

FR8.5G Universal Compressor R134a 220-240V 50/60Hz

General

| | |
|-----------------------|---------------------------|
| Code number | 103G6780 |
| Approvals | EN 60335-2-34, UL984, CCC |
| Compressors on pallet | 80 |

Application

| Application | LBP/HBP | LBP |
|--|--------------|------------|
| Frequency | Hz 50 | 60 |
| Evaporating temperature | °C -30 to 10 | -30 to -10 |
| Voltage range | V 187 - 254 | 198 - 254 |
| Max. condensing temperature continuous (short) | °C 60 (70) | 60 (70) |
| Max. winding temperature continuous (short) | °C 125 (135) | 125 (135) |

Cooling requirements

| Frequency | Hz | 50 | | | 60 | | |
|-------------|----|----------------|----------------|----------------|----------------|-----|-----|
| Application | | LBP | MBP | HBP | LBP | MBP | HBP |
| 32°C | | S | F ₂ | F ₂ | S | - | - |
| 38°C | | S | F ₂ | F ₂ | S | - | - |
| 43°C | | F ₁ | F ₂ | F ₂ | F ₁ | - | - |

Remarks on application: HBP at 198 - 254V 50Hz only.

Motor

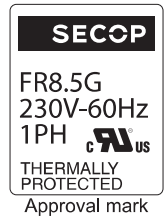
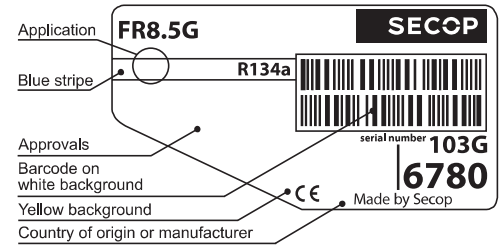
| Motor type | | RSIR/CSIR | |
|---|---|-----------|------|
| LRA (rated after 4 sec. UL984), HST LST | A | 8.2 | 8.1 |
| Cut in Current, HST LST | A | 8.2 | 12.8 |
| Resistance, main start winding (25°C) | Ω | 8.9 | 12.0 |

Design

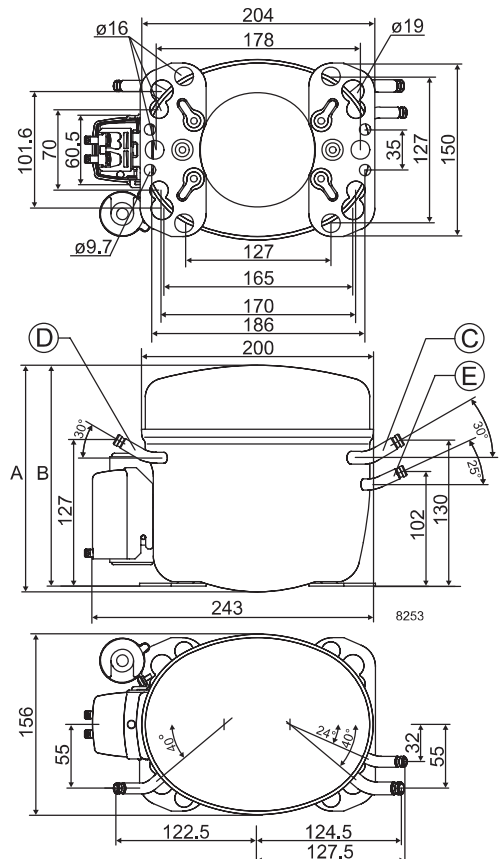
| | | |
|-------------------------------------|-----------------|-------------------|
| Displacement | cm ³ | 7.95 |
| Oil quantity (type) | cm ³ | 450 (polyolester) |
| Maximum refrigerant charge | g | 900 |
| Free gas volume in compressor | cm ³ | 1350 |
| Weight without electrical equipment | kg | 10.6 |

Dimensions

| | | | |
|----------------------|--------------------------|----|--------------------------|
| Height | mm | A | 196 |
| | | B | 191 |
| | | B1 | - |
| | | B2 | - |
| Suction connector | location/I.D. mm angle | C | 8.2 30° |
| | material comment | | Cu-plated steel Al cap |
| Process connector | location/I.D. mm angle | D | 6.2 30° |
| | material comment | | Cu-plated steel Al cap |
| Discharge connector | location/I.D. mm angle | E | 6.2 25° |
| | material comment | | Cu-plated steel Al cap |
| Oil cooler connector | location/I.D. mm angle | F | - |
| | material comment | | - |
| Connector tolerance | I.D. mm | | ±0.09 |
| Remarks: | | | |



- S = Static cooling normally sufficient
- O = Oil cooling
- F₁ = Fan cooling 1.5 m/s (compressor compartment temperature equal to ambient temperature)
- F₂ = Fan cooling 3.0 m/s necessary
- SG = Suction gas cooling normally sufficient
- = not applicable in this area



EN 12900 Household (CECOMAF) 220V, 50Hz, fan cooling F₂

| | | | | | | | | | | | | | | | | | |
|--------------------|-----|-----|-----|------|------|-------|------|------|------|------|------|------|------|------|------|----|----|
| Evap. temp. in °C | -45 | -40 | -35 | -30 | -25 | -23.3 | -20 | -15 | -10 | -6.7 | -5 | 0 | 5 | 7.2 | 10 | 15 | 20 |
| Capacity in W | | | | 84.9 | 123 | 138 | 171 | 228 | 298 | 351 | 381 | 478 | 592 | 647 | 722 | | |
| Power cons. in W | | | | 127 | 151 | 159 | 176 | 203 | 231 | 251 | 261 | 291 | 321 | 335 | 352 | | |
| Current cons. in A | | | | 1.16 | 1.22 | 1.25 | 1.30 | 1.38 | 1.47 | 1.53 | 1.56 | 1.67 | 1.78 | 1.83 | 1.90 | | |
| COP in W/W | | | | 0.67 | 0.82 | 0.87 | 0.97 | 1.12 | 1.29 | 1.40 | 1.46 | 1.65 | 1.84 | 1.93 | 2.05 | | |

EN 12900 Household (CECOMAF) 220V, 60Hz, fan cooling F₂

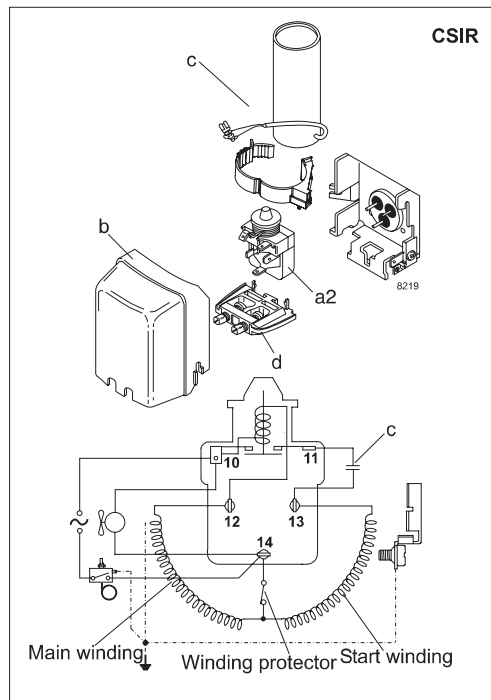
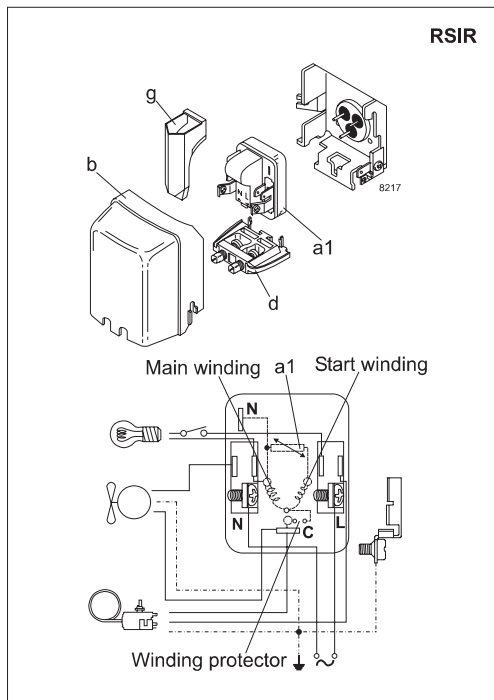
| | | | | | | | | | | | | | | | | | |
|--------------------|-----|-----|-----|------|------|-------|------|------|------|------|----|---|---|-----|----|----|----|
| Evap. temp. in °C | -45 | -40 | -35 | -30 | -25 | -23.3 | -20 | -15 | -10 | -6.7 | -5 | 0 | 5 | 7.2 | 10 | 15 | 20 |
| Capacity in W | | | | 92.3 | 138 | 156 | 195 | 263 | 345 | | | | | | | | |
| Power cons. in W | | | | 134 | 164 | 174 | 197 | 233 | 273 | | | | | | | | |
| Current cons. in A | | | | 1.02 | 1.12 | 1.16 | 1.24 | 1.37 | 1.53 | | | | | | | | |
| COP in W/W | | | | 0.69 | 0.85 | 0.90 | 0.99 | 1.13 | 1.26 | | | | | | | | |

ASHRAE LBP 220V, 50Hz, fan cooling F₂

| | | | | | | | | | | | | | | | | | |
|--------------------|-----|-----|-----|------|------|-------|------|------|------|------|------|------|------|------|------|----|----|
| Evap. temp. in °C | -45 | -40 | -35 | -30 | -25 | -23.3 | -20 | -15 | -10 | -6.7 | -5 | 0 | 5 | 7.2 | 10 | 15 | 20 |
| Capacity in W | | | | 105 | 152 | 171 | 211 | 282 | 368 | 434 | 471 | 592 | 734 | 803 | 898 | | |
| Power cons. in W | | | | 127 | 151 | 159 | 176 | 203 | 231 | 251 | 261 | 291 | 321 | 335 | 352 | | |
| Current cons. in A | | | | 1.16 | 1.22 | 1.25 | 1.30 | 1.38 | 1.47 | 1.53 | 1.56 | 1.67 | 1.78 | 1.83 | 1.90 | | |
| COP in W/W | | | | 0.83 | 1.01 | 1.07 | 1.19 | 1.39 | 1.59 | 1.73 | 1.81 | 2.04 | 2.29 | 2.40 | 2.55 | | |

ASHRAE LBP 220V, 60Hz, fan cooling F₂

| | | | | | | | | | | | | | | | | | |
|--------------------|-----|-----|-----|------|------|-------|------|------|------|------|----|---|---|-----|----|----|----|
| Evap. temp. in °C | -45 | -40 | -35 | -30 | -25 | -23.3 | -20 | -15 | -10 | -6.7 | -5 | 0 | 5 | 7.2 | 10 | 15 | 20 |
| Capacity in W | | | | 114 | 171 | 193 | 241 | 325 | 426 | | | | | | | | |
| Power cons. in W | | | | 134 | 164 | 174 | 197 | 233 | 273 | | | | | | | | |
| Current cons. in A | | | | 1.02 | 1.12 | 1.16 | 1.24 | 1.37 | 1.53 | | | | | | | | |
| COP in W/W | | | | 0.85 | 1.04 | 1.11 | 1.22 | 1.39 | 1.56 | | | | | | | | |



| Accessories for | FR8.5G | Figure | Code number |
|---------------------------|-------------------------|--------|-------------|
| PTC starting device | 6.3 mm spade connectors | a1 | 103N0011 |
| | 4.8 mm spade connectors | | 103N0018 |
| Starting relay | 6.3 mm spade connectors | a2 | 117U6015 |
| Start, capacitor 80 µF | 6.3 mm spade connectors | c | 117U5015 |
| Cover | | b | 103N2010 |
| Cord relief | | d | 103N1010 |
| Protection screen for PTC | | g | 103N0476 |

| Test conditions | EN 12900/CECOMAF | ASHRAE |
|-------------------------|------------------|--------|
| Condensing temperature | 55°C | 55°C |
| Ambient temperature | 32°C | 32°C |
| Suction gas temperature | 32°C | 32°C |
| Liquid temperature | 55°C | 32°C |

| Mounting accessories | | Code number |
|--------------------------|----------|-------------|
| Bolt joint for one comp. | Ø: 16 mm | 118-1917 |
| Bolt joint in quantities | Ø: 16 mm | 118-1918 |
| Snap-on in quantities | Ø: 16 mm | 118-1919 |

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