

# Overview of oil types

## Introduction

This document presents an overview of oil types and their technical specifications for Danfoss Commercial Compressors. Each Danfoss oil is specifically selected and tuned with additives for optimal performance in the indicated compressor series. When oil top-up is needed, always use the oil type as listed in the below table. Otherwise compressor warranty may be voided.

## Compressors and oil types

|                                    | Compressor series  | Refrigerant  | Factory charged oil type |              | Oil type for top-up |
|------------------------------------|--------------------|--|--------------------------|--------------|---------------------|
| Maneurop reciprocating compressors | NTZ                | R404A,R452A*   | Polyolester              | 175PZ        | 175PZ               |
|                                    | MT                 | R22  | Mineral                  | 160P         | 160P                |
|                                    | MTZ                | R404A, R507, R134a, R407A, R407C, R407F,R448A,R449A,R452A*, R513A* | Polyolester              | 175PZ        | 175PZ               |
|                                    | VTZ                | R404A, R507, R134a, R407A, R407C, R407F                            | Polyolester              | 160PZ        | 175PZ               |
|                                    | Scroll compressors | HRM/HLM/HCM  | R22                      | Alkylbenzene | 160ABM              |
| Scroll compressors                 | HRP/HLP            | R407C  | Polyvinylether           | 160HV        | 160HV/320HV         |
|                                    | HCP                | R407C  | Polyvinylether           | 320HV        | 320HV               |
|                                    | HRH/HLH/HLJ        | R410A  | Polyvinylether           | 160HV        | 160HV/320HV         |
|                                    | HCJ/DCJ            | R410A  | Polyvinylether           | 320HV        | 320HV               |
|                                    | MLM015-076         | R22  | Alkylbenzene             | 160ABM       | 160ABM              |
|                                    | MLM116             | R22  | Mineral                  | 160P         | 160P                |
|                                    | MLZ015-048         | R22, R404A, R134a, R407A, R407C, R407F                             | Polyvinylether           | 160HV        | 160HV/320HV         |
|                                    | MLZ058-076         | R22, R404A, R134a, R407A, R407C, R407F                             | Polyvinylether           | 320HV        | 320HV               |
|                                    | MLZ116             | R404A  | Polyvinylether           | 160HV        | 160HV/320HV         |
|                                    | MLZ(evolution A)   | R22, R404A, R134a, R407A, R407C, R407F, R448A, R449A, R452A        | Polyolester              | 215PZ        | 215PZ               |
|                                    | LLZ                | R404A, R507  | Polyvinylether           | 160HV        | 160HV/320HV         |
|                                    | LLZ(evolution A)   | R404A, R507, R452A, R448A, R449A                                   | Polyolester              | 215PZ        | 215PZ               |
|                                    | SM                 | R22  | Mineral                  | 160P         | 160P                |
|                                    | SY                 | R22, R407C, R134a  | Polyolester              | 320SZ        | 320SZ               |
|                                    | SZ                 | R407C, R134a   | Polyolester              | 160SZ        | 160SZ               |
|                                    | SH/DSH             | R410A  | Polyolester              | 160SZ        | 160SZ               |
|                                    | PSH                | R410A  | Polyolester              | 160SZ        | 160SZ               |
|                                    | WSH                | R410A  | Polyolester              | 160SZ        | 160SZ               |
|                                    | VZH028-035-044     | R410A  | Polyvinylether           | 160HV        | 160HV/320HV         |
|                                    | VLZ028-035-044     | R404A/R448A/R449A  | Polyolester              | 215PZ        | 215PZ               |
| VZH052-065                         | R410A              | Polyvinylether   | 160HV                    | 160HV/320HV  |                     |
| VSH/VZH088-117-170                 | R410A              | Polyolester  | 160SZ                    | 160SZ        |                     |

Note: for compressors that are factory-charged with 160HV (PVE32), it is allowable to top-up the compressors with 320HV (PVE68). There will be no reliability risks even with 100% 320HV, yet performance may drop some. Danfoss provides 320HV as accessories.

\*Please consult guideline for qualified models

## Ordering information

| Code n°  | Type  | Description                                | Application  | Packaging*  |      |
|----------|-------|--|--|-------------|------|
|          |       |  |  | type        | Qty. |
| 7754001  | 160P  | Mineral oil, 160P, 2 liter can             | SM, MT, MLM116   | Multipack   | 8    |
| 7754002  | 160P  | Mineral oil, 160P, 5 liter can             | SM, MT, MLM116   | Multipack   | 4    |
| 7754023  | 160SZ | POE lubricant, 160SZ, 1 liter can          | SZ, SH, PSH, WSH, DSH, VZH088-117-170, VSH088-117-170                                      | Multipack   | 12   |
| 120Z0571 | 160SZ | POE lubricant, 160SZ, 2.5 liter can        | SZ, SH, PSH, WSH, DSH, VZH088-117-170, VSH088-117-170                                      | Multipack   | 4    |
| 7754121  | 320SZ | POE lubricant, 320SZ, 1 liter can          | SY   | Multipack   | 12   |
| 120Z0572 | 320SZ | POE lubricant, 320SZ, 2.5 liter can        | SY   | Multipack   | 4    |
| 120Z5034 | 320HV | PVE lubricant, 320HV (FVC68D), 1 liter can | DCJ, HRP, HLP, HCP, HRH, HLH, HLJ, HCJ, HHP, MLZ/LLZ, VZH028-035-044, VZH052-065**, MLZ116 | Single pack | 1    |
| 120Z0639 | 175PZ | POE lubricant 175PZ, 2,5 liter can         | MTZ, NTZ, VTZ  | Multipack   | 4    |
| 120Z0638 | 175PZ | POE lubricant 175PZ, 1 liter can           | MTZ, NTZ, VTZ  | Multipack   | 12   |
| 120Z0648 | 215PZ | POE lubricant 215PZ (RL46HB), 1 liter can  | MLZ evolution index A<br>LLZ evolution index A<br>VLZ028-035-044                           | Multipack   | 12   |

\*Multipacks refer to deliveries from Danfoss Commercial Compressors to central Danfoss stocks or direct deliveries to OEM customers. These products may be available as single packs for end customers.

\*\* VZH052-065 will be released soon

\*\*\*After emptying current stock, it will be no more provide