

Type J8

Exchangeable Cartridge Thermostatic Expansion Valves



Specifications & Materials/Details of Construction

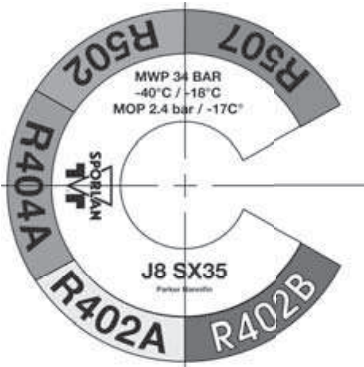
Body	Machined Forged Brass
Seat	Stainless Steel
Pin	Stainless Steel
Pushrod	Stainless Steel
Connections	SAE Flare, ODF Copper Fittings Silver Soldered to Body
Inlet Strainer	Filter Assembly with Cartridge
Operating Temp. Range	15°C to -40°C
MRP	34.0 bar (500 psi)
Maximum Temperature	121°C , short-lived peak 149°C
Max Ambient Temp.	60°C
Max Bulb Temp.	100°C
Max External Leakage	.10 oz/yr @ 300 psig (2.8 gram/yr @ 20 bar)
Compatibility	All HFC, HCFC, Refrigerants and blends

The Type J8 Thermostatic Expansion Valves comply with the Directive(s) 97-23-EC

For all requests, consult your nearest Parker Sporlan Wholesaler or contact us on:
racecustomerservice@parker.com / www.parker.com/race

J8 Valve identification

The main information about the valve is provided on the element label:



- Element assembly type J8 SX35
- Refrigerant
- Maximum Working Pressure (MWP) = 34 bar
- Evaporating temperature range in °C = -40°C/-18°C
- Maximum Operating Pressure (MOP) point in bar & °C = MOP 2.4 bar/-17°C
- Manufacturing Date Code

Recommended Thermostatic Charges

Application	Refrigerant		
	134a	404A	407C
Air Conditioning	JX60	-	-
	-	-	NX100
	-	SX110	-
Refrigeration	JW	-	-
	-	-	NW
	-	SX35	-
	-	SW	-

Benefits

- Selective thermostatic charges provide optimum performance for all common applications air conditioning, medium and low temp. refrigeration
- Stainless steel thermostatic element
- Externally adjustable
- The copper bulb design provides an excellent heat transfer
- Thermostatic charges with or without MOP (Maximum Operating Pressure)
- 8 Replaceable orifice assemblies
- Temperature range from -40°C to +15°C
- Solder ODF (with inlet connector) or Flare SAE fittings

Options

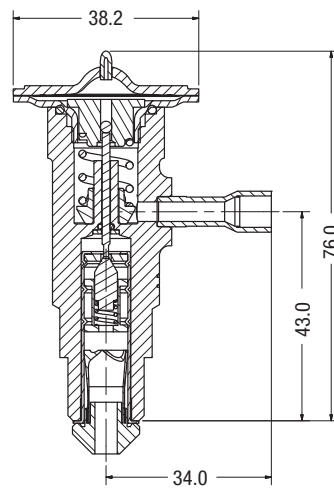
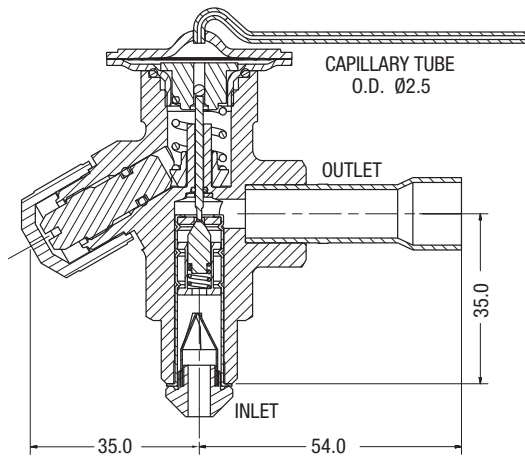
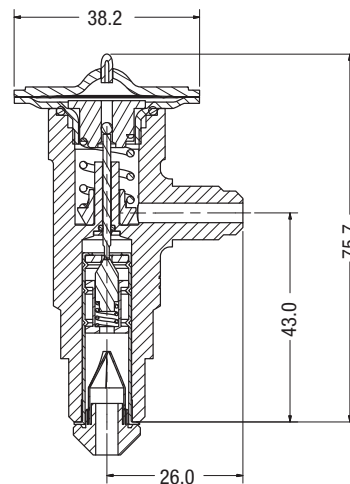
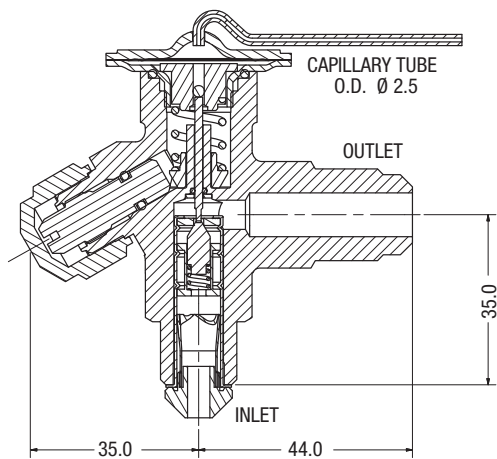
- External or internal equalizer
- Inlet ODF adaptor

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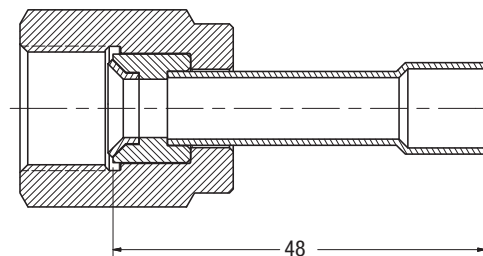
J8 Valve Dimension



Inlet ODF Adaptor

All J8 Thermostatic Expansion Valves feature 3/8"SAE inlet fitting. Solder inlet adaptors are available from Parker Sporlan distributors. Solder adaptors allow the installation of the J8 TEV and easy access of cartridge orifice & filter assembly. Parker Sporlan J8 Adaptors have been designed to be used with flare orifice filter.

Item	Description
J8A-6M	J8 Inlet Adaptor 3/8" SAE to 6 mm ODF
J8A-10M	J8 Inlet Adaptor 3/8" SAE to 10 mm ODF
J8A-2	J8 Inlet Adaptor 3/8" SAE to 1/4" ODF
J8A-3	J8 Inlet Adaptor 3/8" SAE to 3/8" ODF



The inlet ODF adaptor can be also use for the BQ Type Valve with 3/8" flare inlet connections.

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J8 Valve

Rated Capacity in kW*

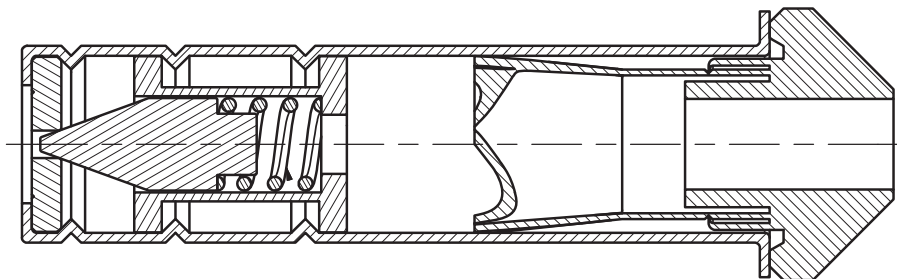
Part Number	Cartridge Type	R407C	R134a	R404A, R507
506032	J8C-0X	0,55	0,44	0,42
506033	J8C-00	1,2	1,0	0,77
506034	J8C-01	2,4	1,6	1,4
506035	J8C-02	3,8	2,6	2,1
506036	J0C-03	5,32	4,3	3,9
506037	J8C-04	9,0	7,0	6,3
506038	J8C-05	11,3	8,6	7,7
506039	J8C-06	15,0	9,5	8,2

* The rated capacity is based on the following conditions:
Evaporating temperature, $T_e = +5^\circ\text{C}$ Condensing temperature,
 $T_c = +32^\circ\text{C}$ Refrigerant temperature ahead of valve, $T_1 = +28^\circ\text{C}$

Cartridge & Filter Assembly

Cartridge Orifice

The cartridge orifice is stamped with the orifice size, **ex. J8C-0X**



Metallic Tag

A metallic tag is provided with each individual cartridge and should be fixed on the cap tube as the orifice is installed in the valves body.



All J8 cartridges are supplied with conical filters.

For all requests, consult your nearest Parker Sporlan Wholesaler or contact us on:
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J8 Selection Tables

R407C

Capacity Tables (kW)

Pressure Drop Across the Valve (bar)

Orifice Number	Pressure Drop Across the valve in bar							
	2	4	6	8	10	12	14	16
	Evaporator Temperature +10°C							
J8C-0X	0.44	0.55	0.62	0.67	0.69	0.70	0.69	0.70
J8C-00	1.0	1.2	1.3	1.4	1.5	1.5	1.5	1.5
J8C-01	2.1	2.6	3.0	3.1	3.2	3.2	3.3	3.2
J8C-02	3.1	4.1	4.8	5.2	5.4	5.5	5.6	5.6
J8C-03	5.2	6.9	8.0	8.6	9.1	9.2	9.3	9.3
J8C-04	8.8	11.6	13.4	14.6	15.2	15.4	15.6	15.6
J8C-05	10.6	14.0	16.0	17.4	18.3	18.5	18.7	18.7
J8C-06	11.8	15.5	17.7	19.1	20.1	20.3	20.5	20.5

Orifice Number	Pressure Drop Across the valve in bar							
	2	4	6	8	10	12	14	16
	Evaporator Temperature 0°C							
J8C-0X	0.44	0.55	0.62	0.66	0.69	0.70	0.70	0.69
J8C-00	0.96	1.1	1.3	1.4	1.4	1.5	1.5	1.4
J8C-01	1.8	2.3	2.5	2.7	2.8	2.8	2.9	2.9
J8C-02	2.7	3.5	4.1	4.3	4.6	4.7	4.8	4.8
J8C-03	4.5	5.9	6.7	7.4	7.7	7.8	7.9	7.9
J8C-04	7.5	9.9	11.2	12.2	12.8	13.0	13.2	13.3
J8C-05	9.2	11.9	13.6	14.7	15.5	15.8	15.9	15.9
J8C-06	10.1	13.1	14.9	16.2	17.0	17.3	17.5	17.5

Orifice Number	Pressure Drop Across the valve in bar							
	2	4	6	8	10	12	14	16
	Evaporator Temperature -10°C							
J8C-0X	0.42	0.53	0.59	0.63	0.66	0.68	0.68	0.67
J8C-00	0.90	1.1	1.2	1.3	1.3	1.4	1.4	1.3
J8C-01	1.5	1.8	2.1	2.3	2.3	2.3	2.4	2.4
J8C-02	2.3	3.0	3.3	3.6	3.8	3.9	4.0	3.9
J8C-03	3.8	4.9	5.6	6.0	6.4	6.6	6.7	6.5
J8C-04	6.3	8.2	9.2	10.0	10.6	10.8	11.0	10.9
J8C-05	7.7	9.8	11.1	12.0	12.8	13.0	13.2	13.1
J8C-06	8.6	10.8	12.2	13.2	14.0	14.3	14.5	14.4

Orifice Number	Pressure Drop Across the valve in bar							
	2	4	6	8	10	12	14	16
	Evaporator Temperature -20°C							
J8C-0X	-	0.50	0.56	0.59	0.62	0.63	0.65	0.63
J8C-00	-	1.0	1.1	1.2	1.2	1.3	1.3	1.2
J8C-01	-	1.5	1.7	1.8	2.0	2.0	2.0	2.0
J8C-02	-	2.4	2.7	2.9	3.1	3.1	3.2	3.1
J8C-03	-	4.0	4.5	4.9	5.1	5.2	5.3	5.2
J8C-04	-	6.6	7.5	8.1	8.5	8.6	8.8	8.7
J8C-05	-	8.1	9.1	9.8	10.2	10.5	10.6	10.5
J8C-06	-	8.8	10.0	10.7	11.3	11.4	11.7	11.6

Orifice Number	Pressure Drop Across the valve in bar							
	2	4	6	8	10	12	14	16
	Evaporating Temperature -30°C							
J8C-0X	-	0.45	0.50	0.54	0.56	0.58	0.58	0.58
J8C-00	-	0.89	1.0	1.1	1.1	1.2	1.1	1.1
J8C-01	-	1.3	1.4	1.5	1.6	1.5	1.6	1.6
J8C-02	-	2.0	2.2	2.7	2.5	2.5	2.5	2.5
J8C-03	-	3.6	3.7	3.9	4.0	4.1	4.2	4.2
J8C-04	-	4.4	6.1	6.4	6.7	6.8	7.0	6.9
J8C-05	-	5.8	7.3	7.7	8.1	8.3	8.4	8.4
J8C-06	-	7.0	8.0	8.6	8.9	9.1	9.3	9.2

Orifice Number	Pressure Drop Across the valve in bar							
	2	4	6	8	10	12	14	16
	Evaporating Temperature -40°C							
J8C-0X	-	-	0.46	0.48	0.51	0.53	0.53	0.54
J8C-00	-	-	0.88	0.92	1.0	1.0	1.0	1.0
J8C-01	-	-	1.2	1.3	1.2	1.3	1.3	1.4
J8C-02	-	-	1.7	1.9	1.9	1.9	2.0	1.9
J8C-03	-	-	2.9	3.1	3.2	3.3	3.3	3.3
J8C-04	-	-	4.8	5.0	5.2	5.3	5.4	5.4
J8C-05	-	-	5.8	6.2	6.3	6.6	6.6	6.6
J8C-06	-	-	6.4	6.8	7.0	7.2	7.3	7.3

Correction Factor, (CF) Liquid Temperature

TEV corrected capacity = Required Evaporator Capacity / Correction Factor, (CF), for Subcooling.

Subcooling	4k	10k	15k	20k	25k	30k	35k	40k	45k	50k
Correction Factor	1.00	1.08	1.14	1.21	1.27	1.33	1.39	1.45	1.51	1.57

Accurate at the time of going to print.

J8 Selection Tables

R134a / R401A

Capacity Tables (kW)

Pressure Drop Across the Valve (bar)

Orifice Number	Pressure Drop Across the valve in bar				
	2	4	6	8	10
J8C-0X	0.37	0.47	0.52	0.55	0.56
J8C-00	0.78	0.95	1.0	1.1	1.1
J8C-01	1.4	1.7	1.9	2.0	2.0
J8C-02	2.0	2.6	3.0	3.1	3.2
J8C-03	3.4	4.4	5.0	5.2	5.4
J8C-04	5.7	7.3	8.2	8.7	9.0
J8C-05	6.9	8.9	9.9	10.8	10.9
J8C-06	7.6	9.7	10.9	11.5	11.9

Orifice Number	Pressure Drop Across the valve in bar				
	2	4	6	8	10
J8C-0X	0.36	0.46	0.51	0.52	0.54
J8C-00	0.72	0.86	0.95	1.0	1.0
J8C-01	1.2	1.4	1.5	1.6	1.6
J8C-02	1.7	2.2	2.4	2.6	2.6
J8C-03	2.8	3.7	4.1	4.3	4.4
J8C-04	4.7	6.0	6.7	7.1	7.3
J8C-05	5.7	7.3	8.1	8.6	8.8
J8C-06	6.3	8.0	9.0	9.5	9.7

Orifice Number	Pressure Drop Across the valve in bar				
	2	4	6	8	10
J8C-0X	0.33	0.42	0.47	0.48	0.48
J8C-00	0.65	0.77	0.85	0.89	0.90
J8C-01	0.90	1.2	1.3	1.4	1.4
J8C-02	1.4	1.8	2.0	2.1	2.1
J8C-03	2.3	2.9	3.3	3.5	3.6
J8C-04	3.8	4.8	5.3	5.7	5.9
J8C-05	4.6	5.8	6.5	6.9	7.1
J8C-06	5.1	6.4	7.2	7.6	7.7

Orifice Number	Pressure Drop Across the valve in bar				
	2	4	6	8	10
J8C-0X	0.31	0.39	0.43	0.45	0.46
J8C-00	0.58	0.68	0.76	0.79	0.80
J8C-01	0.73	0.90	1.0	1.1	1.1
J8C-02	1.1	1.4	1.5	1.6	1.7
J8C-03	1.9	2.3	2.6	2.7	2.8
J8C-04	3.0	3.8	4.2	4.5	4.6
J8C-05	3.7	4.6	5.1	5.4	5.5
J8C-06	4.1	5.0	5.6	5.9	6.1

Orifice Number	Pressure Drop Across the valve in bar				
	2	4	6	8	10
J8C-0X	0.28	0.35	0.39	0.41	0.42
J8C-00	0.53	0.61	0.67	0.70	0.70
J8C-01	0.59	0.72	0.79	0.84	0.86
J8C-02	0.90	1.1	1.2	1.3	1.3
J8C-03	1.5	1.9	2.1	2.2	2.2
J8C-04	2.4	3.0	3.4	3.5	3.6
J8C-05	3.0	3.6	4.0	4.2	4.3
J8C-06	3.2	4.0	4.4	4.7	4.8

Orifice Number	Pressure Drop Across the valve in bar				
	2	4	6	8	10
J8C-0X	0.25	0.31	0.35	0.36	0.37
J8C-00	0.48	0.55	0.59	0.62	0.63
J8C-01	0.49	0.59	0.65	0.68	0.69
J8C-02	0.74	0.89	1.0	1.0	1.0
J8C-03	1.2	1.5	1.7	1.8	1.8
J8C-04	2.0	2.4	2.7	2.8	2.8
J8C-05	2.4	2.9	3.2	3.54	3.5
J8C-06	2.7	3.2	3.6	3.8	3.9

Correction Factor, (CF) Liquid Temperature

TEV corrected capacity = Required Evaporator Capacity / Correction Factor, (CF), for Subcooling.

Subcooling	4k	10k	15k	20k	25k	30k	35k	40k	45k	50k
Correction Factor	1	1.08	1.13	1.19	1.25	1.31	1.37	1.42	1.48	1.54

Accurate at the time of going to print.



J8 Selection Tables

R404A / R507

Capacity Tables (kW)

Pressure Drop Across the Valve (bar)

Orifice Number	Pressure Drop Across the valve in bar							
	2	4	6	8	10	12	14	16
J8C-0X	0.31	0.39	0.44	0.46	0.47	0.47	0.46	0.45
J8C-00	0.74	0.90	1.0	1.0	1.1	1.1	1.0	1.0
J8C-01	1.5	1.9	2.1	2.2	2.3	2.3	2.2	2.1
J8C-02	2.3	3.0	3.4	3.6	3.7	3.7	3.7	3.6
J8C-03	3.9	5.1	5.6	6.0	6.2	6.3	6.2	6.0
J8C-04	6.5	8.5	9.5	10.2	10.5	10.5	10.3	10.1
J8C-05	7.9	10.2	11.4	12.2	12.5	12.6	12.3	12.0
J8C-06	8.7	11.3	12.6	13.4	13.8	13.8	13.6	13.2

Orifice Number	Pressure Drop Across the valve in bar							
	2	4	6	8	10	12	14	16
J8C-0X	0.33	0.41	0.45	0.46	0.47	0.47	0.47	0.45
J8C-00	0.75	0.88	1.0	1.0	1.0	1.0	1.0	1.0
J8C-01	1.4	1.7	1.8	1.9	2.0	2.0	2.0	1.9
J8C-02	2.1	2.6	3.0	3.1	3.2	3.3	3.2	3.1
J8C-03	3.5	4.4	5.0	5.2	5.4	5.4	5.3	5.2
J8C-04	5.8	7.4	8.3	8.7	9.0	9.0	8.9	8.7
J8C-05	7.0	8.9	10.0	10.5	10.8	10.9	10.8	10.4
J8C-06	7.7	9.8	11.0	11.6	11.9	12.0	11.8	11.4

Orifice Number	Pressure Drop Across the valve in bar							
	2	4	6	8	10	12	14	16
J8C-0X	0.33	0.41	0.44	0.46	0.46	0.46	0.45	0.45
J8C-00	0.72	0.84	0.90	0.92	1.0	1.0	0.94	0.91
J8C-01	1.2	1.4	1.5	1.6	1.6	1.7	1.6	1.6
J8C-02	1.8	2.2	2.5	2.6	2.7	2.7	2.7	2.6
J8C-03	2.9	3.7	4.2	4.4	4.5	4.5	4.5	4.4
J8C-04	4.9	6.3	6.9	7.3	7.4	7.5	7.4	7.2
J8C-05	5.9	7.6	8.4	8.8	9.0	9.1	9.0	8.7
J8C-06	6.6	8.4	9.3	9.7	9.9	10.0	9.9	9.6

Orifice Number	Pressure Drop Across the valve in bar							
	2	4	6	8	10	12	14	16
J8C-0X	-	0.39	0.42	0.44	0.43	0.44	0.43	0.42
J8C-00	-	0.77	0.83	0.85	0.87	0.87	0.87	0.84
J8C-01	-	1.2	1.4	1.4	1.4	1.4	1.4	1.4
J8C-02	-	1.9	2.0	2.1	2.2	2.2	2.2	2.1
J8C-03	-	3.1	3.5	3.6	3.7	3.7	3.7	3.6
J8C-04	-	5.1	5.7	5.9	6.1	6.1	6.0	5.9
J8C-05	-	6.2	6.9	7.2	7.3	7.3	7.2	7.1
J8C-06	-	6.8	7.6	7.9	8.0	8.0	7.9	7.7

Orifice Number	Pressure Drop Across the valve in bar							
	2	4	6	8	10	12	14	16
J8C-0X	-	-	0.39	0.41	0.40	0.41	0.40	0.39
J8C-00	-	-	0.74	0.77	0.77	0.77	0.76	0.74
J8C-01	-	-	1.1	1.1	1.1	1.1	1.1	1.1
J8C-02	-	-	1.6	1.7	1.7	1.7	1.7	1.6
J8C-03	-	-	2.7	2.8	2.9	2.9	2.8	2.7
J8C-04	-	-	4.5	4.7	4.7	4.07	4.7	4.6
J8C-05	-	-	5.5	5.7	5.7	5.7	5.7	5.5
J8C-06	-	-	6.0	6.2	6.3	6.3	6.2	6.1

Orifice Number	Pressure Drop Across the valve in bar							
	2	4	6	8	10	12	14	16
J8C-0X	-	-	0.35	0.36	0.36	0.36	0.35	0.35
J8C-00	-	-	0.66	0.67	0.68	0.67	0.66	0.65
J8C-01	-	-	0.83	0.86	0.87	0.86	0.85	0.82
J8C-02	-	-	1.3	1.3	1.3	1.3	1.3	1.2
J8C-03	-	-	2.2	2.2	2.2	2.2	2.2	2.1
J8C-04	-	-	3.5	3.7	3.7	3.7	3.6	3.5
J8C-05	-	-	4.3	4.4	4.5	4.4	4.4	4.2
J8C-06	-	-	4.7	4.9	5.0	4.9	4.8	4.7

Correction Factor, (CF) Liquid Temperature

TEV corrected capacity = Required Evaporator Capacity / Correction Factor, (CF), for Subcooling.

Subcooling	4k	10k	15k	20k	25k	30k	35k	40k	45k	50k
Correction Factor	1	1.10	1.20	1.29	1.37	1.46	1.54	1.63	1.70	1.78

Accurate at the time of going to print.

J8 Order Selection Guide

J8 Body

Refrigerant	Connection Size			MOP bar / °C	Valve Type	Part Number	Capillary Tube Length mm	Evaporator Temperature Range °C	
	Inlet	Outlet	Equalizer						
R407C	3/8" SAE	1/2" SAE	1/4" SAE	-	J8EF-NW	600002-000	1500	-40°C to +15°C	
				6.9 bar / +17°C	J8EF-NX100	600003-000			
			Internally Equalized	-	J8F-NW	600023-000			
				6.9 bar / +17°C	J8F-NX100	600024-000			
			12 mm ODF	6 mm ODF	-	J8EM-NW			600009-000
					6.9 bar / +17°C	J8EM-NX100			600010-000
		Internally Equalized	-	J8M-NW	600030-000				
			6.9 bar / +17°C	J8M-NX100	600031-000				
		1/2" ODF	1/4" ODF	-	J8ES-NW	600016-000			
				6.9 bar / +17°C	J8ES-NX100	600017-000			
			Internally Equalized	-	J8S-NW	600037-000			
				6.9 bar / +17°C	J8S-NX100	600038-000			
R134a R401A	3/8" SAE		1/2" SAE	1/4" SAE	-	J8EF-JW	600000-000	1500	-40°C to +15°C
					4.1 bar / +17°C	J8EF-JX60	600001-000		
		Internally Equalized		-	J8F-JW	600021-000			
				4.1 bar / +17°C	J8F-JX60	600022-000			
		12 mm ODF		6 mm ODF	-	J8EM-JW	600007-000		
					4.1 bar / +17°C	J8EM-JX60	600008-000		
		Internally Equalized	-	J8M-JW	600028-000				
			4.1 bar / +17°C	J8M-JX60	600029-000				
		1/2" ODF	1/4" ODF	-	J8ES-JW	600014-000			
				4.1 bar / +17°C	J8ES-JX60	600015-000			
			Internally Equalized	-	J8S-JW	600035-000			
				4.1 bar / +17°C	J8S-JX60	600036-000			
R404A R402A R402B R502 R507	3/8" SAE		1/2" SAE	1/4" SAE	-	J8EF-SW	600004-000	1500	-40°C to +10°C
					7.6 bar / +12°C	J8EF-SX110	600005-000		-40°C to -18°C
		Internally Equalized		2.4 bar / -17°C	J8EF-SX35	600006-000	-40°C to +10°C		
				2.4 bar / -17°C	J8F-SW	600025-000	-40°C to -18°C		
		12 mm ODF		6 mm ODF	-	J8EM-SW	600011-000		-40°C to +10°C
					7.6 bar / +12°C	J8EM-SX110	600012-000		-40°C to -18°C
		Internally Equalized	2.4 bar / -17°C	J8EM-SX35	600013-000	-40°C to +10°C			
			2.4 bar / -17°C	J8M-SW	600032-000	-40°C to -18°C			
		1/2" ODF	1/4" ODF	-	J8ES-SW	600018-000	-40°C to +10°C		
				7.6 bar / +12°C	J8ES-SX110	600019-000	-40°C to -18°C		
			Internally Equalized	2.4 bar / -17°C	J8ES-SX35	600020-000	-40°C to +10°C		
				2.4 bar / -17°C	J8S-SW	600039-000	-40°C to -18°C		
			Internally Equalized	7.6 bar / +12°C	J8S-SX110	600040-000	-40°C to +10°C		
				2.4 bar / -17°C	J8S-SX35	600041-000	-40°C to -18°C		

Accurate at the time of going to print.



J8 Order Selection Guide

J8 Cartridge

Orifice Number	Part Number
J8C-0X	506032
J8C-00	506033
J8C-01	506034
J8C-02	506035
J8C-03	506036
J8C-04	506037
J8C-05	506038
J8C-06	506039

For all requests, consult your nearest Parker Sporlan Wholesaler or contact us on:
racecustomerservice@parker.com / www.parker.com/race

