engineering for a better world



# AFC Compact Systems: GEA Searle KLe Air Cooler

## Top-level engineering solutions

GEA Heat Exchangers

*For full selection data either refer to the Selection data tables or use the Searle selection software, either online or via your local GEA Searle representative.*





# Commercial Air Coolers
## AFC Compact Systems

GEA Searle's wide range of commercial unit coolers guarantee the continued excellence of our product range in terms of innovation, design and performance to offer the ideal cooler at a competitive price. They are the 1st choice product for their proven design and reliability, the range comes with many benefits which is often utilised across many industries the applications include small and large cold rooms and cabinets, warehouses, food storage and preparation rooms, freezers and blast freezing.

For more information, please refer to our Selection Software program or selection data tables. Alternatively a fully interactive version of selection software is available online at www.searle.co.uk, where it is possible to view all brochures and Installation & Maintenance manuals.

# Commercial Air Coolers general features
## AFC Compact Systems



### Motors & Fansets

GEA Searle selects the optimum combination of motors and fans to deliver the best performance for the cooler size and application range. All motors and fansets are verified for power input and air volume in our Research & Development department. Specific motor data details are provided in the relevant section for each cooler type.

### EC

EC fansets offer the optimum in energy efficient performance combined with low noise levels and high reliability. The KEC and TEC Cooler range uses EC fansets as standard making them the most energy efficient cooler products available. Energy usage can be less than 50% of that of similar products, resulting in a product with a reduced payback period. Additional benefits include;-

- Internal motor protection
- Long service life
- High efficiency across the full operating range

For more information on EC fansets please see "Energy Efficient Fansets" in this catalogue

### Casework

The standard GEA Searle cooler casework is white powder coated, oven cured at 180$^{o}$C to provide a hard durable finish. The JG, KLe and NS coolers are manufactured using aluminium casework, while the TEC, KEC, KMe and DSR all utilise galvanised steel casing.

### Blygold® Coating (Optional)

GEA Searle specialist coating facility, where a Blygold® coating is applied and cured to protect the finned coils against harsh environmental conditions such as erosion by sand or salt. It provides a barrier and avoids the risk of electrolytic reactions between the two metals involved. The coating contains aluminium, in order to maintain the thermal performance of the coil, resulting in an extension of the lifetime, maximum cooling capacity and reduction of energy costs. The coating is oriented in such a way that it creates a very high chemical resistance at low layer thickness.



The Blygold® concept is a revolutionary product created to prevent corrosion which will ultimately reduce energy costs.





The duties presented in the specification tables are nominal. Tests are conducted in accordance with EN 328 under dry conditions which allows performance to stabilise and permits measurement over a prolonged period. The wet catalogue capacities are calculated from the dry capacities using the ratios given in the Eurovent Standard 7/C/001.



| Refrigeration | R404A | R134a | R507A | R407A/F | R407C |
|---|---|---|---|---|---|
| Capacity factor (dew point, DT1) | 1.00 | 0.91 | 0.97 | 1.18* | 1.35* |
| Refrigerant charge density (kg/dm$^3$) | 0.312 | 0.338 | 0.313 | 0.332 | 0.332 |

*Dew point capacity factors for refrigerants with high glide apply only at the nominal rating condition. Mid point factors can be used for all conditions. Refrigerant Charge Densities based on 25% of the internal volume being liquid.



# Commercial Air Coolers
## AFC Compact Systems

### Range benefits

The GEA Searle range of commercial unit coolers combine versatility and aesthetic design with consistent performance to offer the ideal cooler at a competitive price. They are typically the 1st choice product for the following applications due to their proven design and reliability :-

- Cold rooms
- Food storage
- Food preparation
- Cool cabinets

GEA Searle coolers are approved for many supermarkets across the world and are used extensively in convenience stores, commercial refrigeration applications and many industrial & agricultural projects.

### Selection software

Due to the large number of models available and the range of alternative refrigerants, selection of the optimum cooler is best performed using the latest Searle Selection Software. The software can be obtained either as a CD, direct from your GEA Searle representative or dowloaded from the GEA Searle website, where it is also possible to view all brochures and installation & maintenance data.

### Energy efficient

With the increasing importance of energy efficiency as part of the selection criteria, the new GEA Searle coolers utilise fansets which offer significant energy savings over traditional motor assemblies. The KEC and TEC cooler have high efficiency EC fans as standard across the range.

### Assured performance

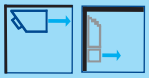
All our commercial unit coolers where applicable are certified under the Eurovent Certify All" programme to guarantee that every unit will perform as specified.

### Availability

Many of the models in the commercial unit cooler ranges are available ex-stock from your local distributor, with backup stocks held at the UK manufacturing plant centre.

### Backing our beliefs

We offer 24 months warranty on all products in the range, with 24 months warranty on all coolers (subject to standard Terms & Conditions of Sale and excluding corrosion through misapplication).

| | Models | No fans | Configuration | Eurovent |
|---|---|---|---|---|
|  | JG | 1 - 3 |  | ✔ |
|  | TEC* | 1 - 3 |  | ✔ |
|  | NS | 1 - 4 |  | ✔ |
|  | KEC* | 1 - 3 |  | ✔ |
|  | KMe | 1 - 4 |  | ✔ |
|  | KLe | 1 - 3 |  | ✔ |
|  | DSR* | 1 - 4 |  | ✔ |

✔ Yes X No O Option

| | Options | | | | | | | Capacity KW @ 8 kTD |
|---|---|---|---|---|---|---|---|---|
| | Suppy | EC Fans | Standard Electric Defrost | Heavy Electric Defrost | Hot Gas Defrost A/B/C/D | CO2 | Fin Materials | 1 — 10 — 100 |
| | 1 ph | X | ✔ Kit | X | X | X | Al | 0.3 - 1.6 kW |
| | 1 ph | ✔ | ✔ Kit | X | X | X | Al | 0.5 - 3.4 kW |
| | 1 ph | X | ✔ | X | X | X | Al | 1.7 - 6.9 kW |
| | 1 ph | ✔ | ✔ | X | ✔ | ✔ | Al | 1.2 - 10.5 kW |
| | 1 & 2 ph | O | ✔ | ✔ | ✔ | ✔ | Al | 5.7 - 28 kW |
| | 3 ph | ✔ | ✔ | X | ✔ | ✔ | Al | 8 -51 kW |
| | 1 ph | X | ✔ | X | ✔ | ✔ | Al | 0.8 - 15 kW |

**Note:** * See page 196 for CO2 variations of these coolers

# KLe Air Cooler
## AFC Compact Systems



KLe 75 - 5 L

| | |
|---|---|
| Range | KLe |
| Model | 75, 90, 130, 165, 195, 245, 260, 330 |
| Fin Spacing | 5 mm , 7 mm |
| Defrost | En blanco = Sin desescarche, L = Desescarche eléctrico |

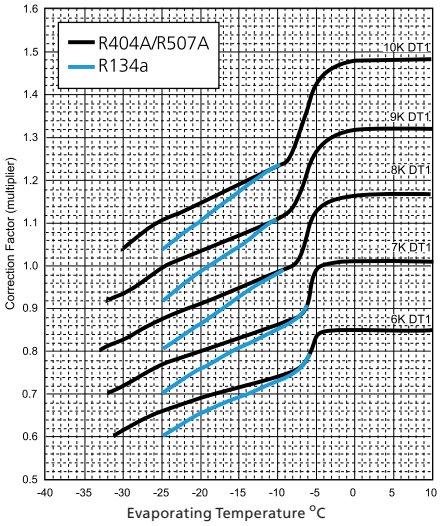


## KLe Air Cooler

The KLe range extends the K series to coolers with up to 52kW with an operating temperature range of -30°C to +50°C. The KLe range of coolers are ideally suited to larger coldstores, small food storage warehouses and various commercial applications. With the large number of coolers and available refrigerants it is recommended to employ the GEA Searle Selection Software to fnd the optimum model. The GEA Searle Selection Software can be obtained from your local GEA Searle representative or from our website www.searle.co.uk.

The KLe has smooth aluminium casework, with a high quality powder coated finish which makes the KLe easy to clean and offers considerable corrosion protection, ideal for all applications were food is present. Both end panels are easily removed for access to the terminal box and fitting of an expansion valve.The coils are constructed of copper tubes with aluminium fns and coil end plates, and are available in a choice of 5mm or 7mm fn spacing. The 500mm 3-phase fans motors are wired to the internal terminal box and offer built-in motor protection with a voltage range of 400V +/- 10%, 50/60Hz.The KLe is available as a low temperature model with electric defrost heaters which are mounted in special tube sleeves for rapid and even defrosting. These are also wired back to the internal terminal box.

### KLe Cooler DT1 - WET




## KLe Options

- EC fansets
- Air streamers - To extend the air throw of the standard 500mm fanset.
- Mounting set for hinged drain tray - for easy and quick cleaning.
- Wall bracket - Galvanised steel

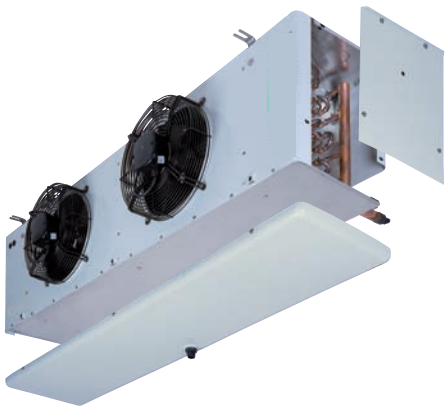
| Refrigeration | R404A | R134a | R507A | R407A/F | R407C |
|---|---|---|---|---|---|
| Capacity factor (dew point, DT1) | 1.00 | 0.91 | 0.97 | 1.18* | 1.35* |
| Refrigerant charge density (kg/dm³) | 0.312 | 0.338 | 0.313 | 0.332 | 0.332 |

* Capacity factors for refrigerants with high glide apply only at the nominal rating condition.Refrigerant charge densities are based on 25% of the internal volume being liquid.

### Correction factors

(Multiply capacity by appropriate correction factor to give performance at chosen conditions)





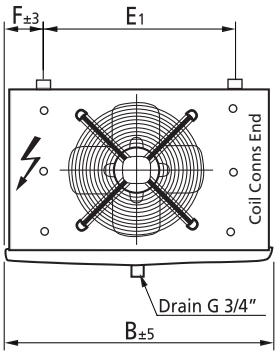
# KLe Selection data, Drawings and Dimensions

| | Model | Capacity kW 8K DT1 (SC2) | | | | Air volume | Coil Data | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | R404A | R507A | R134a | R407C | | Total surface area | Internal volume | Refrigerant charge | Connections | | Dry weight |
| | | | | | | $m^3/s$ | $m^2$ | $dm^3$ | kg | Inlet | Outlet | kg |
| 5 mm | KLe75-5 | 11.3 | 11.0 | 10.3 | 11.4 | 1.62 | 36.3 | 7.6 | 2.3 | 15 | 35 | 50 |
| | KLe90-5 | 13.1 | 12.7 | 11.9 | 13.2 | 1.46 | 54.2 | 11.1 | 3.4 | 15 | 35 | 60 |
| | KLe130-5 | 21.7 | 21.0 | 19.7 | 21.9 | 3.22 | 72.7 | 14.3 | 4.4 | 15 | 42 | 89 |
| | KLe165-5 | 25.7 | 24.9 | 23.4 | 26.0 | 2.92 | 108.3 | 21.5 | 6.6 | 22 | 42 | 109 |
| | KLe195-5 | 33.4 | 32.4 | 30.4 | 33.7 | 4.84 | 109.2 | 21.3 | 6.5 | 22 | 54 | 136 |
| | KLe245-5 | 38.3 | 37.2 | 34.9 | 38.7 | 4.4 | 162.7 | 32.2 | 9.8 | 22 | 54 | 164 |
| | KLe260-5 | 43.5 | 42.2 | 39.6 | 43.9 | 6.44 | 145.5 | 28.6 | 8.7 | 22 | 54 | 178 |
| | KLe330-5 | 51.6 | 50.1 | 47.0 | 52.1 | 5.86 | 216.9 | 41.0 | 12.5 | 28 | 54 | 221 |
| 7 mm | KLe75-7 | 8.8 | 8.5 | 8.0 | 8.8 | 1.74 | 24.3 | 7.6 | 2.3 | 15 | 35 | 48 |
| | KLe90-7 | 11.1 | 10.8 | 10.1 | 11.2 | 1.64 | 36.3 | 11.1 | 3.4 | 15 | 35 | 58 |
| | KLe130-7 | 17.1 | 16.6 | 15.6 | 17.3 | 3.48 | 48.6 | 14.3 | 4.4 | 15 | 42 | 86 |
| | KLe165-7 | 21.9 | 21.2 | 19.9 | 22.1 | 3.26 | 72.5 | 21.5 | 6.6 | 22 | 42 | 105 |
| | KLe195-7 | 26.0 | 25.2 | 23.7 | 26.3 | 5.2 | 73.0 | 21.3 | 6.5 | 22 | 54 | 132 |
| | KLe245-7 | 32.6 | 31.6 | 29.7 | 32.9 | 4.9 | 108.8 | 32.2 | 9.8 | 22 | 54 | 159 |
| | KLe260-7 | 34.2 | 33.2 | 31.1 | 34.5 | 6.94 | 97.1 | 28.6 | 8.7 | 22 | 54 | 173 |
| | KLe330-7 | 43.8 | 42.5 | 39.9 | 44.2 | 6.54 | 144.8 | 41.0 | 12.5 | 28 | 54 | 215 |

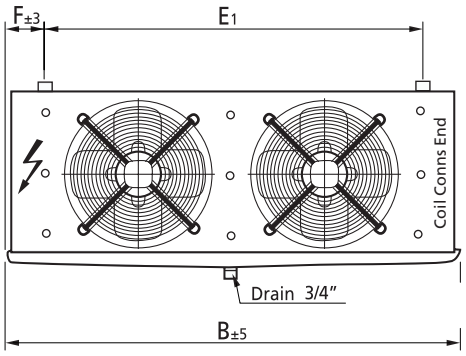
| Model | Fans & Motors | | | | 400V-3ph-50 | | | Electric defrost | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. of fans | Speed | Air throw terminal velocity 0.25 m/s | Noise level ** | (†) Total power | FLC Amps | SC Amps | 400V-3ph-50 Standard | | |
| | | | | | | | | Coil | Pan | Total |
| | | rpm | m | dB(A) | Input W | Per Fan | Per Fan | W | W | W |
| KLe75 | 1 | 1360 | 17 | 83 | 560 | 1.01 | 5.0 | 3520 | 500 | 4020 |
| KLe90 | 1 | 1360 | 16 | 83 | 560 | 1.01 | 5.0 | 5520 | 500 | 6020 |
| KLe130 | 2 | 1360 | 22 | 86 | 1120 | 1.01 | 5.0 | 6740 | 860 | 7600 |
| KLe165 | 2 | 1360 | 21 | 86 | 1120 | 1.01 | 5.0 | 10110 | 860 | 10970 |
| KLe195 | 3 | 1360 | 26 | 88 | 1680 | 1.01 | 5.0 | 9200 | 1820 | 11020 |
| KLe245 | 3 | 1360 | 24 | 88 | 1680 | 1.01 | 5.0 | 13800 | 1820 | 15620 |
| KLe260 | 4 | 1360 | 28 | 89 | 2240 | 1.01 | 5.0 | 12720 | 2390 | 15110 |
| KLe330 | 4 | 1360 | 26 | 89 | 2240 | 1.01 | 5.0 | 19080 | 2390 | 21470 |

Note:
** For average sound pressure levels at 3 m in free field conditions, deduct 18dB.
** For a typical cold store, reflection coil create noise levels up to 8dB higher.

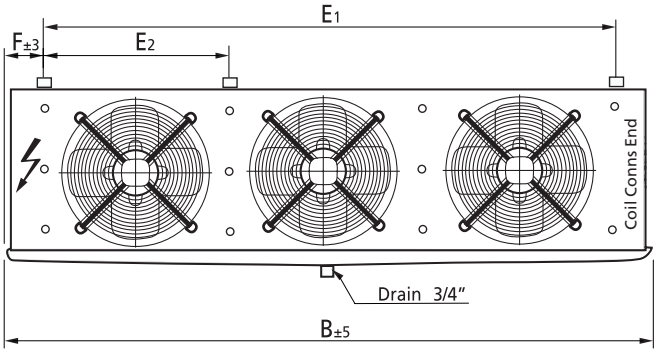
KLe 75 - 90

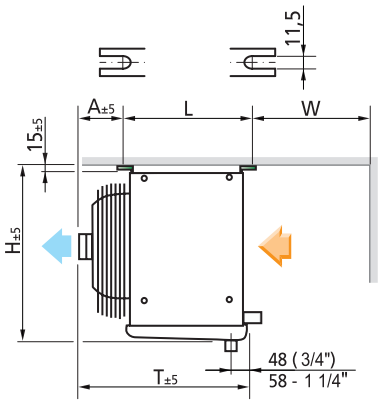



KLe 130 - 165

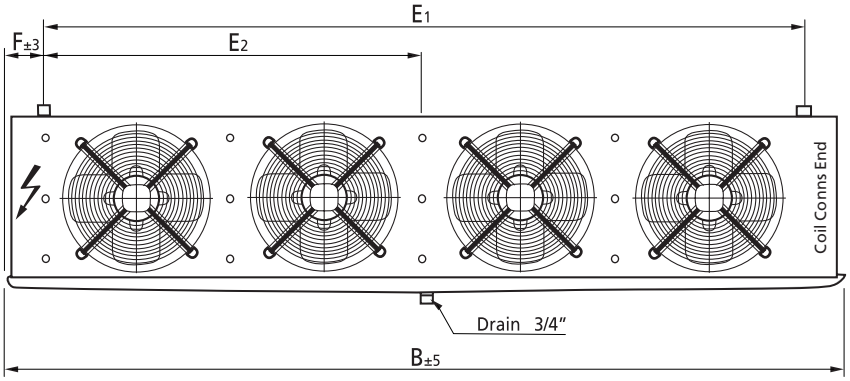



KLe 195 - 245

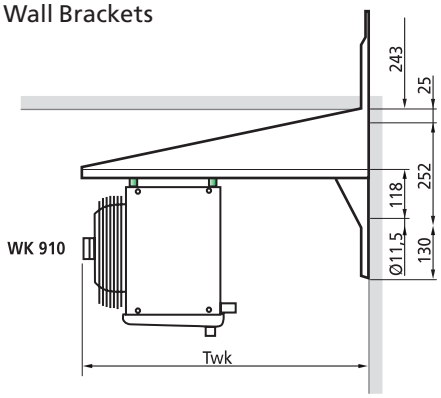



KLe 260 - 330




Wall Brackets




| Model | Dimensions (mm) | | | | | | | | | | Dry weights | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | H | B | T | L | $E_1$ | $E_2$ | $E_3$ | F | A | W | 5mm | 7mm |
| | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | kg | kg |
| KLe75 | 661 | 1430 | 592 | 500 | 1030 | - | - | 200 | 110 | 400 | 50 | 48 |
| KLe90 | 661 | 1430 | 592 | 500 | 1030 | - | - | 200 | 110 | 400 | 60 | 58 |
| KLe130 | 661 | 2430 | 592 | 500 | 2030 | - | - | 200 | 110 | 400 | 89 | 86 |
| KLe165 | 661 | 2430 | 592 | 500 | 2030 | - | - | 200 | 110 | 400 | 109 | 105 |
| KLe195 | 661 | 3430 | 592 | 500 | 3030 | 1000 | - | 200 | 110 | 400 | 136 | 132 |
| KLe245 | 661 | 3430 | 592 | 500 | 3030 | 1000 | - | 200 | 110 | 400 | 164 | 159 |
| KLe260 | 661 | 4430 | 592 | 500 | 4030 | 2000 | - | 200 | 110 | 400 | 178 | 173 |
| KLe330 | 661 | 4430 | 592 | 500 | 4030 | 2000 | - | 200 | 110 | 400 | 221 | 215 |

Excellence Passion Integrity Responsibility GEA-versity

GEA Group is a global mechanical engineering company with multi-billion euro sales and operations in more than 50 countries. Founded in 1881 the company is one of the largest providers of innovative equipment and process technology. GEA Group is listed in the STOXX Europe 600 Index.

GEA Heat Echangers

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