



Commercial Side Salad & Topping Table Refrigerator Service Manual

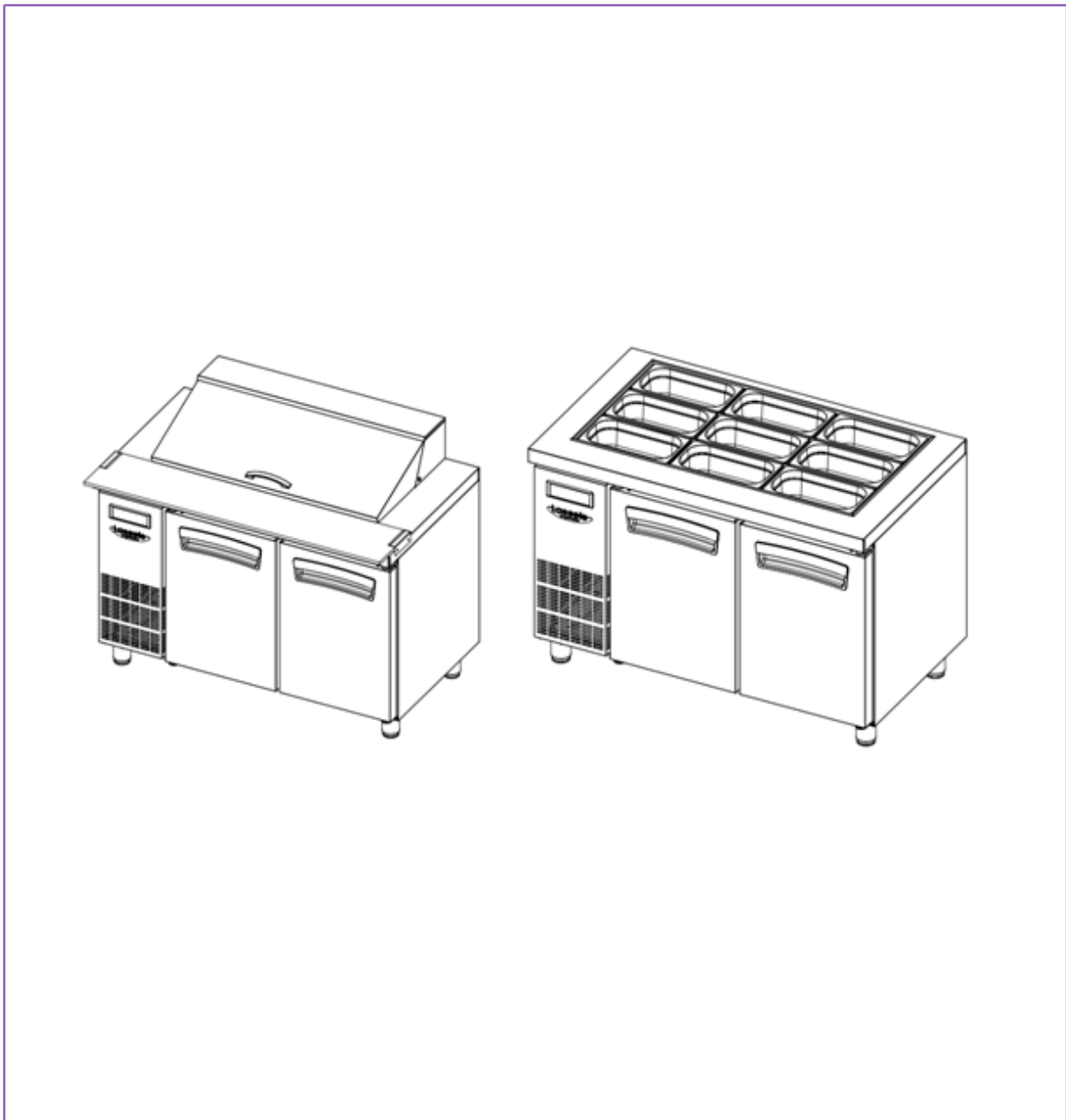


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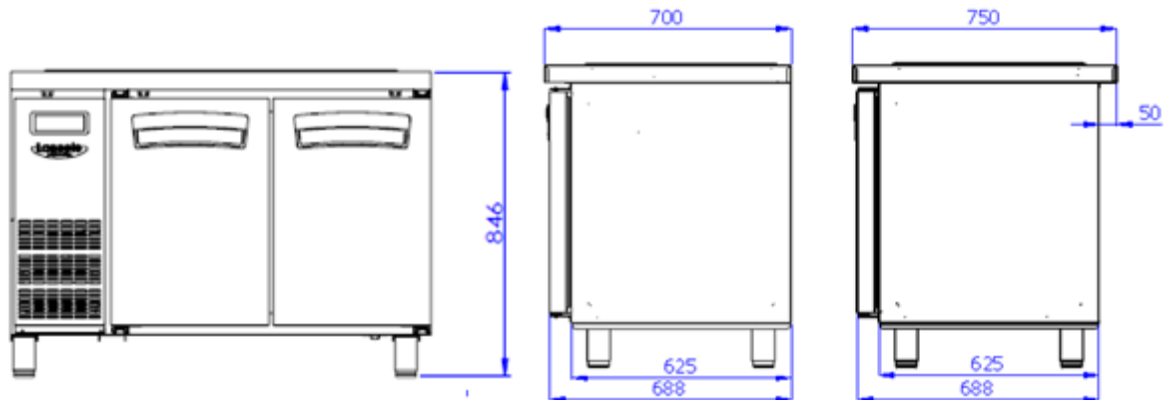
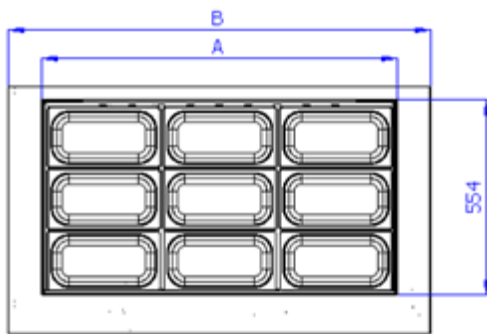
Safety cautions during service

- **When exchanging or repairing electric parts, pull the plug out before exchanging and repairing.**
- **When exchanging electric parts, use a rating part.**
 - Be sure to check marks such as MODEL name, rating voltage, rating currents, movement temperature etc.
- **During repairing, make sure wirings such as HARNESS, WIRE JOINT are sturdy so that it is free of danger due to disclosure of core wire.**
 - Don't let it derail when certain strength is put on.
- **When repairing, take out the dust or foreign body (Housing part, wiring part, contact point part).**
 - It prevents danger of fire such as TRACKING, SHORT.
- **Check whether water has gone into the electric parts.**
 - When there are traces of water, exchange the parts or enact the TRACKING prevention device.
- **After repairing, check the assembly status of the parts.**
 - Keep the status as it was before the repairing. .
- **After checking the usage environment of the product and if the installation is unstable, change the usage location.**
 - For installations in places with moisture, water and for heat devices, prevent placing products near igniting materials etc.
- **When earthing is needed, earth it.**
 - For cases when electric leakage is concerned due to moisture or water, be sure to earth it.
- **For products that consumes power such as electric products, make sure numerous plugs are not used in a single outlet.**

1. Specifications

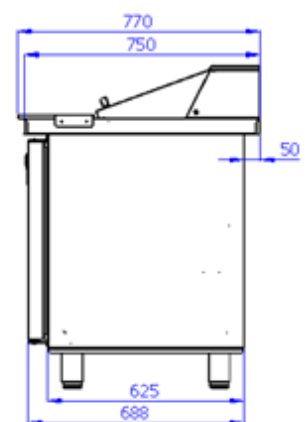
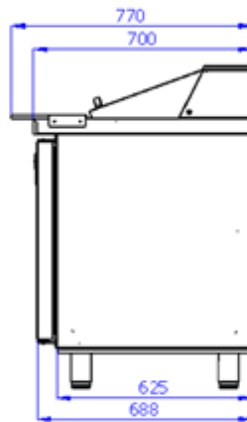
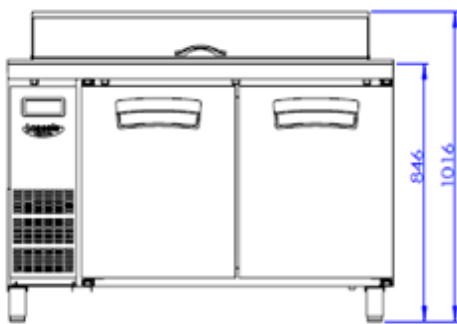
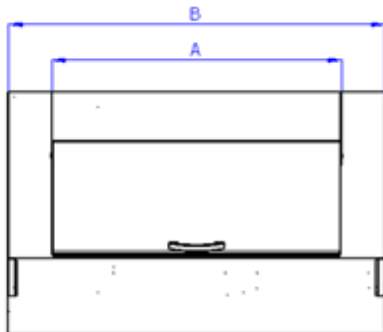
A. Salad Dimensions (Unit : mm)

| Model | A | B | Model | A | B |
|--------------|------|------|----------------|------|------|
| LSRT-1B-900 | 682 | 900 | LSRT-1B-900-G | 682 | 900 |
| LSRT-1B-900L | 682 | 900 | LSRT-1B-900L-G | 682 | 900 |
| LSRT-2B-1200 | 1012 | 1200 | LSRT-2B-1200-G | 1012 | 1200 |
| LSRT-2B-1500 | 1342 | 1500 | LSRT-2B-1500-G | 1342 | 1500 |
| LSRT-3B-1800 | 1672 | 1800 | LSRT-3B-1800-G | 1672 | 1800 |
| LSRT-1C-900 | 682 | 900 | LSRT-1C-900-G | 682 | 900 |
| LSRT-1C-900L | 682 | 900 | LSRT-1C-900L-G | 682 | 900 |
| LSRT-2C-1200 | 1012 | 1200 | LSRT-2C-1200-G | 1012 | 1200 |
| LSRT-2C-1500 | 1342 | 1500 | LSRT-2C-1500-G | 1342 | 1500 |
| LSRT-3C-1800 | 1672 | 1800 | LSRT-3C-1800-G | 1672 | 1800 |
| LSRT-1B-1200 | 1012 | 1200 | | | |
| LSRT-2B-1800 | 1672 | 1800 | | | |



B. Topping Table Dimensions (Unit : mm)

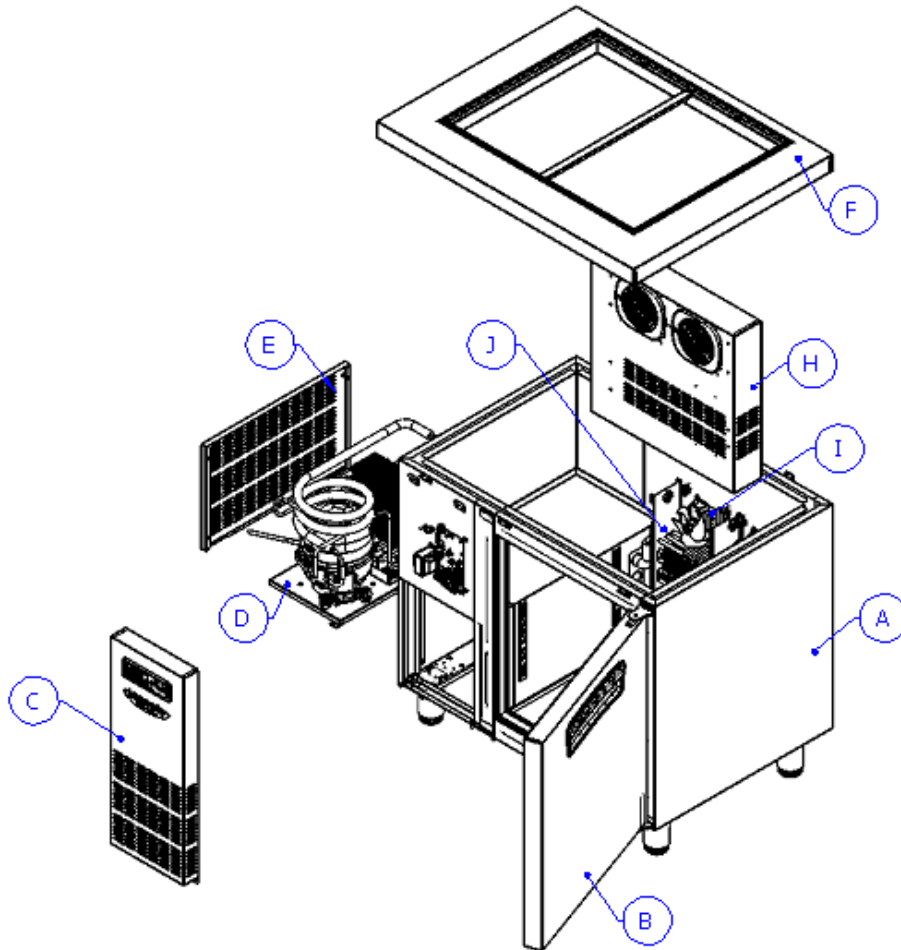
| Model | A | B | Model | A | B |
|--------------|------|------|----------------|------|------|
| LHRT-1B-900 | 682 | 900 | LHRT-1B-900-G | 682 | 900 |
| LHRT-1B-900L | 682 | 900 | LHRT-1B-900L-G | 682 | 900 |
| LHRT-2B-1200 | 1012 | 1200 | LHRT-2B-1200-G | 1012 | 1200 |
| LHRT-2B-1500 | 1342 | 1500 | LHRT-2B-1500-G | 1342 | 1500 |
| LHRT-3B-1800 | 1672 | 1800 | LHRT-3B-1800-G | 1672 | 1800 |
| LHRT-1C-900 | 682 | 900 | LHRT-1C-900-G | 682 | 900 |
| LHRT-1C-900L | 682 | 900 | LHRT-1C-900L-G | 682 | 900 |
| LHRT-2C-1200 | 1012 | 1200 | LHRT-2C-1200-G | 1012 | 1200 |
| LHRT-2C-1500 | 1342 | 1500 | LHRT-2C-1500-G | 1342 | 1500 |
| LHRT-3C-1800 | 1672 | 1800 | LHRT-3C-1800-G | 1672 | 1800 |
| LHRT-1B-1200 | 1012 | 1200 | | | |
| LHRT-2B-1800 | 1672 | 1800 | | | |



2. PART

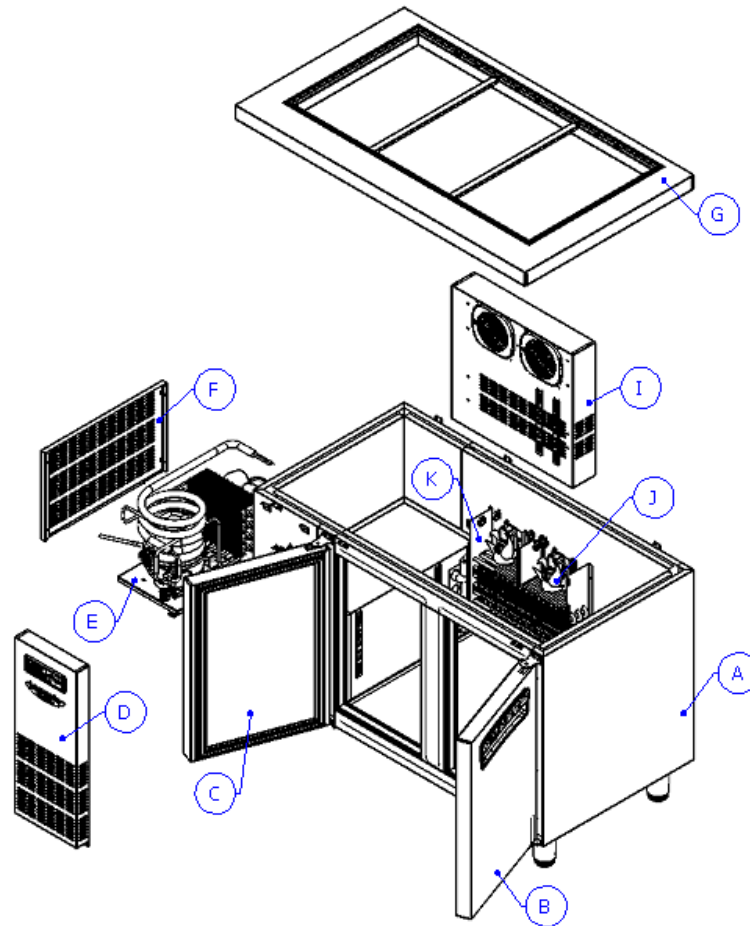
A. Main Assembly

a. LSRT-1B-900, LSRT-1C-900



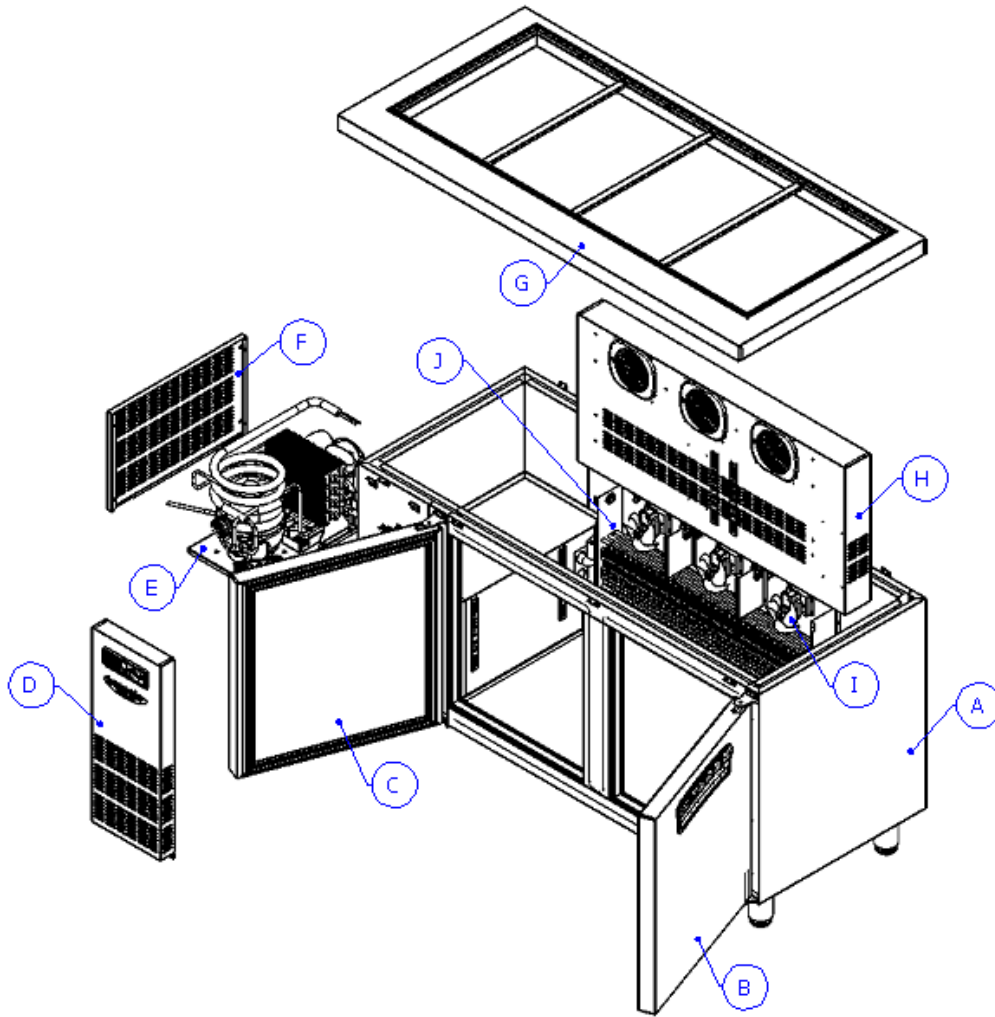
| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|------------------------------|-----|------------------|--------|
| A | R814C-060 | ASSY CABI PRE(Salad 900) | 1 | W900 Model | |
| B | R817C-170 | ASSY DOOR RH(W900) | 1 | W900 Model | |
| C | R858E-290 | COVER FRONT AS(TABLE) | 1 | Side Table | |
| D | R815A-730 | ASSY UNIT(Salad 900/1200) | 1 | NF21K5111FU, | |
| E | R325B-030 | COVER SIDE(D700) | 1 | STS430 #4 | |
| F | R875A-480 | ASSY TABLE TOP(Salad 900) | 1 | W900, D700 Model | |
| | R875A-520 | ASSY TABLE TOP(Salad 1C-900) | 1 | W900, D750 Model | |
| H | R840A-390 | ASSY EVA COVER (Salad 900) | 1 | W900 Model | |
| I | R840A-310 | ASSY EVA MOTOR | 2 | Salad & Topping | |
| J | R858E-550 | EVAPORATOR AS(Salad 900) | 1 | AL OD8, 400mm | |

b. LSRT-2B-1200, LSRT-2C-1200



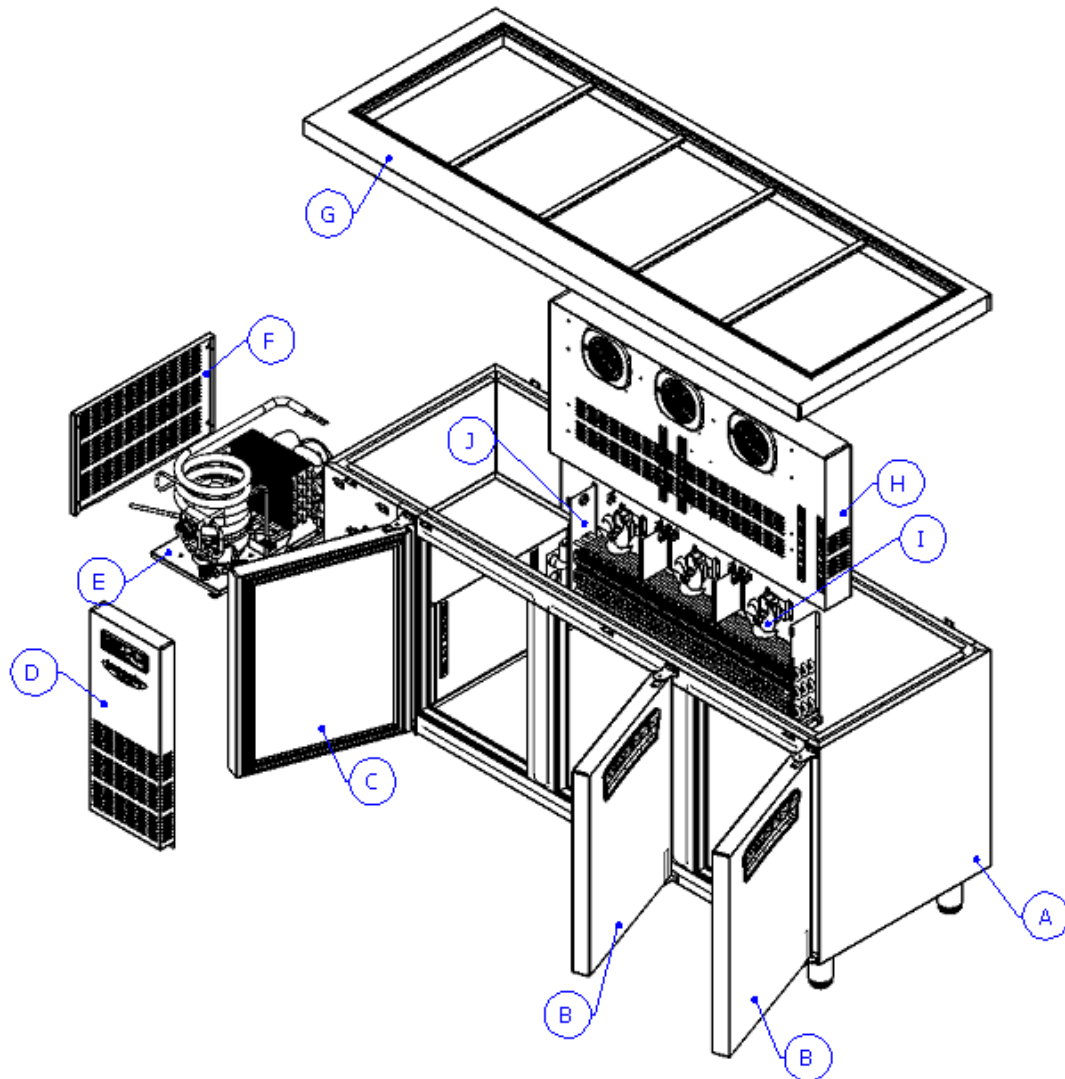
| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|-------------------------------|-----|-------------------|--------|
| A | R814C-070 | ASSY CABI PRE(Salad 1200) | 1 | W1200 Model | |
| B | R817B-890 | ASSY DOOR RH(W1200) | 1 | W1200 Model | |
| C | R817B-860 | ASSY DOOR LF(W1200) | 1 | W1200 Model | |
| D | R858E-290 | COVER FRONT AS(TABLE) | 1 | Side Table | |
| E | R815A-730 | ASSY UNIT(Salad 900/1200) | 1 | NF21K5111FU, | |
| F | R325B-030 | COVER SIDE(D700) | 1 | STS430 #4 | |
| G | R875A-490 | ASSY TABLE TOP(SALAD 1200) | 1 | W1200, D700 Model | |
| | R875A-530 | ASSY TABLE TOP(SALAD 2C-1200) | 1 | W1200, D750 Model | |
| I | R840A-280 | ASSY EVA COVER (Salad 1200) | 1 | W1200 Model | |
| J | R840A-310 | ASSY EVA MOTOR | 2 | Salad & Topping | |
| K | R858E-550 | EVAPORATOR AS(Salad 900) | 1 | AL OD8, 400mm | |

c. **LSRT-2B-1500, LSRT-2C-1500**



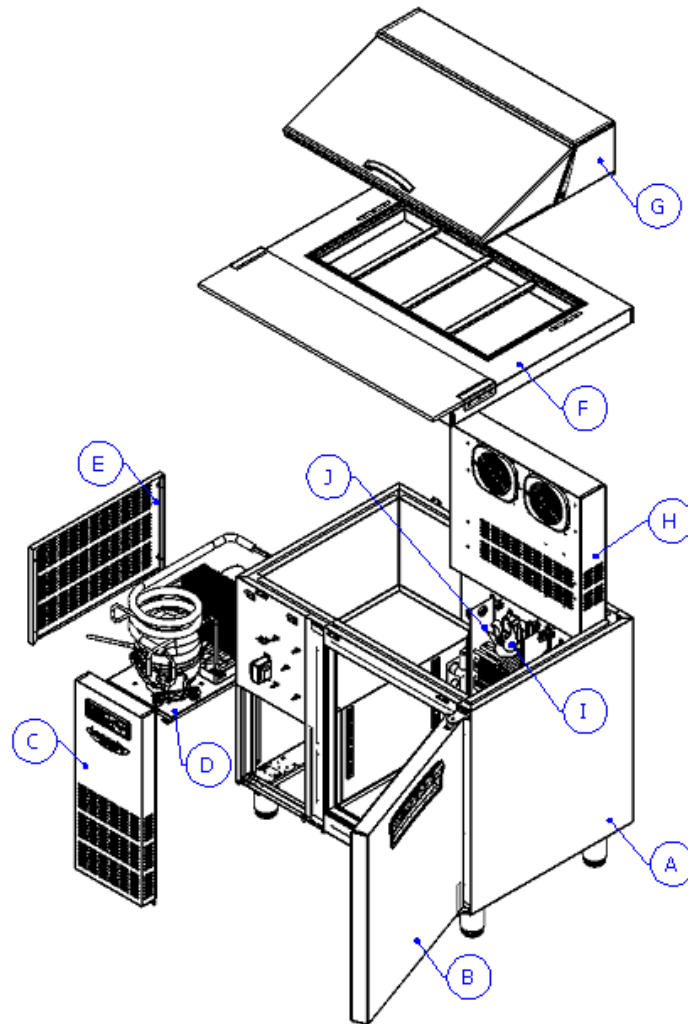
| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|-------------------------------|-----|-------------------|--------|
| A | R814C-080 | ASSY CABI PRE (SALAD 1500) | 1 | W1500 Model | |
| B | R817B-900 | ASSY DOOR RH(W1500) | 1 | W1500 Model | |
| C | R817B-870 | ASSY DOOR LF(W1500) | 1 | W1500 Model | |
| D | R858E-290 | COVER FRONT AS(TABLE) | 1 | Side Table | |
| E | R815A-740 | ASSY UNIT(Salad 1500/1800) | 1 | NF21K5131FU | |
| F | R325B-030 | COVER SIDE(D700) | 1 | STS430 #4 | |
| G | R875A-500 | ASSY TABLE TOP(Salad 1500) | 1 | W1500, D700 Model | |
| | R875A-540 | ASSY TABLE TOP(Salad 2C-1500) | 1 | W1500, D750 Model | |
| H | R840A-290 | ASSY EVA COVER (Salad 1500) | 1 | W1500 Model | |
| I | R840A-310 | ASSY EVA MOTOR | 3 | Salad & Topping | |
| J | R858E-560 | EVAPORATOR AS(Salad 1500) | 1 | AL OD8, 800mm | |

d. **LSRT-3B-1800, LSRT-3C-1800**



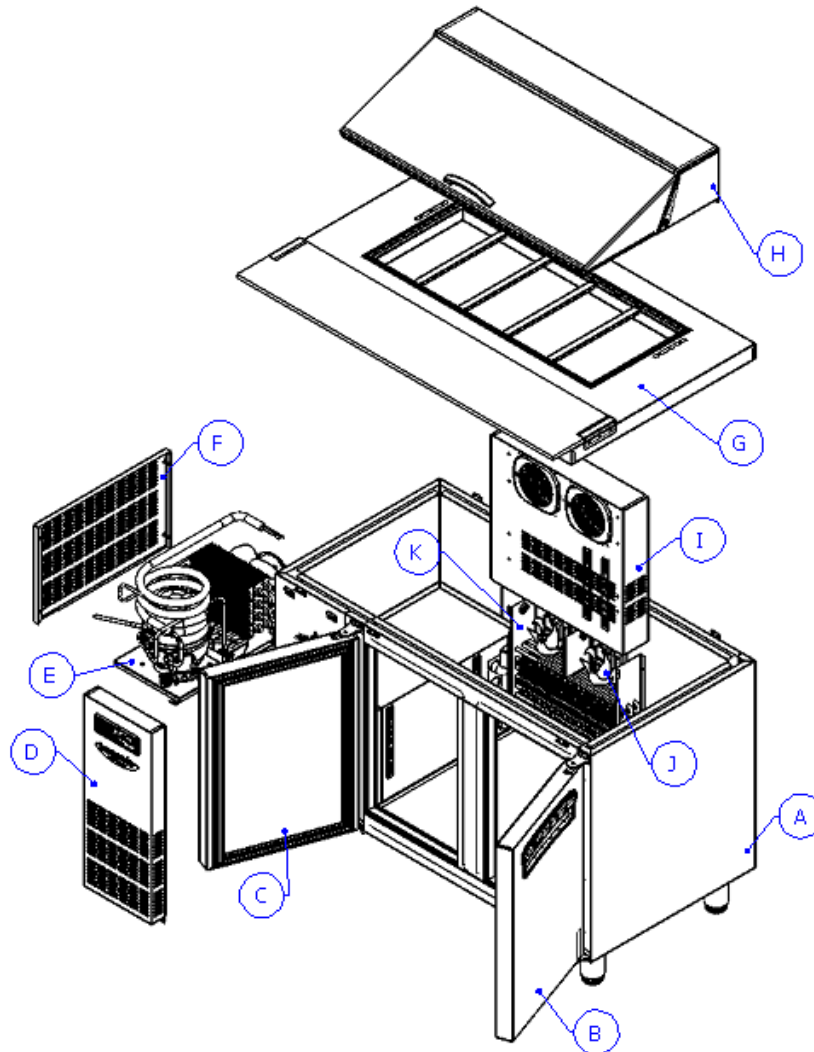
| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|-------------------------------|-----|-------------------|--------|
| A | R814C-090 | ASSY CABI PRE(Salad 1800) | 1 | W1800 Model | |
| B | R817B-910 | ASSY DOOR RH(W1800)) | 2 | W1800 Model | |
| C | R817B-880 | ASSY DOOR LF(W1800) | 1 | W1800 Model | |
| D | R858E-290 | COVER FRONT AS(TABLE) | 1 | Side Table | |
| E | R815A-740 | ASSY UNIT | 1 | NF21K5131FU | |
| F | R325B-030 | COVER SIDE(D700) | 1 | STS430 #4 | |
| G | R875A-510 | ASSY TABLE TOP(Salad 1800) | 1 | W1800, D700 Model | |
| | R875A-550 | ASSY TABLE TOP(Salad 3C-1800) | 1 | W1800, D750 Model | |
| H | R840A-300 | ASSY EVA COVER(Salad 1800) | 1 | W1800 Model | |
| I | R840A-310 | ASSY EVA MOTOR | 3 | Salad & Topping | |
| J | R858E-560 | EVAPORATOR AS(Salad 1500) | 1 | AL OD8, 800mm | |

e. **LHRT-1B-900, LHRT-1C-900**



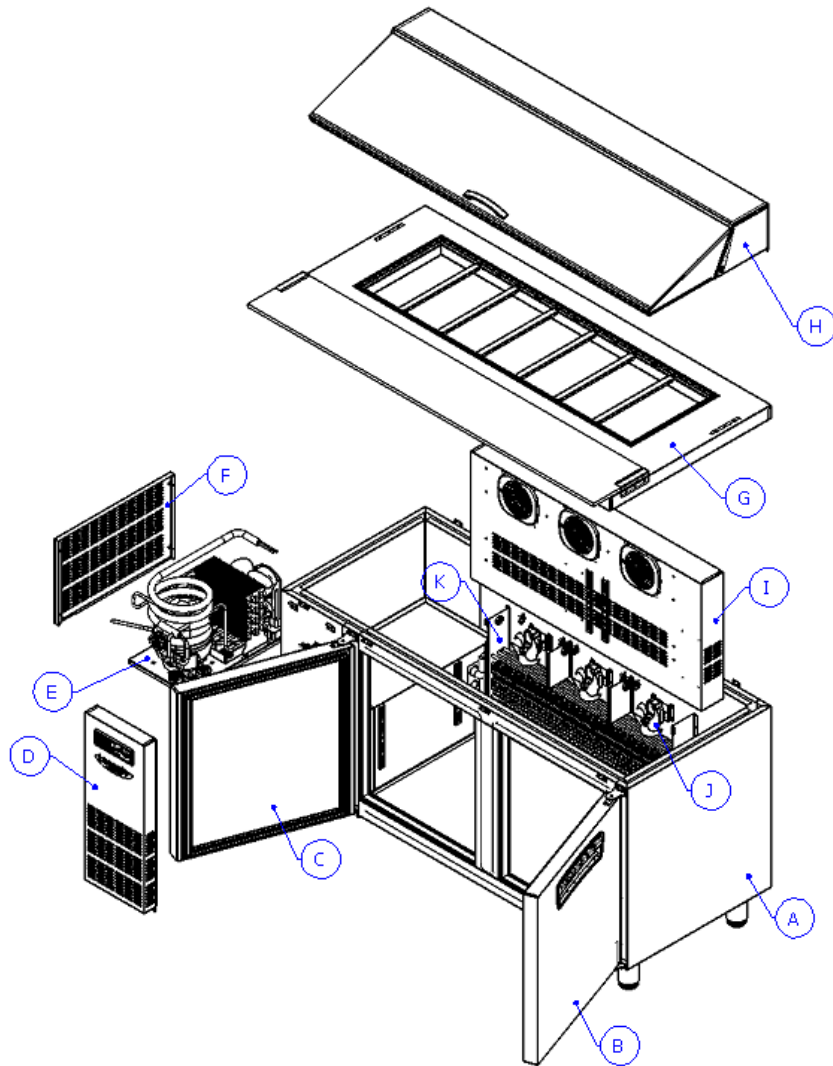
| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|--------------------------------|-----|------------------|--------|
| A | R814C-060 | ASSY CABI PRE(Salad 900) | 1 | W900 Model | |
| B | R817C-170 | ASSY DOOR RH(W900) | 1 | W900 Model | |
| C | R858E-290 | COVER FRONT AS(TABLE) | 1 | Side Table | |
| D | R815A-730 | ASSY UNIT(Salad 900/1200) | 1 | NF21K5111FU, | |
| E | R325B-030 | COVER SIDE(D700) | 1 | STS430 #4 | |
| F | R875A-560 | ASSY TABLE TOP(Topping 900) | 1 | W900, D700 Model | |
| | R875A-600 | ASSY TABLE TOP(Topping 1C-900) | 1 | W900, D750 Model | |
| G | R858E-600 | COVER TOP AS(TOPPING 900) | 1 | W900 Model | |
| H | R840A-390 | ASSY EVA COVER (Salad 900) | 1 | W900 Model | |
| I | R840A-310 | ASSY EVA MOTOR | 2 | Salad & Topping | |
| J | R858E-550 | EVAPORATOR AS(Salad 900) | 1 | AL OD8, 400mm | |

f. LHRT-2B-1200, LHRT-2C-1200



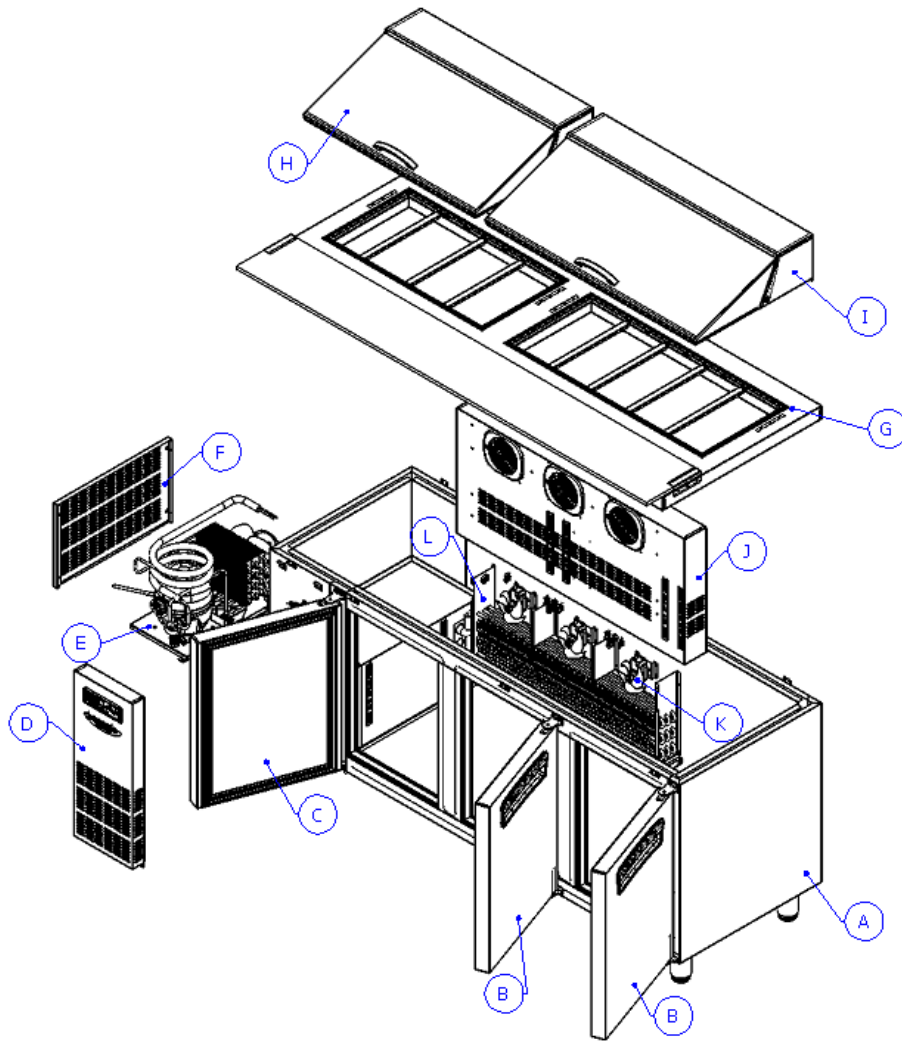
| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|---------------------------------|-----|-------------------|--------|
| A | R814C-070 | ASSY CABI PRE(Salad 1200) | 1 | W1200 Model | |
| B | R817B-890 | ASSY DOOR RH(W1200) | 1 | W1200 Model | |
| C | R817B-860 | ASSY DOOR LF(W1200) | 1 | W1200 Model | |
| D | R858E-290 | COVER FRONT AS(TABLE) | 1 | Side Table | |
| E | R815A-730 | ASSY UNIT(Salad 900/1200) | 1 | NF21K5111FU, | |
| F | R325B-030 | COVER SIDE(D700) | 1 | STS430 #4 | |
| G | R875A-570 | ASSY TABLE TOP(Topping 1200) | 1 | W1200, D700 Model | |
| | R875A-610 | ASSY TABLE TOP(Topping 2C-1200) | 1 | W1200, D750 Model | |
| H | R858D-850 | COVER AS 36S | 1 | W1200 Model | |
| I | R840A-280 | ASSY EVA COVER (Salad 1200) | 1 | W1200 Model | |
| J | R840A-310 | ASSY EVA MOTOR | 2 | Salad & Topping | |
| K | R858E-550 | EVAPORATOR AS(Salad 900) | 1 | AL OD8, 400mm | |

h. LHRT-2B-1500, LHRT-2C-1500



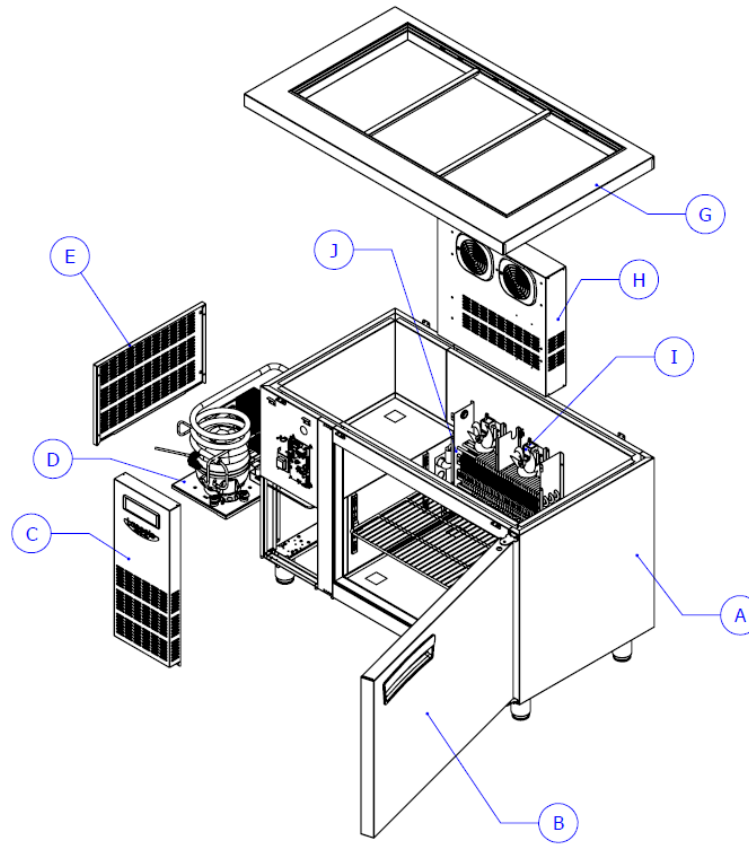
| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|---------------------------------|-----|-------------------|--------|
| A | R814C-080 | ASSY CABI PRE (SALAD 1500) | 1 | W1500 Model | |
| B | R817B-900 | ASSY DOOR RH(W1500) | 1 | W1500 Model | |
| C | R817B-870 | ASSY DOOR LF(W1500) | 1 | W1500 Model | |
| D | R858E-290 | COVER FRONT AS(TABLE) | 1 | Side Table | |
| E | R815A-740 | ASSY UNIT(Salad 1500/1800) | 1 | NF21K5131FU | |
| F | R325B-030 | COVER SIDE(D700) | 1 | STS430 #4 | |
| G | R875A-580 | ASSY TABLE TOP(Topping 1500) | 1 | W1500, D700 Model | |
| | R875A-620 | ASSY TABLE TOP(Topping 2C-1500) | 1 | W1500, D750 Model | |
| H | R858D-870 | COVER AS 60S | 1 | W1500 Model | |
| I | R840A-290 | ASSY EVA COVER (Salad 1500) | 1 | W1500 Model | |
| J | R840A-310 | ASSY EVA MOTOR | 3 | Salad & Topping | |
| K | R858E-560 | EVAPORATOR AS(Salad 1500) | 1 | AL OD8, 800mm | |

i. LHRT-3B-1800, LHRT-3C-1800



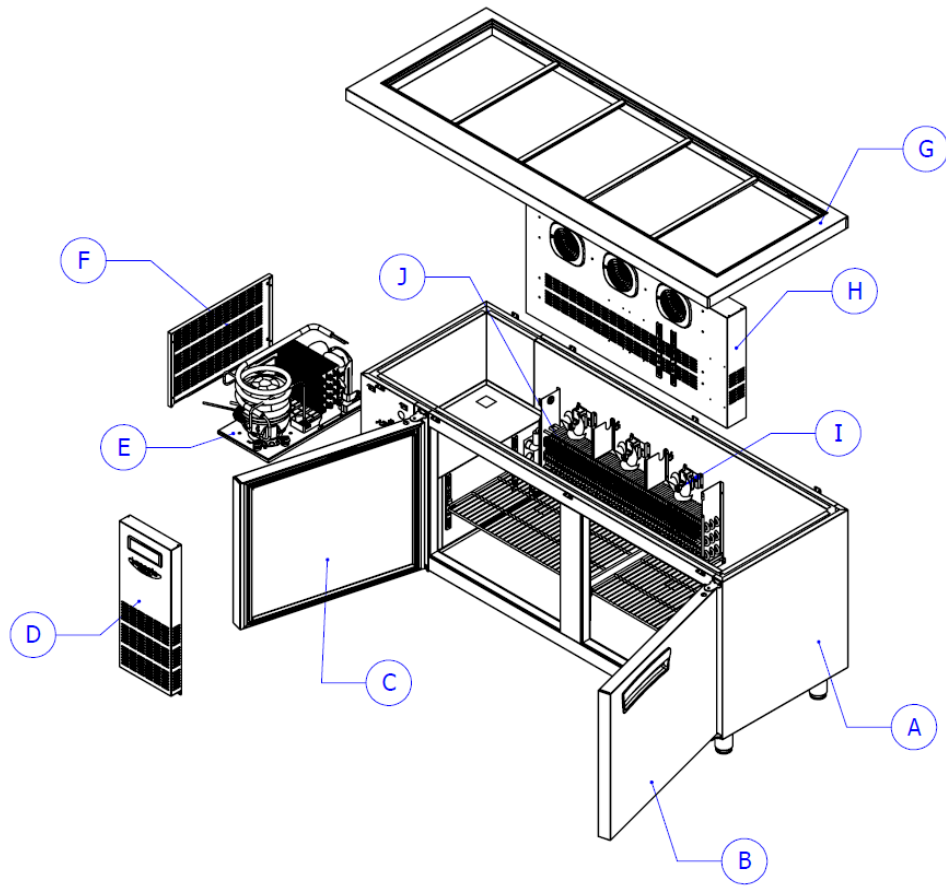
| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|---------------------------------|-----|-------------------|--------|
| A | R814C-090 | ASSY CABI PRE(Salad 1800) | 1 | W1800 Model | |
| B | R817B-910 | ASSY DOOR RH(W1800)) | 2 | W1800 Model | |
| C | R817B-880 | ASSY DOOR LF(W1800) | 1 | W1800 Model | |
| D | R858E-290 | COVER FRONT AS(TABLE) | 1 | Side Table | |
| E | R815A-740 | ASSY UNIT(Salad 1500/1800) | 1 | NF21K5131FU | |
| F | R325B-030 | COVER SIDE(D700) | 1 | STS430 #4 | |
| G | R875A-590 | ASSY TABLE TOP(Topping 1800) | 1 | W1800, D700 Model | |
| | R875A-630 | ASSY TABLE TOP(Topping 3C-1800) | 1 | W1800, D750 Model | |
| H | R858E-600 | COVER TOP AS(TOPPING 900) | 1 | W900 Model | |
| I | R858D-850 | COVER AS 36S | 1 | W1200 Model | |
| J | R840A-300 | ASSY EVA COVER(Salad 1800) | 1 | W1800 Model | |
| K | R840A-310 | ASSY EVA MOTOR | 3 | Salad & Topping | |
| L | R858E-560 | EVAPORATOR AS(Salad 1500) | 1 | AL OD8, 800mm | |

i. LSRT-1B-1200



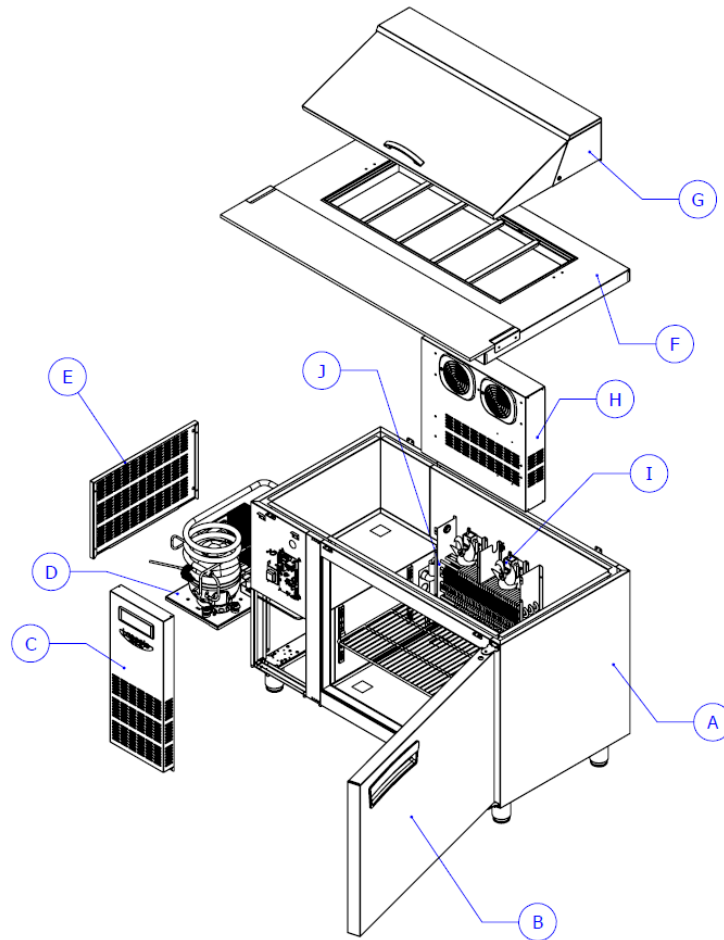
| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|-----------------------------|-----|-------------------|--------|
| A | R814C-680 | ASSY CABI PRE | 1 | W1200 Model | |
| B | R817D-230 | ASSY DOOR RH(W1200) | 1 | W1200 Model | |
| D | R858E-290 | COVER FRONT AS(TABLE) | 1 | Side Table | |
| E | R815A-730 | ASSY UNIT(Salad 900/1200) | 1 | NF21K5111FU, | |
| F | R325B-030 | COVER SIDE(D700) | 1 | STS430 #4 | |
| G | R875A-480 | ASSY TABLE TOP(Salad 900) | 1 | W1200, D700 Model | |
| I | R840A-280 | ASSY EVA COVER (Salad 1200) | 1 | W1200 Model | |
| J | R840A-310 | ASSY EVA MOTOR | 2 | Salad & Topping | |
| K | R858E-550 | EVAPORATOR AS(Salad 900) | 1 | AL OD8, 400mm | |

i. LSRT-2B-1800



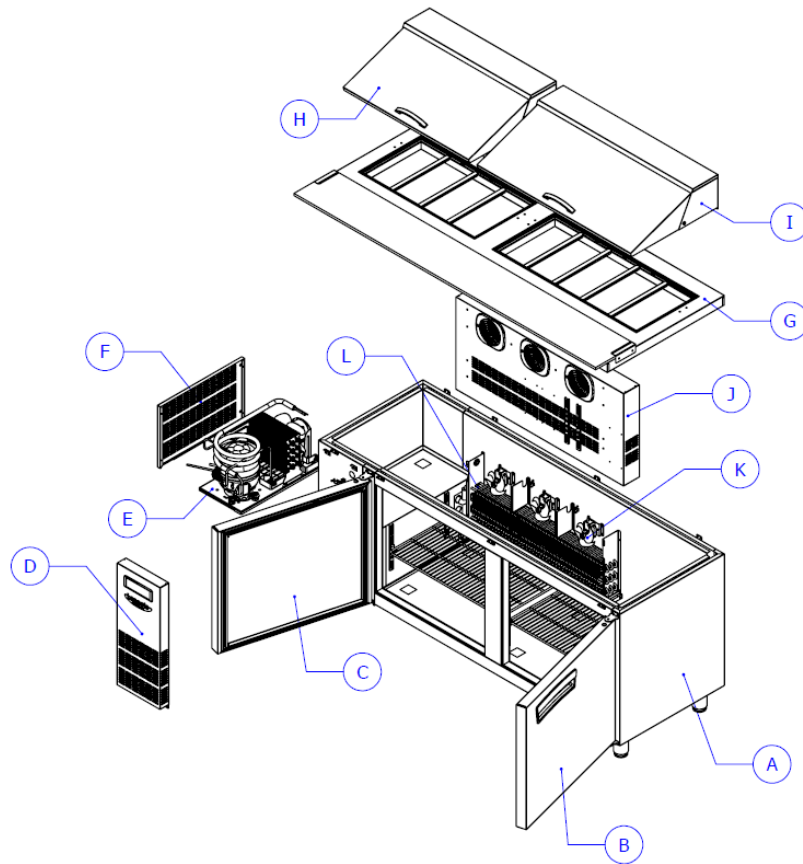
| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|-------------------------------|-----|-------------------|--------|
| A | R814C-690 | ASSY CABI PRE | 1 | W1800 Model | |
| B | R817D-240 | ASSY DOOR RH(W1800)) | 1 | W1800 Model | |
| C | R817D-250 | ASSY DOOR LF(W1800) | 1 | W1800 Model | |
| D | R858E-290 | COVER FRONT AS(TABLE) | 1 | Side Table | |
| E | R815A-740 | ASSY UNIT(Salad 1500/1800) | 1 | NF21K5131FU | |
| F | R325B-030 | COVER SIDE(D700) | 1 | STS430 #4 | |
| G | R875A-510 | ASSY TABLE TOP(Salad 1800) | 1 | W1800, D700 Model | |
| | R875A-550 | ASSY TABLE TOP(Salad 3C-1800) | 1 | W1800, D750 Model | |
| H | R840A-300 | ASSY EVA COVER(Salad 1800) | 1 | W1800 Model | |
| I | R840A-310 | ASSY EVA MOTOR | 3 | Salad & Topping | |
| J | R858E-560 | EVAPORATOR AS(Salad 1500) | 1 | AL OD8, 800mm | |

i. LHRT-1B-1200



| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|------------------------------|-----|-------------------|--------|
| A | R814C-680 | ASSY CABI PRE | 1 | W1200 Model | |
| B | R817D-230 | ASSY DOOR RH(W1200) | 1 | W1200 Model | |
| D | R858E-290 | COVER FRONT AS(TABLE) | 1 | Side Table | |
| E | R815A-730 | ASSY UNIT(Salad 900/1200) | 1 | NF21K5111FU, | |
| F | R325B-030 | COVER SIDE(D700) | 1 | STS430 #4 | |
| G | R875A-570 | ASSY TABLE TOP(Topping 1200) | 1 | W1200, D700 Model | |
| H | R858D-850 | COVER AS 36S | 1 | W1200 Model | |
| I | R840A-280 | ASSY EVA COVER (Salad 1200) | 1 | W1200 Model | |
| J | R840A-310 | ASSY EVA MOTOR | 2 | Salad & Topping | |
| K | R858E-550 | EVAPORATOR AS(Salad 900) | 1 | AL OD8, 400mm | |

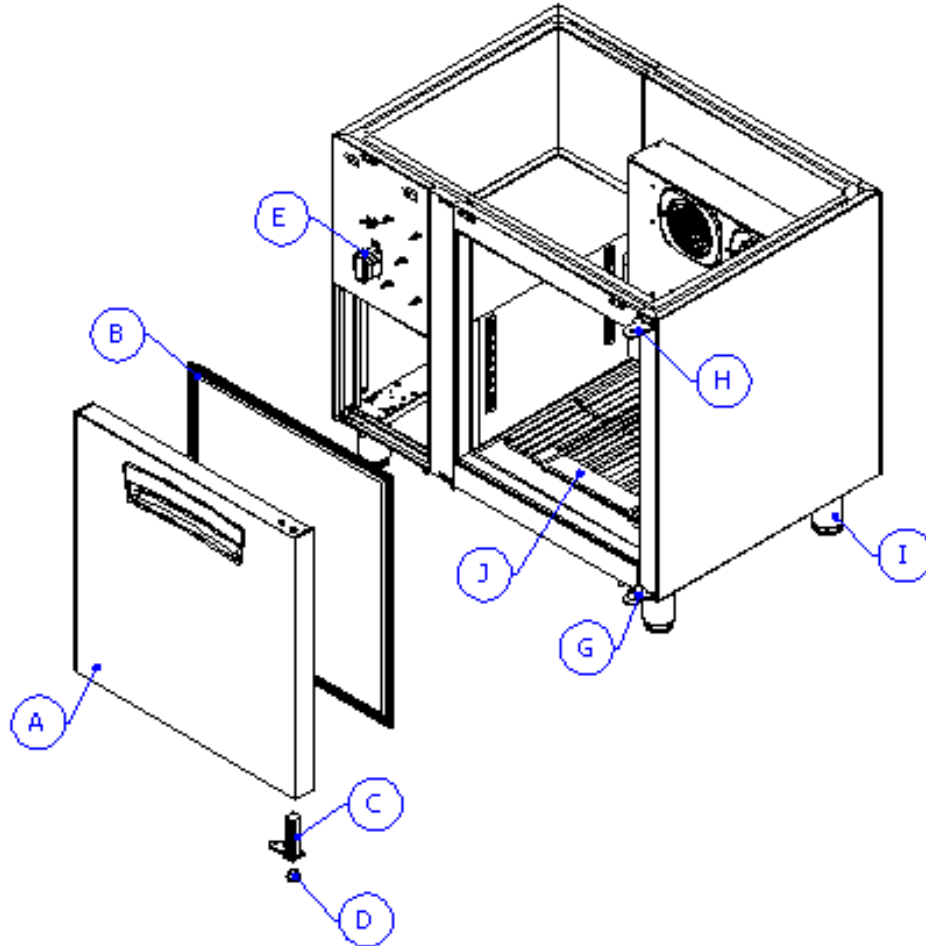
i. LHRT-2B-1800



| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|------------------------------|-----|-------------------|--------|
| A | R814C-690 | ASSY CABI PRE | 1 | W1800 Model | |
| B | R817D-240 | ASSY DOOR RH(W1800)) | 1 | W1800 Model | |
| C | R817D-250 | ASSY DOOR LF(W1800) | 1 | W1800 Model | |
| D | R858E-290 | COVER FRONT AS(TABLE) | 1 | Side Table | |
| E | R815A-740 | ASSY UNIT(Salad 1500/1800) | 1 | NF21K5131FU | |
| F | R325B-030 | COVER SIDE(D700) | 1 | STS430 #4 | |
| G | R875A-590 | ASSY TABLE TOP(Topping 1800) | 1 | W1800, D700 Model | |
| H | R858E-600 | COVER TOP AS(TOPPING 900) | 1 | W900 Model | |
| I | R858D-850 | COVER AS 36S | 1 | W1200 Model | |
| J | R840A-300 | ASSY EVA COVER(Salad 1800) | 1 | W1800 Model | |
| K | R840A-310 | ASSY EVA MOTOR | 3 | Salad & Topping | |
| L | R858E-560 | EVAPORATOR AS(Salad 1500) | 1 | AL OD8, 800mm | |

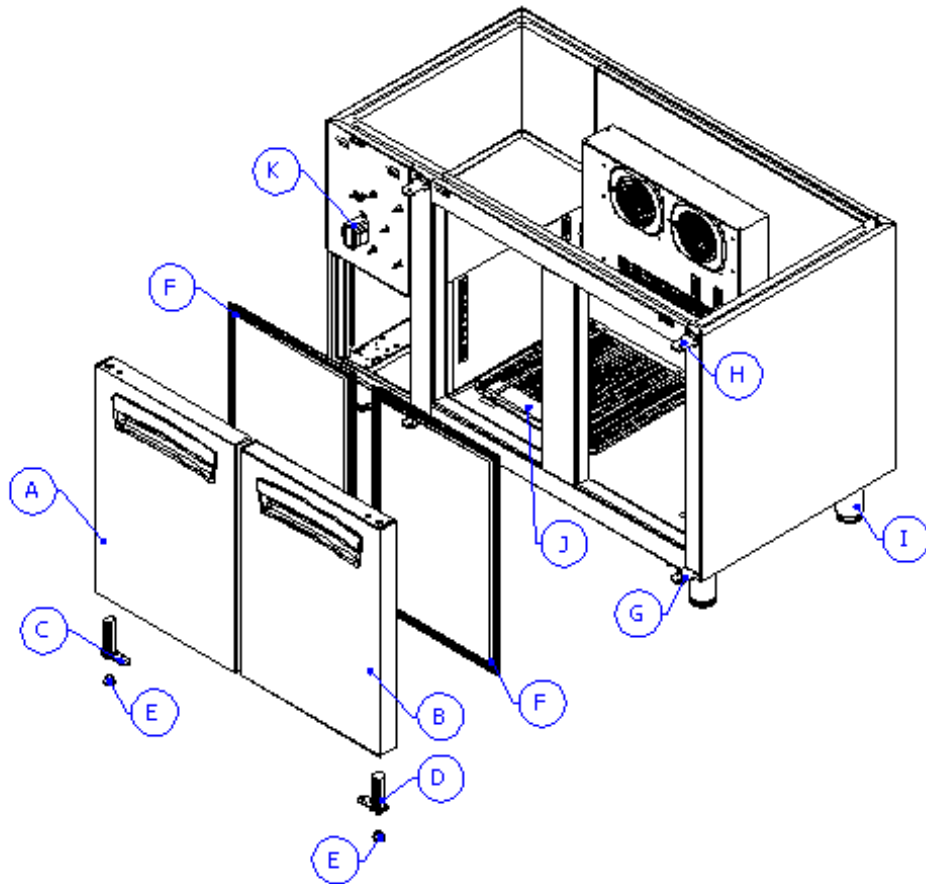
B. Body Assembly

a. LSRT/LHRT-1B/1C-900



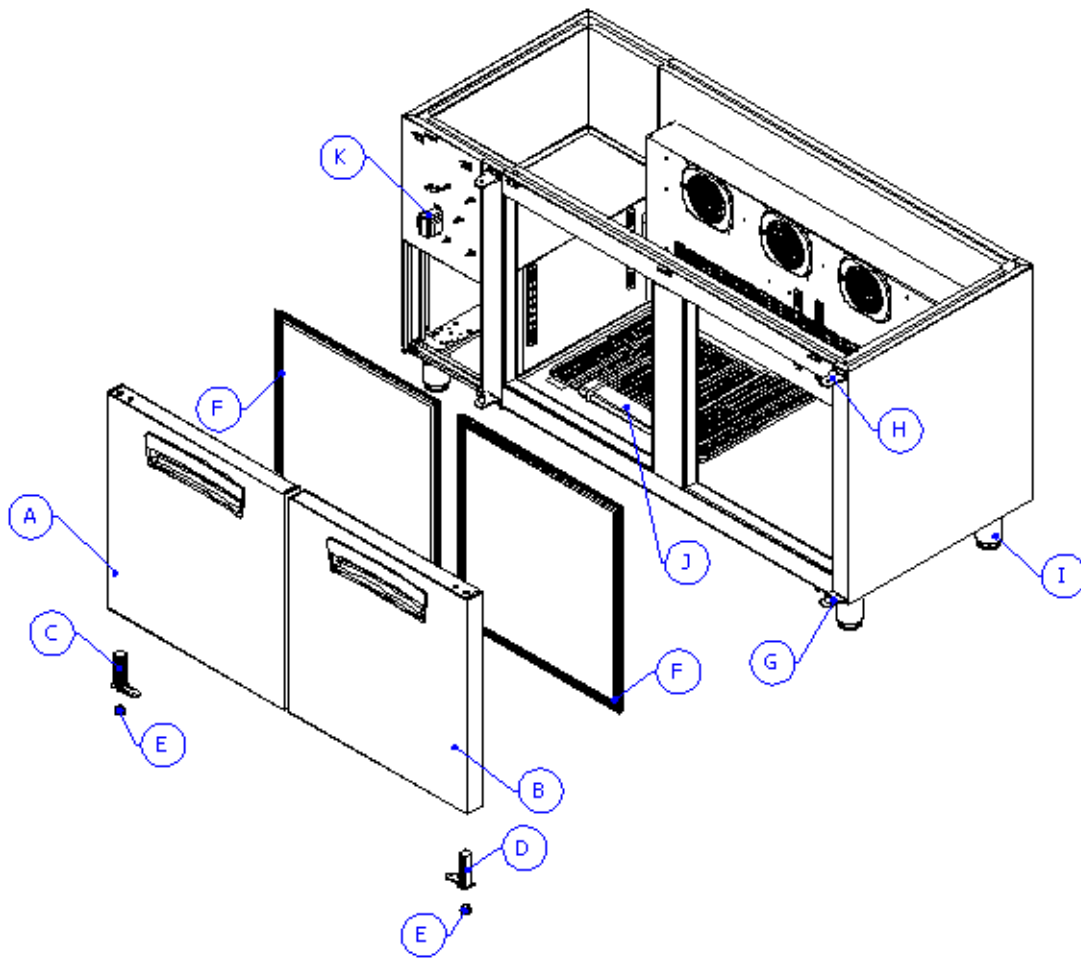
| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|-------------------------------|-----|---------------|--------|
| A | R817C-170 | ASSY DOOR RH(W900) | 1 | W900 Model | |
| B | R858E-090 | GASKET AS(W900) | 1 | W900 Model | |
| C | R828A-200 | ASSY HINGE RH | 1 | Table Model | |
| D | R316A-030 | BUSH HINGE | 1 | POM | |
| E | R7503-070 | POWER TRANS (220V) | 1 | 220V 50/60HZ | |
| F | R725C-280 | PCB MAIN(220V CELSIUS) REF | 1 | TABLE 220V °C | |
| G | R828A-170 | ASSY HINGE BKT LOW | 1 | STS304 T3.0 | |
| H | R828A-180 | ASSY HINGE BKT UPP | 1 | STS304 T3.0 | |
| I | R825A-060 | ASSY LEG BASE SIDE TABLE(4EA) | 1 | Table Model | |
| J | R834H-400 | ASSY PACKING SHELF(SALAD 900) | 1 | W900 Model | |

C. LSRT/LHRT-2B/2C-1200



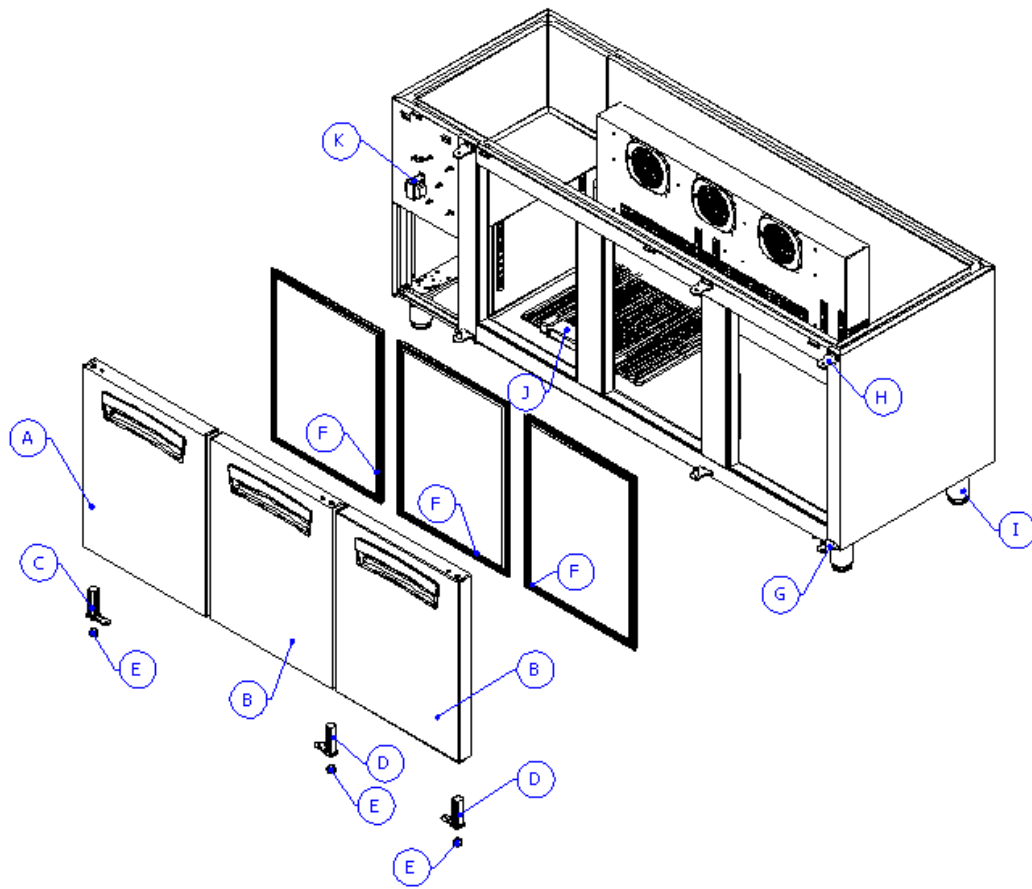
| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|--------------------------------|-----|---------------|--------|
| A | R817B-860 | ASSY DOOR LF(W1200) | 1 | W1200 Model | |
| B | R817B-890 | ASSY DOOR RH(W1200) | 1 | W1200 Model | |
| C | R828A-190 | ASSY HINGE LF | 1 | Table Model | |
| D | R828A-200 | ASSY HINGE RH | 1 | Table Model | |
| E | R316A-030 | BUSH HINGE | 1 | POM | |
| F | R858D-500 | GASKET AS(W1200) | 2 | W1200 Model | |
| G | R828A-170 | ASSY HINGE BKT LOW | 2 | STS304 T3.0 | |
| H | R828A-180 | ASSY HINGE BKT UPP | 2 | STS304 T3.0 | |
| I | R825A-060 | ASSY LEG BASE SIDE TABLE(4EA) | 1 | Table Model | |
| J | R834H-410 | ASSY PACKING SHELF(Salad 1200) | 1 | W1200 Model | |
| K | R7503-070 | POWER TRANS (220V) | 1 | 220V 50/60HZ | |
| L | R725C-280 | PCB MAIN(220V CELSIUS) REF | 1 | TABLE 220V °C | |

e. **LSRT/LHRT-2B/2C-1500**



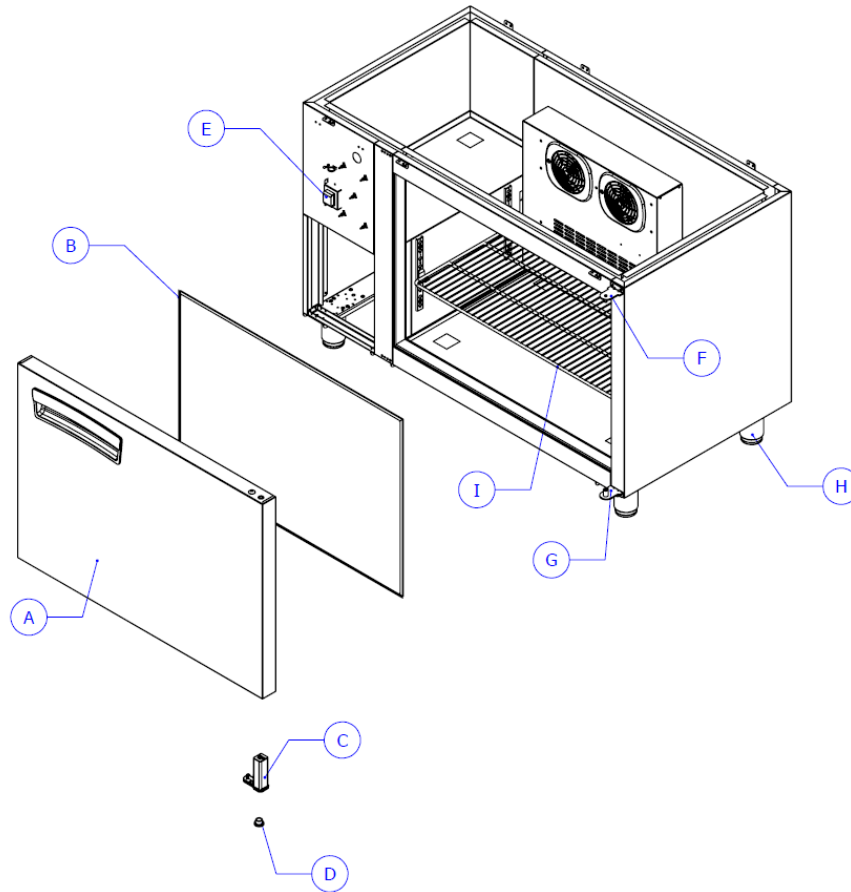
| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|--------------------------------|-----|---------------|--------|
| A | R817C-280 | ASSY DOOR GLASS LF(1500) | 1 | W1500 Model | |
| B | R817C-270 | ASSY DOOR GLASS RH(1500) | 1 | W1500 Model | |
| C | R828A-190 | ASSY HINGE LF | 1 | Table Model | |
| D | R828A-200 | ASSY HINGE RH | 1 | Table Model | |
| E | R316A-030 | BUSH HINGE | 1 | POM | |
| F | R858D-510 | GASKET AS(W1500) | 2 | W1500 Model | |
| G | R828A-170 | ASSY HINGE BKT LOW | 2 | STS304 T3.0 | |
| H | R828A-180 | ASSY HINGE BKT UPP | 2 | STS304 T3.0 | |
| I | R825A-060 | ASSY LEG BASE SIDE TABLE(4EA) | 1 | Table Model | |
| J | R834H-420 | ASSY PACKING SHELF(SALAD 1500) | 1 | W1500 Model | |
| K | R7503-070 | POWER TRANS (220V) | 1 | 220V 50/60HZ | |
| L | R725C-280 | PCB MAIN(220V CELSIUS) REF | 1 | TABLE 220V °C | |

g. LSRT/LHRT-3B/3C-1800



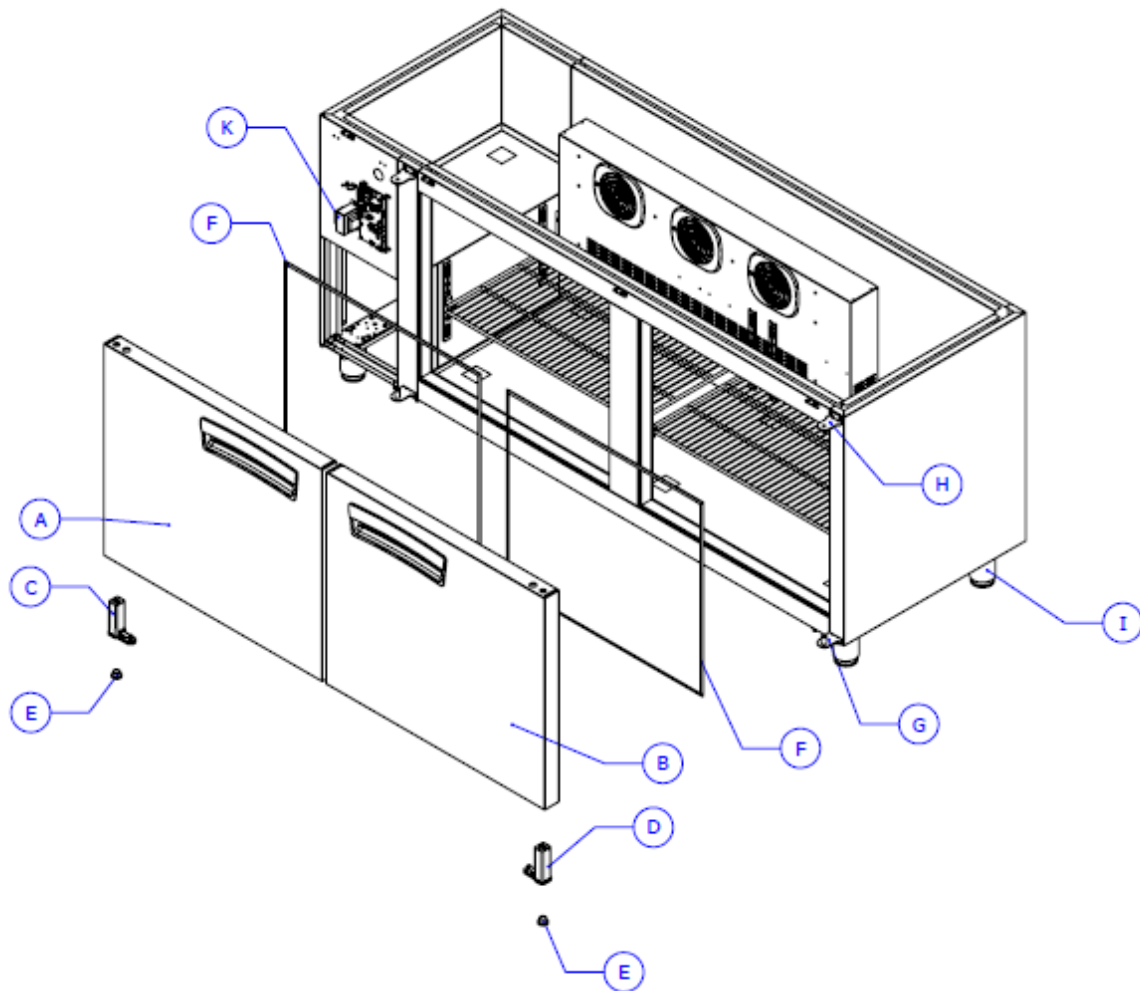
| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|--------------------------------|-----|---------------|--------|
| A | R817B-880 | ASSY DOOR LF(W1800) | 1 | W1800 Model | |
| B | R817B-910 | ASSY DOOR RH(W1800) | 2 | W1800 Model | |
| C | R828A-190 | ASSY HINGE LF | 1 | Table Model | |
| D | R828A-200 | ASSY HINGE RH | 1 | Table Model | |
| E | R316A-030 | BUSH HINGE | 1 | POM | |
| F | R858D-520 | GASKET AS(W1800) | 3 | W1800 Model | |
| G | R828A-170 | ASSY HINGE BKT LOW | 3 | STS304 T3.0 | |
| H | R828A-180 | ASSY HINGE BKT UPP | 3 | STS304 T3.0 | |
| I | R825A-060 | ASSY LEG BASE SIDE TABLE(4EA) | 1 | Table Model | |
| J | R834H-430 | ASSY PACKING SHELF(Salad 1800) | 1 | W1800 Model | |
| K | R7503-070 | POWER TRANS (220V) | 1 | 220V 50/60HZ | |
| L | R725C-280 | PCB MAIN(220V CELSIUS) REF | 1 | TABLE 220V °C | |

g. LSRT/LHRT-1B-1200



| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|--------------------------|-----|--------------|--------|
| A | R817D-230 | ASSY DOOR RH 1200 | 1 | W1200 | |
| B | R338A-350 | GASKET DOOR 1200 | 1 | W1200 | |
| C | R828A-200 | ASSY HINGE RH | 1 | Table Model | |
| D | R316A-030 | BUSH HINGE | 1 | POM | |
| E | R7503-070 | POWER TRANS (220V) | 1 | 220V 50/60HZ | |
| G | R828A-170 | ASSY HINGE BKT LOW | 1 | STS304 T3.0 | |
| F | R828A-180 | ASSY HINGE BKT UPP | 1 | STS304 T3.0 | |
| H | R825A-060 | ASSY LEG BASE SIDE TABLE | 4 | Table Model | |
| I | R834M-430 | ASSY PACKING SHELF 1200 | 1 | W1200 Model | |

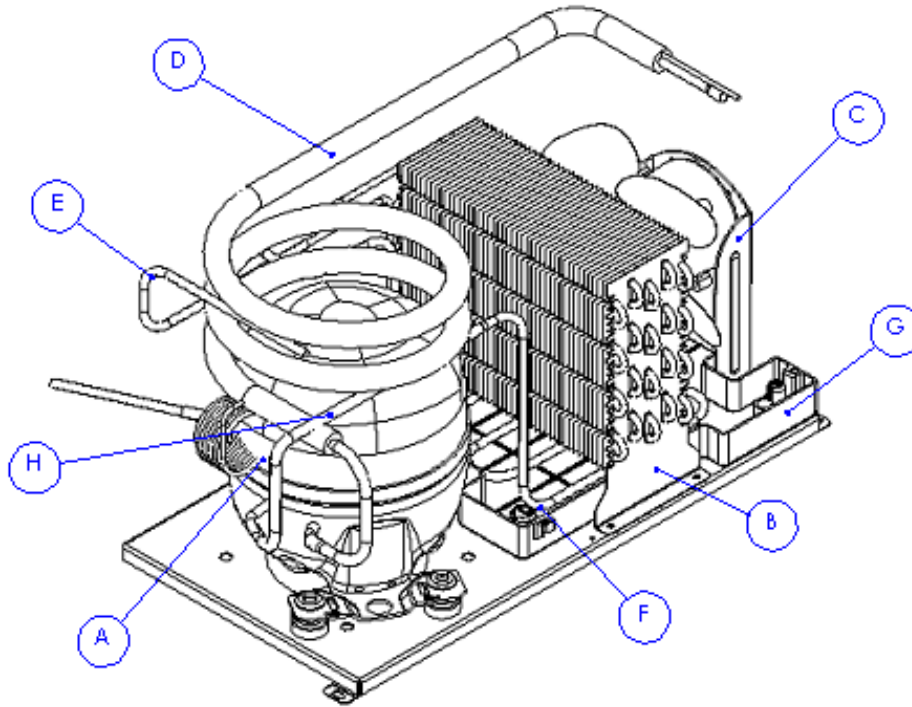
g. LSRT/LHRT-2B-1800



| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|--------------------------|-----|--------------|--------|
| A | R817D-250 | ASSY DOOR LF 1800 | 1 | W1800 Model | |
| B | R817D-240 | ASSY DOOR RH 1800 | 1 | W1800 Model | |
| C | R828A-190 | ASSY HINGE LF | 1 | Table Model | |
| D | R828A-200 | ASSY HINGE RH | 1 | Table Model | |
| E | R316A-030 | BUSH HINGE | 2 | POM | |
| F | R858F-830 | GASKET DOOR-1800 AS | 2 | W1800 | |
| G | R828A-170 | ASSY HINGE BKT LOW | 2 | STS304 T3.0 | |
| H | R828A-180 | ASSY HINGE BKT UPP | 2 | STS304 T3.0 | |
| I | R825A-060 | ASSY LEG BASE SIDE TABLE | 4 | Table Model | |
| J | R834M-440 | ASSY PACKING SHELF 1800 | 1 | W1800 Model | |
| K | R7503-070 | POWER TRANS (220V) | 1 | 220V 50/60HZ | |

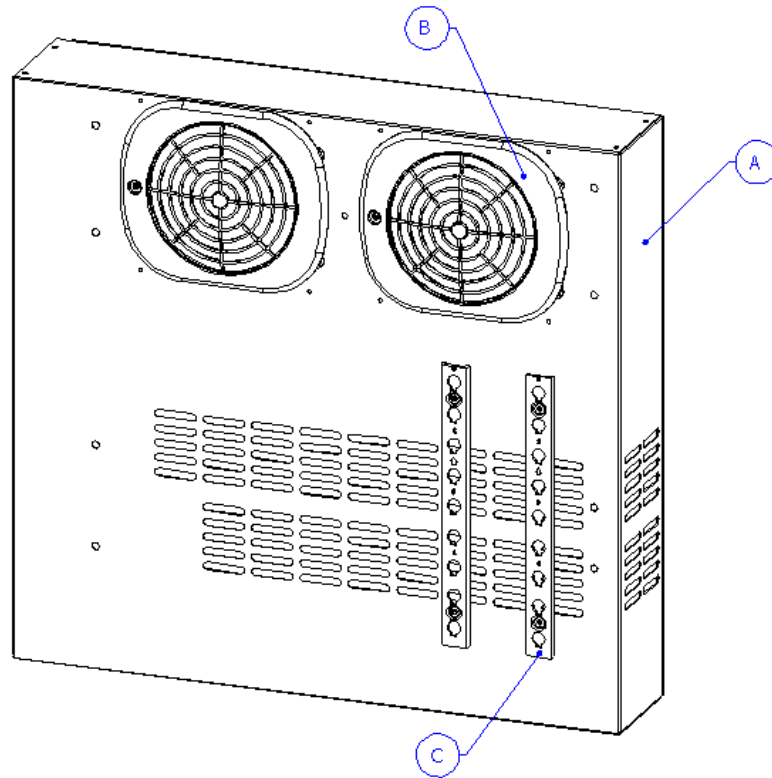
C. Sub Assembly

a. R815A-730, R815A-740



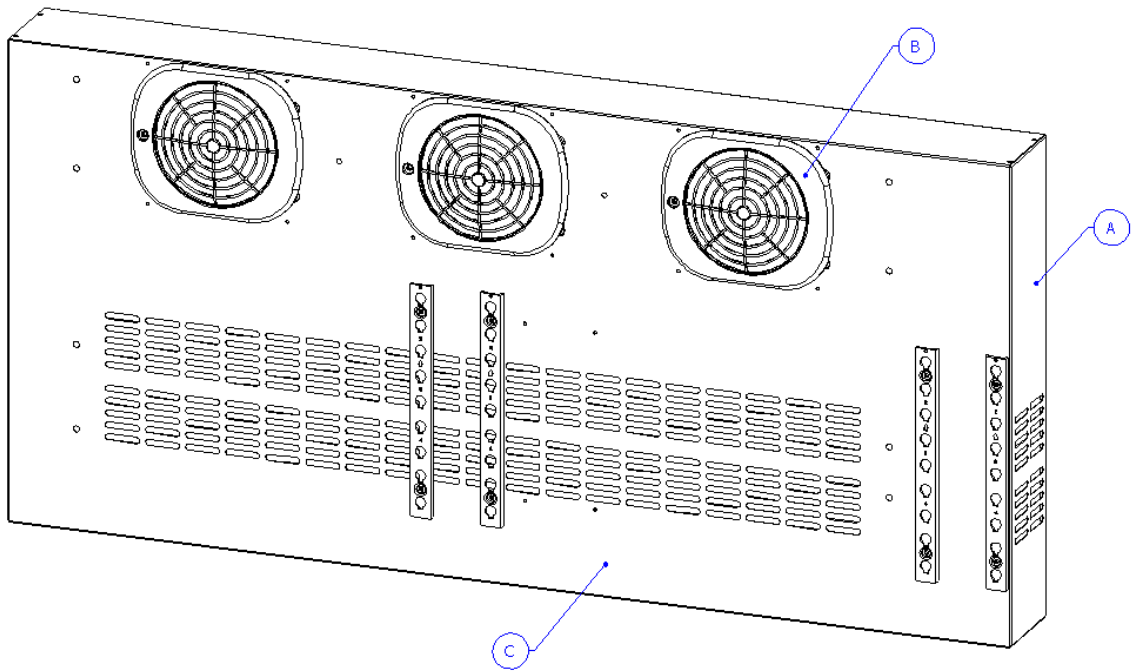
| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|-----------------------------|-----|------------------|--------|
| A | R714A-560 | COMPRESSOR(NF21K5111FU) | 1 | W900/1200 Model | |
| | R714A-540 | COMPRESSOR(NF21K5131FU) | 1 | W1500/1800 Model | |
| B | R212A-070 | CONDENSER WIRE | 1 | OD4.76*0.7t | |
| C | R8323-280 | ASSY CONDENSER FAN MOTOR | 1 | 9W CCW | |
| D | R319C-050 | PIPE SUCTION(Salad/Topping) | 1 | OD7.94*Capi | |
| E | R319C-020 | PIPE COND OUT(SIDE TABLE) | 1 | CU OD6.35*450 | |
| F | R319B-670 | PIPE CASE DRAIN(SIDE TABLE) | 1 | CU OD6.35*1349 | |
| G | R321A-810 | CASE DRAIN | 1 | ABS | |
| H | R319C-021 | PIPE COND OUT(SIDE TABLE) | 1 | CU OD6.35*450 | |

b. R840A-280



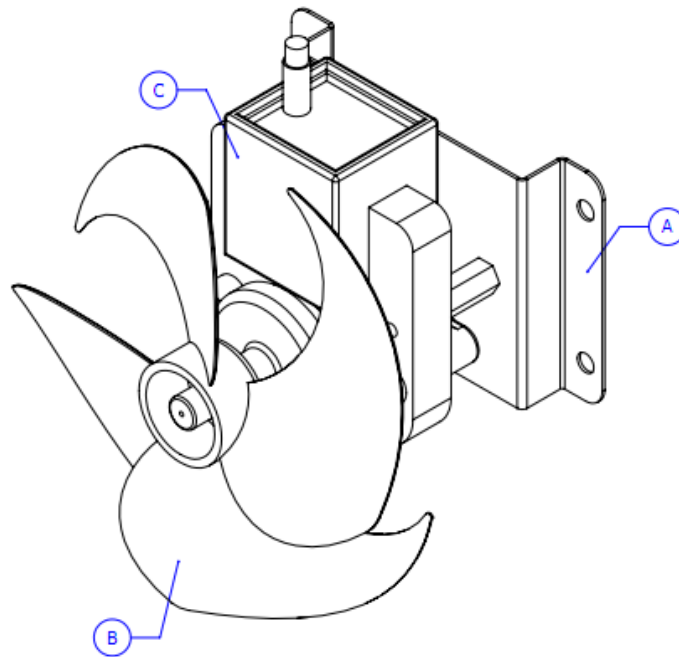
| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|----------------------|-----|-------------------|--------|
| A | R325B-870 | COVER EVA(SALAD 900) | 1 | STS443CT 2B, T0.5 | |
| B | R3132-551 | GRILLE EVA COVER | 2 | ABS. GRAY | |
| C | R371A-620 | SHELF STANDARD | 2 | AL6063S L230 | |

c. **R840A-300**



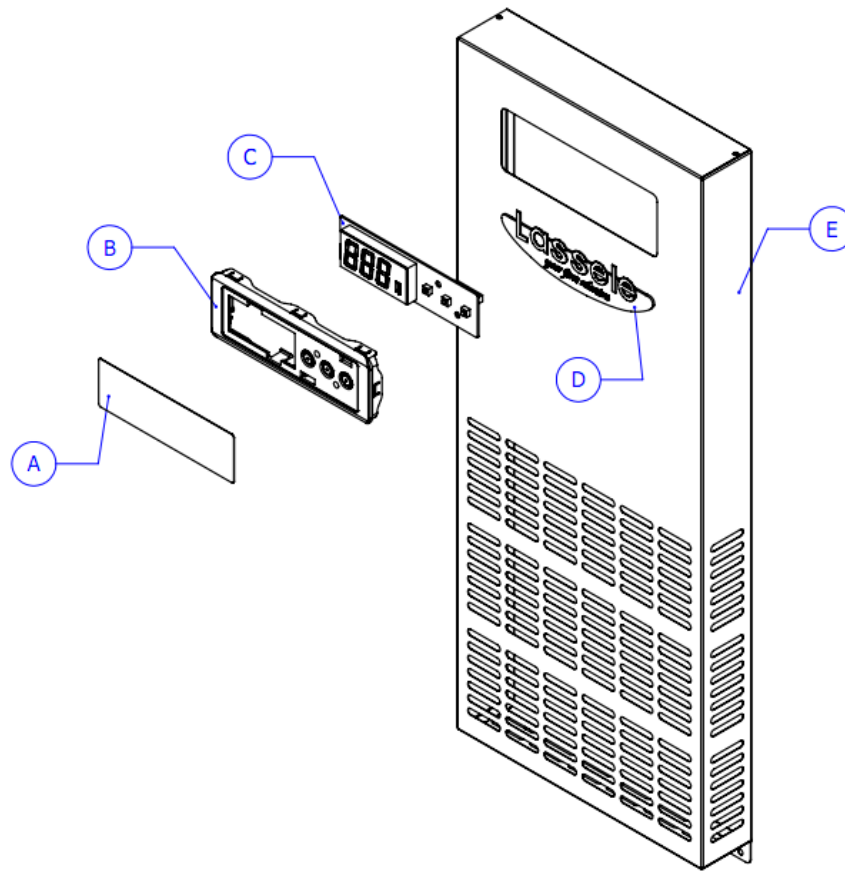
| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|-----------------------|-----|-------------------|--------|
| A | R325B-880 | COVER EVA(SALAD 1500) | 1 | STS443CT 2B, T0.5 | |
| B | R3132-551 | GRILLE EVA COVER | 3 | ABS. GRAY | |
| C | R371A-620 | SHELF STANDARD | 2 | AL6063S L230 | W1500 |
| | R371A-620 | SHELF STANDARD | 4 | AL6063S L230 | W1800 |

d. **R840A-310**



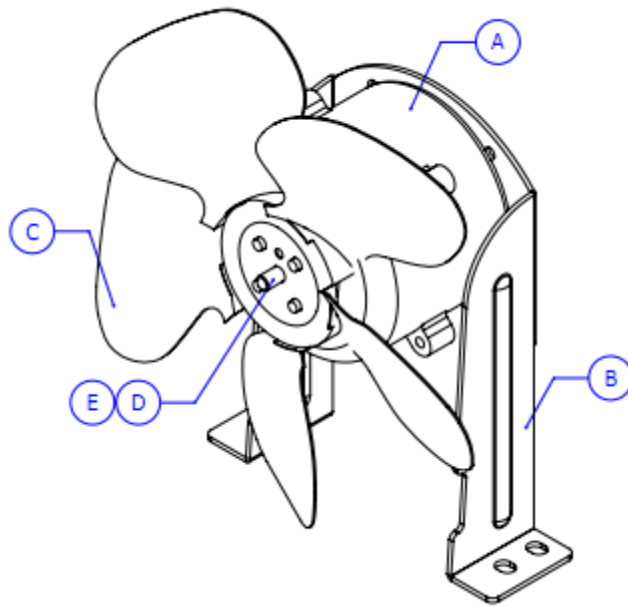
| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|-----------------------|-----|---------------------|--------|
| A | R312A-120 | BASE EVAP MOTOR | 1 | STS304 2B, T0.8 | |
| B | R726A-090 | MOTOR EVA(SIDE TABLE) | 1 | DAI-6122DYMA-1(CCW) | |
| C | R333A-050 | FAN BLADE EVAP | 1 | φ 110 | |

e. **R858E-290**



| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|--------------------|-----|-----------------|--------|
| A | R511A-540 | INLAY CONTROL | 1 | Table Model | |
| B | R321A-920 | CASE CONTROL PANEL | 1 | ABS | |
| C | R725C-220 | PCB PANEL | 1 | Table Model | |
| D | R5133-161 | MASCOT | 1 | 157.7*40 | |
| E | R325A-950 | COVER FRONT | 1 | STS430 #4, T0.5 | |

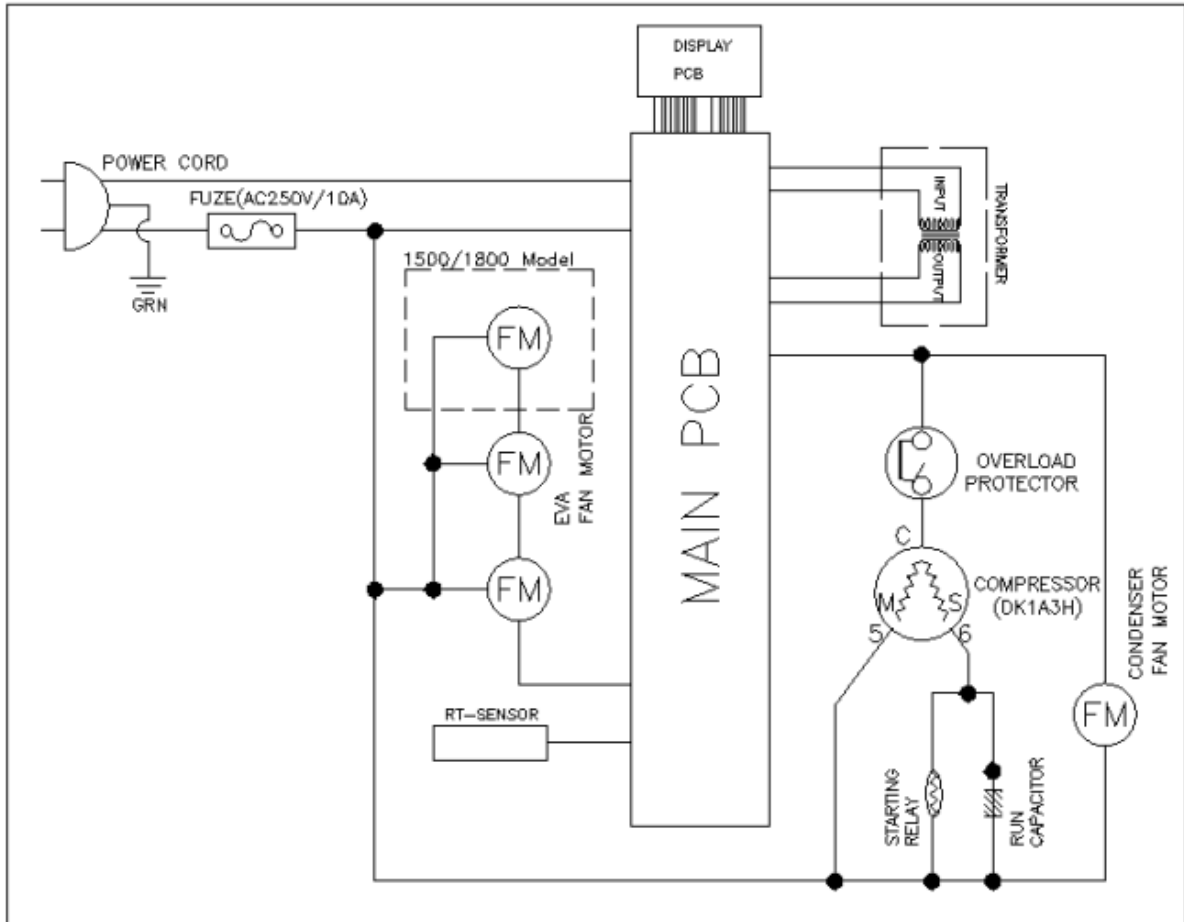
f. R8323-280



| NO | Code No | Description | Qty | Spec | Remark |
|----|-----------|-----------------------------------|-----|-------------------|--------|
| A | R7423-260 | COND FAN MOTOR (DAI-8204DYA-1) | 1 | METAL TYPE | |
| B | R315A-050 | BRACKET C-FAN MOTOR | 1 | SBHG1-0, T2.0 | |
| C | R3729-010 | EVAP FAN BLADE (8 INCH. CCW) | 1 | AL | |
| D | R118A-031 | SPONGE MOTOR B/K | 1 | FOAM-PE, T4*29*48 | |
| E | Z394A-150 | SCREW MACHINE | 1 | SWCH-NI, TH M4*10 | |

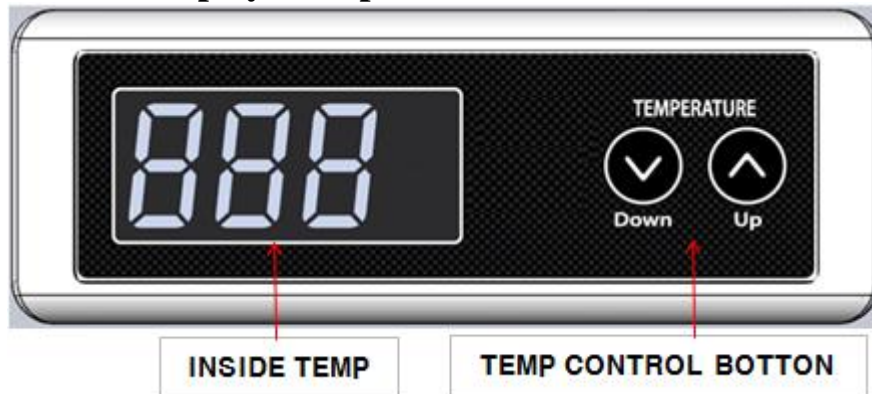
3. WIRING DIAGRAM

A. All Model



4. ELECTRONIC CONTROL INSTRUCTIONS

A. How to use the display PCB panel



a. Up / Down Button(Temperature Control Button)

- By Pushing the up/down button, you can see the cabinet temperature

B. Freezer Control

a. Funtion Table & Manual Defrost

| NO | Function | Content | Display |
|----|-----------|---|--|
| 1 | Power On | <ol style="list-style-type: none"> 1. OFF for 2 sec 2. Display current Temp. and BUZZ 1 time. 3. Eva sensor Temp. over 41°F(5°C) : Operate under 41°F(5°C) : Operate after 5 min | . First 2 sec Ver. °F : F8, °C : FC After 2 sec Present °C/°F |
| 2 | Front Key | <ol style="list-style-type: none"> 1. Push △/▼ to change Temp. (Each time you push, 1 buzz sound.) 2. The set-up is memorized in the EEPROM and remains even after Power Off. | . Hit △/▼ 1 time - Display final set 2 times - Change set-up value |
| 3 | COMP | <ol style="list-style-type: none"> 1. Operate by Temperature Value 2. Operates on Comp ON/OFF Set Value 3. If Temp. Value hits the OFF Temp. the Comp. does not operate for 5 min | |
| 4 | FAN | <ol style="list-style-type: none"> 1. Operate with Comp. 2. If the door opens, the fan stops. | |

| | | | |
|----|----------------|--|------------------|
| 5 | BOX HEATER | <ol style="list-style-type: none"> 1. Temp Sensor over 78°F(26°C): Box Heater Relay On. 2. Temp Sensor under 78°F(26°C). Box Heater Operates by each mode <ul style="list-style-type: none"> - 1. 1MODE : 10 min on/ 10 min off - 2. 2MODE : 15 min on/ 10 min off - 3. 3MODE : 20 min on/ 10 min off(Default) - 4. 4MODE : 25 min on/ 15 min off 3. Push ▼ 5 sec to display Mode. Hit ▼ to change Mode 4. First Cycle operates by 1 Mode | 72R |
| 6 | Lamp | <ol style="list-style-type: none"> 1. Door Open - LED Lamp Off Door Close - LED Lamp On 2. Maximum 2 Lamps can be Controlled. | |
| 7 | Defrost | <ol style="list-style-type: none"> 1. If the defrost period passes defrost starts from pre-cool. 2. - 1. 5H : 5 Hr - 2. 6H : 6Hr - 3. 8H : 8 Hr(DEFAULT) - 4. AH : 10Hr 3. Push △ for 5 sec to display defrost period 4. Hit △ to get the Value desire | |
| 8 | PRE-COOL | <ol style="list-style-type: none"> 1. Operate for 30 min, before defrost heater on 2. If Temp. goes under -12°F(-24.6°C) in 30 min defrost heater goes on mode | . Displays Temp. |
| 9 | HEATER ON | <ol style="list-style-type: none"> 1. Operate after Pre-Cool 2. If the defrost sensor reaches 12°C defrost completes and heater goes Off 3. Heater on goes maximum 40 min 4. If fails, defrost Error Code will be saved. <p>If Temp. is over 23°F(-5°C) after precool, or the sensor malfunctioned, heater will go atleast 20 min and at 28°F(-2°C) it will go Off</p> | . dF |
| 10 | Resting Period | <ol style="list-style-type: none"> 1. After heater is Off there is a 5 min resting period. | . dF |

| | | | |
|----|---------------------|---|--|
| 11 | Forced Defrost | <ol style="list-style-type: none"> 1. Push \triangle & \blacktriangledown for 3 Sec at the same time. 2. Push \triangle & \blacktriangledown for 3 Sec at the same time during Defrost for cancel | |
| 12 | Self Check | <ol style="list-style-type: none"> 1. Push \blacktriangledown & hit \triangle 3 times 2. Error Display D1 : D-Sensor Error F3 : Defrost Error C1 : Cycle Error 3. Return if nothing has done for 15 sec | |
| 13 | Door Open and Alarm | <ol style="list-style-type: none"> 1. Door Open LED will blink until closer every 0.5 sec. 2. When Door is open over 3 min, Buzzer will chirp every 0.5 sec until closer. | |
| 14 | D-Sensor Check | <ol style="list-style-type: none"> 1. Sensor Temp. Check & Set-up <ol style="list-style-type: none"> 1) Push \triangle & hit \blacktriangledown 3 times. 2) 1. dS : Displays D-Sensor \rightarrow hit \blacktriangledown 2. D-Sensor Temp \rightarrow hit \blacktriangledown 3. rS : Displays R-S \rightarrow hit \blacktriangledown 4. R-Sensor Temp \rightarrow hit \blacktriangledown 5. Return(return to last status. Displays current Temp or dF(Defrost) - After access return after the last procedure - Return after 20 min auto(D-Sensor display) | <p>. dS . 888(D-Sensor) . rS . 888(R-Sensor)</p> |
| 15 | Condenser Alarm | <ol style="list-style-type: none"> 1. Alarms for an hour if set-up period is passed.. 2. 1) Push \triangle & hit \blacktriangledown 3 times 2) dS : Displays D-Sensor \rightarrow hit \triangle - 0 : Disabled. - 3 : 3 months - 6 : 6 months(Default) - 9 : 9 months 3) Hit \triangle to get the Value desire. 4) . Alarms every 1 sec for an hour. 5) Return - Power On after Off - Push \triangle & \blacktriangledown at the same time for 3 sec | ."CL" |

b. Error Code Table

| Display | Condition | Temp. Display | Function |
|---------|--|---------------------|---|
| CO | R-Sensor OPEN | CO | - Comp ON : 18 MINUTES - Comp OFF: 6 MINUTES 28.4°F |
| CS | R-Sensor SHORT | CS | |
| D1 | D-Sensor OPEN/SHORT | Room Temp Displayed | - If R-Sensor is above 28.4°F 20 min. after the Defrost started, terminate the Defrost. |
| F3 | Poor Defrost (If D-Sensor lower than 53.6°F in 40 min. later) | | - Terminate the Defrost 40 min. after its start. |
| C1 | Poor Cycle (If D-Sensor is above 32°F in 30 min later. | | - Normal Operation |
| | RT-Sensor OPEN/SHORT | | - BOX HEATER 100% On (72R) |

c. Sensor Description

| Sort | Name & Function | WAFER Color |
|-----------|--|-------------|
| D-sensor | . Defrost Sensor . HEATER ON/OFF CONTROL during Defrost. | WHITE |
| R-sensor | . Room Sensor . DISPLAY & COMP ON/OFF CONTROL | YELLOW |
| RT-sensor | . Room Temp Sensor . BOX HEATER Control for energy efficiency | BLUE |

C. Refrigerator Control

a. Funtion Table

| NO | Function | Content |
|----|----------|---|
| 1 | Power On | - OFF for 2 sec - First 2 sec Ver. °F : F8, °C : FC - After 2 sec Present °C/°F - Blinks Model name 5 times. |

| | | |
|---|---|---|
| | | <ul style="list-style-type: none"> - LED blinks 3 times. - Present °C/°F. |
| | | <p>2. Defrost Check</p> <p><F Model > : LFT-23S, LFT-49D</p> <ul style="list-style-type: none"> - Defrost Sensor Operation <ul style="list-style-type: none"> 1) COMP On above 38°F(3.5°C) 2) Defrost On, under 38°F(3.5°C) <p>※ After 5min COMP delay pre-cool operate before defrost.</p> <p><R Model > : LRT-23S, LRT-49D</p> <ul style="list-style-type: none"> - Room Sensor Operation. <ul style="list-style-type: none"> 1) COMP On above 41°F(5.0°C) 2) Defrost On, under 41°F(5.0°C) |
| 2 | Normal Operation | <ul style="list-style-type: none"> - COMP 5min delay (COMP OFF for 5 min) - COMP ON/OFF by Room Sensor Temp. |
| 3 | FRE. Defrost Period | <ul style="list-style-type: none"> - Defrost Period can be set to 5/6/7/8/9/10Hr - Default 8hr |
| 4 | REF Defrost Period | <ul style="list-style-type: none"> - Defrost every 5 Hr. |
| 5 | Defrost System -FRE. Defrost System 1. PRE-COOL | <ul style="list-style-type: none"> - To Lower Room Temp. before HEATER ON - When Defrost Period, PRE-COOL on before HEATER ON - HEATER ON if Temp. is under 17°F(-8°C) in 45min - Maximum PRE-COOL time is 45min |
| | 2. HEATER ON | <ul style="list-style-type: none"> - If the defrost sensor reaches 51°F/11°C defrost completes and heater goes Off - Heater on goes maximum 50 min. - When Defrost SENSOR ERROR, HEATER is on for 20min. HEATER OFF when Temp. is 28°F(-2°C) - When Defrost Sensor / Room Sensor error HEATER is on for 20min - If HEATER ON goes maximum 50min and does not reach the Defrost Return Temp. ERROR CODE will be saved. ※ This ERROR Occurs Pre-COOL disable |

| | | |
|----|---------------------------|--|
| 5 | 3. Resting Period | <ul style="list-style-type: none"> - After heater is Off there is a 5 min resting period. - HEATER, FAN, COMP ALL OFF. |
| | 4. FAN Off | <ul style="list-style-type: none"> - After Resting Period FAN is off for Maximum 5min. - Only COMP Operates for the EVA - If Temp. is under 14°F(-10°C) before 5 min, FAN will go off and activate normal operation. |
| 6 | REF. Defrost System | <ul style="list-style-type: none"> - Operate FAN for Defrost. - If Air Sensor ERROR, Defrost for 30 min and return. - After 30min Defrost, Air Sensor displays return Temp. - When Temp. reaches the return temp. normal operation. ※When Set-up Temp. is under 30°F(-1°C), Return Temp. is 37°F(+3°C) When Set-up Temp. is above 32°F(0°C) Return Temp. is 41°F(5°C). |
| 7 | HTR Control (BOX HTR) | <ul style="list-style-type: none"> - When COMP ON POINT Temp. is higher than RT Temp. HTR goes OFF. - When RT Temp. is above 78°F(26°C) HTR is On. - When RT Temp. is between 78°F(26°C)~Comp On Temp. HTR is 10min ON 10min OFF - When RT Temp is below Comp On Temp. HTR goes OFF. |
| 8 | REF. Frost Prevent System | <ul style="list-style-type: none"> - COMP OFF → EVA FAN OFF. - To prevent REF. EVA Frost, If Room Temp. is under 32°F(0°C) FAN activates. |
| 9 | Door Open and Alarm | <ol style="list-style-type: none"> 1. Door Open LED will blink until closer every 0.5 sec. 2. When Door is open over 3 min, Buzzer will chirp every 0.5 sec until closer. |
| 10 | FAN | <ol style="list-style-type: none"> 1. Operate with Comp. 2. If the door opens, the fan stops. |
| 11 | Lamp | <ol style="list-style-type: none"> 1. Door Open - LED Lamp Off Door Close - LED Lamp On <ul style="list-style-type: none"> - Door Error : LED Lamp Off |
| 12 | Vapor Pan ERROR Display | <ul style="list-style-type: none"> - Vapor fan ERROR : beeping sounds with SEGMENT blinks Temp.(3sec) -uFn(0.5sec) repeat. - Beeping sounds goes for 5min. - Vapor Pan ERROR can be disabled or enabled by OPTION. |
| 13 | Condenser Alarm | <ul style="list-style-type: none"> - Alarms for an hour if set-up period is passed.. - Alarms goes on with SEGMENT "CL". - Alarms every 1 sec for an hour. - Return : Power On after Off, Push △ & ▼ at the same time for 3 sec |

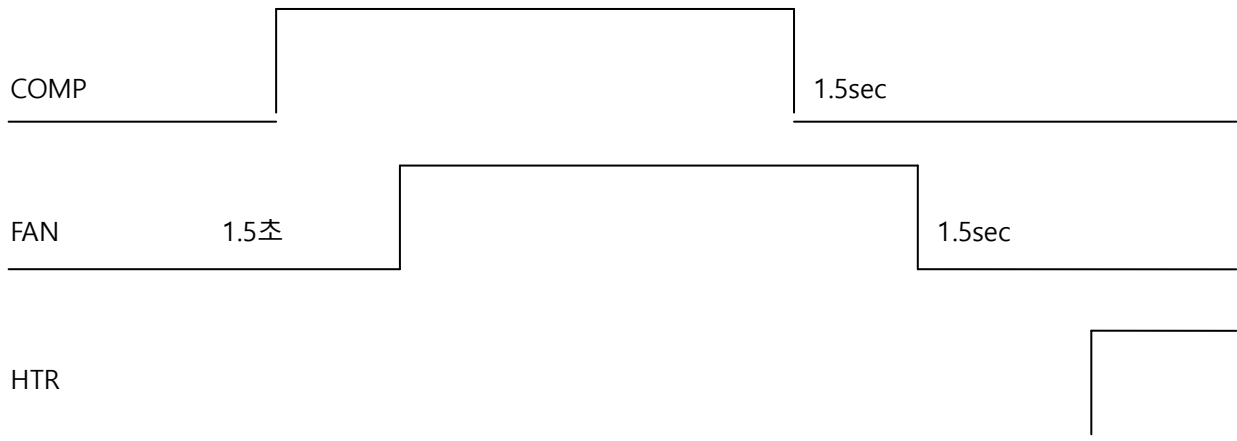
D. Operation

a. Comp Operation

- 1) COMP 5 min OFF (COMP disabled for 5 min)
- 2) Operate by Temperature Value.
- 3) If Temp. Value hits the OFF Temp. the Comp. does not operate for 5 min.

b. AC Load Control

- 1) Each Part does not operate together, each operate by a 1.5 sec term.



Push $\Delta/\blacktriangledown$ KEY for 3 sec to enter control mode

888SEGMENT

| | | |
|---|---|---|
| S | E | L |
|---|---|---|

| NO | MODE | SW 4(Δ) | Display | Content |
|----|--|------------------|------------|--|
| 1 | Forced Defrost | 1 times | ds | Display after 2 sec (888 SEGMENT & LED OFF.) |
| 2 | Mode Control | 2 times | OF | |
| 3 | Each part TEST | 3 times | St | |
| 4 | Error Check | 4 times | no | |
| 5 | Ver. Change | 5 times | 23F | |
| 6 | $^{\circ}\text{C}/^{\circ}\text{F}$ Change | 6 times | F | |
| 7 | Cabinet Heater | 7 times | Ht | |
| 8 | LED check & E ² PROM clear | 8 times | LED blinks | |

c. Forced Defrost

- 1) Display : 888SEGMENT – "ds"
- 2) Content : ① Press SW3(▽) during 1) to Force Defrost.
② 888 SEGMENT - "dF"

d. Mode Control

- 1) Display : 888 SEGMENT.

| | |
|---|---|
| 0 | F |
|---|---|

 After 1 sec

| | |
|---|---|
| 0 | 0 |
|---|---|

- 2) Content : Press SW(△) to change mode - OFF Temp.-> DIF Change -> Adjust Temp.gap -> Defrost Time Change.

- ① OF 1 sec 00 : 23°F(-5.0)~41°F(+5.0) - 32°F(0.5°C) change
(32°F(0.5°C)->32(5) Display)
- ② Od 1 sec 20 : 32(0.25) -> 32(0.5) -> 33(0.75) -> 33(1.0) -> 34(1.5) -> 35(2.0) -> 37(3.0) -> 39(4.0) -> 41(5.0)
- ③ CA 1 sec 00 : 23°F(-5.0)~41°F(+5.0) - 33°F(1°C) change
(Room Temp. gap adjustment)
- ④ dt 1 sec 6 : FRE. Defrost Time (0, 5 ~ 10 Hr) – 1Hr Change
(0 : Disable)
REF. Defrost Time (0, 5~10 Hr) – 1Hr Change

- SW(▽) button for adjustment.
- Auto-save for change in the set-up.
- 15sec auto return.

e. Each part TEST

- 1) Display : 888SEGMENT – “St”
- 2) Content : Press SW4(△) 0~3 Mode Change.
- 3) Each part TEST Cancel : 15sec auto return.

| 단계 | Function | Time | DISPLAY | 비고 | | | |
|----|--|-------------------|---|----|---|---|--------------------------------|
| 0 | All OFF | 10sec auto return | <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px; text-align: center;">S</td><td style="width: 20px; height: 20px; text-align: center;">t</td></tr></table> | | S | t | |
| | S | t | | | | | |
| 1 | COMP ON FAN ON | ∞ | <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px; text-align: center;">C</td><td style="width: 20px; height: 20px; text-align: center;">P</td></tr></table> | | C | P | |
| | C | P | | | | | |
| 2 | COMP OFF FAN OFF Defrost HTR ON | ∞ | <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; height: 20px; text-align: center;">d</td><td style="width: 20px; height: 20px; text-align: center;">H</td><td style="width: 20px; height: 20px; text-align: center;">t</td></tr></table> | d | H | t | R Model does not have function |
| d | H | t | | | | | |
| 3 | COMP OFF FAN OFF Defrost HTR OFF Cord HTR ON | ∞ | <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; height: 20px; text-align: center;">C</td><td style="width: 20px; height: 20px; text-align: center;">H</td><td style="width: 20px; height: 20px; text-align: center;">t</td></tr></table> | C | H | t | |
| C | H | t | | | | | |

f. Error Check

- 1) Display
- No Error

| | | |
|--|---|---|
| | n | O |
|--|---|---|

- Error

| | | |
|---|---|---|
| S | 1 | _ |
|---|---|---|

: S1-SENSOR SHORTAGE

- Press SW(△) to check the errors
- Specific errors are below.

g. Ver. Change

- 1) Press SW(▽) - "rEF" -> "FrE"
- 2) 15sec auto save.
- ※ Re-enter the power plug to confirm change.
(Ver. Change initializes set-up.)

h. °C/°F Change

- 1) Press SW(▼) - F -> C
- 2) 15sec auto save.

i. Cord H/T Change

- ① Press SW(▼)
- "00"->"02"->"04" -> ~ "30" -> "40" -> "100" -> "00"

| Display | On | Off | Display | On | Off |
|---------|--------------|-------|---------|---------------|-------|
| "00" | Cord H/T Off | | "15" | 15min | 10min |
| "02" | 2min | 10min | "20" | 20min | 10min |
| "04" | 4min | 10min | "25" | 25min | 10min |
| "06" | 6min | 10min | "30" | 30min | 10min |
| "08" | 8min | 10min | "40" | 40min | 10min |
| "10" | 10min | 10min | "100" | Cord H/T on ∞ | |

- Default "10"

- ② 5sec auto save.

j. LED check & E²PROM clear

- 1) LED blinks 5 times & returns.
- 2) E²PROM Clear & reset.
(set-up °C/°F is remembered.)

k. Vapor Pan ERROR

- ① Hold ▼ & hit △ 5 times to display Vapor Pan enable or disable mode.
- ② Press ▼

| | | |
|--|---|---|
| | O | N |
|--|---|---|

->

| | | | |
|--|---|---|---|
| | O | F | F |
|--|---|---|---|

- ③ 15sec auto save

l. Temp. Check Mode.

- 1) Content
Hold △ & hit ▼ 3 times to enter Mode.
 - ① SEGMENT : display value
 - ② Operation : Normal Operation
- 2) Adjustment
 - ① Press ▼
 - Display DS ->D-SENSOR Temp. -> RS ->R-SENSOR Temp. -> Return

(REF. : D-Sensor OPEN : tO
D-Sensor SHORT : tS

3) Return

- ① Press ▼ until Return.
- ② 20min return after "DS".

m. Condenser Alarm

1) Content

Hold △ & hit ▼ 3 times to enter Mode.

Press △ To Check period..

- ① SEGMENT : display value
- ② Operation : Normal Operation

2) Adjustment

- ① Press △ to adjust period.
 - 0 -> 3 -> 6 -> 9 -> 0 cycle.
 - 0 : Disable
 - 3 : 3 months
 - 6 : 6 months
 - 9 : 9 months

3) Return

- ① 15sec Return.

n. S1 - Sensor Error

1) S1 - Sensor SHORTAGE or Temp. is over 143°F(62°C)

SEGMENT – "ESH" & Blinks.

2) S1 - Sensor OPEN or Temp. is under -58°F(-50°C)

SEGMENT – "ESL" & Blinks.

3) ERROR Mode Operation.

REF. S1 - Sensor ERROR : 10min On/20min Off

FRE. S1 - Sensor ERROR : 10min On/6min Off

4) If ERROR is removed – Normal Operation.

※ Types of Sensors

| No. | Sensor | Description |
|-----|-------------|---|
| 1 | S1 - Sensor | Detected cabinet temperature. |
| 2 | D1 - Sensor | Detected Evaporator Coil temperature to defrost system. |
| 3 | Rt - Sensor | Detected ambient temperature. |

E. Check Error

* Errors will be displayed, if there is no error Display "nO".

| NO | Code | Error code | Error explanation | Status of Unit |
|----|---------------------------------|------------|--|--------------------|
| | | DISPLAY | | |
| 1 | S1-SENSOR (Room Sensor) | S 1 | Disconnected Sensor or Room temp is under -58°F | Operate Error mode |
| | | S 1 - | Shortage of Sensor or Room temp is under 149°F | |
| 2 | Rt-SENSOR (Ambient sensor) | r t | Disconnected Sensor | Normal Operation |
| | | r t - | Shortage of Sensor | |
| 3 | D1-SENSOR (Defrost - Sensor) | D 1 | Disconnected Sensor or Room temp is under -58°F | Normal Operation |
| | | D 1 - | Shortage of Sensor or Room temp is under 149°F | |
| 4 | Fail to defrost | d F 1 | If perform the defrost over 50 min | Normal Operation |
| 5 | Fail of Cooling Cycle | C F 1 | After pass 30 min from start working , Defrost sensor reached 32°F | Normal Operation |
| 6 | Hi temp Frz | E H F | if cabinet temp is keeping 59°F for 8 hr | Normal Operation |

| | | | | |
|----|---------------------------|-------|---|-----------------------|
| 7 | Hi temp Ref | E H r | if cabinet temp is keeping 45°F for 8 hr | Normal Operation |
| 8 | E ² PROM Error | E E P | E ² PROM cannot Read & Write | Normal Operation |
| 9 | Open Door | E D r | if Door S/W is open for 1 Hr | Operate Error mode |
| 10 | Vapor Pan Error | u F n | Vapor Fan is not connected of error | Normal Operation |

When a combined temperature/amperage value is above the limit specified by the compressor manufacturer, a protector will operate independently, turning off the compressor. The compressor will restart when this protector has reset.

Note :

1. Compressor protector resets automatically.
2. If condenser fan is operating and the compressor is off, it is most likely that the protector has operated.

F. Service Diagnosis

a. Diagnosis Chart

| Problem | Possible Cause | Remedy | |
|---|-------------------------------------|----------------------------------|----------------------------------|
| 1. Compress will not start - no current draw. | 1. Power Switch | 1. "OFF" position. | 1. Move to "ON" position. |
| | | 2. Loose connection. | 2. Tighten. |
| | | 3. Failure. | 3. Call electrician. |
| | 2. Cord and Plug | 1. Defective. | 1. Replace. |
| | 3. Ground Fault Circuit interrupter | 1. Tripped. | 1. Check and reset. |
| | | 2. Defective. | 2. Replace. |
| | 4. Voltage | 1. Too low. | 1. Call electrician. |
| | | 2. Too hige. | 2. Call electrician. |
| | 5. Wiring to Control Board | 1. Loose connection. | 1. Tighten. |
| | | 2. Faulty. | 2. Check continuity and replace. |
| | 6. Transformer | 1. Open coil winding. | 1. Check continuity and replace. |
| | 7. Control Board | 1. Defective. | 1. Replace control board. |
| | 8. Compressor Overload | 1. Defective. | 1. Replace. |
| 9. Compressor | 1. Open windings. | 1. Check continuity and replace. | |
| 10. Relay(Compressor) | 1. Bad contacts. | 1. Replace. | |
| | 2. Open coil winding. | 2. Check and replace. | |
| 2. Compressor will not run - draws current and trips on overload. | 1. Voltage | 1. Too low. | 1. Call electrician. |
| | 2. Start Relay | 1. Bad contacts. | 1. Replace. |
| | | 2. Open coil winding. | 2. Replace. |
| | 3. Compressor | 1. Locked rotor. | 1. Replace. |
| 4. Start Capacitor | 1. Defective. | 1. Check and replace. | |
| 3. Compressor runs intermittently and trips on overload. | 1. Voltage | 1. Too low. | 1. Call electrician. |
| | | 2. Too hige. | 2. Call electrician. |
| | 2. Refrigerant Line or Component | 1. Plugged or restricted. | 1. Clean and replace filter |
| | 3. Condenser Fan Motor | 1. Failed. | 1. Replace. |
| | 4. Refrigerant | 1. Overcharged. | 1. Evacuate and recharge |
| 2. Non-condensibile in system | | 2. Evacuate and recharge | |
| 5. Location of Unit | 1. Restricted air flow to | 1. Move unit or increase | |

| | | | |
|---|---------------------|---|-----------------------|
| | | condenser. | ventilation. |
| 4. Cabinet inside temperature too high; compressor will not start | 1. Compressor Relay | 1. Defective. (115V to relay coil.) | 1. Check and replace. |
| | 2. Circuit Board | 1. Defective. (Compressor relay coil not energized at 115V.) | 1. Replace. |

| Problem | Possible Cause | | Remedy |
|--|---------------------|---|--|
| 5. Cabinet temperature too high. | 1. Setpoint | 1. Incorrect. | 1. Correct setpoint. Factory defaults : Freezer -0.4°F(-18°C) Refrigerator 35°F(2°C) |
| | 2. Door | 1. Not sealing, or open for long intervals. | 1. Check for sealing, check for door open at time of warm cabinet temperature. |
| | 3. Defrost | 1. Not enough defrosts occurring per day. Operation in humid conditions. | 1. Freezer ; See "C. 1. 5 Defrost System." 2. Refrigerator : "C. 1. 6 Defrost System." 3. Check D-Sensor position. |
| | 4. Refrigerant | 1. Leak. | 1. Repair leak and recharge |
| | 5. Fan Motor | 1. Defective. | 1. Check and replace. |
| | 6. Condenser | 1. Dirty. | 1. Clean. |
| | 7. S1-Sensor | 1. Defective. | 1. Check and replace. |
| | 8. Control Board | 1. Defective. | 1. Replace. |
| 6. Cabinet temperature display indicator does not illuminate properly. | 1. Board Connection | 1. Bad connection between control board and display board. | 1. Check connection. |
| | 2. Display Board | 1. Defective. | 1. Replace. |
| | 3. Control Board | 1. Defective. | 1. Replace. |
| 7. Cabinet inside temperature too low. | 1. Sensor | 1. Defective. | 1. Check and Replace. |
| | 2. Compressor Relay | 1. Defective; contacts welded. | 1. Replace. |
| | 3. Circuit Board | 1. Defective. | 1. Replace. |

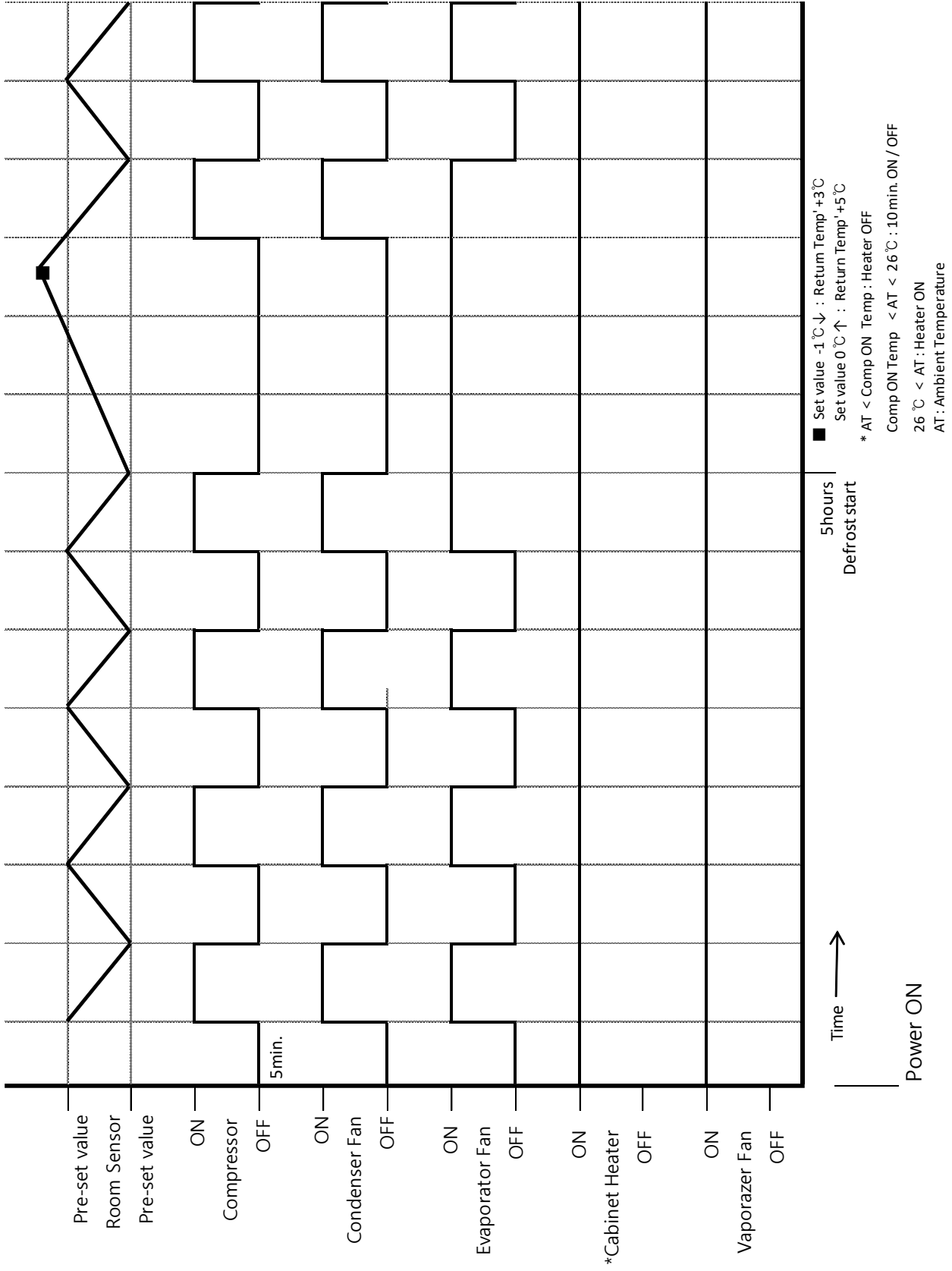
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|---|------------------------------|---|--|
| 8. Evaporator does not defrost completely | 1. D-Sensor | 1. Defective. | 1. Check and replace. |
| | 2. Defrost | 1. Not enough defrosts occurring per day. Operation in humid conditions. | 1. Freezer ; See "C. 1. 5 Defrost System." 2. Refrigerator : "C. 1. 6 Defrost System." 3. Check D-Sensor position. |
| | 3. Defrost Heaters | 1. Defective. | 1. Freezer : Replace heaters. |
| | 4. Safety Defrost Thermostat | 1. Defective, turning off heaters prematurely, or fused open. | 1. Freezer : Replace safety defrost thermostat. |

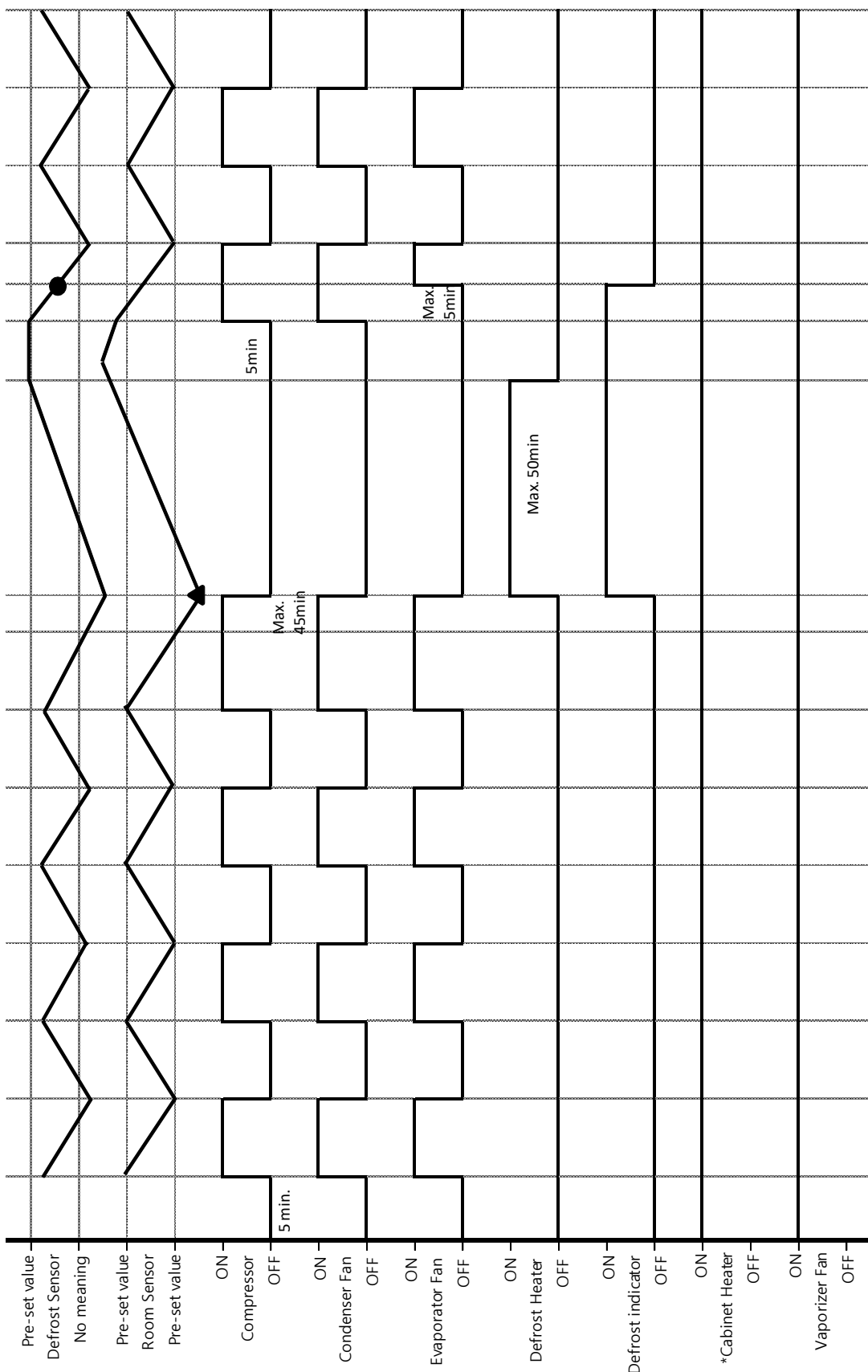
| Problem | Possible Cause | Remedy | |
|----------------------------------|------------------------------|---|--|
| 9. Defrost cycle lasts too long. | 1. Defrost Sensor | 1. Defective. | 1. Replace. |
| | 2. Control Board | 1. Defective. | 1. Replace. |
| | 3. Defrost | 1. Not enough defrosts occurring per day. Operation in humid conditions. | 1. Freezer ; See "C. 1. 5 Defrost System." 2. Refrigerator : "C. 1. 6 Defrost System." 3. Check D-Sensor position. |
| | 3. Defrost Heaters | 1. Defective. | 1. Freezer : Replace heaters. |
| | 4. Safety Defrost Thermostat | 1. Defective, turning off heaters prematurely, or fused open. | 1. Freezer : Replace safety defrost thermostat. |
| 11. Abnormal noise | 1. Fasteners | 1. Loose fasteners allow vibration of part. | 1. Tighten fasteners. |
| | 2. Compressor | 1. Problem with mount. | 1. Properly mount compressor. Replace any missing grommets. |
| | | 2. Floodback to | 2. Check for signs of |

| | | | |
|--|----------|---------------------|--|
| | | compressor. | floodback to compressor. Evacuate and recharge if necessary. |
| | | 3. Defective. | 3. Replace. |
| | 3. Fan | 1. Fan blade loose. | 1. Adjust and tighten. |
| | | 2. Defective motor. | 2. Replace. |
| | 4. Relay | 1. Chattering. | 1. Replace. |

Thermistors (semiconductors) are used for the cabinet control sensor and defrost termination sensor. The resistance varies depending on temperature. No adjustment is required.

If necessary, check for resistance between thermistor leads and visually check the thermistor mounting.





- ▲ Set value minus 8 °C
- Defrost sensor Temp' -10 °C
- * Default setting 8hours, adjustable

* 8 hours
Defrost Start

Time →
Power ON

G. Error Code

| Display | Content | Segment | Function |
|---------|----------------------|------------|---|
| tO | R-Sensor OPEN | tO | - Comp ON : 6 MINUTES - Comp OFF: 11 MINUTES |
| ts | R-Sensor SHORT | ts | |
| | RT-Sensor OPEN/SHORT | Room Temp. | - BOX HEATER 100% On |

5. PART LIST

| NO | Code No | Description | NO | Code No | Description |
|----|-----------|-------------------------------|----|-----------|--------------------------------|
| 1 | R3132-551 | GRILLE EVA COVER | 35 | R714A560 | COMPRESSOR (NF21K5111FU) |
| 2 | R2104-610 | TUBE-VACCUM | 36 | R714A540 | COMPRESSOR(NF21K5131FU) |
| 3 | R212A-070 | CONDENSER WIRE(8) | 37 | R7503-070 | POWER TRANS (220V) |
| 4 | R319B-680 | PIPE DISCHARGE | 38 | R817B-860 | ASSY DOOR LF(W1200) |
| 5 | R319C-020 | PIPE COND OUT(SIDE TABLE) | 39 | R817B-870 | ASSY DOOR LF(W1500) |
| 6 | R319C-050 | PIPE SUCTION(SALAD/TOPPING) | 40 | R817B-880 | ASSY DOOR LF(W1800) |
| 7 | R321A-920 | CASE CONTROL PANEL | 41 | R817B-890 | ASSY DOOR RH(W1200) |
| 8 | R333A-050 | FAN BLADE EVAP | 42 | R817B-900 | ASSY DOOR RH(W1500) |
| 9 | R337A-440 | FRAME PAN(SALAD) | 43 | R817B-910 | ASSY DOOR RH(W1800) |
| 10 | R337A-450 | FRAME PAN(TOPPING) | 44 | R817C-170 | ASSY DOOR RH(W900) |
| 11 | R338A-180 | GASKET GLASS DOOR(W900) | 45 | R828A-170 | ASSY HINGE BKT LOW |
| 12 | R338A-190 | GASKET GLASS DOOR(W1200) | 46 | R828A-180 | ASSY HINGE BKT UPP |
| 13 | R338A-200 | GASKET GLASS DOOR(W1500) | 47 | R828A-280 | ASSY HINGE BRACKET LOW RH |
| 14 | R338A-210 | GASKET GLASS DOOR(W1800) | 48 | R828A-300 | ASSY HINGE BRACKET UPP RH |
| 15 | R342A-042 | HANDLE COVER | 49 | R834H-400 | ASSY PACKING SHELF(SALAD 900) |
| 16 | R342A-130 | HANDLE DOOR(SIDE TABLE) | 50 | R834H-410 | ASSY PACKING SHELF(SALAD 1200) |
| 17 | R345A-060 | HOSE DRAIN EVA(SALAD/TOPPING) | 51 | R834H-420 | ASSY PACKING SHELF(SALAD 1500) |
| 18 | R371A-900 | SHELF (SALAD 900) | 52 | R834H-430 | ASSY PACKING SHELF(SALAD 1800) |
| 19 | R371A-910 | SHELF (SALAD 1200) | 53 | R840A-280 | ASSY EVA COVER(SALAD 1200) |
| 20 | R371A-920 | SHELF (SALAD 1500) | 54 | R840A-290 | ASSY EVA COVER(SALAD 1500) |
| 21 | R371A-930 | SHELF (SALAD 1800) | 55 | R840A-300 | ASSY EVA COVER(SALAD 1800) |
| 22 | R3729-010 | EVAP FAN BLADE (8 INCH. CCW) | 56 | R840A-310 | ASSY EVA MOTOR(SALAD/TOPPING) |
| 23 | R382A-080 | BOARD TABLE(TOPPING 900) | 57 | R840A-390 | ASSY EVA COVER(SALAD 900) |
| 24 | R382A-090 | BOARD TABLE(TOPPING 1200) | 58 | R858F-810 | GASKET AS(W1200) |
| 25 | R382A-100 | BOARD TABLE(TOPPING 1500) | 59 | R858F-820 | GASKET AS(W1500) |
| 26 | R382A-110 | BOARD TABLE(TOPPING 1800) | 60 | R858F-830 | GASKET AS(W1800) |
| 27 | R511A-540 | INLAY CONTROL | 61 | R858F-800 | GASKET AS (W900) |
| 28 | R512A-772 | INSTRUCTION | 62 | R338A-350 | GASKET DOOR 1200 |
| 29 | R719D-260 | PCB MAIN(115V CELSIUS) REF | 63 | R338A-360 | GASKET DOOR 1800 |
| 30 | R719D-270 | PCB MAIN(220V FAHRENHEIT) REF | 64 | R858E-550 | EVAPORATOR AS(SALAD 900) |
| 31 | R725C-220 | PCB PANEL | 65 | R858E-560 | EVAPORATOR AS(SALAD 1500) |
| 32 | R725C-280 | PCB MAIN(220V CELSIUS) REF | | | |
| 33 | R726A-090 | MOTOR EVA(SIDE TABLE) | | | |
| 34 | R7423-260 | COND FAN MOTOR | | | |