

Kelvion



Versatile, robust, durable

KELVION LSR INDUSTRIAL DUAL DISCHARGE







**Kelvion –
a tribute to
Lord Kelvin**

**70 branches and
sales partners
worldwide**

**More than 4,000
employees
worldwide**

Lord Kelvin (1824 – 1907) formulated
the laws of thermodynamics

EXPERTS IN HEAT EXCHANGE – SINCE 1920

Welcome to Kelvion. As successor to the GEA Heat Exchangers Group, we continue to break new ground, making discerning customers more successful than ever with our integrated heat exchanger solutions.

Our solutions for your applications:

We offer our customers one of the world's largest product portfolios in the field of heat exchangers. It includes individual solutions for practically all conceivable applications and complex environmental conditions: plate heat exchangers, shell and tube heat exchangers, finned tube heat exchangers, modular cooling tower systems, and refrigeration heat exchangers.

Your markets are our markets, too:

The markets in which you and we together operate are among the most important in the world: the chemical industry, food and beverages, the heavy industry, climate and environment, marine applications, the oil and gas industry, energy, refrigeration technology, sugar and transportation. We provide every single market segment with solutions of outstanding efficiency, safety, and sustainability.

We are highly committed to earning your trust:

We want to win your trust with everything we do and convince you with the solutions we offer. With this high aim in mind, we invest our extensive know-how, our great precision, and our passion in everything we do: including product development, manufacturing, installation, and after-sales support.





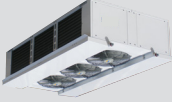

Seeing things from the customer perspective:

Your specific requirements count – and nothing else. Whatever we offer you, it must meet these requirements. Our entire way of thinking and working is geared towards this aim. Our customers truly appreciate this: after all, this is how we make their companies more efficient.

We are at your service.

Kelvion – Experts in Heat Exchange.

INDUSTRIAL AIR COOLER RANGE

MODEL	NO.FANS	CONFIGURATION	EUROVENT	SUPPLY	EC FANS	STANDARD ELECTRIC	HEAVY ELECTRIC DEFROST	HOT GAS A/B/C/D DEFROST	CO2	FIN MATERIAL	CAPACITY
SM 	1 - 4		✓	3 ph	○	✓	✓	✓	✓	AL, AV	12 - 199kW
FM 	1 - 4		✓	3 ph	○	✓	✓	✓	✓	AL, AV	22 - 265kW
LSR 	1 - 6		✓	3 ph	X	✓	X	✓	✓	AL, AV	6 - 89kW

✓ YES X NO ○ OPTION

DSR SPECIFICATION

CASEWORK: The robust construction of the LSR range is designed to withstand demanding applications. Manufactured from galvanised steel panels, electro-statically gloss painted white RAL 9010, the case work is ideal to house 12 tube high coils.

The Drain tray is situated under each coil hinged to give easy access for cleaning and maintenance. Light gauge curved air baffles are also fitted within the unit to give an even air distribution across the coil.

FANS: The LSR range operates a 4, 6 and 8 pole external rotor fan sets and is available in single or 3 phase.

- Fan Diameter: 500mm
- IP Rating: 54
- 4 pole (nominal 1340 rpm) high speed are suitable for all temperatures
- 6 pole (nominal 930 rpm) mid speed, are suitable for all temperatures and offer the best compromise between noise and performance.
- The 8 pole (nominal 680 rpm) offers the low noise,
- Noise levels are quoted at a distance of 3m

When operating at higher fan speeds and higher temperatures (above 0°C) there is a high likelihood of water carry over. Kelvion recommends using 6 pole fan speeds for a good balance between noise level and performance across all applications.

COIL: All LSR units feature the unique 'D' fin, specially developed using a ½ inch diameter tube with an extended 'rifle bore' inner surface. The coil assembly comprising of two identical mirror image coils positioned diametrically opposite each other and connected together by a joining plate fitted between each coil end plates.

- Manufactured from ½" Tube
- Tube Pitch Across Airflow: 43mm
- Tube Pitch In Direction of Airflow: 37.2mm
- Fin Spacing (s): 4mm, 6mm and 8mm
- Fin Features: Light Ripple and Heater Holes

Each coil has a separate coil end plate to complete assembly. Covers are fitted either end of the unit (in front of each coil end plate) to enable access to electrical and mechanical connections

ADDITIONAL INFORMATION: Air throws quoted within this catalogue are based on a terminal velocity of 0.25m/s in ideal conditions. Store layout, cooler location and discharge orientation can affect the air throw. Please refer to your supplier for further information. For pump circulation arranged as bottom feed for pump rates between 3:1 and 5:1. For other pump rates please refer to your supplier.

The duties shown in this catalogue are at Eurovent Standard 7/C/001, Standard Condition 2 - (-8°C saturated suction temp. (dew point), 0°C air entering). Capacities are based on DT1 the difference between the entering air temperature and the saturated suction temperature at the outlet of the cooler.

DSR DUAL DISCHARGE COOLER






BENEFITS

- ▶ The LSR range of dual discharge coolers by Kelvion: has been developed to meet the demands of general cold storage along with those associated with food production and preparation halls.
- ▶ Designed to be versatile: Manufactured from galvanised steel the LSR Range is robust in its construction to withstand demanding applications, easy and fast to install and has easy access via hinged drain pan's and fan plate(s) for maintenance and cleaning.
- ▶ Optional refrigerants: They are specifically designed to operate with refrigerant R404A but can also be used with R134a, R407C, R507A, R407F and R407A without modification.
- ▶ Eurovent certify-all: independent certification for thermal performance, power consumption, sound data and unit air volumes for standard products under scheme limits.

CAPACITY RANGE

HFO/HFK 6.5 kW - 89.2 kW
 $t_{L1}=0^{\circ}\text{C} \mid t_{L2}=-8^{\circ}\text{C} \mid \text{DT}=8\text{K} \mid [\text{SC2}] \mid \text{R404A}$

HEAT EXCHANGE

- ▶ Fin Type: D
- ▶ Tube Diameter: [in mm]
12.7 |
- ▶ Standard Fin spacing: [in mm]
4 | 6 |
- ▶ Fin Enhancements: Light Ripple

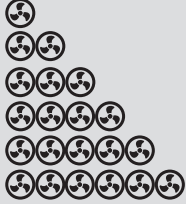
VARIANTS & ACCESSORIES

- ▶ Fan sets
- ▶ Fan Guards
- ▶ Defrost Elements (Coil Heaters & Drain tray)

DEFROST

DEFROST	FAN	COIL	DRIP TRAY
Standard Electric	✓	✓	✓
Heavy Electric	-	-	-
Hot gas		✓	✓

FAN

▶ AC Standard		Ø 500 mm IP54 3 phase
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MATERIALS

MATERIAL	TUBE	FINS	CASING	END PLATE
Copper (Cu)	<input checked="" type="checkbox"/>	✓		
Aluminium (Al)		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Aluminium Epoxy (Av)		✓		
BlyGold		✓		
Galvanised Steel			<input checked="" type="checkbox"/>	

Standard | Available as a variant

REFRIGERANT DATA

REFRIGERATION	R404A	R134a	R507A	R407A/F	R407C
Capacity factor (dew point, DT1)	1.00	0.91	0.97	1.24*	1.26*
Refrigerant charge density (kg/dm ³)	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.

DESIGNATION

The model number indicates the casework model size and other relevant information, for example: -

PART NUMBER	LSR	12	1	-	4	4	-	4D	-	EL	CU/AL
Range	LSR										
Height of case	12 tube high										
No of fans	1, 2, 3, 4, 5, 6										
Coil depth	4, 6										
Fin spacing	4mm, 6mm										
Fan speed	4D, 6D, 8D										
Defrost	EL = Electric defrost in coil and drain tray										
Coil materials	CU/AL = Copper, Aluminium fin, CU/AC = Copper tube, Vinyl coated Aluminium fin (4mm only) BG = Blygold										

SELECTION DATA - 4 POLE HIGH SPEED - (LOW TEMPERATURE, EVAPORATING BELOW -10⁰C)

FIN SPACING	MODEL	CAPACITY 8K DT1 R404A	MOTOR DETAILS 230V - 1PH - 50HZ					FAN DATA			CONNECTION		INTERNAL VOLUME	SURFACE AREA	DEFROST HEATER LOADS AT 400V	
			NO. OF FANS	TOTAL POWER INPUT	FLC PER FAN	SC PER FAN	SPEED	AIR VOLUME	AIR THROW	NOISE LEVEL @ 3M	INLET (2 OFF)	OUTLET (2 OFF)			COIL	TRAY
		kW	W	AMPS	AMPS	RPM	m ³ /s	M	dB(A)			dm ³	m ²	kW	kW	
4mm	LSR121-44-4D	12.7	1	700	1.5	5	1390	1.93	12	61	5/8"	1 1/8"	9.3	50.5	3.2	1.6
	LSR121-64-4D	14.6	1	700	1.5	5	1390	1.78	10	61	5/8"	1 1/8"	14	75.5	3.2	1.6
	LSR122-44-4D	25.4	2	1400	1.5	5	1390	3.86	12	64	5/8"	1 1/8"	17.5	101	6.4	3.2
	LSR122-64-4D	29.7	2	1400	1.5	5	1390	3.55	10	64	5/8"	1 1/8"	26.3	151	6.4	3.2
	LSR123-44-4D	38.2	3	2100	1.5	5	1390	5.78	12	66	5/8"	1 1/8"	25.7	151	9.5	4.8
	LSR123-64-4D	44.5	3	2100	1.5	5	1390	5.33	10	66	5/8"	1 1/8"	38.6	227	9.5	4.8
	LSR124-44-4D	50.9	4	2800	1.5	5	1390	7.71	12	67	7/8"	1 1/8"	32.6	202	12.7	6.4
	LSR124-64-4D	59.3	4	2800	1.5	5	1390	7.1	10	67	7/8"	1 1/8"	48.8	303	12.7	6.4
	LSR125-44-4D	62.6	5	3500	1.5	5	1390	9.65	12	68	5/8"	1 3/8"	41.1	252	15.9	8.0
	LSR125-64-4D	73.9	5	3500	1.5	5	1390	8.88	10	68	3/4"	1 3/8"	60.9	378	15.9	8.0
	LSR126-44-4D	76.2	6	4200	1.5	5	1390	11.58	12	69	3/4"	1 3/8"	49.1	303	19.1	9.6
	LSR126-64-4D	89.2	6	4200	1.5	5	1390	10.66	10	69	3/4"	1 5/8"	73.5	454	19.1	9.6
6mm	LSR121-46-4D	10.9	1	700	1.5	5	1390	2.15	14	61	1/2"	1 1/8"	9.3	34.5	3.2	1.6
	LSR121-66-4D	13.4	1	700	1.5	5	1390	2.07	12	61	5/8"	1 1/8"	14	51.5	3.2	1.6
	LSR122-46-4D	21.5	2	1400	1.5	5	1390	4.29	14	64	1/2"	1 1/8"	17.5	69	6.4	3.2
	LSR122-66-4D	27.3	2	1400	1.5	5	1390	4.13	12	64	5/8"	1 1/8"	26.3	103	6.4	3.2
	LSR123-46-4D	32.2	3	2100	1.5	5	1390	6.43	14	66	5/8"	1 1/8"	25.7	103	9.5	4.8
	LSR123-66-4D	40.9	3	2100	1.5	5	1390	6.2	12	66	5/8"	1 1/8"	38.6	155	9.5	4.8
	LSR124-46-4D	42.9	4	2800	1.5	5	1390	8.57	14	67	7/8"	1 1/8"	32.6	138	12.7	6.4
	LSR124-66-4D	54.6	4	2800	1.5	5	1390	8.27	12	67	7/8"	1 1/8"	48.8	207	12.7	6.4
	LSR125-46-4D	53.5	5	3500	1.5	5	1390	10.73	14	68	5/8"	1 3/8"	41.1	172	15.9	8.0
	LSR125-66-4D	68.4	5	3500	1.5	5	1390	10.35	12	68	3/4"	1 3/8"	60.9	259	15.9	8.0
	LSR126-46-4D	65.1	6	4200	1.5	5	1390	12.95	14	69	3/4"	1 3/8"	49.1	208	19.1	9.6
	LSR126-66-4D	82.2	6	4200	1.5	5	1390	12.41	12	69	3/4"	1 5/8"	73.5	311	19.1	9.6

NOTE: Energy rating is available from your local Sales representative, or Selection software. Energy efficiency class does not take into account the cooler defrost

6 POLE HIGH SPEED - (HIGH AND LOW TEMPERATURE

FIN SPACING	MODEL	CAPACITY 8K DT1 R404A	MOTOR DETAILS 230V - 1PH - 50HZ					FAN DATA			CONNECTION		INTERNAL VOLUME	SURFACE AREA	DEFROST HEATER LOADS AT 400V	
			NO. OF FANS	TOTAL POWER INPUT	FLC PER FAN	SC PER FAN	SPEED	AIR VOLUME	AIR THROW	NOISE LEVEL @ 3M	INLET (2 OFF)	OUTLET (2 OFF)			COIL	TRAY
		kW	W	AMPS	AMPS	RPM	m ³ /s	M	dB(A)			dm ³	m ²	kW	kW	
4mm	LSR121-44-6D	9.5	1	250	0.75	1.65	930	1.29	9	53	5/8"	1 1/8"	9.3	50.5	3.2	1.6
	LSR121-64-6D	10.6	1	250	0.75	1.65	930	1.17	7	53	5/8"	1 1/8"	14	75.5	3.2	1.6
	LSR122-44-6D	19.1	2	500	0.75	1.65	930	2.59	9	56	5/8"	1 1/8"	17.5	101	6.4	3.2
	LSR122-64-6D	21.3	2	500	0.75	1.65	930	2.34	7	56	5/8"	1 1/8"	26.3	151	6.4	3.2
	LSR123-44-6D	28.6	3	750	0.75	1.65	930	3.88	9	58	5/8"	1 1/8"	25.7	151	9.5	4.8
	LSR123-64-6D	31.9	3	750	0.75	1.65	930	3.51	7	58	5/8"	1 1/8"	38.6	227	9.5	4.8
	LSR124-44-6D	38.1	4	1000	0.75	1.65	930	5.18	9	59	7/8"	1 1/8"	32.6	202	12.7	6.4
	LSR124-64-6D	42.7	4	1000	0.75	1.65	930	4.69	7	59	7/8"	1 1/8"	48.8	303	12.7	6.4
	LSR125-44-6D	47.7	5	1250	0.75	1.65	930	6.48	9	60	5/8"	1 3/8"	41.1	252	15.9	8.0
	LSR125-64-6D	53.7	5	1250	0.75	1.65	930	5.85	7	60	3/4"	1 3/8"	60.9	378	15.9	8.0
	LSR126-44-6D	57.4	6	1500	0.75	1.65	930	7.77	9	61	3/4"	1 3/8"	49.1	303	19.1	9.6
	LSR126-64-6D	63.9	6	1500	0.75	1.65	930	7.02	7	61	3/4"	1 3/8"	73.5	454	19.1	9.6
6mm	LSR121-46-6D	8.4	1	250	0.75	1.65	930	1.44	10	53	1/2"	1 1/8"	9.3	34.5	3.2	1.6
	LSR121-66-6D	10.2	1	250	0.75	1.65	930	1.39	9	53	5/8"	1 1/8"	14	51.5	3.2	1.6
	LSR122-46-6D	16.6	2	500	0.75	1.65	930	2.89	10	56	1/2"	1 1/8"	17.5	69	6.4	3.2
	LSR122-66-6D	20.7	2	500	0.75	1.65	930	2.79	9	56	5/8"	1 1/8"	26.3	103	6.4	3.2
	LSR123-46-6D	24.9	3	750	0.75	1.65	930	4.33	10	58	5/8"	1 1/8"	25.7	103	9.5	4.8
	LSR123-66-6D	31.1	3	750	0.75	1.65	930	4.18	9	58	5/8"	1 1/8"	38.6	155	9.5	4.8
	LSR124-46-6D	33.3	4	1000	0.75	1.65	930	5.77	10	59	7/8"	1 1/8"	32.6	138	12.7	6.4
	LSR124-66-6D	41.4	4	1000	0.75	1.65	930	5.57	9	59	7/8"	1 1/8"	48.8	207	12.7	6.4
	LSR125-46-6D	41.8	5	1250	0.75	1.65	930	7.21	10	60	5/8"	1 1/8"	41.1	172	15.9	8.0
	LSR125-66-6D	52.2	5	1250	0.75	1.65	930	6.97	9	60	3/4"	1 3/8"	60.9	259	15.9	8.0
	LSR126-46-6D	50.5	6	1500	0.75	1.65	930	8.71	10	61	3/4"	1 3/8"	49.1	208	19.1	9.6
	LSR126-66-6D	62.2	6	1500	0.75	1.65	930	8.36	9	61	3/4"	1 3/8"	73.5	311	19.1	9.6

NOTE: Energy rating is available from your local Sales representative, or Selection software. Energy efficiency class does not take into account the cooler defrost

8 POLE HIGH SPEED - (HIGH AND LOW TEMPERATURE

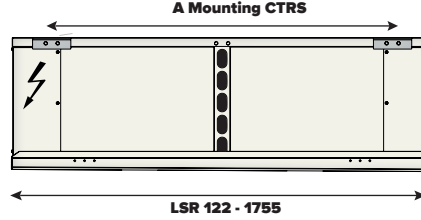
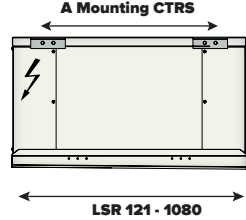
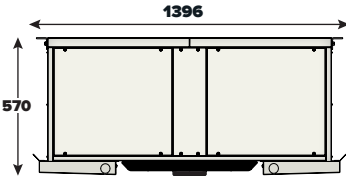
FIN SPACING	MODEL	CAPACITY 8K DT1 R404A	MOTOR DETAILS 230V - 1PH - 50HZ					FAN DATA			CONNECTION		INTERNAL VOLUME	SURFACE AREA	DEFROST HEATER LOADS AT 400V	
			NO. OF FANS	TOTAL POWER INPUT	FLC PER FAN	SC PER FAN	SPEED	AIR VOLUME	AIR THROW	NOISE LEVEL @ 3M	INLET (2 OFF)	OUTLET (2 OFF)			COIL	TRAY
		kW	W	AMPS	AMPS	RPM	m ³ /s	M	dB(A)			dm ³	m ²	kW	kW	
4mm	LSR121-44-8D	7.6	1	130	0.42	1.4	680	0.93	7	47	5/8"	1 1/8"	9.3	50.5	3.2	1.6
	LSR121-64-8D	8.2	1	130	0.42	1.4	680	0.84	6	47	5/8"	1 1/8"	14	75.5	3.2	1.6
	LSR122-44-8D	15.1	2	260	0.42	1.4	680	1.87	7	50	5/8"	1 1/8"	17.5	101	6.4	3.2
	LSR122-64-8D	16.4	2	260	0.42	1.4	680	1.68	6	50	5/8"	1 1/8"	26.3	151	6.4	3.2
	LSR123-44-8D	22.7	3	390	0.42	1.4	680	2.8	7	52	5/8"	1 1/8"	25.7	151	9.5	4.8
	LSR123-64-8D	24.7	3	390	0.42	1.4	680	2.53	6	52	5/8"	1 1/8"	38.6	227	9.5	4.8
	LSR124-44-8D	30.1	4	520	0.42	1.4	680	3.74	7	53	7/8"	1 1/8"	32.6	202	12.7	6.4
	LSR124-64-8D	32.9	4	520	0.42	1.4	680	3.37	6	53	7/8"	1 1/8"	48.8	303	12.7	6.4
	LSR125-44-8D	38.19	5	650	0.42	1.4	680	4.68	7	54	5/8"	1 1/8"	41.1	252	16.0	8.0
	LSR125-64-8D	41.86	5	650	0.42	1.4	680	4.21	6	54	5/8"	1 1/8"	60.9	378	16.0	8.0
	LSR126-44-8D	45.81	6	780	0.42	1.4	680	5.6	7	55	5/8"	1 3/8"	49.1	303	19.2	9.6
	LSR126-64-8D	50.17	6	780	0.42	1.4	680	5.06	6	55	3/4"	1 3/8"	73.5	454	19.2	9.6
6mm	LSR121-46-8D	6.5	1	130	0.42	1.4	680	1.07	7	47	1/2"	1 1/8"	9.3	34.5	3.2	1.6
	LSR121-66-8D	8	1	130	0.42	1.4	680	1.03	6	47	5/8"	1 1/8"	14	51.5	3.2	1.6
	LSR122-46-8D	13.1	2	260	0.42	1.4	680	2.14	7	50	1/2"	1 1/8"	17.5	69	6.4	3.2
	LSR122-66-8D	16.1	2	260	0.42	1.4	680	2.06	6	50	5/8"	1 1/8"	26.3	103	6.4	3.2
	LSR123-46-8D	19.7	3	390	0.42	1.4	680	3.21	7	52	5/8"	1 1/8"	25.7	103	9.5	4.8
	LSR123-66-8D	24.2	3	390	0.42	1.4	680	3.09	6	52	5/8"	1 1/8"	38.6	155	9.5	4.8
	LSR124-46-8D	26.3	4	520	0.42	1.4	680	4.28	7	53	7/8"	1 1/8"	32.6	138	12.7	6.4
	LSR124-66-8D	32.2	4	520	0.42	1.4	680	4.13	6	53	7/8"	1 1/8"	48.8	207	12.7	6.4
	LSR125-46-8D	34.67	5	650	0.42	1.4	680	5.36	7	54	5/8"	1 1/8"	41.1	172	16.0	8.0
	LSR125-66-8D	42.29	5	650	0.42	1.4	680	5.16	6	54	5/8"	1 1/8"	60.9	259	16.0	8.0
	LSR126-46-8D	41.75	6	780	0.42	1.4	680	6.48	7	55	5/8"	1 1/8"	49.1	208	19.2	9.6
	LSR126-66-8D	50.75	6	780	0.42	1.4	680	6.19	6	55	3/4"	1 3/8"	73.5	311	19.2	9.6

NOTE: Energy rating is available from your local Sales representative, or Selection software. Energy efficiency class does not take into account the cooler defrost

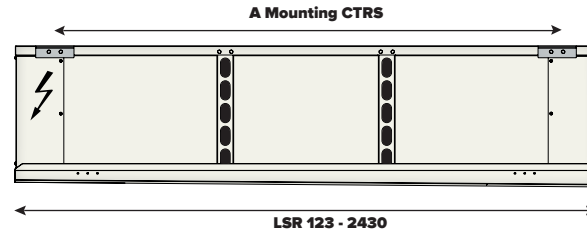
DIMENSIONS

CEILING MOUNT OPERATION

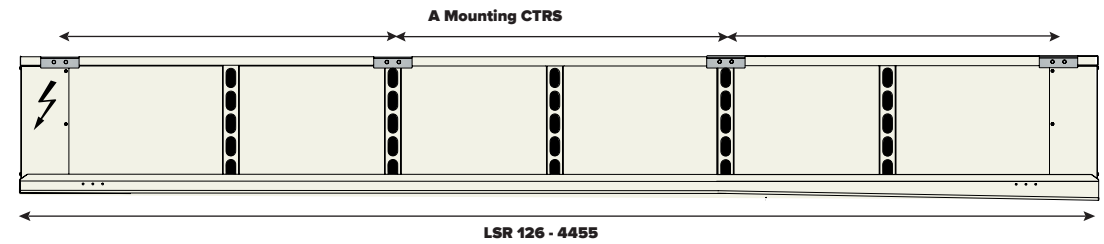
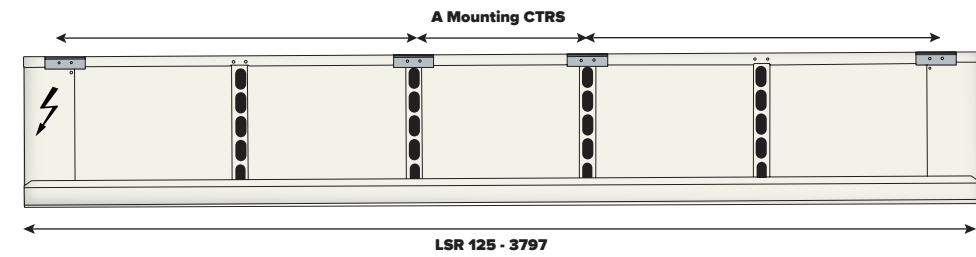
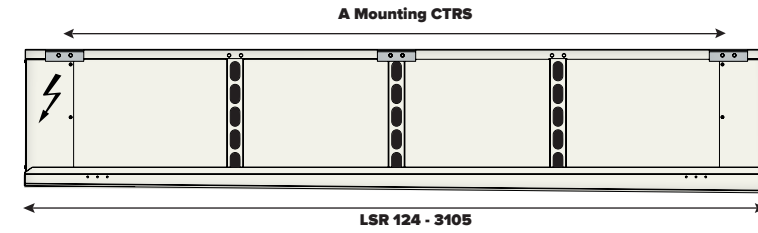
MODEL HEIGHT	MODEL WIDTH
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MODEL	A
LSR121	750
LSR122	1425
LSR123	2100
LSR124	1387.5 x2
LSR125	1387.5 x2 692.5
LSR126	1387.5 x2 1385



MODEL	CU/AL WEIGHT (kG)	CU/CU WEIGHT (kG)
LSR121-44	117	151
LSR121-64	130	180
LSR122-44	180	232
LSR122-64	200	277
LSR123-44	237	314
LSR123-64	266	382
LSR124-44	301	405
LSR124-64	341	496
LSR125-44	386	520
LSR125-64	426	623
LSR126-44	464	629
LSR126-64	504	744
LSR121-46	114	141
LSR121-66	125	165
LSR122-46	175	216
LSR122-66	192	254
LSR123-46	230	291
LSR123-66	256	348
LSR124-46	292	374
LSR124-66	326	446
LSR125-46	377	482
LSR125-66	411	561
LSR126-46	455	584
LSR126-66	489	670



SELECTION AND PRICING

This can be performed on the Selection software which can be downloaded from our website www.kelvion.com

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