure Differential (psi)			Operating Pressure Differential (psi)		
			Min..	Maximum AC Ratings		Min	Maximum AC Ratings	
				10w	22w		10w	22w
R10 E2 & F2	5/64	0.13	0	450		R15 E2 & F2	0	450
R10 E3 & F3	3/32	0.21	0	300	450	R15 E3 & F3	0	450
R20 E4 & F4	1/8	0.40	1	450		R25 E4 & F4	1	450
R20 E6 & F6	3/16	0.75	1	450		R25 E6 & F6	1	450
R20 E8 & F8	1/4	1.09	1	450		R25 E8 & F8	1	450
R30 E10	5/16	1.77	1	450		R35 E10	1	450
R30 E12	3/8	1.86	1	450		R35 E12	1	450
R30 E15	15/32	2.86	1	450		R35 E15	1	450
R40 E18	9/16	4.40	1	450		R45 E18	1	450
R40 E28	7/8	7.90	1	450		R45 E28	1	450
R50 E32	1	12.3	1	280	400	R55 E32	1	400
R50 E40	1-1/4	21.4	1	280	400	R55 E40	1	400

Ratings Summary

Valve Series	Rated Capacity (tons)								
	Liquid			Suction			Hot Gas		
	R-22	R-134a	R-404a R-507	R-22	R-134a	R-404a R-507	R-22	R-134a	R-404a R-507
R10/15 E2 & F2	0.73	0.56	0.49	0.08	0.06	0.08	0.14	0.12	0.13
R10/15 E3 & F3	1.18	0.91	0.79	0.12	0.09	0.11	0.20	0.17	0.19
R20/25 E4 & F4	2.09	1.62	1.41	0.21	0.16	0.20	0.36	0.31	0.34
R20/25 E6 & F6	3.80	2.95	2.56	0.40	0.31	0.37	0.67	0.57	0.64
R20/25 E8 & F8	5.53	4.29	3.73	0.59	0.45	0.54	0.98	0.84	0.93
R30/35 E10	8.42	6.53	5.67	0.95	0.72	0.87	1.58	1.35	1.50
R30/35 E12	10.8	8.38	7.27	1.15	0.88	1.05	1.92	1.64	1.82
R30/35 E15	16.2	12.5	10.9	1.46	1.11	1.34	2.43	2.08	2.31
R40/45 E18	24.9	19.3	16.7	2.72	2.08	2.49	4.53	3.88	4.31
R40/45 E28	44.0	34.1	29.6	4.64	3.56	4.26	7.75	6.64	7.38
R50/55 E32	69.2	53.7	46.6	5.33	4.08	4.89	11.9	10.2	11.3
R50/55 E40	120.7	93.6	81.3	8.06	6.17	7.40	17.9	15.4	17.1

Liquid line capacities are based on 40°F evaporator, 10°F superheat and 101°F condenser temperatures and pressure drop

p across valve
 p = 2 psi for R134a
 p = 3 psi for R-22, R-404a, R-507

Suction vapor capacities of 40°F evaporator temperature plus 25°F superheat, 101°F condenser and 1 psi drop across valve

Rated hot gas capacities based on 40°F evaporator temperature plus 25°F superheat and 101°F condenser temperature and 2 psi drop