



scroll744

The isentra scroll744 Condensing Unit is the future-proof refrigeration solution for food retail.

It features the latest scroll compressor technology, operating with the safe and natural refrigerant R744 (CO₂). This fully packaged unit offers resilient medium-temperature and low-temperature capabilities, along with ultra-dynamic capacity control.

Combining cost-effectiveness, compact design, and energy efficiency, the isentra scroll744 delivers a cutting-edge solution perfectly tailored to meet the demands of today's food retail environment.

Key Features

- ✓ Latest Scroll Compressor Technology
- ✓ Parallel 'DVI' Compression
- ✓ R744 Refrigerant
- ✓ Ultra-Dynamic Capacity Control
- ✓ Low Noise
- ✓ Heat Recovery
- ✓ Full Integrated Solution
- ✓ Removable Gas Cooler
- ✓ Gas Cooler Options Available
- ✓ Blygold Coil Coating Available
- ✓ Heresite Coil Coating Available





scroll744 MT & LT

Design Conditions & Capacities

Design Ambient (°C)	35
Gas Cooler Outlet Temperature (°C)	37
LT SST (°C)	-29
MT SST (°C)	-4
LT Design Capacity (kW)	8
MT Design Capacity (kW)	25
LT Min Capacity at Design Ambient (kW)	2.44
MT Min Capacity at Design Ambient (kW)*	1.4
LT Min Capacity at 5°C Ambient (kW)	2.98
MT Min Capacity at 5°C Ambient (kW)*	1.96

*With LT at Minimum Capacity

Noise

Standard - Mean Sound Pressure (dB(A) @10m)*	30
Standard Noise GC Only - Mean Sound Pressure (dB(A) @10m)*	30
Low - Mean Sound Pressure (dB(A) @10m)*	20
Low Noise GC Only - Mean Sound Pressure (dB(A) @10m)*	20

* Please refer to drawing - scroll744 Recommended Service Access

Standard Noise

Scroll744 30db(A) Dimension & Weights

	Housed + GC	Housed Only
Height (mm)	1,530	1,480
Length (mm)	3,890	1,585
Width (mm)	1,155	1,155
Approx. Dry Weight (kg)	1,440	1,070
Gas Cooler Capacity 50.5 kW		

Low Noise

Scroll744 20db(A) Dimension & Weights

	Housed + GC	Housed Only
Height (mm)	1,530	1,480
Length (mm)	4,310	1,585
Width (mm)	1,155	1,155
Approx. Dry Weight (kg)	1,510	1,070
Gas Cooler Capacity 50.3 kW		

None Standard Gas Coolers, Refer to Gas Cooler Table (page 4)

Recommended for service access

Please refer to drawing - scroll744 Recommended Service Access

Control Details & Features

RDM Controls
HMI Touch Screen
Modbus Energy meter with RDM IP Module
Network Hub
IP65 Stainless Steel Enclosure
Infrared Leak Detection Head

Maximum Allowable Pressures (PS) & Certification

MT Discharge/Gas Cooler	120 bar
Receiver	80 bar
MT Suction	60 bar
LT Suction	45 bar
PED Category	III
Certification	UKCA
Conformity Assessment Body	38

Gas Cooler

EC Fans (No.)	2
Gas Cooler Fin Material	Almag
Gas Cooler Fin Spacing (mm)	2.5
Individual Fans Isolators	

Mechanical Details & Features

No. MT Compressors (Lead Inverter Driven)	2
No. LT Compressors (Lead Inverter Driven)	2
Liquid Receiver Size (l)	37.5
Oil Separator Reservoir Capacity (l)	8
Oil Type	PAG 68
Recommended Oil Charge (l)	5-7
MT Suction Strainer (Accessible)	
LT Suction Strainer (Accessible)	
Oil Strainer (Accessible)	
Liquid Line Filter Drier (Accessible)	
Direct Vapour Injection for MT Comps (similar effect to parallel Compression)	
Liquid Injection (MT superheat protection)	
Liquid & Oil Low Level Sensors	
Pre-fitted Single PRV to MT Discharge, MT Suction, LT Suction	
Stainless Steel Housing - Powered Coated	

Mechanical Connections

Liquid Line	5/8"
MT Suction	7/8"
LT Suction	7/8"
Heat Recovery Flow & Return (optional)	35mm

Electrical Details

Supply Type	TP/N
Voltage	400V 50Hz
FLA (A)	80.3
Isolator Size (A)	100A
MT Inverter Model	EVH-344038-R54BEN
LT Inverter Model	EVH-344016-R54BEN

Heat Recovery (Standard) Indicative Data

Capacity (kW) ≤	40
Water Flow Temperature (°C)	45
Water Return Temperature (°C)	35
Water Side Pressure Drop (KpA)	30
Water Flow Rate (kg/s)	1
*R744 Inlet Temp (°C)	100
*R744 Pressure (bar)	93
*R744 Mass Flow (kg/s) ≤	0.24

Options

Noise - Standard or Low

Remote Gas Cooler - Customer Onsite HP Pressure Test Required

Extendable PRV stubs - for internal plant location



scroll744 MT only

Design Conditions & Capacities

Design Ambient (°C)	35
Gas Cooler Outlet Temperature (°C)	37
MT SST (°C)	-3
MT Design Capacity (kW)	9.84
MT Min Capacity at Design Ambient (kW)	4.39
MT Min Capacity at 5°C Ambient (kW)	3.72

Noise

Standard - Mean Sound Pressure (dB(A) @10m)*	30
Standard Noise GC Only - Mean Sound Pressure (dB(A) @10m)*	30
Low - Mean Sound Pressure (dB(A) @10m)*	20
Low Noise GC Only - Mean Sound Pressure (dB(A) @10m)*	20

* Please refer to drawing - scroll744 Recommended Service Access

Standard Noise

Scroll744 30db(A) Dimension & Weights

	Housed + GC	Housed Only
Height (mm)	1,530	1,480
Length (mm)	3,890	1,585
Width (mm)	1,155	1,155
Approx. Dry Weight (kg)	1,423	1,070
Gas Cooler Capacity 35 kW		

Low Noise

Scroll744 20db(A) Dimension & Weights

	Housed + GC	Housed Only
Height (mm)	1,530	1,480
Length (mm)	3,890	1,585
Width (mm)	1,155	1,155
Approx. Dry Weight (kg)	1,440	1,070
Gas Cooler Capacity 35.2 kW		

None Standard Gas Coolers, Refer to Gas Cooler Table (page 4)

Control Details & Features

RDM Controls
HMI Touch Screen
Modbus Energy meter with RDM IP Module
Network Hub
IP65 Stainless Steel Enclosure
Infrared Leak Detection Head

Maximum Allowable Pressures (PS) & Certification

MT Discharge/Gas Cooler	120 bar
Receiver	80 bar
MT Suction	60 bar
PED Category	III
Certification	UKCA
Conformity Assessment Body	38

Gas Cooler

EC Fans (No.)	2
Gas Cooler Fin Material	Almag
Gas Cooler Fin Spacing (mm)	2.5
Individual Fans Isolators	

Mechanical Details & Features

No. MT Compressors (Lead Inverter Driven)	2
Liquid Receiver Size (l)	37.5
Oil Separator Reservoir Capacity (l)	8
Oil Type	PAG 68
Recommended Oil Charge (l)	5-7
MT Suction Strainer (Accessible)	
Oil Strainer (Accessible)	
Liquid Line Filter Drier (Accessible)	
Direct Vapour Injection for MT Comps (similar effect to parallel Compression)	
Liquid & Oil Low Level Sensors	
Pre-fitted Single PRV to MT Discharge, MT Suction	
Stainless Steel Housing - Powder Coated	

Mechanical Connections

Liquid Line	5/8"
MT Suction	7/8"
Heat Recovery Flow & Return (optional)	35mm

Electrical Details

Supply Type	TP/N
Voltage	400V 50Hz
FLA (A)	43.63
Isolator Size (A)	63A
MT Inverter Model	EVH-344038-R54BEN

Heat Recovery (Optional)

Capacity (kW) ≤	40
Water Flow Temperature (°C)	45
Water Return Temperature (°C)	35
Water Side Pressure Drop (KpA)	30
Water Flow Rate (kg/s)	1
*R744 Inlet Temp (°C)	100
*R744 Pressure (bar)	93
*R744 Mass Flow (kg/s) ≤	0.24

Options

Noise - Standard or Low
Remote Gas Cooler - Customer Onsite HP Pressure Test Required
Extendable PRV stubs - for internal plant location

The Scroll744 unit is designed to meet sound pressure level specifications of 20 dBA and 30 dBA. These values represent mean levels in a free field over a reflective plane, with tolerances of ± 2 dB (global) and ± 5 dB (octave band). Actual noise levels at the installation site may vary significantly due to environmental factors which are beyond of isentra's control.



scroll744 With None Standard Gas Coolers

Standard Noise Vertical Gas Cooler 30db(A) Dimensions & Weights

	Housed + GC	Housed Only	Gas Coolers
Height (mm)	3,876	1,480	2,396
Length (mm)	2,865	1,585	1,280
Width (mm)	1,155	1,155	1,000
Approx. Dry Weight (kg)	1,490	1,070	420
Gas Cooler Capacity 50.3 kW			

Low Noise Vertical Gas Cooler 20db(A) Dimensions & Weights

	Housed + GC	Housed Only	Gas Coolers
Height (mm)	3,876	1,480	2,396
Length (mm)	3,325	1,585	1,740
Width (mm)	1,155	1,155	1,000
Approx. Dry Weight (kg)	1,567	1,070	497
Gas Cooler Capacity 50.5 kW			

Standard Noise MT Only Gas Cooler 30db(A) Dimensions & Weights

	Housed + GC	Housed Only	Gas Coolers
Height (mm)	1,480	1,480	1,175
Length (mm)	3,845	1,585	2,260
Width (mm)	1,155	1,155	1,148
Approx. Dry Weight (kg)	1,423	1,070	353
Gas Cooler Capacity 35 kW			

Low Noise MT Only Gas Cooler 20db(A) Dimensions & Weights

	Housed + GC	Housed Only	Gas Coolers
Height (mm)	1,480	1,480	1,175
Length (mm)	3,845	1,585	2,260
Width (mm)	1,155	1,155	1,148
Approx. Dry Weight (kg)	1,440	1,070	370
Gas Cooler Capacity 35.2 kW			

Centrifugal Gas Cooler Dimensions & Weights

	Housed + GC	Housed Only	Gas Coolers
Height (mm)	1,480	1,480	1,175
Length (mm)	4,285	1,585	2,700
Width (mm)	1,155	1,155	1,148
Approx. Dry Weight (kg)	1,563	1,070	493
Gas Cooler Capacity 50.3 kW			