searle

KMe Unit Coolers

EUROVENT CERTIFIED PERFORMANCE

CERTIFY-ALL
Direct Expansion
UNIT AIR COOLERS

BSI REGISTERED

UKAS QUALITY MANAGEMENT
003

Commercial Unit Coolers

The 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**

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 across the cooler ranges 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 Searle representative or dowloaded from the Searle website.

Alternatively a fully interactive version of the selection software is available on-line at www.searle.co.uk where it is also possible to view all brochures and installation & maintenance data.

Range Benefits

Energy efficient

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

Assured performance

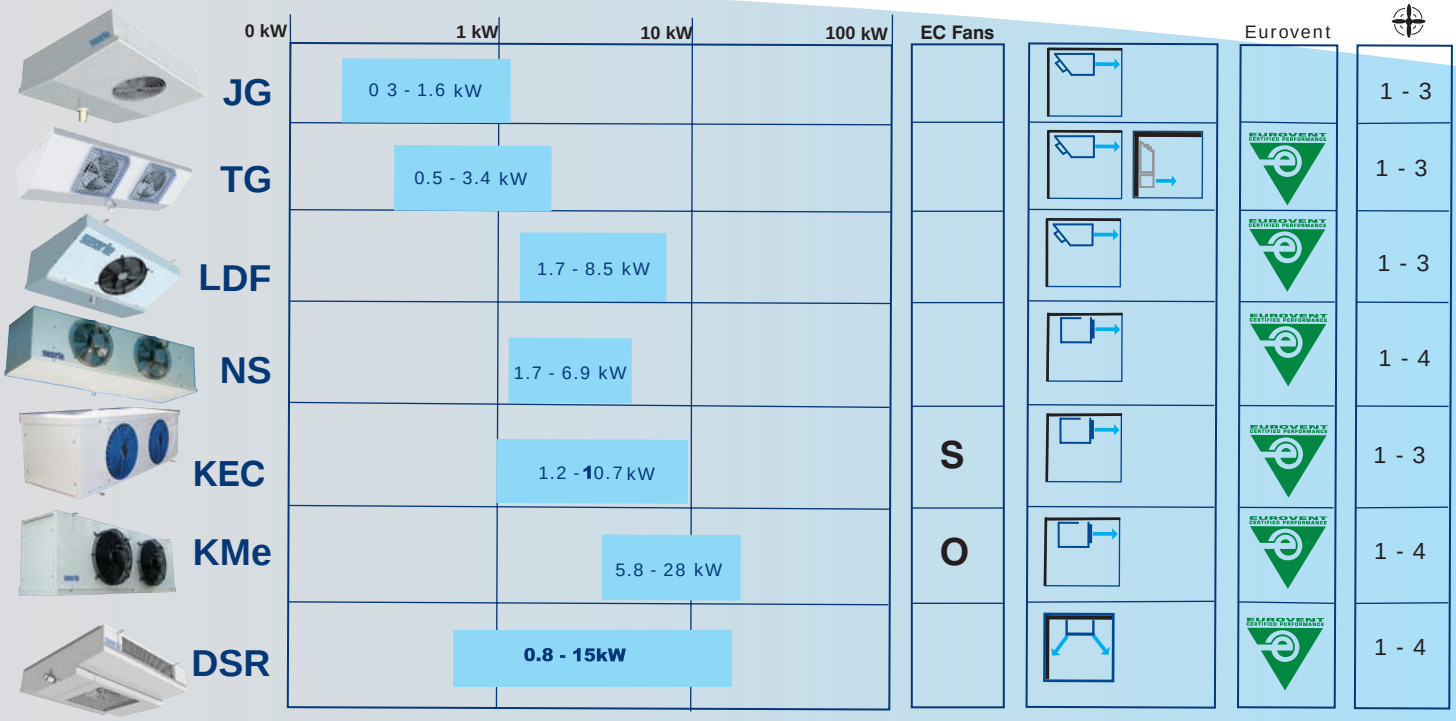
All our commercial unit coolers are certified under the Eurovent "Certify All" programme to guarantee that every unit will perform as specified.

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



Note:
S = Standard EC fansets
O = Optional EC fansets

General Range Features

Motors & Fansets
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.

Casework
The standard Searle cooler casework is white powder coated, oven cured at 180°C to provide a hard durable finish. The JG and NS coolers are manufactured using aluminium casework, while the TG, LDF, KEC, KMe and DSR all utilise galvanised steel casing.

Thermoguard™ Coating (Optional)
Searle has installed a purpose built coating facility to apply the Thermoguard™ coil protection coating to any size of coil. Thermoguard withstands almost all chemical vapour exposure conditions and is ideal for the following application areas :-

- Corrosive environments
- Aggressive industrial areas

CE Marking
Searle's coolers are CE marked under the 'Low Voltage Directive'. Under the 'Pressure Equipment Directive', all are category 1 or 'SEP' and therefore excluded from it.

CE

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

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

For more information on EC fansets - please see Searle brochure " Energy efficient fansets".

Quality Assured
Searle is a quality assured under the Eurovent ISO 9001: 2000 encompassing Performance Testing, Manufacturing Systems and Inspection Procedures.

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Eurovent Certification
The range is certified under the Eurovent CERTIFY - ALL cooler program, with performances rated in accordance with EN328. Data covered includes: capacity, fan power and air flow rate,

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Range Features

	HCFC	Glycol	CO2	3 Phase Option	EC	Standard Electric Defrost	Heavy Electric Defrost	Hot Gas Defrost (A/B/C/D)	Fin Materials
JG	●					● Kit			Al
TG	●	●				● Kit			Al, Av, Cu
LDF	●	●				●			Al
NS	●	●				●			Al
KEC	●	●	●		S	●		●	Al, Av, Cu
KMe	●	●	●	●	●	●	●	●	Al, Av, Cu
DSR	●	●	●			●		●	Al, Av, Cu

Note:
S = Standard EC fansets

KMe

The KMe range of coolers is ideally suited to large cold rooms and small warehouses where an efficient solution is required. The KMe can also be used for industrial food processing and agricultural applications.

To find the option model from the range it is recommened to use the Searle Selection Software.

The KMe utilises the unique Searle 'D' fin which has been specifically developed for refrigeration applications. The 'D' fin utilises ½" outside diameter tube with extended inner surface – 'rifle bore' – to maximise performance and balances the requirements of high efficiency heat transfer with the need to have secondary surface on which to deposit frost and maximise the periods between defrosts. All coils are tested to 35.8 bar and have a maximum operating pressure of 20.7 bar [except CO2 coils – see separate technical brochure]

KMe Options :-

- EC Fans
- Air streamer – to extend the air throw of the standard 400mm fanset
- Forkguard – a guard system to prevent accidental damage from forklift trucks or similar when siting the cooler at low level.
- Axial fans – for significantly increased air throw or for external pressure of 120Pa.
- Peripheral Heaters – available in conjunction with axial fans, recommended for applications below 0°C.
- Heavy Electric Defrost – comprises additional coil block heaters to increase the total defrost load by approximately 40%.
- Fan Plate Heaters – to prevent fan blade contact with frost build up at low temperatures.

KMe140-6L-AV-3PH-CO2-EC

Range	KMe
Model	50, 60, 80, 95, 115, 140, 175
Fin Spacing	4mm, 6mm, 8mm
Defrost	Blank = High temperature, L = Standard Electric , L2 = Heavy Duty Electric HG = Hot Gas, D = Coil & Tray / E = Electric Tray, A / B / C / D = type
Fin Material	blank = Aluminium, AV = Vinyl coated Aluminium, CU = Copper,
Electrical Supply	Blank = 1PH, 3PH
Refrigerant	Blank = HCFC, GLY= Glycol, CO2 = Carbon Dioxide
Fanset Options	Blank = Standard 400mm fanset Ax = Axial, EC = EC Fanset

Selection Data

	Model	Capacity kW 8K DT1 (SC2) *				Air volume	Coil Data					
		R404A	R507A	R134a	R407C		Total surface area	Internal volume	Ref charge	Connections		Dry weight
						m^3/s	m^2	dm^3	kg	Inlet	Outlet	kg
4mm	KMe50-4	7.36	7.14	6.70	8.76	0.89	37.8	6.7	2.1	1/2″	1 1/8″	85
	KMe60-4	8.70	8.44	7.92	10.35	0.96	56.0	9.5	2.9	5/8″	1 1/8″	112
	KMe80-4	12.21	11.84	11.11	14.53	1.89	50.4	8.4	2.6	5/8″	1 1/8″	129
	KMe95-4	14.78	14.34	13.45	17.59	1.78	75.6	12.5	3.9	5/8″	1 1/8″	139
	KMe115-4	18.41	17.86	16.75	21.91	2.83	75.6	12.2	3.8	7/8″	1 3/8″	170
	KMe140-4	22.29	21.62	20.28	26.53	2.68	113.4	18.4	5.6	7/8″	1 3/8″	195
	KMe175-4	27.92	27.08	25.41	33.22	3.45	134.4	21.6	6.6	7/8″	1 3/8″	217
6mm	KMe50-6	6.20	6.01	5.64	7.38	0.98	25.9	6.7	2.1	1/2″	1 1/8″	83
	KMe60-6	7.45	7.23	6.78	8.87	1.01	38.3	9.5	2.9	5/8″	1 1/8″	109
	KMe80-6	9.74	9.45	8.86	11.59	2.00	34.5	8.4	2.6	5/8″	1 1/8″	126
	KMe95-6	12.50	12.13	11.38	14.88	1.95	51.81	12.5	3.9	5/8″	1 1/8″	135
	KMe115-6	14.62	14.18	13.30	17.40	3.00	51.8	12.2	3.8	7/8″	1 3/8″	166
	KMe140-6	18.70	18.14	17.02	22.25	2.93	77.7	18.4	5.6	7/8″	1 3/8″	190
	KMe175-6	23.86	23.14	21.71	28.39	3.86	92.1	21.6	6.6	7/8″	1 3/8″	212
8mm	KMe50-8	5.82	5.5.65	5.30	6.93	1.02	19.9	6.7	2.1	1/2″	1 1/8″	84
	KMe60-8	6.95	6.74	6.32	8.27	1.03	29.5	9.5	2.9	5/8″	1 1/8″	110
	KMe80-8	8.75	8.49	7.96	10.41	2.05	26.5	8.4	2.6	5/8″	1 1/8″	127
	KMe95-8	11.70	11.35	10.65	13.92	2.04	39.8	12.5	3.9	5/8″	1 1/8″″	136
	KMe115-8	13.20	12.80	12.01	15.71	3.07	39.8	12.2	3.8	7/8″	1 3/8″	167
	KMe140-8	17.54	17.01	15.96	20.87	3.06	259.7	18.4	5.6	7/8″	1 3/8″	191
	KMe175-8	22.36	21.69	20.35	26.61	4.06	70.8	21.6	6.6	7/8″	1 3/8″	214

Model	Fan & Motor Specification												Electric Defrost				
	No of fans	Diameter	Speed	Air throw std/thrower ***		Noise level **	230V-1ph-50Hz			400V-3ph-50Hz			400V-3ph				
							Total † power	F.L.C amps	SC amps	Total † power	F.L.C amps	SC amps	Standard			Heavy duty	
		mm	mm	4mm m	8mm m	dB(A)	W	A	A	W	A	A	Coil W	Pan W	Total W	Coil W	Pan W
KMe50	1	400	1410	17/26	19/29	60	190	1.5	3.3	190	0.65	2.6	1590	795	2385	2650	795
KMe60	1	400	1410	19/29	22/34	60	190	1.5	3.3	190	0.65	2.6	2400	1200	3600	4000	1200
KMe80	2	400	1410	19/29	22/34	63	190	1.5	3.3	190	0.65	2.6	3180	1590	4770	5300	1590
KMe95	2	400	1410	17/26	19/29	63	190	1.5	3.3	190	0.65	2.6	3180	1590	4770	5300	1590
KMe115	3	400	1410	19/29	22/34	65	190	1.5	3.3	190	0.65	2.6	4800	2400	7200	8000	2400
KMe140	3	400	1410	17/26	19/29	65	190	15	3.3	190	0.65	2.6	4800	2400	7200	8000	2400
KMe175	4	400	1410	17/26	19/29	66	190	1.5	3.3	190	0.65	2.6	5640	2820	8460	9400	2820

Notes:

Rating conditions:

The duties shown in this catalogue are at EN 328 Standard Condition 2 (-8°C saturated suction temperature, 0°C air entering). For data on refrigerants not shown, please contact your supplier.

* DT1 is the difference between the entering air temperature and the saturated suction temperature at the outlet of the cooler.

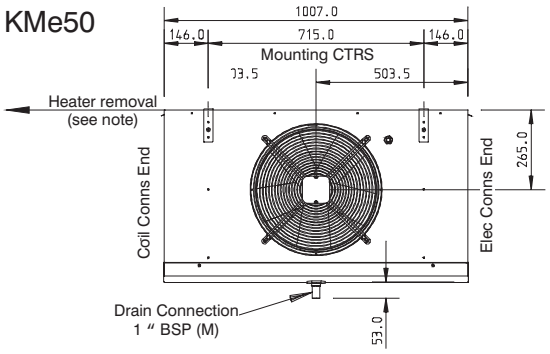
** Noise levels are based on free field conditions at a distance of 3m. Actual noise levels will depend upon cold store construction, store loading and the number of coolers installed.

*** Terminal air velocity 0.25m/s, free air conditions at 10°C. Air throw cannot be considered on absolute value because many factors have a substantial effect on the distance achieved.

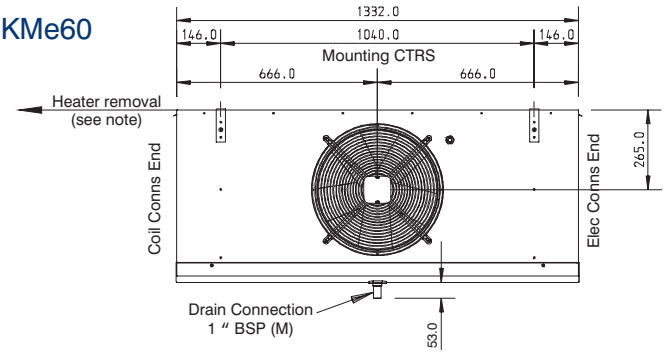
† Total Power Input at Standard Condition 2 (-8°C saturated suction temperature, 0°C air entering).

Dimensions KMe

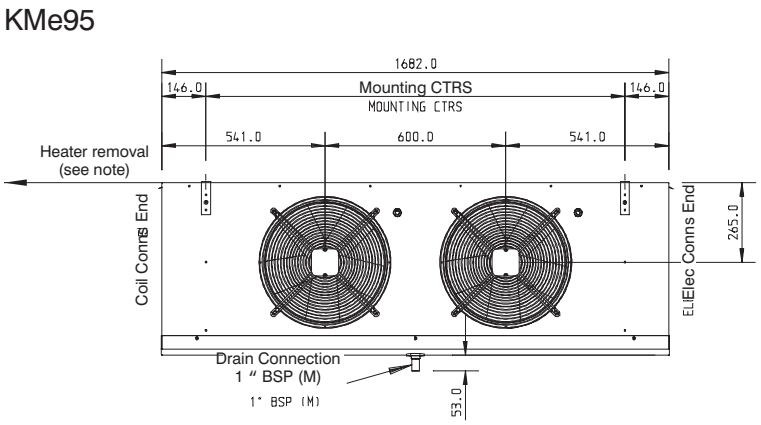
KMe50

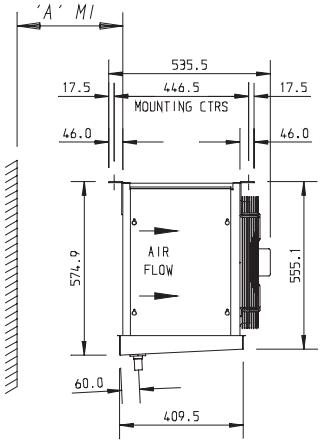


KMe60

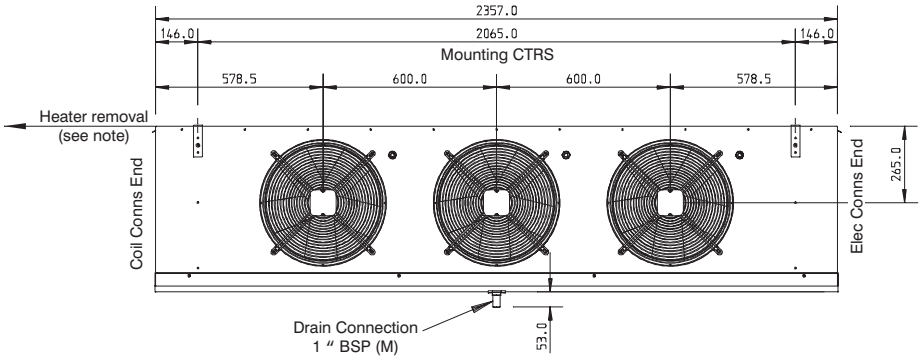


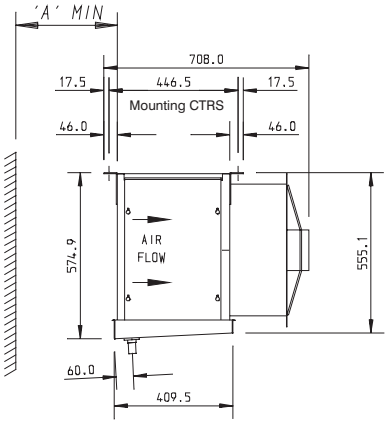
KMe80
KMe95

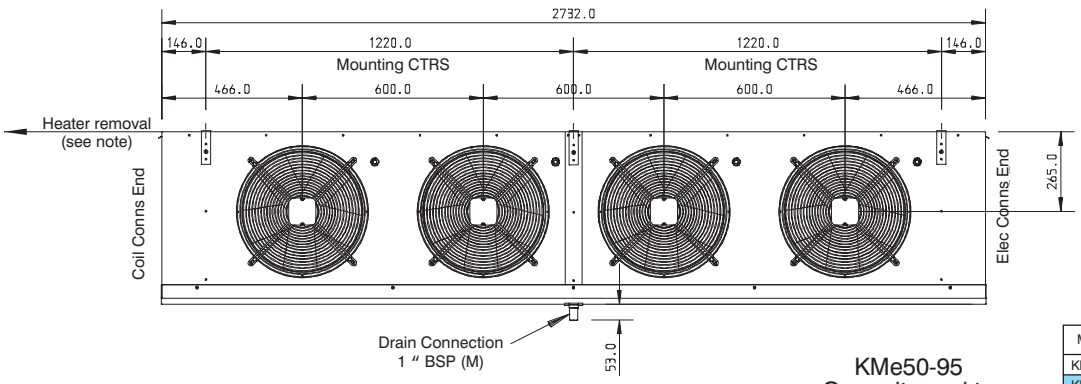


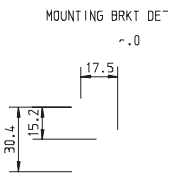


KMe115
KMe140









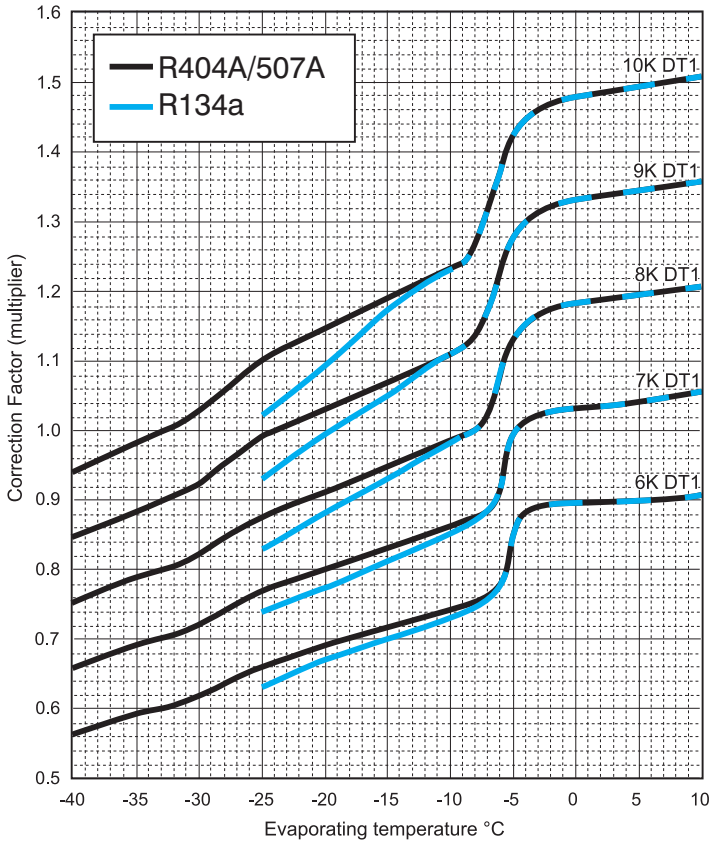
KMe50-95
Opposite end to electrical connection only

Model	A
KMe50*	350
KMe60*	350
KMe80*	400
KMe95*	400
KMe115*	450
KMe140*	450
KMe175*	500

Heater Withdrawal	
Model	mm
KMe50*	805
KMe60*	1200
KMe80*	1200
KMe95*	1200
KMe115*	1200
KMe140*	1200
KMe175*	1200

Factors apply to all Coolers

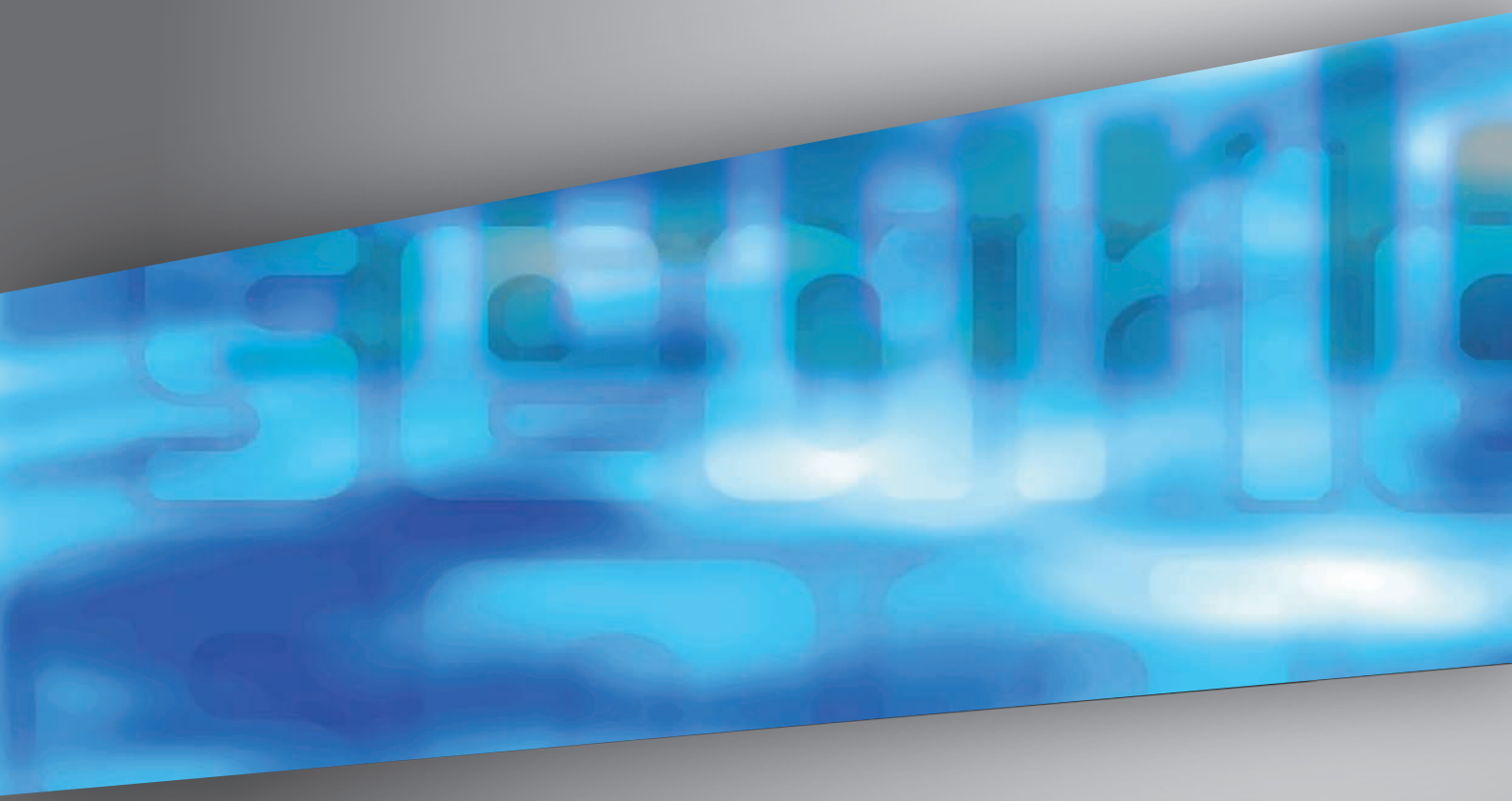
Cooler DT1 - WET -



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

Refrigerant	R404A	R134a	R507A	R407A	R407C
Capacity Factor (dew point, DT1)	1.00	0.91	0.97	1.18*	1.35*
Capacity Factor (mid point, DT1)	0.97	0.91	0.97	0.91	1.01
Refrigerant Charge Density (kg/dm^3)	0.312	0.338	0.313	0.332	0.332

The duties presented in the specification tables are nominal capacities for operational (or 'wet') conditions. They have been calculated from the tested 'dry' conditions, conducted in accordance with EN 328, using ratios as specified by Eurovent Standard 7/C/001 which are shown. Tests are conducted under dry conditions which allows performance to stabillise and permits measurement over a prolonged period. Please note that these ratios are already included in the performance data.



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