



Precision cooling with Danfoss

**Efficient, intelligent compressor solutions for
small and medium sized refrigeration applications**

The NTZ – Hassle-free choice for low temperatures

Dedicated to low temperature refrigeration and freezing applications, the NTZ range of hermetic reciprocating compressors is among the very best compressors available today.

A hassle-free economical choice, the NTZ is a stable workhorse, engineered and optimised for an extended evaporating temperature range from -10°C to -45°C. Its features guarantee top class performance and high efficiency at low evaporating temperatures.

Wide range

The NTZ range is one of the widest in hermetic reciprocating low temperature compressors, with capacities from 900 to 6000 W (@ EN12900 LBP).

High return temperature

NTZ compressors are designed to enable gas return temperatures up to 20°C without special adaptation.

Efficient motor cooling

A suction gas cooled motor combined with internal motor protection ensures reliable operation for many years.

High evaporating temperature limit
Improves system temperature pull-down capabilities.

Applications

- Frozen food processing and storage
- Ice cream machines
- Medium sized freezer rooms
- Low temperature condensing units
- Blast freezers.



NTZ: dedicated to low temperature (-10°C to -45°C) refrigeration and storage.

	T ₀	-45°C		-35°C		-25°C		-15°C		-10°C	
	T _c	Q ₀ (W)	COP	Q ₀ (W)	COP	Q ₀ (W)	COP	Q ₀ (W)	COP	Q ₀ (W)	COP
NTZ048	30°C	470	0,94	1290	1,43	2390	1,88	3890	2,52	4820	2,97
	40°C	280	0,68	990	1,15	1930	1,45	3200	1,86	3990	2,12
NTZ068	30°C	960	0,92	2230	1,54	3860	2,07	6080	2,63	7450	2,92
	40°C	650	0,63	1750	1,15	3120	1,55	4990	1,95	6150	2,16
NTZ096	30°C	1120	0,96	2600	1,45	4710	1,97	7810	2,68	9810	3,12
	40°C	-	-	2000	1,15	3840	1,52	6570	1,97	8350	2,23
NTZ108	30°C	1330	0,96	3170	1,52	5670	2,06	9190	2,73	11380	3,12
	40°C	-	-	2470	1,19	4620	1,59	7620	2,05	9490	2,32
NTZ136	30°C	1800	0,95	4060	1,40	7070	1,87	11300	2,51	13950	2,91
	40°C	-	-	3230	1,11	5830	1,45	9500	1,87	11800	2,12
NTZ215	30°C	2710	0,99	6250	1,53	10800	2,03	17000	2,75	20820	3,23
	40°C	1700	0,68	4950	1,19	9040	1,56	14600	2,00	18010	2,27
NTZ271	30°C	3790	1,01	8490	1,57	14620	2,07	23070	2,65	28300	2,98
	40°C	2680	0,73	6960	1,24	12310	1,62	19670	2,05	24230	2,29

Return Gas Temp. = 20 °C, Subcooling = 0 K, 400 V / 3 ph / 50 Hz, R404A

Superheat = 10 K, Subcooling = 0 K, 400 V / 3 ph / 50 Hz. Asercom certified performance data (except NTZ068)

NTZ highlights

- Wide evaporating range improves pull-down capabilities
- Integrated safety and robust design for many years of reliable operation
- Easy installation, as no injection cooling is required.

The MPZ – Compact solution for modern systems

The MPZ is the most advanced line of refrigeration compressors we have ever developed. Drawing on our vast experience at the forefront of compressor technology, the MPZ range has been designed to deliver an unmatched energy efficiency ratio, combined with space saving design, enhanced functionalities, low noise and extreme reliability.

The five models in the MPZ range cover cooling needs at evaporating temperatures from +10°C to -30°C and have each been tested thousands of hours under the toughest conditions. No matter which MPZ you choose, you will experience one of Danfoss' main values at its very best: quality you can trust.

Optimised design

Vertical connections and optimised shape enable easy integration.

Silent

Efficient sound dampening with gas pulsation muffler and low emission shell design.

Class-leading efficiency

Low energy consumption leads high COP of 2.1 at EN 12900 MBP.

Perfect for assemblies

Designed to fit perfectly in all brazed systems and assemblies.

Applications

- Ice cube making machines
- Display cabinets
- Blast coolers
- Housed condensing units for cold rooms
- Vending machines
- Bottle coolers
- Laboratory and medical equipment



MPZ: especially for factory assembled medium temperature (+10°C to -30°C) refrigeration systems and subassemblies.

	T ₀	-30°C		-20°C		-10°C		0°C		10°C	
	T _c	Q ₀ (W)	COP	Q ₀ (W)	COP	Q ₀ (W)	COP	Q ₀ (W)	COP	Q ₀ (W)	COP
MPZ038	35°C	1310	1,62	2320	2,14	3810	2,92	5870	4,02	8560	5,61
	45°C	840	1,06	1790	1,59	3000	2,11	4670	2,83	6910	3,82
MPZ048	35°C	1740	1,63	3060	2,16	4880	2,83	7290	3,71	10360	4,86
	45°C	1130	1,06	2470	1,64	4010	2,11	6010	2,70	8560	3,46
MPZ054	35°C	1860	1,61	3350	2,12	5420	2,76	8180	3,64	11740	4,90
	45°C	1200	1,03	2700	1,61	4460	2,07	6800	2,66	9830	3,44
MPZ061	35°C	2170	1,58	3830	2,05	6100	2,66	9100	3,46	12930	4,49
	45°C	1420	1,05	3110	1,57	5030	1,99	7530	2,53	10700	3,22
MPZ068	35°C	2530	1,60	4380	2,04	6920	2,61	10270	3,32	14550	4,21
	45°C	1700	1,07	3590	1,58	5710	1,96	8450	2,44	11940	3,04

Return Gas Temp. = 20 °C, Subcooling = 0 K, 400 V / 3 ph / 50 Hz, R404A

Superheat = 10 K, Subcooling = 0 K, 400 V / 3 ph / 50 Hz. Asercom certified performance data

MPZ highlights

- Standard foot mounting
- Oval shape for easy integration in compact systems
- Copper brazed connections guarantee 100% tight systems

The VTZ – Truly adaptive cooling technology

Refrigeration compressors are usually selected based on their performance with maximum expected system loads. But what happens when systems spend up to 85% of their time well below maximum load?

Avoid oversized and short cycling systems by choosing a compressor that automatically adapts to the current load. By combining an efficient VTZ compressor with a CD Compressor Drive, we have created an innovative and intelligent compressor package that utilizes variable speed technology to ensure superior efficiency across the entire operating range.

High COP and flexibility

Frequency converter variable speed technology ensures optimum efficiency throughout the entire operating range with no control overshoot. Rotation speed can be varied within a frequency band

ranging from 30-90Hz, with motor speeds ranging from 1800 to 5400 rpm, resulting in significant energy savings and low noise when running at low loads.

Intelligent operation for long life

The limited number of on-off cycles combined with an inherent soft starting feature reduce mechanical stress on the compressor, resulting in greater life expectancy.

Plug and play

All VTZ package units are delivered factory preset and are equipped with a wide range of integrated functions that enable easy installation, setup and control.

Applications

- Industrial cooling processes
- Refrigerated compressed air dryers
- Petrol station, superette multi evaporators refrigeration systems
- Refrigerated food processing



Precision Cooling. The VTZ is the intelligent, variable speed solution for industrial and multi-evaporator commercial refrigeration.

	T ₀		-30°C		-20°C		-10°C		0°C	
	T _c		Q ₀ (W)	COP	Q ₀ (W)	COP	Q ₀ (W)	COP	Q ₀ (W)	COP
VTZ038	45°C	Minimum Speed	500	0,79	980	1,12	1680	1,56	2690	2,18
	45°C	Maximum Speed	880	0,59	2330	0,79	4400	1,39	7290	1,93
VTZ054	45°C	Minimum Speed	800	0,83	1480	1,15	2560	1,63	4170	2,31
	45°C	Maximum Speed	1780	0,75	3630	1,11	6320	1,49	10150	1,95
VTZ086	45°C	Minimum Speed	750	0,68	1740	1,03	3230	1,53	5400	2,22
	45°C	Maximum Speed	2950	0,78	6470	1,20	11430	1,69	18220	2,29
VTZ121	45°C	Minimum Speed	1500	0,71	2950	1,09	5100	1,59	8200	2,28
	45°C	Maximum Speed	4140	0,73	8200	1,10	14390	1,53	23490	2,06
VTZ171	45°C	Minimum Speed	1720	0,75	3730	1,17	6740	1,69	11040	2,38
	45°C	Maximum Speed	5090	0,74	12350	1,16	22300	1,60	35130	2,11
VTZ215	45°C	Minimum Speed	2210	0,69	4990	1,14	9100	1,68	14950	2,40
	45°C	Maximum Speed	7410	0,78	16320	1,18	29010	1,60	46630	2,09
VTZ242	45°C	Minimum Speed	2590	0,72	5500	1,16	9790	1,70	15890	2,40
	45°C	Maximum Speed	7800	0,76	15880	1,13	28190	1,54	46330	2,06

Superheat = 10 K, Subcooling = 0 K, 400 V / 3 ph / 50 Hz, R404A

VTZ highlights

- Integrated new functionalities. Oil return management, Overload limitation, Anti short cycle protection, Discharge gas temperature monitoring (Accessory), Compressor rack controller: 1 variable speed+ 2 fixed speed cprs
- High COP across operating range
- Optimal load / capacity adaptation; a truly adaptive cooling technology

A safe and reliable choice

As food costs and energy prices continue to rise the cold chain is more important than ever. Modern consumers demand that the food they buy is cool, fresh and of consistently high quality.

Shop owners expect reliable, economic and efficient refrigeration and cooling solutions.

In today's business environment choosing the right supplier of efficient and reliable compressor solutions is more important than ever.

With more than 50 years of experience in compressor development and design, Danfoss can supply exactly the compressor you need for your specific application.

The NTZ, MPZ and VTZ compressor ranges from Danfoss have been designed specifically to cater for low and medium temperature commercial refrigeration and cooling applications.





Always thinking ahead

At Danfoss, we believe some of the refrigeration industry's most pressing challenges present an opportunity to do what we do best: engineer innovative refrigeration solutions that address the energy, environmental and food safety concerns of our customers.

By delivering the people, products and tools, learn how Danfoss, by delivering the people, products and tools can help you develop competitive, future-proof refrigeration units for your customers today.