

# TCOA2-A9 Size 3

Industrial oil chillers

## COOLING CAPACITY

12300 - 16400 - 17800 - 20700 W



### AIR CONDENSER

Finned high-efficiency copper tube condensing coil, complete with safety grille.

### AXIAL FAN

Axial fan, complete with thermal cut-out and safety grille.

### HYDRAULIC CIRCUIT

Hydraulic circuit with screw pump without tank, with maximum available pressure 20 bar, pressure limiting valve calibrated at 10 bar, high- and low-pressure safety pressure switch, 0-25 bar oil pressure gauge, regulation sensor.

### ELECTRICAL PANEL

With main disconnect switch, relay motor protection, phase sequence relays.

### MANAGEMENT AND CONTROL

The TX200 control unit manages the operation of the chiller and provides complete operator alarm diagnostics. An on-off contact allows the machine to be switched on remotely. Illuminated control selector. Possibility of remote display for machine regulation.

### PAINT/COATING

Standard colour: RAL 7035 textured.

### STRUCTURE

In powder-coated steel sheet, RAL 7035 textured finish. Easily removed panels

### COMPRESSOR

Hermetic scroll compressor, cooled by the refrigerant, complete with thermal cut-out.

### REFRIGERATION CIRCUIT

Complete with charging port, liquid receiver, drier filter, thermostatic valve, high- and low-pressure pressure switch, liquid viewing port, solenoid valve, R410a refrigerant.

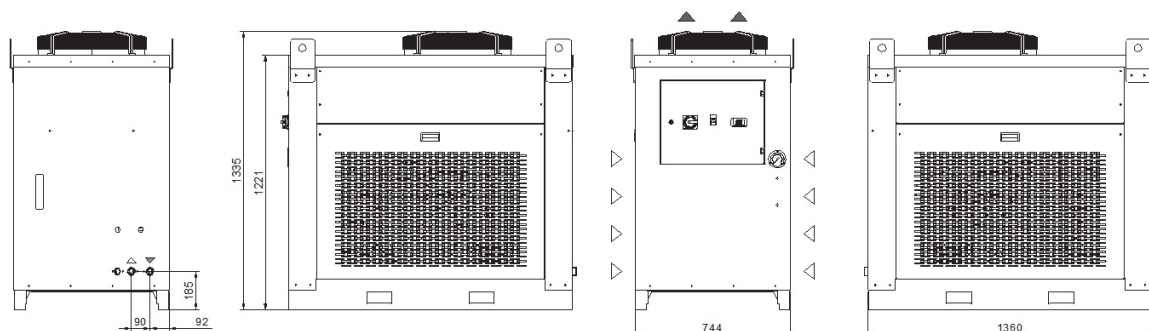
### EVAPORATOR

With brazed stainless-steel plates and temperature sensor for protection against freezing.

### MAIN ACCESSORIES (ref. page 189)

- HR - Oil heating element
- LTA - Operation at low ambient temperatures
- FP - Polyurethane air filter
- RU - Castors
- TD - Differential fluid temperature management (two sensors)
- FL - Customer flow switch
- Non-standard paint/coating
- Satin AISI 304 stainless steel framework
- Temperature Precision +/- 1 K

## Dimensions



| Model                                |                   | TCOA2                  | TCOA4 | TCOA7 | TCOA9 |
|--------------------------------------|-------------------|------------------------|-------|-------|-------|
| <b>Rated Cooling Capacity*</b>       | W                 | 12300                  | 16400 | 17800 | 20700 |
| Ambient temperature operating limits | °C                | +15 - +45              |       |       |       |
| Settable oil temperature range       | °C                | +25 - +40              |       |       |       |
| Fluid type                           |                   | ISO VG 32              |       |       |       |
| Temperature precision                | K                 | +/-2                   |       |       |       |
| Refrigerant gas                      | HFC               | R410A                  |       |       |       |
| <b>Power supply</b>                  |                   |                        |       |       |       |
| Supply voltage                       | V ph Hz           | 400V (+/-10%) 3ph 50Hz |       |       |       |
| Secondary supply voltage             | V                 | 24 V AC                |       |       |       |
| Digital thermostat                   |                   | TX200                  |       |       |       |
| <b>Compressor</b>                    |                   |                        |       |       |       |
| Compressor type                      |                   | Scroll                 |       |       |       |
| Quantity - Number of circuits        | no.               | 1 - 1                  |       |       |       |
| Max. power draw                      | kW                | 4.7                    | 6.4   | 6.6   | 7.4   |
| Max. current draw                    | A                 | 9.8                    | 12.1  | 12.5  | 14.8  |
| <b>Axial Fan</b>                     |                   |                        |       |       |       |
| Fan type                             |                   | Axial                  |       |       |       |
| Quantity                             | no.               | 1                      | 1     | 1     | 1     |
| Air flow rate                        | m <sup>3</sup> /h | 5700                   | 5700  | 5700  | 5700  |
| Max. power draw                      | kW                | 0.7                    | 0.7   | 0.7   | 0.7   |
| Max. current draw                    | A                 | 1.4                    | 1.4   | 1.4   | 1.4   |
| <b>Centrifugal Fan (optional)</b>    |                   |                        |       |       |       |
| Fan type                             |                   | Centrifugal            |       |       |       |
| Quantity                             | no.               | 1                      | 1     | 1     | 1     |
| Air flow rate                        | m <sup>3</sup> /h | 5700                   | 5700  | 5700  | 5700  |
| Available head                       | Pa                | 250                    | 250   | 220   | 220   |
| Max. power draw                      | kW                | 1.5                    | 1.5   | 1.5   | 1.5   |
| Max. current draw                    | A                 | 3                      | 3     | 3     | 3     |
| <b>Standard Pump</b>                 |                   |                        |       |       |       |
| Pump type                            |                   | Screw pump             |       |       |       |
| Quantity                             | no.               | 1                      | 1     | 1     | 1     |
| Nominal fluid flow rate              | l/min             | 60                     | 60    | 60    | 60    |
| Nominal available head               | bar               | 20                     | 20    | 20    | 20    |
| Max. power draw                      | kW                | 3                      | 3     | 3     | 3     |
| Max. current draw                    | A                 | 4.6                    | 4.6   | 4.6   | 4.6   |
| Storage tank capacity (optional)     | l                 | 150                    |       |       |       |
| IN/OUT liquid connections            | inch              | 1"                     |       |       |       |
| Net weight (approximate)***          | kg                | 240                    | 255   | 280   | 295   |
| Width                                | mm                | 744                    |       |       |       |
| Depth                                | mm                | 1360                   |       |       |       |
| Height                               | mm                | 1335                   |       |       |       |
| Sound pressure level**               | dB(A)             | 67                     | 67    | 67    | 67    |
| IP rating                            | IP                | 44                     |       |       |       |

\* Data relating to operation under the following conditions: intake/outlet temperature 40/30°C, ISO VG 32 oil, ambient temperature 32°C. Cooling power refers to the evaporator unit.

\*\* Sound pressure level, measured in a free hemispherical field at a distance of 1 m from the machine and 1.5 metres from the ground, per ISO 3746.

\*\*\* Weight includes pallets and packaging (where provided for), with refrigerant charge, without storage tank and axial fans.

\*\*\*\* The electrical data refer to cos φ = 0.8.

| Correction factors for calculating the cooling power |           |        |           |      |           |      |           |      |           |      |           |      |
|--|-----------|--------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|
| <b>Oil outlet temperature</b>                        | <b>Fo</b> | °C     | 20        | 25   | 30        | 35   |           |      |           |      |           |      |
|  |           | factor | 0.82      | 0.92 | 1         | 1.05 |           |      |           |      |           |      |
| <b>Ambient Temperature</b>                           | <b>Fa</b> | °C     |           |      |           | 15   | 20        | 25   | 32        | 35   | 40        | 45   |
|  |           | factor |           |      |           | 1.16 | 1.1       | 1.05 | 1         | 0.97 | 0.91      | 0.84 |
| <b>Oil type</b>                                      | <b>Ft</b> | type   | ISO VG 10 |      | ISO VG 22 |      | ISO VG 32 |      | ISO VG 46 |      | ISO VG 68 |      |
|  |           | factor | 1.15      |      | 1.1       |      | 1         |      | 0.9       |      | 0.82      |      |
| Cooling power = Nominal cooling power x Fo x Fa x Ft |           |        |           |      |           |      |           |      |           |      |           |      |

# TCOB2-C8 Size 4

Industrial oil chillers

## COOLING CAPACITY

23000 - 28300 - 32800 - 37600 W



### AIR CONDENSER

Finned high-efficiency copper tube condensing coil, complete with safety grille.

### AXIAL FAN

Axial fan, complete with thermal cut-out and safety grille.

### HYDRAULIC CIRCUIT

Hydraulic circuit with screw pump without tank, with maximum available pressure 20 bar, pressure limiting valve calibrated at 10 bar, 0-25 bar oil pressure gauge, protective flow switch, regulation sensor.

### ELECTRICAL PANEL

With main disconnect switch, relay motor protection, phase sequence relays.

### MANAGEMENT AND CONTROL

The TX200 control unit manages the operation of the chiller and provides complete operator alarm diagnostics. An on-off contact allows the machine to be switched on remotely. Illuminated control selector. Possibility of remote display for machine regulation.

### PAINT/COATING

Standard colour: RAL 7035 textured.

### STRUCTURE

In powder-coated steel sheet, RAL 7035 textured finish. Easily removed panels

### COMPRESSOR

Hermetic scroll compressor, cooled by the refrigerant, complete with thermal cut-out.

### REFRIGERATION CIRCUIT

Complete with charging port, safety valve, liquid receiver, drier filter, liquid inspection port, solenoid valve, thermostatic valve, high- and low-pressure pressure switch, R410A refrigerant.

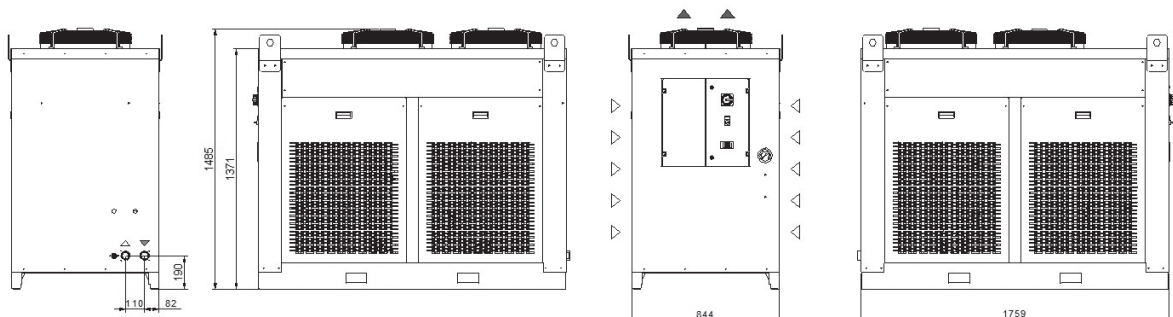
### EVAPORATOR

With brazed stainless-steel plates and temperature sensor for protection against freezing.

### MAIN ACCESSORIES (ref. page 189)

- HR - Oil heating element
- LTA - Operation at low ambient temperatures
- FP - Polyurethane air filter
- RU - Castors
- TD - Differential fluid temperature management (two sensors)
- FL - Customer flow switch.
- Non-standard paint/coating
- Satin AISI 304 stainless steel framework
- Temperature Precision +/- 1 K

## Dimensions



| Model                                |                   | TCOB2                  | TCOB7 | TCOC1 | TCOC8 |
|--------------------------------------|-------------------|------------------------|-------|-------|-------|
| <b>Rated Cooling Capacity*</b>       | W                 | 23000                  | 28300 | 32800 | 37600 |
| Ambient temperature operating limits | °C                | +15 - +45              |       |       |       |
| Settable oil temperature range       | °C                | +25 - +40              |       |       |       |
| Fluid type                           |                   | ISO VG 32              |       |       |       |
| Temperature precision                | K                 | +/-2                   |       |       |       |
| Refrigerant gas                      | HFC               | R410A                  |       |       |       |
| <b>Power supply</b>                  |                   |                        |       |       |       |
| Supply voltage                       | V ph Hz           | 400V (+/-10%) 3ph 50Hz |       |       |       |
| Secondary supply voltage             | V                 | 24 V AC                |       |       |       |
| Digital thermostat                   |                   | TX200                  |       |       |       |
| <b>Compressor</b>                    |                   |                        |       |       |       |
| Compressor type                      |                   | Scroll                 |       |       |       |
| Quantity - Number of circuits        | no.               | 1 - 1                  |       |       |       |
| Max. power draw                      | kW                | 8.6                    | 10.1  | 11.6  | 13.3  |
| Max. current draw                    | A                 | 15                     | 17.3  | 18.8  | 23    |
| <b>Axial Fan</b>                     |                   |                        |       |       |       |
| Fan type                             |                   | Axial                  |       |       |       |
| Quantity                             | no.               | 2                      | 2     | 2     | 2     |
| Air flow rate                        | m <sup>3</sup> /h | 10000                  | 10000 | 10000 | 10000 |
| Max. power draw                      | kW                | 1.4                    | 1.4   | 1.4   | 1.4   |
| Max. current draw                    | A                 | 2.8                    | 2.8   | 2.8   | 2.8   |
| <b>Centrifugal Fan (optional)</b>    |                   |                        |       |       |       |
| Fan type                             |                   | Centrifugal            |       |       |       |
| Quantity                             | no.               | 2                      | 2     | 2     | 2     |
| Air flow rate                        | m <sup>3</sup> /h | 10000                  | 10000 | 10000 | 10000 |
| Available head                       | Pa                | 250                    | 250   | 220   | 220   |
| Max. power draw                      | kW                | 3                      | 3     | 3     | 3     |
| Max. current draw                    | A                 | 6                      | 6     | 6     | 6     |
| <b>Standard Pump</b>                 |                   |                        |       |       |       |
| Pump type                            |                   | Screw pump             |       |       |       |
| Quantity                             | no.               | 1                      | 1     | 1     | 1     |
| Nominal fluid flow rate              | l/min             | 120                    | 120   | 120   | 120   |
| Nominal available head               | bar               | 20                     | 20    | 20    | 20    |
| Max. power draw                      | kW                | 6                      | 6     | 6     | 6     |
| Max. current draw                    | A                 | 10.2                   | 10.2  | 10.2  | 10.2  |
| Storage tank capacity (optional)     | l                 | 220                    |       |       |       |
| IN/OUT liquid connections            | inch              | 1 1/2"                 |       |       |       |
| Net weight (approximate)***          | kg                | 440                    | 460   | 500   | 520   |
| Width                                | mm                | 844                    |       |       |       |
| Depth                                | mm                | 1759                   |       |       |       |
| Height                               | mm                | 1485                   |       |       |       |
| Sound pressure level**               | dB(A)             | 70                     | 70    | 70    | 70    |
| IP rating                            | IP                | 44                     |       |       |       |

\* Data relating to operation under the following conditions: intake/outlet temperature 40/30°C, ISO VG 32 oil, ambient temperature 32°C. Cooling power refers to the evaporator unit.

\*\* Sound pressure level, measured in a free hemispherical field at a distance of 1 m from the machine and 1.5 metres from the ground, per ISO 3746.

\*\*\* Weight includes pallets and packaging (where provided for), with refrigerant charge, without storage tank and axial fans.

\*\*\*\* The electrical data refer to cos φ = 0.8.

| Correction factors for calculating the cooling power |    |        |           |      |           |      |           |      |           |      |           |      |
|--|----|--------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|
| Oil outlet temperature                               | Fo | °C     | 20        | 25   | 30        | 35   |           |      |           |      |           |      |
|  |    | factor | 0.82      | 0.92 | 1         | 1.05 |           |      |           |      |           |      |
| Ambient Temperature                                  | Fa | °C     |           |      |           | 15   | 20        | 25   | 32        | 35   | 40        | 45   |
|  |    | factor |           |      |           | 1.16 | 1.1       | 1.05 | 1         | 0.97 | 0.91      | 0.84 |
| Oil type   | Ft | type   | ISO VG 10 |      | ISO VG 22 |      | ISO VG 32 |      | ISO VG 46 |      | ISO VG 68 |      |
|  |    | factor | 1.15      |      | 1.1       |      | 1         |      | 0.9       |      | 0.82      |      |
| Cooling power = Nominal cooling power x Fo x Fa x Ft |    |        |           |      |           |      |           |      |           |      |           |      |

# TCOD4-G8 Size 5

Industrial oil chillers

## COOLING CAPACITY

41400 - 46100 - 56600 - 65600 - 75200 W



### AIR CONDENSER

Finned high-efficiency copper tube condensing coil, complete with safety grille.

### AXIAL FAN

Axial fan (connected in tandem for E0, E4), complete with thermal cut-out and safety grille.

### LIQUID CIRCUIT

Hydraulic circuit with screw pump without tank, with maximum available pressure 20 bar, pressure limiting valve calibrated at 10 bar, 0-25 bar oil pressure gauge, protective flow switch, temperature regulation sensor.

### ELECTRICAL PANEL

With main disconnect switch, relay motor protection, phase sequence relays.

### MANAGEMENT AND CONTROL

The TX400 control unit manages the operation of the chiller and provides complete operator alarm diagnostics. An on-off contact allows the machine to be switched on remotely. Illuminated control selector. Dual remote ON-OFF. RS485 connection. Possibility of remote display for machine regulation.

### PAINT/COATING

Standard colour: RAL 7035 textured.

### STRUCTURE

In powder-coated steel sheet, RAL 7035 textured finish. Easily removed panels

### COMPRESSOR

Hermetic scroll compressor, cooled by the refrigerant, complete with thermal cut-out.

### REFRIGERATION CIRCUIT

Complete with charging port, safety valve, liquid receiver, drier filter, liquid inspection port, solenoid valve, thermostatic valve, high- and low-pressure pressure switch, R410A refrigerant. Stepped cooling power regulation, 2 steps on models TCW E0-E4-F7-G8.

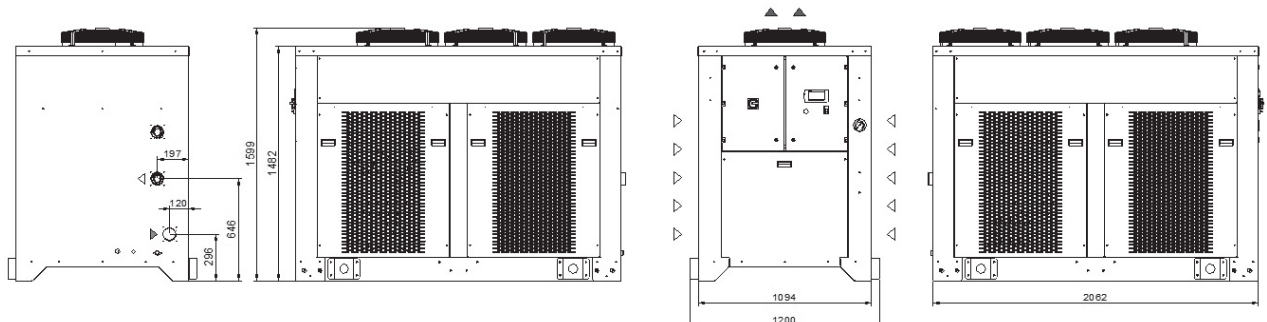
### EVAPORATOR

With brazed stainless-steel plates and temperature sensor for protection against freezing.

### MAIN ACCESSORIES (ref. page 189)

- HR - Oil heating element
- LTA - Operation at low ambient temperatures
- FP - Polyurethane air filter
- RU - Castors
- TD - Differential fluid temperature management (two sensors)
- FL - Customer flow switch
- Non-standard paint/coating
- Satin AISI 304 stainless steel framework
- Temperature Precision +/- 1 K

## Dimensions



| Model                                |                   | TCOD4                  | TCOE0  | TCOE4  | TCOF7  | TCOG8  |
|--------------------------------------|-------------------|------------------------|--------|--------|--------|--------|
| <b>Rated Cooling Capacity*</b>       | W                 | 41400                  | 46100  | 56600  | 65600  | 75200  |
| Ambient temperature operating limits | °C                | +15 - +45              |        |        |        |        |
| Settable fluid temperature range     | °C                | +25 - +40              |        |        |        |        |
| Fluid type                           |                   | ISO VG - 32            |        |        |        |        |
| Temperature precision                | K                 | +/-2                   |        |        |        |        |
| Refrigerant gas                      | HFC               | R410A                  |        |        |        |        |
| <b>Power supply</b>                  |                   |                        |        |        |        |        |
| Supply voltage                       | V ph Hz           | 400V (+/-10%) 3ph 50Hz |        |        |        |        |
| Secondary supply voltage             | V                 | 24 V AC                |        |        |        |        |
| Digital thermostat                   |                   | TX400                  |        |        |        |        |
| <b>Compressor</b>                    |                   |                        |        |        |        |        |
| Compressor type                      |                   | Scroll                 |        |        |        |        |
| Quantity - Number of circuits        | no.               | 1 - 1                  | 2 - 1  |        | 2 - 2  |        |
| Max. power draw                      | kW                | 14.8                   | 16.7   | 20.2   | 23.2   | 26.6   |
| Max. current draw                    | A                 | 25.3                   | 29.8   | 34.5   | 37.6   | 46     |
| <b>Axial Fan</b>                     |                   |                        |        |        |        |        |
| Fan type                             |                   | Axial                  |        |        |        |        |
| Quantity                             | no.               | 3                      | 3      | 3      | 3      | 3      |
| Air flow rate                        | m <sup>3</sup> /h | 17000                  | 17000  | 17000  | 17000  | 17000  |
| Max. power draw                      | kW                | 2.1                    | 2.1    | 2.1    | 2.1    | 2.1    |
| Max. current draw                    | A                 | 4.2                    | 4.2    | 4.2    | 4.2    | 4.2    |
| <b>Centrifugal Fan (optional)</b>    |                   |                        |        |        |        |        |
| Fan type                             |                   | Centrifugal            |        |        |        |        |
| Quantity                             | no.               | 3                      | 3      | 3      | 3      | 3      |
| Air flow rate                        | m <sup>3</sup> /h | 17000                  | 17000  | 17000  | 17000  | 17000  |
| Available head                       | Pa                | 260                    | 260    | 260    | 230    | 230    |
| Max. power draw                      | kW                | 4.5                    | 4.5    | 4.5    | 4.5    | 4.5    |
| Max. current draw                    | A                 | 9                      | 9      | 9      | 9      | 9      |
| <b>Standard Pump</b>                 |                   |                        |        |        |        |        |
| Pump type                            |                   | Screw pump             |        |        |        |        |
| Quantity                             | no.               | 1                      | 1      | 1      | 1      | 1      |
| Nominal fluid flow rate              | l/min             | 220                    | 220    | 220    | 220    | 220    |
| Nominal available head               | bar               | 10                     | 10     | 10     | 10     | 10     |
| Max. power draw                      | kW                | 11                     | 11     | 11     | 11     | 11     |
| Max. current draw                    | A                 | 19.5                   | 19.5   | 19.5   | 19.5   | 19.5   |
| Storage tank capacity (optional)     | l                 | 250                    |        |        |        |        |
| IN/OUT liquid connections            | inch              | 2 1/2"                 | 2 1/2" | 2 1/2" | 2 1/2" | 2 1/2" |
| Net weight (approximate)***          | kg                | 580                    | 620    | 660    | 710    | 730    |
| Width                                | mm                | 1094                   |        |        |        |        |
| Depth                                | mm                | 2062                   |        |        |        |        |
| Height                               | mm                | 1599                   |        |        |        |        |
| Sound pressure level**               | dB(A)             | 72                     | 72     | 72     | 72     | 72     |
| IP rating                            | IP                | 44                     |        |        |        |        |

\* Data relating to operation under the following conditions: intake/outlet temperature 40/30°C, ISO VG 32 oil, ambient temperature 32°C. Cooling power refers to the evaporator unit.

\*\* Sound pressure level, measured in a free hemispherical field at a distance of 1 m from the machine and 1.5 metres from the ground, per ISO 3746.

\*\*\* Weight includes pallets and packaging (where provided for), with refrigerant charge, without storage tank and axial fans.

\*\*\*\* The electrical data refer to cos φ = 0.8.

| Correction factors for calculating the cooling power |           |        |                  |           |                  |           |                  |           |                  |           |                  |           |
|--|-----------|--------|------------------|-----------|------------------|-----------|------------------|-----------|------------------|-----------|------------------|-----------|
| <b>Oil outlet temperature</b>                        | <b>Fo</b> | °C     | <b>20</b>        | <b>25</b> | <b>30</b>        | <b>35</b> |                  |           |                  |           |                  |           |
|  |           | factor | 0.82             | 0.92      | 1                | 1.05      |                  |           |                  |           |                  |           |
| <b>Ambient Temperature</b>                           | <b>Fa</b> | °C     |                  |           |                  | <b>15</b> | <b>20</b>        | <b>25</b> | <b>32</b>        | <b>35</b> | <b>40</b>        | <b>45</b> |
|  |           | factor |                  |           |                  | 1.16      | 1.1              | 1.05      | 1                | 0.97      | 0.91             | 0.84      |
| <b>Oil type</b>                                      | <b>Ft</b> | type   | <b>ISO VG 10</b> |           | <b>ISO VG 22</b> |           | <b>ISO VG 32</b> |           | <b>ISO VG 46</b> |           | <b>ISO VG 68</b> |           |
|  |           | factor | 1.15             |           | 1.1              |           | 1                |           | 0.9              |           | 0.82             |           |
| Cooling power = Nominal cooling power x Fo x Fa x Ft |           |        |                  |           |                  |           |                  |           |                  |           |                  |           |