SERVICE MANUAL

MODEL FM-170,300AKE(-N) FM-480,600AKE(-N) FM-480,600AWKE(-N) FM-750,1000AKE(-N) FM-750,1800ALKE(-N)

HOSHIZAKI MODULAR ICE MAKER



CONTENTS

1. DIMENSIONS/SPECIFICATIONS 1 [a] FM-170AKE 1 [b] FM-170AKE 1 [c] FM-300AKE 3 [d] FM-300AKE 3 [d] FM-300AKE 5 [e] FM-480AKE 7 [f] FM-480AKE 9 [g] FM-480AKE 9 [g] FM-480AKE 9 [g] FM-480AWKE 11 [h] FM-480AWKE 11 [h] FM-600AKE 15 [j] FM-600AKE 15 [j] FM-600AKE 17 [k] FM-600AWKE 19 [j] FM-600AKE 23 [n] FM-750AKE 23 [n] FM-750AKE 23 [n] FM-1000AKE 27 [j] FM-1000AKE 29 [j] FM-1000AKE 29 [j] FM-1000ALKE 31 [j] FM-1000ALKE 33 [s] FM-1800ALKE 33 [s] FM-1800ALKE 33 [j] FM-1800ALKE 33 [j] FM-1800ALKE 33 [j] FM-1800ALKE 39 [j] FM-1800ALKE(-N), FM-480AKE(-N), FM-600AKE(-N) 40	١.	SPECIFICATIONS		1
[b] FM-170AKE-N 2 [c] FM-300AKE 3 [d] FM-300AKE-N 5 [e] FM-480AKE 7 [f] FM-480AKE-N 9 [g] FM-480AWKE-N 9 [g] FM-480AWKE-N 9 [g] FM-480AWKE-N 13 [i] FM-600AWKE-N 13 [i] FM-600AWKE-N 17 [k] FM-600AWKE-N 17 [k] FM-600AWKE-N 19 [i] FM-600AWKE-N 21 [m] FM-750AKE-N 23 [n] FM-750AKE-N 23 [n] FM-750AKE-N 25 [j] FM-1000AKE-N 27 [p] FM-1000AKE-N 29 [q] FM-1200ALKE 31 [s] FM-1800ALKE-N 29 [q] FM-1200ALKE-N 33 [s] FM-1800ALKE-N 32 [s] FM-1800ALKE-N 33 [s] FM-1800ALKE-N 33 [s] FM-1800ALKE-N 39 [s] FM-1800ALKE-N	1.	DIMENSIONS/SPECIFICATIONS		1
[c] FM-300AKE 3 [d] FM-300AKE 5 [e] FM-480AKE 7 [f] FM-480AKE 7 [f] FM-480AKE 7 [g] FM-480AKE 11 [h] FM-480AWKE 13 [j] FM-600AKE 15 [j] FM-600AKE 17 [k] FM-600AWKE 19 [j] FM-700AKE 23 [n] FM-750AKE 23 [n] FM-700AKE 25 [o] FM-1000AKE 27 [j] FM-1000AKE 27 [j] FM-1000AKE 27 [j] FM-1000AKE 27 [j] FM-1800ALKE 33 [s] FM-1800ALKE 33 [s] FM-1800ALKE 37 2. CONSTRUCTION 39 [a] FM-170AKE(-N) 39 [b] FM-300AKE(-N), FM-400AWKE(-N) 40 [c] FM-1200ALKE 39 [j] FM-1000AKE(-N), FM-600AWKE(-N) 41 [d] FM-750AKE(-N), FM-600AWKE(-N)		[a] FM-170AKE		1
[d] FM-300AKE-N 5 [e] FM-480AKE 7 [f] FM-480AKKE-N 9 [g] FM-480AWKE-N 11 [h] FM-480AWKE-N 13 [i] FM-600AKE 15 [j] FM-600AKE 17 [k] FM-600AKE-N 17 [k] FM-600AKE-N 17 [k] FM-600AKE-N 17 [m] FM-750AKE-N 21 [m] FM-750AKE-N 23 [n] FM-750AKE-N 25 [o] FM-1000AKE 27 [p] FM-1000AKE 31 [r] FM-1800ALKE 33 [s] FM-1800ALKE 35 [t] FM-1800ALKE 37 2 CONSTRUCTION 39 [a] FM-170AKE(-N), FM-400AWKE(-N), FM-600AWKE(-N) 40 [c] FM-480AWKE(-N), FM-600AWKE(-N) 41 [d] FM-750AKE(-N), FM-600AWKE(-N) 42 [e] FM-1200ALKE(-N) 43 [f] FM-1800ALKE(-N) 44 <td></td> <td>[b] FM-170AKE-N</td> <td></td> <td>2</td>		[b] FM-170AKE-N		2
[d] FM-300AKE-N 5 [e] FM-480AKE 7 [f] FM-480AKKE-N 9 [g] FM-480AWKE-N 11 [h] FM-480AWKE-N 13 [i] FM-600AKE 15 [j] FM-600AKE 17 [k] FM-600AKE-N 17 [k] FM-600AKE-N 17 [k] FM-600AKE-N 17 [m] FM-750AKE-N 21 [m] FM-750AKE-N 23 [n] FM-750AKE-N 25 [o] FM-1000AKE 27 [p] FM-1000AKE 31 [r] FM-1800ALKE 33 [s] FM-1800ALKE 35 [t] FM-1800ALKE 37 2 CONSTRUCTION 39 [a] FM-170AKE(-N), FM-400AWKE(-N), FM-600AWKE(-N) 40 [c] FM-480AWKE(-N), FM-600AWKE(-N) 41 [d] FM-750AKE(-N), FM-600AWKE(-N) 42 [e] FM-1200ALKE(-N) 43 [f] FM-1800ALKE(-N) 44 <td></td> <td>[c] FM-300AKE</td> <td></td> <td>3</td>		[c] FM-300AKE		3
[e] FM-480AKE 7 [f] FM-480AKE-N 9 [g] FM-480AWKE-N 11 [h] FM-480AWKE-N 13 [i] FM-600AKE 15 [j] FM-600AKE-N 17 [k] FM-600AWKE-N 17 [k] FM-600AWKE-N 17 [k] FM-600AWKE-N 19 [j] FM-600AWKE-N 21 [m] FM-750AKE 23 [n] FM-700AKE-N 25 [o] FM-1000AKE-N 25 [j] FM-1000AKE-N 29 [q] FM-1200ALKE-N 29 [q] FM-1200ALKE-N 31 [s] FM-1800ALKE 31 [s] FM-1800ALKE-N 33 [s] FM-1800ALKE-N 33 [s] FM-1800ALKE-N 37 2. CONSTRUCTION 39 [a] FM-70AKE(-N), FM-600AWKE(-N) 40 [c] FM-480AWKE(-N), FM-600AWKE(-N) 40 [c] FM-480AWKE(-N), FM-600AWKE(-N) 41 [d] FM-750AKE(-N), FM-1000AKE(-N) 42 [e] FM-1200ALKE(-N) 44 [j] BIN CONTROL SWITCH AND SPOUT 45 11 MAINTENANCE AND CLEANING INSTRUCTIONS				
[f] FM-480AWKE-N 9 [g] FM-480AWKE-N 13 [h] FM-480AWKE-N 13 [i] FM-600AKE 15 [j] FM-600AWKE-N 17 [k] FM-600AWKE-N 17 [k] FM-600AWKE-N 17 [k] FM-600AWKE-N 17 [m] FM-750AKE-N 23 [n] FM-750AKE-N 23 [n] FM-750AKE-N 25 [o] FM-1000AKE-N 29 [q] FM-1200ALKE-N 29 [q] FM-1200ALKE-N 31 [r] FM-1200ALKE-N 33 [s] FM-1800ALKE-N 33 [s] FM-1800ALKE-N 33 [s] FM-1800ALKE-N 33 [s] FM-1800ALKE-N 37 2. CONSTRUCTION 39 [a] FM-170AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 40 [c] FM-480AWKE(-N), FM-480AKE(-N), FM-600AKE(-N) 40 [c] FM-1200ALKE(-N), FM-400AKE(-N) 41 [d] FM-750AKE(-N), FM-400AKE(-N) 42 [e] FM-1200ALKE(-N), FM-400AKE(-N) 42 [e] FM-1200ALKE(-N) 44 [g] BIN CONTROL SWITCH AND SPOUT 45 II. MAINTENANCE AND				
[9] FM-480AWKE 11 [h] FM-480AWKE-N 13 [i] FM-600AKE 15 [j] FM-600AKE-N 17 [k] FM-600AKE-N 17 [k] FM-600AKE-N 19 [j] FM-600AKE-N 21 [m] FM-750AKE-N 23 [n] FM-750AKE-N 25 [o] FM-1000AKE-N 25 [j] FM-1000AKE-N 29 [q] FM-1200ALKE 31 [j] FM-1200ALKE-N 33 [s] FM-1800ALKE-N 33 [s] FM-1800ALKE-N 35 [t] FM-1200ALKE-N 33 [s] FM-1800ALKE-N 33 [c] FM-1800ALKE-N 33 [j] FM-100AKE(-N) 39 [a] FM-170AKE(-N) 39 [b] FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 40 [c] FM-480AWKE(-N), FM-1000AKE(-N) 40 [c] FM-480AWKE(-N), FM-1000AKE(-N) 41 [d] FM-750AKE(-N), FM-1000AKE(-N) 42 [e] FM-1800ALKE(-N) 44 [g] BIN CONTROL SWITCH AND SPOUT 45 II. MAINTENANCE AND CLEANING INSTRUCTIONS 46 1. EXTRUDING HEAD (UPPER				
[h] FM-480AWKE-N 13 [i] FM-600AKE 15 [j] FM-600AWKE-N 17 [k] FM-600AWKE-N 19 [i] FM-600AWKE-N 21 [m] FM-750AKE 23 [n] FM-750AKE-N 25 [o] FM-1000AKE-N 25 [o] FM-1000AKE-N 25 [o] FM-1000AKE-N 29 [q] FM-1200ALKE 31 [r] FM-1200ALKE 31 [r] FM-1200ALKE 31 [s] FM-1800ALKE 35 [t] FM-1800ALKE-N 35 [t] FM-1800ALKE-N 39 [a] FM-170AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 39 [a] FM-750AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 40 [c] FM-480AWKE(-N), FM-600AWKE(-N) 41 [d] FM-750AKE(-N), FM-600AWKE(-N) 42 [e] FM-1200ALKE(-N) 43 [f] FM-180ALKE(-N), FM-600AWKE(-N) 44 [g] BIN CONTROL SWITCH AND SPOUT 45 II. MAINTENANCE AND CLEANING INSTRUCTIONS 46 2. GEAR MOTOR 47 4. CONDENSER (AIR-COOLED MODEL ONLY) 47 5. GIEAR MOTOR 47 <t< td=""><td></td><td></td><td></td><td></td></t<>				
[] FM-600AKE 15 []] FM-600AWKE-N 17 [k] FM-600AWKE-N 19 []] FM-600AWKE-N 21 [m] FM-750AKE-N 23 [n] FM-750AKE-N 25 [o] FM-1000AKE-N 25 [o] FM-1000AKE-N 27 [p] FM-1000AKE-N 27 [q] FM-1200ALKE 31 [r] FM-1200ALKE 33 [s] FM-1800ALKE 33 [s] FM-1800ALKE 33 [s] FM-1800ALKE 35 [t] FM-1800ALKE-N 37 2. CONSTRUCTION 39 [a] FM-170AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 39 [b] FM-300AKE(-N), FM-600AWKE(-N) 40 [c] FM-480AWKE(-N), FM-600AWKE(-N) 41 [d] FM-750AKE(-N), FM-600AWKE(-N) 42 [e] FM-1200ALKE(-N) 43 [f] FM-1800ALKE(-N) 44 [g] BIN CONTROL SWITCH AND SPOUT 44 [g] BIN CONTROL SWITCH AND SPOUT 45 II. MAINTENANCE AND CLEANING INSTRUCTIONS 46 . GEAR MOTOR 47 . CONDENSER (AIR-COOLED MODEL ONLY) 47 .				
[j] FM-600AKE-N 17 [k] FM-600AWKE-N 19 [l] FM-600AWKE-N 21 [m] FM-750AKE-N 23 [n] FM-750AKE-N 25 [o] FM-1000AKE-N 25 [o] FM-1000AKE-N 27 [p] FM-1000AKE-N 29 [q] FM-1200ALKE 31 [r] FM-1200ALKE-N 33 [s] FM-1800ALKE-N 35 [t] FM-1200ALKE-N 36 [t] FM-1800ALKE-N 37 2. CONSTRUCTION 39 [a] FM-170AKE(-N) 39 [a] FM-170AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 40 [c] FM-480AWKE(-N), FM-600AWKE(-N) 40 [c] FM-300ALKE(-N), FM-1000AKE(-N) 41 [d] FM-1200ALKE(-N), FM-1000AKE(-N) 42 [e] FM-1200ALKE(-N), FM-1000AKE(-N) 42 [e] FM-1200ALKE(-N), FM-1000AKE(-N) 43 [f] FM-1800ALKE(-N) 44 [g] BIN CONTROL SWITCH AND SPOUT 45 II. MAINTENANCE AND CLEANING INSTRUCTIONS 46 3. GEAR MOTOR 47 4. CONDENSER (AIR-COOLED MODEL ONLY) 47 5. AIE FILTER (AIR-COOLED MODEL ONLY				
[k] FM-600AWKE-N 19 [I] FM-600AWKE-N 21 [m] FM-750AKE-N 23 [n] FM-750AKE-N 25 [o] FM-1000AKE-N 27 [p] FM-1000AKE-N 29 [q] FM-1200ALKE 31 [r] FM-1800ALKE 33 [s] FM-1800ALKE 33 [s] FM-1800ALKE 37 2. CONSTRUCTION 39 [a] FM-170AKE(-N) 77 2. CONSTRUCTION 39 [b] FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 40 [c] FM-480AWKE(-N), FM-600AWKE(-N) 40 [c] FM-480AWKE(-N), FM-1000AWKE(-N) 42 [e] FM-1200ALKE(-N) 43 [f] FM-1800ALKE(-N) 43 [f] FM-1800ALKE(-N) 44 [g] BIN CONTROL SWITCH AND SPOUT 45 II. MAINTENANCE AND CLEANING INSTRUCTIONS 46 1. EXTRUDING HEAD (UPPER BEARING), HOUSING (LOWER BEARING) 46 2. GEAR MOTOR 47 4. CONDENSER (AIR-COOLED MODEL ONLY) 47 5. AIR FILTER (AIR-COOLED MODEL ONLY) 47 6. CONTROL WATER SYSTEM 49 III. TECHNICAL INFORMAT		[i] FM-600AKE-N	1	7
[1] FM-600AWKE-N 21 [m] FM-750AKE 23 [n] FM-750AKE-N 25 [o] FM-1000AKE-N 25 [o] FM-1000AKE-N 29 [] FM-1200ALKE 31 [] FM-1200ALKE-N 29 [] FM-1200ALKE-N 33 [] S] FM-1800ALKE 33 [] FM-1800ALKE-N 35 [] [] FM-1800ALKE-N 35 [] [] FM-1800ALKE-N 37 2 CONSTRUCTION 39 [] FM-1800ALKE(-N), FM-480AKE(-N), FM-600AKE(-N) 40 [] FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 40 [] FM-1200ALKE(-N), FM-400AKE(-N) 40 [] FM-1200ALKE(-N), FM-600AWKE(-N) 41 [] FM-1200ALKE(-N), FM-1000AKE(-N) 42 [] FM-1200ALKE(-N), FM-1000AKE(-N) 43 [] FM-1200ALKE(-N) 44 [] g] BIN CONTROL SWITCH AND SPOUT 44 [] g] BIN CONTROL SWITCH AND SPOUT 45 II. MAINTENANCE AND CLEANING INSTRUCTIONS 46 2. EXTRUDING HEAD (UPPER BEARING), HOUSING (LOWER BEARING) 46 3. GEAR MOTOR 47 4. CONDENSER (AIR-COOLED MODEL ONLY) 47 </td <td></td> <td></td> <td></td> <td></td>				
[m] FM-750AKE				
[n] FM-750AKE-N 25 [o] FM-1000AKE-N 27 [p] FM-1000AKE-N 29 [q] FM-1200ALKE 31 [r] FM-1200ALKE-N 33 [s] FM-1800ALKE 35 [t] FM-1200ALKE-N 35 [t] FM-1300ALKE-N 35 [t] FM-1800ALKE-N 37 2. CONSTRUCTION 39 [a] FM-750AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 40 [c] FM-480AWKE(-N), FM-480AKE(-N), FM-600AKE(-N) 40 [c] FM-480AWKE(-N), FM-600AWKE(-N) 41 [d] FM-750AKE(-N), FM-1000AKE(-N) 42 [e] FM-1200ALKE(-N), FM-1000AKE(-N) 43 [f] FM-1800ALKE(-N) 43 [f] FM-1800ALKE(-N) 44 [g] BIN CONTROL SWITCH AND SPOUT 45 II. MAINTENANCE AND CLEANING INSTRUCTIONS 46 1. EXTRUDING HEAD (UPPER BEARING), HOUSING (LOWER BEARING) 46 2. MECHANICAL SEAL 46 3. GEAR MOTOR 47 4. CONDENSER (AIR-COOLED MODEL ONLY) 47 5. AIR FILTER (AIR-COOLED MODEL ONLY) 47 6. CONTROL WATER VALVE 48 7. CLEANING OF WATER SYSTEM				
[o] FM-1000AKE 27 [p] FM-1000AKE-N 29 [q] FM-1200ALKE 31 [r] FM-1200ALKE-N 33 [s] FM-1800ALKE-N 35 [t] FM-1800ALKE-N 35 [t] FM-1800ALKE-N 37 2. CONSTRUCTION 39 [a] FM-170AKE(-N) 77 2. CONSTRUCTION 39 [b] FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 40 [c] FM-480AWKE(-N), FM-600AWKE(-N) 40 [c] FM-480AWKE(-N), FM-1000AKE(-N) 41 [d] FM-750AKE(-N), FM-1000AKE(-N) 42 [e] FM-1200ALKE(-N) 43 [f] FM-1800ALKE(-N) 43 [f] FM-1800ALKE(-N) 44 [g] BIN CONTROL SWITCH AND SPOUT 44 [g] BIN CONTROL SWITCH AND SPOUT 45 II. MAINTENANCE AND CLEANING INSTRUCTIONS 46 2. MECHANICAL SEAL 46 3. GEAR MOTOR 47 4. CONDENSER (AIR-COOLED MODEL ONLY) 47 5. AIR FILTER (AIR-COOLED MODEL ONLY) 47 6. CONTROL WATER VALVE 48 7. CLEANING OF WATER SYSTEM 49 III. TECHNICAL				
[p] FM-1000AKE-N				
[q] FM-1200ALKE 31 [r] FM-1200ALKE 33 [s] FM-1800ALKE 35 [t] FM-1800ALKE 35 [t] FM-1800ALKE 37 2. CONSTRUCTION 39 [a] FM-170AKE(-N) 39 [b] FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 40 [c] FM-480AWKE(-N), FM-600AWKE(-N) 41 [d] FM-750AKE(-N), FM-1000AKE(-N) 42 [e] FM-1200ALKE(-N), FM-1000AKE(-N) 43 [f] FM-1800ALKE(-N) 43 [f] FM-1800ALKE(-N) 44 [g] BIN CONTROL SWITCH AND SPOUT 45 II. MAINTENANCE AND CLEANING INSTRUCTIONS 46 2. MECHANICAL SEAL 46 3. GEAR MOTOR 47 4. CONDENSER (AIR-COOLED MODEL ONLY) 47 5. AIR FILTER (AIR-COOLED MODEL ONLY) 47 6. CONTROL WATER VALVE 48 7. CLEANING OF WATER SYSTEM 49 III. TECHNICAL INFORMATION 51 1. WATER CIRCUIT AND REFRIGERANT CIRCUIT 51 [a] FM-170AKE(-N), FM-1000AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 52 [c] FM-1200ALKE(-N), FM-1000AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 52 <				
[r] FM-1200ALKE-N				
[s] FM-1800ALKE 35 [t] FM-1800ALKE-N 37 2. CONSTRUCTION 39 [a] FM-170AKE(-N) 39 [b] FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 40 [c] FM-480AWKE(-N), FM-600AWKE(-N) 40 [c] FM-480AWKE(-N), FM-600AWKE(-N) 41 [d] FM-750AKE(-N), FM-1000AKE(-N) 42 [e] FM-1200ALKE(-N) 43 [f] FM-1800ALKE(-N) 43 [g] BIN CONTROL SWITCH AND SPOUT 44 [g] BIN CONTROL SWITCH AND SPOUT 45 II. MAINTENANCE AND CLEANING INSTRUCTIONS 46 2. MECHANICAL SEAL 46 3. GEAR MOTOR 47 4. CONDENSER (AIR-COOLED MODEL ONLY) 47 5. AIR FILTER (AIR-COOLED MODEL ONLY) 47 6. CONTROL WATER VALVE 48 7. CLEANING OF WATER SYSTEM 49 11. TECHNICAL INFORMATION 51 1. WATER CIRCUIT AND REFRIGERANT CIRCUIT 51 1. WATER CIRCUIT AND REFRIGERANT CIRCUIT 51 [a] FM-170AKE(-N), FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 52 [c] FM-1200ALKE(-N) 53 <td></td> <td></td> <td></td> <td></td>				
[t] FM-1800ALKE-N 37 2. CONSTRUCTION 39 [a] FM-170AKE(-N) 39 [b] FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 40 [c] FM-480AWKE(-N), FM-600AWKE(-N) 40 [c] FM-480AWKE(-N), FM-600AWKE(-N) 41 [d] FM-750AKE(-N), FM-1000AKE(-N) 42 [e] FM-1200ALKE(-N) 43 [f] FM-1800ALKE(-N) 43 [g] BIN CONTROL SWITCH AND SPOUT 45 II. MAINTENANCE AND CLEANING INSTRUCTIONS 46 1. EXTRUDING HEAD (UPPER BEARING), HOUSING (LOWER BEARING) 46 2. MECHANICAL SEAL 46 3. GEAR MOTOR 47 4. CONDENSER (AIR-COOLED MODEL ONLY) 47 5. AIR FILTER (AIR-COOLED MODEL ONLY) 47 6. CONTROL WATER VALVE 48 7. CLEANING OF WATER SYSTEM 49 III. TECHNICAL INFORMATION 51 1. WATER CIRCUIT AND REFRIGERANT CIRCUIT 51 1. WATER CIRCUIT AND REFRIGERANT CIRCUIT 51 1. WATER CIRCUIT AND REFRIGERANT CIRCUIT 51 [a] FM-170AKE(-N), FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 52 [c] FM-1200ALKE(-N), FM-1000AKE(-N) 52				
2. CONSTRUCTION 39 [a] FM-170AKE(-N) 39 [b] FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 40 [c] FM-480AWKE(-N), FM-600AWKE(-N) 41 [d] FM-750AKE(-N), FM-1000AKE(-N) 42 [e] FM-1200ALKE(-N) 43 [f] FM-1800ALKE(-N) 43 [f] FM-1800ALKE(-N) 44 [g] BIN CONTROL SWITCH AND SPOUT 45 II. MAINTENANCE AND CLEANING INSTRUCTIONS 46 1. EXTRUDING HEAD (UPPER BEARING), HOUSING (LOWER BEARING) 46 2. MECHANICAL SEAL 46 3. GEAR MOTOR 47 4. CONDENSER (AIR-COOLED MODEL ONLY) 47 5. AIR FILTER (AIR-COOLED MODEL ONLY) 47 6. CONTROL WATER VALVE 48 7. CLEANING OF WATER SYSTEM 49 11. TECHNICAL INFORMATION 51 12. WATER CIRCUIT AND REFRIGERANT CIRCUIT 51 13. GFM-170AKE(-N), FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 51 [b] FM-750AKE(-N), FM-1000AKE(-N) 52 [c] FM-1200ALKE(-N) 53				
[a] FM-170AKE(-N)				
[b] FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 40 [c] FM-480AWKE(-N), FM-600AWKE(-N) 41 [d] FM-750AKE(-N), FM-1000AKE(-N) 42 [e] FM-1200ALKE(-N) 43 [f] FM-1800ALKE(-N) 43 [f] FM-1800ALKE(-N) 44 [g] BIN CONTROL SWITCH AND SPOUT 45 II. MAINTENANCE AND CLEANING INSTRUCTIONS 46 1. EXTRUDING HEAD (UPPER BEARING), HOUSING (LOWER BEARING) 46 2. MECHANICAL SEAL 46 3. GEAR MOTOR 47 4. CONDENSER (AIR-COOLED MODEL ONLY) 47 5. AIR FILTER (AIR-COOLED MODEL ONLY) 47 6. CONTROL WATER VALVE 48 7. CLEANING OF WATER SYSTEM 49 III. TECHNICAL INFORMATION 51 1. WATER CIRCUIT AND REFRIGERANT CIRCUIT 51 1. WATER CIRCUIT AND REFRIGERANT CIRCUIT 51 1. WATER CIRCUIT AND REFRIGERANT CIRCUIT 51 1. BJ FM-170AKE(-N), FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 52 [c] FM-1200ALKE(-N) 53	2.	CONSTRUCTION	3	9
[c] FM-480AWKE(-N), FM-600AWKE(-N) 41 [d] FM-750AKE(-N), FM-1000AKE(-N) 42 [e] FM-1200ALKE(-N) 43 [f] FM-1800ALKE(-N) 43 [g] BIN CONTROL SWITCH AND SPOUT 44 [g] BIN CONTROL SWITCH AND SPOUT 45 II. MAINTENANCE AND CLEANING INSTRUCTIONS 46 1. EXTRUDING HEAD (UPPER BEARING), HOUSING (LOWER BEARING) 46 2. MECHANICAL SEAL 46 3. GEAR MOTOR 47 4. CONDENSER (AIR-COOLED MODEL ONLY) 47 5. AIR FILTER (AIR-COOLED MODEL ONLY) 47 6. CONTROL WATER VALVE 48 7. CLEANING OF WATER SYSTEM 49 III. TECHNICAL INFORMATION 51 1. WATER CIRCUIT AND REFRIGERANT CIRCUIT 51 [a] FM-170AKE(-N), FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 51 [b] FM-750AKE(-N), FM-1000AKE(-N) 53				
[d] FM-750AKE(-N), FM-1000AKE(-N)		[b] FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N)	4	0.
[e] FM-1200ALKE(-N) 43 [f] FM-1800ALKE(-N) 44 [g] BIN CONTROL SWITCH AND SPOUT 45 II. MAINTENANCE AND CLEANING INSTRUCTIONS 46 1. EXTRUDING HEAD (UPPER BEARING), HOUSING (LOWER BEARING) 46 2. MECHANICAL SEAL 46 3. GEAR MOTOR 47 4. CONDENSER (AIR-COOLED MODEL ONLY) 47 5. AIR FILTER (AIR-COOLED MODEL ONLY) 47 6. CONTROL WATER VALVE 48 7. CLEANING OF WATER SYSTEM 49 III. TECHNICAL INFORMATION 51 1. WATER CIRCUIT AND REFRIGERANT CIRCUIT 51 1. WATER CIRCUIT AND REFRIGERANT CIRCUIT 51 [a] FM-170AKE(-N), FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 51 [b] FM-750AKE(-N), FM-1000AKE(-N) 53		[c] FM-480AWKE(-N), FM-600AWKE(-N)	4	1
[f] FM-1800ALKE(-N) 44 [g] BIN CONTROL SWITCH AND SPOUT 45 II. MAINTENANCE AND CLEANING INSTRUCTIONS 46 1. EXTRUDING HEAD (UPPER BEARING), HOUSING (LOWER BEARING) 46 2. MECHANICAL SEAL 46 3. GEAR MOTOR 47 4. CONDENSER (AIR-COOLED MODEL ONLY) 47 5. AIR FILTER (AIR-COOLED MODEL ONLY) 47 6. CONTROL WATER VALVE 48 7. CLEANING OF WATER SYSTEM 49 III. TECHNICAL INFORMATION		[d] FM-750AKE(-N), FM-1000AKE(-N)	4	2
[f] FM-1800ALKE(-N) 44 [g] BIN CONTROL SWITCH AND SPOUT 45 II. MAINTENANCE AND CLEANING INSTRUCTIONS 46 1. EXTRUDING HEAD (UPPER BEARING), HOUSING (LOWER BEARING) 46 2. MECHANICAL SEAL 46 3. GEAR MOTOR 47 4. CONDENSER (AIR-COOLED MODEL ONLY) 47 5. AIR FILTER (AIR-COOLED MODEL ONLY) 47 6. CONTROL WATER VALVE 48 7. CLEANING OF WATER SYSTEM 49 III. TECHNICAL INFORMATION		[e] FM-1200ALKE(-N)	4	.3
II. MAINTENANCE AND CLEANING INSTRUCTIONS46 1. EXTRUDING HEAD (UPPER BEARING), HOUSING (LOWER BEARING)46 2. MECHANICAL SEAL		[f] FM-1800ALKE(-N)	4	4
1. EXTRUDING HEAD (UPPER BEARING), HOUSING (LOWER BEARING) 46 2. MECHANICAL SEAL 46 3. GEAR MOTOR 47 4. CONDENSER (AIR-COOLED MODEL ONLY)		[g] BIN CONTROL SWITCH AND SPOUT	4	.5
1. EXTRUDING HEAD (UPPER BEARING), HOUSING (LOWER BEARING) 46 2. MECHANICAL SEAL 46 3. GEAR MOTOR 47 4. CONDENSER (AIR-COOLED MODEL ONLY)	п	MAINTENANCE AND CLEANING INSTRUCTIONS	Δ	6
2. MECHANICAL SEAL46 3. GEAR MOTOR				
3. GEAR MOTOR 47 4. CONDENSER (AIR-COOLED MODEL ONLY) 47 5. AIR FILTER (AIR-COOLED MODEL ONLY) 47 6. CONTROL WATER VALVE 48 7. CLEANING OF WATER SYSTEM 49 III. TECHNICAL INFORMATION 51 1. WATER CIRCUIT AND REFRIGERANT CIRCUIT 51 [a] FM-170AKE(-N), FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N) 51 [b] FM-750AKE(-N), FM-1000AKE(-N) 52 [c] FM-1200ALKE(-N)				
 4. CONDENSER (AIR-COOLED MODEL ONLY)47 5. AIR FILTER (AIR-COOLED MODEL ONLY)47 6. CONTROL WATER VALVE48 7. CLEANING OF WATER SYSTEM49 III. TECHNICAL INFORMATION51 1. WATER CIRCUIT AND REFRIGERANT CIRCUIT51 [a] FM-170AKE(-N), FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N)51 [b] FM-750AKE(-N), FM-1000AKE(-N)53 				
 5. AIR FILTER (AIR-COOLED MODEL ONLY)				
 CONTROL WATER VALVE48 CLEANING OF WATER SYSTEM49 III. TECHNICAL INFORMATION51 WATER CIRCUIT AND REFRIGERANT CIRCUIT51 [a] FM-170AKE(-N), FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N)51 [b] FM-750AKE(-N), FM-1000AKE(-N)52 [c] FM-1200ALKE(-N)				
 CLEANING OF WATER SYSTEM49 III. TECHNICAL INFORMATION51 WATER CIRCUIT AND REFRIGERANT CIRCUIT51 [a] FM-170AKE(-N), FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N)51 [b] FM-750AKE(-N), FM-1000AKE(-N)52 [c] FM-1200ALKE(-N)53 				
 III. TECHNICAL INFORMATION51 1. WATER CIRCUIT AND REFRIGERANT CIRCUIT51 [a] FM-170AKE(-N), FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N)51 [b] FM-750AKE(-N), FM-1000AKE(-N)52 [c] FM-1200ALKE(-N)53 				
1. WATER CIRCUIT AND REFRIGERANT CIRCUIT51 [a] FM-170AKE(-N), FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N)51 [b] FM-750AKE(-N), FM-1000AKE(-N)52 [c] FM-1200ALKE(-N)53	1.	CLEANING OF WATER SYSTEM	4	.9
[a] FM-170AKE(-N), FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N)51 [b] FM-750AKE(-N), FM-1000AKE(-N)52 [c] FM-1200ALKE(-N)53				
[b] FM-750AKE(-N), FM-1000AKE(-N)52 [c] FM-1200ALKE(-N)53	1.			
[b] FM-750AKE(-N), FM-1000AKE(-N)52 [c] FM-1200ALKE(-N)53		[a] FM-170AKE(-N), FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N)	5	51
[c] FM-1200ALKE(-N)53				

	[e] FM-480AWKE(-N), FM-600AWKE(-N)	55
2.	WIRING DIAGRAM	
	[a] WIRING DIAGRAM	56
	[b] CONTROL BOX LAYOUT	
3.	ICEMAKING MECHANISM	
	[a] EVAPORATOR (CASING)	
	[b] AUGER	95
	[c] EXTRUDING HEAD (BEARING)	
	[d] HOUSING	95
	[e] MECHANICAL SEAL	
	[f] COUPLING (SPLINE JOINT)	
	[g] GEAR MOTOR	
	[b] BELT HEATER	
	[i] REMOVABLE FLANGE	
	[j] SEALING BOLT	
	[j] SEALING BOET	07
	[I] BIN CONTROL SWITCH (Auxiliary code: D-0 or earlier)	
	[m] BIN CONTROL SWITCH (Auxiliary code: D-1 or later)	
	[0] SPOUT, SPOUT COVER	
	[p] CRANKCASE HEATER	
4.		-
	[a] BASIC OPERATION	
_	[b] TIMING CHART	
5.	OPERATION BOARD	
	[a] OPERATION BUTTONS	- 103
	[b] SETTING MODEL NUMBER	
	[c] DISPLAYING COMPRESSOR OPERATING HOURS, CYCLE TIME, MODEL	
	NUMBER AND SOFTWARE VERSION	-
	[d] DISPLAYING ERROR LOG	
	[e] RESETTING ERROR LOG	
	[f] RESETTING COMPRESSOR OPERATING HOURS	
	[g] REDUCING COMPRESSOR STARTING TIME	
6.	PROTECTORS	
	[a] INDICATION	
	ERROR CODES	
8.	PERFORMANCE DATA	- 111
	[a] FM-170AKE	- 111
	[b] FM-170AKE-N	- 112
	[c] FM-300AKE	- 113
	[d] FM-300AKE-N	- 114
	[e] FM-480AKE	- 115
	[f] FM-480AKE-N	- 116
	[g] FM-480AWKE	
	[h] FM-480AWKE-N	
	[i] FM-600AKE	
	[j] FM-600AKE-N	
	[k] FM-600AWKE	
	[I] FM-600AWKE-N	

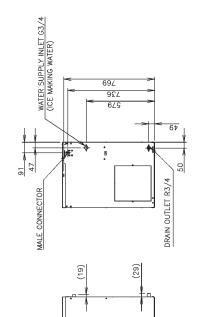
[m] FM-750AKE	123
[n] FM-750AKE-N	
[o] FM-1000AKE	
[p] FM-1000AKE-N	
[q] FM-1200ALKE	
[r] FM-1200ALKE-N	127
[s] FM-1800ALKE	
[t] FM-1800ALKE-N	128
IV. SERVICE DIAGNOSIS	129
1. NO ICE PRODUCTION	129
2. LOW ICE PRODUCTION	
3. OTHERS	131
V. REMOVAL AND REPLACEMENT OF COMPONENTS	133
1. SERVICE FOR REFRIGERANT LINES	
[a] SERVICE INFORMATION	133
[b] REFRIGERANT RECOVERY	134
[c] EVACUATION AND RECHARGE	
2. BRAZING	136
3. COMPRESSOR	136
4. DRIER	
5. EXPANSION VALVE	
6. WATER REGULATING VALVE - WATER-COOLED MODEL ONLY	
7. EVAPORATOR ASSEMBLY	
8. CONTROL WATER VALVE	
9. FLUSH WATER VALVE	
10. CONTROLLER BOARD	
[a] MODIFICATION	144
[b] REPLACEMENT	144

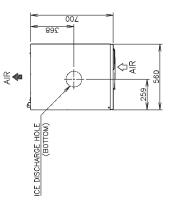
I. SPECIFICATIONS

1. DIMENSIONS/SPECIFICATIONS

[a] FM-170AKE

ITEM	HOSHIZAKI FLAKE ICE MAKER
MODEL	
POWER SUPPLY	1 Phase 220-240/220-230V 50/60Hz Capacity: 1.62/1.19KVA (6.8/5.2A)
AMPERAGE	3.9/3.5A Starting: 19A
ELECTRIC CONSUMPTION	600/675W (Power Factor: 66/83%)
ICE PRODUCTION PER 24h	Approx.170kg (Ambient Temp. 10° C, Water Temp. 10° C) Approx.145kg (Ambient Temp. 21° C, Water Temp. 15° C) Approx.120kg (Ambient Temp. 32° C. Water Temp. 21° C)
SHAPE OF ICE	
MAX. STORAGE CAPACITY	
NATER CONSUMPTION PER 24h	Approx.0.17m² (Ambient Temp. 10° C, Water Temp. 10° C) Approx.0.15m² (Ambient Temp. 21° C, Water Temp. 15° C) Approx.0.12m² (Ambient Temp. 32° C, Water Temp. 21° C)
OUTSIDE DIMENSIONS	
HEAT REJECTION	1350W(Ambient temp.32°, Water temp.21°)
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE MAKING SYSTEM	읒
WATER SUPPLY SYSTEM	Direct Connection to Water Main, Inlet: G3/4 (Rear)
DRAIN SYSTEM	Outlet: R3/4
COMPRESSOR	Hermetic
CONDENSER	
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R134g
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
ICEMAKING WATER CONTROL	Float Switch and Water Valve
ELECTRICAL CIRCUIT PROTECTION	Circuit Breaker, Earth Wire
REFREEMENT CROUT PROTECTION	Compressor Internal Thermostat (Auto-reset), Pressure Switch (Auto-reset)
MECHANISM PROTECTION	Micro Switch (Manual-reset)
INTERLOCK	Shutdown by Microprocessor (Manual-reset)
WEIGHT	Net: 68kg(Gross: 75kg)
PACKAGE	Carton 671(W)×820(D)×971mm(H)
ACCESSORIES	Mounting Bracket, Installation Kit
OPERATING CONDITIONS	Ambient Temp.: 5 - 400, Water Supply Temp.: 5-350 Water Supply Pressure: 0.05-0.8MPa(0.5-8bar) Wittang Barase: Pated Victore+109
We reserve the right t Install the i the instruct connection	We reserve the right to make changes in specifications and design without prior notice. 1. Install the ice maker properly in accordance with the instructions on location, water supply/drain connections and leactical connections stated in the instructions and leactical connections stated in
2. The instruction and but its production d water temperatures. Refer to the instruct 2. Product Code: FORA	The instruction fund instantion manuals provided. The ice production depends on the ambient and water temperatures. Refer to the instruction manual.
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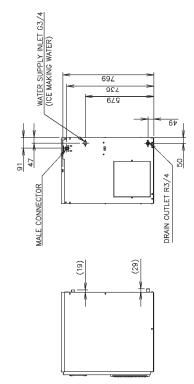


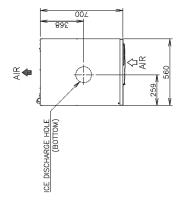




[b] FM-170AKE-N

ITEM	HOSHIZAKI NILIGGET ICE MAKER
MODEL	FM-170AKE-N
POWER SUPPLY	1 Phase 220-240/220-230V 50/60Hz Capacity: 1.62/1.19kVA (6.8/5.2A)
AMPERAGE	3.9/3.5A Starting: 19A
ELECTRIC CONSUMPTION	620/695W (Power Factor: 69/86%)
ICE DONNICTION DEP 346	Approx.160kg (Ambient Temp. 10° C, Water Temp. 10° C) Approx.135kg (Ambient Temp. 21° C, Water Temp. 15° C)
	(Ambient Temp. 32° C, Water Temp. 21°
SHAPE OF ICE	
MAX. STORAGE CAPACITY	
WATER CONSUMPTION PER 24h	Temp. 10° C, Water Temp. 10° Temp. 21° C, Water Temp. 15°
OLITSIDE DIMENSIONS	Approx.0.11m ⁽ (Ambient lemp. 32 [·] C, Water lemp. 21 [·] C) 560/W) × 700/D) × 780mm/H)
HEAT REJECTION	1350W(Ambient temp.32C,Water temp.21C)
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Nugget Ice)
WATER SUPPLY SYSTEM	Direct Connection to Water Main, Inlet: G3/4 (Rear)
DRAIN SYSTEM	Outlet: R3/4
COMPRESSOR	Hermetic
CONDENSER	
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R134a
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
ICEMAKING WATER CONTROL	Float Switch and Water Valve
ELECTRICAL CIRCUIT PROTECTION	Circuit Breaker, Earth Wire
REPROFINANT CROUT PROFECTION	Compressor Internal Thermostat (Auto-reset), Pressure Switch (Auto-reset)
MECHANISM PROTECTION	Micro Switch (Manual-reset)
INTERLOCK	
WEIGHT	Net: 68kg(Gross: 75kg)
PACKAGE	Carton 671(W)×820(D)×900mm(H)
ACCESSORIES	Mounting Bracket, Installation Kit
OPERATING CONDITIONS	Ambient Temp.: 5 - 40°, Water Supply Temp.: 5-35° Water Supply Pressure: 0.05-0.8MPa(0.5-8bar)
	Voltage Range: Rated Voltage±10%
*We reserve the right to 1. Install the i the instruct	We reserve the right to make changes in specifications and design without prior notice. 1. Install the ice maker properly in accordance with the instructions on location, water supply/drain
the instruct 2. The ice pro	commerciants and encurrent commerciants sourced in the instruction and installation manuals provided. The ice production depends on the ambient and
water temperatures Refer to the instruc 3. Product Code: F084	Inual

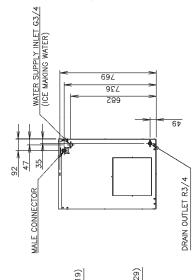


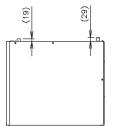


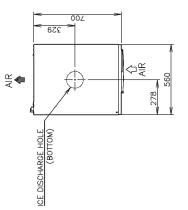


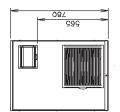
[c] FM-300AKE (Auxiliary code: D-0 or earlier)

ITEM	HOSHIZAKI ELAKE ICE MAKER
MODEL	
POWER SUPPLY	1 Phase 220-240V 50Hz Capacity: 1.66kVA (7.2A)
AMPERAGE	starting: 19A
ELECTRIC CONSUMPTION	: 77%)
ICE PRODUCTION PER 24h	Approx.320kg (Ambient Temp. 100, Water Temp. 100) Approx.260kg (Ambient Temp. 210, Water Temp. 150)
	200kg (Ambient Temp. 32°, Water Temp.
SHAPE OF ICE	Flake
MAX. STORAGE CAPACITY	
WATER CONSUMPTION PER 24h	Approx.0.350rrf (Ambient Temp. 100, Water Temp. 100) Approx.0.290rrf (Ambient Temp. 210, Water Temp. 150) Approx.0.290rrf (Ambient Temp. 320, Water Temp. 210)
OUTSIDE DIMENSIONS	S0mm(H)
HEAT REJECTION	2200W(Ambient temp.32C,Water temp.21C)
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Flake Ice)
WATER SUPPLY SYSTEM	Direct Connection to Water Main, Inlet: G3/4 (Rear)
DRAIN SYSTEM	Outlet: $R3/4 \times 2$ (Rear)
COMPRESSOR	Hermetic
CONDENSER	Fin and Tube Type, Air-cooled
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R404A
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
ICENAKING WATER CONTROL	Float Switch and Solenoid Valve
ELECTRICAL CROUT PROTECTION	Circuit Breaker, Earth Wire
REFREEMED CIRCUIT PROTECTION	Compressor Internal Thermostat (Auto-reset), Pressure Switch (Auto-reset)
MECHANISM PROTECTION	Micro Switch (Manual-reset)
INTERLOCK	Shutdown by Microprocessor (Manual-reset)
WEIGHT	Net: 80kg(Gross: 87kg)
PACKAGE	Carton 671(W)×820(D)×971mm(H)
ACCESSORIES	Mounting Bracket, Installation Kit
	Ambient Temp.: 5 - 40°, Water Supply Temp.: 5-35°
OPERATING CONDITIONS	Water Supply Pressure: 0.05-0.8MPa(0.5-8bar) Voltane Ranae: Rated Voltane+1.0%
*We reserve the right to	*We reserve the right to make changes in specifications and design without prior notice.
1. Install the	Install the ice maker properly in accordance with
the instruct	the instructions on location, water supply/drain
	ion and installation manuals provided.
2. The ice production	lepends on the ambi
water temperatures. manual.	eratures. Reler to the Instruction
3. Product Co	Code: F081

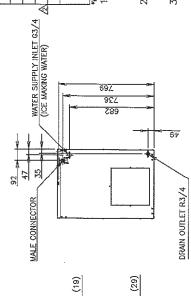


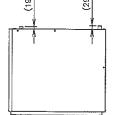


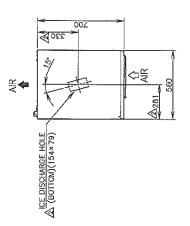


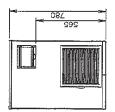


ITEM	HOSHIZAKI ELAKE ICE MAKER
MODEL	
POWER SUPPLY	1 Phase 220-240V 50Hz Capacity: 1.66kVA (7.24)
AMPERAGE	5.8A Starting: 19A
RECIRIC CONSUMPTION	1000W (Power Factor: 77%)
ICC PROUCTION PER 246	Aptrox.320kg (Ambient Temp. 10°C, Water Temp. 10°C) Approx.260kg (Ambient Temp. 21°C, Water Temp. 15°C) Approx.200kg (Ambient Temp. 32°C, Water Temp. 21°C)
SHAPE OF ICE	
NUX. STORAGE CAPACITY	Not Applicable
1000 000 4400 673 45	Approx.0.350m ² (Ambient Temp. 10°C, Water Temp. 10°C) Approx.0.290m ² (Ambient Temp. 21°C, Water Temp. 15°C) Approx.0.230m ² (Ambient Temp. 32°C, Water Temp. 21°C)
OUTSIDE DIVENSIONS	560(W) × 700(D) × 780mm(H)
HEAT REJECTION	2200W(Ambient temp.32*C,Water temp.21*C)
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE NAVANG SYSTEM	Thin ice forming inside Cylinder (Flake Ice)
INNER SLEPPLY SISTEM	Direct Connection to Water Main, Inlet: G3/4 (Rear)
DRAIN SYSTEM	Outlet: R3/4 × 2 (Rear)
COMPRESSOR	Hermetic
CONDENSER	Fin and Tube Type, Air-cooled
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R404A
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
DEMANC WITH DIFFICI	Float Switch and Solenoid Valve
RENX (NULPARCO	Circuit Breaker, Earth Wire
REPRESENT CRONT PROFESSION	Compressor Internal Thermostat (Auto-reset), Pressure Switch (Auto-resel)
MECHNISM PROTECTION	Micro Switch (Manual-reset)
INTERLOCK	Shutdown by Microprocessor (Manual-reset)
WEIGHT	Net: 80kg(Gross: 87kg)
PACKAGE	Carton 665(W)×820(D)×950mm(H)
ACCESSORIES	Mounting Bracket, installation Kit
ADDITION CONTINUES	Ambient Temp.: 5 40°C, Water Supply Temp.: 5-35°C
UPLIMATES LURIAND	water suppy Pressure: u.uɔーu.omPa(u.ɔーơɒar) Voltage Range: Rated Voltage±10%
*We reserve the right (1. Install the i	*#a reserve the right to make changes in specifications and design without prior notice. Install the ice marker property in accordance with
	the instructions on location, water supply/drain
connection	connections and electrical connections stated in the instruction and installation manuals provided
2. The ice production d water fermoratures	increased and increased in the instruction and increased in the instruction dependence of the instruction of
3. Product Code: FU83	de: FU83



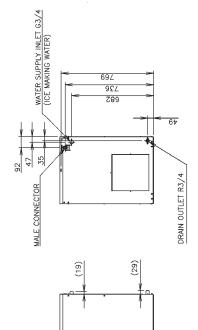


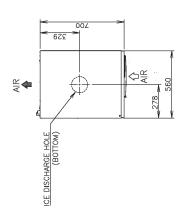




[d] FM-300AKE-N (Auxiliary code: D-0 or earlier)

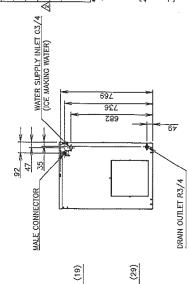
1111	
MODEL	FUSHIZANI NUGGEL ILE WANER
POWER SUPPLY	1 Phase 220-240V 50Hz Capacity: 1.64kVA (7.1A)
AMPERAGE	
ELECTRIC CONSUMPTION	1000W (Power Factor: 77%)
INC NOVALINTIAN DED 346	(Ambient Temp. 10C, Water Temp.
IVE PRUDUCIUM PEK 240	Approx.z25kg (Ambient lemp. 210, water lemp. 150) Approx.180kg (Ambient Temp. 320, Water Temp. 210)
SHAPE OF ICE	
MAX. STORAGE CAPACITY	Not Applicable
	Temp. 10°C, Water Temp.
MALEK CONSUMPTION PER 24h	Approx.0.255m (Ambient Temp. 210, Water Temp. 150) Approx.0.210m³ (Ambient Temp. 320, Water Temp. 210)
OUTSIDE DIMENSIONS	(H)mm0
HEAT REJECTION	2200W(Ambient temp.32C, Water temp.21C)
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Nugget Ice)
WATER SUPPLY SYSTEM	Direct Connection to Water Main, Inlet: G3/4 (Rear)
DRAIN SYSTEM	Outlet: $R3/4 \times 2$ (Rear)
COMPRESSOR	Hermetic
CONDENSER	Fin and Tube Type, Air-cooled
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R404A
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
ICEMAKING WATER CONTROL	Float Switch and Solenoid Valve
ELECTRICAL CIRCUIT PROTECTION	Circuit Breaker, Earth Wire
REFREEME CROUT PROTECTION	Compressor Internal Thermostat (Auto-reset), Pressure Switch (Auto-reset)
MECHANISM PROTECTION	Micro Switch (Manual-reset)
INTERLOCK	Shutdown by Microprocessor (Manual-reset)
WEIGHT	Net: 80kg(Gross: 87kg)
PACKAGE	Carton 671(W)×820(D)×971mm(H)
ACCESSORIES	+
OPERALING CONDITIONS	Water Supply Pressure: 0.05-0.8MPa(0.5-8bar) Voltade Rande: Rated Voltade+1.0%
*We reserve the right to	We reserve the right to make changes in specifications and design without prior notice.
	instant the foe maker property in accordance with the instructions on location, water supply/drain
connection:	connections and electrical connections stated in
2. The instruction and woter temperatures	the instruction and installation thanuals provided. The ice production depends on the ambient and writer temperatures. Befer to the instruction
3. Product Code: F081	-C106

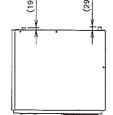


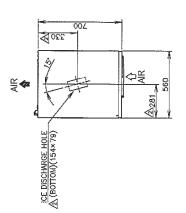


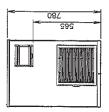


<u> </u>	ITEM	HOSHIZAKI NUGGET ICE MAKER
	MODEL	FM-300AKE-N
	POWER SUPPLY	1 Phase 220-240V 50Hz Capacity: 1.64kVA (7.1A)
	AMPERAGE	ŧ .
	ELECTRIC CONSUMPTION	W (Power Factor
	AC BOOKESION DT SA	(Ambient Temp. 10°C, Water Temp.
	al ravulan PDK 249	Approx.22349 (Ambient Temp. 21 C, Water Temp. 13 C) Approx.18049 (Ambient Temp. 32°C, Water Temp. 21°C)
	SHAPE OF ICE	
	NAX STORAGE CAPACITY	Not Applicable
	BUE ONCE THE PARTY OF THE	Approx.0.300m²(Ambient Temp. 10°C, Water Temp. 10°C) Approx.0.255m²(Ambient Temp. 21°C, Water Temp. 15°C)
	CUTSIDE DIMENSIONS	560(W) × 700(D) × 780mm(H)
	HEAT REJECTION	2200W(Ambient temp.32'C,Water temp.21'C)
	CABINET	Stainless Steel, Galvanized Steel (Rear)
	ICE NAVANG SYSTEM	Thin ice forming inside Cylinder (Nugget Ice)
	WARK SUPPLY SYSTEM	Direct Connection to Water Main, Inlet: 63/4 (Rear)
	DRAIN SYSTEM	Outlet: R3/4 × 2 (Rear)
i	COMPRESSOR	Hermetic
	CONDENSER	Fin and Tube Type, Air-cooled
	EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
E	REFRIGERANT	R404A
1	BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
	ICENSIC REER CONFIG.	Float Switch and Solenoid Valve
	HERVECKUL RETEXN	Circuit Breaker, Earth Wire
	NUMBER ON POST OF STREED	Compressor Internal Thermostat (Auto-reset), Pressure Switch (Auto-reset)
ليسما	RECHWISH PROTECTION	Micro Switch (Manual-reset)
	INTERLOCK	Shutdown by Microprocessor (Manual-reset)
	WEIGHT	Net: 80kg(Gross: 87kg)
	PACKAGE	Carton 665(W)× 820(D)× 950mm(H)
	ACCESSORIES	
	OFERATING CONDITIONS	Ambient Temp.: 5 40°C, Water Supply Temp.: 535°C Water Supply Pressure: 0.050.8MPa(0.58bar)
		Voltage Range: Rated Voltage±10%
* ~	Ne reserve the right to In stall that i	We reserve the right to make changes in specifications and design without prior notice. 1 The stail the firsh municipal proposation in accordance with
•	the instruct	the instructions on location, water supply/drain
	connections	connections and electrical connections stated in
2	· .	The ice production depends on the ambient and
	water temperatures. manual.	
М	3. Product Coo	Product Code: F081C106



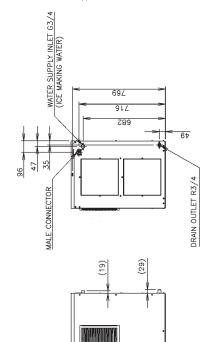


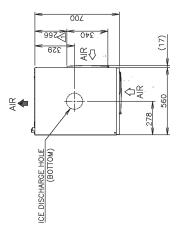


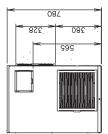


[e] FM-480AKE (Auxiliary code: D-0 or earlier)

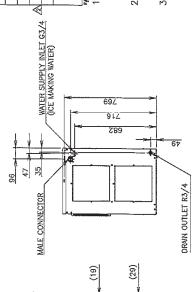
ITEM	HOSHIZAKI FI AKF ICF MAKFR
MODEL	FM-480AKE
POWER SUPPLY	1 Phase 230V 50Hz Capacity: 2.7kVA (11.7A)
AMPERAGE	8.4A Starting: 43A
ELECTRIC CONSUMPTION	: 87.5%)
IVE DOVINI INTIAN BED 246	(Ambient Temp. 10C, Water Temp.
ILE FRUUULIUN FEK 241	Approx.425kg (Ambient Temp. 210, water Temp. 150) Approx.325kg (Ambient Temp. 320, Water Temp. 210)
SHAPE OF ICE	
MAX. STORAGE CAPACITY	
WATER CONSUMPTION PER 24h	10°, Water Temp. 21°, Water Temp.
	Temp.
OUTSIDE DIMENSIONS	560(W) × 700(D) × 780mm(H)
	Stainless Steel Calvanized Steel (Rear)
ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Flake Ice)
WATER SUPPLY SYSTEM	Direct Connection to Water Main, Inlet: G1/2 (Rear)
DRAIN SYSTEM	Outlet: $R3/4 \times 2$ (Rear)
COMPRESSOR	Hermetic
CONDENSER	Fin and Tube Type, Air-cooled
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R404A
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
ICENAKING WATER CONTROL	Float Switch and Solenoid Valve
ELECTRICAL CIRCUIT PROTECTION	Circuit Breaker, Earth Wire
REFREERING CROUT PROTECTION	Compressor Internal Thermostat (Auto-reset), Pressure Switch (Auto-reset)
MECHANISM PROTECTION	Micro Switch (Manual-reset)
INTERLOCK	Shutdown by Microprocessor (Manual-reset)
WEIGHT	Net: 95kg(Gross: 102kg)
PACKAGE	Cartan 671(W)×820(D)×971mm(H)
ACCESSORIES	Mounting Bracket, Installation Kit
OPERATING CONDITIONS	Ambient Temp.: 5 - 400., water Supply Temp.: 5-350 Water Supply Pressure: 0.05-0.8MPa(0.5-8bar) Withon Damon: Dated Wathon-4006
We reserve the right to more change multiple reserve the right to make change of the install the ice maker the instructions and electron and i the instruction and i 2. The ice production d manual.	We reserve the right to mode sharpes more voluge that provider sharpes where the right to make sharpes in specifications and design without prior matter. 1. Install the ice maker properly in accordance with the instructions on location, water supply/drain connections and electrical connections stated in the instruction and installation manuals provided. 2. The ice production depends on the ambient and water temperatures. Refer to the instruction manual manual.
3. Product Code: F082	de: F082

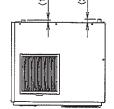


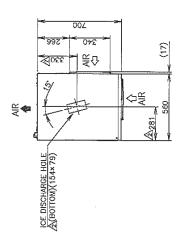


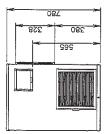


ITEM	HOSHIZAKI FLAKE ICE MAKER
MODEL	ш
POWER SUPPLY	1 Phase 230V 50Hz Capacity: 2.7WA (11.7A)
AMPERAGE	tarting: 43
ELECTRIC CONSUMPTION	1650W (Power Factor: 87.5%)
the process second two on	(Ambient Temp. 100, Water Temp.
AL PRIMARY 248	Approx.425kg (Ambient Temp. 210, Water Temp. 150) Approx.325kg (Ambient Temp. 320, Water Temp. 210)
SHAPE OF ICE	
MUX STORAGE OPPOSITY	
ALCO MERINA OTO 34.	Approx.0.530rf (Ambient Temp. 100, Water Temp. 100)
BYCA WYCH BUDY LA 24	Approx.0.455m (Ambient Temp. 210, Nater Temp. 130) Approx.0.355m (Ambient Temp. 320, Water Temp. 210)
OUTSIDE DIVENSIONS	560(W) × 700(D) × 780mm(H)
HEAT REJECTION	3320W(Ambient temp.320, Water temp.210)
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Flake Ice)
WALER SUPPLY SYSTEM	tion to Wa
DRAIN SYSTEM	Outlet: R3/4 × 2 (Rear)
COMPRESSOR	Hermetic
CONDENSER	
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R404A
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
DOLLARGE REFER CONTROL	Float Switch and Solenoid Valve
BEENX CROIL FREEDX	Circuit Breaker, Earth Wire
NUCLEAR (2011 MICCO)	Compressor Internal Thermostot (Auto-reset), Pressure Switch (Auto-reset)
NECHNICSAI PROFECTION	Micro Switch (Manual-reset)
INTERLOCK	Shutdown by Microprocessor (Manual-reset)
WEIGHT	Net: 95kg(Gross: 102kg)
PACKAGE	Carton 665(W)×820(D)×950mm(H)
ACCESSORIES	- 1
OPERATING CONDITIONS	Ambient Temp.: 5 400, Waler Supply Temp.: 5350 Water Supply Pressure: 0.05-0.3MPa(0.5-8bar)
Allo concerned the Solid be	Voitage Range: Rated Voltage±10%
The reserve use right to make changes 1. Install the ice maker	i make ananyes in specifications and oesgit invitation proringues. Ce maker properiy in accordance with
the instruct	the instructions on location, water supply/drain
connections the instruct	connections and electrical connections stated in the instruction and installation manuals provided.
 The ice production d water temperatures. 	duction depends on the ambient and eratures. Refer to the instruction
o. rroduct co	



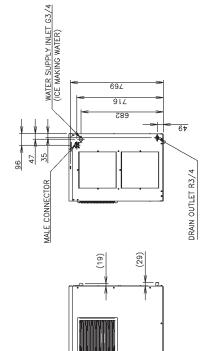


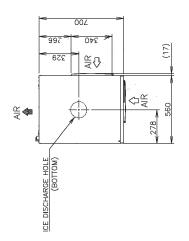


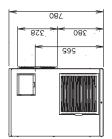


[f] FM-480AKE-N (Auxiliary code: D-0 or earlier)

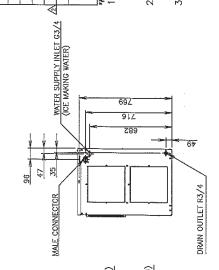
ITEM	HOSHIZAKI NUGGET ICE MAKER
MODEL	FM-480AKE-N
POWER SUPPLY	1 Phase 230V 50Hz Capacity: 2.7kVA (11.7A)
AMPERAGE	8.6A Starting: 43A
ELECTRIC CONSUMPTION	: 88%)
	(Ambient Temp. 10°C, Water Temp.
ICE PRODUCTION PER 24h	Approx.360kg (Ambient Temp. 210, Water Temp. 150) Approx.290kg (Ambient Temp. 320, Water Temp. 210)
SHAPE OF ICE	
MAX. STORAGE CAPACITY	
WATER CONSUMPTION PER 24h	10°, Water Temp. 21°, Water Temp.
	Approx.0.320m ³ (Ambient Temp. 32c, Water Temp. 21c)
OUTSIDE DIMENSIONS	560(W) × 700(D) × 780mm(H)
HEAT REJECTION	bient temp.32°C,Water tem
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE MAKING SYSTEM	
WATER SUPPLY SYSTEM	Direct Connection to Water Main, Inlet: G3/4 (Rear)
DRAIN SYSTEM	Outlet: $R3/4 \times 2$ (Rear)
COMPRESSOR	Hermetic
CONDENSER	Fin and Tube Type, Air-cooled
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R404A
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
ICENAKING WATER CONTROL	Float Switch and Solenoid Valve
ELECTRICAL CROUT PROTECTION	Circuit Breaker, Earth Wire
REPRESENT CIPCUT PROTECTION	Compressor Internal Thermostat (Auto-reset), Pressure Switch (Auto-reset)
MECHANISM PROTECTION	Microswitch (Manual-reset)
INTERLOCK	Shutdown by Microprocessor (Manual-reset)
WEIGHT	Net: 95kg(Gross: 102kg)
PACKAGE	Carton 671(W)×820(D)×971mm(H)
ACCESSORIES	Mounting Bracket, Installation Kit
	Ambient Temp.: 5 - 40°, Water Supply Temp.: 5-35°
OPERALING CONDITIONS	Water Supply Pressure: 0.05–0.8MPa(0.5–8bar) Voltone Prove: Poted Voltone+1.04
*We reserve the right to	We reserve the right to make changes in specifications and design without prior notice.
1. Install the i	Install the ice maker properly in accordance with
connections	une instructions on location, water supply/arain connections and electrical connections stated in
the instruct 2. The ice pro-	the instruction and installation manuals provided. The ice production depends on the ambient and
water temp	eratures. Refer to the instruction
3. Product Code:	de: F082-C106

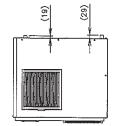


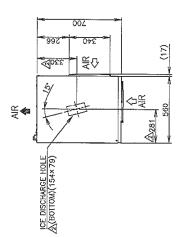


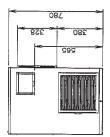


ITEM	HOSHIZAKI NUGGET ICE MAKER
MODEL	FM480AKEN
POWER SUPPLY	1 Phase 230V 50Hz Capacity: 2.7kVA (11.7A)
AMPERAGE	8.6A Starting: 43A
ELECTRC CONSUMPTION	
ICE PROUCTION PER 245	100, Water Temp. 210, Water Temp.
	Approx.290kg (Ambient Temp. 320, Water Temp. 210)
	INUGGE
NAX. SECRECE CHRICH	1
WHEN CONSUMPTION PAR	Approx.0.460m [*] (Ambient Temp. 100, Water Temp. 100) Approx.0.390m [*] (Ambient Temp. 210, Water Temp. 150) Annox.0.330m [*] (Ambient Temp. 320, Water Temp. 210)
OUTSIDE DIMENSIONS	560(W) × 700(D) × 780mm(H)
HEAT REJECTION	3320W(Ambient temp.320,Water temp.210)
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Nugget Ice)
INVERTIGATION STATEM	Direct Connection to Water Main, Inlet: G3/4 (Rear)
DRAIN SYSTEM	Outlet: R3/4 × 2 (Rear)
COMPRESSOR	Hermetic
CONDENSER	Fin and Tube Type, Air-cooled
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R404A
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
DOMPANC WREER DOMINOL	Float Switch and Solenoid Valve
REDX COL ROLDON	Circuit Breaker, Earth Wire
KERTERN CINCUL PROEETCK	Compressor Internal Thermostat (Noto-reset), Pressure Switch (Noto-reset)
LECHWESH PROTECTION	Microswitch (Manual-reset)
INTERLOCK	Shutdown by Microprocessor (Manual-reset)
WEIGHT	Net: 95kg(Gross: 102kg)
PACKAGE	Carton 665(W)× 820(D)× 950mm(H)
ACCESSORIES	Mounting Bracket, Installation Kit
OPERATING CONDITIONS	Ambient Temp.: 5 – 400, Water Supply Temp.: 5–350 Water Supply Pressure: 0.05–0.8MPa(0.5–8bar)
*#/a reserve the richt fo	Yete reserve the richt to make changes in specifications and design without micr notice.
1. Install the i	Install the ice maker properly in accordance with
connections	s and electrical connections stated in
2. The ice production	the instruction and installation manuals provided. The ice production depends on the ambient and
manual.	
3. Product Co.	Product Code: F082C106



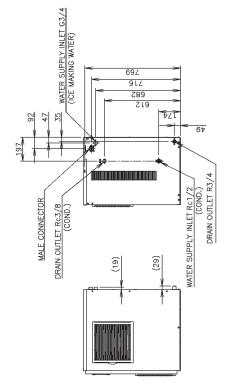


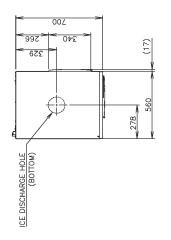


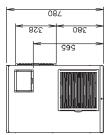


[g] FM-480AWKE (Auxiliary code: D-0 or earlier)

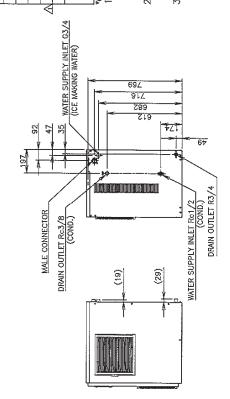
ITEM	HOSHIZAKI FLAKE ICE MAKER
MODEL	FM-480AWKE
POWER SUPPLY	1 Phase 220-240V 50Hz Capacity: 2.7kVA (11.7A)
AMPERAGE	6.9A Starting: 43A
ELECTRIC CONSUMPTION	: 87%)
ICE PRODUCTION PER 24h	Approx.420kg (Ambient Temp. 10°c, Water Temp. 10°c) Approx.380kg (Ambient Temp. 21°c, Water Temp. 15°c) Approx.340kg (Ambient Temp. 32°c, Water Temp. 21°c)
SHAPE OF ICE	Flake
MAX. STORAGE CAPACITY	Not Applicable
NATER CONSUMPTION PER 24h	Approx.1.627m ³ (Ambient Temp. 10D, Water Temp. 10D) Approx.2.002m ³ (Ambient Temp. 21D, Water Temp. 15D) Approx.2.75m ³ (Ambient Temp. 32D, Water Temp. 21D)
OUTSIDE DIMENSIONS	560(W) × 700(D) × 780mm(H)
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Flake Ice)
WATER SUPPLY SYSTEM	to Water Main, Inlet: G3/4, Cond.Inlet:
DRAIN SYSTEM	Outlet: R3/4 , Cond.Outlet Rc3/8 (Rear)
COMPRESSOR	Hermetic
CONDENSER	Tube in Tube Type, Water-cooled
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R404A
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
ICENAKING WATER CONTROL	Float Switch and Solenoid Valve
ELECTRICAL CROUIT PROTECTION	Circuit Breaker, Earth Wire
REFREEMENT CIRCUIT PROTECTION	Compression Internal Thermostat (Auto-reset), Pressure Switch (Auto-reset)
MECHANISM PROTECTION	Micro Switch (Manual-reset)
INTERLOCK	
WEIGHT	
PACKAGE	Carton 671(W)×820(D)×971mm(H)
ACCESSORIES	Mounting Bracket, Installation Kit
OPERATING CONDITIONS	Ambient Temp.: 5 - 40°, Water Supply Temp.: 5-35° Water Supply Pressure: 0.05-0.8MPa(0.5-8bar) Voltare Ranae: Rated Voltare+10%
*We reserve the right to	We reserve the right to make changes in specifications and design without prior notice.
1. Install the i the instruction	Install the ice maker properly in accordance with the instructions on location, water supply/drain connections and electrical connections striad in
2. The ice production and i water temperatures.	the instruction and installation manuals provided. The ice production depends on the ambient and water temperatures. Refer to the instruction
3. Product Co	-C120

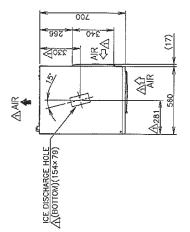


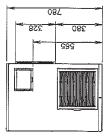




Π£Μ	HOSHIZAKI FI AKF ICF MAKFR
MODEL	FM-480AWKE
POWER SUPPLY	1 Phase 220-240V 50Hz Copacity: 2.7kVA (11.7A)
AMPERAGE	6.9A Starting: 43A
RECTRC CONSUMPTION	W (Power Factor: 87%)
NE PROUCINI PER 245	Approx.420kg (Ambient Temp. 100, Water Temp. 100) Approx.380kg (Ambient Temp. 210, Water Temp. 150) Approx.340kg (Ambient Temp. 320, Water Temp. 210)
SHAPE OF ICE	Flake
NAX. STORAGE CAPACITY	
INTRODUCTION TO THE	Approx.1.627m (Amblent Temp. 100, Water Temp. 100) Approx.2.002m (Amblent Temp. 210, Water Temp. 150) Approx.2.75m "Amblent Term. 320, Water Temp. 210)
OUTSIDE DIVENSIONS	560(W) × 700(D) × 780mm(H)
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Flake Ice)
NATER SUPPLY SYSTEM	Effect Connection to Water Main, Inlet 63/4, Condiniet Rc1/2 (Rear)
DRAIN SYSTEM	Outlet: R3/4 , Cond.Outlet Rc3/8 (Rear)
COMPRESSOR	Hermetic
CONDENSER	Tube in Tube Type, Water-cooled
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R404A
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
ICENSIS REFE CONROL	Float Switch and Solenoid Valve
ELEVENT CHOLE PROTECTOR	Circuit Breaker, Earth Wire
REPORT OCUMPTICON	Compressor Internal Thermostat (Auto-reset), Pressure Switch (Auto-reset)
NECHANSU PROTECTION	Micro Switch (Manual-reset)
INTERLOCK	Shutdown by Microprocessor (Manual-reset)
WEIGHT	Net: 95kg(Gross: 102kg)
PACKAGE	Carton 665(W)×820(D)×950mm(H)
ACCESSORIES	Mounting Bracket, installation Kit
OSPRITERS CONDITIONS	Ambient Temp.: 5 - 400, Water Supply Temp.: 5-350 Water Sunoly Pressure: 0.05-0.8MPa(0.5-8bar)
	Voltage Range: Rated Voltage±10%
*We reserve the right (1. Install the i the instruct	reserve the right to make changes in specifications and design without prior notice. Install the ice marker property in accordance with the instructions on location, water supply/drain
connections the instruct 2. The ice pro	connections and electrical connections stated in the instruction and installation manuals provided. The ice production depends on the ambient and
water temperatures. manual.	Keter
3. Product Co	Product Code: F082-C120

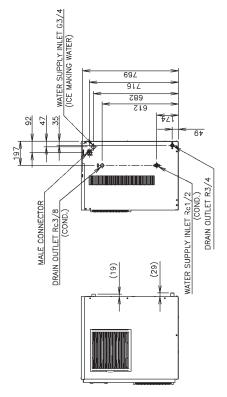


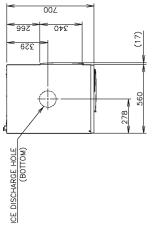


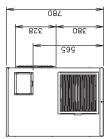


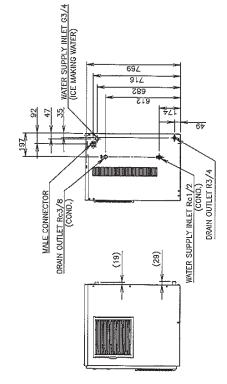
[h] FM-480AWKE-N (Auxiliary code: D-0 or earlier)

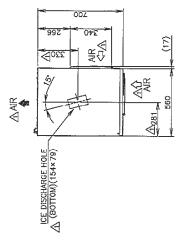
ITEM	HOSHIZAKI NI IGGET ICE MAKER
MODEL	FM-480AWKE-N
POWER SUPPLY	1 Phase 220-240V 50Hz Capacity: 2.7kVA (11.7A)
AMPERAGE	7.1A Starting: 43A
ELECTRIC CONSUMPTION	1450W (Power Factor: 88%)
ICE PRODUCTION PER 24h	Approx.380kg (Ambient Temp. 10℃, Water Temp. 10℃) Approx.350kg (Ambient Temp. 21℃, Water Temp. 15℃) Approx.320kg (Ambient Temp. 32℃, Water Temp. 21℃)
SHAPE OF ICE	
MAX. STORAGE CAPACITY	Not Applicable
WATER CONSUMPTION PER 24h	Approx.1.56m*(Ambient Temp. 10¢, Water Temp. 10¢) Approx.2.002m²(Ambient Temp. 21¢, Water Temp. 15¢) Approx.2.76m*(Ambient Temp. 32¢, Water Temp. 210)
OUTSIDE DIMENSIONS	560(W) × 700(D) × 780mm(H)
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Nugget Ice)
WATER SUPPLY SYSTEM	to Water Main, Inlet: G3/4, Cond.Inlet: Rc1
DRAIN SYSTEM	Outlet: R3/4 , Cond.Outlet Rc3/8 (Rear)
COMPRESSOR	Hermetic
CONDENSER	Tube in Tube Type, Water-cooled
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R404A
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
ICEMAKING WATER CONTROL	Float Switch and Solenoid Valve
ELECTRICAL CIRCUIT PROTECTION	Circuit Breaker, Earth Wire
REFRIGERANT CARCUIT PROTECTION	Compressor Internal Thermostat (Auto-reset), Pressure Switch (Auto-reset)
MECHANISM PROTECTION	Microswitch (Manual-reset)
INTERLOCK	Shutdown by Microprocessor (Manual-reset)
WEIGHT	Net: 95kg(Gross: 102kg)
PACKAGE	Carton 671(W)×820(D)×971mm(H)
ACCESSORIES	Mounting Bracket, Installation Kit
ODEPATING CONDITIONS	Ambient Temp.: 5 - 400, Water Supply Temp.: 5-350 Water Supply Pressure: 0.05-0.8Mps/0.5-8hor)
	Voltaae Ranae: Rated Voltaae±10%
*We reserve the right to 1. Install the i the instruct	We reserve the right to make changes in specifications and design without prior notice. 1. Install the ice maker property in accordance with the instructions on location writer supply Arrain
connections	connections and electrical connections stated in
2. The instruction and i water temperatures.	the instruction and installation manuals providea. The ice production depends on the ambient and diete temperatures. Refer to the instruction
3. Product Code: F082-	de: F082-C121

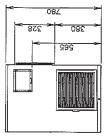






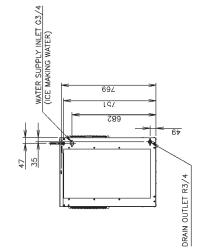


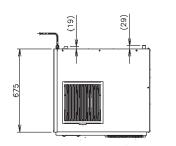


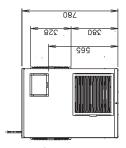


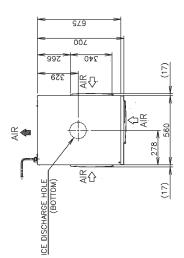
[i] FM-600AKE (Auxiliary code: D-0 or earlier)

ITEM	HOCHIZAKI ELAKE ICE MAKER
MODEL	
POWER SUPPLY	1 Phase 220-240V 50Hz Capacity: 4.76kVA (20.7A)
AMPERAGE	10.5A Starting: 76A
ELECTRIC CONSUMPTION	1900W (Power Factor: 85%)
	(Ambient Temp. 10° C, Water Temp. 10°
ICE PRODUCTION PER 24h	Approx.540kg (Ambient Temp. 21' C, Water Temp. 15' C) Approx.445kg (Ambient Temp. 32' C, Water Temp. 21' C)
SHAPE OF ICE	-
MAX. STORAGE CAPACITY	Not Applicable
BUTTD AANVANAD AAN AAN	C, Water Temp. 10
WALEK UUNSUMPTION FEK 24h	Approx.0.5/0rm (Ambient Lemp. 21° C, Water Lemp. 15° C) Approx.0.480m² (Ambient Temp. 32° C, Water Temp. 21° C)
OUTSIDE DIMENSIONS	80mm(H)
HEAT REJECTION	3950W(Ambient temp.32C,Water temp.21C)
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Flake Ice)
WATER SUPPLY SYSTEM	Direct Connection to Water Main, Inlet: G3/4 (Rear)
DRAIN SYSTEM	Outlet: $R3/4 \times 2$ (Rear)
COMPRESSOR	Hermetic
CONDENSER	Fin and Tube Type, Air-cooled
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R404A
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
ICEMMAING WATER CONTROL	Float Switch and Water Valve
ELECTRICH. CRCUT PROTECTION	Circuit Breaker, Earth Wire
REFREEMANT CROUTE PROTECTION	Compressor Internal Motor Protector,Internal Pressure Relief Valve(Auto-reset) Pressure Swittch(Auto-reset)
MECHANISM PROTECTION	Micro Switch(Manual-reset)
INTERLOCK	Shutdown by Microprocessor (Manual-reset)
WEIGHT	Net: 107kg(Gross: 114kg)
PACKAGE	Carton 671(W)×820(D)×971mm(H)
ACCESSORIES	Mounting Bracket, Installation Kit
OPERATING CONDITIONS	Ambient Temp.: 5 - 40°, Water Supply Temp.: 5-35° Water Supply Pressure: 0,05-0,8MPa(0,5-8bar)
	Voltage Range: Rated Voltage±10%
*We reserve the right to	We reserve the right to make changes in specifications and design without prior notice.
•	Install the ice maker properly in accordance with the instructions on location water supply (drain
connections	connections and electrical connections stated in
2. The instruction	instruction and installation manuals provided.
water	temperatures. Refer to the instruction
3. Product Co	Code: F083

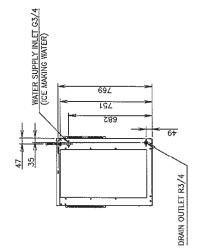


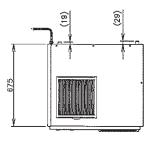


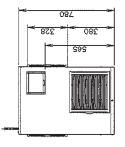


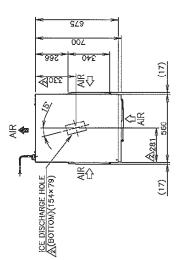


	ITEM	HOSHIZAKI FI AKF ICF MAKFR
	MODEL	
	POWER SUPPLY	1 Phase 220-240V 50Hz Copacity: 4.76KVA (20.7A)
	AMPERAGE	10.5A Starting: 76A
	RECIFIC CONSUMPTION	
	INS DRIVELITIANI DER 7.15	Approx.600kg (Ambient Temp. 10° C, Water Temp. 10° C) Annox 540kg (Ambient Tema. 21° C. Water Temp. 15° C)
	N.C. NUMBER I LES CER	3, 1
	SHAPE OF ICE	Flake
	NUX STORAGE CAPACITY	Not Applicable
		þ ý
	EVER UNIVARIALE FOX 255	Approx.U.S./Urr (Ambient Temp. 21' V, Mater Temp. 13' V) Approx.0.480m² (Ambient Temp. 32' C, Water Temp. 21' C)
	OUTSIDE DIVENSIONS	560(W) × 700(D) × 780mm(H)
	HEAT REJECTION	3950W(Ambient temp.320,Water temp.210)
	CABINET	Stainless Steel, Galvanized Steel (Rear)
	ICE MAXING SYSTEM	Thin ice forming inside Cylinder (Flake Ice)
	WATER SUPPRY SYSTEM	Direct Connection to Water Main, Inlet: 63/4 (Rear)
	DRAIN SYSTEM	Outlet: R3/4 × 2 (Rear)
	COMPRESSOR	Hermetic
	CONDENSER	Fin and Tube Type, Air-cooled
	EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
	REFRIGERANT	R404A
	BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
	ICENSES INTER CONTROL	Float Switch and Water Vaive
	BICRAN CROBPACTOR	Circuit Breaker, Earth Wire
	NEXTRE COL ROLOW	Compressor Internal Loton Protector; Internal Pressue Refet Volve(Auto-reset) - Pressarres: Switch(Auto-resset)
	NEOWNERI PROTECTION	Micro Switch(Manual-reset)
	INTERLOCK	Shutdown by Microprocessor (Manual-reset)
	WEIGHT	Net: 107kg(Gross: 114kg)
\langle	PACKAGE	Carton 655(W)×820(D)×950mm(H)
	ACCESSORIES	Mounting Bracket, Installation Kit
	COPERTURY, CONTINUES	Ambient Temp.: 5 - 400, Water Supply Temp.: 5-350 Water Supply Pressure: 0.050.8MPa(0.5-8bar)
		Voitage Range: Rated Voitage±10%
	*We reserve the right to 1. Install the in- the instruct connections the instruct 2. The ice prov	reserve the right to make changes in specifications and design without prior notice. Install the ice maker property in accordance with the instructions on location, water supply/drain to connections and electrical connections stated in the instruction and installation manuals provided. The ice production depends on the ambient and
		eratures. Refer to the instruction
	3. Product Code:	de: F083



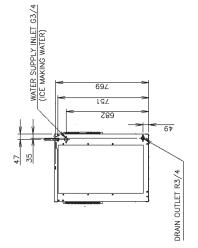


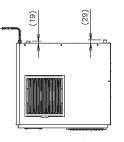


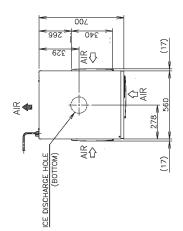


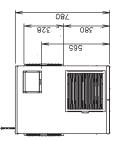
[j] FM-600AKE-N (Auxiliary code: D-0 or earlier)

ITEM	HOSHIZAKI NUGGET ICE MAKER
MODEL	FM-600AKE-N
POWER SUPPLY	1 Phase 220-240V 50Hz Capacity: 4.76kVA (20.7A)
AMPERAGE	10.8A Starting: 76A
ELECTRIC CONSUMPTION	1950W (Power Factor: 82%)
ICE PRODUCTION PER 24h	10°C, Water Temp. 21°C, Water Temp.
SHADE OF ICE	Approx.400kg (Ambient Temp. 320, Water Temp. 210)
	Not Applicable
	Approx.0.560m ³ (Ambient Temp. 10°, Water Temp. 10°)
WATER CONSUMPTION PER 24h	Approx.0.430m ³ (Ambient Temp. 21°, Water Temp. 15°) Approx.0.430m ³ (Ambient Temp. 32°, Water Temp. 21°)
OUTSIDE DIMENSIONS	
HEAT REJECTION	3700W(Ambient temp.32c,Water temp.21c)
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Nugget Ice)
WATER SUPPLY SYSTEM	Direct Connection to Water Main, Inlet: G3/4 (Rear)
DRAIN SYSTEM	Outlet: $R3/4 \times 2$ (Rear)
COMPRESSOR	Hermetic
CONDENSER	Fin and Tube Type, Air-cooled
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R404A
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
ICEMAKING WATER CONTROL	Float Switch and Water Valve
ELECTRICAL CIRCUIT PROTECTION	Circuit Breaker, Earth Wire
REFIXERANT CIRCUT PROFECTION	Compressor Internal Motor Protector,Internal Pressure Relief Volve(Auto-reset) Pressure Switch(Auto-reset)
MECHANISM PROTECTION	Micro Switch(Manual-reset)
INTERLOCK	Shutdown by Microprocessor (Manual-reset)
WEIGHT	Net: 107kg(Gross: 114kg)
PACKAGE	Carton 671(W)× 820(D)× 971mm(H)
ACCESSORIES	Mounting Bracket, Installation Kit
OPERATING CONDITIONS	Ambient Temp.: 5 - 400, Water Supply Temp.: 5-350 Water Supply Pressure: 0.05-0.8MPa(0.5-8bar)
*We reserve the right to	Verserve the right to make changes in specifications and design without prior notice.
I. Install the I the instruct connection	install the ice maker properly in accordance with the instructions on location, water supply/drain connections and electrical connections stated in
the instruct 2. The ice pro water temp	the instruction and installation manuals provided. The ice production depends on the ambient and water temperatures. Refer to the instruction
3. Product Code: F083-	de: F083C106

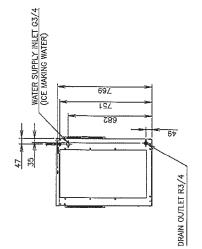


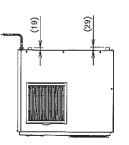


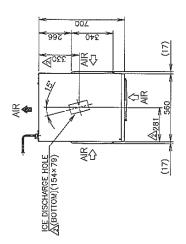


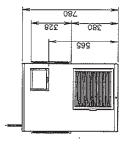


	ITEM	HOSHIZAKI NUGGET ICE MAKER
	MODEL	FM-600AKE-N
	POWER SUPPLY	1 Phase 220-240V 50Hz Capacity: 4.76kVA (20.7A)
	AMPERAGE	10.8A Starting: 76A
	RECIRIC CONSUMPTION	1950W (Power Factor: 82%)
	INC DOM INTO A DCD 715	(Ambient Temp. 100, Water Temp.
	I DE NAUVAUN FER 248	Approx.450kg (Arnotent Temp. 210, Water Temp. 350) Approx.400kg (Arnotent Temp. 320, Water Temp. 210)
	SHAPE OF ICE	
	NUX STORNOE CAPACITY	Not Applicable
	STATE OF STATE	Approx.0.560m ² (Ambient Temp. 100, Water Temp. 100)
	197 YALANA MALENYA YA	Approx.0.430m (Ambient Lemp. 210, Water Lemp. 130) Approx.0.430m (Ambient Temp. 320, Water Temp. 210)
	OUTSIDE DUVENSIONS	560(W) × 700(D) × 780mm(H)
	HEAT REJECTION	3700W(Ambient temp.320,Water temp.210)
	CABINET	Stainless Steel, Galvanized Steel (Rear)
	ICE MAKENC SYSTEM	Thin ice forming inside Cylinder (Nugget Ice)
	WATER SUPPLY SYSTEM	tion to Wa
	DRAIN SYSTEM	Outlet: R3/4 × 2 (Rear)
	COMPRESSOR	Hermetic
	CONDENSER	Fin and Tube Type, Air-cooled
	EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
	REFRIGERANT	R404A
	BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
	ICTUDES REER CONTROL	Float Switch and Water Valve
	EECON CODE PRECION	Circuit Breaker, Earth Wire
	ETERNAL COLOR PORTOCOL	Compresson internal lackor Fricherkor, internal Pressure Reifel Vahe/Auto-resel) Pressure Switch(Auto-resel)
	MECHANISH PROTECTION	Micro Switch(Manual-reset)
	INTERLOCK	Shutdown by Microprocessor (Manual-reset)
	WEIGHT	Net: 107kg(Gross: 114kg)
<		Carton 665(W)×820(D)×950mm(H)
	ACCESSORIES	Mounting Bracket, Installation Kit
	OPERATING CONDITIONS	Ambient Temp.: 5 - 400, Weter Supply Temp.: 5-350 Water Supply Pressure: 0.05-0.8MPa(0.5-8bar) Weter Supply Pressure: 0.05-0.8MPa(0.5-8bar)
_	*#s reserve the right to	Verticity of the rest of th
	1. Install the intervention	ice maker properly in accordance with strong on location water supply Arain
	connections	
	the instruct 2. The ice prov	ĉΦ
	water temperatures. manual	eratures. Refer to the instruction
	3. Product Co.	Product Code: F083-C106



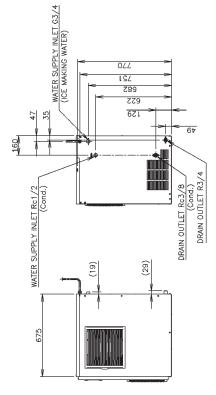


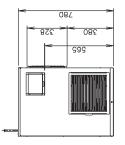


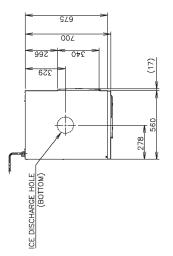


[k] FM-600AWKE (Auxiliary code: D-0 or earlier)

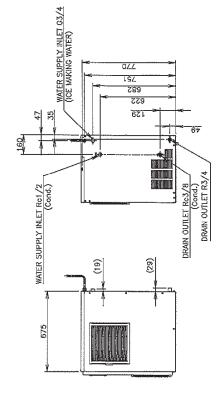
MODEL	HUSHIZAKI FLAKE ICE MAKEK FM-600aWKF
POWER SUPPLY	1 Phase 220-240V 50Hz Capacity: 4.76kVA (20.7A)
AMPERAGE	9.6A Starting: 76A
ELECTRIC CONSUMPTION	W (Power Factor:
ICE PRODUCTION PER 24h	Approx.600kg (Ambient Temp. 10° C, Water Temp. 10° C) Approx.550kg (Ambient Temp. 21° C, Water Temp. 15° C) Approx.520kg (Ambient Temp. 32° C, Water Temp. 21° C)
SHAPE OF ICE	
MAX. STORAGE CAPACITY	
WATER CONSUMPTION PER 24h	Approx.1.685n²(Ambient Temp. 10° C, Water Temp. 10° C) Approx.2.333n²(Ambient Temp. 21° C, Water Temp. 15° C) Approx.3.125n²(Ambient Temp. 32° C, Water Temp. 21° C)
OUTSIDE DIMENSIONS	(H)
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Flake Ice)
WATER SUPPLY SYSTEM	Direct Connection to Water Main, Inlet: G3/4, Cond.Inlet: Rc1/2 (Rear)
DRAIN SYSTEM	Outlet: R3/4 , Cond.Outlet Rc3/8 (Rear)
COMPRESSOR	Hermetic
CONDENSER	
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R404A
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
ICEMAKING WATER CONTROL	Float Switch and Water Valve
BLECTRICAL CIRCUIT PROTECTION	Circuit Breaker, Earth Wire
REPRESENT CIRCUT PROTECTION	Compressor Internal Motor Protector Internal Pressure Relief Valve(Auto-reset) Pressure Switch(Auto-reset)
MECHANISM PROTECTION	Micro Switch(Manual-reset)
INTERLOCK	
WEIGHT	Net: 107kg(Gross: 114kg)
PACKAGE	Carton 671(W)×820(D)×971mm(H)
ACCESSORIES	
OPERATING CONDITIONS	Ambient Temp.: 5 - 40°, Water Supply Temp.: 5-35° Water Supply Pressure: 0.05-0.8MPa(0.5-8bar) Voltage Range: Rated Voltage±10%
*We reserve the right to 1. Install the i the instruct connections the instruct	We reserve the right to make changes in specifications and design without prior notice. 1. Install the ice maker properly in accordance with the instructions on location, water supply/drain connections and electrical connections stated in the instruction and installation manuals provided.
2. The ice production d water temperatures.	ice production depends on the ambient and or temperatures. Refer to the instruction
. Broduct Code:	de: F083-C120

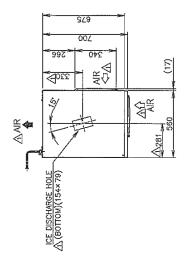


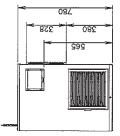




ITEM HOSHIZAKI FLAKE ICE MAKER MODEL FM-600AWKE MODEL FM-600AWKE AMPERAGE 9.6A Storting: 76A Approx.560xg (Ambient temp. 21°C, Weter Temp. 15°C, Moter Temp. 15°C, Approx.560xg (Ambient Temp. 27°C, Weter Temp. 15°C, Approx.233m*(Ambient Temp. 27°C, Weter Temp. 21°C, Approx.233m*(Ambient Temp. 27°C, Moder Temp. 21°C, Approx.233m*(Ambient Temp. 27°C, Moder Temp. 21°C, Approx.233m*(Ambient Temp. 21°C, Approx.233m*(Ambient Temp. 21°C, Approx.233m*(Ambient Tem

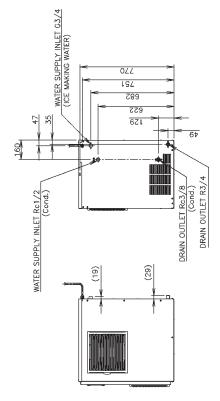


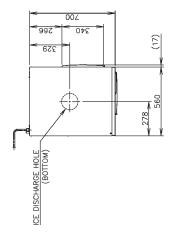


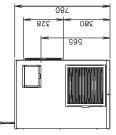


[I] FM-600AWKE-N (Auxiliary code: D-0 or earlier)

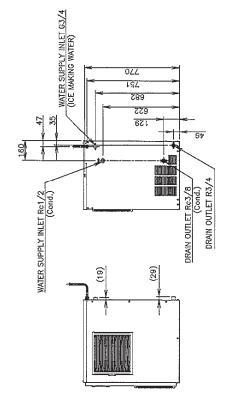
	HUSHIZAKI NUGGET ILE MAKER
MUUEL Pointe Stinery	-
	Phase 220-240V
AMPERAGE	9.7A Starting: 76A
ELECTRIC CONSUMPTION	: 78%)
	(Ambient Temp. 10°C, Water Temp.
ICE PRODUCTION PER 24h	Approx.460kg (Ambient Temp. 210, Water Temp. 150) Approx.420kg (Ambient Temp. 320, Water Temp. 210)
SHAPE OF ICE	
MAX. STORAGE CAPACITY	
	10°, Water Temp.
WATER CONSUMPTION PER 24h	Approx.2.318m ² (Ambient Temp. 21°, Water Temp. 15°) Approx 3.067m ³ (Ambient Temp. 32°, Water Temp. 21°)
OUTSIDE DIMENSIONS	30mm(H)
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Nugget Ice)
WATER SUPPLY SYSTEM	Direct Connection to Water Main, Inlet: 63/4, Cond.Inlet: Rc1/2 (Rear)
DRAIN SYSTEM	Outlet: R3/4 , Cond.Outlet Rc3/8 (Rear)
COMPRESSOR	Hermetic
CONDENSER	Tube in Tube Type, Water-cooled
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R404A
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
ICENAKING WATER CONTROL	Float Switch and Water Valve
ELECTRICAL CROUT PROTECTION	Circuit Breaker, Earth Wire
REFUGERANT CROUT PROTECTION	Compressor Internal Motor Protector,Internal Pressure Relief Valve(Auto-reset) Pressure Switch(Auto-reset)
MECHANISM PROTECTION	Micro Switch(Manual-reset)
INTERLOCK	Shutdown by Microprocessor (Manual-reset)
WEIGHT	Net: 107kg(Gross: 114kg)
PACKAGE	Carton 671(W)×820(D)×971mm(H)
ACCESSORIES	Mounting Bracket, Installation Kit
OPFRATING CONDITIONS	Ambient Temp.: 5 - 400, Water Supply Temp.: 5-350 Water Supply Pressure: 0.05-0.8MPa(0.5-8bar)
*We reserve the right to 1. Install the i	*We reserve the right to make changes in specifications and design without prior notice. Install the ice marker properly in accordance with
the instruct	the instructions on location, water supply/drain
connections and ele the instruction and	s and electrical connections stated in ion and installation manuals provided.
2. The ice production c	depends on the ambi
manual.	-0121

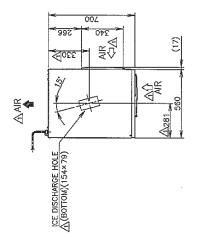


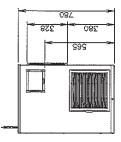




	ШЕМ	HOSHIZAKI NUGGET ICE MAKER
	MODEL	FM600AWKE-N
	POWER SUPPLY	1 Phase 220-240V 50Hz Capacity: 4.76kVA (20.7A)
	AMPERAGE	9.7A Starting: 76A
	ELECTRIC CONSUMPTION	
	ACTINGUEDON DED ALL	(Ambient Temp. 100, Water Temp.
	N. FRAUVANN FIN 14	Approx.4evkg (Ambient Temp. 210, Moter Temp. 130) Approx.420kg (Ambient Temp. 320, Water Temp. 210)
	SHAPE OF ICE	Nugget
	MAX STORAGE CAPACITY	
	THE OWNER IS A	Approx.1.685m ¹ (Ambient Temp. 100, Water Temp. 100) Approx.2.318m ² (Ambient Temp. 210, Water Temp. 150)
	OUTSIDE DIVENSIONS	
	CABINET	Stainless Steel, Calvanized Steel (Rear)
	ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Nugget Ice)
	NAUTH SUPPLY SYSTEM	
	DRAIN SYSTEM	Outlet: R3/4 , Cond.Outlet Rc3/8 (Rear)
	COMPRESSOR	Hermetic
	CONDENSER	Tube in Tube Type, Water-cooled
	EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
	REFRIGERANT	R404A
	BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
	IONSAC BEE CONTR.	Float Switch and Water Valve
	BLETRICH CHORT PROTECTION	Circuit Breaker, Earth Wire
	APACKAL COLO PARTICIO	Compressor Intered Molor Protector, Internal Pressure Reliat Volve(Nuto-reset) Pressure Switch(Nuto-reset)
	MECHWISH PROTECTION	Micro Switch(Manual-reset)
	INTERLOCK	Shutdown by Microprocessor (Monual-reset)
	WEIGHT	Net: 107kg(Gross: 114kg)
\triangleleft		Cartan 665(W)×820(D)×950mm(H)
	ACCESSORIES	Mounting Bracket, Installation Kit
	OPERATING CONDITIONS	Ambient Temp.: 5 400, Water Supply Temp.: 5-350 Water Supply Pressure: 0.05-0.8MPa(0.5-8bar)
		Voltage Range: Rated Voltage±10%
	*We reserve the right to 1. Install the i the instruct connections the instruct	reserve the right to make changes in specifications and design without prior houce. Install the ice maker properly in accordance with the instructions on location, water supply/drain connections and electrical connections stated in the instruction and installation manuals provided.
	2. The ice production d water temperatures.	duction depends on the ambient and eratures. Refer to the instruction
	. Product Co.	manuai. Product Code: F083–C121



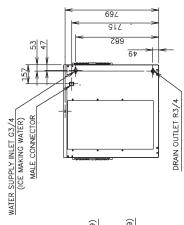


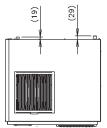


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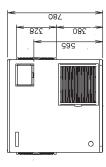
[m] FM-750AKE (Auxiliary code: D-0 or earlier)

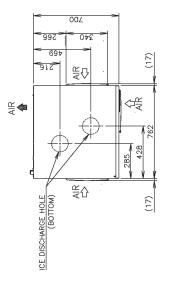
	FUSHIZANI FLAKE IVE MAKER
POWER SUPPLY	
AMPERAGE	9.2A Starting: 43A
ELECTRIC CONSUMPTION	
ICE PRODUCTION PER 24h	10C, Water Temp. 21C, Water Temp.
CHADE OF ICE	Approx.530kg (Ambient Temp. 320, Water Temp. 210)
MAX. SIUKRUE LAPRUIT	Not Applicable
WATER CONSUMPTION PER 24h	100, water remp. 21°, Water Temp. 32°. Water Temp.
OUTSIDE DIMENSIONS	B0mm(H)
HEAT REJECTION	3650W(Ambient temp.32C, Water temp.21C)
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Flake Ice)
WATER SUPPLY SYSTEM	Direct Connection to Water Main, Inlet: G3/4 (Rear)
DRAIN SYSTEM	Outlet: R3/4 (Rear)
COMPRESSOR	Hermetic
CONDENSER	Fin and Tube Type, Air-cooled
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R404A
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
ICEMMANNG WATTER CONTROL	Float Switch and Solenoid Valve
ELECTRICAL CIRCUIT PROTECTION	Circuit Breaker, Earth Wire
REPROCINANT CIRCUIT PROTECTICAL	Compressor Internal Thermostat (Auto-reset), Pressure Switch (Auto-reset)
MECHANISM PROTECTION	Micro Switch (Manual-reset)
INTERLOCK	Shutdown by Microprocessor (Manual-reset)
WEIGHT	Net: 133kg(Gross: 143kg)
PACKAGE	Carton 895(W)×875(D)×965mm(H)
ACCESSORIES	Mounting Bracket, Installation Kit
CHANDING A DINTRATION	Ambient Temp.: 5 - 400, Water Supply Temp.: 5-350
UPERAIING CUNULIUNS	water supply Fressure: 0.00-0.0MFa(0.0-000r) Voltage Range: Rated Voltage±10%
*We reserve the right to	*We reserve the right to make changes in specifications and design without prior notice.
1. Install the i	ice maker properly in accordance with
the instruct	the instructions on location, water supply/drain
	the instruction and installation manuals provided.
2. The ice prov	ice production depends on the ambient and
manual.	terriperatures. Nerer ta trie matruction al.
3. Product Code: F054	de: F054



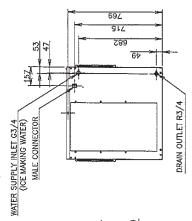


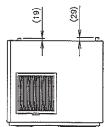


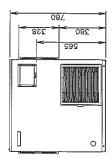


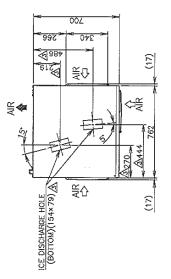


ITEM MODEL	HOSHIZAKI FLAKE ICE MAKER FM-750AKE
POWER SUPPLY	1 Phase 220-240V 50Hz Capacity: 2.7KVA (11.7A)
AMPERAGE	9.2A Starting: 43A
ELECTRIC CONSUMPTION	1880W (Power Factor: 89%)
ICE PROUCTION PER 24h	Approx.750kg (Ambient Temp. 10°C, Water Temp. 10°C) Approx.650kg (Ambient Temp. 21°C, Water Temp. 15°C) Approx.570kg (Ambiont Temp. 32°C)
SHAPE OF ICE	
NAX. STORAGE CAPACITY	Not Applicable
WIR CORMPONER 745	Approx.0.77mf (Ambient Temp. 10°C, Water Temp. 10°C) Approx.0.88m? (Ambient Temp. 21°C, Water Temp. 15°C) Approx.0.56mf (Ambient Temp. 32°C, Water Temp. 21°C)
OUTSIDE DAVENSIONS	762(W) x 700(D) x 780mm(H)
HEAT REJECTION	3650W(Ambient temp.32°C,Water temp.21°C)
CABINET	nized Steel (R
ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Flake Ice)
NALEK SUPPLY SYSICA	
COMPRESSOR	Vultet, NJ/ 4 (Neur) Hermetic
CONDENSER	Fin and Tube Type Air-cooled
EVAPORATOR	
REFRIGERANT	
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
NOWING INTER CONTROL	Float Switch and Solenoid Valve
ELEVAL CRUTTRUEDON	Circuit Breaker, Earth Wire
READING ORDIT PROFESSIO	Compressor Internal Internetial (Judo resel), Pressure Switch (Judo resel)
RECHWESH PROTECTION	Micro Switch (Manual-reset)
INTERLOCK	Shutdown by Microprocessor (Manual-reset)
	Net: 133kg(Gross: 143kg)
A PACKAGE	Carton 8/3(W)×820(D)×94/mm(H)
AUCESSURIES	Mounting Bracket, Installation Kit Ambled Temp 5 - 400 Weber Sumb Temp 6-350
OPERATING CONCILIONS	Anioena reinp. J = 70 v, novel ouppy renov. J = 20 v Water Supply Pressure: 0.05-0.8MPa(0.5-8bar) Voltage Range: Rated Voltage±10%
We reserve the right to 1. Install the i the instruct	*** reserve the right to make advages in specifications and design without prior motice. Install the ice maker properly in accordance with the instructions on location, water supply/drain
connections and ele the instruction and i 2. The ice production d water temperatures.	connections and electrical connections stated in the instruction and installation manuals provided. The ice production depends on the ambient and when temperatures. Refer to the instruction
manual.	
	19. LOOT



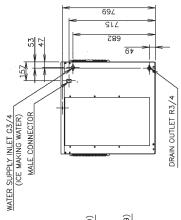


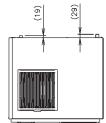


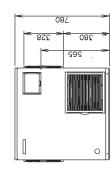


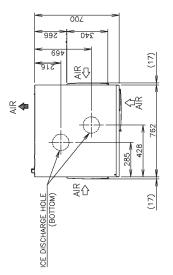
[n] FM-750AKE-N (Auxiliary code: D-0 or earlier)

ITEM	HOSHIZAKI NUGGET ICE MAKER
MODEL	
POWER SUPPLY	1 Phase 220-240V 50Hz Capacity: 2.7kVA (11.7A)
AMPERAGE	9.7A Starting: 43A
ELECTRIC CONSUMPTION	
INF DOUDINTIAN DED 345	(Ambient Temp. 10C, Water
ILE PRUDULIUN PER 240	Temp. 210, water remp. Temp. 320, Water Temp.
SHAPE OF ICE	Nugget
MAX. STORAGE CAPACITY	Not Applicable
	Temp. 10°C, Water Temp.
WATER CONSUMPTION FER 24h	Approx.0.51m²(Ambient Temp. 21℃, Water Temp. 15℃) Approx.0.40m³(Ambient Temp. 32℃, Water Temp. 21℃)
OUTSIDE DIMENSIONS	30mm(H)
HEAT REJECTION	3650W(Ambient temp.32c,Water temp.21c)
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Nugget Ice)
WATER SUPPLY SYSTEM	tion
DRAIN SYSTEM	Outlet: R3/4 (Rear)
COMPRESSOR	Hermetic
CONDENSER	Fin and Tube Type, Air-cooled
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R404A
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
ICENANING WATER CONTROL	Float Switch and Solenoid Valve
ELECTRICAL CIRCUIT PROTECTION	Circuit Breaker, Earth Wire
REFREEMENT CROUT PROTECTION	Compressor Internal Thermostat (Auto-resel), Pressure Switch (Auto-resel)
MECHANISM PROTECTION	Micro Switch (Manual-reset)
INTERLOCK	
WEIGHT	Net: 133kg(Gross: 143kg)
PACKAGE	Carton 895(W)× 875(D)× 965mm(H)
ACCESSORIES	Mounting Bracket, Installation Kit
OPERATING CONDITIONS	Ambient lemp.: 2 - 400, water supply lemp.: 2-330 Water Supply Pressure: 0.05-0.8MPa(0.5-8bar)
	Voltage Range: Rated Voltage±10%
*We reserve the right tr 1. Install the i the instruct connections	We reserve the right to make changes in specifications and design without prior noice. 1. Install the ice maker properly in accordance with the instructions on location, water supply/drain connections and electrical connections stated in
2. The instruction and i water temperatures.	the instruction and installation manuals provided. The ice production depends on the ambient and water temperatures. Refer to the instruction
manual. 3. Product Code: F054-	de: F054-C106

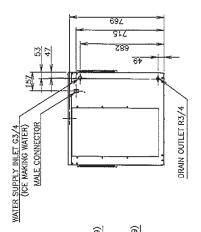


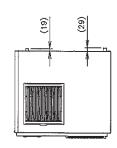


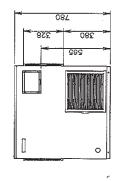


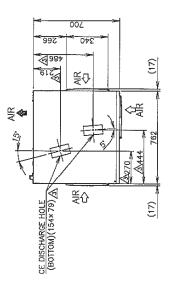


	ITCH	
	MODEL	2
	POWER SUPPLY	1 Phase 220240V 50Hz Capacity: 2.7kVA (11.7A)
	AMPERAGE	
	HECTRIC CONSUMPTION	
	ICE PRODUCTION PER 245	Approx.590kg (Ambient Temp. 10°C, Woter Temp. 10°C) Approx.500kg (Ambient Temp. 21°C, Water Temp. 15°C)
		(Ambient Temp. 32°C, Water Temp.
	SHAPE OF ICE	Nugget
	NUX. STORAGE CAPACITY	Not Applicable
	WARD KNONORU GD 18	Approx.0.60m²(Ambient Temp. 10°C, Water Temp. 10°C)
	INSCRIMENTING REPORT	
	OUTSIDE DMENSIONS	762(W) × 700(D) × 780mm(H)
	HEAT REJECTION	3650W(Ambient temp.32'C,Water temp.21'C)
	CABINET	Stainless Steel, Galvanized Steel (Rear)
	ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Nugget Ice)
	WATER SUPPLY SYSTEM	Direct Connection to Water Main, Inlet: 63/4 (Rear)
	DRAIN SYSTEM	Outlet: R3/4 (Rear)
	COMPRESSOR	Hermetic
	CONDENSER	Fin and Tube Type, Air→cooled
	EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
	REFRIGERANT	R404A
	BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
	COLPARE WHEN CONFIDE	Float Switch and Solenoid Valve
	ELENCE CROM PROFESSION	Circuit Breaker, Earth Wire
	KURDENI ORDII PRECEDI	Compressor Internal Thermostat (Nuto-reset), Pressue Switch (Auto-reset)
	MECHNISH PROFECTION	Micro Switch (Manual-reset)
	INTERLOCK	Shutdown by Microprocessor (Manual-reset)
	WEIGHT	Net: 133kg(Gross: 143kg)
\$	PACKAGE	Carton 873(W)×820(D)×947mm(H)
	ACCESSORIES	Mounting Bracket, Installation Kit
	OPERATING CONDITIONS	Ambient lemp: 5 - 40 C, wole? Supply lemp: 3-55 C Water Supply Pressure 0.05-0.8MPa(0.5-8bar)
	We reserve the richt to	Vertage Kange: Kated Voltage 10%
	1. install the in	ice maker properly in accordance with
	connections	connections and electrical connections stated in
.,	the instruct 2. The ice prov	epend
	water temperatures.	eratures. Refer to the instruction
	3. Product Co.	Product Code: F054-C106



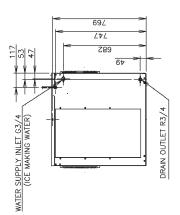


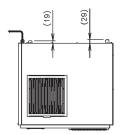


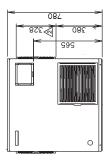


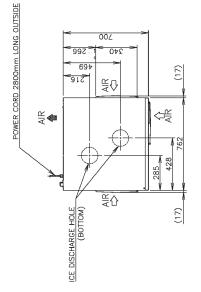
[o] FM-1000AKE (Auxiliary code: D-0 or earlier)

1111	
	Г М — ТОООАКЕ 1 Рьже 220—240V 50H2 / Сторани 3 91//8 (16 34)
	Etadian Jen
FLECTRIC CONSTIMPTION	(Power F
	Approx.1030kg (Ambient Temp. 10°, Water Temp. 10°)
ICE PRODUCTION PER 24h	
SHAPE OF ICE	
MAX. STORAGE CAPACITY	
WHEN ANNOUNDED AND	Temp. 10°C, Water Temp.
NALEK CUNSUMPTICAN PEK 24h	Approx.0.90m (Ambient Lemp. 210, Water Lemp. 150) Approx.0.75m²(Ambient Temp. 320, Water Temp. 210)
OUTSIDE DIMENSIONS	
HEAT REJECTION	4470W(Ambient temp.32C,Water temp.21C)
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Flake Ice)
WATER SUPPLY SYSTEM	Direct Connection to Water Main, Inlet: G3/4 (Rear)
DRAIN SYSTEM	Outlet: R3/4 (Rear)
COMPRESSOR	Hermetic
CONDENSER	Fin and Tube Type, Air-cooled
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R404A
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
ICENNKING WATER CONTROL	Float Switch and Solenoid Valve
ELECTRICAL CRCUIT PROTECTICN	Circuit Breaker, Earth Wire
REFROEPANT CIRCUIT PROTECTION	Compressor Internal Thermostat (Auto-reset), Pressure Switch (Auto-reset)
MECHANISM PROTECTION	Micro Switch (Manual-reset)
INTERLOCK	Shutdown by Microprocessor (Manual-reset)
WEIGHT	Net: 146kg(Gross: 156kg)
PACKAGE	Carton 895(W)×875(D)×965mm(H)
ACCESSORIES	Mounting Bracket, Installation Kit
UPERAIING CUNULIONS	water Supply Pressure: 0.05-0.3MPa(0.5-8bar) Voltage Range: Rated Voltage±10%
*We reserve the right to	We reserve the right to make changes in specifications and design without prior notice.
	the instructions on location, water supply/drain
connections	l electrical connections s
2. The ice production	ion and installation manuals provided. duction depends on the ambient and
water temperatures. manual.	eratures. Kefer to the instruction
3. Product Code: F055	de: F055

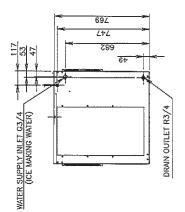


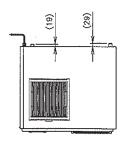


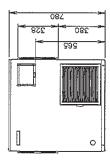


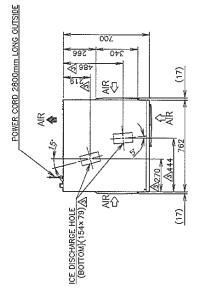


	ITEM	HOSHIZAKI FI AKF ICF MAKFR
	MODEL	
	POWER SUPPLY	1 Phase 220-240V 50Hz Capacity: 3.9K/A (16.3A)
	AMPERAGE	12.3A Starting: 76A
	ELECTRIC CONSULETION	
	ANT TOPOS SETTING RETT AND	
	NL MANAUM THA 249	Approx.090kg (Amolent Temp. 21°C, Water Temp. 19°C) Approx.740kg (Amblent Temp. 32°C, Water Temp. 21°C)
_	SHAPE OF ICE	Flake
	MAX. STORAGE CAPACITY	Not Applicable
		Temp. 10°C, Water Temp.
	WINDOWS AND	Approx.0.90mf (Ambient Lemp. 21°C, Water Lemp. 15°C) Approx.0.75mf (Ambient Temp. 32°C, Water Temp. 21°C)
_	OUTSIGE DIMENSIONS	
	HEAT REJECTION	4470W(Ambient temp.32'C,Water temp.21*C)
	CABINET	Stainless Steel, Galvanized Steel (Rear)
	ICE NYKING SUSIEN	Thin ice forming inside Cylinder (Flake Ice)
	RAUER SUPPLY SYSTEM	Direct Connection to Water Main, Inlet: G3/4 (Rear)
	DRAIN SYSTEM	Outlet: R3/4 (Rear)
	COMPRESSOR	Hermetic
	CONDENSER	Fin and Tube Type, Air-cooled
	EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
	REFRIGERANT	R404A
	BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
	ICENSISE WHEN CONFIG.	Float Switch and Solenoid Valve
	BECHAR CROUG PROTECTION	Circuit Breaker, Earth Wire
	RENDARY ORDIT FICTION	Compresser Internal Thermostat (Auto-reset), Pressure Smith (Auto-reset)
	MECHNISH PROTECTION	Micro Switch (Manual-reset)
	INTERLOCK	Shutdown by Microprocessor (Manual-reset)
	WEIGHT	Net: 146kg(Gross: 156kg)
\$	PACKAGE	Carton 873(W)×820(D)×947mm(H)
	ACCESSORIES	Mounting Bracket, Installation Kit
	OPERATING CONSTRONS	Ambient Terrp.: 5 - 40°C, Water Supply Terrp.: 5-35°C Water Supply Pressure: 0.05-0.8MPa(0.5-8bar)
		Voltage Range: Rated Voltage±10%
-	™e reserve the nght to 1 TrictAll the 1	File reserve the right to make changes in specifications and design without phor house. 1 The that the fine mucher property in accordance with
		the instructions on location, water supply/drain
	connections and ele	and electrical connections stated in
	2. The ice production	Juction depends on the ambient and
	water temperatures. manual.	eratures, keler to the instruction
	Product Code: F055	ie: F055



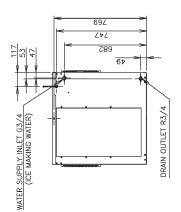


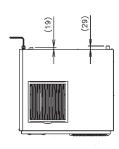


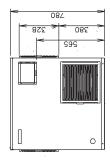


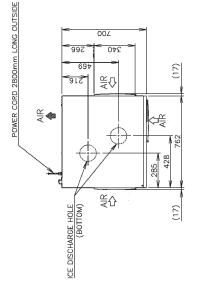
[p] FM-1000AKE-N (Auxiliary code: D-0 or earlier)

ITEM	HOCHIZANI NI ICCET ICE MARED
MODEL	
POWER SUPPLY	1 Phase 220-240V 50Hz Capacity: 3.9kVA (16.3A)
AMPERAGE	12.5A Starting: 76A
ELECTRIC CONSUMPTION	r: 88%)
	(Ambient Temp. 10C, Water
ILE PRODUCIION PER 24h	Approx./30kg (Ambient Temp. 210, Water Temp. 150) Approx.590kg (Ambient Temp. 320, Water Temp. 210)
SHAPE OF ICE	
MAX. STORAGE CAPACITY	
WATEN AGAINTILIEEDONI DED 0.11	10°C, Water Temp. 10°C
WAILEK UURSUMPTIUM PEK 240	Approx.u. / 4m (Ambient Temp. 210, Water Temp. 190) Approx.0.60m ³ (Ambient Temp. 320, Water Temp. 210)
OUTSIDE DIMENSIONS	
HEAT REJECTION	4470W(Ambient temp.32c,Water temp.21c)
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Nugget Ice)
WATER SUPPLY SYSTEM	Direct Connection to Water Main, Inlet: G3/4 (Rear)
DRAIN SYSTEM	Outlet: R3/4 (Rear)
COMPRESSOR	Hermetic
CONDENSER	Fin and Tube Type, Air-cooled
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R404A
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
ICEMAKING WATER CONTROL	Float Switch and Solenoid Valve
ELECTRICAL CIRCUIT PROTECTION	Circuit Breaker, Earth Wire
REPREBANT OPCUT PROTECTION	Compressor Internal Thermostat (Auto-reset), Pressure Switch (Auto-reset)
MECHANISM PROTECTION	Micro Switch (Manual-reset)
INTERLOCK	own by Microprc
WEIGHT	Net: 146kg(Gross: 156kg)
PACKAGE	Carton 895(W)×875(D)×965mm(H)
ACCESSORIES	Mounting Bracket, Installation Kit
OPERATING CONDITIONS	Ambient Temp.: 5 - 400, Water Supply Temp.: 5-350 Water Supply Pressure: 0.05-0.8MPa(0.5-8bar)
	Voltage Range: Rated Voltage±10%
*We reserve the right t 1. Install the i the instruct	We reserve the right to make changes in specifications and design without prior notice. 1. Install the ice randker property in accordance with the instructions on location, water supply/drain
	onnection's state on manuals pro
 Ine ice production a water temperatures. 	auction depends on the ampient and eratures. Refer to the instruction
3. Product Code: F055-	de: F055-C106

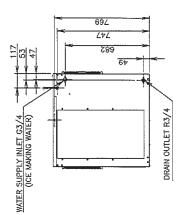


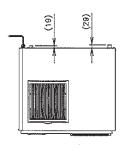


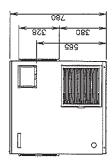


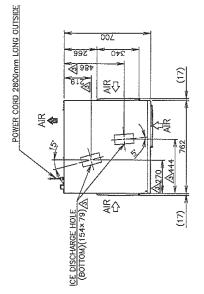


	ETEM	HOSHIZAKI NI ICCET ICE MAKER
	MODEL	
	POWER SUPPLY	1 Phase 220-240V 50Hz Capacity: 3.9KVA (16.3A)
/	AMPERAGE	12.5A Starting: 76A
/	ELECTRIC CONSUMPTION	2550W (Power Factor: 88%)
	INTERSTATION POD 9.05	Approx.860kg (Ambient Temp. 100, Water Temp. 100) Approx.730kg (Ambient Temn. 210, Water Temp. 15D)
	SHAPE OF ICE	Nugget
	MAX SIORAGE CAPACITY	Not Applicable
	AVE ODSM/TOHR 76	Approx.0.87m (Ambient Temp. 100, Water Ternp. 100) Approx.0.74m (Ambient Temp. 210, Water Temp. 150)
		Approx.0.60m (Ambtent Temp. 320, Water Temp. 210)
	OUTSIDE DIVENSIONS	762(W) × 700(D) × 780mm(H)
	HEAT REJECTION	4470W(Ambient temp.320, Water temp.210)
	CABINET	Stainless Steel, Gaivanized Steel (Rear)
	ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Nugget Ice)
	RATER SUPPLY SYSTEM	tion
	DRAIN SYSTEM	Outlet: R3/4 (Rear)
	COMPRESSOR	Hermetic
	CONDENSER	Fin and Tube Type, Air-cooled
	EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
	REFRIGERANT	R404A
	BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
	ICONNECTIVITY CONTROL	Float Switch and Salenoid Valve
	BECTICAL CACULI PREFECTION	Circuit Breaker, Earth Wire
	KENDEN OPJE MOTOR	Compression Internal Thermostat (Auto-reset), Pressure Switch (Auto-reset)
	NECHANISM PROTECTION	Micro Switch (Manual-reset)
	INTERLOCK	Shutdown by Microprocessor (Manual-reset)
	WEIGHT	Net: 146kg(Gross: 156kg)
\leq		Carton 873(W)×820(D)×947mm(H)
	ACCESSORIES	I
	OPERATING CONSTRUMES	Ambient Temp.: 5 - 40°, Water Supply Temp.: 5-35° Water Supply Pressure: 0.05-0.8MPa(0.5-8bar)
	111.0	Voltage Range: Rated Voltage±10%
	*We reserve the right to 1. Install the i the install the i	We reserve the right to make changes in specifications and design writed prof makes. 1. Install the ice marker property in accordance with the instantionations of instantion accordance write
	connections	and electrical connections stated in
	the instruction and in 2. The ice production d	the instruction and installation manuals provided. The ice production depends on the ambient and under termostures Befor to the instruction
	3. Product Co	Product Code: F055C106



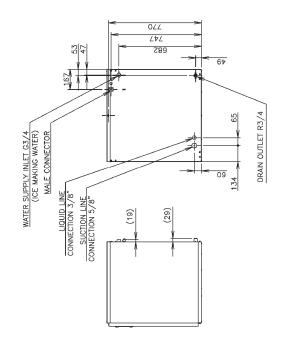


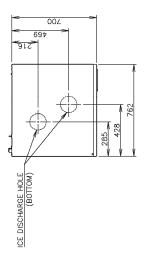


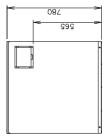


[q] FM-1200ALKE (Auxiliary code: D-0 or earlier)

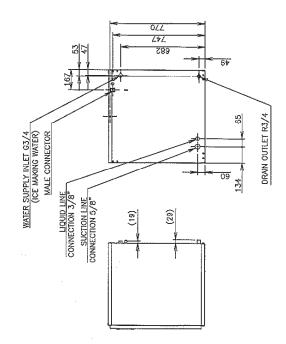
MODEL	FM-1200ALKE
POWER SUPPLY	1 Phase 220-240V 50Hz Capacity: 0.74kVa (3.2A)
AMPERAGE	2.5A Starting: 11A
ELECTRIC CONSUMPTION	470W (Power Factor: 81%)
	In the case of Specification sheet Ps 1.05bar Evaporator temp -250 2830W
ICE PRODUCTION PER 24h	Approx.1200kg(Ambient Temp. 100 "Water Temp. 100) Approx.1040ks(Ambient Temp. 210; Water Temp. 150)
	Approx.690kg(Ambient Temp. 320, Water Temp. 210)
SHAPE OF ICE	Flake
MAX. STORAGE CAPACITY	Not Applicable
	Approx.1.21m ⁷ (Ambient Temp. 10°, Water Temp. 10°)
WATER CONSUMPTION PER 24h	Approx.1.05m ² (Ambient Temp. 210, Water Temp. 150) Approv.0.90m ² (Ambient Temp. 320: Water Temp. 210)
OUTSIDE DIMENSIONS	80mm(H)
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Flake Ice)
WATER SUPPLY SYSTEM	Direct Connection to Water Main, inlet: G3/4 (Rear)
DRAIN SYSTEM	Outlet: R3/4 (Rear)
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R404A
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
ICENAVING WATER CONTROL	Float Switch and Solenoid Valve
ELECTRICAL PROTECTION	Circuit Breaker, Earth Wire
GEAR MOTOR PROTECTION	Thermal Protector(Auto-reset) Motor Rolation Protection, Current Protection(Manual-reset)
LOW WATER PROTECTION	Float Switch and Microprocessor
MECHANISM PROTECTION	Micro Switch (Manual-reset)
INTERLOCK	Shutdown by Microprocessor (Manual-reset)
WEIGHT	Net: 98kg(Gross: 108kg)
PACKAGE	Carton 895(W)×875(D)×965mm(H)
ACCESSORIES	Mounting Bracket, Installation Kit
OPERATING CONDITIONS	Ambient Temp.: 5 - 400, Water Supply Temp.: 5-350 Water Supply Pressure: 0.05-0.8MPa(0.5-8bar) Voltane Ranne: Rated Voltane+10%
*We reserve the right to	*We reserve the right to make changes in specifications and design without prior notice.
1. Install the i the instruct	Install the ice maker properly in accordance with the instructions on location water supply /drain
connection	ions s
2. The instruction	the instruction and installation manuals provided. The ice production depends on the ambient and
manual.	eratures. Keler to the instruction
3. Product Code:	de: F073

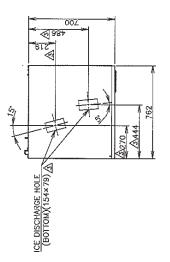


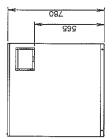




	ITEM	HOSHIZAKI FLAKE ICE MAKER
	MODEL	FM-1200ALKE
	POWER SUPPLY	1 Phase 220-240V 50Hz Capacity: 0.74kVa (3.2A)
	AMPERAGE	2.5A Starting: 11A
	ELECTING CONSUMPTION	470W (Power Factor: 81%)
		in the case of Specification sheet Ps 1.05bur Evaporator terrp -25C 2830W
	REFERENCEION FOR 25	Approx.1200kg(Ambient Temp. 10°C,Water Temp. 10°C) Approx.1040ka(Ambient Temo. 21°C,Water Temo. 15°C)
		Approx.890kc(Ambient Temp. 32'C,Water Temp. 21'C)
	SHAPE OF ICE	Flake
	NAL STORAGE CAPACITY	Not Applicable
		Approx.1.21m ² (Ambient Temp. 10°C, Water Temp. 10°C)
	67 XH DE WAYO NAM	Approx.1.05m [*] (Ambient Temp. 21°C, Water Temp. 15°C) Approx.0.90m [*] (Ambient Temp. 32°C, Water Temp. 21°C)
	OUTSIDE DIVENSIONS	30mm(H)
	CABINET	Stainless Steel, Galvanized Steel (Rear)
	ICE WARKS SISTEM	Thin ice forming inside Cylinder (Flake Ice)
	RATER SUPPLY SYSTEM	Direct Connection to Water Main, inlet: 63/4 (Rear)
	DRAIN SYSTEM	Outlet: R3/4 (Rear)
	EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
	REFRIGERANT	R404A
	BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
	DOURSES REER CORECO.	Float Switch and Solenoid Valve
	BLECTRICAL PROTECTION	Circuit Breaker, Earth Wire
	CER MOTOR PROTECTION	Thermal Protector(Auto-reset) Wolor Rotation Protection, Current Protection(Manual-reset)
	LOW RATER PROTECTION	Float Switch and Microprocessor
	RECHARSH PROTECTION	Micro Switch (Manual-reset)
	INTERLOCK	Shutdown by Microprocessor (Manual-reset)
	WEIGHT	Net: 98kg(Gross: 108kg)
\leq	PACKAGE	Carton 873(W)×820(D)×947mm(H)
	ACCESSORIES	Mounting Bracket, Installation Kit
	OPERATING CONDITIONS	Ambient Temp.: 5 - 40°C, Water Supply Temp.: 5-35°C Water Supply Pressure: 0,050,8MPa(0,5-8bar)
		Voltage Range: Rated Voltage±10%
	*We reserve the right to	make changes in specifications and design without prior notice.
	1. Install the F the instruct	ce maker properly in accordance with ions on location, water supply/drain
	connections	connections and electrical connections stated in
	2. The ice pro	the instruction and installation manuals provided. The ice production depends on the ambient and
	water temperatures.	eratures. Refer to the instruction
	3. Product Code: F073	ie: F073

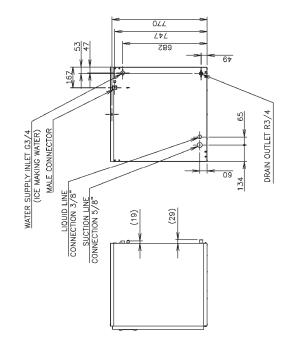


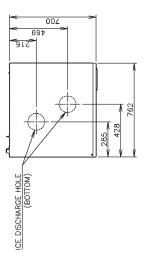


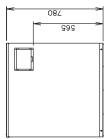


[r] FM-1200ALKE-N (Auxiliary code: D-0 or earlier)

ITEM	HOSHIZAKI NUGGET ICE MAKER
MODEL	
POWER SUPPLY	1 Phase 220-240V 50Hz Capacity: 0.74kVa (3.2A)
AMPERAGE	2.6A Starting: 11A
ELECTRIC CONSUMPTION	515W (Power Factor: 86%)
	In the case of Specification sheet Ps 1.05bor Evaporator temp - 200: 2830W
ICE PRODUCTION PER 24h	Approx.1060kg(Ambient Temp. 100,Water Temp. 100)
SHAPE OF ICE	Nugget
MAX. STORAGE CAPACITY	Not Applicable
NUTTER ANNUMBER OF AN	Temp.
WALEK CONSUMPTION PER 24h	Approx.U.95m [*] (Ambient lemp. 210, Water lemp. 150) Approx.0.81m [*] (Ambient Temp. 320, Water Temp. 210)
OUTSIDE DIMENSIONS	762(W) × 700(D) × 780mm(H)
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Nugget Ice)
WATER SUPPLY SYSTEM	Direct Connection to Water Main, inlet: G3/4 (Rear)
DRAIN SYSTEM	Outlet: R3/4 (Rear)
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R404A
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
ICENARING WATER CONTROL	Float Switch and Solenoid Valve
ELECTRICAL PROTECTION	Circuit Breaker, Earth Wire
GEAR MOTOR PROTECTION	Thermal Protector(Auto-reset)
LOW WATER PROTECTION	Float Switch and Microprocessor
MECHANISM PROTECTION	Micro Switch (Manual-reset)
INTERLOCK	Shutdown by Microprocessor (Manual-reset)
WEIGHT	Net: 98kg(Gross: 108kg)
PACKAGE	Carton 895(W)× 875(D)× 965mm(H)
ACCESSORIES	Mounting Bracket, Installation Kit
OPERATING CONDUCTIONS	Ambient Temp.: 5 - 400, Water Supply Temp.: 5-350
UPERAIING CUNULIUNS	Water Supply Pressure: U.UD-U.XMPa(U.D-8bar) Voltane Ranne: Rated Voltane+10%
*We reserve the right to	*We reserve the right to make changes in specifications and design without prior notice.
1. Install the i	Install the ice maker properly in accordance with
the instruc:	the instructions on location, water supply/drain
connection	s and electrical connections stated in
The instruct 2. The ice pro	the instruction and installation manuals provided. The ice production depends on the ambient and
water temp	eratures. Refer to the instruction
3. Product Co	manual. Product Code: F073—C106

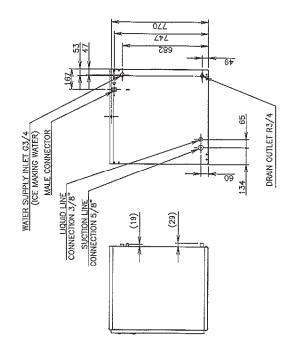


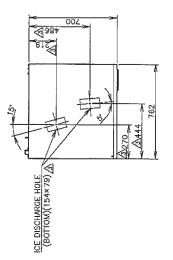


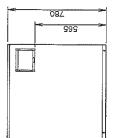


(Auxiliary code: D-1 or later)

	ITEM	HOSHIZAKI NI ICCET ICE MAKER
	MODEL	FM-1200ALKE-N
	POWER SUPPLY	1 Phose 220-240V 50Hz Capacity: 0.74kVa (3.2A)
	AMPERAGE	2.6A Storting: 11A
	ELECTRIC DONSIMPTION	
	LCE PRODUCINA PER 246	In the ower of Specification sheet. Ps 1.05box Froporator largo –2002 332304 Approx.100509(Annibient Tempo - 10°C, Moter Tempo - 10°C) Approx.92098(Annibient Tempo - 21°C, Moter Tempo - 21°C) Annove BORKadionistic Termo - 37°C, Walter Termo - 21°C)
	SHAPE OF ICE	Nugget
	NAX STORAGE CAPACITY	Not Applicable
	INTE CORMANNI ER 24	Approx.1.07m ² (Ambient Temp. 10°C, Water Temp. 10°C) Approx.0.33m ² (Ambient Temp. 21°C, Water Temp. 15°C) Approx.0.81m ² (Ambient Temp. 32°C, Mater Temp. 21°C)
	OUTSIDE DIVENSIONS	762(W) × 700(D) × 780mm(H)
	CABINET	Stainless Steel, Galvanized Steel (Rear)
	ICE MAXING SYSTEM	Thin ice forming inside Cylinder (Nugget Ice)
	WATER SUPPLY SYSTEM	Direct Connection to Water Main, inlet: 63/4 (Rear)
	DRAIN SYSTEM	Outlet: R3/4 (Rear)
	EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
	REFRIGERANT	R404A
	BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
	DORACE BATER CORROL	Float Switch and Solenoid Valve
	BLECTRON, PROTECTION	Circuit Breaker, Earth Wire
	CER MOTOR PROFECTION	Thermal Protector(Auto-reset) Motor Rotation Protection, Current Protection(Manual-reset)
	LOW RATER PROTECTION	Float Switch and Microprocessor
	MECHWISH PROTECTION	Micro Switch (Manual-reset)
	INTERLOCK	Shutdown by Microprocessor (Manual-reset)
	WEIGHT	Net: 98kg(Gross: 108kg)
\leq	PACKAGE	Carton 873(W)×820(D)×947mm(H)
	ACCESSORIES	Mounting Bracket, Installation Kit
	OPERATING CONDITIONS	Ambient Temp.: 5 - 40°C, Water Supply Temp.: 5-35°C Water Supply Pressure: 0.05-0.8MPa(0.5-8bar)
	Wa recent the dath to	Value voitage Kange; Kated Voltage±10%
	1. Install the instruct the instruct	Inserve the right of intervention acception where the work plan mouth Install the ice maker property in accordance with the instructions on location, we are supply/drain connections and electrical connections stated in
	2. The instruct water temp	the instruction and installation manuals provided. The ice production depends on the ambient and water temperatures. Refer to the instruction
	3, Product Co	manual. Product Code: F073C106



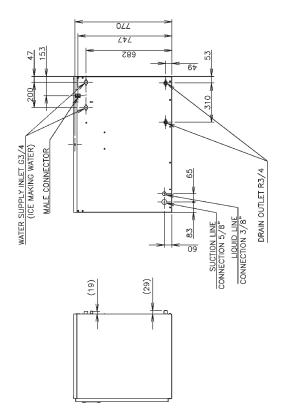


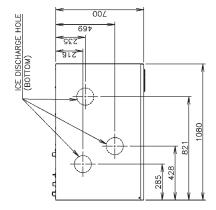


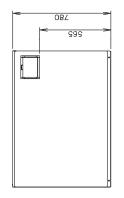
34

[s] FM-1800ALKE (Auxiliary code: D-0 or earlier)

ITEM	HOSHIZAKI FLAKE ICE MAKER
MODEL	FM-1800ALKE
POWER SUPPLY	1 Phase 220-240V 50Hz Capacity: 1.08kVa (4.74A)
AMPERAGE	3.7A Starting: 16.5A
ELECTRIC CONSUMPTION	710W (Power Factor: 83%)
INC DOWN INTION DED ALL	In the case of Specification sheet Ps 1.05bar Evaporator temp -250 4300W Approx.1800kg(Ambient Temp. 100, Water Temp. 100.)
ice production per 24h	Approx.1560kg(Ambient Temp. 210, Water Temp. 150) Approx.1335kg(Ambient Temp. 320, Water Temp. 210)
SHAPE OF ICE	-
MAX. STORAGE CAPACITY	
WATER CONSUMPTION PER 24h	Approx.1.81m ⁴ (Ambient Temp. 10°C, Water Temp. 10°C) Approx.1.57m ² (Ambient Temp. 21°C, Water Temp. 15°C) Approx.1.35m ² (Ambient Temp. 32°C, Water Temp. 21°C)
OUTSIDE DIMENSIONS	1080(W) × 700(D) × 780mm(H)
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE MAKING SYSTEM	nside Cylinder
WATER SUPPLY SYSTEM	اتە
DRAIN SYSTEM	Outlet: $R3/4 \times 2$ (Rear)
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
ICENAKING WATER CONTROL	Float Switch and Solenoid Valve
ELECTRICAL PROTECTION	Circuit Breaker, Earth Wire
GEAR MOTOR PROTECTION	Thermal Protector(Auto-reset) Motor Rotation Protection, Current Protection(Manual-reset)
LOW WATER PROTECTION	Float Switch and Microprocessor
MECHANISM PROTECTION	Micro Switch (Manual-reset)
INTERLOCK	Shutdown by Microprocessor (Manual-reset)
WEIGHT	Net: 140kg(Gross: 155kg)
PACKAGE	Carton 1215(W)×875(D)×965mm(H)
ACCESSORIES	Mounting Bracket, Installation Kit
OPERATING CONDITIONS	Ambient lemp.: 5 - 400, Water Supply lemp.: 5-350 Water Supply Pressure: 0.05-0.8MPa(0.5-8bar) Water Supply Pressure: 0.05-4.000
*Wa recense the right to	Voltage Kange: Katea Voltage IU% We reserve the right to make changes in specifications and design without micr pation
1. Install the i the instruct connections	reserve ure right to make changes in productionals and using minout prior induce. Install the instructions on location, water supply/drain the instructions and electrical connections stated in
2. The instruction and i water temperatures.	the instruction and installation manuals provided. The ice production depends on the ambient and water temperatures. Refer to the instruction
manual. 3. Product Code:	de: F074

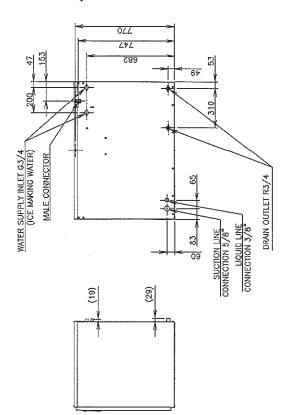


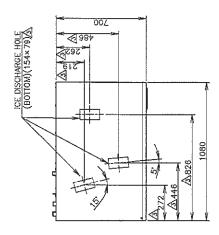


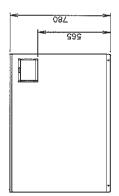


(Auxiliary code: D-1 or later)

ITEM	HOSHIZAKI FI AKF ICF MAKFR
MODEL	FM-1800ALKE
POWER SUPPLY	1 Phase 220-240V 50Hz Capacity: 1.08KVa (4.74A)
AMPERAGE	3.7A Starting: 16.5A
FLECTRIC CONSUMPTION	710W (Power Factor: 83%)
ICE PRODUCIERN PER 245	h fte case of Specification sheet Ps 1.000x Engrader teng – 250 4300% Approx.1.8000sg/Ambient Temp. 1000, Moter Temp. 10'0') ppp:x.1.5005g/Ambient Temp. 210, Woter Temp. 15'0' Aborov.1.33566(Ambient Term. 32'0', Wither Temp. 21'0)
SHAPE OF ICE	Flake
LAX. STORAGE CAPACITY	Not Applicable
WER ONCHARK FIR 24	Approx.1.81mf (Ambient Temp. 10°C, Water Temp. 10°C) Approx.1.57mf (Ambient Temp. 21°C, Water Temp. 15°C) Approx.1.35mf (Ambient Temp. 32°C, Water Temp. 21°C)
OUTSIDE DIVENSIONS	1080(W) × 700(D) × 780mm(H)
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE NAMING SYSTEM	Thin ice forming inside Cylinder (Flake Ice)
RAIER SUPPLY SYSTEM	Direct Connection to Water Main, inlet: G3/4 x 2 (Rear)
DRAIN SYSTEM	Outlet: R3/4 x 2 (Rear)
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R404A
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
ICOMPACI RUER CONTROL	Float Switch and Solenoid Valve
ELECTROAL PROTECTION	Circuit Breaker, Earth Wire
OCAR MOTOR PROTECTION	Thermal Protector(Auto-reset) Kotor Rotation Protection, Current Protection(Nenual-reset)
LOW MATER PROFECTION	Float Switch and Microprocessor
NEONAIGH PROTECTION	Micro Switch (Manual-reset)
INTERLOCK	Shutdown by Microprocessor (Manual-reset)
WEIGHT	Net: 140kg(Gross: 155kg)
\$ 	Carton 1191(W)×820(D)×947mm(H)
ACCESSORIES	
OF ERATING CONDITIONS	Ambient lemp.: 5 - 40°C, Water Suppy lemp.: 5-35°C Water Supply Pressure: 0.05-0.8MPa(0.5-8bar) Voltane Ranae: Rated Voltane+10%
*We reserve the right to	File reserve the right to make changes in specifications and design without prior notice.
1. Install the i the instruct	Install the ice maker properly in accordance with the instructions on location, water supply/drain
	connections and electrical connections stated in the instruction and installation manuals provided.
The ice production d water temperatures.	The ice production depends on the ambient and water temperatures. Refer to the instruction
3. Product Code:	de: F074

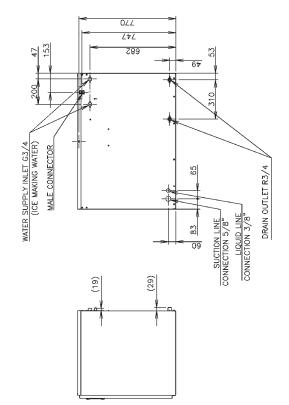


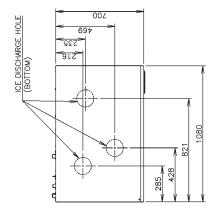


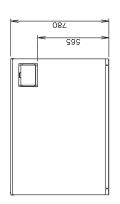


[t] FM-1800ALKE-N (Auxiliary code: D-0 or earlier)

ITCM	
MODEL	
POWER SLIPPLY	1 Phase 220-240V 50Hz Capacity: 1 08kVa (4 744)
AMPERAGE	.9A Starting: 16.5
ELECTRIC CONSUMPTION	(Power F
ICE PRODUCTION PER 24h	In the case of Specification steel Ps 105bor Engoardon temp - 250 4300W Approx.1590kg(Ambient Temp. 100, Water Temp. 10D) Approx.1350kg(Ambient Temp. 210, Water Temp. 21D) Abprox.1200kg(Ambient Temp. 322, Water Temp. 21D)
SHAPE OF ICE	
MAX. STORAGE CAPACITY	
WATER CONSUMPTION PER 24h	Approx.1.60rf (Ambient Temp. 10°, Water Temp. 10°) Approx.1.39rf (Ambient Temp. 21°, Water Temp. 15°) Approx.1.21rf (Ambient Temp. 32°, Water Temp. 21°)
OUTSIDE DIMENSIONS	
CABINET	Stainless Steel, Galvanized Steel (Rear)
ICE MAKING SYSTEM	Thin ice forming inside Cylinder (Nugget Ice)
WATER SUPPLY SYSTEM	
DRAIN SYSTEM	Outlet: $R3/4 \times 2$ (Rear)
EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
REFRIGERANT	R404A
BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
ICEMAKING WATER CONTROL	Float Switch and Solenoid Valve
ELECTRICAL PROTECTION	Circuit Breaker, Earth Wire
GEAR MOTOR PROTECTION	Thermal Protector(Auto-reset) Motor Rotation Protection, Current Protection(Manual-reset)
LOW WATER PROTECTION	Float Switch and Microprocessor
MECHANISM PROTECTION	Micro Switch (Manual-reset)
INTERLOCK	Shutdown by Microprocessor (Manual-reset)
WEIGHT	Net: 140kg(Gross: 155kg)
PACKAGE	Carton 1215(W)×875(D)×965mm(H)
ACCESSORIES	Mounting Bracket, Installation Kit
OPERATING CONDITIONS	Ambient Temp.: 5 - 40°, Water Supply Temp.: 5-35° Water Supply Pressure: 0.05-0.8MPa(0.5-Bbar) Voltage Ranger Rated Voltage+10%
*We reserve the right to 1. Install the the instruct connections	
The instruction and i 2. The ice production d water temperatures.	the instruction and installation manuals provided. The ice production depends on the ambient and water temperatures. Refer to the instruction
manual. 3. Product Code:	de: F074-C106

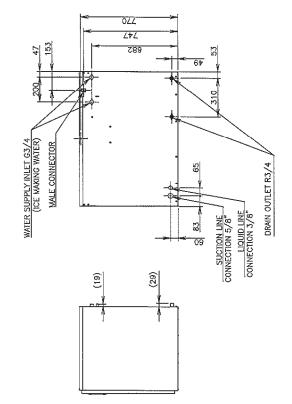


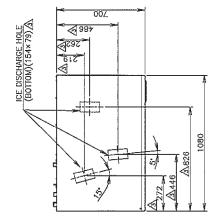


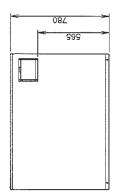


(Auxiliary code: D-1 or later)

	ITFM	HOSHIZAKI NUGGET ICE MAKER
	MODEL	FM-1800ALKE-N
	POWER SUPPLY	1 Phase 220-240V 50Hz Capacity: 1.08kVa (4.74A)
	AMPERAGE	3.9A Starting: 16.5A
	ELECTRIC CONSUMPTION	770W (Power Factor: 85%)
	NE PRODUCION PER 249	In the case of Specificalical sheet Ps 1.000m Exported Temp257 4300m Approx.15300kg(Ambient Temp. 10°C, Water Temp. 10°C) Approx.1330kg(Ambient Temp. 21°C, Water Temp. 15°C)
	SHAPE OF ICE	Approx.1200kg(Amolent Temp. 32 C, Mater Temp. 21 C) Nudget
	NUX. STORAGE CAPACITY	Not Applicable
	TALE CHARGEN AND AND AND	Approx.1.60nt (Ambient Temp. 10°C, Water Temp. 10°C) Approx.1.33mt (Ambient Temp. 21°C, Water Temp. 15°C) Approx.1.21mt (Ambient Temp. 32°C, Water Temp. 21°C)
	OUTSIDE DIMENSIONS	1080(W) × 700(D) × 780mm(H)
	CABINET	Stainless Steel, Galvanized Steel (Rear)
	ICE MANNG SYSTEM	Thin ice forming inside Cylinder (Nugget Ice)
	WATER SUPPLY SYSTEM	- 00
	DRAIN SYSTEM	Outlet: R3/4 × 2 (Rear)
	EVAPORATOR	Tube coiled around Cylinder (Solder Plated)
	REFRIGERANT	R404A
	BIN CONTROL	Actuator and Reed Switch (Time delay controlled)
	IONACCENTER CONFRICT	Float Switch and Solenoid Valve
	BECTRONL PROTECTION	Circuit Breaker, Earth Wire
	CEAR MOTICA PROTECTION	Thermal Protector(Auto-reset) Motor Ratation Protection, Current Protection(Manual-reset)
	LOW RATER PROTECTION	Float Switch and Microprocessor
	BEOLUNIA PROTECTION	Micro Switch (Manual-reset)
	INTERLOCK	Shutdown by Microprocessor (Manual-reset)
	WEIGHT	Net: 140kg(Gross: 155kg)
\leq		Carton 1191(W)×820(D)×947mm(H)
	ACCESSORIES	
	OPERATIVE CONDITIONS	Ambient Temp.: 5 - 40°C, Water Supply Temp.: 5-35°C Water Supply Pressure: 0.05-0.8MPa(0.5-8bar) Voltace Ranae: Rated Voltace±10%
	*Ne reserve the right to	*We reserve the night to make changes in specifications and design without prior notice.
	1. Install the i	ce maker properly in accordance with
	connection	and electrical connections stated in
	2. The ice pro	The instruction and installation manuals provided. The ice production depends on the ambient and
	3. Product Co	Product Code: F074-C106

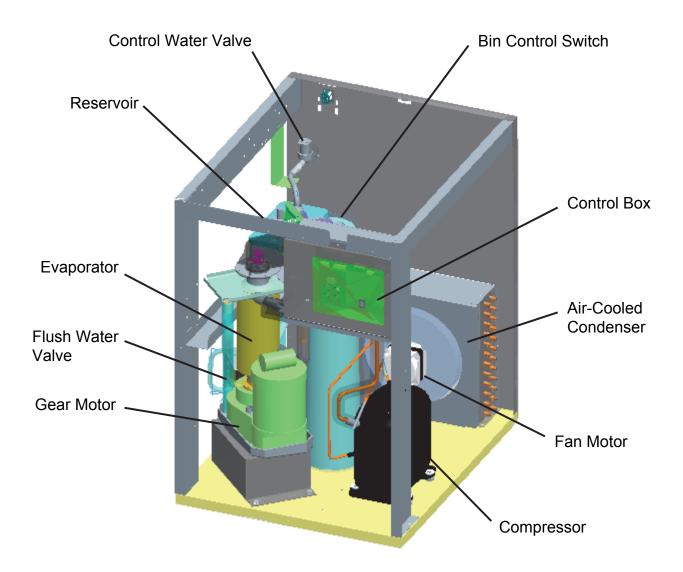


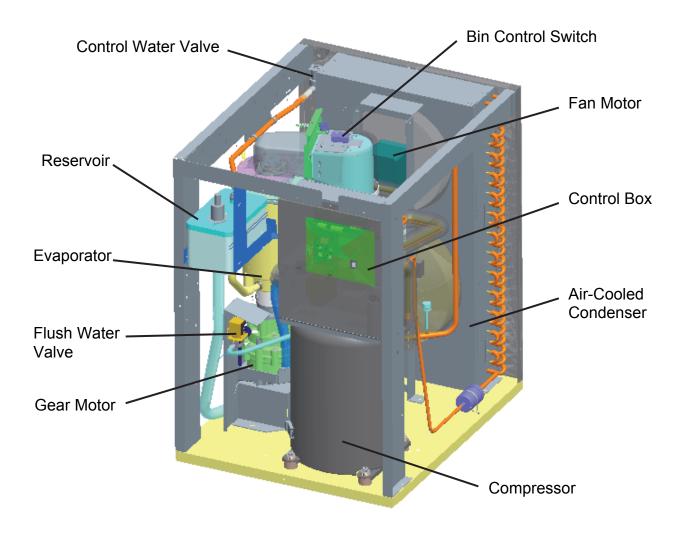


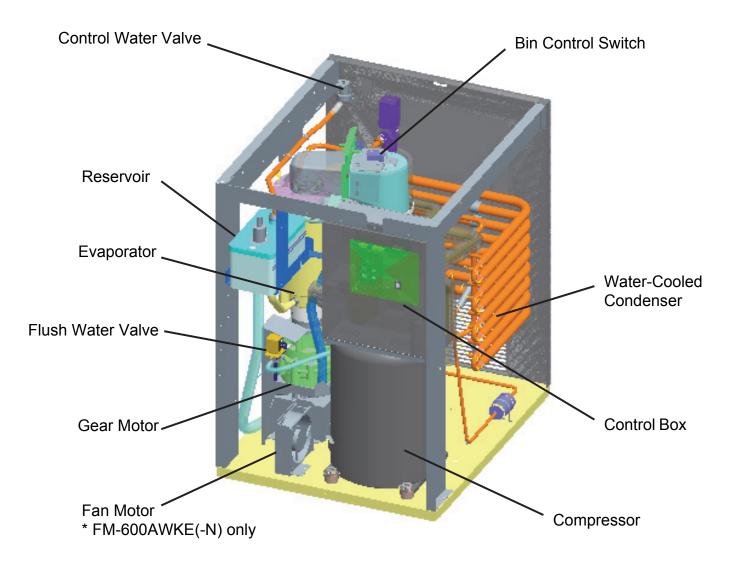


2. CONSTRUCTION

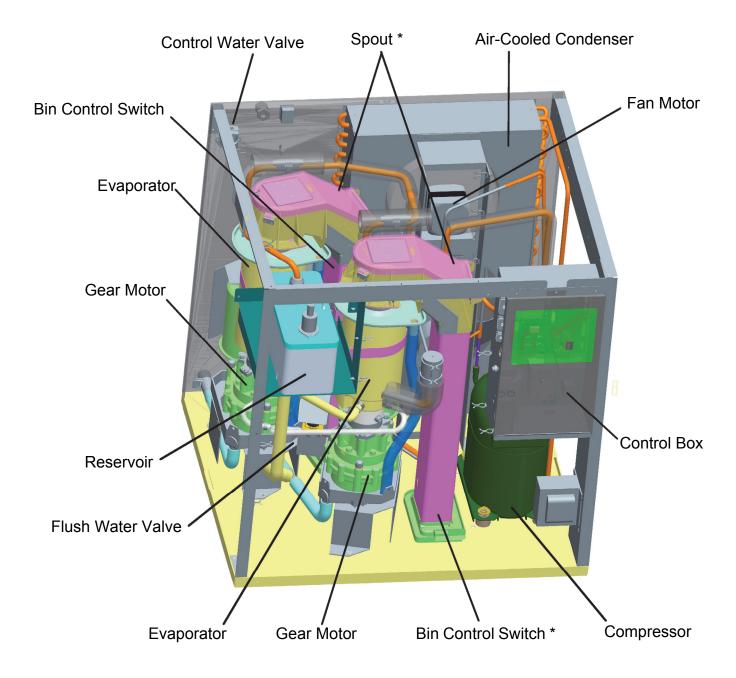
[a] FM-170AKE(-N)





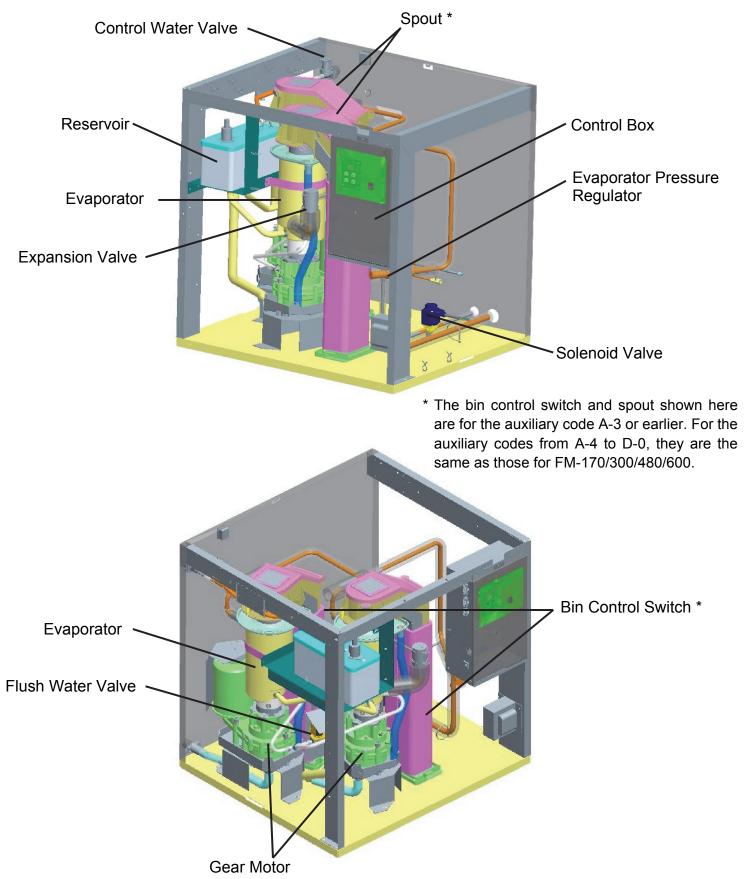


[d] FM-750AKE(-N), FM-1000AKE(-N)

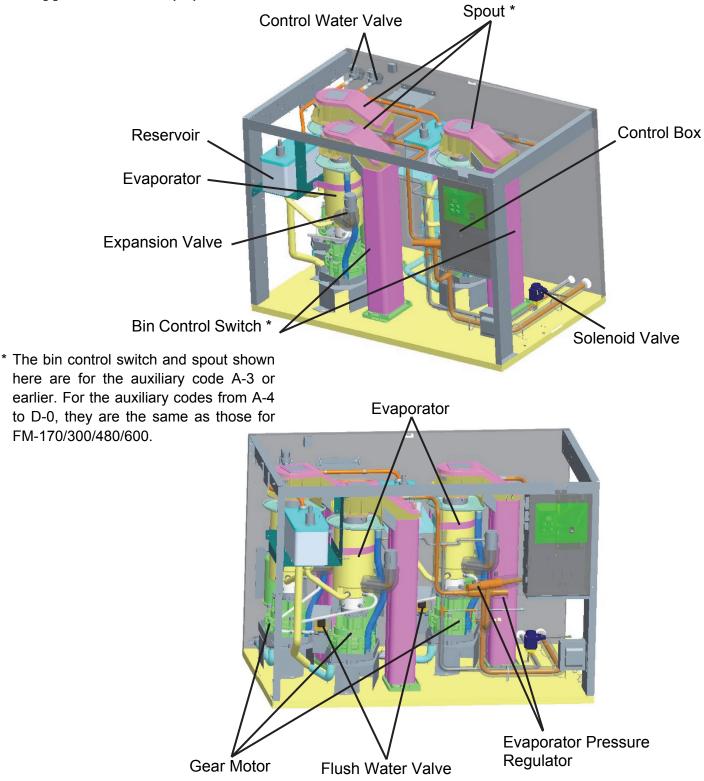


* The bin control switch and spout shown here are for the auxiliary code A-2 or earlier. For the auxiliary codes from A-3 to D-0, they are the same as those for FM-170/300/480/600.

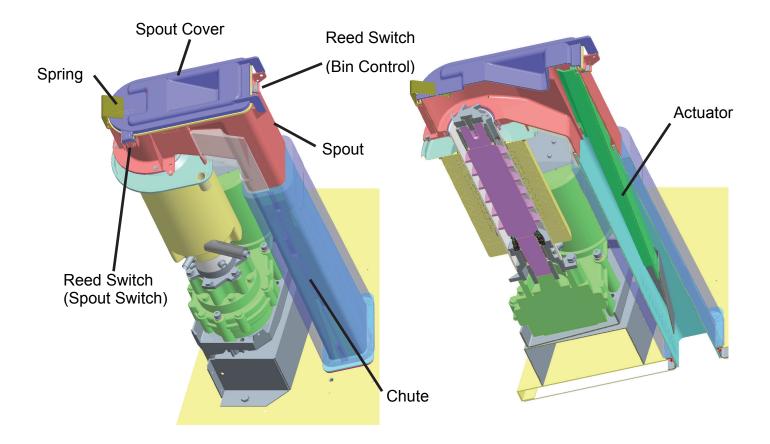
[e] FM-1200ALKE(-N)



[f] FM-1800ALKE(-N)



[g] BIN CONTROL SWITCH AND SPOUT [FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N), FM-480AWKE(-N), FM-600AWKE(-N), FM-750AKE(-N), FM-1000 AKE(N), FM-1200ALKE(N), FM-1800ALKE(N) (Auxiliary code: D-1 or later)]



II. MAINTENANCE AND CLEANING INSTRUCTIONS

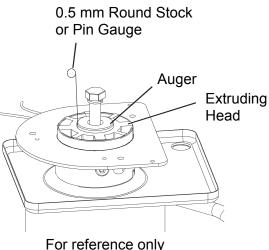
IMPORTANT This icemaker must be maintained individually, referring to the instruction manual and labels provided with the icemaker. To achieve optimum icemaker performance, the following parts need periodic inspection and maintenance: Extruding head (upper bearing) Housing (lower bearing) Mechanical seal These parts should be inspected after two years from installation or 10,000 hours of operation, whichever comes first, and once a year thereafter. Their service life, however, depends on water quality and environment. More frequent inspection and maintenance are recommended in bad or severe water conditions.

1. EXTRUDING HEAD (UPPER BEARING), HOUSING (LOWER BEARING)

These parts should be replaced if a diametrical gap of more than 0.5 mm is found when at least three spots are checked by changing the direction of the auger on each bearing.

It depends on the water quality and conditions, but normally the bearings should be checked for wear after a total of 8,000 - 10,000 hour operation from installation date.

Note: The clearance between the auger blades and the evaporator interior is 0.4 - 0.5 mm. If the bearings and rotating parts are worn out to create a larger clearance, the evaporator interior may be damaged. (The diameters differ by 0.8 - 1.0 mm.)



(May differ from actual design)

If the auger surfaces against which the bearings contact are no longer smooth or show any burrs or abrasions during the above inspection, replace the auger. The sealing bolt must be tightened equally to torque of $784N \cdot cm \pm 10\%$.

2. MECHANICAL SEAL

The mechanical seal prevents water leaks from between the auger and the housing bearing and gradually wears out to reduce its watertightness. Check the amount of water leakage from the drain pipe located at the side of the gear case to determine the necessity of replacement.

Total operation time	Water leakage
3,000 hours	0.1 mL/h
10,000 hours	0.5 mL/h

Attach the mechanical seal with its floating sheet facing the housing. After replacement, there should be no water leakage from the mating surface.

Note: The water leakage will exceed the above amount with scale/dirt build up or damage on the mating surface. Replace the mechanical seal when the water leakage exceeds 0.5 mL/h.

3. GEAR MOTOR

After the following hours of operation, check the gear motor for excessive noise caused by increased torque or deterioration of mechanical parts.

Bearing, gear and other mechanical parts:	10,000 hours
Oil seal:	5 years

Note: When the output shaft oil seal is exposed to a large amount of water at one time, water may enter the gear case. Always drain the water circuit before removing the auger for service.

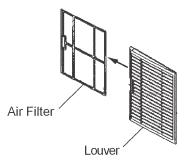
4. CONDENSER (AIR-COOLED MODEL ONLY)

Check the condenser once a year, and clean if required by using a brush or vacuum cleaner. More frequent cleaning may be required depending on the location of the icemaker.

5. AIR FILTER (AIR-COOLED MODEL ONLY)

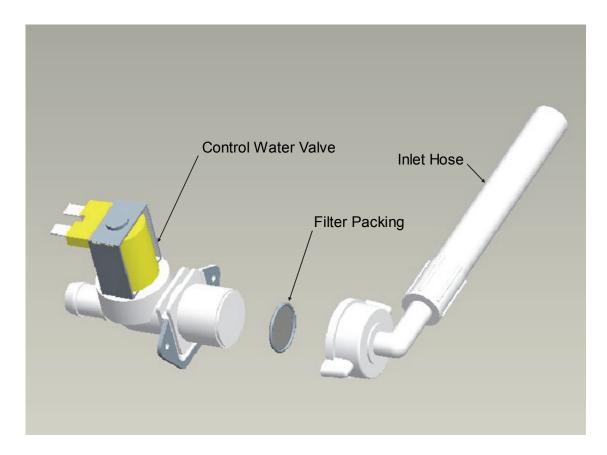
Plastic mesh air filters remove dirt or dust from the air, and keep the condenser from getting clogged. If the filters get clogged, the icemaker's performance will be reduced. Remove and clean the air filters at least twice per month:

- 1) Slide the air filter off the louver.
- 2) Clean the air filter by using a vacuum cleaner. When severely clogged, use warm water and a neutral cleaner to wash the air filter.
- 3) Rinse and dry the air filter thoroughly, and place it in position.



6. CONTROL WATER VALVE

- 1) Disconnect the power source.
- 2) Close the water supply tap.
- 3) Disconnect the inlet hose from the water valve.
- 4) Clean the filter packing using a brush.
- 5) Replace the filter packing and inlet hose in their correct positions.
- 6) Open the water supply tap.
- 7) Connect the power source.
- 8) Check for leaks.



7. CLEANING OF WATER SYSTEM

	WARNING
1.	HOSHIZAKI recommends cleaning this unit at least twice a year. More frequent cleaning, however, may be required in some existing water conditions.
2.	Do not touch the operation switch with damp hands.
3.	Always wear rubber gloves, eye protectors, apron, etc. for safe handling of the cleaner and sanitiser.
4.	Use the cleaners and sanitisers recommended by Hoshizaki. Contact your local Hoshizaki office for further details. (The instructions below give an example of those recommended cleaners and sanitisers.)
5.	Never mix cleaning and sanitising solutions in an attempt to shorten cleaning time.
6.	Wipe off any splashed or spilt cleaner/sanitiser immediately.
7.	Do not use any ammonia type cleaners on any part of the icemaker.
	CAUTION

CAUTION

Do not use ice produced with cleaning and sanitizing solutions. Be sure none remains in the storage bin on completion of cleaning.

<STEP 1>

Dilute the solutions with water as follows:

- "Nickel-Safe Ice Machine Cleaner" by The Rectorseal Corporation or Cleaning solution: similar. Prepare approximately 3 L of solution as directed on the container.
- 30 mL of 5.25% sodium hypochlorite with 7.6 L of water or the Sanitising solution: Hoshizaki recommended sanitiser as directed on the container.

- IMPORTANT -

For safety and maximum effectiveness, use the solutions immediately after dilution.

<STEP 2>

Use the cleaning solution to remove lime deposits in the water system.

- 1) Open the plastic access flap on the front panel.
- 2) Press the stop button to activate the flush cycle (approx. 10 minutes).

- 3) Remove all ice from the storage bin to avoid contamination by the cleaner.
- 4) Unplug the icemaker. Remove the top and front panels.
- 5) Remove the cover of the reservoir. Remove any loose debris or scale.
- 6) Carefully fill the reservoir with the solution to the overflow point. If necessary, use a small brush to clean the inside of the reservoir.
- 7) Refit the reservoir cover.
- 8) Check that the operation switch is in the "ON" position.
- 9) Refit the front and top panels.
- 10) Allow the icemaker to stand for about 10 minutes, then plug in the icemaker to make ice with the solution.
- 11) With the water supply tap open, allow the machine to continue icemaking for a further 20 minutes. Open the access flap and press the stop button.
- 12) Allow time for the gear motor to stop and the water system to drain.
- 13) Allow the icemaker to make ice for approximately 10 minutes.
- 14) Pour warm water into the storage bin to melt any ice down the drain.
- Note: 1. If the machine has heavy deposits of scale, repeat the complete cleaning procedure.
 - 2. Do not increase the proportion of cleaning solution to shorten cleaning times, as this may lock the auger when completing item 10).

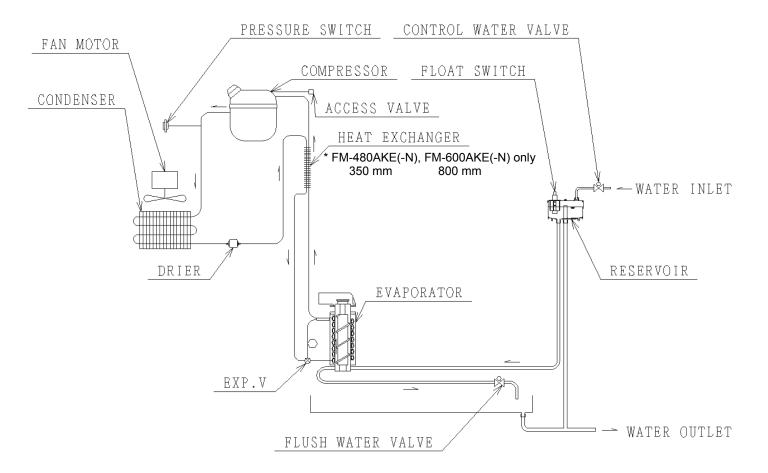
<STEP 3>

- Note: Sanitising should always be completed after cleaning or alternately as an individual procedure if conditions exist to make it necessary.
- Use 2.8 litres of the sanitising solution to sanitise the icemaker.
- 15) Follow items 1) to 14) to complete sanitisation of the water system.

III. TECHNICAL INFORMATION

1. WATER CIRCUIT AND REFRIGERANT CIRCUIT

[a] FM-170AKE(-N), FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N)



Pressure Switch

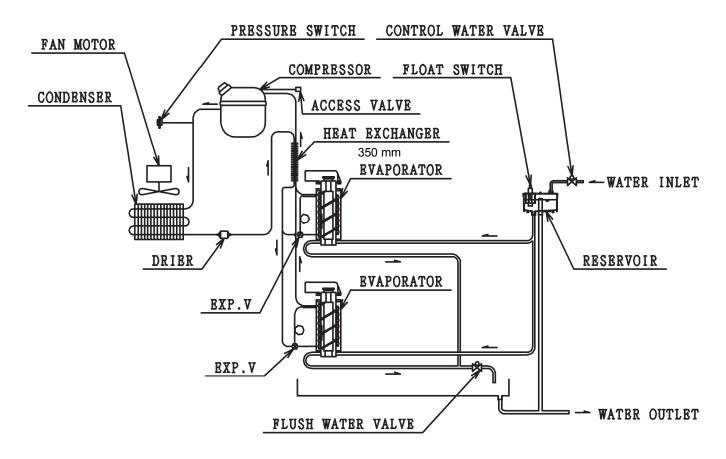
[FM-170AKE(-N)] Cut-out 1.57 + 0.15/0 MPa Cut-in 0.98 ± 0.15 MPa

[FM-300AKE(-N)] Cut-out 2.85 + 0.15/0 MPa Cut-in 2.30 ± 0.15 MPa

[FM-480AKE(-N)] Cut-out 3.14 + 0.15/0 MPa Cut-in 2.26 ± 0.15 MPa

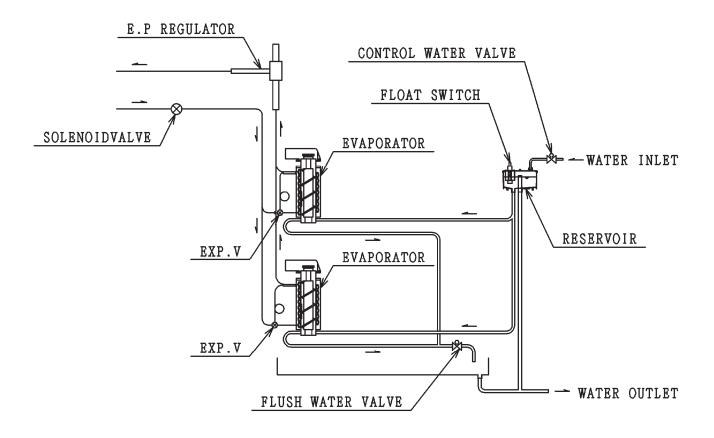
[FM-600AKE(-N)] Cut-out 2.65 + 0.15/0 MPa Cut-in 2.20 ± 0.15 MPa

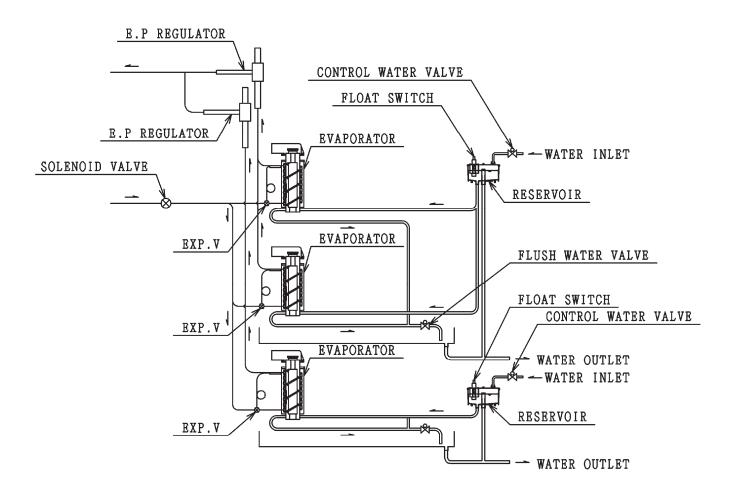
[b] FM-750AKE(-N), FM-1000AKE(-N)



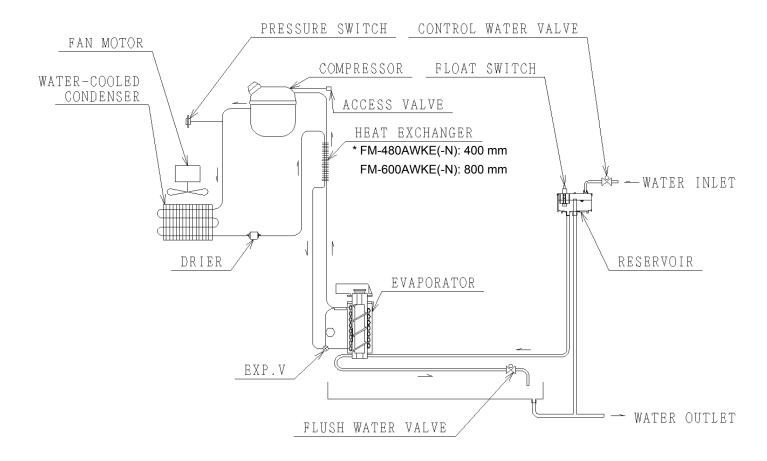
Pressure	Switch
Cut-out	3.14 + 0.15/0 MPa
0.1.1.	

Cut-in 2.26 ± 0.15 MPa





[e] FM-480AWKE(-N), FM-600AWKE(-N)



Pressure Switch

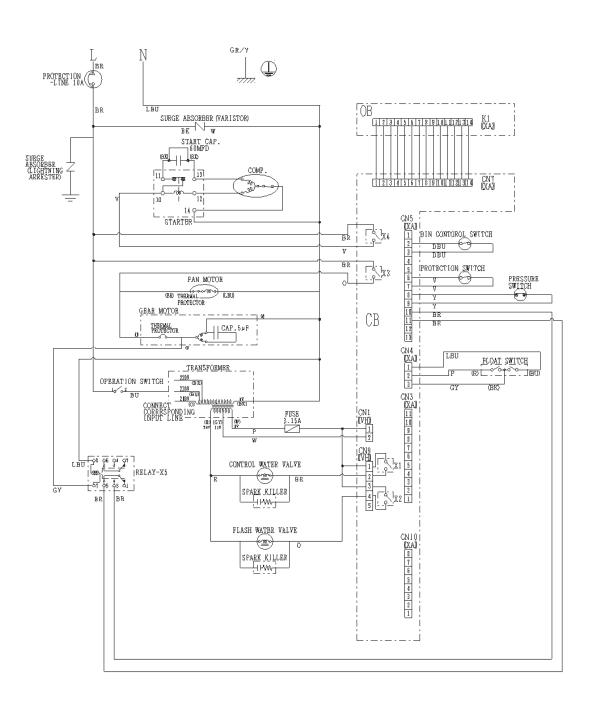
[FM-480AWKE(-N)] Cut-out 3.14 + 0.15/0 MPa Cut-in 2.26 ± 0.15 MPa

[FM-600AWKE(-N)] Cut-out 2.65 + 0.15/0 MPa Cut-in 2.20 ± 0.15 MPa

2. WIRING DIAGRAM

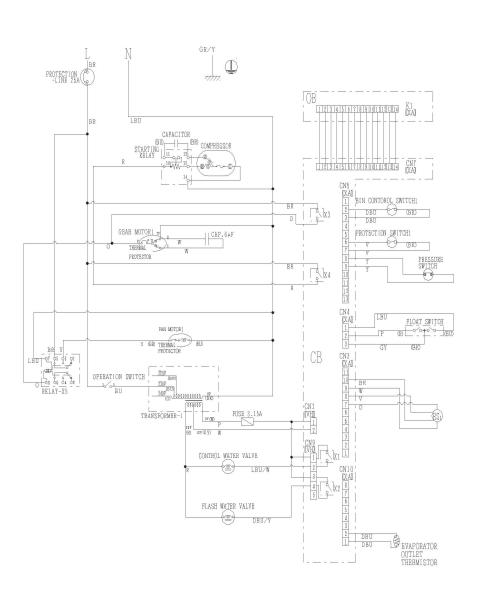
[a] WIRING DIAGRAM

FM-170AKE(-N) (Auxiliary code: D-0 or earlier)



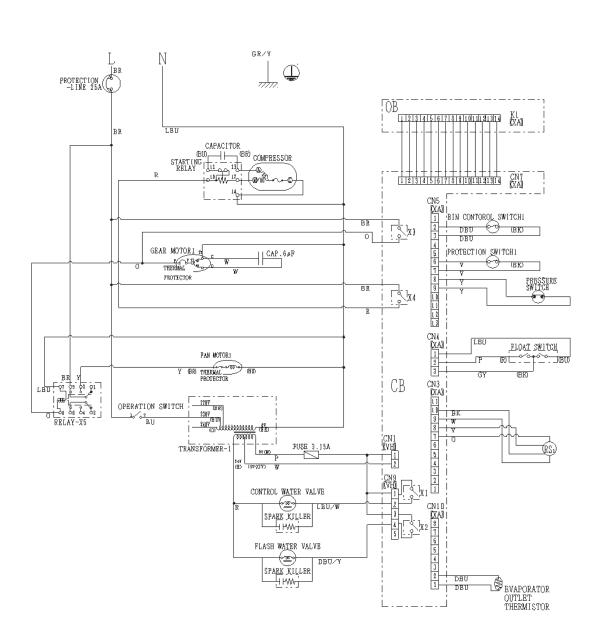
SET	No.	
2	0	

WIRE	COLOR CODE
0	ORANGE
R	RED
BU	BLUE
DBU	DARK BLUE
BR	BROWN
GY	GRAY
LBU	LIGHT BLUE
Р	PINK
Y	YELLOW
V	VIOLET
ÐK	BLACK
W	WHITE
GR/Y	GREEN/YELLOW



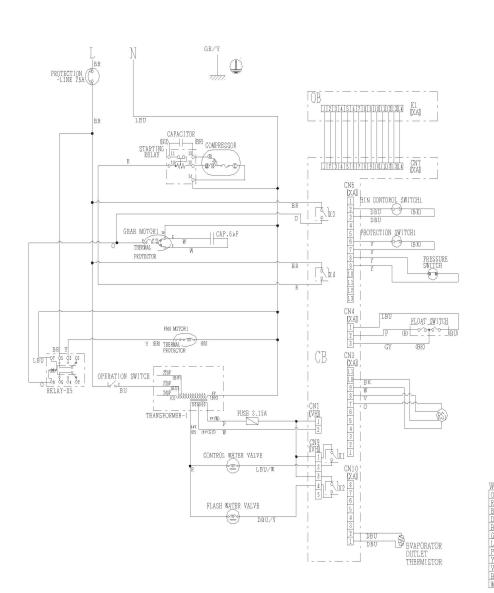
SET	No	
1	7	

WIRE	COLOR CODE
0	ORANGE
R	RED
BU	BLUE
DBU	DARK BLUE
BR	BROWN
GY	GRAY
LBU	LIGHT BLUE
P	PINK
Y	YELLOW
V	VIOLET
BK	BLACK
W	WHITE



WIRE	COLOR CODE
Û	ORANGE
R	RED
BU	BLUE
DBU	DARK BLUE
BR	BROWN
GΥ	GRAY
LBU	LIGHT BLUE
P	PINK
Y	YELLOW
V	VIOLET
BK	BLACK
W	WHITE

<u>SET No.</u> 17





 WIRE
 COLOR
 CODE

 0
 ORANGE
 R

 R
 RED
 BLUE

 DBU
 DARK
 BLUE

 DBU
 DARK
 BLUE

 QY
 GRAY
 LBU

 LBU
 LIGHT
 BLUE

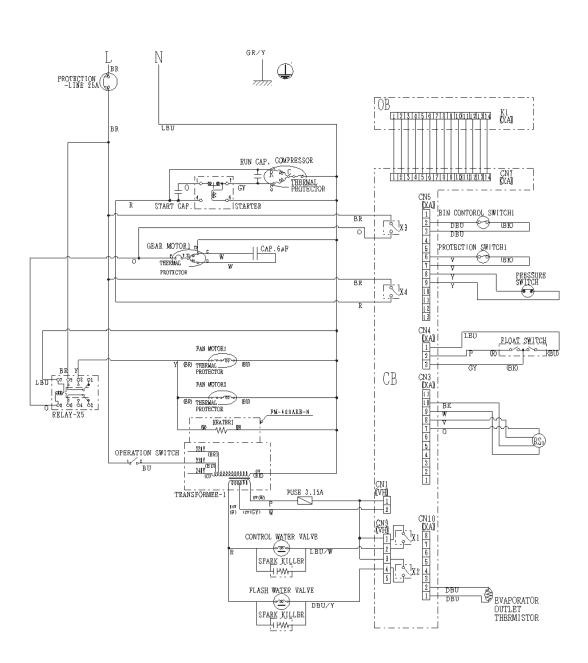
 P
 PINK
 Y

 Y
 YELLOW
 Y

 V
 VIOLET
 BK

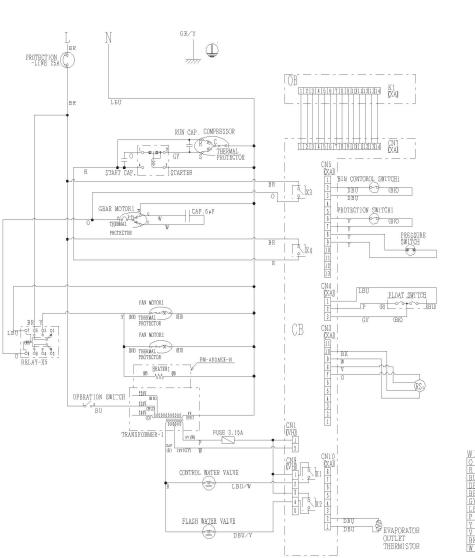
 BLACK
 W
 WHITE

FM-480AKE(-N) (Auxiliary code: D-0 or earlier)



SET	No.
1	8

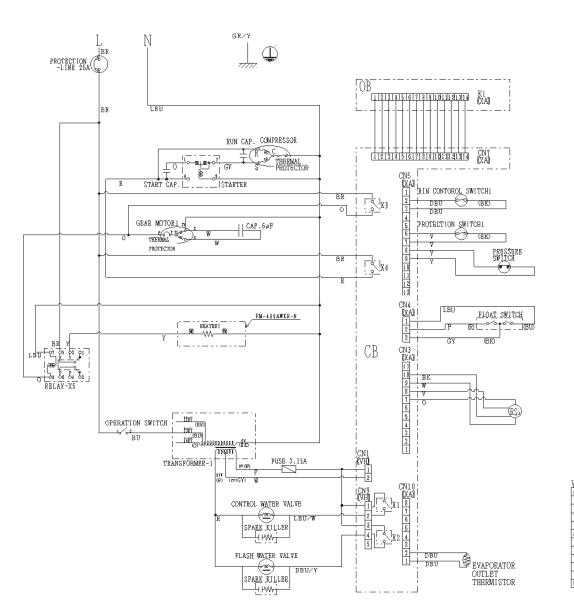
WIRE	COLOR CODE
0	ORANGE
R	RED
BU	BLUE
DBU	DARK BLUE
BR	BROWN
GY	GRAY
LBU	LIGHT BLUE
Р	PINK
Y	YELLOW
V	VIOLET
BK	BLACK
W	WHITE



S	ΕT	N	0	
	1	8		

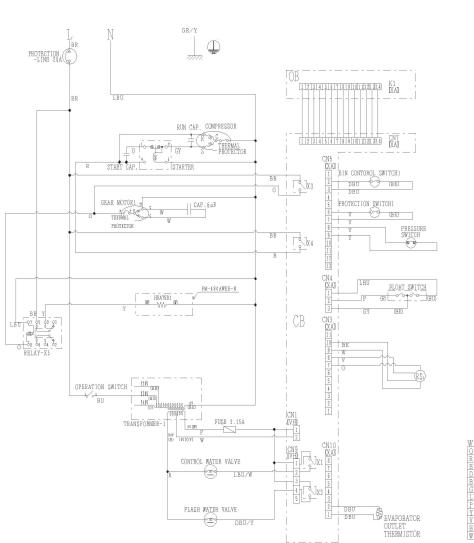
WIRE	COLOR CODE
0	ORANGE
R	RED
BU	BLUE
DBU	DARK BLUE
BR	BROWN
GY	GRAY
LBU	LIGHT BLUE
Р	PINK
Y	YELLOW
V	VIOLET
BK	BLACK
W	WHITE

FM-480AWKE(-N) (Auxiliary code: D-0 or earlier)



SET	No.	
1	8	

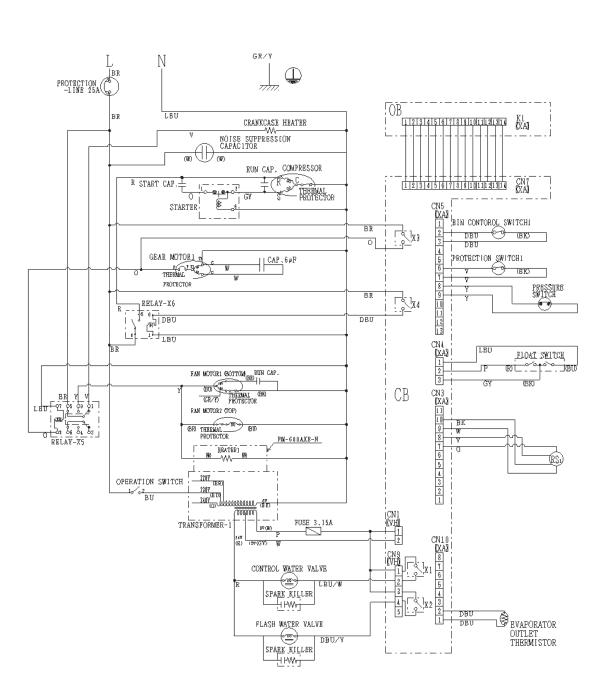
VIRE	COLOR CODE
Ô	ORANGE
R	RED
BU	BLUE
DBU	DARK BLUB
BR	BROWN
ĠΥ	GRAY
LBU	LIGHT BLUE
Р	PINK
Y	YELLOW
V	VIOLET
BK	BLACK
W	WHITE





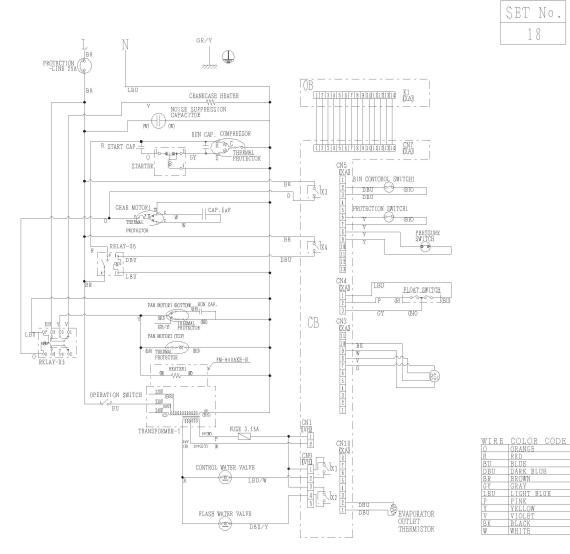
WIRE	COLOR CODE
0	ORANGE
R	RED
BU	BLUE
DBU	DARK BLUE
BR	BROWN
GY	GRAY
LBU	LIGHT BLUE
P	PINK
Y	YELLOW
V	VIOLET
BK	BLACK
W	WHITE

FM-600AKE(-N) (Auxiliary code: D-0 or earlier)



SET	No.	
1	8	

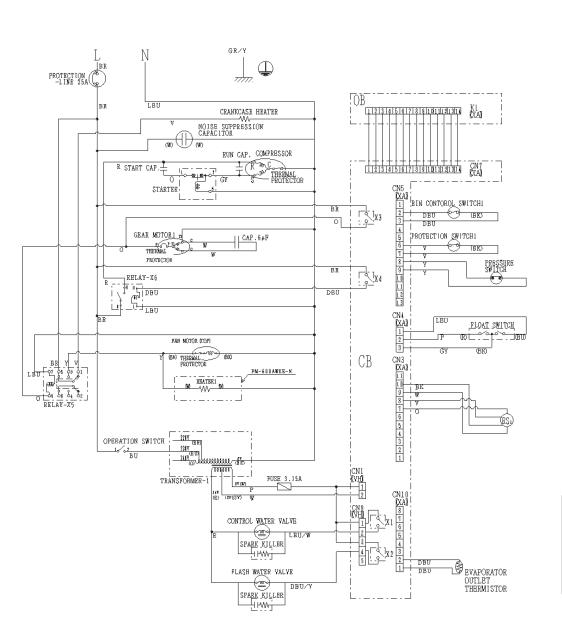
WIRE	COLOR CODE
Û	ORANGE
R	RED
BU	BLUE
DBU	DARK BLUE
BR	BROWN
GY	GRÁY
LBU	LIGHT BLUE
Р	PINK
Y	YELLOW
V	VIOLET
BK	BLACK
W	WHITE





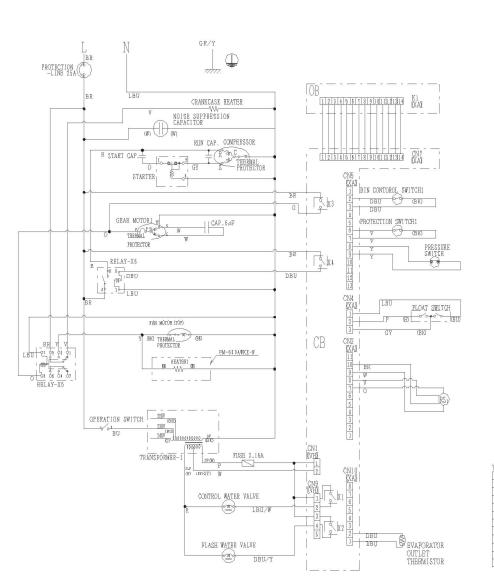
10	VAANGE	
R	RED	
BU	BLUE	
DBU	DARK BLUE	
BR	BROWN	
GY	GRAY	
LBU	LIGHT BLUE	
P	PINK	
Y	YELLOW	
V	VIOLET	
BK	BLACK	
W	WHITE	

FM-600AWKE(-N) (Auxiliary code: D-0 or earlier)



SET	No.	
1	8	

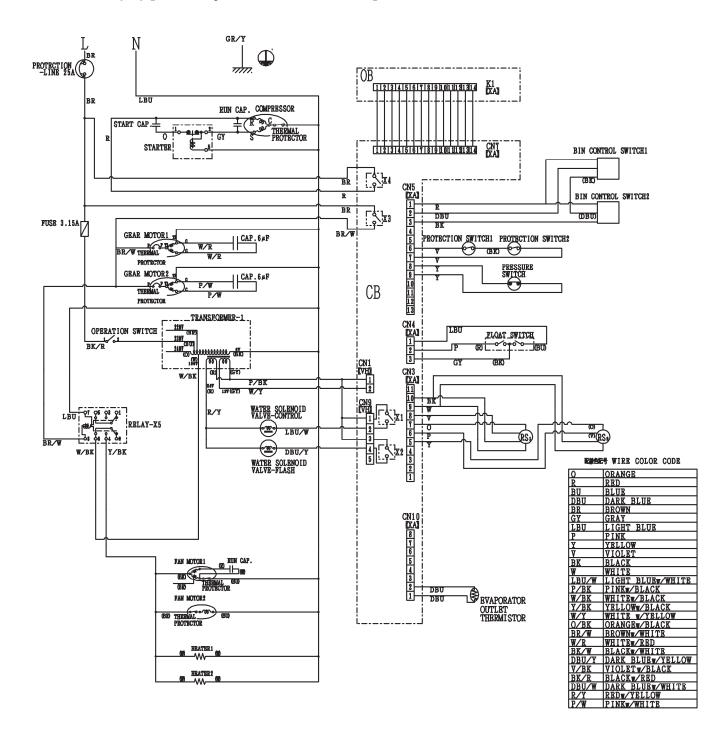
WIRE	
Û	ORANGE
R	RED
BU	BLUE
DBU	DARK BLUE
BR	BROWN
GY	GRAY
LBU	LIGHT BLUE
Р	PINK
Y	YELLOW
V	VIQLET
BK	BLACK
W	WHITE

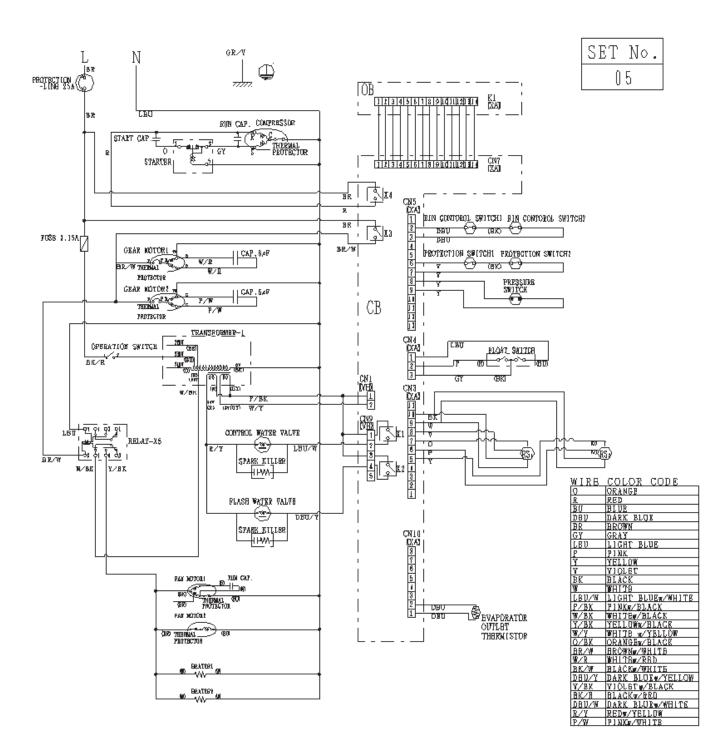


SET	No.
1	8

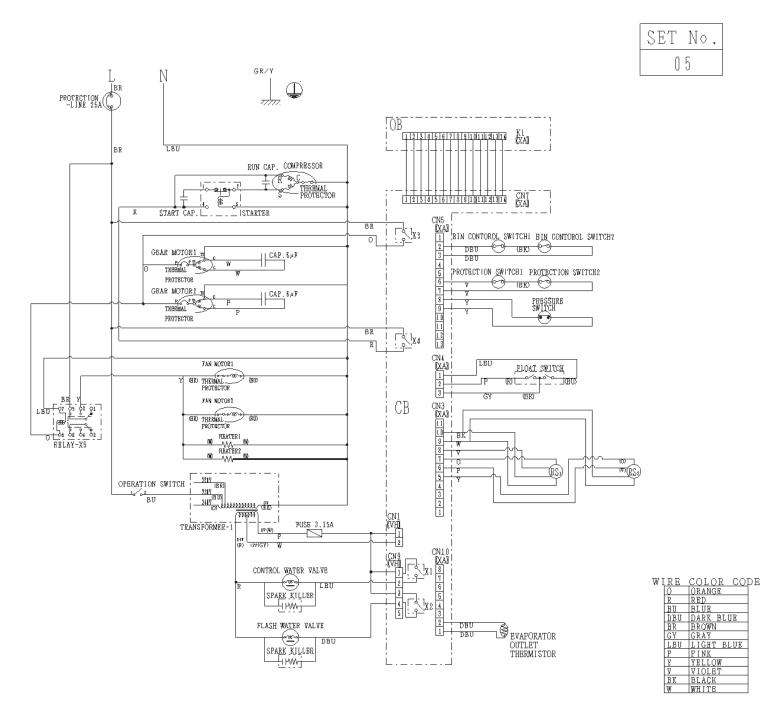
WIKE	COLUK CUDE
0	ORANGE
R	RED
BU	BLUE
DBU	DARK BLUE
BR	BROWN
GY	GRAY
LBU	LIGHT BLUE
P	PINK
Y	YELLOW
V	VIÓLET
BK	BLACK
W	WHITE

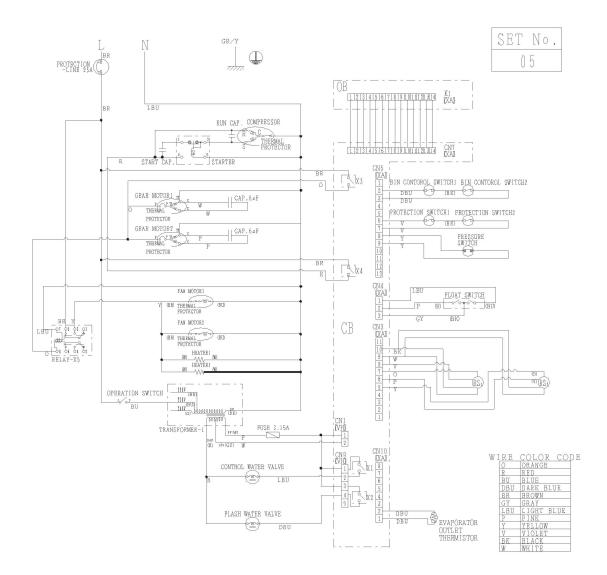
FM-750AKE(-N) [Auxiliary code: A-2 or earlier]



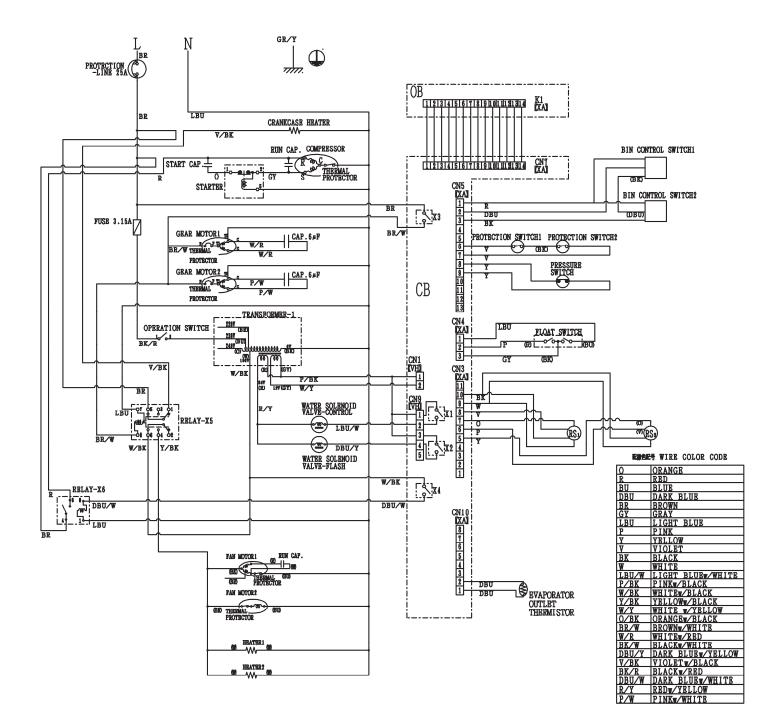


FM-750AKE(-N) [Auxiliary code: B-1 to D-0]

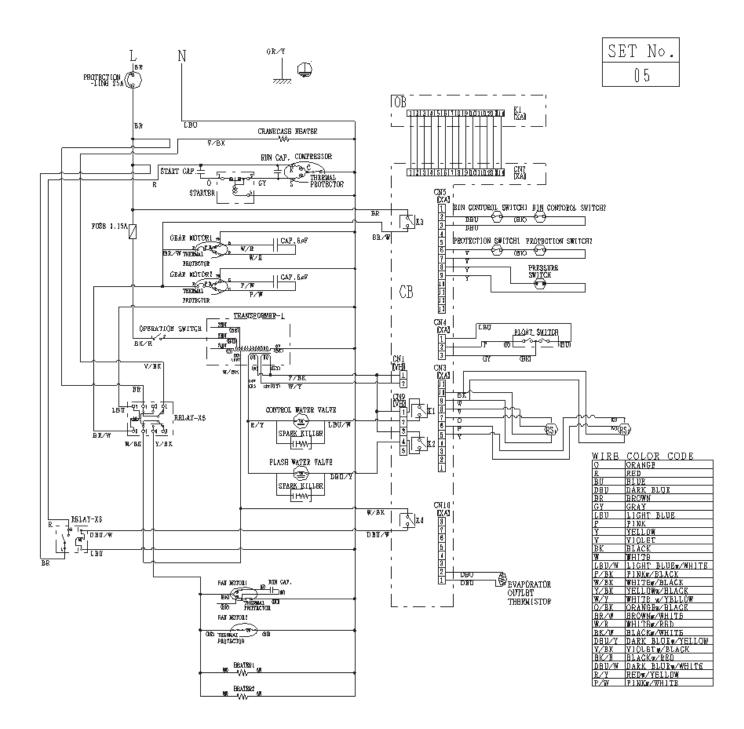




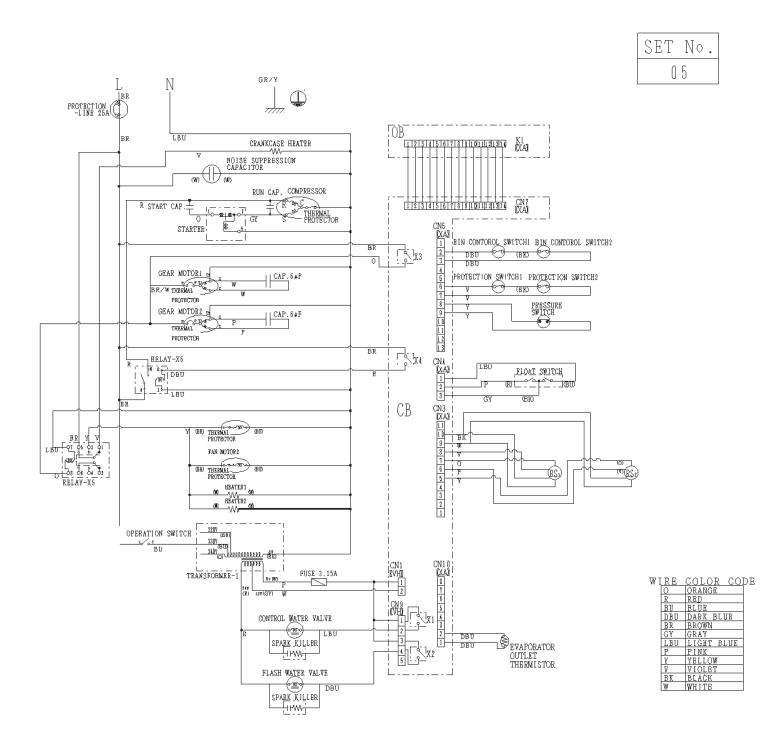
FM-1000AKE(-N) [Auxiliary code: A-2 or earlier]

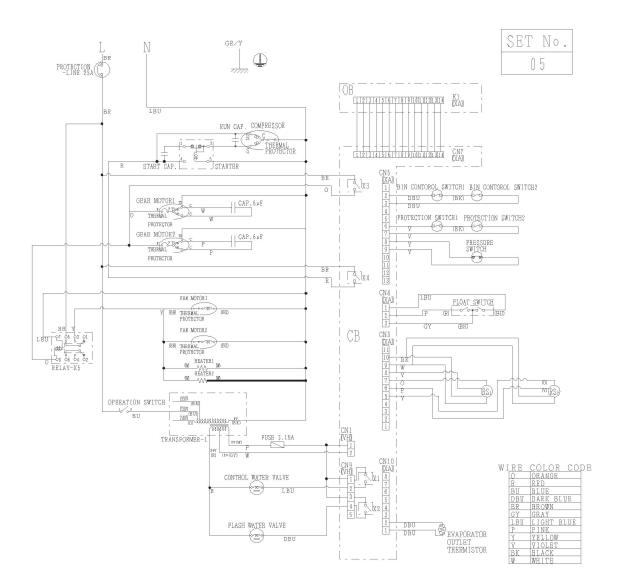


FM-1000AKE(-N) [Auxiliary code: A-3 and B-0]

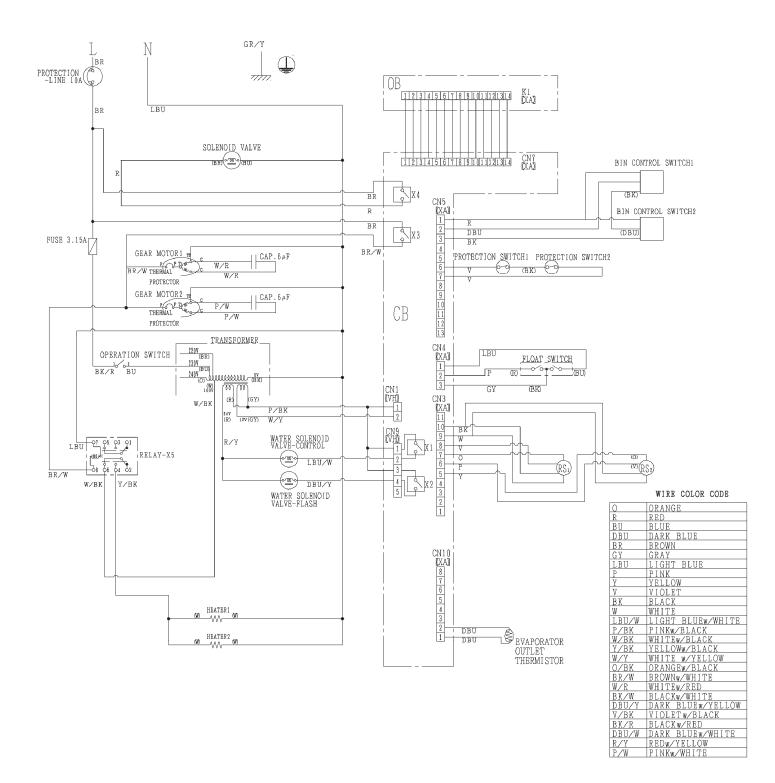


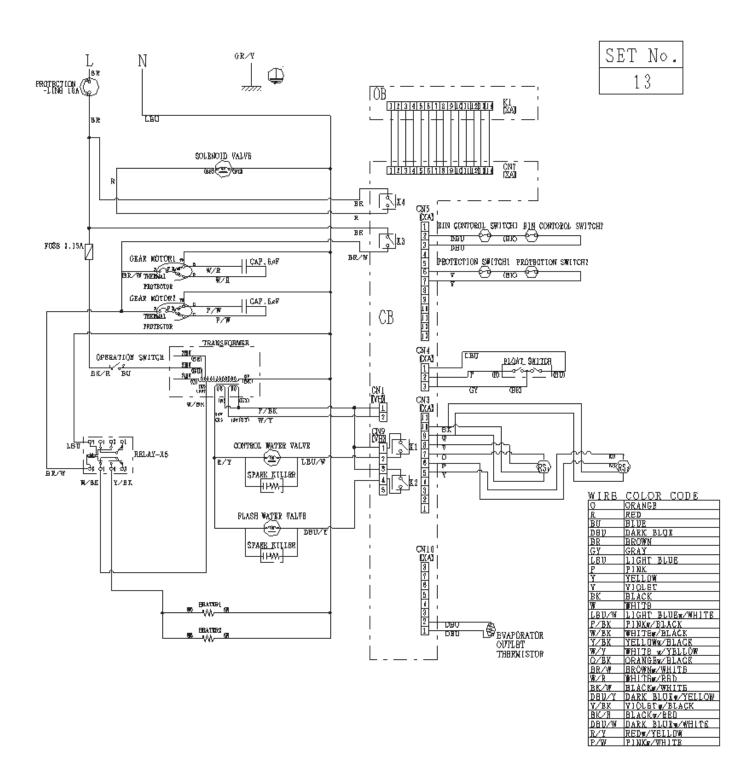
FM-1000AKE(-N) [Auxiliary code: B-1 to D-0]



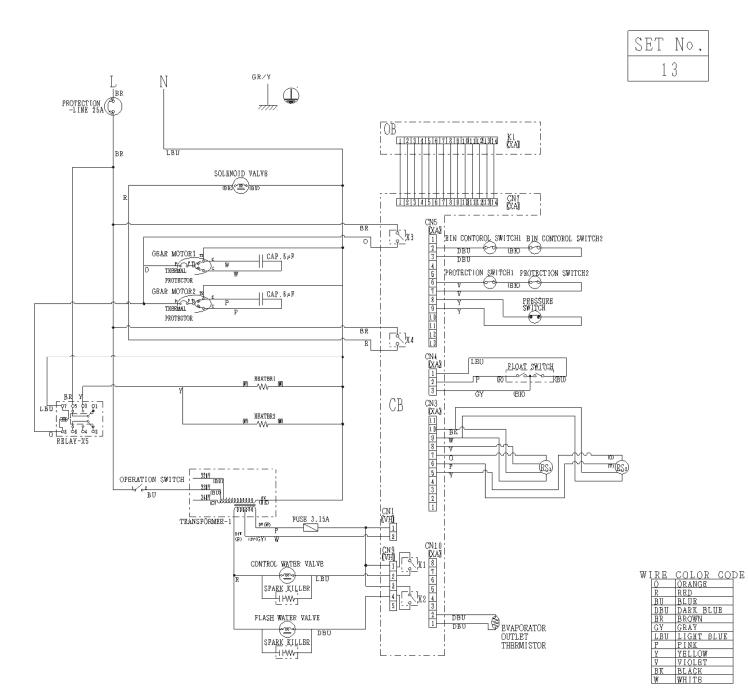


FM-1200ALKE(-N) [Auxiliary code: A-3 or earlier]

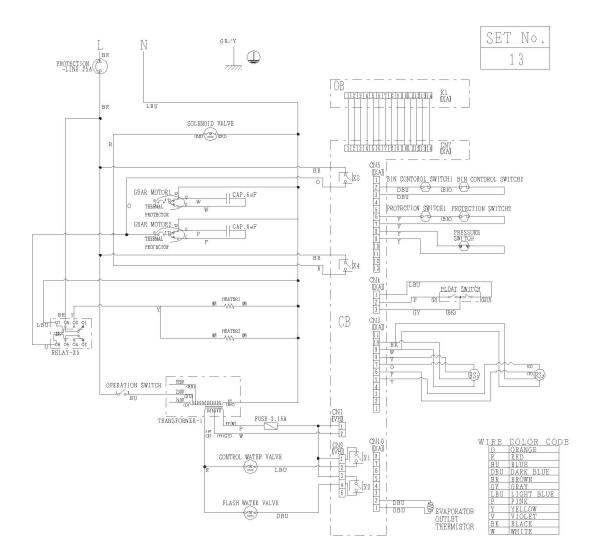




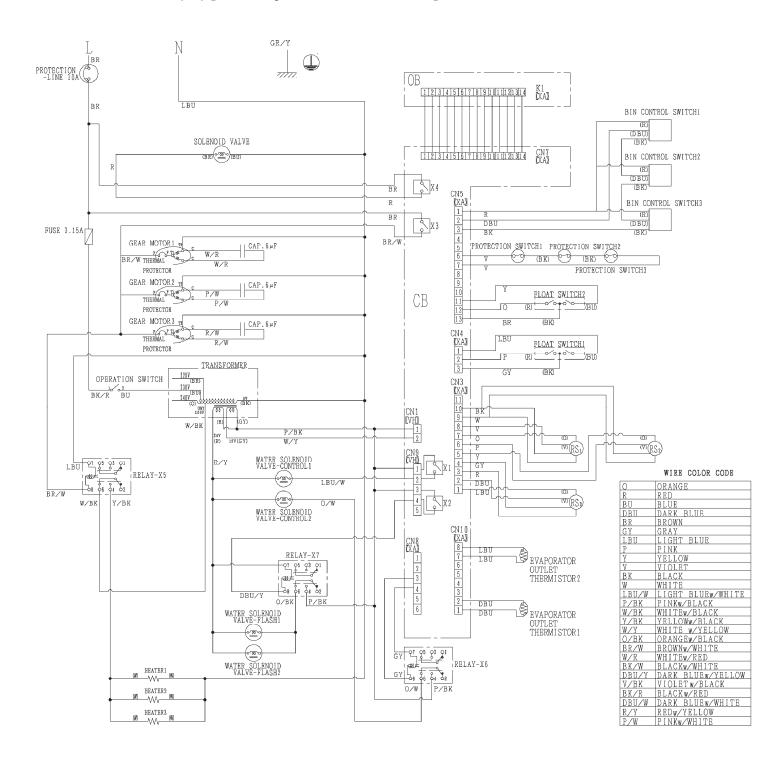
FM-1200ALKE(-N) [Auxiliary code: B-1 to D-0]

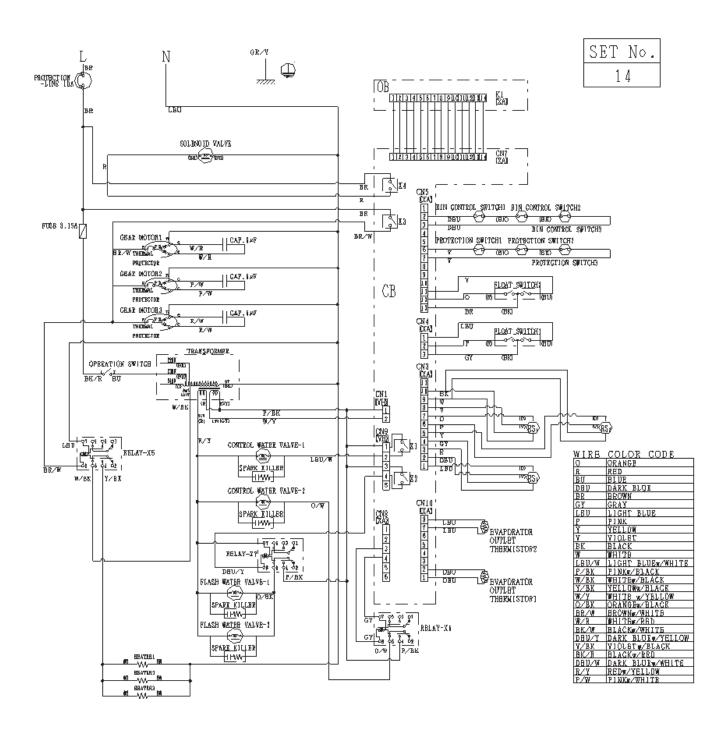


78

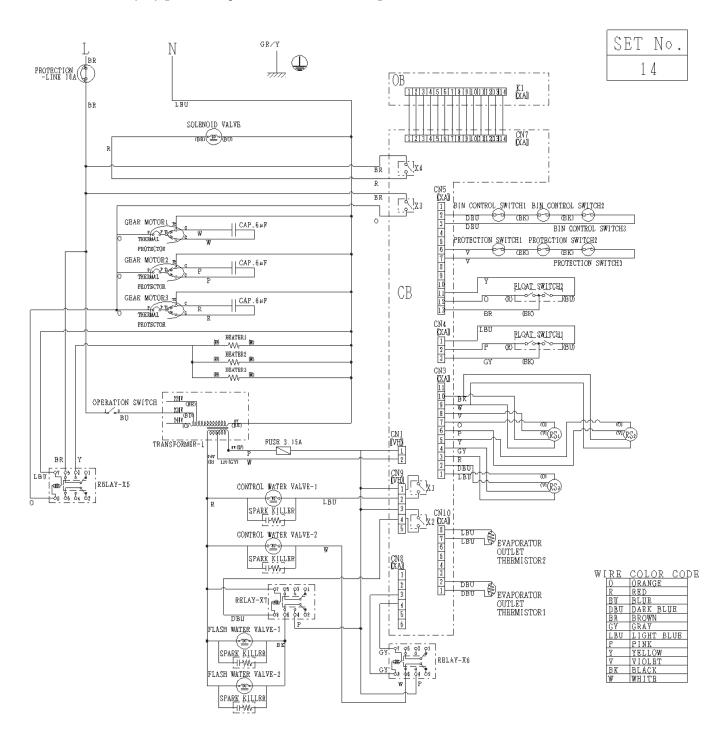


FM-1800ALKE(-N) [Auxiliary code: A-3 or earlier]

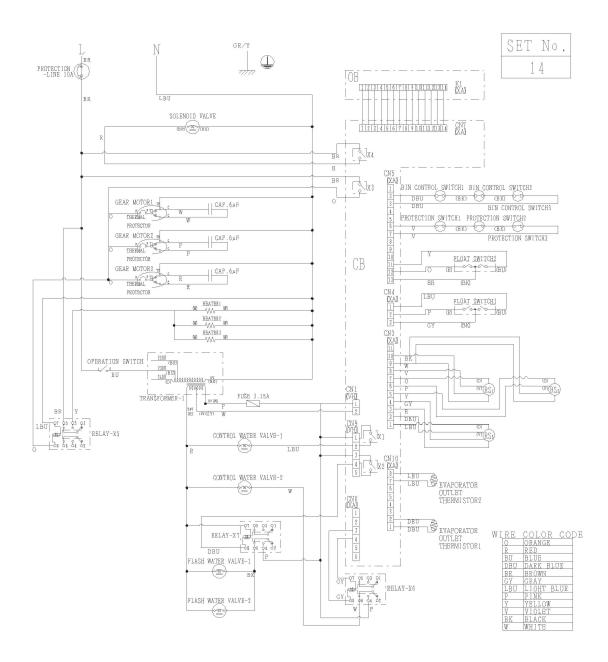




FM-1800ALKE(-N) [Auxiliary code: B-1 and D-0]

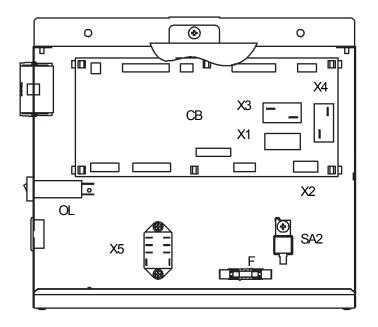


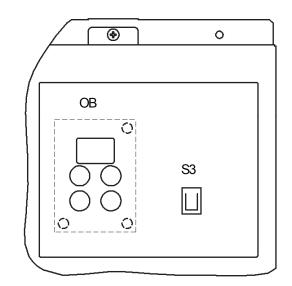
FM-1800ALKE(-N) [Auxiliary code: D-1 or later]



[b] CONTROL BOX LAYOUT

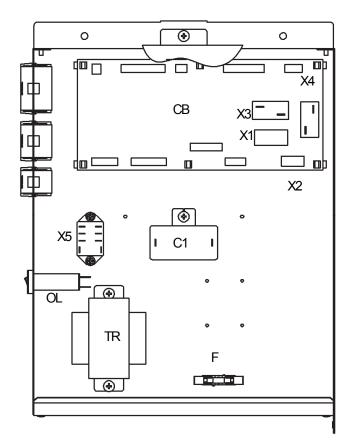
FM-170AKE(-N)

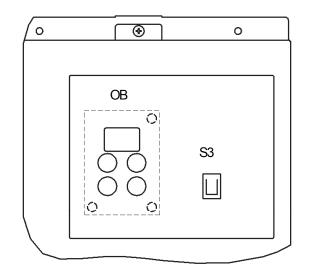




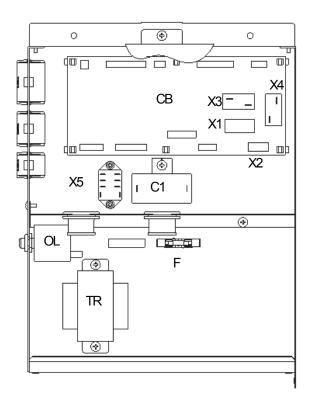
СВ	CONTROLLER BOARD-MAIN
OB	CONTROLLER BOARD-OPERATION
X1	POWER RELAY (CONTROL WATER VALVE, ON BOARD)
X2	POWER RELAY (FLUSH WATER VALVE, ON BOARD)
X3	POWER RELAY (GEAR MOTOR, ON BOARD)
X4	POWER RELAY (COMPRESSOR, ON BOARD)
X5	POWER RELAY (GM DRIVE)
S3	OPERATION SWITCH
OL	CIRCUIT PROTECTOR (10A)
SA2	SURGE ABSORBER (LIGHTENING ARRESTER)
F	FUSE 3.15A

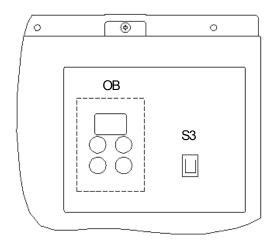
FM-300AKE(-N), FM-480AKE(-N)





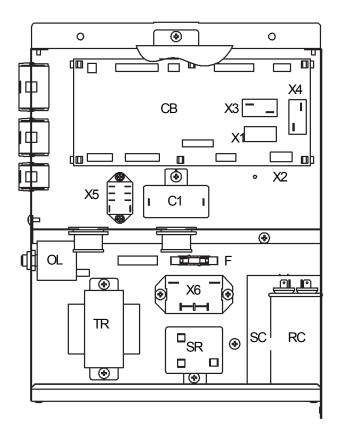
CB	CONTROLLER BOARD-MAIN
OB	CONTROLLER BOARD-OPERATION
X1	POWER RELAY (CONTROL WATER VALVE, ON BOARD)
X2	POWER RELAY (FLUSH WATER VALVE, ON BOARD)
X3	POWER RELAY (GEAR MOTOR, ON BOARD)
X4	POWER RELAY (COMPRESSOR, ON BOARD)
X5	POWER RELAY (GM DRIVE)
S3	OPERATION SWITCH
OL	CIRCUIT PROTECTOR (10A: 300AKE / 20A: 480AKE)
C1	CAPACITOR (GM1)
F	FUSE 3.15A
TR	TRANSFORMER

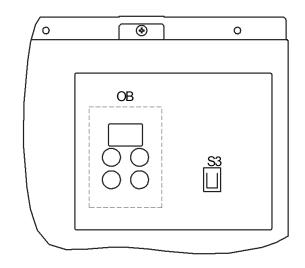




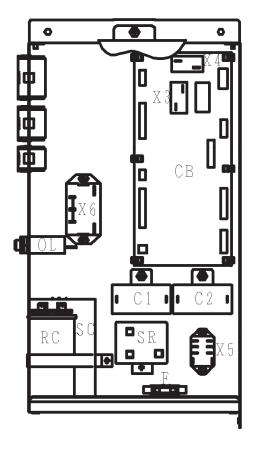
CB	CONTROLLER BOARD-MAIN
OB	CONTROLLER BOARD-OPERATION
X1	POWER RELAY (CONTROL WATER VALVE, ON BOARD)
X2	POWER RELAY (FLUSH WATER VALVE, ON BOARD)
X3	POWER RELAY (GEAR MOTOR, ON BOARD)
X4	POWER RELAY (COMPRESSOR, ON BOARD)
X5	POWER RELAY (GM DRIVE)
S3	OPERATION SWITCH
OL	CIRCUIT PROTECTOR (20A)
C1	CAPACITOR (GM1)
F	FUSE 3.15A
TR	TRANSFORMER

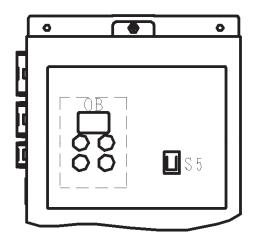
FM-600AKE(-N), FM-600AWKE(-N)



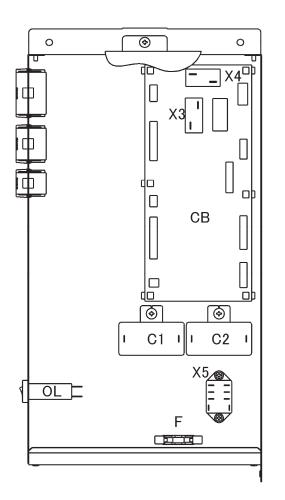


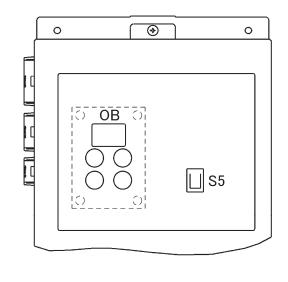
CONTROLLER BOARD-MAIN
CONTROLLER BOARD-OPERATION
POWER RELAY (CONTROL WATER VALVE, ON BOARD)
POWER RELAY (FLUSH WATER VALVE, ON BOARD)
POWER RELAY (GEAR MOTOR, ON BOARD)
POWER RELAY (COMPRESSOR, ON BOARD)
POWER RELAY (GM DRIVE)
POWER RELAY (COMPRESSOR)
STARTER (COMPRESSOR)
START CAPACITOR (COMPRESSOR)
RUN CAPACITOR (COMPRESSOR)
OPERATION SWITCH
CIRCUIT PROTECTOR (25A)
CAPACITOR (GM1)
FUSE 3.15A
TRANSFORMER





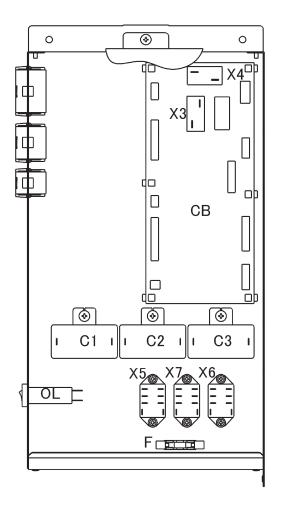
CONTROLLER BOARD-MAIN
POWER RELAY (GEAR MOTOR ON BOARD)
POWER RELAY (COMPRESSOR ON BOARD)
CONTROLLER BOARD-OPERATION
CAPACITOR (GM1)
CAPACITOR (GM2)
STARTER
START CAPACITOR
RUN CAPACITOR
FUSE
CIRCUIT PROTECTOR
POWER RELAY
POWER RELAY (FM-1000AKE FM-1000AKE-N ONLY)
OPERATION SWITCH

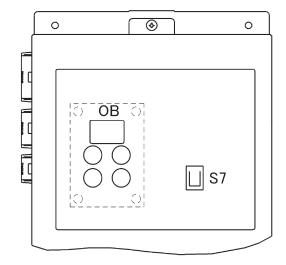




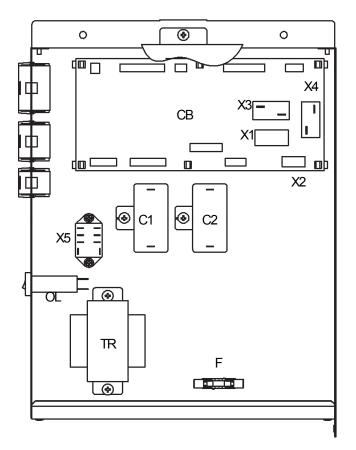
CB	CONTROLLER BOARD-MAIN
X 3	POWER RELAY (GEAR MOTOR, ON BOARD)
X 4	POWER RELAY (SOLENOID VALVE, ON BOARD)
OB	CONTROLLER BOARD-OPERATION
C 1	CAPACITOR (GM1)
C 2	CAPACITOR (GM2)
X 5	POWER RELAY
OL	CIRCUIT PROTECTOR
F	FUSE
\$ 5	OPERATION SWITCH

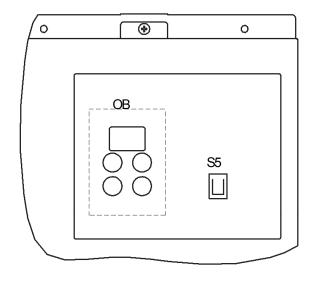
FM-1800ALKE(-N) [Auxiliary code: B0 or earlier]



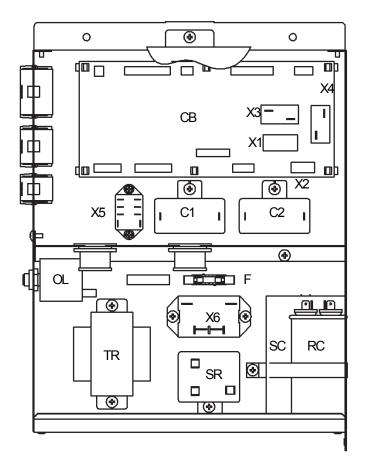


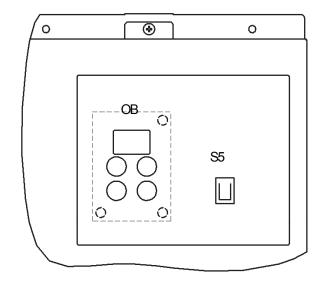
CB	CONTROLLER BOARD-MAIN
X 3	POWER RELAY (GEAR MOTOR, ON BOARD)
X 4	POWER RELAY (SOLENOID VALVE, ON BOARD)
OB	CONTROLLER BOARD-OPERATION
C 1	CAPACITOR (GM1)
C 2	CAPACITOR (GM2)
Сз	CAPACITOR (GM3)
X 5	POWER RELAY
X 6	POWER RELAY
X 7	POWER RELAY
OL	CIRCUIT PROTECTOR
F	FUSE
S 7	OPERATION SWITCH





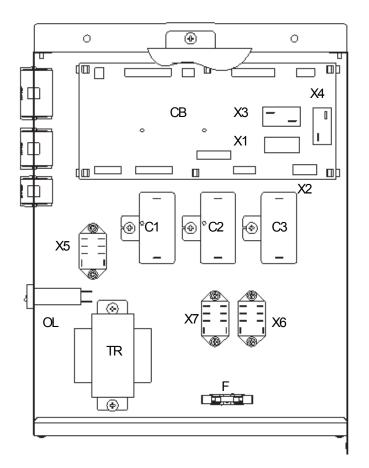
СВ	CONTROLLER BOARD-MAIN
OB	CONTROLLER BOARD-OPERATION
X1	POWER RELAY (CONTROL WATER VALVE, ON BOARD)
X2	POWER RELAY (FLUSH WATER VALVE, ON BOARD)
X3	POWER RELAY (GEAR MOTOR, ON BOARD)
X4	POWER RELAY (COMPRESSOR, ON BOARD)
X5	POWER RELAY (GM DRIVE)
S5	OPERATION SWITCH
OL	CIRCUIT PROTECTOR (20A: 750AKE/10A: 1200ALKE)
C1	CAPACITOR (GM1)
C2	CAPACITOR (GM2)
F	FUSE 3.15A
TR	TRANSFORMER

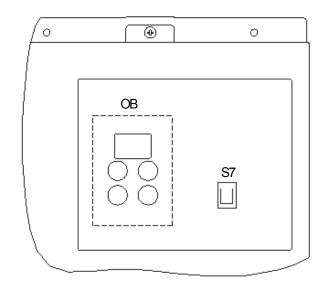




CB	CONTROLLER BOARD-MAIN
OB	CONTROLLER BOARD-OPERATION
X1	POWER RELAY (CONTROL WATER VALVE, ON BOARD)
X2	POWER RELAY (FLUSH WATER VALVE, ON BOARD)
X3	POWER RELAY (GEAR MOTOR, ON BOARD)
X4	POWER RELAY (COMPRESSOR, ON BOARD)
X5	POWER RELAY (GM DRIVE)
X6	POWER RELAY (COMPRESSOR)
SR	STARTER (COMPRESSOR)
SC	START CAPACITOR (COMPRESSOR)
RC	RUN CAPACITOR (COMPRESSOR)
S5	OPERATION SWITCH
OL	CIRCUIT PROTECTOR (25A)
C1	CAPACITOR (GM1)
C2	CAPACITOR (GM2)
F	FUSE 3.15A
TR	TRANSFORMER

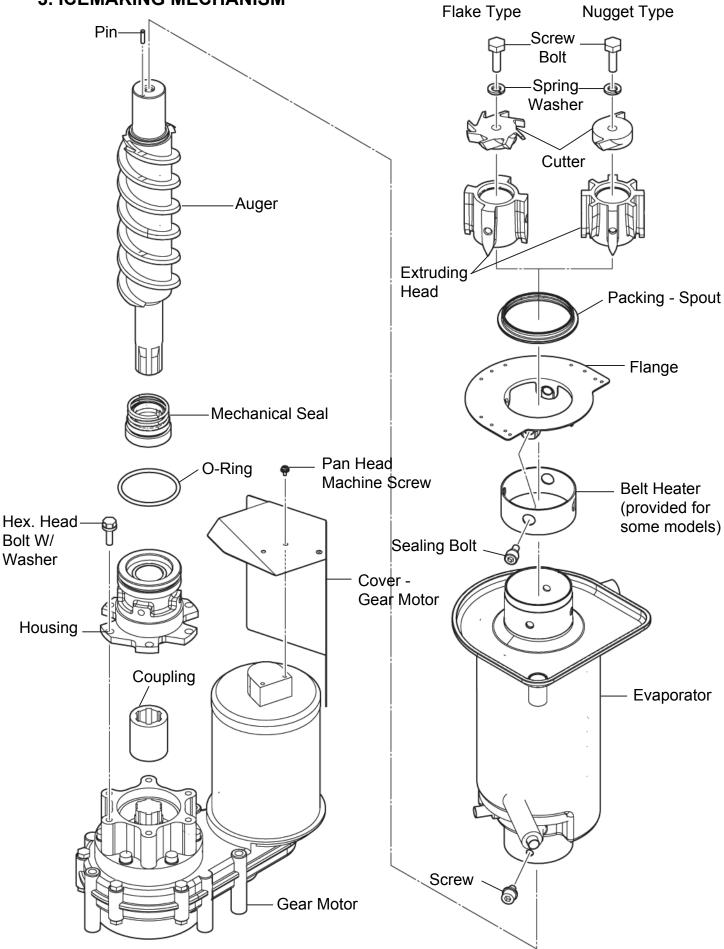
FM-1800ALKE(-N) [Auxiliary code: B1 or later]





CBCONTROLLER BOARD-MAINOBCONTROLLER BOARD-OPERATIONX1POWER RELAY (CONTROL WATER VALVE, ON BOARD)X2POWER RELAY (FLUSH WATER VALVE, ON BOARD)X3POWER RELAY (GEAR MOTOR, ON BOARD)X4POWER RELAY (COMPRESSOR, ON BOARD)X5POWER RELAY (GM DRIVE)X6POWER RELAY (CONTROL WATER VALVE-2)X7POWER RELAY (FLUSH WATER VALVE-2)S7OPERATION SWITCHOLCIRCUIT PROTECTOR (10A)C1CAPACITOR (GM1)C2CAPACITOR (GM2)C3CAPACITOR (GM3)FFUSE 3.15ATRTRANSFORMER		
X1POWER RELAY (CONTROL WATER VALVE, ON BOARD)X2POWER RELAY (FLUSH WATER VALVE, ON BOARD)X3POWER RELAY (GEAR MOTOR, ON BOARD)X4POWER RELAY (COMPRESSOR, ON BOARD)X5POWER RELAY (GM DRIVE)X6POWER RELAY (GM DRIVE)X7POWER RELAY (CONTROL WATER VALVE-2)X7POWER RELAY (FLUSH WATER VALVE)S7OPERATION SWITCHOLCIRCUIT PROTECTOR (10A)C1CAPACITOR (GM1)C2CAPACITOR (GM2)C3CAPACITOR (GM3)FFUSE 3.15A	CB	CONTROLLER BOARD-MAIN
X2POWER RELAY (FLUSH WATER VALVE, ON BOARD)X3POWER RELAY (GEAR MOTOR, ON BOARD)X4POWER RELAY (COMPRESSOR, ON BOARD)X5POWER RELAY (GM DRIVE)X6POWER RELAY (CONTROL WATER VALVE-2)X7POWER RELAY (FLUSH WATER VALVE-2)X7POWER RELAY (FLUSH WATER VALVE)S7OPERATION SWITCHOLCIRCUIT PROTECTOR (10A)C1CAPACITOR (GM1)C2CAPACITOR (GM2)C3CAPACITOR (GM3)FFUSE 3.15A	OB	CONTROLLER BOARD-OPERATION
X3POWER RELAY (GEAR MOTOR, ON BOARD)X4POWER RELAY (COMPRESSOR, ON BOARD)X5POWER RELAY (GM DRIVE)X6POWER RELAY (CONTROL WATER VALVE-2)X7POWER RELAY (FLUSH WATER VALVE)S7OPERATION SWITCHOLCIRCUIT PROTECTOR (10A)C1CAPACITOR (GM1)C2CAPACITOR (GM2)C3CAPACITOR (GM3)FFUSE 3.15A	X1	POWER RELAY (CONTROL WATER VALVE, ON BOARD)
X4POWER RELAY (COMPRESSOR, ON BOARD)X5POWER RELAY (GM DRIVE)X6POWER RELAY (CONTROL WATER VALVE-2)X7POWER RELAY (FLUSH WATER VALVE)S7OPERATION SWITCHOLCIRCUIT PROTECTOR (10A)C1CAPACITOR (GM1)C2CAPACITOR (GM2)C3CAPACITOR (GM3)FFUSE 3.15A	X2	POWER RELAY (FLUSH WATER VALVE, ON BOARD)
X5POWER RELAY (GM DRIVE)X6POWER RELAY (CONTROL WATER VALVE-2)X7POWER RELAY (FLUSH WATER VALVE)S7OPERATION SWITCHOLCIRCUIT PROTECTOR (10A)C1CAPACITOR (GM1)C2CAPACITOR (GM2)C3CAPACITOR (GM3)FFUSE 3.15A	X3	POWER RELAY (GEAR MOTOR, ON BOARD)
X6POWER RELAY (CONTROL WATER VALVE-2)X7POWER RELAY (FLUSH WATER VALVE)S7OPERATION SWITCHOLCIRCUIT PROTECTOR (10A)C1CAPACITOR (GM1)C2CAPACITOR (GM2)C3CAPACITOR (GM3)FFUSE 3.15A	X4	POWER RELAY (COMPRESSOR, ON BOARD)
X7POWER RELAY (FLUSH WATER VALVE)S7OPERATION SWITCHOLCIRCUIT PROTECTOR (10A)C1CAPACITOR (GM1)C2CAPACITOR (GM2)C3CAPACITOR (GM3)FFUSE 3.15A	X5	POWER RELAY (GM DRIVE)
S7OPERATION SWITCHOLCIRCUIT PROTECTOR (10A)C1CAPACITOR (GM1)C2CAPACITOR (GM2)C3CAPACITOR (GM3)FFUSE 3.15A	X6	POWER RELAY (CONTROL WATER VALVE-2)
OLCIRCUIT PROTECTOR (10A)C1CAPACITOR (GM1)C2CAPACITOR (GM2)C3CAPACITOR (GM3)FFUSE 3.15A	X7	POWER RELAY (FLUSH WATER VALVE)
C1CAPACITOR (GM1)C2CAPACITOR (GM2)C3CAPACITOR (GM3)FFUSE 3.15A	S7	OPERATION SWITCH
C2CAPACITOR (GM2)C3CAPACITOR (GM3)FFUSE 3.15A	OL	CIRCUIT PROTECTOR (10A)
C3 CAPACITOR (GM3) F FUSE 3.15A	C1	CAPACITOR (GM1)
F FUSE 3.15A	C2	CAPACITOR (GM2)
	C3	CAPACITOR (GM3)
TR TRANSFORMER	F	FUSE 3.15A
	TR	TRANSFORMER

3. ICEMAKING MECHANISM



[a] EVAPORATOR (CASING)

The evaporator consists of a stainless steel icemaking cylinder coiled with a refrigeration pipe and wrapped together with a polyurethane foam insulation material. Water coming from the inlet into the evaporator will be frozen into ice. The ice spout is located on top of the evaporator.

[b] AUGER

The stainless steel auger is supported by the upper and lower bearings of the evaporator and slowly rotated by the gear motor, while scraping off the ice forming on the inner wall of the cylinder and pushing up to the ice spout.

[c] EXTRUDING HEAD (BEARING)

The stainless steel extruding head is provided with a press-fit plastic bearing inside and fixed on top of the evaporator. The extruding head functions as the auger bearing and compresses the sherbet ice carried up by the auger into a column shape with the path resistance.

[d] HOUSING

The cast bronze housing is provided with a press-fit plastic bearing inside and fixed on the bottom of the evaporator for connection with the gear motor.

[e] MECHANICAL SEAL

The mechanical seal on the lower auger bearing prevents icemaking water leaks into the evaporator. The mating surfaces are made of ceramic and carbon.

[f] COUPLING (SPLINE JOINT)

The auger bottom and gear motor output shaft are splined and connected with the spline joint.

[g] GEAR MOTOR

The gear motor consists of a 200W 1 phase 240V or 80W 1 phase 220 - 240 / 220V drive motor integrated with a decelerator and provided with a built-in auto-reset thermal protector. When the thermal protector trips, the controller board will stop the gear motor. The thermal protector trips when the gear motor mechanism is overloaded or when excessively high or low voltage is applied on the gear motor. The electrical capacity must be increased if a large current flows through the surrounding equipment.

[h] BELT HEATER (provided on some models)

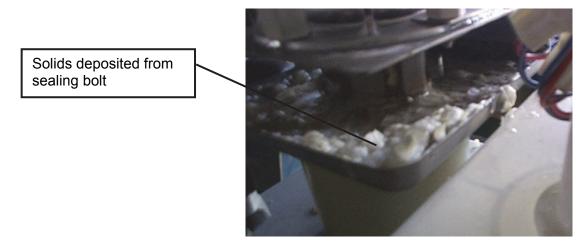
The belt heater is provided to reduce the load of ice passing the extruding head during a freeze cycle and to prevent vapor lock during a flush cycle.

[i] REMOVABLE FLANGE

The flange used to be welded on the evaporator to fix the spout. But sometimes the extruding head applies excessive load on the evaporator to compress ice, resulting in breaking the welded joints. To avoid the load, the flange has been changed to a separate part to be secured together with the extruding head by using sealing bolts.

[j] SEALING BOLT

Sometimes the icemaking operation may produce white solids on the drip pan. They are deposits of silica and calcium contents in the icemaking water leaking from the sealing bolt. The bolt is provided with retaining and sealing functions, which may be reduced by the load and vibration during a freeze cycle. Do not reuse a removed sealing bolt.



[k] CHUTE, BIN CONTROL SWITCH

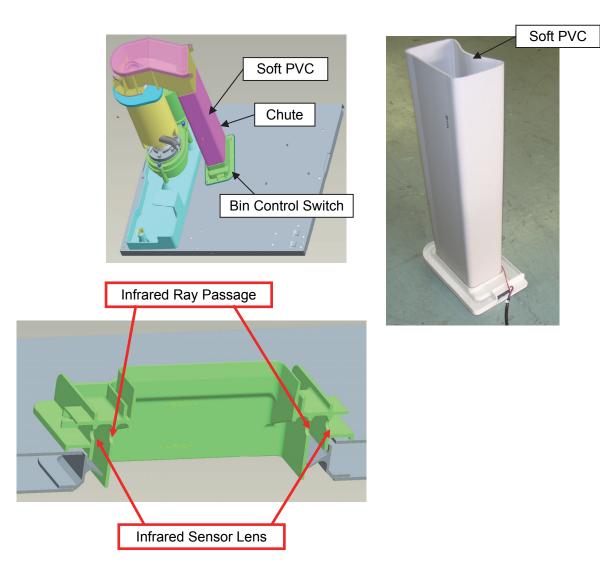
[FM-750/1000 (Auxiliary code: A-2 or earlier), FM-1200/1800 (Auxiliary code: A-3 or earlier)]

The chute and bin control switch are caulked and combined.

Ice formed in the evaporator casing passes through the spout, chute, and bin control switch and drops out of the unit bottom. The chute is made of integrally molded hard PVC and soft PVC. Ice sliding down on the spout hits the soft material, resulting in lower hitting sounds.

The bin control switch is an infrared photo sensor built in a plastic bracket. The infrared photo sensor has a light emitting element and a light receiving element. The sensor detects there is no ice when infrared rays from the light emitting element come into the light receiving element. When ice comes between the two elements, the sensor detects the bin is full and stops icemaking operation. The unit resumes operation automatically when ice disappears from between the two elements.

If the plastic part of the bin control switch or the infrared sensor lens is not clean and blocks infrared rays, the sensor falsely detects the bin is full and stops the unit. When making periodic inspections or replacing periodic replacement parts, check that the infrared ray passages and infrared sensor lenses in the plastic part of the bin control switch are clean. If not, wipe them clean with a soft cloth.



[I] BIN CONTROL SWITCH

[FM-170/300/480/600 (Auxiliary code: D0 or earlier), FM-750/1000 (Auxiliary code: A-3 to D0), FM-1200/1800 (Auxiliary code: A-4 to D0)]

The bin control switch is composed of a proximity switch and actuator. When the chute fills up, ice will push up the actuator on top of the chute to switch off the proximity switch. After 7 seconds, the controller board will stop the gear motor and compressor at the same time. When ice is used, the actuator will return to the original position to switch on the proximity switch. The gear motor will restart in 7 seconds, and the compressor in 5 minutes.

When the bin control switch seems to have malfunctioned, check the dimensions of the actuator as well as the operation of the proximity switch. Also, if the chute switch or the gear motor circuit protector has operated for some unidentified reason, be sure to check the actuator for proper dimensions.

- 1) Remove the bin control switch from the chute.
- 2) Move the actuator to the maximum operation angle as shown below (top). Check that the actuator is about 13 mm away from the barrier. If not, replace the whole bin control switch assembly.

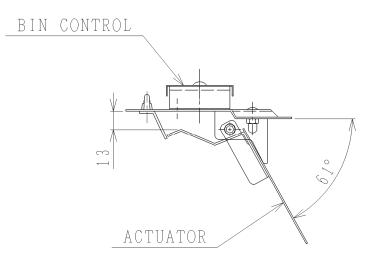
[m] BIN CONTROL SWITCH [FM-300AKE(-N), FM-480AKE(-N), FM-600AKE(-N), FM-480AWKE(-N), FM-600AWKE(-N), FM-750AKE(-N), FM-1000 AKE(N), FM-1200ALKE(N), FM-1800ALKE(N) (Auxiliary code: D-1 or later)]

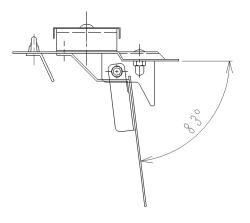
The bin control switch is composed of a reed switch attached to the spout and an actuator (ice detector) provided inside the spout and chute.

The bin control switch operates as follows:

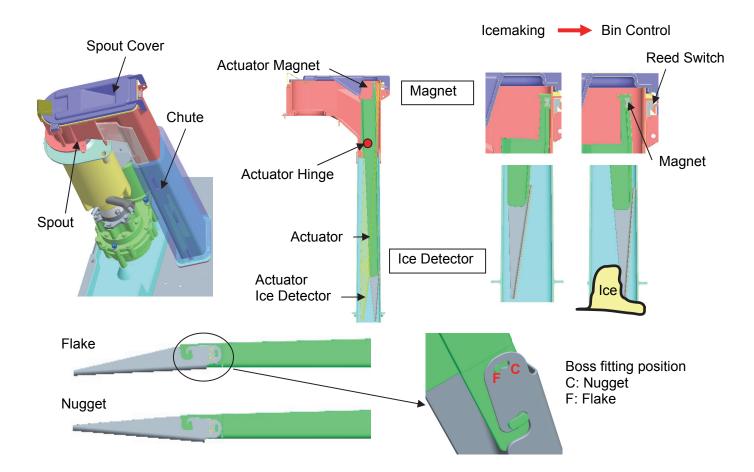
- 1. Ice reaches up to the ice detector.
- 2. Ice pushes and moves the ice detector.
- 3. The actuator magnet shifts and departs from the reed switch
- 4. The reed switch turns off.
- 5. The icemaking operation stops.

Heavy soil inside the spout or chute may cause ice to get stuck. Dirty actuator hinge may disturb the movement of actuator. Check the cleanness of spout, chute, and actuator at periodic inspection or periodic part replacement. Wipe clean any notably dirty part.





The ice detector is different for flake icemaker and nugget icemaker. If incorrect detector is attached, the bin control function will not work. If the icemaking operation continues, the abnormal stop switch trips and the unit stops with an error. Be sure to attach the proper ice detector. The actuator is composed of two components bonded. The letters "C" and "F" are stamped on the fitting part. The type of icemaker can be distinguished by boss fitting position.

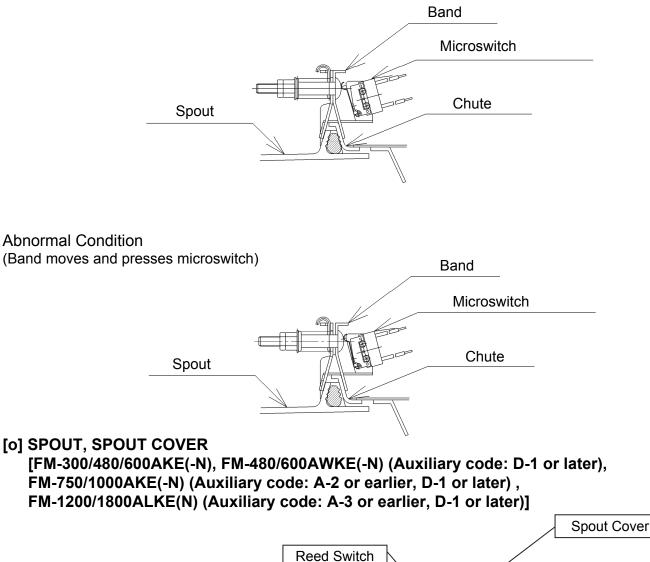


[n] CHUTE SWITCH

[FM-170/300/480/600 (Auxiliary code: D0 or earlier), FM-750/1000 (Auxiliary code: A-3 to D0), FM-1200/1800 (Auxiliary code: A-4 toD0)]

The chute switch consists of a microswitch and a band securing the spout and chute. When the bin control switch breaks down, the band opens and presses the button on the microswitch (contacts open) to stop the icemaker (error code: EL).

To restart the icemaker, remove ice from the spout and chute, and move the operation switch to the "STOP" position, then to the "RUN" position. Normal Condition



The spout and spout cover are connected to the evaporator casing with a removable flange. These are the passage to deliver ice formed inside the evaporator casing into the chute. The spout is provided with a reed switch, ant the spout cover with a magnet. If the bin control switch goes wrong and fails to stop icemaking operation with the bin full, ice pushes up the spout cover, and the magnet gets away from the reed switch to stop the unit.

Spout

[p] CRANKCASE HEATER

Equipments employing a large amount of refrigerant are provided with the crankcase Heater to prevent refrigerant migration to the compressor during off-cycles resulting in oil shortage at startup. The crankcase heater will be energized also when the user turns off the operation switch on the operation board.

4. ELECTRIC CIRCUIT

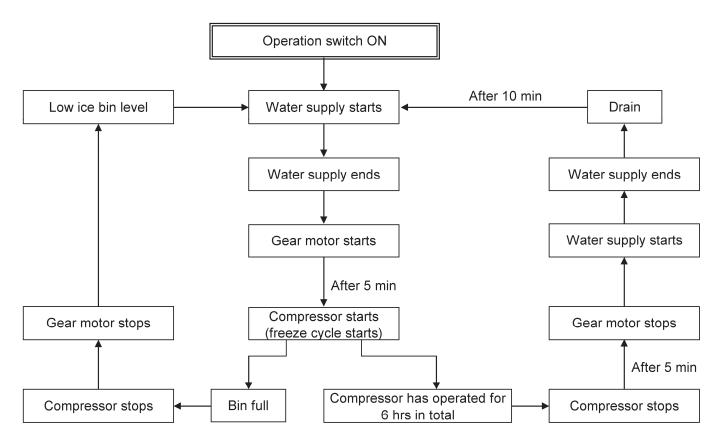
CAUTION

Reassemble all the components as they were after servicing the unit according to a service call.

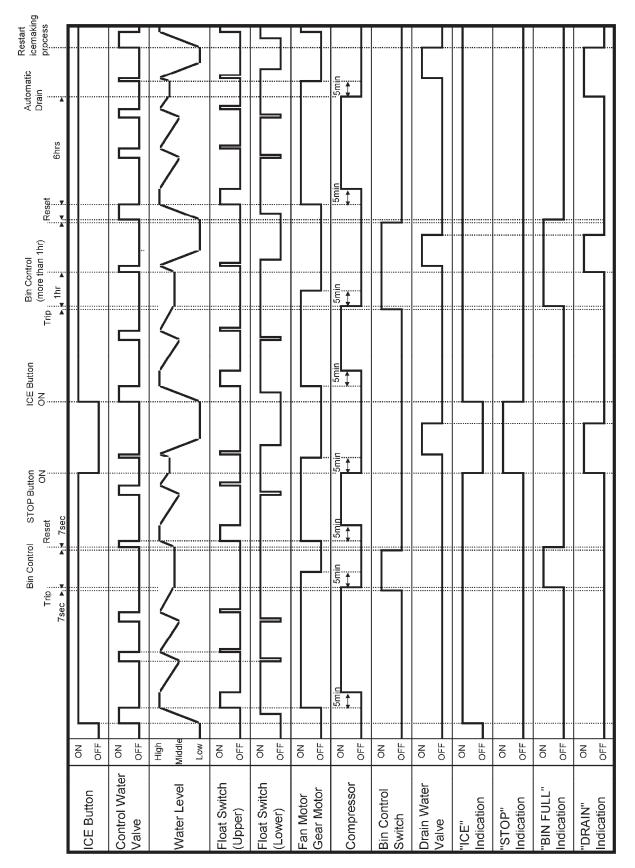
[a] BASIC OPERATION

The icemaker starts water supply when the operation switch is moved to the "ON" position. On completion of water supply, the gear motor starts immediately. After 5 minutes the compressor starts to begin icemaking operation.

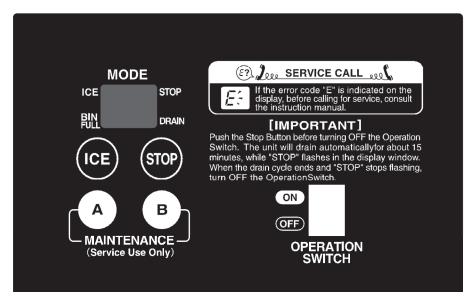
In normal operation, the icemaker shuts down when the storage bin fills up to trip the bin control switch or the stop button is pressed. When the compressor operates for 6 hours in total and continuously for more than 10 minutes, the icemaker supplies water until the reservoir fills up and starts a drain cycle. After 10 minutes the icemaker automatically starts water supply and resumes icemaking operation.



[b] TIMING CHART



5. OPERATION BOARD



[a] OPERATION BUTTONS

ICE = When pressed in the STOP mode, the unit is supplied with water and starts icemaking operation.

STOP = When pressed in the ICE mode, the unit stops icemaking operation and drains.

MAINTENANCE A = Used for various maintenance operations.

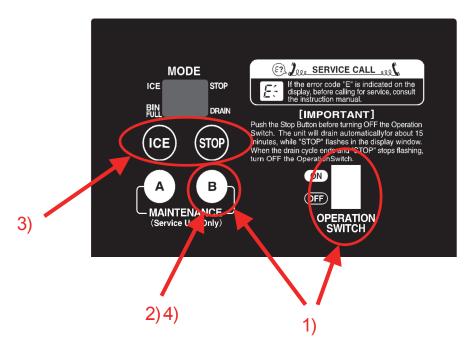
MAINTENANCE B = Used for model code setting.

OPERATION SWITCH = Power supply for the icemaker. Move it to the "OFF" position to shut down the unit for a long time.

[b] SETTING MODEL NUMBER

The model number must be set at the time of replacement of the controller board. Check the model number specified on the wiring label. Improper setting may result in failure or inoperability.

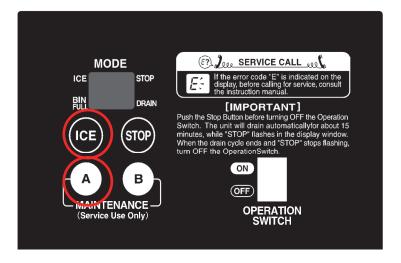
- 1) Press and hold the maintenance B button, and move the operation switch to the "ON" position.
- 2) When the display shows "99", release the maintenance B button.
- 3) Press the stop button to increase the number, or press the ice button to decrease the number until it matches the model number on the wiring label.
- 4) Press the maintenance B button to complete the setting and start icemaking operation in the ice mode.
- 5) To check the model number, see next page.



[c] DISPLAYING COMPRESSOR OPERATING HOURS, CYCLE TIME, MODEL NUMBER AND SOFTWARE VERSION

Press and hold the maintenance A button, and press the ice button. The display shows the following items one by one every time the ice button is pressed. This function is available in the ice or stop mode.

Press and hold MAINTENANCE A
Compressor operating hours on display a)
Press ICE
Cycle time on display b)
Press ICE
Model number on display c)
V Software version on display d)
Release MAINTENANCE A



Note:

- 1. The display shows the next item if the ice button is pressed before one item appears in the display.
- 2. The display mode is cancelled if the maintenance A button is released.
- 3. The software version is displayed repeatedly while the maintenance A button is pressed. Release the maintenance A button to cancel the display mode.

a) Compressor Operating Hours

The display shows the compressor operating hours in six digits divided into three parts (2 digits for 2 seconds each time).

Then, "- -" appears in the display (to show the end of the compressor operating hours display mode).

e.g. 3527 hours = "00", "35", "27", "--"

b) Cycle Time

The display shows the cycle time in four digits divided into two parts (first minutes then seconds, for 2 seconds each time) from the latest record (5 records at maximum). Then, "--" appears in the display (to show the end of the cycle time display mode). If no cycle time is recorded, the display shows "--" only.

Minutes are indicated as follows:

0 0 to 9 = 0 to 9 minutes A 0 to 9 = 10 to 19 minutes b 0 to 9 = 20 to 29 minutes D - 0 to 9 = 30 to 39 minutes d 0 to 9 = 40 to 49 minutes E 0 to 9 = 50 to 59 minutesSeconds are indicated as 0 to 5 0 to 9.

e.g. 09 48 = 9 minutes 48 seconds b7 36 = 27 minutes 36 seconds

By using the freeze cycle time, **<u>approximate ice production capacity</u>** can be calculated.

Series	Approximate ice production capacity (kg/d)		
FM-80			
FM-120			
CM-110			
FM-150			
CM-140	60,000 / cycle time (sec)		
FM-170			
FM-300			
FM-480			
FM-600			
FM-750			
FM-1000	85,000 / cycle time (sec)		
FM-1200			

This is just an approximate capacity. The actual capacity depends on ambient temperature, water temperature, voltage and frequency.

For accurate measurement, use a container to receive ice actually produced for 10 minutes, measure its weight, and calculate ice production per day. Repeat this three times to figure out the average.

c) Model Number

The display shows two digits. e.g. FM-750AKE(-N), FM-1000AKE(-N) = "05"

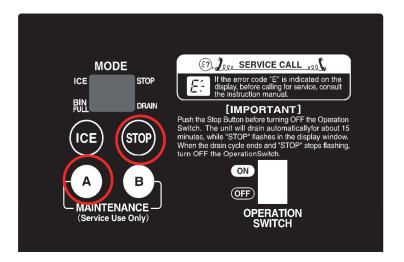
d) Software Version

The display shows the software version in six digits/symbols divided into three parts. e.g. Ver. 9-3-6 = "09", "-3", "-6" The indication is repeated until the maintenance A button is released.

[d] DISPLAYING ERROR LOG

Press and hold the maintenance A button, and press the stop button. The display shows the following items one by one every time the stop button is pressed. This function is available in the ice or stop mode.

Press and hold MAINTENANCE A Compressor operating hours on display ------ [c] a) Press STOP Error log on display (8 records at maximum) Press STOP "- -" on display (end of error log display mode) Press STOP ✓ Ongoing error on display Release MAINTENANCE A

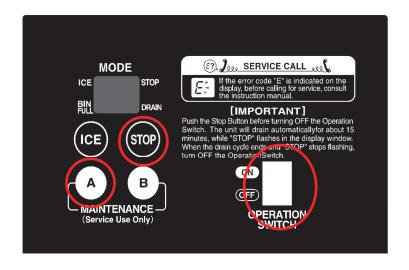


Note:

1. The display does not show the ongoing error even if the stop button is pressed while the error log is in the display. To display the ongoing error, press the stop button while "--" is in the display to show the end of the error log display mode

[e] RESETTING ERROR LOG

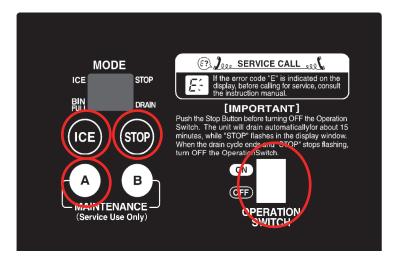
With the operation switch in the "OFF" position, press and hold the stop and maintenance A buttons. Move the operation switch to the "ON" position. Release the buttons when the display shows the ice mode. Now the error log is reset. Do not reset more than necessary.



[f] RESETTING COMPRESSOR OPERATING HOURS

With the power switch turned off, press and hold the ice, stop and maintenance A buttons. Move the operation switch to the "ON" position. Release the buttons when the display shows the ice mode. Now the compressor operating hours are reset.

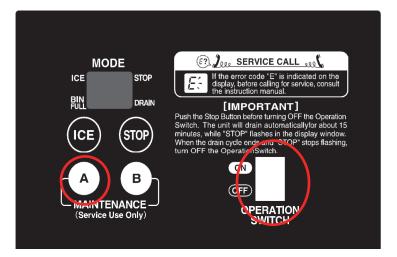
When the compressor starts in 15 seconds after the water supply cycle ends, the error log is not set to be updated. After resetting the compressor operating hours, move the operation switch to the "OFF" position, turn off the power switch, and turn it back on.



[g] REDUCING COMPRESSOR STARTING TIME

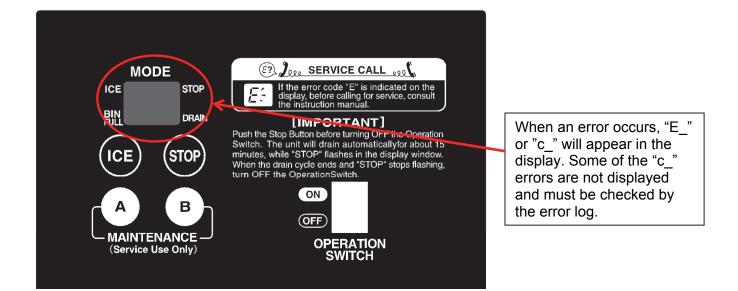
With the power switch turned off, press and hold the maintenance A button. Move the operation switch to the "ON" position. Release the button when the display shows the ice mode.

The compressor starts in 30 seconds after the water supply cycle ends



6. PROTECTORS

[a] INDICATION



When an operational error occurs, "E_" will appear and blink in the display on the operation board, and the icemaker will stop. When a service call is received, ask the user to check which error code is in the display. Then, see the error code table in "7. ERROR CODES" to locate the cause.

7. ERROR CODES

Interlock Errors

Code	Error	Condition	Operation	Reset	Check/Repair
E0	Icemaking Water Leak	c0 error occurs 2 times in a row.	Whole unit stops.	Power supply, Turn OFF - Turn ON	Water leak from water circuit (reservoir, inlet hose, outlet hose, hose joint, mechanical seal, flush water valve), float switch
E1	Low Ice Production	Icemaking cycle takes too long.	Whole unit stops.	Power supply, Turn OFF - Turn ON	Gas leak, control water valve not closing, vapor lock, freeze, float switch
E2	Float Switch Error	With flush water valve OFF, float switch trips at both upper and lower float levels for 2 seconds.	Whole unit stops.	Power supply, Turn OFF - Turn ON	Float switch
E3	Gear Motor Error or Gear Motor Sensor Circuit Open	Gear motor is ON with rotation sensor or current sensor circuit open. Gear motor relay is ON with gear motor protective circuit detector OFF.	Whole unit stops.	Power supply, Turn OFF - Turn ON	Rotation sensor, current sensor Gear motor protective circuit (TPO, overload, etc.), gear motor relay
E4	Abnormal High Side Pressure	c2 error occurs 5 times in 1 hour of compressor operation.	E4 blinks.	N/A	Fan motor, cooling water circuit, refrigeration circuit, condenser clogged, water supply, installation conditions
E5	Gear Motor Drive Element Error	Gear motor is OFF on controller board while rotation sensor signals gear motor rotation or current flows. Gear motor relay is OFF with gear motor protective circuit detector ON.	Whole unit stops.	Power supply, Turn OFF - Turn ON	Miswiring, gear motor magnet switch or relay Replace controller board.
E8	Discharge Pipe Temperature Error	Discharge pipe thermostat is OFF.	Whole unit stops.	Power supply, Turn OFF - Turn ON	Gas leak, compressor cooling fan failure
EA	Water Thermistor Circuit Open	Water thermistor circuit is open.	EA blinks.	N/A	Water thermistor
Eb	Condenser Thermistor Circuit Open	Condenser thermistor circuit is open.	Whole unit stops.	Power supply, Turn OFF - Turn ON	Condenser thermistor
EC	Evaporator Outlet Thermistor Circuit Open	Evaporator outlet thermistor circuit is open.	Whole unit stops.	Power supply, Turn OFF - Turn ON	Evaporator outlet thermistor
EE	Gear Motor Error	Rotation sensor detects reversing. c5 error occurs 5 times.	Whole unit stops.	Power supply, Turn OFF - Turn ON	Gear motor locked, hunting or overloaded, supply voltage, high ambient temperature
EF	Abnormal Low Voltage	c3 error occurs 3 times in 24 hours.	Whole unit stops.	Power supply, Turn OFF - Turn ON	Supply voltage
EH	Discharge Pipe Thermistor Circuit Open	Discharge pipe thermistor circuit is open.	EH blinks.	N/A	Discharge pipe thermistor
EL	Bin Control Switch Error	Bin control protective switch trips.	Whole unit stops.	Power supply, Turn OFF - Turn ON	Bin control switch

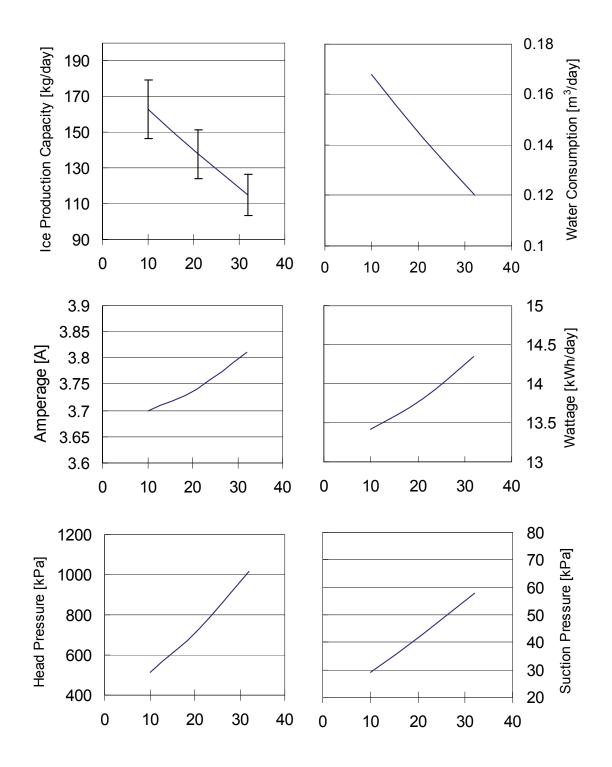
Code	Error	Condition	Operation	Reset	Check/Repair
En	Low Voltage Sensing Transformer Circuit Open	Low voltage sensing transformer circuit is open.	Whole unit stops.	Power supply, Turn OFF - Turn ON	Low voltage sensing Transformer
EU	Controller Board Error	Controller board IC fails.	Whole unit stops.	Power supply, Turn OFF - Turn ON	Replace controller board.
None	Electric Leak Short Circuit	Electric leak or overcurrent.	Whole unit stops.	Power supply, Turn OFF - Turn ON Replace fuse	Electric leak, fuse

Non-Interlock Errors

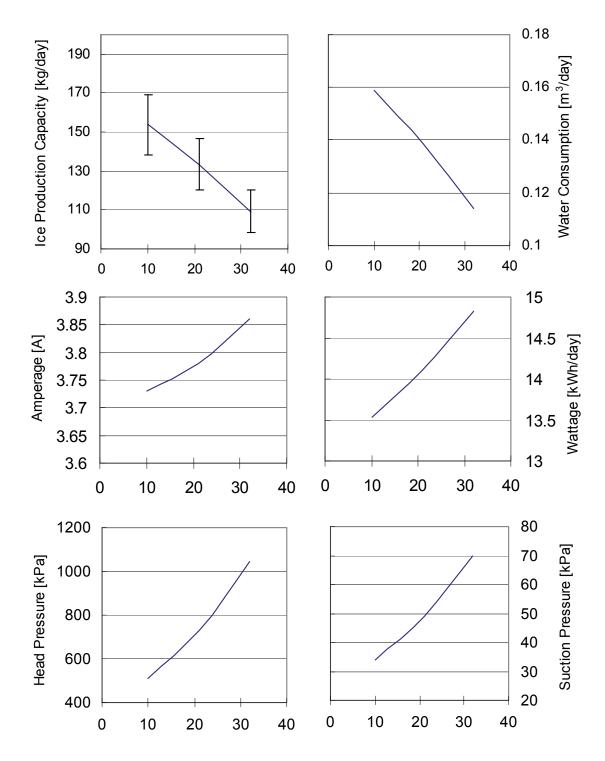
Code	Error	Condition	Operation	Reset	Check/Repair
CM Time ""	Microcomputer Read/Write Error	Microcomputer fails to read/write properly.	Memory circuit not available.	Replace controller board.	Error records and compressor operating hours not available on display
c0	Icemaking Water Leak	After initial water supply, float switch trips at lower float level within 5 minutes after gear motor starts and before compressor starts.	Whole unit stops. Flush water valve turns ON for 1 second, then turns OFF. Unit restarts.	Error record only.	Water leak from water circuit (reservoir, hoses, mechanical seal, flush water valve), float switch
c1	Low Water	Water supply continues for more than 90 seconds, or float switch trips at lower float level and does not reset for more than 60 seconds after water supply.	Whole unit stops until reservoir fills up. Only control water valve operates intermittently for 5 minutes.	Automatically resets after reservoir fills up.	Water supply interruption, control water valve not opening, flush water valve not closing, float switch, water leak
c2	Abnormal High Side Pressure	Pressure switch stays OFF for 5 seconds or condenser thermistor reads higher than set point for 5 seconds.	Whole unit stops.	Automatically resets after pressure switch turns ON or condenser thermistor reads lower than set point.	Condenser clogged, cooling water circuit, refrigeration circuit
c3	Abnormal Low Voltage	Voltage stays below setting for more than 1 second with compressor ON and control water valve OFF.	Whole unit stops.	Automatically resets after voltage stays above reset setting for 2 minutes.	Supply voltage
c4	Drain Error	Float switch trips at upper float level in 10 minutes after flush water valve turns ON.	N/A	Error record only.	Flush water valve not opening, control water valve not closing
с5	Gear Motor Error	Rotation rate reduces. While gear motor is running, voltage detection signal is not input to controller board.	Whole unit stops.	Automatically resets after 30 minutes.	Gear motor overloaded
c7	Evaporator Outlet Temperature Decrease	Evaporator outlet temperature decreases.	Indication only.	Automatically resets.	Evaporator inside not clean, extruding head not clean, heater circuit open

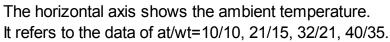
8. PERFORMANCE DATA

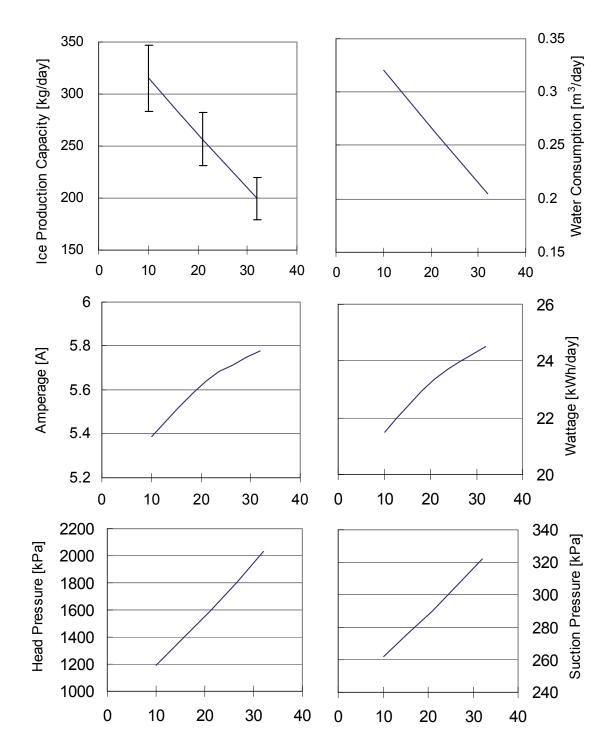
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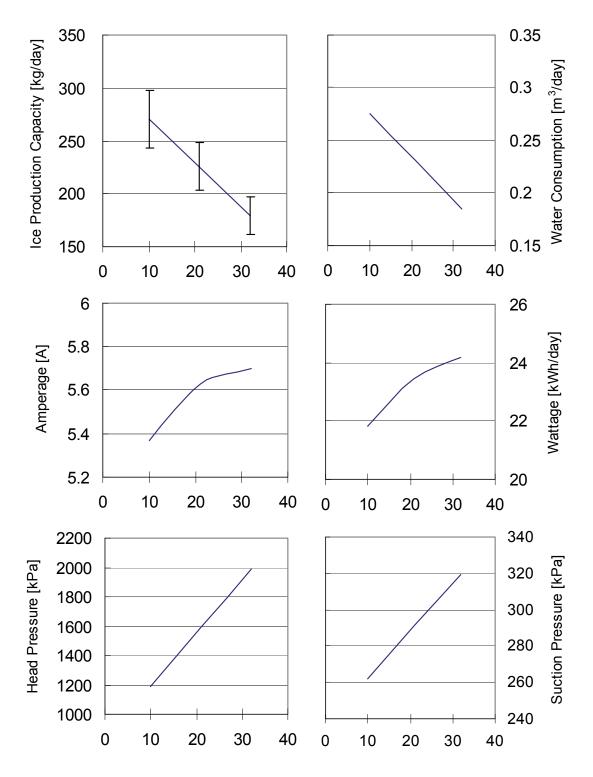
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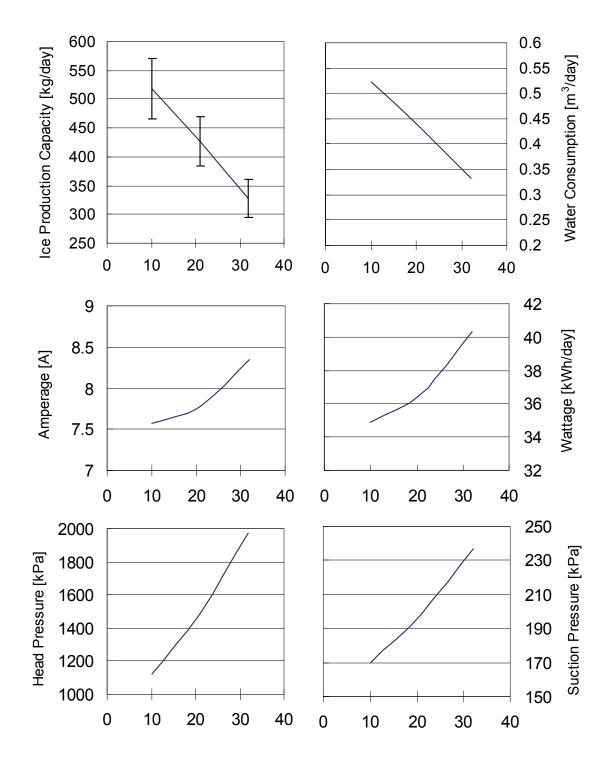




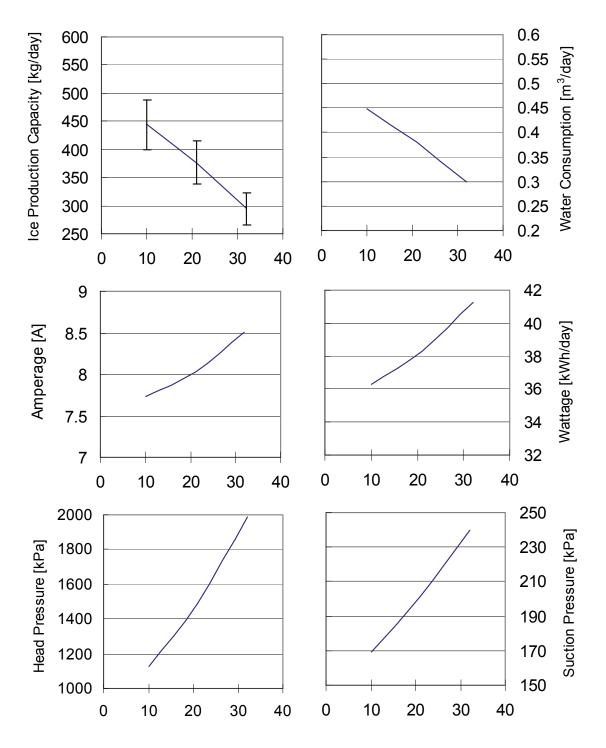
The horizontal axis shows the ambient temperature. It refers to the data of at/wt=10/10, 21/15, 32/21, 40/35.



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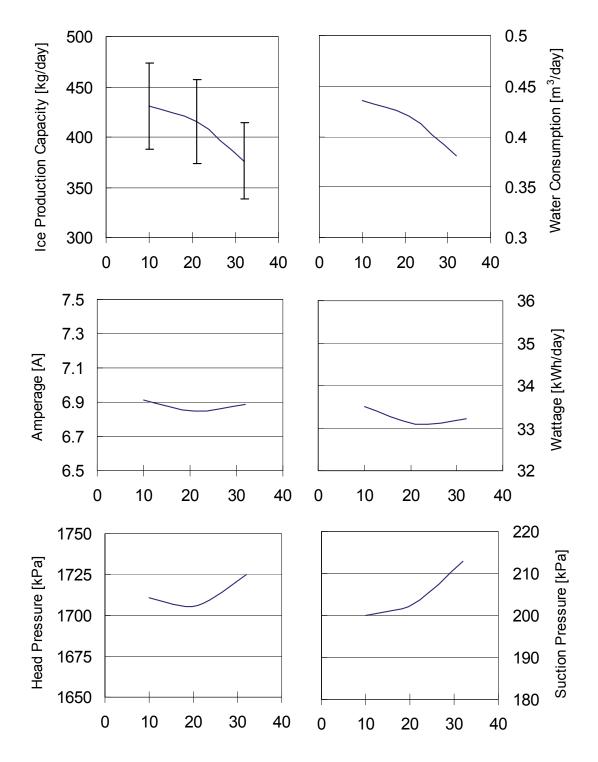


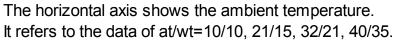
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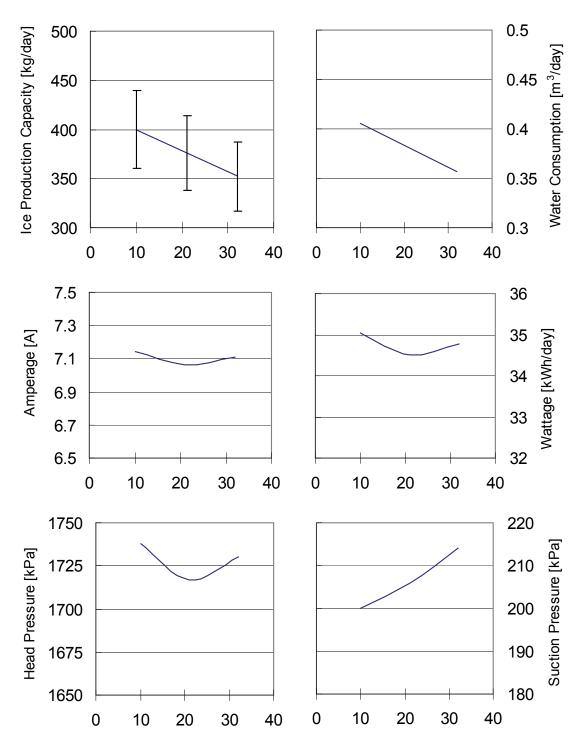
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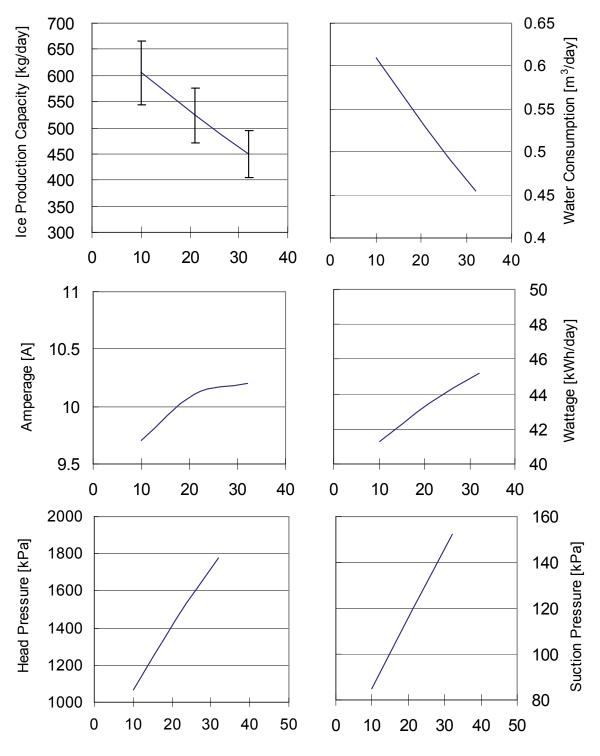
[g] FM-480AWKE



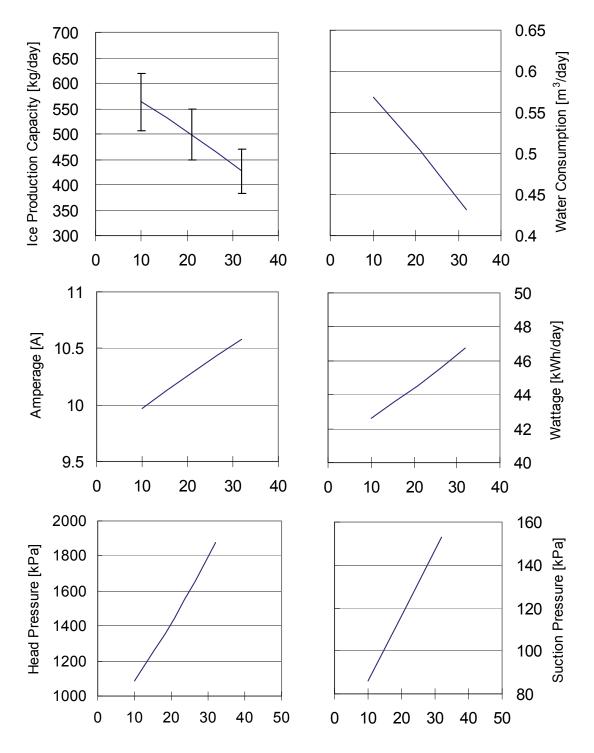


[h] FM-480AWKE-N

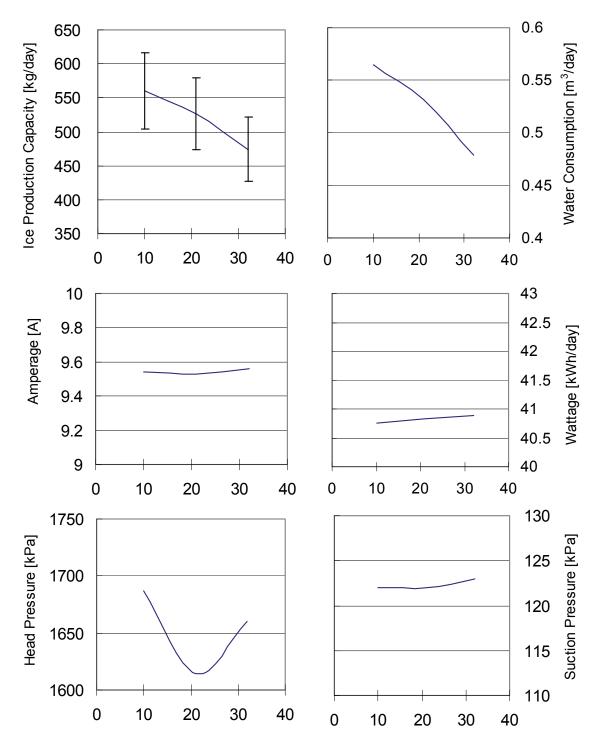




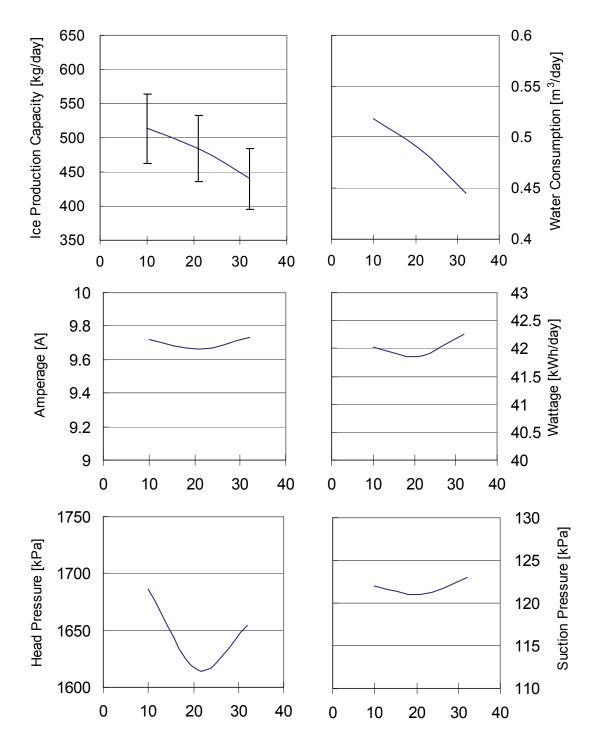
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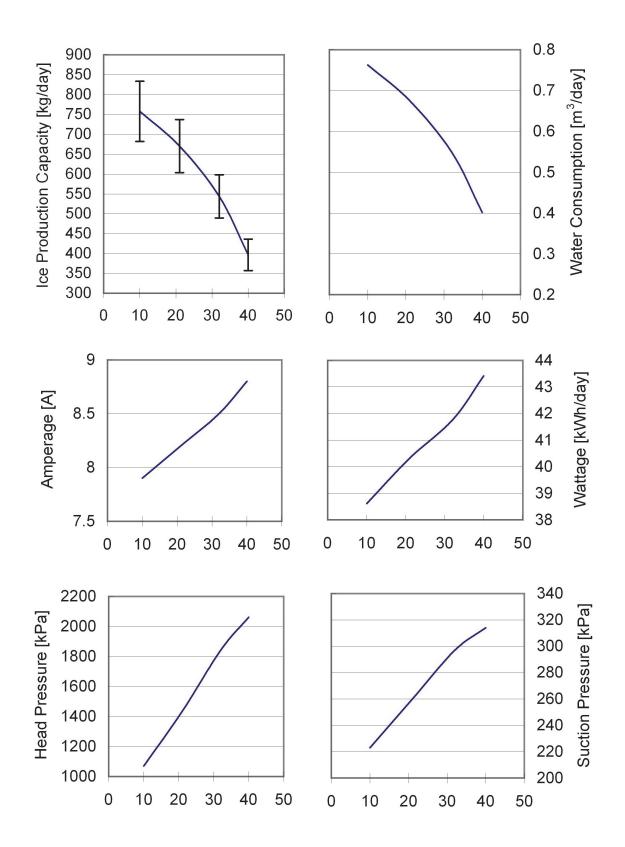
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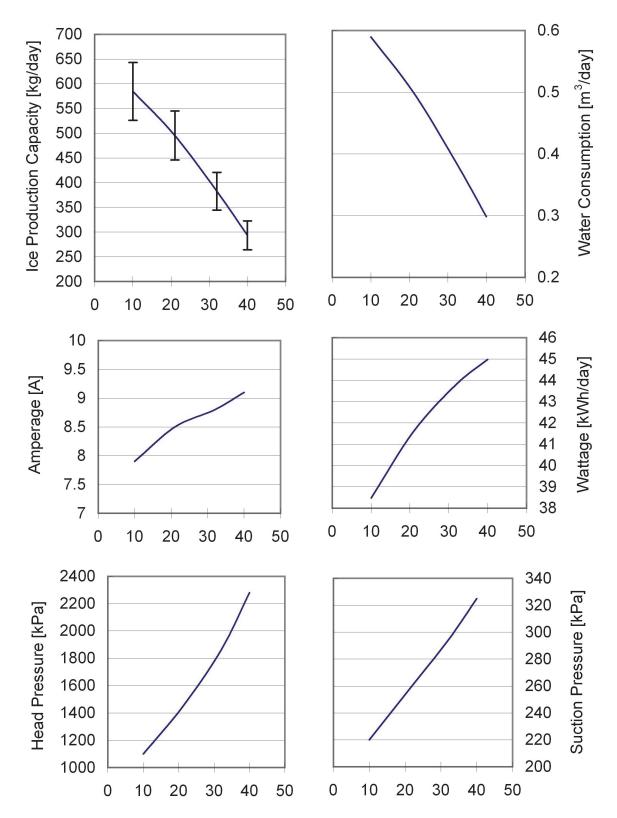
[I] FM-600AWKE-N



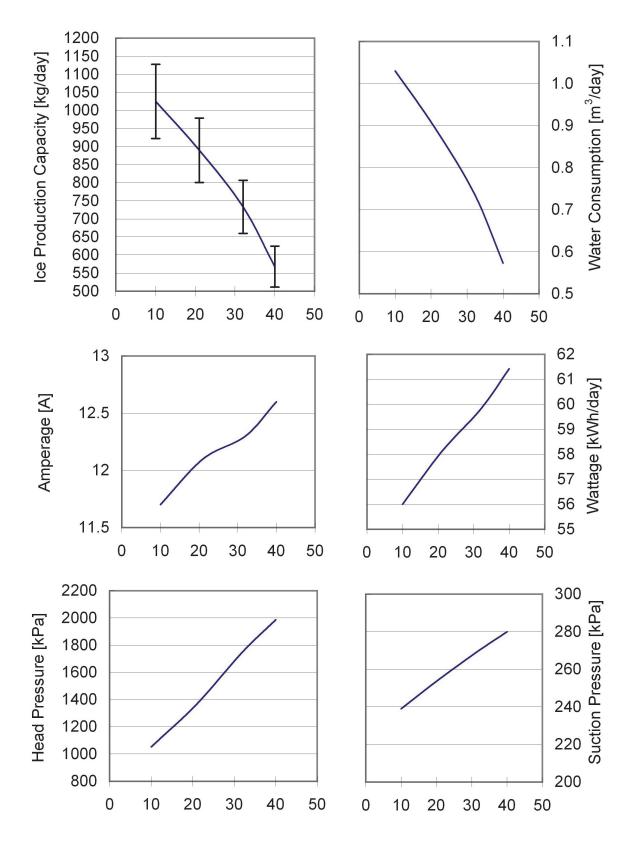
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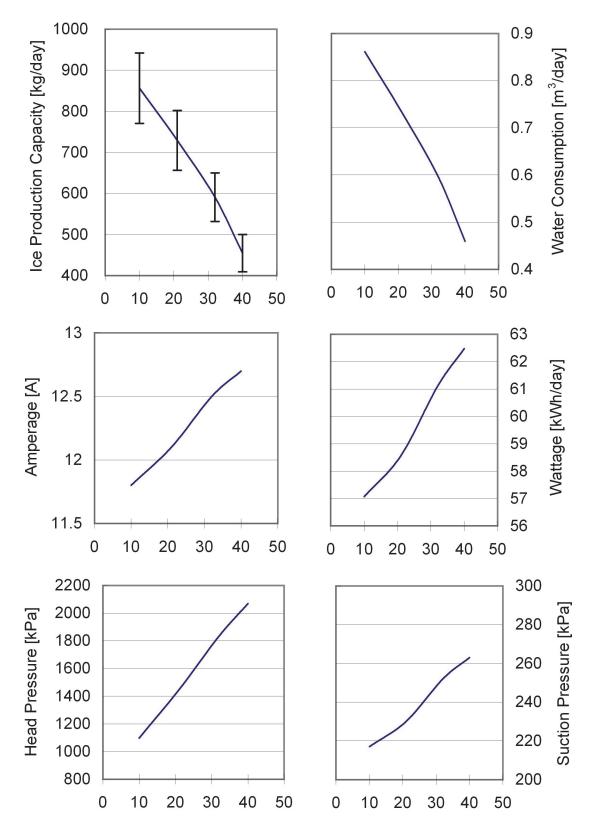


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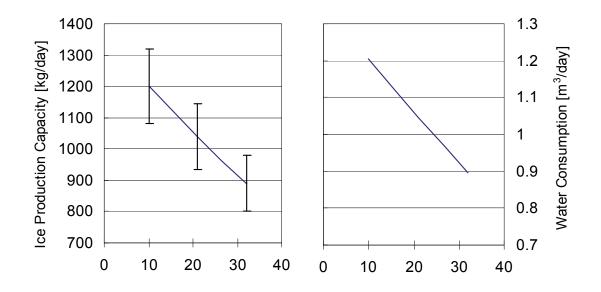
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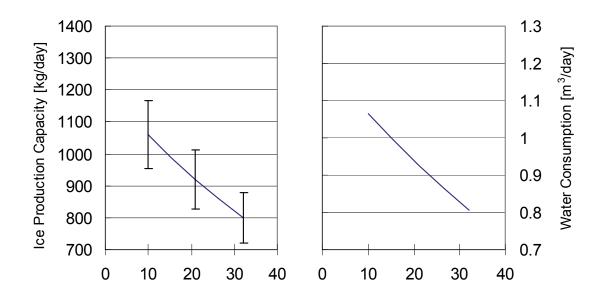


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[q] FM-1200ALKE

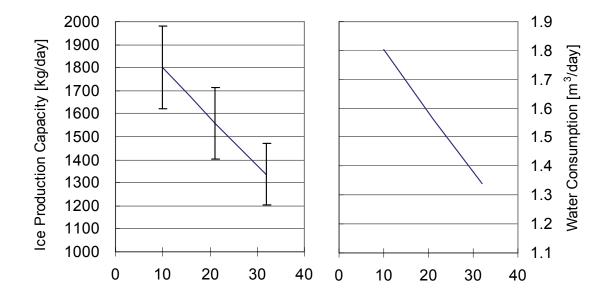


[r] FM-1200ALKE-N

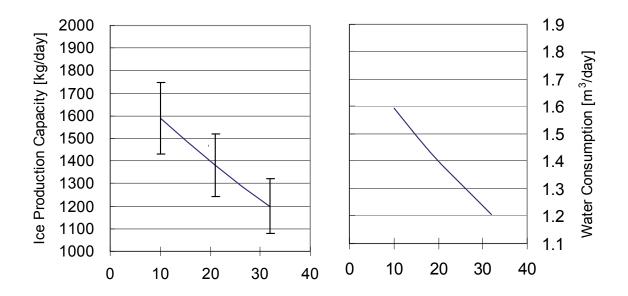


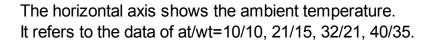
The horizontal axis shows the ambient temperature. It refers to the data of at/wt=10/10, 21/15, 32/21, 40/35.

[s] FM-1800ALKE



[t] FM-1800ALKE-N





IV. SERVICE DIAGNOSIS

Display error records by operating the operation board (see "III. 5. [d] DISPLAYING ERROR LOG"). Check for a possible cause and service the unit.

1. NO ICE PRODUCTION

PROBLEM	POSSIE	BLE CAUSE	REMEDY
[1] The icemaker	a) Power supply	1. OFF position.	1. Move to ON position.
will not start.		2. Loose connections.	2. Tighten.
		3. Bad contacts.	3. Check for continuity and
			replace.
		4. Blown fuse.	4. Replace.
		5. Voltage too low.	5. Get recommended voltage.
	b) Fuse	1. Blown out. No	1. Locate and resolve the cause
		indication on	of short circuit (ex. control
		operation board.	water valve, flush water
			valve), and replace.
	c) Transformer	1. Disconnected.	1. Connect.
	receptacle	1 OFF position	1 Move to ON position
	d) Operation switch	1. OFF position.	1. Move to ON position.
		2. Bad contacts.	 Check for continuity and replace.
	e) Transformer	1. Coil winding opened.	1. Replace.
	f) Water valve	1. Coil winding opened.	1. Replace.
	g) Water supply tap	1. Closed.	1. Open.
	g) trater supply tup	2. Water failure.	2. Wait till water is supplied.
	h) Plug and	1. Disconnected.	1. Connect.
	receptacle (control	2. Terminal out of plug	2. Insert terminal back in
	box)	or receptacle.	position.
	i) Reed switch	1. Tripped.	1. See 1 - [3] - a).
	(spout)		
	j) Overload protector	1. Tripped.	2. Reset.
	k) Model number	1. Incorrect.	2. Set correct number. See "III. 5. [b] SETTING MODEL NUMBER".
[2] Water does not	a) Water control	1. Contacts fused.	1. Replace controller board.
stop, and the icemaker will not	relay (controller board)	2. Coil winding opened.	2. Replace controller board.
start.	b) Float switch	1. Bad contacts.	1. Check for continuity and replace.
		2. Float does not move freely.	2. Clean or replace.
	c) Flush water valve	1. Valve seat clogged and water leaking.	1. Clean or replace.
	d) Hoses	1. Disconnected.	1. Connect.
	e) Mechanical seal	1. Water leaks.	1. Replace.
	f) Reservoir	1. Cracked.	1. Replace.
[3] Water has been supplied, but the	a) Bin control	1. Bad contacts.	1. Check for continuity and replace.
icemaker will not start.	b) Gear motor protector (thermal breaker)	1. Tripped.	1. Find out the cause, resolve it, and press reset button on motor protector.
	c) Controller board	1. Defective.	1. Replace.

PROBLEM	POSSI	BLE CAUSE	REMEDY
[3] (Continued)	d) Pressure switch,	1. Dirty condenser fins.	1. Clean.
	condenser	2. Ambient temperature	2. Check for recommended
	thermistor	too warm.	temperature.
		3. Fan not rotating.	3. Replace.
		4. Condenser water	4. Check and get recommended
		pressure too low or off.	pressure.
		5. Water regulating valve clogged.	5. Clean.
		6. Refrigerant overcharged.	6. Recharge.
		7. Refrigerant line or components plugged.	7. Clean and replace drier.
		8. Bad contacts.	8. Check for continuity and replace.
		9. Loose connections.	9. Tighten.
	e) Thermostat	1. Ambient temperature	1. Check for recommended
	(water-cooled	too warm.	temperature.
	model)	2. Compressor cooling	2. Replace.
	,	fan motor defective.	
		3. Bad contacts.	3. Check for continuity and replace.
		4. Loose connections.	4. Tighten.
	f) Gear motor	1. Coil winding opened.	1. Replace.
	protect relay	2. Bad contacts.	2. Check for continuity and replace.
[4] Gear motor starts, but	a) X4 relay (controller board)	1. Bad contacts.	1. Check for continuity and replace controller board.
compressor will	(2. Coil winding opened.	2. Replace controller board.
not start or operates	b) X6 relay	1. Bad contacts.	1. Check for continuity and replace X6 relay.
intermittently.		2. Coil winding opened.	2. Replace X6 relay.
	b) Compressor	1. Loose connections.	1. Tighten.
		2. Motor winding opened or earthed.	2. Replace.
		3. Motor protector	3. Find out the cause of overheat
		tripped.	or overcurrent.
	c) Power supply	1. Circuit ampacity too low.	 Install a larger-sized conductor.
	d) Controller board	1. Defective.	1. Replace
	e) Start capacitor or run capacitor	1. Defective.	1. Replace
[5] Gear motor and compressor start, but no ice is produced.	a) Refrigerant line	1. Gas leaks.	1. Check for leaks with a leak detector. Reweld leak, replace drier and charge with refrigerant. The amount of refrigerant is marked on nameplate or label.
		2. Refrigerant line clogged.	2. Replace the clogged component.

2. LOW ICE PRODUCTION

PROBLEM	POSSI	BLE CAUSE	REMEDY
[1] Low ice production	a) Refrigerant line	1. Gas leaks. 2. Refrigerant line clogged. 3. Overcharged.	 See 1 - [5] - a). Replace the clogged component. Recharge.
	b) High-side pressure too high	 Dirty air filter or condenser. Ambient or condenser water temperature too 	 Clean. Check for recommended temperature.
		 warm. 3. Condenser water pressure too low or off. 4. Fan rotating too slow. 5. Water regulating valve clogged. 	3. Check and get recommended pressure.4. Replace.5. Clean.
		 Bad ventilation. Less than specified clearance at rear, sides and top. 	 Remove anything blocking vents. Allow proper clearance for ventilation.
	c) Expansion valve (not adjustable) d) Evaporator	 Low-side pressure exceeding the limit. Evaporator pipe crushed. 	 Replace. Replace.

3. OTHERS

PROBLEM	POSSI	BLE CAUSE	REMEDY
[1] Abnormal noise	a) Fan motor (condenser unit)	 Bearing worn out. Fan blade deformed. Fan blade does not move freely. 	1. Replace.2. Replace fan blade.3. Replace.
	b) Compressor	1. Bearings worn out, or cylinder valve defective.	1. Replace.
		2. Mounting pad out of position.	2. Reinstall.
	c) Refrigerant lines	1. Rub or touch lines or other surfaces.	1. Replace.
	d) Gear motor (ice making)	1. Bearing or gear wear/damage.	1. Replace.
	e) Evaporator	1. Low-side pressure too low.	1. See if expansion valve bulb is mounted properly, and replace the valve if necessary.
		2. Scale on inside wall of freezing cylinder.	2. Remove auger. Use a solution of lime removing cleaner to clean periodically. If water is found to surpass the following levels, install a conditioner. Hardness 50 ppm Silica 30 ppm
	f) Heater	1. Defective.	1. Replace.
	g) CPR (condenser unit)	1. Internal leaks.	1. Replace.

PROBLEM	POSSIBLE CAUSE		REMEDY
[2] Overflow from reservoir (Water	a) Water supply	1. Water pressure too high.	 Install a pressure reducing valve.
does not stop.)	b) Water valve	1. Diaphragm does not close.	1. Clean or replace.
	c) Float switch	1. Bad contacts.	1. Check for continuity and replace.
[3] Gear motor protector	a) Power supply voltage	1. Too high or too low.	1. Connect the unit to a power supply of proper voltage.
operates frequently.	b) Evaporator assy	1. Bearings or auger worn out.	1. Replace bearing or auger.

V. REMOVAL AND REPLACEMENT

1. SERVICE FOR REFRIGERANT LINES

[a] SERVICE INFORMATION

1) Allowable Compressor Opening Time and Prevention of Lubricant Mixture [R404A/R134A]

The compressor must not be opened more than 15 minutes in replacement or service. Do not mix lubricants of different compressors even if both are charged with the same refrigerant, except when they use the same lubricant.

2) Treatment for Refrigerant Leak [R404A/R134A]

If a refrigerant leak occurs in the low side of an ice maker, air may be drawn in. Even if the low side pressure is higher than the atmospheric pressure in normal operation, a continuous refrigerant leak will eventually lower the low side pressure below the atmospheric pressure and will cause air suction. Air contains a large amount of moisture, and ester oil easily absorbs a lot of moisture. If an ice maker charged with R404A/R134A has possibly drawn in air, the drier must be replaced. Be sure to use a drier designed for R404A/R134A.

3) Handling of Handy Flux [R404A/R134A]

Repair of the refrigerant circuit requires brazing. It is no problem to use the same handy flux that has been used for the current refrigerants. However, its entrance into the refrigerant circuit should be avoided as much as possible.

4) Oil for Processing of Copper Tubing [R404A/R134A]

When processing the copper tubing for service, wipe off oil, if any used, by using alcohol or the like. Do not use too much oil or let it into the tubing, as wax contained in the oil will clog the capillary tubing.

5) Service Parts for R404A/R134A

Some parts used for refrigerants other than R404A/R134A are similar to those for R404A/R134A. But never use any parts unless they are specified for R404A/R134A because their endurance against the refrigerant has not been evaluated. Also, for R404A/R134A, do not use any parts that have been used for other refrigerants. Otherwise, wax and chlorine remaining on the parts may adversely affect R404A/R134A.

6) Replacement Copper Tubing [R404A/R134A]

The copper tubes currently in use are suitable for R404A/R134A. But do not use them if oily inside. The residual oil in copper tubes should be as little as possible. (Low residual oil type copper tubes are used in the shipped units.)

7) Evacuation, Vacuum Pump and Refrigerant Charge [R404A/R134A]

Never allow the oil in the vacuum pump to flow backward. The vacuum level and vacuum pump may be the same as those for the current refrigerants. However, the rubber hose and gauge manifold to be used for evacuation and refrigerant charge should be exclusively for R404A/R134A.

8) Refrigerant Leak Check

Refrigerant leaks can be detected by charging the unit with a little refrigerant, raising the pressure with nitrogen and using an electronic detector. Do not use air or oxygen instead of nitrogen for this purpose, or rise in pressure as well as in temperature may cause R404A/R134A to suddenly react with oxygen and explode. Be sure to use nitrogen to prevent explosion.

[b] REFRIGERANT RECOVERY

The refrigerant must be recovered if required by an applicable law. A low-side access valve is provided in the unit (modular type only). Recover the refrigerant from the access valve, and store it in a proper container. Do not discharge the refrigerant into the atmosphere. When replacing the drier, take the opportunity to also fit a low-side access valve (self-contained type only) and a high-side access valve for ease of charging liquid refrigerant.

[c] EVACUATION AND RECHARGE

R134a models

- 1) Attach a charging hose of a gauge manifold to a vacuum pump and the low-side access valve (to be fitted by service personnel for self-contained type).
- 2) Open the low-side valve on the gauge manifold, and turn on the vacuum pump.
- 3) Allow the vacuum pump to pull down to a 760 mmHg vacuum. Evacuating period depends on the pump capacity.
- 4) Close the low-side valve on the gauge manifold.
- 5) Disconnect the vacuum pump, and attach a refrigerant charging cylinder to accurately weigh in the liquid charge. Remember to purge any air from the charging hose. See the nameplate for the required refrigerant charge.
- 6) Open the low-side valve on the gauge manifold and the valve on the charging cylinder.
- 7) When no more refrigerant is drawn in, turn on the icemaker. When the required amount of refrigerant has been charged, close the valve on the charging cylinder and turn off the icemaker.
- 8) Close the low-side valve on the gauge manifold.

- 9) Disconnect the charging hose from the access valve. Always cap the access valve to prevent a refrigerant leak.
- 10) Always thoroughly leak test all joints and valve caps.
- 11) Avoid charging large quantities of liquid into the low side in case of damage to the compressor.

R404A models

- 1) Attach charging hoses of a gauge manifold to a vacuum pump, the low-side access valve and the high-side access valve (to be fitted by service personnel).
- 2) Open the low-side and high-side valves on the gauge manifold, and turn on the vacuum pump.
- 3) Allow the vacuum pump to pull down to a 760 mmHg vacuum. Evacuating period depends on the pump capacity.
- 4) Close the low-side and high-side valves on the gauge manifold.
- 5) Disconnect the vacuum pump, and attach a refrigerant charging cylinder to accurately weigh in the liquid charge. Remember to purge any air from the charging hose. See the nameplate for the required refrigerant charge.
- 6) Open the high-side valve on the gauge manifold and the valve on the charging cylinder.

Note: Always charge in the liquid stage, as many refrigerants are blends and vapour charging will affect the blend consistency.

- 7) When no more refrigerant is drawn in, turn on the icemaker. When the required amount of refrigerant has been charged, close the valve on the charging cylinder and turn off the icemaker.
- 8) Close the high-side valve on the gauge manifold.
- 9) Disconnect the charging hoses from the access valves. Always cap the access valves to prevent a refrigerant leak.
- 10) Always thoroughly leak test all joints and valve caps.
- 11) Avoid charging large quantities of liquid into the low side in case of damage to the compressor.

2. BRAZING

DANGER

- 1. Refrigerant R404A/R134A itself is not flammable, explosive and poisonous. However, when exposed to an open flame, R404A/R134A creates phosgene gas, hazardous in large amounts.
- 2. Always recover the refrigerant and store it in a proper container, if required by an applicable law. Do not discharge the refrigerant into the atmosphere.
- 3. Do not use silver alloy or copper alloy containing arsenic.
- 4. In its liquid state, the refrigerant can cause frostbite because of the low temperature.

3. COMPRESSOR

— IMPORTANT –

Always install a new drier every time the sealed refrigeration system is opened. Do not replace the drier until after all other repair or replacement has been made.

- 1) Disconnect the power source.
- 2) Remove the panels.
- 3) Remove the terminal cover on the compressor, and disconnect the compressor wiring.
- 4) Recover the refrigerant and store it in a proper container, if required by an applicable law (See "1. [b] REFRIGERANT RECOVERY").
- 5) Remove the discharge, suction and access pipes from the compressor using brazing equipment.

WARNING

When repairing a refrigerant system, be careful not to let the burner flame contact any electrical wires or insulation.

- 6) Remove the bolts and rubber grommets.
- 7) Slide and remove the compressor. Unpack the new compressor package. Install the new compressor.
- 8) Attach the rubber grommets of the previous compressor.
- 9) Clean the suction and discharge pipes with an abrasive cloth/paper.

- 10) Place the compressor in position, and secure it using the bolts and washers.
- 11) Remove plugs from the discharge, suction and access pipes.
- 12) Braze the access, suction and discharge pipes (Do not change this order) with nitrogen gas flowing at the pressure of 0.2 0.3 bar.
- 13) Install the new drier (See "4. DRIER").
- 14) Check for leaks using nitrogen gas (10 bar) and soap bubbles.
- 15) Evacuate the system, and charge it with refrigerant. See the nameplate for the required refrigerant charge (See "1. [c] EVACUATION AND RECHARGE").
- 16) Connect the terminals to the compressor, and replace the terminal cover in its correct position.
- 17) Refit the panels in their correct position.
- 18) Connect the power source.

4. DRIER

— IMPORTANT –

Always install a new drier every time the sealed refrigeration system is opened. Do not replace the drier until after all other repair or replacement has been made.

- 1) Disconnect the power source.
- 2) Remove the front panel.
- 3) Recover the refrigerant and store it in a proper container, if required by an applicable law (See "1. [b] REFRIGERANT RECOVERY").
- 4) Remove the drier using brazing equipment.
- 5) Install the new drier with the arrow on the drier in the direction of the refrigerant flow. Use nitrogen gas at the pressure of 0.2 0.3 bar when brazing the tubings.
- 6) Check for leaks using nitrogen gas (10 bar) and soap bubbles.
- 7) Evacuate the system, and charge it with refrigerant. See the nameplate for the required refrigerant charge (See "1. [c] EVACUATION AND RECHARGE").
- 8) Refit the front panel in its correct position.
- 9) Connect the power source.

5. EXPANSION VALVE

- IMPORTANT ·

Sometimes moisture in the refrigerant circuit exceeds the drier capacity and freezes up at the expansion valve. Always install a new drier every time the sealed refrigeration system is opened. Do not replace the drier until after all other repair or replacement has been made.

- 1) Disconnect the power source.
- 2) Remove the front panel.
- Recover the refrigerant and store it in a proper container, if required by an applicable law (See "1. [b] REFRIGERANT RECOVERY").
- 4) Remove the expansion valve bulb at the evaporator outlet.
- 5) Remove the expansion valve cover, and disconnect the expansion valve using brazing equipment.
- 6) Braze the new expansion valve with nitrogen gas flowing at the pressure of 0.2 0.3 bar.

· WARNING ·

Always protect the valve body by using a damp cloth to prevent the valve from overheating. Do not braze with the valve body exceeding 120°C.

- 7) Install the new drier (See "4. DRIER").
- 8) Check for leaks using nitrogen gas (10 bar) and soap bubbles.
- 9) Evacuate the system, and charge it with refrigerant. See the nameplate for the required refrigerant charge (See "1. [c] EVACUATION AND RECHARGE").
- 10) Attach the bulb to the suction line. Be sure to secure the bulb using a wire or clamp and replace the insulation.
- 11) Place the new set of expansion valve covers in position.
- 12) Refit the front panel in its correct position.
- 13) Connect the power source.

6. WATER REGULATING VALVE - WATER-COOLED MODEL ONLY

IMPORTANT -

Always install a new drier every time the sealed refrigeration system is opened. Do not replace the drier until after all other repair or replacement has been made.

- 1) Unplug the icemaker.
- 2) Close the water supply tap.
- 3) Remove the panels.
- 4) Recover the refrigerant and store it in a proper container, if required by an applicable law.
- 5) Disconnect the capillary tube using brazing equipment.
- 6) Disconnect the flare-connections of the valve.
- 7) Remove the screws and the valve from the bracket.
- 8) Install the new valve, and braze the capillary tube.
- 9) Install the new drier.
- 10) Check for leaks using nitrogen gas (10 bar) and soap bubbles.
- 11) Connect the flare-connections.
- 12) Evacuate the system, and charge it with refrigerant. See the nameplate for the required refrigerant charge.
- 13) Open the water supply tap.
- 14) Plug in the icemaker.
- 15) Check for water leaks.
- 16) If necessary, adjust the valve.
- 17) Replace the panels in position.

7. EVAPORATOR ASSEMBLY

See the exploded view under "III. 3. ICEMAKING MECHANISM".

- 1) Push the stop button to drain the water in the evaporator.
- 2) Disconnect the power source.
- 3) Remove the panels.
- 4) Remove the three thumbscrews, and take off the spout from the evaporator.
- 5) Remove the bin control switch.
- 6) Remove the spout gasket at the top of the evaporator.

CUTTER

7) Remove the bolt and lift off the cutter.

BELT HEATER

8) Detach the spring, and remove the belt heater.

EXTRUDING HEAD

- 9) Remove the sealing bolts, and lift off the extruding head.
- 10) Check the bearing inside the extruding head. If it is worn out or scratched, replace the bearing.
 - Note: Replacing the bearing needs a fitting tool. If it is not available, replace the whole extruding head.

AUGER

11) Lift out the auger. Check the top and bottom areas in contact with the bearings. If the surface is scratched or pitted, replace the auger. Check the blade edge of the auger. If it is scratched or worn where it has contacted the evaporator, replace it.

EVAPORATOR

- Note: Skip the following steps 12) through 18) when the evaporator does not need replacement.
- 12) Recover the refrigerant and store it in a proper container, if required by an applicable law (See "1. [b] REFRIGERANT RECOVERY").

- IMPORTANT

Always install a new drier every time the sealed refrigeration system is opened. Do not replace the drier until after all other repair or replacement has been made.

- 13) Remove the bulb of the expansion valve.
- 14) Disconnect the brazing connections of the expansion valve and the copper tube low side from the evaporator, using brazing equipment.

- WARNING -

Always protect the valve body by using a damp cloth to prevent the valve from overheating. Do not braze with the valve body exceeding 120°C.

- 15) Remove the two truss head machine screws and the strap securing the evaporator.
- 16) Disconnect the hoses from the evaporator.
- 17) Remove the four socket head cap screws securing the evaporator with the housing.
- 18) Lift off the evaporator.

HOUSING AND MECHANICAL SEAL

- 19) The mechanical seal consists of two parts. One part rotates with the auger, the other is static and is fitted into a top recess in the housing. If the contact surfaces of these two parts become worn or scratched, the mechanical seal may leak water and should be replaced.
- 20) Remove the O-ring on the top outer edge of the housing.
- 21) Remove the four bolts and lift the housing clear of the gear motor. Check the bearing inside the housing. If it is worn or scratched, replace it using a fitting tool. Carefully ease out the lower part of the mechanical seal before replacing the bearing.
 - Note: If a fitting tool is not available, replace the whole lower housing complete with bearing.

GEAR MOTOR

- 22) Cut the connectors.
- 23) Remove the three socket head cap screws securing the gear motor.
- 24) Assemble the removed parts in the reverse order of which they were removed.

- WARNING

Be careful not to scratch the surface of the O-ring, or it may cause water leaks. Handle the mechanical seal with care not to scratch nor to contaminate its contact surface.

25) When replacing the evaporator;

- (a) Braze the new evaporator with nitrogen gas flowing at the pressure of 0.2 0.3 bar.
- (b) Replace the drier.
- (c) Check for leaks using nitrogen gas (10 bar) and soap bubbles.
- (d) Evacuate the system, and charge it with refrigerant. See the nameplate for the required refrigerant charge (See "1. [c] EVACUATION AND RECHARGE").

26) Refit the panels in their correct position.

27) Connect the power source.

8. CONTROL WATER VALVE

- 1) Disconnect the power source.
- 2) Close the water supply tap.
- 3) Remove the panels.
- 4) Disconnect the terminals from the control water valve.
- 5) Remove the cover reservoir Inlet from the control water valve.
- 6) Loosen the fitting nut on the control water valve Inlets, and remove the control water valve. Do not lose the packings inside the fitting nut.
- 7) Install the new control water valve.
- 8) Assemble the removed parts in the reverse order of which they were removed.
- 9) Open the water supply tap.
- 10) Connect the power source.
- 11) Check for water leaks.
- 12) Refit the panels in their correct position.

9. FLUSH WATER VALVE

- 1) Push the stop button, and after 5 minutes disconnect the power source.
- 2) Close the water supply tap.
- 3) Remove the panels.
- 4) Remove the clamp and disconnect the hose from the flush water valve.
 - Note: Water may still remain inside the evaporator. Be sure to drain the water into the drain pan.
- 5) Disconnect the terminals from the flush water valve.
- 6) Remove the flush water valve from the bracket.
- 7) Remove the drain pipe from the flush water valve.
- 8) Connect the drain pipe to the new flush water valve, and place the valve in position.
- 9) Connect the hose to the flush water valve, and secure it with the clamp.

10) Pour water into the reservoir, and check for water leaks on the flush water valve.

- 11) Open the water supply tap.
- 12) Connect the power source.
- 13) Check for water leaks.
- 14) Push the stop button, and make sure water is flushing.
- 15) Push the ice button.
- 16) Refit the panels in their correct position.

10. CONTROLLER BOARD

— IMPORTANT -

A single type controller board is supplied as a service board. Some modifications and adjustment will be required to fit the icemaker models. Do not repair any parts and electronic devices on the controller board in the field. Replace the whole board with a new service board.

[a] MODIFICATION

- 1) Check that the service board package includes: Controller board 1 pc. Instruction sheet 1 pc.
- 2) Modify the service board referring to the instruction sheet attached (Set the model number according to "III. 5. [b] SETTING MODEL NUMBER").

[b] REPLACEMENT

- 1) Disconnect the power source.
- 2) Remove the front panel.
- 3) Remove screws and the control box cover.
- 4) Disconnect the connectors and board support from the controller board.
- 5) Remove the controller board from the control box.
- 6) Install the new controller board and reassemble the control box in the reverse order of the removal procedure.
- 7) Replace the front panel in its correct position.
- 8) Connect the power source.