

FR8.5G

Universal Compressor

R134a

220-240V 50Hz

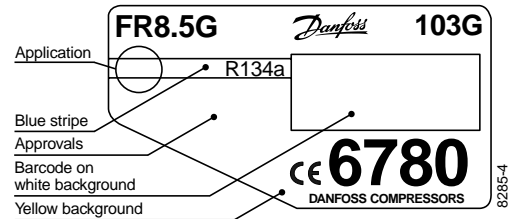
Data Sheet (CG.43.H1.02)

General

| | |
|--|---------------|
| Compressor | FR8.5G |
| Code number | 103G6780 |
| Code number compressor with oil cooler | 103G6790 |

Application

| | | | |
|--------------------------------|-----------------------|---------------------|-----------------------|
| Application | | LBP/HBP | |
| Evaporating temperature range | °C | -30 to 10 | |
| Voltage range | V/Hz | LBP: 187 - 254 /50 | |
| | | LBP: 198 - 254 /60 | |
| | | HBP: 198 - 254 /50 | |
| Motor type | | RSIR/CSIR | |
| Max. ambient temperature | °C | 43 | |
| Comp. cooling at ambient temp. | 32°C | LBP: S | |
| | | HBP: F ₂ | |
| | | 38°C | LBP: O/F ₁ |
| | | HBP: F ₂ | |
| 43°C | LBP: O/F ₁ | | |
| | HBP: F ₂ | | |



- 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

Design

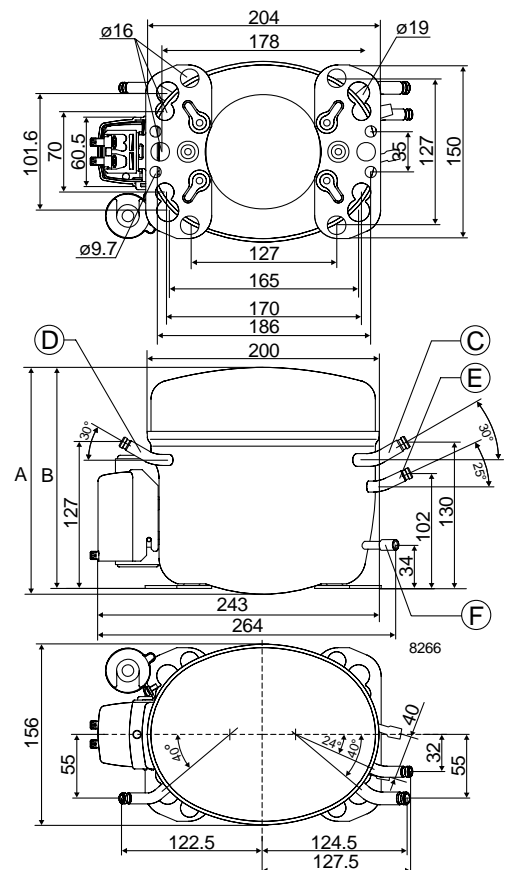
| | | |
|-------------------------------------|-----------------|------|
| Displacement | cm ³ | 7.95 |
| Oil quantity | cm ³ | 450 |
| Maximum refrigerant charge | g | 900 |
| Free gas vol. in compressor | cm ³ | 1350 |
| Weight without electrical equipment | kg | 10.6 |

Motor

| | | |
|---|------|---------------------|
| Motor size | watt | 215 |
| LRA (rated after 4 sec. UL984) LST/HST | A | 8.1/8.2 |
| Cut-in current LST/HST | A | 12.8/8.2 |
| Resistance, main and start winding (25°C) | Ω | 8.9/12.0 |
| Approvals | | EN 60335-2-34, CCIB |

Dimensions

| | | | |
|-------------------------|------------------|---|-----------|
| Height | mm | A | 196 |
| | | B | 191 |
| Suction connector | location/I.D. mm | C | 8.2 ±0.09 |
| Process connector | location/I.D. mm | D | 6.2 ±0.09 |
| Discharge connector | location/I.D. mm | E | 6.2 ±0.09 |
| Oil cooler | location/I.D. mm | F | 6.2 ±0.09 |
| Compressors on a pallet | pcs. | | 80 |



Capacity (EN 12900/CECOMAF)

watt

| Evap. temp in °C | -30 | -25 | -23.3 | -20 | -15 | -10 | -5 | 0 | 5 | 7.2 | 10 |
|------------------|------|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|
| FR8.5G, 50Hz | 84.9 | 123 | 138 | 171 | 228 | 298 | 381 | 478 | 592 | 647 | 722 |
| FR8.5G, 60Hz | 92.3 | 138 | 156 | 195 | 263 | 345 | | | | | |

Capacity (ASHRAE)

watt

| Evap. temp in °C | -30 | -25 | -23.3 | -20 | -15 | -10 | -5 | 0 | 5 | 7.2 | 10 |
|------------------|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|
| FR8.5G, 50Hz | 105 | 152 | 171 | 211 | 282 | 368 | 471 | 592 | 734 | 803 | 898 |
| FR8.5G, 60Hz | 114 | 171 | 193 | 241 | 325 | 426 | | | | | |

Power consumption

watt

| Evap. temp in °C | -30 | -25 | -23.3 | -20 | -15 | -10 | -5 | 0 | 5 | 7.2 | 10 |
|------------------|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|
| FR8.5G, 50Hz | 127 | 151 | 159 | 176 | 203 | 231 | 261 | 291 | 321 | 335 | 352 |
| FR8.5G, 60Hz | 134 | 164 | 174 | 197 | 233 | 273 | | | | | |

Current consumption

A

| Evap. temp in °C | -30 | -25 | -23.3 | -20 | -15 | -10 | -5 | 0 | 5 | 7.2 | 10 |
|------------------|------|------|-------|------|------|------|------|------|------|------|------|
| FR8.5G, 50Hz | 1.16 | 1.22 | 1.25 | 1.30 | 1.38 | 1.47 | 1.56 | 1.67 | 1.78 | 1.83 | 1.90 |
| FR8.5G, 60Hz | 1.02 | 1.12 | 1.16 | 1.24 | 1.37 | 1.53 | | | | | |

COP (EN 12900/CECOMAF)

W/W

| Evap. temp in °C | -30 | -25 | -23.3 | -20 | -15 | -10 | -5 | 0 | 5 | 7.2 | 10 |
|------------------|------|------|-------|------|------|------|------|------|------|------|------|
| FR8.5G, 50Hz | 0.67 | 0.82 | 0.87 | 0.97 | 1.12 | 1.29 | 1.46 | 1.65 | 1.84 | 1.93 | 2.05 |
| FR8.5G, 60Hz | 0.69 | 0.85 | 0.90 | 0.99 | 1.13 | 1.26 | | | | | |

COP (ASHRAE)

W/W

| Evap. temp in °C | -30 | -25 | -23.3 | -20 | -15 | -10 | -5 | 0 | 5 | 7.2 | 10 |
|------------------|------|------|-------|------|------|------|------|------|------|------|------|
| FR8.5G, 50Hz | 0.83 | 1.01 | 1.07 | 1.19 | 1.39 | 1.59 | 1.81 | 2.04 | 2.29 | 2.40 | 2.55 |
| FR8.5G, 60Hz | 0.85 | 1.04 | 1.11 | 1.22 | 1.39 | 1.56 | | | | | |

| | | |
|---------------------------------|------------------|--------|
| Test conditions | EN 12900/CECOMAF | ASHRAE |
| Condensing temperature | 55°C | 55°C |
| Ambient and suction gas temp. | 32°C | 32°C |
| Liquid temperature | 55°C | 32°C |
| 50Hz: Fan cooling $F_{2, 220V}$ | | |
| 60Hz: Fan cooling $F_{2, 220V}$ | | |

Accessories

| Devices | Fig. | FR8.5G |
|---|------|----------------------|
| PTC starting device 6.3 mm spades 4.8 mm spades | a1 | 103N0011 103N0018 |
| Starting relay | a2 | 117U6015 |
| Cover | b | 103N2010 |
| Starting capacitor 80 µF | c | 117U5015 |
| Cord relief | d | 103N1010 |
| Protection screen for PTC | g | 103N0476 |
| Mounting accessories | | |
| Bolt joint for one compressor | | 118-1917 |
| Bolt joint in quantities | | 118-1918 |
| Snap-on in quantities | | 118-1919 |

