

CAUTION!
PLEASE SWITCH POWER OFF
BEFORE SERVING UNIT

Commercial Refrigerator & Freezer Service Manual



Refrigerator STM23R
Freezer STM23F

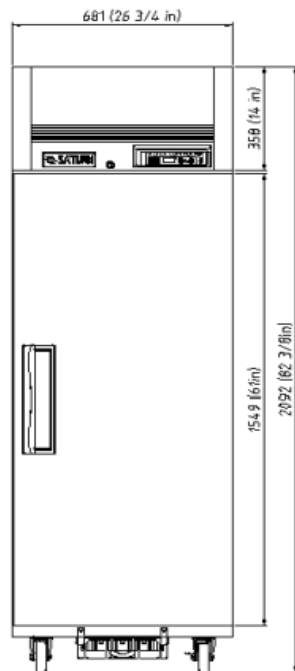
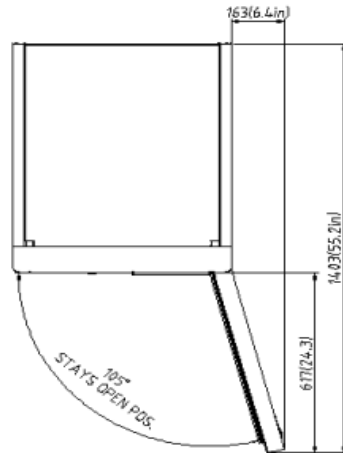


STM49R
STM49F



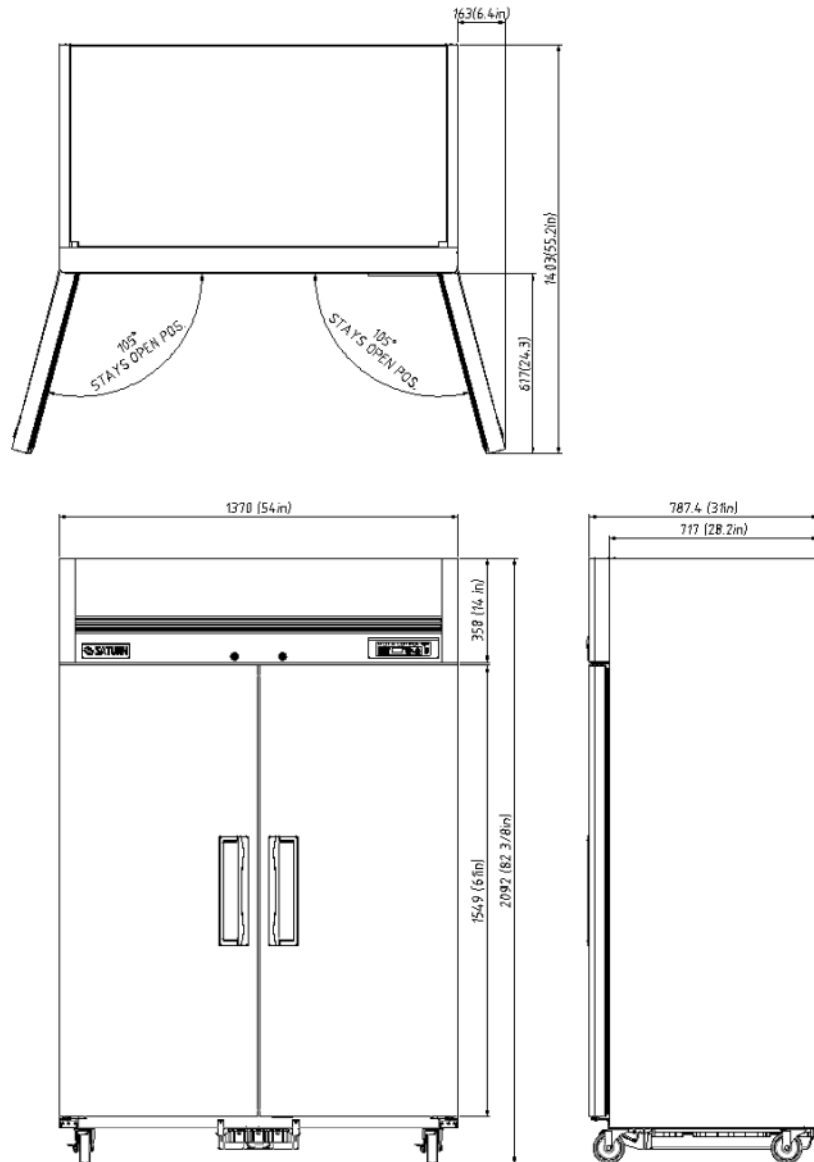
STM72R
STM72F

■ Model – STM23R



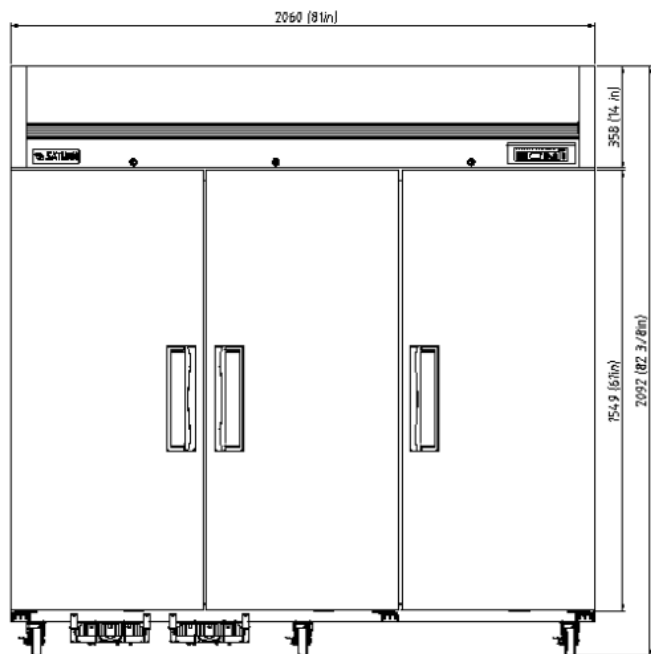
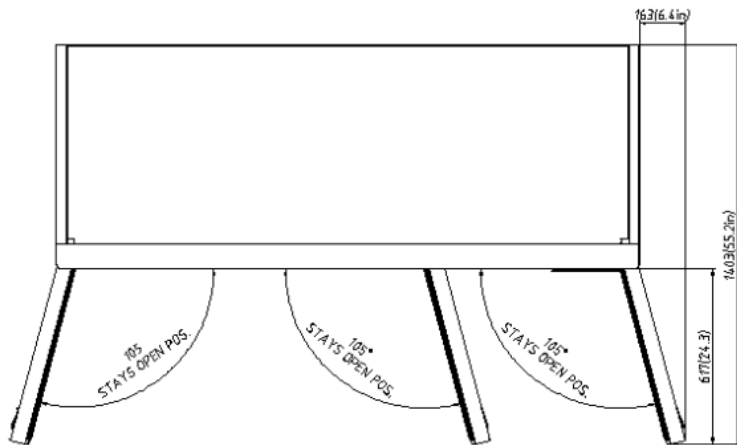
1. Technical Specifications		
Amp	115V	5.0A
Connection		15 Amp Plug
Refrigerant	Name	R-134a
	Q'ty(oz)	4.9
	Q'ty(gram)	110
	HP	140
Compressor	Samsung	SK1A1C-L2W
2. Function Specifications		
Temp Range	°F	29 ~ 39
Capacity	Cubic Feet	23
Climate		N
Max Ambient Temp	°F	89.6
	°F	59
Castor Front	4" Move	2 EA
Castor Rear	4" Stop	2 EA
Shelves		3 EA
Door		1 EA
Exterior Finish		Stainless Steel
Interior Finish		Stainless Steel
3. Sizes		
Exterior Dimensions	Width(Inches)	26 3/4
	Depth(Inches)	31
	Height(Inches)	82 3/8
Net Weight	LBS	233

■ Model – STM49R



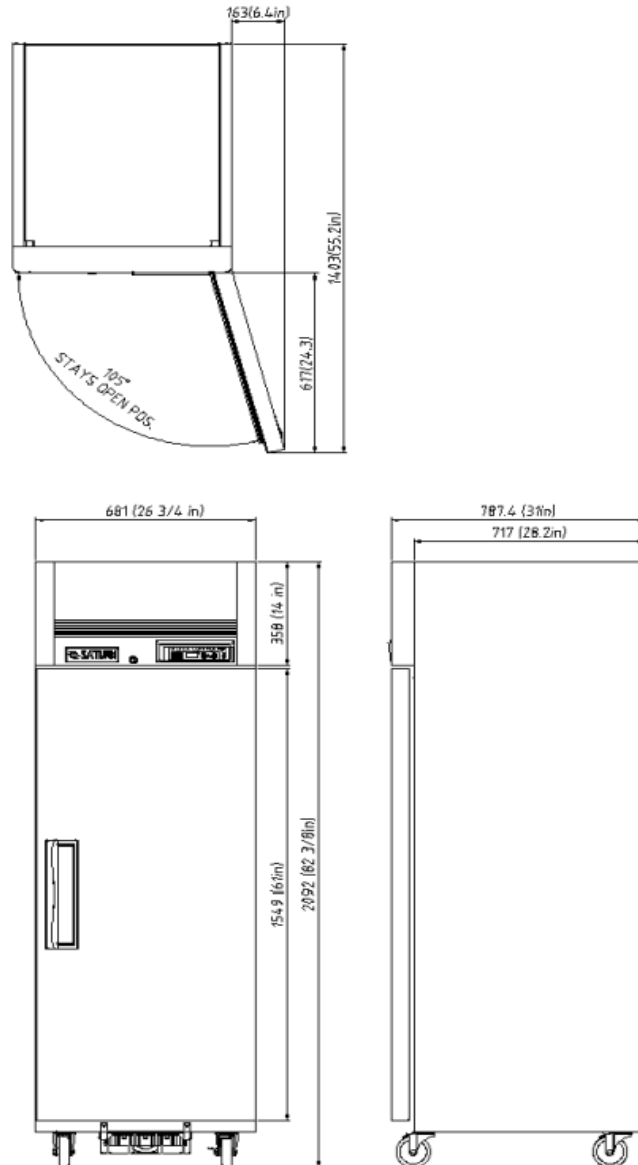
1. Technical Specifications		
Amp	115V	6.3A
Connection		15 Amp Plug
Refrigerant	Name	R-134a
	Q'ty(oz)	5.6
	Q'ty(gram)	160
	HP	1/3
Compressor	Samsung	SK1A1C-L2W
2. Function Specifications		
Temp Range	°F	29 ~ 39
Capacity	Cubic Feet	49
Climate		N
Max Ambient Temp	°F	89.6
	°F	59
Castor Front	4" Move	2 EA
Castor Rear	4" Stop	2 EA
Shelves		6 EA
Door		2 EA
Exterior Finish		Stainless Steel
Interior Finish		Stainless Steel
3. Sizes		
Exterior Dimensions	Width(Inches)	54
	Depth(Inches)	31
	Height(Inches)	82 3/8
Net Weight	LBS	348

Model – STM72R



1. Technical Specifications		
Amp	115V	11.1A
Connection		15 Amp Plug
Refrigerant	Name	R-134a
	Q'ty(oz)	20.3
	Q'ty(gram)	575
	HP	5/8
	Compressor	Samsung
2. Function Specifications		
Temp Range	°F	29 ~ 39
Capacity	Cubic Feet	72
Climate		N
Max Ambient Temp	°F	89.6
	°F	59
Castor Front	4" Move	3 EA
Castor Rear	4" Stop	3 EA
Shelves		9 EA
Door		3 EA
Exterior Finish		Stainless Steel
Interior Finish		Stainless Steel
3. Sizes		
Exterior Dimensions	Width(Inches)	81
	Depth(Inches)	31
	Height(Inches)	82 3/8
Net Weight	LBS	503

■ Model – STM23F



1. Technical Specifications

Amp	115V	8.0A
Connection		15 Amp Plug
Refrigerant	Name	R-404A
	Q'ty(oz)	5.1
	Q'ty(gram)	145
	HP	1/2
Compressor	Samsung	SC12CLX.2

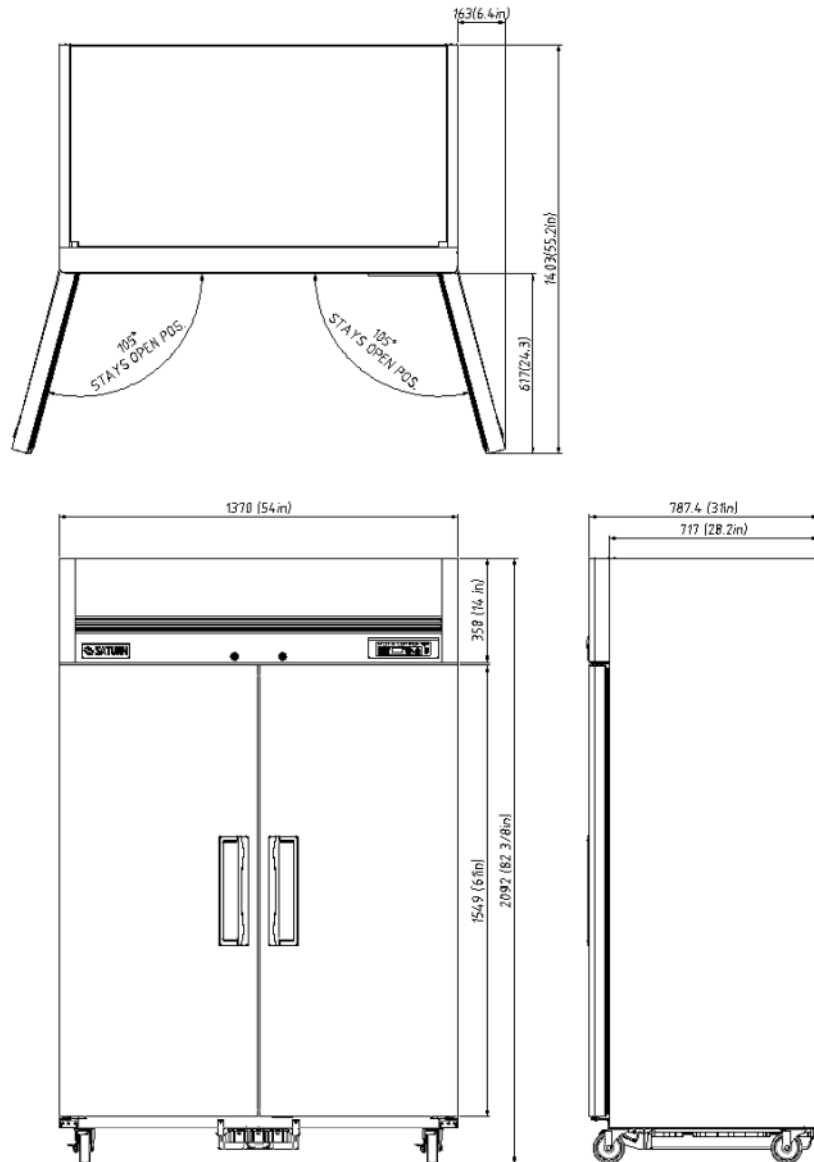
2. Function Specifications

Temp Range	°F	-9 ~ 5
Capacity	Cubic Feet	23
Climate		N
Max Ambient Temp	°F	89.6
	°F	59
Castor Front	4" Move	2 EA
Castor Rear	4" Stop	2 EA
Shelves		3 EA
Door		1 EA
Exterior Finish		Stainless Steel
Interior Finish		Stainless Steel

3. Sizes

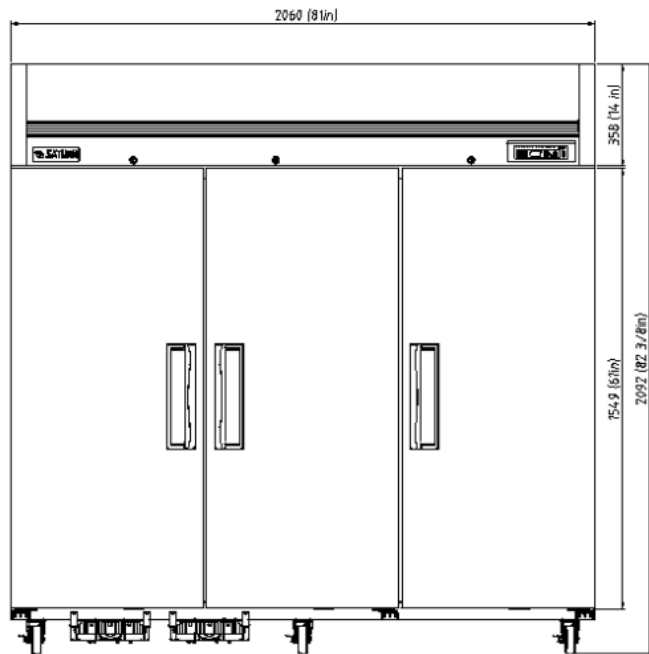
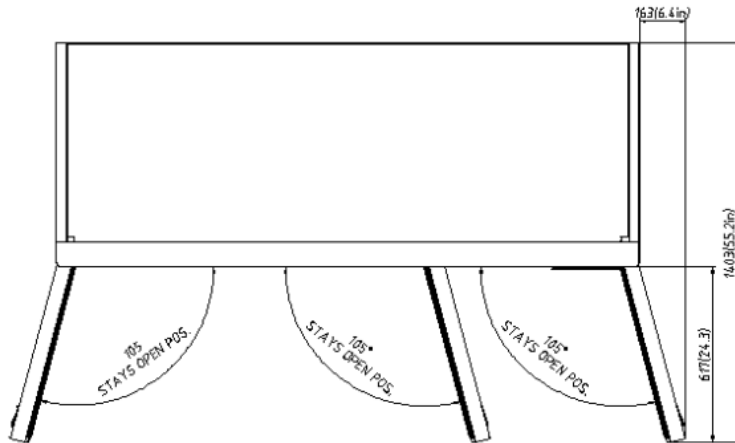
Exterior Dimensions	Width(Inches)	26 3/4
	Depth(Inches)	31
	Height(Inches)	82 3/8
Net Weight	LBS	248

■ Model – STM49F



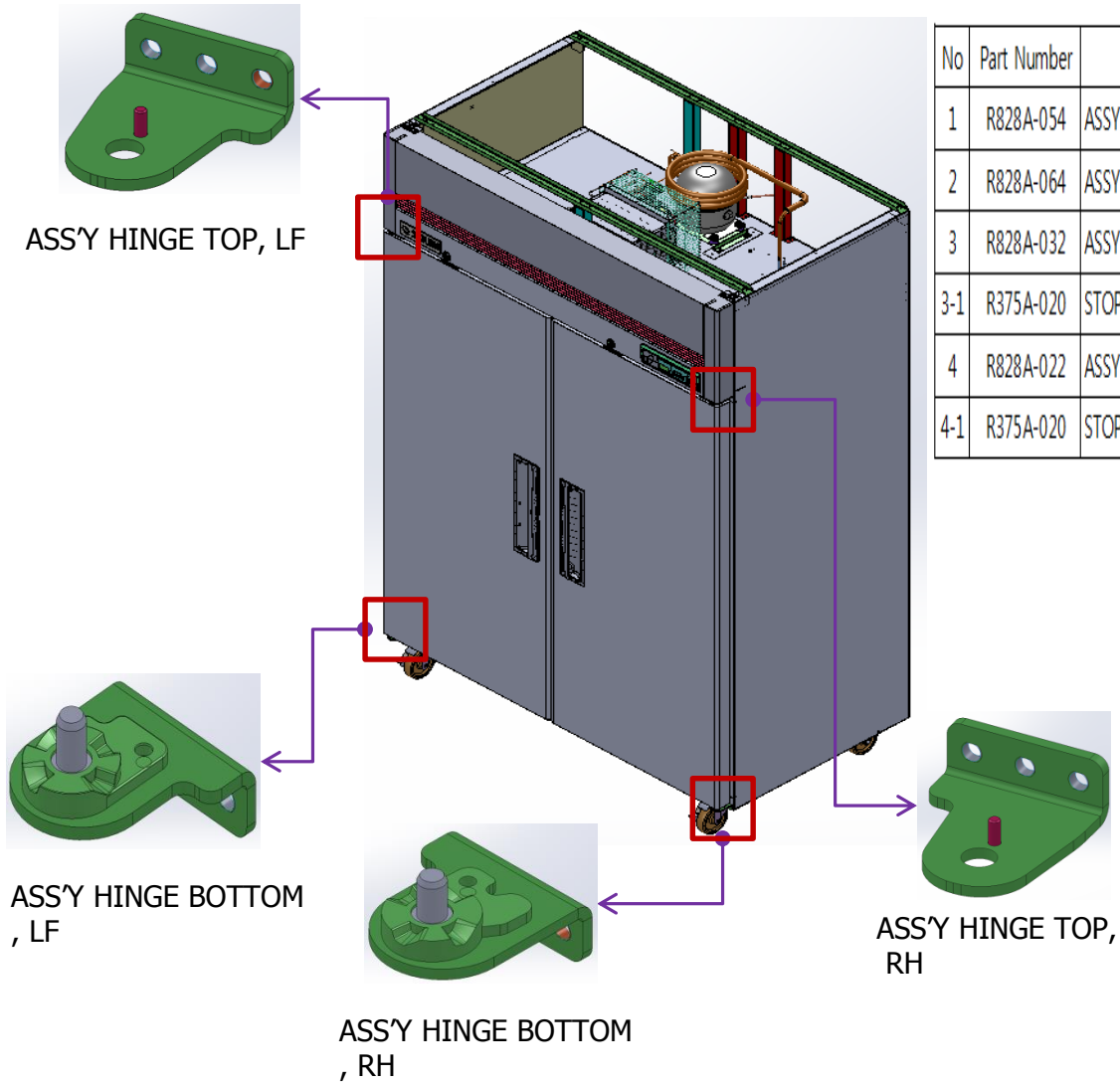
1. Technical Specifications		
Amp	115V	10.5A
Connection		15 Amp Plug
Refrigerant	Name	R-404A
	Q'ty(oz)	20.1
	Q'ty(gram)	570
	HP	3/4
Compressor	Samsung	SC18CLX.2
2. Function Specifications		
Temp Range	°F	-9 ~ 5
Capacity	Cubic Feet	49
Climate		N
Max Ambient Temp	°F	89.6
	°F	59
Castor Front	4" Move	2 EA
Castor Rear	4" Stop	2 EA
Shelves		6 EA
Door		2 EA
Exterior Finish		Stainless Steel
Interior Finish		Stainless Steel
3. Sizes		
Exterior Dimensions	Width(Inches)	54
	Depth(Inches)	31
	Height(Inches)	82 3/8
Net Weight	LBS	381

Model – STM72F



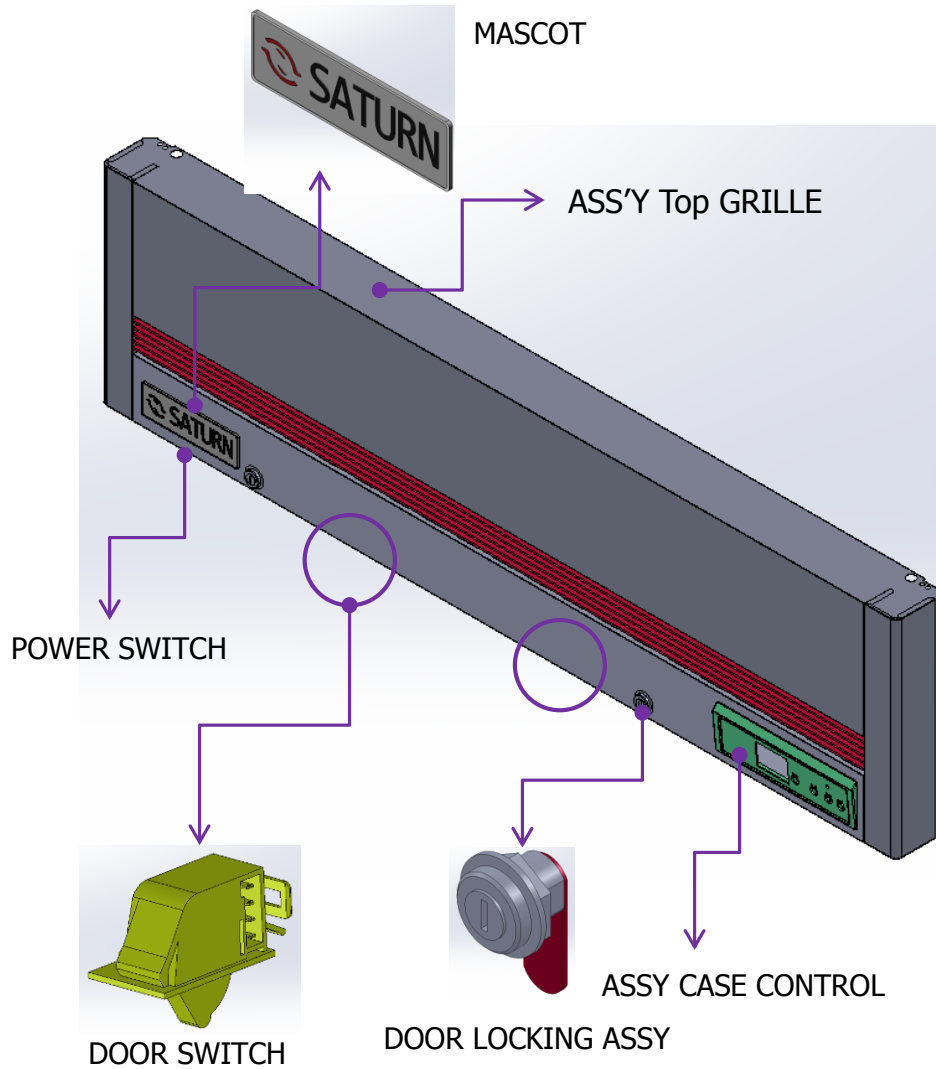
1. Technical Specifications		
Amp	115V	8.7A/4.9A
Connection		15 Amp Plug
Refrigerant	Name	R-404A
	Q'ty(oz)	26.5
	Q'ty(gram)	750
	HP	1
	Compressor	Samsung
2. Function Specifications		
Temp Range	°F	-9 ~ 5
Capacity	Cubic Feet	72
Climate		N
Max Ambient Temp	°F	89.6
	°F	59
Castor Front	4" Move	3 EA
Castor Rear	4" Stop	3 EA
Shelves		9 EA
Door		3 EA
Exterior Finish		Stainless Steel
Interior Finish		Stainless Steel
3. Sizes		
Dimensions	Width(Inches)	81
	Depth(Inches)	31
	Height(Inches)	82 3/8
	Net Weight	LBS

■ Cabinet - 1



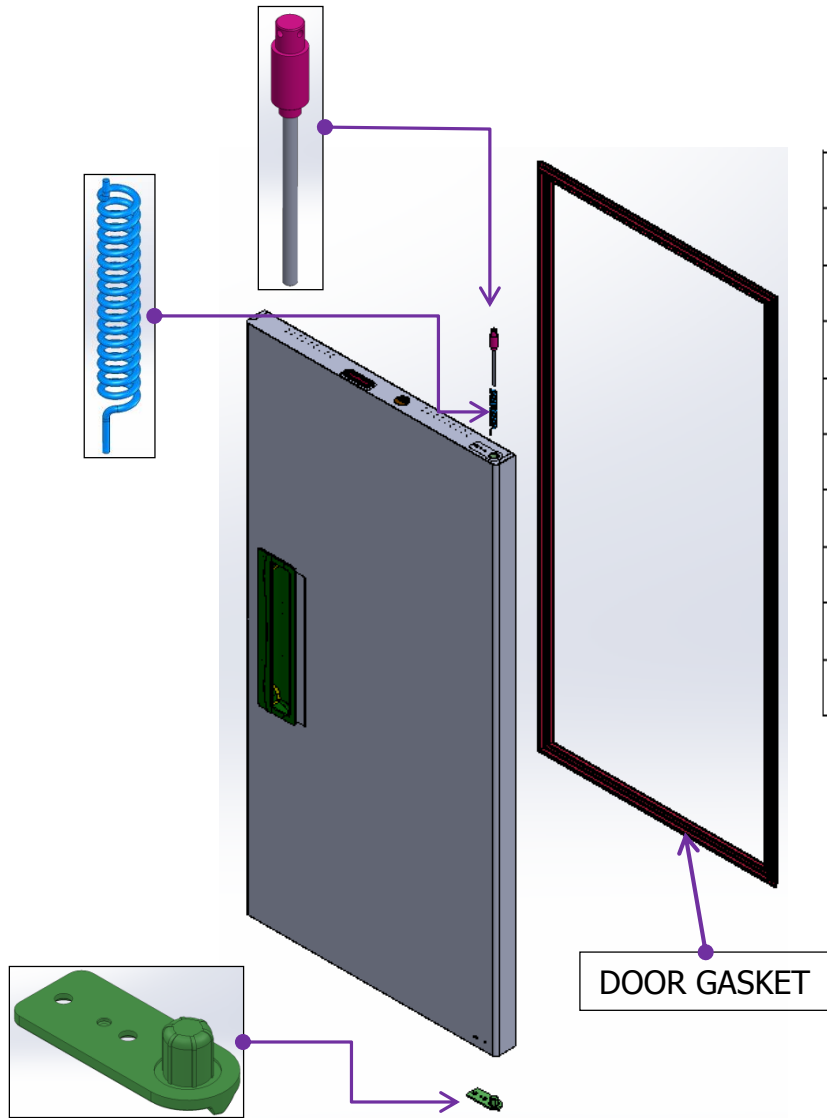
No	Part Number	Part Name	Description	STM23R	STM23F	STM49R	STM49F	STM72R	STM72F
1	R828A-054	ASSY HINGE TOP LF	STS304 T=4.0			1	1	1	1
2	R828A-064	ASSY HINGE TOP RH	STS304 T=4.0	1	1	1	1	2	2
3	R828A-032	ASSY HINGE BOTTOM LF	STS304 T=4.0			1	1	1	1
3-1	R375A-020	STOPPER HINGE LF	POM(FW700S) 45.5*31*8			1	1	1	1
4	R828A-022	ASSY HINGE BOTTOM RH	STS304 T=4.0	1	1	1	1	2	2
4-1	R375A-020	STOPPER HINGE LF	POM(FW700S) 45.5*31*8	1	1	1	1	2	2

■ Top Grille



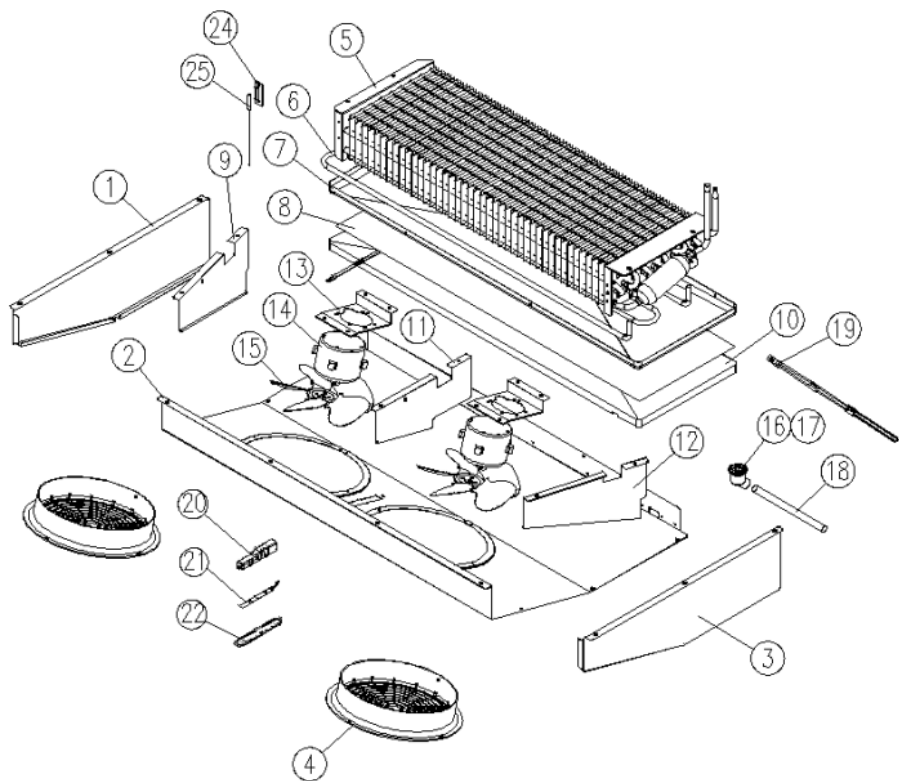
No	Part Number	Part Name	Description	STM23R	STM23F	STM49R	STM49F	STM72R	STM72F
1	R8249-630	TOP GRILL AS T23	SATURN, Top Mount, R10,	1	1				
2	R8249-640	TOP GRILL AS T49	SATURN, Top Mount, R10,			1	1		
3	R818A-030	TOP GRILL AS T72	SATURN, Top Mount, R10,					1	1
4	R4142-123	CONTROL BOARD	ABS, BM/TM T2*242*72	1	1	1	1	1	1
5	R7129-550	FRONT PCB-88 DP1	TM 23,49,72, 88 DISPLAY	1	1	1	1	1	1
6	R7613-860	HARNESS F-PCB 8P B	AWG24. 8P. L450	1	1	1	1	1	1
7	R7613-880	HARNESS F-PCB 10P B	AWG24. 10P. L450	1	1	1	1	1	1
8	R7203-020	DOOR SWITCH	WHT SP201R-9D	1	1	2	2	3	4
9	R7204-070	POWER SWITCH	SL112A, 125V 15A	1	1	1	1	1	1
10	R3734-030	DOOR LOCKING ASSY	ZDC, ZCR	1	1	2	2	3	4
11	R514A-044	MASCOT (SATURN)	AL T3.5 165*50	1	1	1	1	1	1
12	R4103-710	INLAY CONTROL	88 DISPLAY-DP1, TOP MOUNT	1	1	1	1	1	1

■ DOOR



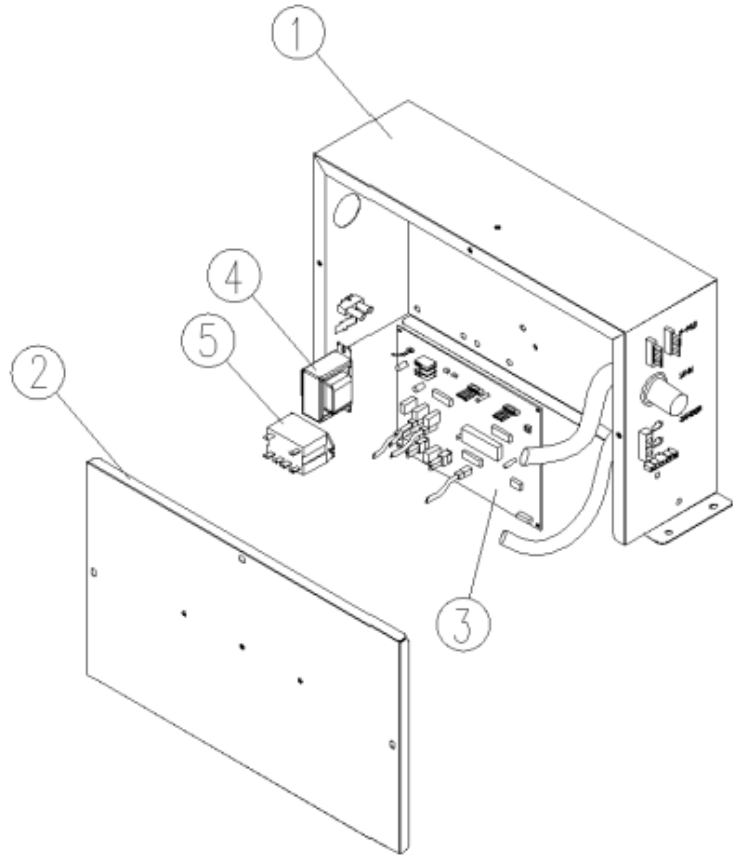
No	Part Number	Part Name	Description	STM23R	STM23F	STM49R	STM49F	STM72R	STM72F
1	R817A-152	ASSY DOOR LF_TM	SOLID DOOR R10_SATURN			1	1	1	1
2	R858A-410	SHAFT TOP HINGE AS	SUM24L, $\phi 15 \times 114$			1	1	1	1
3	R374A-012	SPRING DOOR LF	PW-C $\phi 2.3$ PINK COLOR			1	1	1	1
4	R375A-042	STOPPER DOOR LF	POM(FW700S)			1	1	1	1
5	R817A-162	ASSY DOOR RH_TM	SOLID DOOR R10_SATURN	1	1	1	1	2	2
6	R858A-410	SHAFT TOP HINGE AS	SUM24L, $\phi 15 \times 114$	1	1	1	1	2	2
7	R374A-022	SPRING DOOR RH	PW-C $\phi 2.3$	1	1	1	1	2	2
8	R375A-032	STOPPER DOOR RH	POM(FW700S)	1	1	1	1	2	2
9	R338A-010	GASKET DOOR TM	PVC(LS100 LG) 1517*615	1	1	2	2	3	3

■ Evap. Cover & Evaporator Part _ STM49F



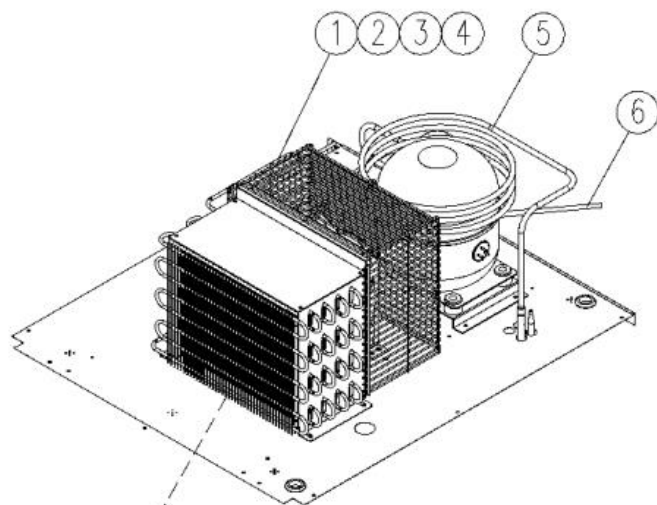
NO.	Model Code	Description	Qty	Material	Spec
1	R3853-600	Evap Cover Support LF	1	STS443CT-2B	T=0.5, 179x519
2	R3813-560	Eva Cover T49F	1	STS443CT-2B	T=0.5, 845x522
3	R3853-590	Evap Cover Support LF	1	STS443CT-2B	T=0.5, 179x519
4	R3812-141	Evaporator Fan motor Guard	2	HIPS	VH-1800EX
5	R2263-062	Evaporator Assy	1	-	-
6	R7313-440	Defrost Heater 60	1	-	115V 900W 14.7Ω
7	R7313-431	Evaporator Drain Fan-Large	1	AL(Coating)	-
8	R7313-431	Heater Drain Pan	1	-	115V 90W
9	R3853-580	Evap Air Guide Left	1	STS443CT-2B	T=0.5, 255.3x155.6
10	R1143-212	Evaporator Drain Insul-L	1	Foam-PS	T=17x256x800
11	R3853-610	Evap Air Guide Mid	1	STS443CT-2B	T=0.5, 245x127
12	R3853-570	Evap Air Guide Right	1	STS443CT-2B	T=0.5, 255.3x155.6
13	R3203-482	Motor Fix Bracket	2	STS430-2B	T=1.0, 90x146
14	R7423-300	Evaporator Fan Motor	2	CCW	AC115V 60Hz DAI-8204DYCA-1
15	R3729-010	Evap Fan Blade	2	CCW	8"
16	R3744-090	Evaporator Drain Elbow-Upp	1	PP	White
17	R3744-100	Evaporator Drain Elbow-Low	1	PP	White
18	R2124-021	Evaporator Drain Hose-A	1	Silicon	φ16xφ12, L=213
19	R7313-490	Heater Cord Drain Hose	1	-	115V 10W
20	R313A-050	BODY LAMP	1	MIPS	60HRI 112*20.7*21
21	R723A-040	LAMP LED ASSY	1	FR1	DC 12V LED LAMP 4P
22	R325A-141	COVER LAMP	1	PC	MILKI WHITE
24	R3314-191	Sensor Bracket	1	PP	White
25	R7213-082	Temp Thermisor,FRE	1	-	Yellow

■ ASS'Y CONTROL BOX

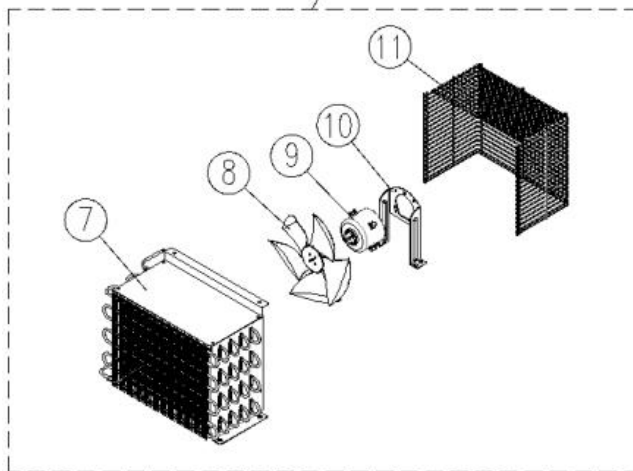


No	Part Number	Part Name	Description	STM23R	STM23F	STM49R	STM49F	STM72R	STM72F
1	R7119-873	BOX MAIN PCB	GI, T0.5*558.34*330.71	1	1	1	1	1	1
2	R7119-881	COVER MAIN PCB BOX	GI, T0.5*357.07*218.97			1	1		
3	R725A-290	MAIN PCB TMR	FR1 TM 115V °F TMR115F-00	1		1			
4	R725A-300	MAIN PCB TMF	FR1 TM 115V °F TMF115F-00		1				1
5	R725A-340	MAIN PCB TMR	FR1 TM 115V °F TMR115F-01					1	
6	R725A-350	MAIN PCB TMF	FR1 TM 115V °F TMF115F-01				1		
7	R7504-060	POWER TRANS (수출 115v)	120V/60HZ, DT-1213	1	1	1	1		
8	R738A-030	POWER TRANS (B72)	120V/60HZ DT-1215					1	1
9	R748A-020	POWER RELAY	HE1AN-Q-DC12V 30A				1	1	
10	R7253-040	POWER RELAY	OMRONG7L-2A-TUB						1
11	R7613-893	HARNESS MAIN DC TM-R	ASSY UL	1		1		1	
12	R7613-903	HARNESS MAIN DC TM-F	ASSY UL		1		1		1

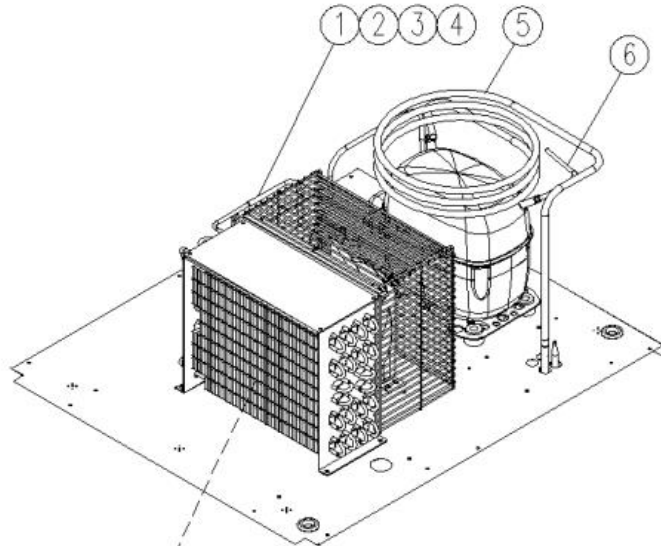
■ Machine room (Refrigeration)-1
Condensing Unit Disassembly - STM23R



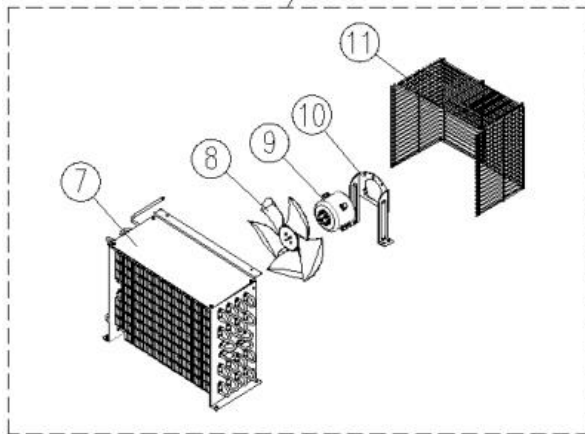
NO.	Model Code	Description	Qty	Material	Spec
1	R2113-970	Pipe Discharge	1	-	-
2	R2113-980	Pipe Connect Dryer	1	-	-
3	R2183-610	Dryer	1	-	R-134c, 36g
4	R2104-981	Pipe Dryer	1	-	-
5	R8603-830	Ass'y Suction Pipe T23R	1	-	-
6	R2104-610	Tube Vaccum	1	-	-
7	R8633-010	Condenser AS	1	-	-
8	R3723-070	Condenser Fan Blade	1	AL	9" CCW
9	R7423-311	Condenser Fan Motor	1	-	115V60Hz DAI-8204DYCA
10	R3313-260	Condenser Fan Motor B/K	1	-	-
11	R3813-150	Condenser Fan Wire	1	MSWR10	φ2.5 275x237
G1	R7519-100	Overload Protector	1	-	4TM412PFBYY-53
G2	R7543-180	PTC Relay	1	-	J531Q35E330M385-3
G3	R3213-900	Cover Relay	1	-	-



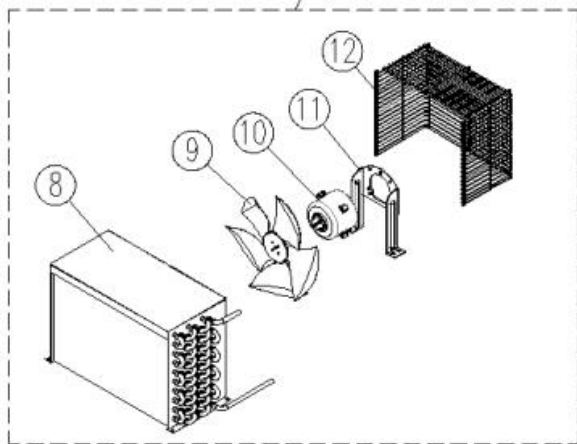
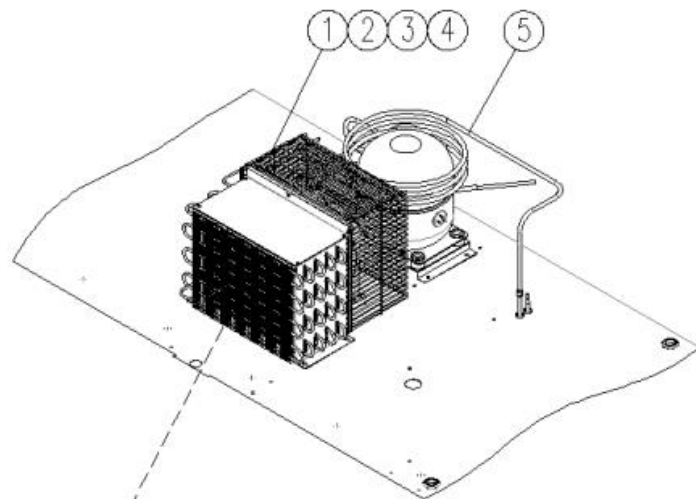
■ Machine room (Refrigeration)-2
Condensing Unit Disassembly - STM23F



NO.	Model Code	Description	Qty	Material	Spec
1	R2113-970	Pipe Discharge	1	-	-
2	R2113-980	Pipe Connect Dryer T23	1	-	-
3	R2183-610	Dryer	1	-	R-134a, 36g
4	R2104-981	Pipe Dryer	1	-	-
5	R8603-830	Ass'y Suction Pipe T23R	1	-	-
6	R2104-610	Tube Vacuum	1	-	-
7	R8633-010	Condenser AS	1	-	-
8	R3723-070	Condenser Fan Blade	1	AL	9" CCW
9	R7423-311	Condenser Fan Motor	1	-	115V60Hz DAI-8204DYCA
10	R3313-260	Condenser Fan Motor B/K	1	-	-
11	R3813-791	Condenser Fan Wire	1	MSWR10	φ2.5 275x237
G1	R3253-050	Filter Check Valve	1	Filter Form	#10, T10, Black
G2	R3253-040	Starting	1	ABS	45.5x45.5x23.5
G3	R3253-060	Packing Flap	1	PE	T4, White

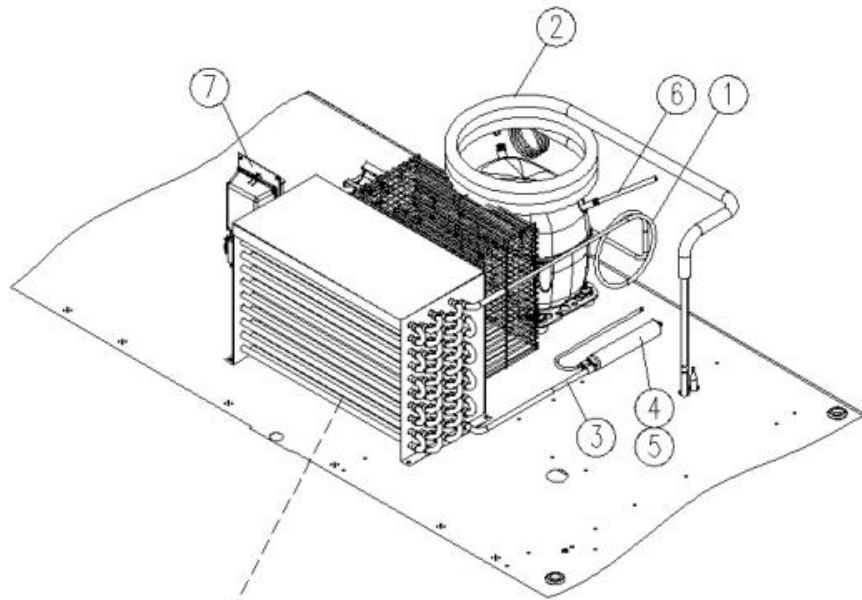


■ Machine room (Refrigeration)-3
Condensing Unit Disassembly - STM49R

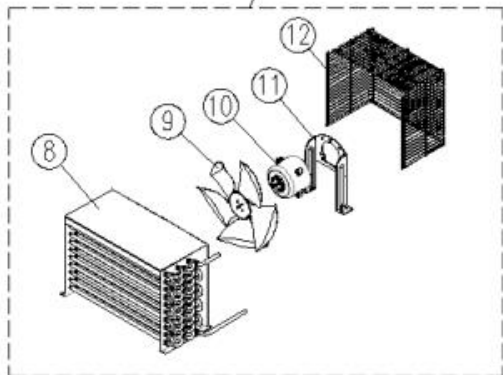


NO.	Model Code	Description	Qty	Material	Spec
1	R2113-980	Pipe Discharge	1	-	-
2	R2113-200	Pipe Connect Dryer T49R	1	-	-
3	R2183-610	Dryer	1	-	R-134a, 36g
4	R2104-981	Pipe Dryer	1	-	-
5	R8603-800	Ass'y Suction Pipe T49R	1	-	-
6	R2104-610	Tube Vaccum	1	-	-
7	R8633-010	Condenser AS	1	-	-
8	R3723-070	Condenser Fan Blade	1	AL	9" CCW
9	R7423-311	Condenser Fan Motor	1	-	115V60Hz DAI-8204DYCA
10	R3313-260	Condenser Fan Motor B/K	1	-	-
11	R3813-150	Condenser Fan Wire	1	MSWR10	ø2.5 275x237
G1	R7519-100	Overload Protector	1	-	4TM412PFBYY-53
G2	R7543-180	PTC Relay	1	-	J531Q35E330M385-3
G3	R3213-900	Cover Relay	1	-	-

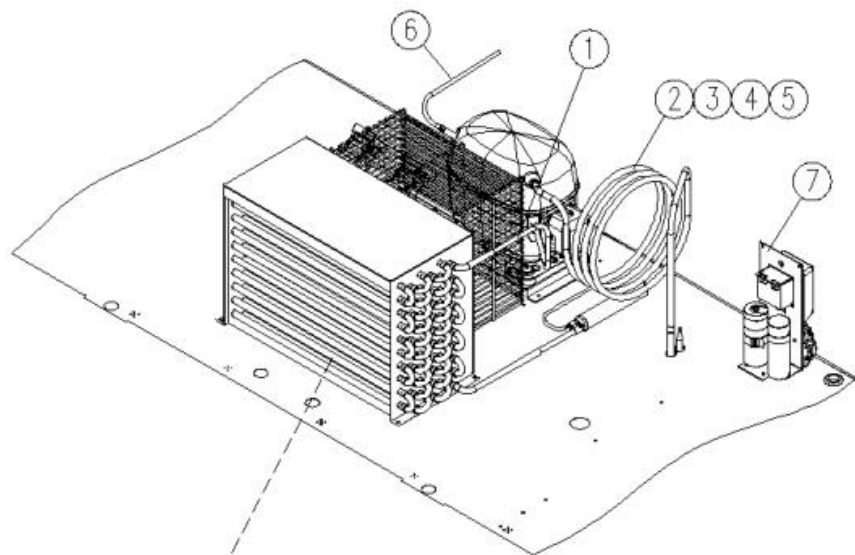
■ Machine room (Refrigeration)-4
Condensing Unit Disassembly - STM49F



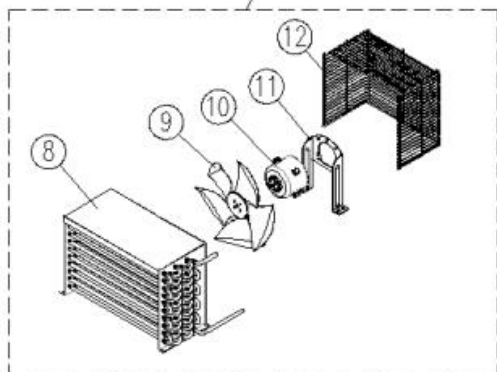
NO.	Model Code	Description	Qty	Material	Spec
1	R2113-570	DISCHARGE CONNECTOR	1	CU	-
2	R8603-813	PIPE SUCTION T49F	1	-	-
3	R2213-210	Pipe Connect Dryer T49	1	-	R-134a, 36g
4	R2183-610	Dryer	1	-	-
5	R2104-982	Pipe Dryer	1	-	-
6	R2103-230	Pipe Comp Charging	1	-	-
7	R7539-200	Starting Device	1	-	Code No : 117-7045
		Starting Capacitor	1	-	410uF
		Running Capacitor	1	-	23.5uF
8	R2272-023	Condenser AS		-	-
9	R3723-070	Condenser Fan Blade	1	AL	9" CCW
10	R7423-311	Condenser Fan Motor	1		115V60Hz DAI-8204DYCA
11	R3313-260	Condenser Fan Motor B/K	1		
12	R3813-781	Condenser Fan Wire	1	MSWR10	φ2.5



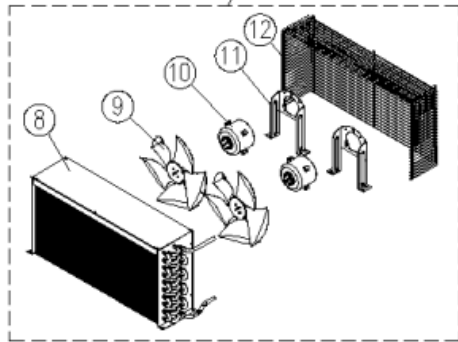
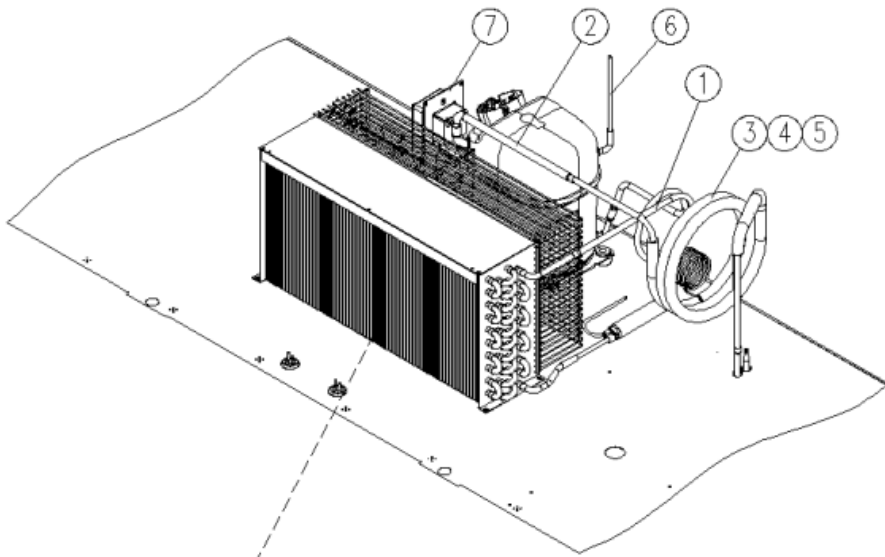
■ Machine room (Refrigeration)-5
Condensing Unit Disassembly - STM72R



NO.	Model Code	Description	Qty	Material	Spec
1	R2113-960	Pipe Discharge T49F	1	-	-
2	R845A-010	Ass'y Suction Pipe T72R	1	-	-
3	R2213-200	Pipe Connect Dryer T49	1	-	-
4	R2183-200	Dryer	1	-	R-134a, 36g
5	R2104-421	Pipe Dryer	1	-	-
6	R2114-321	COMPRESSOR CHARGING PIPE	1	-	-
7	R7539-200	Starting Device	1	-	Code No : 117-7045
		Starting Capacitor	1	-	410uF
		Running Capacitor	1	-	23.5uF
8	R2272-023	Condenser AS		-	-
9	R3723-070	Condenser Fan Blade	1	AL	9" CCW
10	R7423-311	Condenser Fan Motor	1		115V60Hz DAI-8204DYCA
11	R3313-260	Condenser Fan Motor B/K	1		
12	R3813-150	Condenser Fan Wire	1	MSWR10	ø2.5 275x237



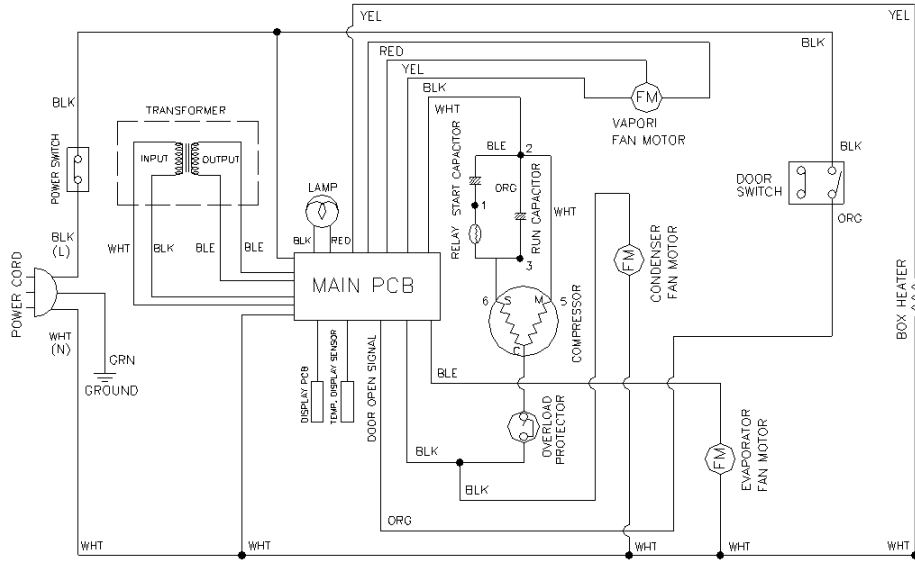
■ Machine room (Refrigeration)-6
Condensing Unit Disassembly - STM72F



NO.	Model Code	Description	Qty	Material	Spec
1	R2113-311	Condenser Connector	1	-	-
2	R2114-330	Compressor Pull Out, B	1	-	-
3	R845A-020	Ass'y Suction Pipe T72F	1	-	-
4	R2104-421	Condenser Dryer Pipe	1	-	-
5	R2183-200	Dryer Ass'y	1	-	-
6	R2114-321	Compressor Charging Pipe	1	-	-
7	R7539-200	Starting Device	1	-	Code No : 117-7045
		Starting Capacitor	1	-	410uF
		Running Capacitor	1	-	23.5uF
8	R2272-030	Condenser AS	1	-	-
9	R3723-070	Condenser Fan Blade	2	AL	9" CCW
10	R7423-311	Condenser Fan Motor	2	-	115V60Hz DAI-8204DYCA
11	R3313-260	Condenser Fan Motor B/K	2	-	-
12	R3813-770	Condenser Fan Wire-B	1	MSWR10	-

■ Circuit Diagram

CIRCUIT DIAGRAM (T23R)

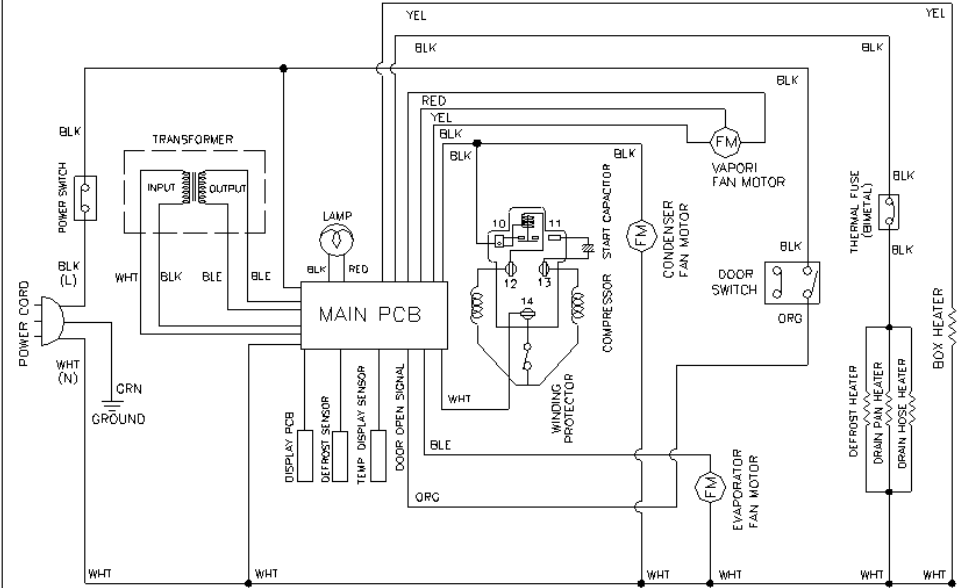


WHT - WHITE BLE - BLUE YEL - YELLOW
 BLK - BLACK ORG - ORANGE
 RED - RED GRN - GREEN

115V/60Hz

R510A-510

CIRCUIT DIAGRAM (T23F)



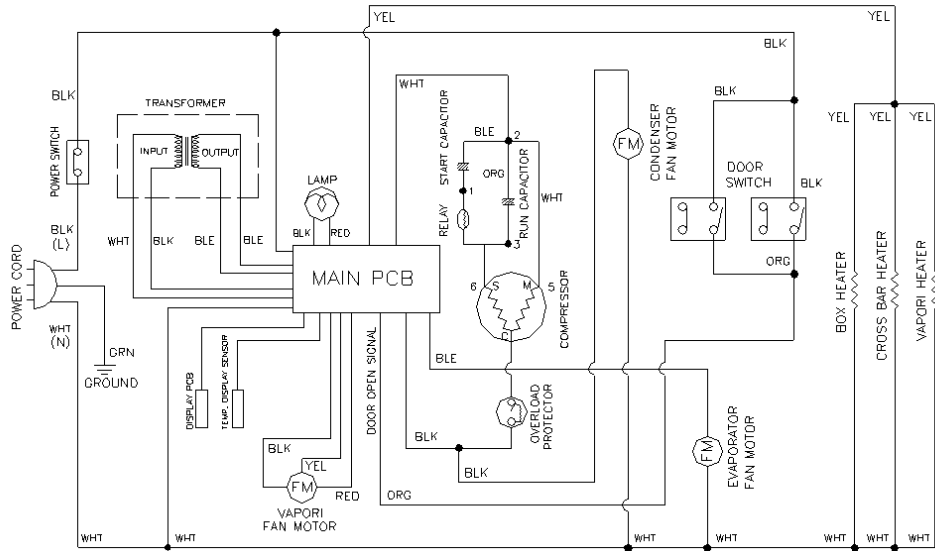
WHT - WHITE BLE - BLUE YEL - YELLOW
 BLK - BLACK ORG - ORANGE
 RED - RED GRN - GREEN

115V/60Hz

R510A-520

■ Circuit Diagram

CIRCUIT DIAGRAM (T49R)

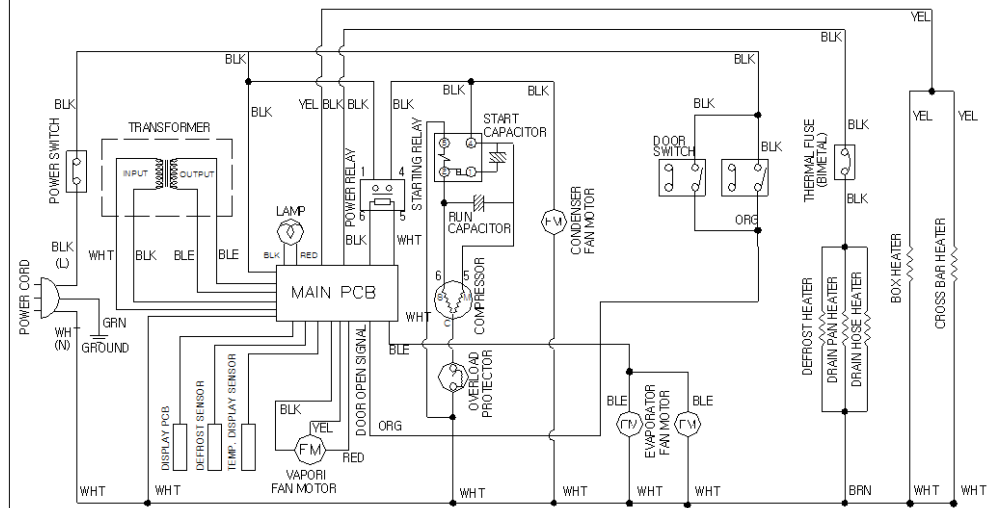


WHT - WHITE BLE - BLUE YEL - YELLOW
 BLK - BLACK ORG - ORANGE
 RED - RED GRN - GREEN

115V/60Hz

R510A-530

CIRCUIT DIAGRAM (T49F)



WHT - WHITE BLE - BLUE YEL - YELLOW
 BLK - BLACK ORG - ORANGE
 RED - RED GRN - GREEN

115V/60Hz

R510A-541

