HEAD PRESSURE CONTROL VALVES

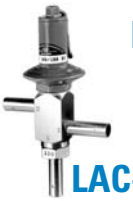

ORI-6


OROA-5


ORD-4


LAC-4

Listed by Underwriters' Laboratories, Inc. Guide SFJQ2 File No. SA5460


LAC-4-DS

LAC-10

High and Low Ambient Stability

The design of air conditioning systems utilizing air cooled condensing units involves two main problems that must be solved if the system is to operate reliably and economically...**high ambient** and **low ambient** operation. If the condensing unit is properly sized, it will operate satisfactorily during extremely high ambient temperatures. However, some units will be required to operate at ambient temperatures below their design dry bulb temperature during most of the year, the solution to low ambient operation is more complex.

Without good head pressure control during low ambient operation, the system can experience both running cycle and off-cycle problems. Since the pressure differential across the thermostatic expansion valve port affects the rate of refrigerant flow, low head pressure generally causes insufficient refrigerant to be fed to the evaporator. Failure to have sufficient head pressure will result in low suction pressure and/or iced evaporator coils.

The primary off-cycle problem is refrigerant migration to the condenser. Insufficient flow through the TEV will cause a low suction pressure.

The typical method of maintaining normal head pressure in a refrigeration system during periods of low ambient temperature is to restrict liquid flow from the condenser to the receiver, and at the same time divert hot gas to the inlet of the receiver. This backs liquid refrigerant up into the condenser reducing its capacity which in turn increases the condensing pressure. At the same time the hot gas raises liquid pressure in the receiver, allowing the system to operate normally.

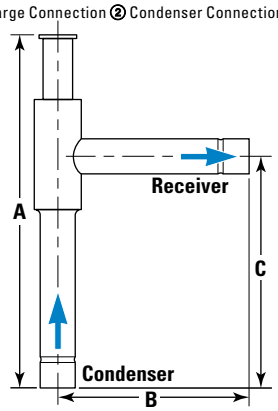
Sporlan Head Pressure Control for systems with air cooled condensers can be accomplished using one of several valve options; the non-adjustable OROA-5, the adjustable ORI/ORD combination, or the economical LAC series.

Specifications and Dimensions

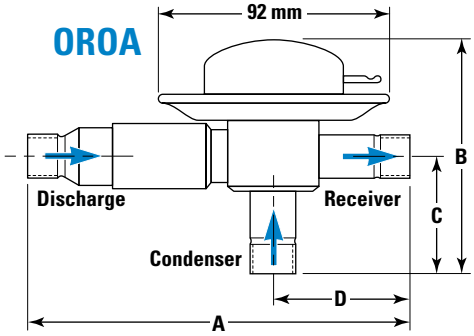
VALVE TYPE	STANDARD FACTORY SETTING bar	CONNECTIONS ODF SOLDER (Inches)		DIMENSIONS – mm								WEIGHT kg		REPLACEMENT PARTS	
		INLET(S)	OUTLET	A	B	C	D	E	F	G	I	NET	SHIP		
ORI-6-65/225-H	8.3	5/8	5/8	250	128	162	—	—	—	—	—	.45	.57	Inlet Strainer	825-5
		7/8	7/8												825-7
		1-1/8	1-1/8									.57	.68		825-9
ORI-10-65/225-H	8.3	1-1/8	1-1/8	280	139	167	—					1.13	1.25		825-9
		1-3/8	1-3/8												825-11
ORD-4-20	1.4	5/8	5/8	167	25	—	—					.15	.23		825-5
OROA-5	6.9, 12.4 or 14.5	① 5/8 ② 5/8	5/8	151	95	48	55					.91	1.02		825-5
		① 5/8 ② 7/8	7/8	157	102	54	61								825-7

① Discharge Connection ② Condenser Connection

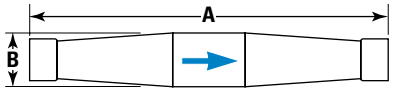
ORI



OROA



ORD-4



ORI – Valve Nomenclature/Ordering Instructions

ORI	– 6	– 65/225	– 7/8" ODF	– With Strainer	– H
Valve Type: **O**pen on **R**ise of **I**nlet Pressure	Port Size Eighths of an Inch	Nominal Adjustment Range (psig)	Connections - Solder	Inlet Strainer (Optional)	Designates High Pressure Bellows

OROA – Valve Nomenclature/Ordering Instructions

OROA	– 5	– 180	– 5/8" ODF	– With Strainer
Valve Type: **O**pen on **R**ise of **O**utlet Pressure	Port Size Eighths of an Inch	Pressure Setting (psig)	Connections - Solder	Inlet Strainer (Optional)

ORD-4

ORD	– 4	– 20
Valve Type: **O**pen on **R**ise of **D**ifferential Pressure	Port Size Eighths of an Inch	Opening Pressure Differential (psi)

For complete information consult your nearest Sporlan Wholesaler or email europecold@parker.com and request Bulletin 90-30.