

Evaporator Pressure Regulating Valves

The Parker Sporlan line of evaporator pressure regulating (EPR) valves are designed to provide an accurate and economical means of balancing system capacity and load requirements during "low" loads and/or while maintaining different evaporator conditions on multitemperature evaporator systems. These valves control evaporator temperature by maintaining evaporator pressure.

As the evaporator load increases the **ORI** valves will **Open** on **Rise** of **Inlet** pressure above the valve's setting to provide more flow capacity to meet the evaporator load.

When the evaporator load decreases the valves will modulate closed to maintain the pressure setting of the valve. Parker Sporlan offers a number of EPR valve types in various sizes, and with optional features to accommodate almost any industry requirement.

For more complete information on any of the EPR valve types see your nearest Parker Sporlan Wholesaler.



Application

- Maintain minimum evaporator temperature to avoid frost on air coils and provide improved humidity control
- Evaporator temperature control for food merchandisers (single and multiple evaporator systems)
- Evaporator temperature control on water chilling units

Required Sizing Information

- Refrigerant type
- Evaporator design capacity
- Design evaporator temperature or minimum evaporator pressure
- Available pressure drop
- Allowable evaporator pressure change (only applies to direct acting models)

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

ORIT-6 & -10 Type

These direct acting EPRs are offered in two sizes. The direct acting design although economical requires an evaporator pressure change above the minimum evaporator pressure setting to provide the rated flow capacity.

The nominal ratings are based on an 0.55 bar evaporator pressure change for the 0/3.45 bar adjustment range, and a 0.83 bar change for the 2.07/6.90 bar adjustment range.



Benefits

- Direct acting (most economical)
- Adjustable
- Hermetic construction (no gaskets or seals)
- Corrosion resistant construction
- Inlet pressure tap (standard)
- Inlet strainer (standard on ODF models)

Valve Nomenclature/Ordering Instructions

ORIT

ORI	-	T	-	6	-	0/50	-	7*8" ODF
Valve Type Open on Rise of Inlet Pressure		Pressure Tap on Inlet Connection		Port Size in Eights of an Inch		Adjustment Range psig*		Connection ODF Solder or SAE Flare

* Other pressure ranges are available

Installation

When installing these valves with solder connections, the internal parts should be protected from overheating by wrapping the valve with a wet cloth.

Specifications & Materials/Details of Construction

Valve Type	ORIT-6, -10
Body Material	Bellows - Brass
Seat	Metal to Metal
Connections	ODF Copper or SAE Brass
MRP	27.6 barg (400 psig)
Max. Fluid Temp.	116°C (240°F)
Max. Ambient Temp.	68.3°C (155°F)
Max External Leakage	.10 oz/yr @ 300 psig (2.8 gram/yr @ 20 bar)
UL	SA-5460-SFJQ
Compatibility	All HFC, HCFC Refrigerants and blends

Valve Type	Port Size mm	Adjustment Range	Standard Connections In Bold
ORIT-6	19	0/3.45	1/2 & 5/8 SAE Flare*
		2.07/6.90 bar	1/2, 5/8, 7/8 & 1-1/8 ODF Solder
ORIT-10	31		7/8, 1-1/8 & 1-3/8 ODF Solder

*Not available with inlet strainer.

Accurate at the time of going to print.

Selection Tables

Valves should be selected for the desired maximum variation in evaporator pressure using the capacity multipliers below.

Allowable Evaporator Pressure Change - bar	0.14	0.28	0.41	0.55	0.69	0.83	0.97	
Capacity Multiplier	ORIT-6, 10-0/50	0.3	0.6	0.8	1	1.2	1.3	1.4
	ORIT-6, 10-30/100	-	0.2	0.6	0.7	0.9	1	1.1

Capacities in kW

Capacities based on 38°C condensing temperature, 0°C subcooling, 6°K superheat, 0.55 bar evaporator pressure change for 0/3.45 bar adjustment range, and a 0.83 bar evaporator pressure change for 2.07/6.90 bar adjustment range.

Valve Type	Evaporator Temperature °C	Saturated Pressure - bar (Reference)					Refrigerant														
		Refrigerant					22			134a			404A			407C			507		
		22	134a	404A	407C	507	Pressure Drop Across Valve - bar														
						0.1	0.4	0.7	0.1	0.4	0.7	0.1	0.4	0.7	0.1	0.4	0.7	0.1	0.4	0.7	
ORIT-6	5	4.83	2.48	6.03	4.35	6.32	3.85	7.16	8.75	2.89	5.01	5.60	3.36	6.30	7.78	3.57	6.54	7.87	3.31	6.22	7.70
	-5	3.21	1.42	4.12	2.77	4.34	3.19	5.73	6.73	2.29	3.67	3.77	2.71	4.94	5.90	2.87	5.04	5.75	2.68	4.90	5.90
	-15	1.95	0.63	2.62	1.57	2.79	2.58	4.39	4.79	1.76	2.45	2.45	2.14	3.72	4.19	2.24	3.67	3.82	2.12	3.74	4.28
	-25	1.00	0.05	1.49	0.70	1.61	2.04	3.16	3.19	1.29	1.53	1.53	1.65	2.66	2.74	1.71	2.44	2.44	1.64	2.68	2.80
ORIT-10	5	4.83	2.48	6.03	4.35	6.32	9.45	18.7	24.4	7.25	14.2	18.3	8.23	16.3	21.3	8.79	17.3	22.6	8.08	16.0	21.0
	-5	3.21	1.42	4.12	2.77	4.34	7.88	15.5	20.2	5.83	11.3	14.4	6.69	13.2	17.2	7.13	14.0	18.1	6.59	13.0	16.9
	-15	1.95	0.63	2.62	1.57	2.79	6.48	12.6	16.3	4.60	8.77	11.0	5.35	10.5	13.6	5.70	11.1	14.2	5.28	10.4	13.4
	-25	1.00	0.05	1.49	0.70	1.61	5.23	10.1	12.8	3.55	6.58	8.01	4.19	8.12	10.4	4.46	8.52	10.7	4.15	8.07	10.4

Order Selection Guide

Direct Acting Type - With inlet strainer (40 MESH) where applicable

Type	Connections Inches	Adjustment Range (PSIG)	Adjustment Range (bar)	Part Number
ORIT-6	1/2 ODF	0/50	0/3.45	901093
	5/8 ODF			901096
	7/8 ODF			901103
	1/2 ODF	30/100	2.07/6.9	901101
	5/8 ODF			901173
	7/8 ODF			901180
	1/2 SAE	0/50	0/3.45	901117
	5/8 SAE			901124
	1/2 SAE			901194
	5/8 SAE	30/100	2.07/6.9	901201
1-1/8 ODF	0/50, 30/100	0/3.45, 2.07/6.9	Special order valve	
ORIT-10	7/8 ODF	0/50	0/3.45	901131
	1-1/8 ODF			901138
	1-3/8 ODF			901166
	7/8 ODF	30/100	2.07/6.89	901208
	1-1/8 ODF			901229
	1-3/8 ODF			901250

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