BULLETIN 210-40-4
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Supersedes November 1996

Field Conversion of the Thermostatic Expansion Valves with Replaceable Thermostatic Elements

We recognize the fact that occasionally a valve must be converted from one refrigerant to another to satisfy an emergency situation. We feel this practice should be the exception rather than the rule.

The information below provides the necessary data required for field conversion of thermostatic expansion valves from one refrigerant to another by changing power elements. It does not take into account the different springs that are necessary with different refrigerants. But in general, the superheat adjustment on the valve will allow compensation on an operating unit for different spring wire sizes. For further spring information contact SPORLAN.

VALVES WITH NOMINAL CAPACITIES ON THE SAME HORIZONTAL LINE HAVE THE SAME PORT DIAMETER AND PIN ANGLE.

VALVE TYPE	ELEMENT SIZE	NOMINAL VALVE CAPACITY			
		REFRIGERANT			
		134a, 401A, 409A	22, 422D, 407C	402A, 404A, 408A, 507	410A
(E)F (Internal Equalized)	43	-	1/5	-	Not Approved
		1/8	-	1/8	
		1/6	1/3	1/6	
		1/4	1/2	1/4	
		1/2	1	1/2	
		1	1-1/2	1	
		1-1/2	2-1/2	1-1/2	
(E)F (External Equalized)		-	1/5	-	Not Approved
		1/8	-	1/8	
		1/6	1/3	1/6	
		1/4	1/2	1/4	
		1/2	1	1/2	
		1	1-1/2	1	
		1-1/2	2	1-1/2	
		2	3	2	
		3	5	3	
BF(E), EBF(E), & SBF(E)		AAA	AAA	AAA	Not Approved
		AA	AA	AA	
		A	A	A	
		B	B	B	
		C	C	C	
(E)G (Internal Equalized)	53	-	1/5	-	Not Approved
		1/8	1/4	1/8	
		1/6	1/3	1/6	
		-	1/2	-	
		1/4	3/4	1/4	
		1/2	1	1/2	
		1	1-1/2	1	
		1-1/2	2-1/2	1-1/2	
(E)G (External Equalized)		-	1/5	-	Not Approved
		1/8	1/4	1/8	
		1/6	1/3	1/6	
		-	1/2	-	
		1/4	3/4	1/4	
		1/2	1	1/2	
		1	1-1/2	1	
		1-1/2	2	1-1/2	
		2	3	2	
		-	4	-	
R(E) & BBI(E) (OEM Only)	43 & 45 (R410A)	1/2	1	1/2	1
		1	1-1/2	1	1-1/2
		1-1/2	2	1-1/2	2
		2	3	2	3
		2-1/2	4	3	4
		3	5	3-1/2	5
		4	6	4	6
		5	8	6	8
		7	10	7	12-1/2
		9	12	9	15
RC(E) & CBBI(E) (OEM Only)		1/2	1	1/2	1
		1	1-1/2	1	1-1/2
		1-1/2	2	1-1/2	2
		2	3	2	3
		2-1/2	4	3	4
		3	5	3-1/2	5
		4	6	-	6
P,H (After Oct 1970)	33	1-1/2	2-1/2	1-1/2	Not Approved
		3	5-1/2	-	
		4	7	4	
		5	11	6-1/2	
		8	16	9	
		12	20	12	

VALVE TYPE	ELEMENT SIZE	NOMINAL VALVE CAPACITY			
		REFRIGERANT			
		134a, 401A, 409A	22, 422D, 407C	402A, 404A, 408A, 507	410A
C, S	83	1/8	1/4	1/8	Not Approved
		1/4	1/2	1/4	
		1/2	1	1/2	
		1	1-1/2	1	
		1-1/2	2	1-1/2	
		2	3	2	
		2-1/2	4	3	
		3	5	4	
C, S (External Equalized)		5	8	6	
S (External Equalized)		6	10	7	
		10	15	10	
EBS		5	8	6	
		7	11	7-1/2	
		9	15	10	
		12	20	13	
M	63	5	8	6	Not Approved
		7-1/2	12	9	
		11	18	13	
		13	21	15	
		15	26	20	
		20	34	25	
		25	42	30	
O	83 & 85 (R410A)	6	10	6	-
		-	-	-	20
		9	15	9	-
		-	-	-	25
		12	20	12	-
		16	30	21	35
	33	23	40	30	-
		32	55	35	-
		40	70	45	-
	85-3	-	-	-	50
		-	-	-	60
V	63	35	52	38	Not Approved
		45	70	50	
		55	100	70	
W	7	80	135	100	Not Approved
		110	180	130	

Some valves are obsolete, but listed here as a historical reference.

APPLICATION	REFRIGERANT														ACTUAL THERMOSTATIC CHARGE
	"F"	"V"	"J"	"X"	"L"	"S"	"V"	"N"	"R"	"F"	"Z"	"V"	"R"	"P"	
	12	22	134a	401A	402A	404A	407A	407C	408A	409A	410A	422D	502	507	
AIR CONDITIONING	X		X	X						X					JCP60
		X					X	X							VCP100
		X					X	X							VGA
											X				ZGA
											X				ZCP200
						X			X				X		SCP115
COMMERICAL REFRIGERATION +50°F to -10°F	X		X	X						X					JC
		X					X	X				X			VC ①②
						X			X				X		SC ①②
											X				ZCP200
					X									X	PC ①②
LOW TEMP REFRIGERATION 0°F to -40°F	X		X												JZ
	X		X												JZP
		X					X					X			VZ
		X					X					X			VZP40
					X	X			X				X	X	SZ
					X	X			X				X	X	SZP

① The "C" charge may be used on applications down to -30°F on R-22, R-404A and R-507.
② For dual temperature applications, use the "C" charge.

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