

ENGINEERING  
TOMORROW



Danfoss Optyma™ condensing units for Asia

## Match your application needs – every time

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

**Make the optimal choice from our extensive ranges of outdoor condensing units.**

### Optimal Efficiency

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



[cr.danfoss.com](http://cr.danfoss.com)

**Optyma™**  
by Danfoss

# Danfoss Optyma™ packaged/outdoor condensing units

Highly efficient and reliable plug and play condensing units designed with the contractor and end-user in mind, and providing unique benefits.

## Optyma™ Slim Pack W04 Light on refrigerant, heavy on efficiency



Compact and cost effective. When space, quiet operation, efficiency and simple installation matter.

With microchannel condenser for high ambient temp. up to 46°C



## Optyma™ Plus P00/P02 Equipped for quietness and top performance



Top performer. When quietness, high efficiency, connectivity and fastest installation and maintenance matter.

**P00 version:**  
With electronic controller



**P02 version:**  
P00 base + liquid injection  
with electronic expansion valve



## Optyma™ Plus INVERTER Capacity modulation in a simple and adaptive package



Premium unit. When top efficiency, fastest installation and maintenance, tight temperature and humidity control matter.

With variable speed drive



## Feature overview:

	Optyma™ Slim Pack W04	Optyma™ Plus		Optyma™ Plus INVERTER
		P00	P02	
IP level	IP54	IP54		IP54
Compressor technology	Scroll/Reciprocating	Scroll/Reciprocating		Variable speed scroll
Control box (pre-wired E-panel)	yes	yes		yes
Microchannel condenser	yes	yes		yes
Fan speed controller	-	yes		yes
Main switch (circuit breaker)	-	yes		yes
Filter drier (flare connections)	yes	yes		yes
Sight glass	yes	yes		yes
Crankcase heater	yes (LBP models)	yes		yes
HP/LP adjustable pressostat	Mechanical	Electronic		Electronic
Liquid injection kit	-	-	yes (LBP models)	
Fail safe mini-pressostat	-	Mechanical		Mechanical
Access door(s)	-	yes		yes
Acoustic insulation	-	yes		yes
Condensing unit electronic controller	-	yes		yes
Network connectivity	-	yes		yes
Stack mounting	-	yes		-
Oil separator	-	-		yes
Net weight in kg	B2 housing: from 61.5 to 77 B3 housing: from 76 to 79	H3 housing: from 101 to 107 H4 housing: 169	H3 housing: 135 and 136 H4 housing: from 161 to 166	124 & 125
Dimensions in mm (height x width x depth)	B2 housing: 690 x 1087 x 464 B3 housing: 825 x 1105 x 464	H3 housing: 967 x 1406 x 481 H4 housing: 966 x 1800 x 600	H3 housing: 965 x 1441 x 531 H4 housing: 966 x 1835 x 650	965 x 1406 x 481

## Overview by range and refrigerant:

Min / Max Cooling capacity range [kW]	Optyma™ Slim Pack W04	Optyma™ Plus	Optyma™ Plus INVERTER
<b>Medium temperature (MBP)</b>			
R134a	2.1 - 6.8	1.7 - 10.2	-
R404A	3.4 - 11	0.7 - 16	1.8 - 9
R448A/R449A	3.3 - 10.3	0.7 - 14.9	1.7 - 8.3
<b>Low temperature (LBP)</b>			
R404A	1.4 - 4.6	3.2 - 7.7	-
R448A/R449A	-	3 - 7.6	-

Rating conditions EN 13215 (dew point):

**MBP:** Ambient temp = 32°C; Evap temp = -10°C; Superheat = 10K; Subcooling = 0K / **LBP:** Ambient temp = 32°C; Evap temp = -30°C; Superheat = 10K; Subcooling = 0K

## Designation

### OP - MPVE034 ML W04 E

1 2 3 4 5 6 7 8

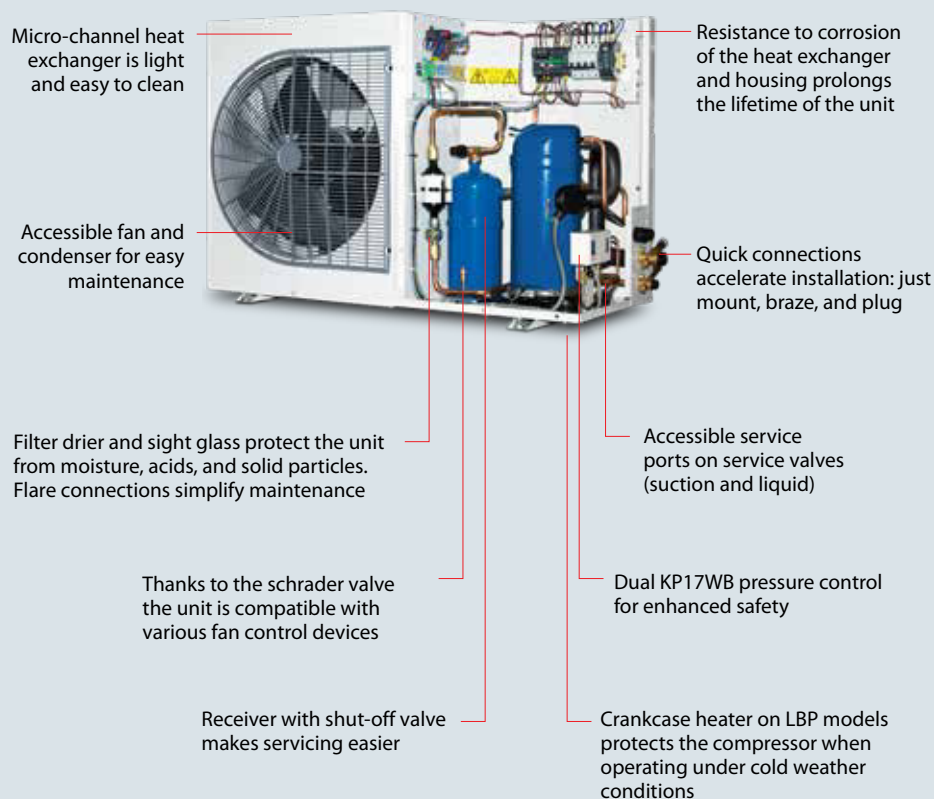
1	Application: <b>M</b> = MBP ; <b>L</b> = LBP
2	Condensing unit family: <b>P</b> = Packaged condensing units
3	Refrigerant: <b>H</b> = R404A/R507 <b>O</b> = R404A, R448A, R449A <b>P</b> = R404A/507, R407A/F, R448A, R449A <b>Q</b> = R404A/507, R452A <b>U</b> = R134a, R404A/R507 <b>V</b> = R22, R134a, R513A, R404A, R448A, R449A, R452A
4	<b>E</b> = Microchannel condenser for high ambient conditions up to 46°C
5	Displacement in cm <sup>3</sup> : Example 034 = 34 cm <sup>3</sup>
6	Compressor platform: such as VVL = variable speed scroll VLZ, ML, MT, NT
7	Version: <b>W04</b> : Optyma™ Slim Pack <b>P00</b> : Optyma™ Plus <b>P02</b> : Optyma™ Plus with liquid injection <b>P01</b> : Optyma™ Plus INVERTER
8	Electrical code: <b>G</b> = 230V/1-phase compressor & fan <b>E</b> = 400V/3-phase compressor & 230V/1-phase fan

## MBP and LBP applications



- ✓ Cold rooms, display cabinets in convenience stores, mini-markets, restaurants, fisheries, butcheries, bakeries, florists, laboratories
- ✓ Wine cellars
- ✓ Milk cooling
- ✓ Industrial processes
- ✓ Dairy and general food storage

## Optyma™ Slim Pack W04



### Quick and safe installation and service

Enjoy fast and easy installation with the service valves, and quick connections. Additionally, the easy-to-clean Microchannel condenser saves you time and effort on servicing.



### Optimized footprint for floor and wall mounting

Thanks to its slim design and low weight, it is easy to transport and handle during installation – particularly for wall mounting.



### Low sound level

The unit can operate at low sound level making it suitable for residential areas.

# Optyma™ Plus P00/P02

(Available with liquid injection – P02)

## In-field stacking cuts costs

With its unique load-bearing design, it's possible to stack units in the field. This cuts installation time, and saves on carpentry and brackets to reduce cost.

## Compact cabinet speeds installation

New compact design makes it easier to handle when fitting in tight spaces, saving installation time.



## Accessibility to speed up service

Easier and quicker accessibility to all components with new double door design – saves time during servicing, maintenance and repair.

## Intelligent technology speeds start-up and enhances reliability

Preset parameters make it easier to get it right from the start. Fewer mistakes reduce the risk of damage and save time and money on repairs.

## Liquid injection

The introduction of electronic liquid injection technology on LBP models enables precise temperature control of the application with an extended operating envelope.



## Quick and safe installation and service

It is another step forward in plug and play. It will not just save you valuable time in installation, set up and service, it will also reduce your customers' bill.



## The best sound performance in the market

Due to its long-life compressor, acoustic insulation, component design as well as intelligent fan speed reduction during low capacity operation.



## Connectivity

Contributes to considerable energy savings, making the Optyma™ Plus up to 20% more economical than an equivalent product.

# Optyma™ Plus INVERTER

## Stepless capacity modulation

From 30 to 100 rps modulation leads to 20-30% higher energy efficiency compared to fixed-speed condensing units.

## Simple commissioning

Preset drive parameters with dedicated refrigeration software.

## Future-proof

Working with lower GWP refrigerants such as R448A and R449. Also compatible with R407A/F and R404A.



## Danfoss compressor and drive package

Dedicated to refrigeration with years of market application and validation.

## Simple plug-and-play installation

Safe, simple and hassle-free installation with tried-and-tested components.

## Full intelligent control through the Optyma™ Plus Controller

Control, alarm management, day & night operation, can connect to ADAP-KOOL® software, etc.



## Quick and safe installation and service

Preset parameters and Modbus communication makes start-up and maintenance of the condensing unit effortlessly quick and easy.



## Extended capacity

Stepless compressor modulation - able to slow down and speed up from 30 to 100 RPS to save energy and match load fluctuations very accurately. The inverter drive incorporates smart logic to increase reliability during operation.



## Accurate temperature control

Accurate temperature control and low in-rush current result in a more stable storage temperature and longer product shelf life.

Optyma™ Slim Pack: R134a, R404A, R448A, R449A, R513A, R452A, R22 – MBP

Model	Phases	Code no.	Cooling capacity in [kW] at evaporating temperature -10°C			Rated COP	Sound pressure level @1m dB(A)
			R134a	R404A	R448A/R449A	R404A	
OP-MPVE034	1	114X7038	2.21	3.43	3.33	1.92	58
	3	114X7039					
OP-MPVE046	1	114X7040	3.00	4.57	4.52	1.89	58
	3	114X7041					
OP-MPVE057	1	114X7073	3.67	5.33	5.55	1.61	58
	3	114X7074					
OP-MPVE068	1	114X7042	4.46	7.46	6.74	2.10	59
	3	114X7043					
OP-MPVE080	1	114X7044	5.22	8.75	7.91	2.16	59
	3	114X7045					
OP-MPVE093	1	114X7046	5.95	9.65	9.14	1.94	59
OP-MPVE099	3	114X7047	6.42	10.24	9.68	2.02	59
OP-MPVE108	3	114X7048	6.79	11.02	10.35	2.01	59

Optyma™ Slim Pack: R404A, R452A – LBP

Model	Phases	Code no.	Cooling capacity in [kW] at evaporating temperature -30°C	Rated COP	Sound pressure level @1m dB(A)
			R404A	R404A	
OP-LPQE048	1	114X7053	1.40	1.04	60
	3	114X7054			
OP-LPQE068	1	114X7055	2.18	1.10	60
	3	114X7056			
OP-LPQE067	3	114X7057	3.34	1.09	60
OP-LPQE083	3	114X7058	4.01	1.13	62
OP-LPQE097	3	114X7059	4.66	1.18	63

Optyma™ Plus with liquid injection: R404A, R448A/R449A – LBP

Model	Phases	Code no.	Cooling capacity in [kW] at evaporating temperature -30°C		Rated COP	Sound pressure level @1m dB(A)
			R404A	R448A/R449A	R404A	
OP-LPOM067	3	114X3371	3.27	3.01	1.12	60
OP-LPOM084	3	114X3372	3.91	3.80	1.15	62
OP-LPOM098	3	114X3373	4.52	4.48	1.23	63
OP-LPOM120	3	114X3485	5.89	5.42	1.20	67
OP-LPOM168	3	114X3486	7.75	7.62	1.30	67

Conditions EN 13215 (dew point): +32°C ambient temp., superheat 10K, subcooling 0K  
Values refer to 3-phase units. For 1-phase units capacity, +/-3% of the value.

Optyma™ Plus INVERTER: R448A, R449A, R404A, R407A/F - MBP

Model	Code no.	Rotation per second (RPS)	Cooling capacity in [kW] at evaporating temperature -10°C		Part load efficiency R448A/R449A	Sound pressure level @1m dB(A)
			R448A/ R449A	R404A		
OP-MPPM028	114X4302	30	1.73	1.85	3.38	60
		75	4.27	4.57		62
		100	5.45	5.94		63
OP-MPPM035	114X4316	30	2.17	2.34	3.29	62
		75	5.24	5.66		63
		100	6.68	7.22		64
OP-MPPM044	114X4334	30	2.78	3.01	3.73	62
		75	6.57	7.11		64
		100	8.38	9.03		65

Conditions EN 13215 (dew point): +32°C ambient temp., superheat 10K, subcooling 0K  
Part load efficiency ref to EcoDesign rating conditions: +32°C ambient, subcooling 0 K, RGT20°C





# 1 provider for everything cooling

Danfoss is the leading manufacturer within refrigeration and the preferred supplier of industry leading components and technology.

With sales offices in more than 50 countries, we offer local support, globally - making access to know-how and applied expertise easy for you.

As a one-stop-shop, Danfoss offers a complete range of electronically operated valves and controllers, and our large product portfolio meets the needs of the market.

**We can help you design the best possible  
solution for your next refrigeration project**

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