



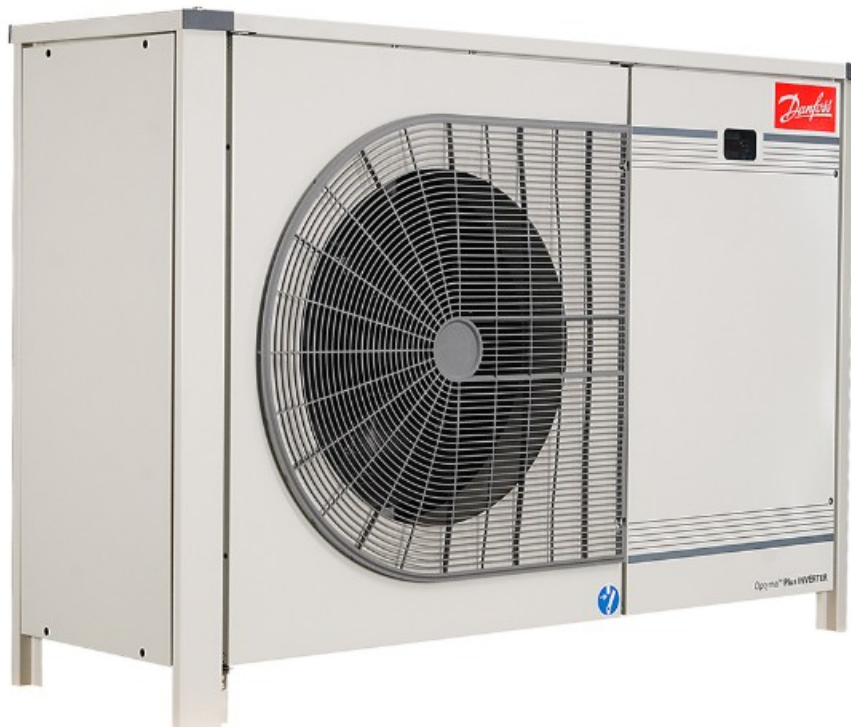
## Danfoss R404A Optyma Plus Inverter AC Drives and Controls Owner's Manual

[Home](#) » [Danfoss](#) » Danfoss R404A Optyma Plus Inverter AC Drives and Controls Owner's Manual 



OPTYMA **PLUS**™  
R404A/R507 • R134a • R407C  
OPTYMA PLUS™

– the low noise solution designed by Danfoss



## Contents

- 1 R404A Optima Plus Inverter AC Drives and Controls
- 2 OPTYMA PLUS™ condensing unit R404A/R507 LBP/MBP
- 3 Documents / Resources
  - 3.1 References

## R404A Optima Plus Inverter AC Drives and Controls

REFRIGERATION & AIR CONDITIONING DIVISION

OPTYMA PLUS™ – the low noise condensing units for quick installation



In designing our new OPTYMA PLUS range we listened to our customers, utilised all our engineering skills and combined the very best design knowledge to create a fully factorybuilt condensing unit ready for quick installation and quiet operation.

OPTYMA PLUS is a unique integral Danfoss condensing unit built around Danfoss components.

As standard we supply the compressor, fan speed control, Filter drier, shut off valve, pressure switch, magnetic contactor, sight glass and electrical fuse all within a robust weather proof housing. A perfect cooling solution for typical food retail, petrol forecourt sites and cold room and freezer applications.

All units are fully wired and factory tested. Installation is effortlessly simple: just mount the unit, switch on the power, and the cooling process is up and running. OPTYMA PLUS can be located anywhere. Acoustic insulation and fan speed reduction during low capacity operation periods makes the operation of OPTYMA PLUS so smooth and quiet that it will not disturb the peace in your local environment.

#### **Installer benefits**

- + An integrated Danfoss design
- + Easy maintenance: just remove the panels and you have easy access to the components
- + Outstanding performance even in the toughest applications
- + A minimum size footprint enabling installation in small spaces without compromising the units' performance or service accessibility
- + Common Danfoss components all stocked locally by wholesalers

#### **End-user benefits**

- + Low noise operation
- + Modern practical design with a neutral colour to fit in with its surroundings
- + Strong weather resistant housing with lasting durability even in the harshest environments
- + Reliable high ambient operation and proven reliability in the most demanding applications
- + Energy saving benefits with fan speed control and selection of energy efficient components

#### **Product advantages**

- + Energy efficient
- + Low energy consumption
- + Fully weatherproof housing made from epoxy powder coated steel
- + Electrical box: IP54
- + Extremely low noise level

+ Small dimensions



## OPTYMA PLUS™ condensing unit R404A/R507 LBP/MBP

Phases	Designation OP-	Voltage Code	HP	Code No.	Ambient °C	Capacity in [W] at Evaporating Temperature [°C]													Sound * Weight [kg]	Routing	Size** HxDxL [mm]	Voltage Supply [V/Ph/Hz]
						Ambient °C																
						-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10					
1	LPHC08BNTPO0	G	21k	114X3224	27	630	970	1.360	1.800	2.260	2.750	3.240	3.730				34	82	2	760/ 480/1060	230/1/50	
					32	520	840	1.210	1.610	2.030	2.480	2.920	3.360									
					38	300	600	1.020	1.380	1.760	2.150	2.540	2.920									
					43	<b>280</b>	<b>560</b>	<b>870</b>	<b>1.190</b>	<b>1.530</b>	<b>1.880</b>	<b>2.230</b>	<b>2.560</b>									
					27	630	970	1.360	1.800	2.260	2.750	3.240	3.730									
3	LPHC08BNTPO0	E	21k	114X3232	32	520	840	1.210	1.610	2.030	2.480	2.920	3.360				34	82	2	760/ 480/1060	400/3/50	
					38	300	600	1.020	1.380	1.760	2.150	2.540	2.920									
					43	<b>280</b>	<b>560</b>	<b>870</b>	<b>1.190</b>	<b>1.530</b>	<b>1.880</b>	<b>2.230</b>	<b>2.560</b>									
					27	630	970	1.360	1.800	2.260	2.750	3.240	3.730									
					32	520	840	1.210	1.610	2.030	2.480	2.920	3.360									
1	LPHC08BNTPO0	G	31k	114X3240	27	830	1.210	1.680	2.220	2.820	3.470	4.160	4.870				34	84	2	760/ 480/1060	230/1/50	
					32	690	1.050	1.480	1.970	2.520	3.110	3.730	4.370									
					38	530	850	1.240	1.680	2.160	2.680	3.220	3.770									
					43	<b>500</b>	<b>1.040</b>	<b>1.440</b>	<b>1.870</b>	<b>2.330</b>	<b>2.800</b>											
					27	830	1.210	1.680	2.220	2.820	3.470	4.160	4.870									
3	LPHC08BNTPO0	E	31k	114X3248	32	690	1.050	1.480	1.970	2.520	3.110	3.730	4.370				34	84	2	760/ 480/1060	400/3/50	
					38	530	850	1.240	1.680	2.160	2.680	3.220	3.770									
					43	<b>500</b>	<b>1.040</b>	<b>1.440</b>	<b>1.870</b>	<b>2.330</b>	<b>2.800</b>											
					27	830	1.210	1.680	2.220	2.820	3.470	4.160	4.870									
					32	690	1.050	1.480	1.970	2.520	3.110	3.730	4.370									
3	LPHC09BNTPO0	E	41k	114X3356	27	<b>1.080</b>	<b>1.580</b>	<b>2.200</b>	<b>2.980</b>	<b>3.900</b>	<b>4.990</b>	<b>6.240</b>	<b>7.640</b>				36	116	3	980/ 550/1400	400/3/50	
					32	<b>900</b>	<b>1.300</b>	<b>1.860</b>	<b>2.550</b>	<b>3.380</b>	<b>4.360</b>	<b>5.480</b>	<b>6.750</b>									
					38	<b>700</b>	<b>1.000</b>	<b>1.400</b>	<b>1.900</b>	<b>2.400</b>	<b>2.900</b>	<b>3.400</b>	<b>3.900</b>									
					43	<b>680</b>	<b>1.020</b>	<b>1.360</b>	<b>1.700</b>	<b>2.040</b>	<b>2.380</b>	<b>2.720</b>	<b>3.060</b>									
					27	<b>1.080</b>	<b>1.580</b>	<b>2.200</b>	<b>2.980</b>	<b>3.900</b>	<b>4.990</b>	<b>6.240</b>	<b>7.640</b>									
1	LPHC13BNTPO0	E	7	114X3364	27	<b>1.970</b>	<b>2.760</b>	<b>3.710</b>	<b>4.830</b>	<b>6.120</b>	<b>7.580</b>	<b>9.190</b>	<b>10.940</b>				36	116	3	980/ 550/1400	400/3/50	
					32	<b>1.630</b>	<b>2.320</b>	<b>3.120</b>	<b>4.060</b>	<b>5.150</b>	<b>6.390</b>	<b>7.780</b>	<b>9.310</b>									
					38	<b>1.250</b>	<b>1.850</b>	<b>2.450</b>	<b>3.150</b>	<b>3.950</b>	<b>4.850</b>	<b>5.850</b>	<b>6.950</b>									
					43	<b>1.230</b>	<b>1.730</b>	<b>2.230</b>	<b>2.730</b>	<b>3.230</b>	<b>3.730</b>	<b>4.230</b>	<b>4.730</b>									
					27	<b>1.970</b>	<b>2.760</b>	<b>3.710</b>	<b>4.830</b>	<b>6.120</b>	<b>7.580</b>	<b>9.190</b>	<b>10.940</b>									
1	MPZC030MTPO0	G	11k	114X4216	27					790	1.160	1.610	2.140	2.740	3.410	4.130	34	82	2	760/ 480/1060	230/1/50	
					32					700	1.030	1.440	1.910	2.450	3.060	3.720						4.430
					38					600	890	1.240	1.650	2.130	2.660	3.240						3.880
					43					500	770	1.080	1.440	1.860	2.330	2.860						3.430
					27					790	1.160	1.610	2.140	2.740	3.410	4.130						4.840
3	MPZC030MTPO0	E	11k	114X4224	32					700	1.030	1.440	1.910	2.450	3.060	3.720	34	82	2	760/ 480/1060	400/3/50	
					38					600	890	1.240	1.650	2.130	2.660	3.240						3.880
					43					500	770	1.080	1.440	1.860	2.330	2.860						3.430
					27					790	1.160	1.610	2.140	2.740	3.410	4.130						4.840
					32					700	1.030	1.440	1.910	2.450	3.060	3.720						4.430
1	MPZC04BMTPO0	G	21k	114X4232	27					1.080	1.510	2.040	2.660	3.350	4.090	4.870	34	84	2	760/ 480/1060	230/1/50	
					32					900	1.300	1.860	2.550	3.380	4.360	5.480						6.600
					38					700	1.000	1.400	1.900	2.400	2.900	3.400						4.520
					43					600	890	1.240	1.650	2.130	2.660	3.240						3.880
					27					1.080	1.510	2.040	2.660	3.350	4.090	4.870						5.580
3	MPZC04BMTPO0	E	21k	114X4240	32					900	1.300	1.860	2.550	3.380	4.360	5.480	34	84	2	760/ 480/1060	400/3/50	
					38					700	1.000	1.400	1.900	2.400	2.900	3.400						4.520
					43					600	890	1.240	1.650	2.130	2.660	3.240						3.880
					27					1.080	1.510	2.040	2.660	3.350	4.090	4.870						5.580
					32					900	1.300	1.860	2.550	3.380	4.360	5.480						6.600
1	MPZC05BMTPO0	G	31k	114X4248	27					1.250	1.880	2.480	3.170	3.920	4.750	5.650	34	84	2	760/ 480/1060	230/1/50	
					32					1.080	1.510	2.040	2.660	3.350	4.090	4.870						5.580
					38					900	1.300	1.860	2.550	3.380	4.360	5.480						6.600
					43					700	1.000	1.400	1.900	2.400	2.900	3.400						4.520
					27					1.250	1.880	2.480	3.170	3.920	4.750	5.650						6.360
1	MPZC06BMTPO0	G	41k	114X4364	27					1.460	2.220	2.840	3.510	4.230	4.990	5.760	36	116	3	980/ 550/1400	400/3/50	
					32					1.250	1.880	2.480	3.170	3.920	4.750	5.650						6.360
					38					1.080	1.510	2.040	2.660	3.350	4.090	4.870						5.580
					43					900	1.300	1.860	2.550	3.380	4.360	5.480						6.600
					27					1.460	2.220	2.840	3.510	4.230	4.990	5.760						6.470
3	MPZC06BMTPO0	E	41k	114X4256	32					1.250	1.880	2.480	3.170	3.920	4.750	5.650	36	116	3	980/ 550/1400	400/3/50	
					38					1.080	1.510	2.040	2.660	3.350	4.090	4.870						5.580
					43					900	1.300	1.860	2.550	3.380	4.360	5.480						6.600
					27					1.460	2.220	2.840	3.510	4.230	4.990	5.760						6.470
					32					1.250	1.880	2.480	3.170	3.920	4.750	5.650						6.360
1	MPZC07BMTPO0	G	7	114X4372	27					3.410	4.760	6.100	7.650	9.380	11.290	13.700	36	116	3	980/ 550/1400	400/3/50	
					32					3.180	4.240	5.470	6.880	8.480	10.240	12.160						14.230
					38					2.730	3.640	4.730	5.990	7.420	8.990	10.720						12.590
					43					2.400	3.160	4.140	5.270	6.530	7.980	9.580						11.240
					27					3.410	4.760	6.100	7.650	9.380	11.290	13.700						16.110
3	MPZC07BMTPO0	E	7	114X4372	32					3.180	4.240	5.470	6.880	8.480	10.240	12.160	36	116	3	980/ 550/1400	400/3/50	
					38					2.730	3.640	4.730	5.990	7.420	8.990	10.720						12.590
					43					2.400	3.160	4.140	5.270	6.530	7.980	9.580						11.240
					27					3.410	4.760	6.100	7.650	9.380	11.290	13.700						16.110
					32					3.180	4.240	5.470	6.880	8.480	10.240	12.160						14.230
1	MPZC13MTPT00	E	7	114X4380	27					5.910	8.280	10.750	13.320	15.990	18.760	21.630	36	122	3	980/ 550/1400	400/3/50	
					32					5.470	7.690	9.920	12.160	14.500	16.930	19.460						22.090
					38					4.760	6.600	8.520	10.520	12.590	14.840	17.270						19.790
					43					4.230	5.810	7.520	9.380	11.310	13.320	15.410						17.570
					27					5.910	8.280	10.750	13.320	15.990	18.760	21.630						24.560

Phases	Designation OP	Voltage Code	HP	Code No.	Ambient °C	Capacity in [W] at Evaporating Temperature [°C]							Housing	Voltage Supply [V/Ph/Hz]
						-15	-10	-5	0	5	10	15		
1	MPZC030MTP00	G	1½	114X4216	27	970	1320	1.720	2.180	2.680	3.220	3.790	2	230/1/50
					32	840	1180	1.560	1.990	2.460	2.960	3.490		
					38	710	1020	1.370	1.760	2.190	2.650	3.140		
					43	620	900	1.230	1.580	1.970	2.390			
3	MPZC030MTP00	E	1½	114X4224	27	970	1320	1.720	2.180	2.680	3.220	3.790	2	400/3/50
					32	840	1180	1.560	1.990	2.460	2.960	3.490		
					38	710	1020	1.370	1.760	2.190	2.650	3.140		
					43	620	900	1.230	1.580	1.970	2.390			
1	MPZC048MTP00	G	2¼	114X4232	27	1.550	2.050	2.670	3.410	4.280	5.260	6.380	2	230/1/50
					32	1.410	1.890	2.470	3.170	3.980	4.910	5.950		
					38	1.260	1.700	2.240	2.880	3.620	4.470	5.430		
					43	1.150	1.560	2.050	2.640	3.320	4.110			
3	MPZC048MTP00	E	2¼	114X4240	27	1.550	2.050	2.670	3.410	4.280	5.260	6.380	2	400/3/50
					32	1.410	1.890	2.470	3.170	3.980	4.910	5.950		
					38	1.260	1.700	2.240	2.880	3.620	4.470	5.430		
					43	1.150	1.560	2.050	2.640	3.320	4.110			
1	MPZC060MTP00	G	3	114X4248	27	2.410	3.090	3.870	4.770	5.780	6.900	8.140	2	230/1/50
					32	2.230	2.870	3.620	4.470	5.430	6.490	7.650		
					38	2.020	2.620	3.310	4.100	4.990	5.980	7.060		
					43	1.850	2.410	3.060	3.790	4.620	5.540			
3	MPZC060MTP00	E	3	114X4256	27	2.410	3.090	3.870	4.770	5.780	6.900	8.140	2	400/3/50
					32	2.230	2.870	3.620	4.470	5.430	6.490	7.650		
					38	2.020	2.620	3.310	4.100	4.990	5.980	7.060		
					43	1.850	2.410	3.060	3.790	4.620	5.540			
3	MPZC086MTP00	E	4¼	114X4364	27	3.040	3.980	5.100	6.410	7.910	9.590	11.440	3	400/3/50
					32	2.720	3.620	4.690	5.930	7.350	8.940	10.700		
					38	2.370	3.220	4.210	5.370	6.680	8.160	9.790		
					43	2.120	2.910	3.840	4.910	6.130	7.500			
3	MPZC108MTP00	E	5¼	114X4372	27	3.870	5.100	6.560	8.270	10.210	12.390	14.790	3	400/3/50
					32	3.470	4.660	6.060	7.680	9.520	11.590	13.880		
					38	3.030	4.150	5.460	6.980	8.700	10.640	12.800		
					43	2.700	3.740	4.980	6.400	8.030	9.850			
3	MPZC136MTP00	E	7	114X4380	27	5.380	6.940	8.770	10.860	13.220	15.860	18.750	3	400/3/50
					32	4.900	6.400	8.140	10.130	12.370	14.880	17.620		
					38	4.330	5.750	7.370	9.230	11.320	13.650	16.220		
					43	3.900	5.210	6.730	8.460	10.420	12.600			

### Conditions according to EN 13215:

Refrigerating capacity data based on suction gas superheat = 10K

Temperature of the refrigerant at condenser outlet is subcooled within the limits of the condensing unit.

Data may vary in some cases for three phase units in comparison to one phase version.

All specifications are subjected to change by manufacturer without prior notice.

### Adjustments to be done by using R134a instead of R404A:

The high pressure setting for the KP17WB has to be reduced to 18 Bar.

The setting for the RGE (Fan speed controller) has to be reduced to 11 Bar.

Final adjustment and fine tuning has to be made at the location where the unit is installed.

<b>Designation OP-</b>	<b>Code No.</b>	<b>Receiver Vol. [l]</b>	<b>Suction Line Ø [in ch]</b>	<b>Liquid Line Ø [in ch]</b>
LPHC048NTP00	114X3224	4.2	5/8	3/8
LPHC048NTP00	114X3232	4.2	5/8	3/8
LPHC068NTP00	114X3240	4.2	5/8	3/8
LPHC068NTP00	114X3248	4.2	5/8	3/8
LPHC096NTP00	114X3356	7.1	7/8	3/8
LPHC136NTP00	114X3364	7.1	1 1/8	1/2
MPZC030MTP00	114X4216	4.2	5/8	3/8
MPZC030MTP00	114X4224	4.2	5/8	3/8
MPZC048MTP00	114X4232	4.2	5/8	3/8
MPZC048MTP00	114X4240	4.2	5/8	3/8
MPZC060MTP00	114X4248	4.2	3/4	3/8
MPZC060MTP00	114X4256	4.2	3/4	3/8
MPZC086MTP00	114X4364	7.1	7/8	5/8
MPZC108MTP00	114X4372	7.1	7/8	5/8
MPZC136MTP00	114X4380	7.1	1 1/8	5/8

**OPTYMA PLUS™ condensing unit R407C MBP**



Phases	Designation OP-	Voltage Code	HP	Code No.	Ambient °C	Capacity in [W] at Evaporating Temperature [°C]							Housing	Voltage Supply [V/Ph/Hz]
						-15	-10	-5	0	5	10	15		
1	MPZC030MTP00	G	1½	114X4216	27	1.320	1.810	2.370	2.990	3.670	4.400	5.160	2	230/1/50
					32	1.150	1.620	2.140	2.720	3.360	4.030	4.750		
					38		1.390	1.880	2.410	2.990	3.610	4.260		
					43									
3	MPZC030MTP00	E	1½	114X4224	27	1.320	1.810	2.370	2.990	3.670	4.400	5.160	2	400/3/50
					32	1.150	1.620	2.140	2.720	3.360	4.030	4.750		
					38		1.390	1.880	2.410	2.990	3.610	4.260		
					43									
1	MPZC048MTP00	G	2¼	114X4232	27	2.450	3.280	4.220	5.260	6.400	7.620	8.910	2	230/1/50
					32	2.190	2.980	3.860	4.830	5.890	7.030	8.230		
					38	1.980	2.610	3.430	4.320	5.290	6.330	7.420		
					43									
3	MPZC048MTP00	E	2¼	114X4240	27	2.450	3.280	4.220	5.260	6.400	7.620	8.910	2	400/3/50
					32	2.190	2.980	3.860	4.830	5.890	7.030	8.230		
					38	1.980	2.610	3.430	4.320	5.290	6.330	7.420		
					43									
1	MPZC060MTP00	G	3	114X4248	27	3.470	4.420	5.460	6.600	7.810	9.070	10.370	2	230/1/50
					32	3.160	4.050	5.030	6.090	7.210	8.370	9.570		
					38	3.060	3.610	4.510	5.470	6.490	7.540	8.610		
					43									
3	MPZC060MTP00	E	3	114X4256	27	3.470	4.420	5.460	6.600	7.810	9.070	10.370	2	400/3/50
					32	3.160	4.050	5.030	6.090	7.210	8.370	9.570		
					38	3.060	3.610	4.510	5.470	6.490	7.540	8.610		
					43									
3	MPZC086MTP00	E	4¼	114X4364	27	4.490	5.820	7.320	8.990	10.800	12.730	14.770	3	400/3/50
					32	4.050	5.290	6.690	8.230	9.920	11.710	13.610		
					38		4.660	5.940	7.340	8.880	10.510			
					43									
3	MPZC108MTP00	E	5½	114X4372	27	5.950	7.650	9.590	11.780	14.200	16.830	19.640	3	400/3/50
					32	5.400	6.980	8.790	10.830	13.100	15.560	18.180		
					38		6.200	7.850	9.720	11.770	14.030			
					43									
3	MPZC136MTP00	E	7	114X4380	27	7.560	9.750	12.230	14.970	17.970	21.180	24.560	3	400/3/50
					32	6.890	8.960	11.270	13.830	16.630	19.600	22.740		
					38		8.000	10.120	12.460	15.000	17.710			
					43									

### Conditions according to EN 13215:

Refrigerating capacity data based on suction gas superheat = 10 K

Restrict suction gas superheat to max. 15 K

The shown data are preliminary.

Temperature of the refrigerant at condenser outlet is subcooled within the limits of the condensing unit.

Data may vary in some cases for three phase units in comparison to one phase version.

All specifications are subjected to change by manufacturer without prior notice.



### Applications

This new condensing unit range will perfectly fit applications like:

- Cold stores and freezer rooms
- Beer and wine cellars
- Small food retail and mini markets
- Garage forecourt shops

OPTYMA PLUS™ includes also the following 7 Danfoss products:

						
Compressor	Pressure control	Sight glass with moisture indicator	Hermetic filter drier with solid core	Contactors	Ball valves	Fan coil



For more detailed information please use our software RS+™3

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## Documents / Resources

	<a href="#">Danfoss R404A Optyma Plus Inverter AC Drives and Controls</a> [pdf] Owner's Manual R404A, R404A Optyma Plus Inverter AC Drives and Controls, Optyma Plus Inverter AC Drives and Controls, Inverter AC Drives and Controls, AC Drives and Controls, Drives and Controls
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## References

-  [Compressors for refrigeration, A/C and heating | Danfoss](#)
- [User Manual](#)

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