



Danfoss scroll compressors for refrigeration

High efficiency and reliability even in low temperatures **Cooler than ever!**

With MLZ and LLZ series for MBP and LBP refrigeration, take advantage of scroll compressors that are efficient by design. Cut down operating costs and meet the most demanding food standards for

your units and racks for cold rooms, supermarkets, mushroom growing tunnels, fermentation rooms, air dryers etc.

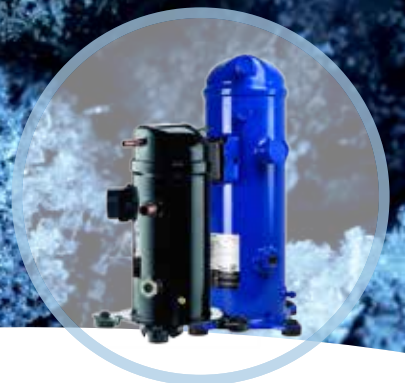
LLZ & MLZ: the new names in scroll technology!



-40°C to +10°C

Extended compressor range

available from a single provider. Suits rack systems and all applications for refrigeration.





Danfoss scroll compressors for refrigeration applications

The MLZ and LLZ series are purpose-engineered for applications in refrigeration with respectively medium and low temperatures. They suit all operating conditions in different cooling systems.



Energy Savings

Optimize your system with the scroll compressors for refrigeration

The combination of an energy efficient motor and an optimized scroll wrap for refrigeration applications delivers high efficiency in fixed-speed compressors. Optional vapor injection boosts the cooling capacity and efficiency by more than 20%.



Reliability

Improve your system reliability to reduce your maintenance and warranty costs

Reliability is built into this compressor range, from the compliant scroll design and the engineered bearings to the simplified manufacturing process (30% fewer parts). The patented thermal fault protection also contributes to excellent reliability. A smart way to reduce your field service costs.



Low sound

Improve the sound environment with the lowest sound level in the industry

Scroll technology is quiet by design: the scroll provides smooth continuous compression, the absence of suction and discharge valves, and the unique disc check valve design ensure quiet, vibration-free operations.



Compactness

Footprint up to 30% smaller than alternative reduces the logistics costs and frees up space in the system.

Significant

annual cost savings

with vapor injection

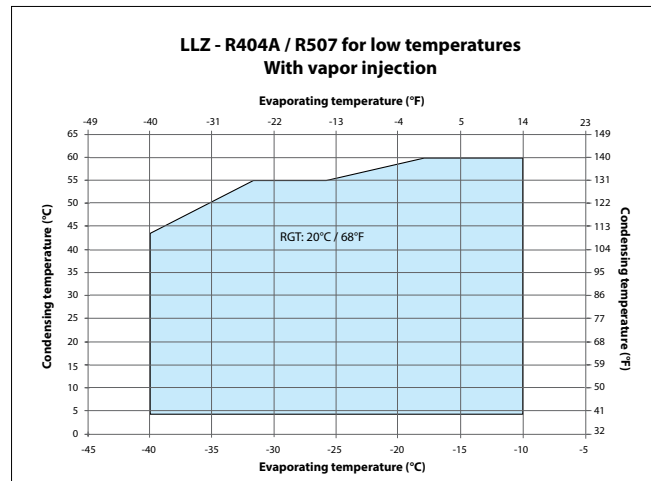
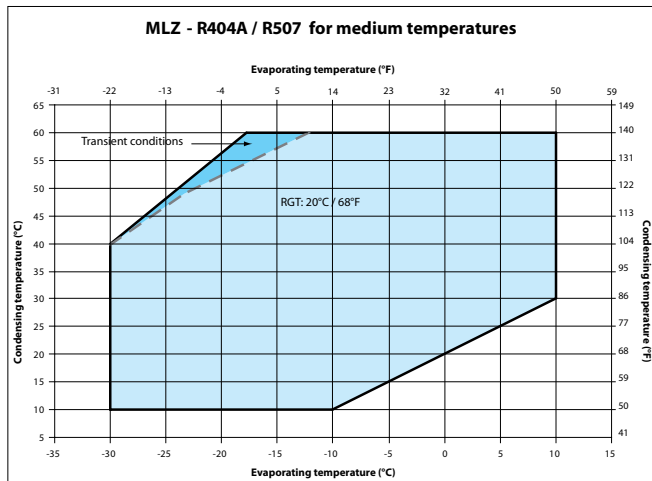
MLZ compressors may be blue or black depending on the manufacturing origin





Wide operating envelopes

comply with all applications in the refrigeration



Boost cooling capacity and efficiency with vapor injection in low temperatures

Danfoss proposes the optional economizer kit to boost compressor efficiency and capacity with vapor injection.

The system uses a liquid subcooler circuit. During the liquid subcooler process, some liquid refrigerant evaporates in the economizer and is injected into the scroll set at intermediate pressure. This provides additional cooling capacity thanks to subcooling in the economizer and increases efficiency of the system.

The effect of vapor injection increases together with the increase of the system pressure ratio.

Featured for other immediate benefits

- Multi-refrigerant scrolls save on inventory
- Vapor injection available with optional economizer kit increases LLZ efficiency and cooling capacity
- Optional sound jacket attenuates sound levels
- Suitable for transport of refrigerated goods



Performance tables – R404A

MLZ – medium temperatures

Evap. temp °C	Model	Cooling capacity in W / 40°C condensing temperature								EN12900			Sound power dB(A)
		-25°C	-20°C	-15°C	-10°C	-5°C	0°C	5°C	10°C	Cooling capacity W	Power input kW	COP W/W	
50 Hz • 380-400 V / 3-phases	MLZ015	1 900	2 400	3 000	3 700	4 400	5 300	6 300	7 400	3 300	1.75	1.89	65
	MLZ019	2 600	3 300	4 000	4 800	5 800	6 900	8 200	9 700	4 450	2.16	2.06	65
	MLZ021	2 800	3 500	4 300	5 100	6 200	7 300	8 700	10 300	4 720	2.27	2.08	65
	MLZ026	3 500	4 300	5 300	6 400	7 700	9 200	10 900	12 800	5 900	2.82	2.09	67
	MLZ030	4 200	5 200	6 400	7 700	9 300	11 100	13 100	15 400	7 090	3.34	2.12	70
	MLZ038	5 000	6 200	7 600	9 200	11 100	13 200	15 600	18 400	8 450	3.97	2.13	71
	MLZ045	6 100	7 500	9 100	11 100	13 300	15 900	18 800	22 000	10 160	4.81	2.11	71
	MLZ048	6 600	8 200	10 000	12 100	14 500	17 300	20 500	24 200	11 090	5.17	2.14	72
	MLZ058	7 600	9 300	11 600	14 300	17 400	20 900	24 800	29 000	12 840	6.21	2.07	74
	MLZ066	9 000	11 200	13 600	16 500	19 800	23 600	27 900	32 800	15 190	6.92	2.19	74
MLZ076	10 600	13 100	15 900	19 100	22 900	27 200	32 300	38 200	17 320	7.93	2.18	74	
Evap. temp °C	Model	Cooling capacity in W / 40°C condensing temperature								ARI			Sound power dB(A)
		-25°C	-20°C	-15°C	-10°C	-5°C	0°C	5°C	10°C	Cooling capacity W	Power input kW	EER Btu/h/W	
60 Hz • 460 V / 3-phases	MLZ015	2 300	2 900	3 600	4 500	5 400	6 400	7 600	9 000	3 480	1.90	6.12	68
	MLZ019	3 200	4 000	4 900	5 900	7 100	8 400	10 000	11 700	4 640	2.34	6.75	68
	MLZ021	3 400	4 300	5 200	6 300	7 600	9 000	10 600	12 400	4 920	2.45	6.75	68
	MLZ026	4 300	5 300	6 500	7 900	9 400	11 200	13 200	15 400	6 150	3.07	6.82	70
	MLZ030	5 100	6 300	7 600	9 300	11 100	13 200	15 500	18 200	7 390	3.64	6.94	73
	MLZ038	6 000	7 500	9 200	11 100	13 300	15 800	18 600	21 800	8 810	4.30	6.94	74
	MLZ045	7 400	9 100	11 100	13 500	16 100	19 100	22 600	26 400	10 600	5.20	6.88	74
	MLZ048	8 100	9 900	12 100	14 700	17 600	21 000	24 700	28 800	11 550	5.60	6.98	75
	MLZ058	9 000	11 400	14 200	17 400	21 100	25 300	29 900	35 100	13 360	6.70	6.74	77
	MLZ066	10 900	13 500	16 500	19 900	23 900	28 500	33 600	39 300	15 850	7.50	7.17	77
MLZ076	12 600	15 500	18 900	22 800	27 300	32 500	38 500	45 300	17 670	8.60	6.98	77	

Available with rotolock or braze connections

LLZ – low temperatures

R404A	50 Hz – EN12900	60 Hz – ARI
	Capacity (kW)	
LLZ013	2.7	3.7
LLZ015	3.3	4.6
LLZ018	3.9	5.4
LLZ024	5.0	6.8
LLZ033	6.6	9.3

Vapor injection - with economizer

R404A	50 Hz – EN12900	60 Hz – ARI
	Capacity (kW)	
LLZ013 - Eco	4.2	5.6
LLZ015 - Eco	5.0	6.6
LLZ018 - Eco	5.9	7.9
LLZ024 - Eco	7.4	9.8
LLZ033 - Eco	9.3	13.3

Rating conditions:

LLZ for low temperatures:

EN12900 LBP evap. -35°C; cond. 40°C; RGT 20°C; subcooling 0K - ARI evap. -32°C; cond. 41°C; RGT 18°C; SC 0

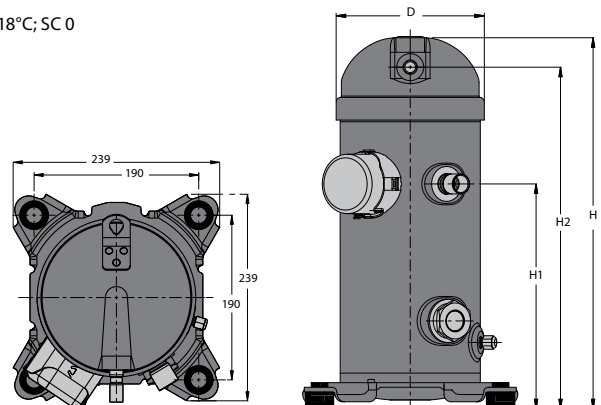
MLZ for medium temperatures

50 Hz: EN12900 MBP: evap. temp -10°C; cond. temp 45°C; RGT 20°C, subcooling 0K

60 Hz: ARI MBP: evap. temp 20°F/-7°C; cond. temp 120°F/49°C; RGT 65°F/18°C; Subcooling: 0K

Dimensions

Dimensions in mm	H	H1	H2	D	Weight (kg)
LLZ 013-018	478	302	375	184	42
LLZ 024-033	533	342	415	184	46
MLZ 015-026	393	231	360	165	31
MLZ 030-048	436	261	403	184	37
MLZ 058-076	528	350	499	232	45



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