

**CONDENSER
REFRIGERANT RELIEF VALVE
CALCULATIONS**

F/O No.: N/A

Job Name: 2018 Standard SACP's

Unit Model: SACP40A-HS

TUBE SIDE PRODUCT	R410A
TUBE SIDE PRESSURE	650 PSIG

XP AREA	YES	
MULTIPLIER	1	**M
REFRIGERANT FACTOR	2.5	**F

**2.5 for XP, 1.0 for normal
**Refer Table

MUST RELIEVE HIGH SIDE ONLY - CALCULATE HIGH SIDE VOLUME ONLY

COND COIL

TUBES HIGH	40	
TUBES ROW	4	
COIL PER SYSTEM	2	
TUBE LENGTH	77	IN
TUBE DIA	0.375	IN
GROSS VOLUME		2720 CU-IN

DISCH PIPE

TUBES HIGH	1	
TUBES DEEP	1	
TUBE LENGTH	247	IN
TUBE DIA	1.375	IN
GROSS VOLUME		367 CU-IN

**Estmd

LIQUID PIPE

TUBES HIGH	1	
TUBES DEEP	1	
TUBE LENGTH	213	IN
TUBE DIA	1.125	IN
GROSS VOLUME		212 CU-IN

**Estmd

TOTAL VOLUME 3298 CU-IN

REFORMAT TOTAL SYSTEM VOLUME INTO VESSEL

ASSUME I LENGTH	154	IN	**Estimate from condenser total FL / system, FL x no of coil per system
REQ AREA	21	IN	
DIAMETER	3		

SHELL	OD		2.61 IN
SHELL	THICKNESS		0.00 IN
SHELL	ID		2.61 IN
SHELL	GROSS	ID AREA	5.35 SQIN

TUBE	QTY		0
TUBE	OD		0.75 IN
TUBE	AREA		0.44 IN
TUBE	TOTAL	AREA	0.00 SQIN

SHELL	NET	AREA	5.35
EQUIVALENT SHELL DIA			2.61 IN
EQUIVALENT SHELL DIA			0.22 FT D

SHELL LENGTH		154 IN
SHELL LENGTH		12.83 FT L

MIN PRV	C=MFDL	
MIN PRV	6.98 LB-AIR /MIN	**Result

SELECTED PRV	SUPERIOR	3002C
	SETTING	650 PSIG
	RATING	21.6 LB-MIN

ACCEPTABLE