

ENGINEERING
TOMORROW

Danfoss

Danfoss Optyma™ condensing units for Europe

Match your application needs – every time

With the Danfoss Optyma™ outdoor and indoor condensing units for Europe, with MBP and LBP refrigeration, there is a solution for your exact application needs. Featuring multiple lower-GWP refrigerants, high energy performance ratios and trouble-free installation, they help reduce running costs and increase cooling quality for the safer protection of perishables.

Make the optimal choice from our extensive range of outdoor and indoor condensing units.

Optimal Efficiency

for high cooling quality while reducing system's life-cycle costs and downtime

cr.danfoss.com

EcoDesign

Optyma™
by Danfoss

Danfoss Optyma™ bare/indoor condensing units

Robust. efficient and reliable condensing units. saving on service and maintenance costs and reducing energy consumption.



Benefits for
the contractor

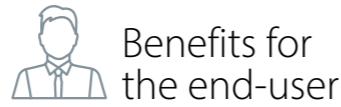
- Broad working envelope
- Multi lower-GWP refrigerants
- Larger units with microchannel condenser reducing the refrigerant charge and smaller units with fine & tube condenser
- Likely the most reliable hermetic reciprocating compressor on the market
- Economical EUR/kW value

Optyma™. **Light Commercial**
up to ~1.5 kW

Complete line featuring a higher efficiency and a reduced footprint. also available with R290. making it the perfect choice for a greener installation. This solution is ideal for OEMs or end-users looking for compact products to fit in small systems. and optimal cooling performance and capacity.



Page 28



Benefits for
the end-user

- Reliable solution
- Low energy consumption under changing working conditions
- Easy & simple condenser maintenance

Optyma™. **Commercial**
from ~1.5 kW and up

Highly efficient new line with microchannel condenser. multiple lower-GWP refrigerants. and working up to 46°C. Easy to install and service. Quieter by up to 3 dB(A) thanks to 6-pole fan motor instead of 4-pole fan.



Page 31

Feature overview:

	Light Commercial			Light Commercial R290			Commercial
	A00	A01	A04	A09	A10	A11	A02
Ambient temperature	Up to 43°C			Up to 43°C			Up to 46°C
Hermetic reciprocating compressor	MPT. MLY. NL. SC. GS. FR. TL. NF			NLY. NBC. NPT. NS. NX			MTZ. NTZ
Unit base	Rails or base plate						Base plate
Condenser type	Fin & Tube (painted)						Microchannel
Fan	AC/EC	AC/EC	AC/EC	EC	EC	EC	AC 6 pole
Bracket & tube for pressostat mounting	-	yes	yes	yes	-	-	-
Dual KP pressure switch	-	-	yes	-	-	-	yes
Schrader valve	-	-	-	yes	yes	yes	-
Wired electrical box	yes	yes	yes	yes	yes	yes	yes
Mini HP/LP pressostat	-	-	-	-	yes	-	-
Power cord	-	-	yes	-	yes	-	-
Receiver	-	yes	yes	-	Combo drier + receiver	-	yes
Net weight in kg	14 chassis: Lighter: 14 Bigger: 42			4 chassis: Lighter: 14 Bigger: 41			5 chassis: Lighter single fan: 62 Bigger single fan: 158 Lighter dual fan: 134 Bigger dual fan: 212
Dimensions in mm (height x width x depth)	14 chassis: Smaller: 205 x 289 x 424 Larger: 350 x 445 x 613			4 chassis: Smaller: 226 x 286 x 513 Larger: 350 x 442 x 480			5 chassis: Smaller single fan: 545 x 630 x 650 Larger single fan: 836.5 x 1200 x 800 Smaller dual fan: 693.5 x 1500 x 870 Larger dual fan: 836.5 x 1500 x 870

Overview by range and refrigerant:

Min / Max cooling capacity (kW)	Light Commercial	Commercial
Medium temperature (MBP)		
R290	0.2 - 1.4	
R448A		2 - 20.5
R449A		2 - 20.5
R134a	0.1 - 1.6	1.3 - 13.1
R452A		2.2 - 20.6
R407A		1.9 - 19.1
R407C		1.8 - 19.1
R407F		2 - 20.1
R404A/507	0.3 - 1.7	2.2 - 21.7
Low temperature (LBP)		
R290	0.1 - 0.7	
R452A	0.1 - 0.3	0.8 - 6.1
R404A/507	0.1 - 0.9	0.9 - 6.6

MBP and LBP applications



- ✓ Industrial processes
- ✓ Milk cooling
- ✓ Cold rooms in fisheries, florists, etc.
- ✓ Commercial fridge and freezers, display cases, bottle coolers, serving tables

Designation

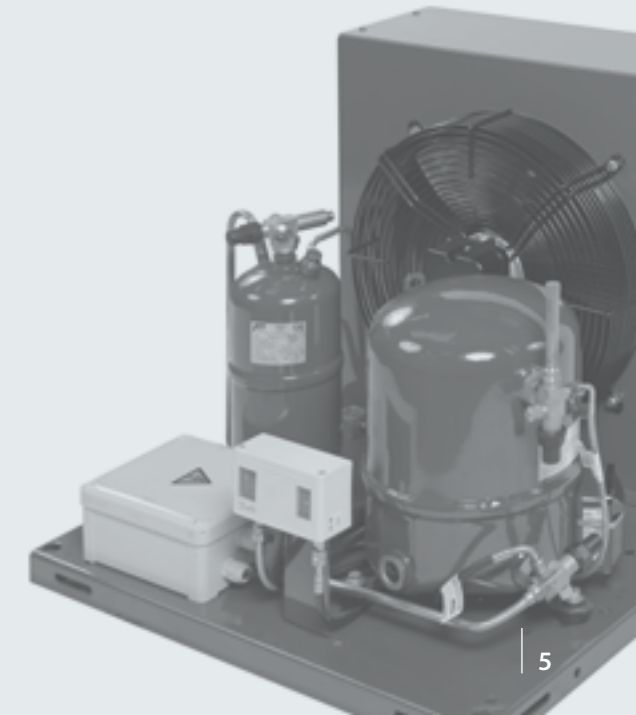
OP - LCQN 048 MT A02 E

1 2 3 4 5 6 7 8

OP = Optyma

1	Application: M = MBP ; L = LBP
2	Platform: C: Air-cooled condensing unit with single fan G: Air-cooled condensing unit with dual fan
3	Refrigerant: R: R134a, R513A, R404A/R507, R407C, R407A, R407F, R448A, R449A, R452A G: R134a, R513A H: R404A/R507 Q: R452A, R404A/R507 N: R290
4	Condenser design: C: Fin & Tube condenser, ambient temperature up to 43°C N: Microchannel condenser, ambient temperature up to 46°C

5	Compressor displacement: Example 048 = 48 cm ³
6	Reciprocating compressor platform: FR = FR NF = NF SC = SC GS = GS NX = NX NB = NBC NS = NS NY = NLY NP = NPT MP = MPT MY = MLY MX = MX NT = NTZ MT = MTZ TL = TL NL = NL
7	Version: A00, A01, A02, A04, A09, A10, A11. See table above for features within each version.
8	Electrical code: A: Compressor 230V/1P/50-60Hz, fan 230V/1P/50-60Hz G: Compressor 230V/1P/50Hz, fan 230V/1P/50Hz E: Compressor 400V/3P/50Hz, fan 230V/1P/50Hz



Optyma™. Light Commercial – up to ~1.5 kW

Refrigerants with a GWP level below 2500 Refrigerants with a GWP level above 2500

R134a – MBP

Model	Version	Phase	Code no.	Cooling capacity* in kW at evaporating temp. -10°C	Rated COP
OP-MCGC003	A00	1	114X0104	0.13	1.08
	A01	1	114X0105		
	A04	1	114X0107		
OP-MCGC004	A00	1	114X0108	0.15	1
	A01	1	114X0109		
	A04	1	114X0111		
OP-MCGC005	A00	1	114X0112	0.18	1.11
	A01	1	114X0113		
	A04	1	114X0115		
OP-MCGC006	A00	1	114X0200	0.28	1.51
	A01	1	114X0201		
	A04	1	114X0203		
OP-MCGC006	A00	1	114X0228	0.29	1.49
	A01	1	114X0216		
OP-MCGC007	A00	1	114X0217	0.30	1.43
	A01	1	114X0217		
OP-MCGC008	A00	1	114X0224	0.35	1.45
	A01	1	114X0225		
	A04	1	114X0227		
OP-MCGC007	A00	1	114X0244	0.35	1.48
	A01	1	114X0204		
OP-MCGC008	A00	1	114X0205	0.39	1.56
	A01	1	114X0205		
OP-MCGC010	A04	1	114X0223	0.41	1.41
	A00	1	114X0352		
OP-MCGC008	A00	1	114X0352	0.41	1.48
	A00	1	114X0336		
	A01	1	114X0337		
OP-MCGC011	A00	1	114X0337	0.46	1.41
	A04	1	114X0339		
	A00	1	114X0340		
OP-MCGC012	A00	1	114X0341	0.52	1.41
	A04	1	114X0343		
	A00	1	114X0448		
OP-MCGC015	A01	1	114X0449	0.65	1.45
	A04	1	114X0451		
	A00	1	114X0568		
OP-MCGC021	A00	1	114X0564	0.88	1.41
	A01	1	114X0565		
	A04	1	114X0567		
OP-MCGC026	A01	1	114X0773	1.32	1.77
	A04	1	114X0781		
OP-MCGC034	A01	1	114X0781	1.65	1.73

R404A – MBP

Model	Version	Phase	Code no.	Cooling capacity* in kW at evaporating temp. -10°C	Rated COP
OP-MCHC004	A00	1	114X0301	0.32	1.60
	A01	1	114X0302		
	A04	1	114X0303		
OP-MCHC006	A00	1	114X2316	0.50	1.41
	A01	1	114X2317		
	A04	1	114X2319		
OP-MCHC007	A00	1	114X2424	0.66	1.55
	A01	1	114X2425		
	A04	1	114X2427		
OP-MCHC010	A00	1	114X0403	0.85	1.74
	A01	1	114X0404		
	A04	1	114X0405		
OP-MCHC013	A00	1	114X0406	1.00	1.70
	A01	1	114X0407		
	A04	1	114X0408		
OP-MCHC015	A01	1	114X2649	1.27	1.60
	A04	1	114X2651		
	OP-MCHC018	A01	1		
A04		1	114X0703		
OP-MCHC021		A01	1	114X2765	1.72
	A04	1	114X2767		

R404A – LBP

Model	Version	Phase	Code no.	Cooling capacity* in kW at evaporating temp. -35°C	Rated COP
OP-LCHC004	A00	1	114X1208	0.09	0.80
	A01	1	114X1209		
	A04	1	114X1211		
OP-LCQC004	A01	1	114X1221	0.12	0.89
	A00	1	114X1216		
OP-LCHC006	A01	1	114X1217	0.15	0.80
	A04	1	114X1219		
	A01	1	114X1337		
OP-LCQC006	A01	1	114X1337	0.18	0.93
	A00	1	114X1328		
	A01	1	114X1329		
OP-LCHC007	A00	1	114X1328	0.19	0.89
	A01	1	114X1329		
	A04	1	114X1331		
OP-LCQC008	A01	1	114X1341	0.20	0.89
	A00	1	114X1304		
	A01	1	114X1301		
OP-LCHC008	A00	1	114X1301	0.20	0.87
	A04	1	114X1302		
	A00	1	114X1440		
OP-LCHC012	A01	1	114X1441	0.28	0.84
	A04	1	114X1443		
	A00	1	114X1444		
OP-LCHC012	A00	1	114X1444	0.31	0.83
	A01	1	114X1449		
OP-LCQC012	A01	1	114X1449	0.29	0.94
	A00	1	114X1548		
	A01	1	114X1549		
OP-LCHC015	A00	1	114X1548	0.34	0.81
	A01	1	114X1549		
	A04	1	114X1551		
OP-LCQC012	A01	1	114X1569	0.35	0.97
	A00	1	114X1573		
OP-LCQC014	A01	1	114X1573	0.40	0.95
	A00	1	114X1556		
	A01	1	114X1557		
OP-LCHC018	A00	1	114X1556	0.42	0.95
	A01	1	114X1557		
	A04	1	114X1559		
OP-LCHC021	A00	1	114X1600	0.47	0.97
	A01	1	114X1601		
	A04	1	114X1602		
OP-LCHC026	A01	1	114X1673	0.63	0.95
	A04	1	114X1781		
OP-LCHC034	A01	1	114X1781	0.89	1
	A04	1	114X1783		

For regular updates and detailed capacities, please refer to Coolselector®2 software coolselector.danfoss.com



*Conditions EN 13215 (dew point): +32°C ambient temp. superheat 10K. subcooling 0K
Rated COP & SEPR at EcoDesign rating conditions: +32°C ambient. subcooling 0 K. RGT20°C

Optyma™. Commercial – from ~1.5 kW

Refrigerants with a GWP level below 2500

R449A – MBP

Model	Phase	Code no.	Cooling capacity* in kW at evaporating temp. -10°C	Rated COP	SEPR	Sound pressure level @10m dB(A)
OP-MCRN030	3	114X5721	2.06	1.93		45
	1	114X5722				
OP-MCRN038	3	114X5724	2.68	1.93		43
	1	114X5723				
OP-MCRN048	3	114X5726	3.57	2.09		43
	1	114X5728				
OP-MCRN054	3	114X5729	4.06	2.13		43
	1	114X5731				
OP-MCRN060	3	114X5732	4.58	1.96		43
	1	114X5734				
OP-MCRN068	3	114X5735	5.27	1.96	2.79	45
OP-MCRN086	3	114X5737	6.32	2.17	3.20	53
OP-MCRN096	3	114X5739	6.92	2.15	3.16	52
OP-MCRN108	3	114X5740	7.83	2.13	3.01	52
OP-MGRN108	3	114X5743	7.83	2.17	3.08	52
OP-MCRN121	3	114X5744	8.77	2.05	2.89	51
OP-MGRN121	3	114X5746	8.77	2.08	2.95	51
OP-MCRN136	3	114X5747	10.01	1.97	2.74	51
OP-MGRN136	3	114X5749	10.01	2	2.79	51
OP-MGRN171	3	114X5750	12.78	2.06	3.01	56
OP-MGRN215	3	114X5753	16.45	2.09	2.99	55
OP-MGRN242	3	114X5754	18.43	2.04	2.86	54
OP-MGRN271	3	114X5757	20.56	1.99	2.74	53

R448A – MBP

Model	Phase	Code no.	Cooling capacity* in kW at evaporating temp. -10°C	Rated COP	SEPR	Sound pressure level @10m dB(A)
OP-MCRN030	3	114X5721	2.06	1.93		45
	1	114X5722				
OP-MCRN038	3	114X5724	2.68	1.93		43
	1	114X5723				
OP-MCRN048	3	114X5726	3.57	2.09		43
	1	114X5728				
OP-MCRN054	3	114X5729	4.06	2.13		43
	1	114X5731				
OP-MCRN060	3	114X5732	4.58	1.96		43
	1	114X5734				
OP-MCRN068	3	114X5735	5.27	1.96	2.79	45
OP-MCRN086	3	114X5737	6.32	2.16	3.19	53
OP-MCRN096	3	114X5739	6.92	2.15	3.16	52
OP-MCRN108	3	114X5740	7.83	2.13	3.01	52
OP-MGRN108	3	114X5743	7.83	2.17	3.08	52
OP-MCRN121	3	114X5744	8.77	2.05	2.89	51
OP-MGRN121	3	114X5746	8.77	2.08	2.95	51
OP-MCRN136	3	114X5747	10.01	1.97	2.74	51
OP-MGRN136	3	114X5749	10.01	1.99	2.78	51
OP-MGRN171	3	114X5750	12.78	2.06	3.01	56
OP-MGRN215	3	114X5753	16.45	2.09	2.99	55
OP-MGRN242	3	114X5754	18.43	2.03	2.86	54
OP-MGRN271	3	114X5757	20.56	1.98	2.74	53

R134a – MBP

Model	Phase	Code no.	Cooling capacity* in kW at evaporating temp. -10°C	Rated COP	SEPR	Sound pressure level @10m dB(A)
OP-MCRN030	3	114X5721	1.29	1.82		45
	1	114X5722				
OP-MCRN038	3	114X5724	1.62	1.94		43
	1	114X5723				
OP-MCRN048	3	114X5726	2.01	1.85		43
	1	114X5728				
OP-MCRN054	3	114X5729	2.34	1.77		43
	1	114X5731				
OP-MCRN060	3	114X5732	3.01	1.92		43
	1	114X5734				
OP-MCRN068	3	114X5735	3.43	2.03		45
OP-MCRN086	3	114X5737	4.05	2.13		53
OP-MCRN096	3	114X5739	4.09	2.04		52
OP-MCRN108	3	114X5740	4.73	2.09		52
OP-MGRN108	3	114X5743	4.73	2.16		52
OP-MCRN121	3	114X5744	5.33	2.08	2.71	51
OP-MGRN121	3	114X5746	5.33	2.14	2.80	51
OP-MCRN136	3	114X5747	6.74	2.31	2.55	51
OP-MGRN136	3	114X5749	6.37	2.20	2.55	51
OP-MGRN171	3	114X5750	7.82	1.90	2.68	56
OP-MGRN215	3	114X5753	9.74	2.08	2.91	55
OP-MGRN242	3	114X5754	12.06	2.08	2.76	54
OP-MGRN271	3	114X5757	13.13	2.11	2.79	53

R407C – MBP

Model	Phase	Code no.	Cooling capacity* in kW at evaporating temp. -10°C	Rated COP	SEPR	Sound pressure level @10m dB(A)
OP-MCRN030	3	114X5721	1.84	1.89		45
	1	114X5722				
OP-MCRN038	3	114X5724	2.44	1.90		43
	1	114X5723				
OP-MCRN048	3	114X5726	3.29	2.05		43
	1	114X5728				
OP-MCRN054	3	114X5729	3.85	2.12		43
	1	114X5731				
OP-MCRN060	3	114X5732	4.39	1.97		43
	1	114X5734				
OP-MCRN068	3	114X5735	5.10	1.98	2.71	45
OP-MCRN086	3	114X5737	5.96	2.14	2.89	53
OP-MCRN096	3	114X5739	6.42	2.15	3	52
OP-MCRN108	3	114X5740	7.40	2.15	3.01	52
OP-MGRN108	3	114X5743	7.40	2.19	3.08	52
OP-MCRN121	3	114X5744	8.23	2.02	2.79	51
OP-MGRN121	3	114X5746	8.23	2.06	2.84	51
OP-MCRN136	3	114X5747	9.21	1.94	2.67	51
OP-MGRN136	3	114X5749	9.21	1.97	2.72	51
OP-MGRN171	3	114X5750	11.62	1.96	2.81	56
OP-MGRN215	3	114X5753	15.42	2.08	2.90	55
OP-MGRN242	3	114X5754	16.67	1.99	2.76	54
OP-MGRN271	3	114X5757	19.14	1.97	2.71	53



Danfoss is with you **all the way**

Danfoss has a global market presence selling in **over 100 countries** and with factories. Application Development Centers (ADC) and laboratories all over the globe*.

This global footprint ensures the highest level of **customer service and application expertise** with local technical support near you- speaking your language. and understanding your everyday needs and challenges. Backed by a wide distribution network trained to select, specify and sell our products. it's the guarantee that we are by your side. all the way.

For **24/7 support**, we have developed intuitive tools and apps to help you to make the right product selection. choose an alternative refrigerant, troubleshoot your installation or be trained to use natural refrigerants or the latest Danfoss products.

Learn more.
Achieve more.

Cold room:

coldroom.danfoss.com

Product selection:

coolselector.danfoss.com

Free learning platform:

learning.danfoss.com

Refrigerants and Energy Efficiency:

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