

Datasheets

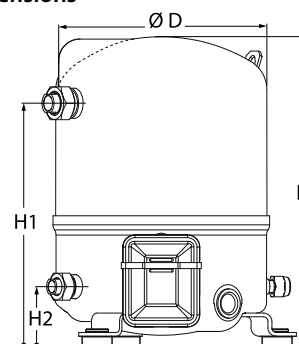
# Danfoss Reciprocating compressors **MT / MTZ / NTZ**



## General Characteristics

|                                                   |                                             |                    |
|---------------------------------------------------|---------------------------------------------|--------------------|
| Model number (on compressor nameplate)            |                                             | <b>MTZ40JH4AVE</b> |
| Code number for Singlepack*                       |                                             | MTZ40-4VI          |
| Code number for Industrial pack**                 |                                             | MTZ40-4VM          |
| Drawing number                                    |                                             | 8501025f           |
| Suction and discharge connections                 |                                             | Rotolock           |
| Suction connection                                |                                             | 1-1/4 " Rotolock   |
| Discharge connection                              |                                             | 1 " Rotolock       |
| Suction connection with supplied sleeve           |                                             | 5/8 " ODF          |
| Discharge connection with supplied sleeve         |                                             | 1/2 " ODF          |
| Oil sight glass                                   |                                             | Threaded           |
| Oil equalisation connection                       |                                             | 3/8" flare SAE     |
| Oil drain connection                              |                                             | None               |
| LP gauge port                                     |                                             | Schrader           |
| IPR valve                                         |                                             | 30 bar / 8 bar     |
| Cylinders                                         | 1                                           |                    |
| Swept volume                                      | 67,89 cm3/rev                               |                    |
| Displacement @ Nominal speed                      | 11.8 m3/h @ 2900 rpm - 14.3 m3/h @ 3500 rpm |                    |
| Net weight                                        | 26 kg                                       |                    |
| Oil charge                                        | 0,95 litre, POE - 160PZ                     |                    |
| Maximum system test pressure Low Side / High side | 25 bar(g) / 30 bar(g)                       |                    |
| Maximum differential test pressure                | 30 bar                                      |                    |
| Maximum number of starts per hour                 | 12                                          |                    |
| Refrigerant charge limit                          | 2,5 kg                                      |                    |
| Approved refrigerants                             | R404A, R507A, R134a, R407C, R407A, R407F    |                    |

## Dimensions



D=224 mm

H=356 mm

H1=263 mm

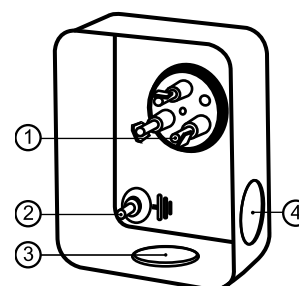
H2=68 mm

H3= mm

## Electrical Characteristics

|                                                    |                                     |
|----------------------------------------------------|-------------------------------------|
| Nominal voltage                                    | 380-400V/3/50Hz - 460V/3/60Hz       |
| Voltage range                                      | 340-440 V @ 50Hz - 414-506 V @ 60Hz |
| Winding resistance (between phases) +/- 7% at 25°C | 4.56 Ω                              |
| Maximum Continuous Current (MCC)                   | 10 A                                |
| Locked Rotor Amps (LRA)                            | 38 A                                |
| Motor protection                                   | Internal overload protector         |

## Terminal box



IP55 (with cable gland)

- 1: Spade connectors 1/4"
- 2: Earth M4-12
- 3: Knock-out Ø 21 mm (0.83")
- 4: Hole Ø 21 mm (0.83")

## Recommended Installation torques

|                                      |           |
|--------------------------------------|-----------|
| Oil sight glass                      | 50 Nm     |
| Power connections / Earth connection | Nm / 2 Nm |
| Mounting bolts                       | 15 Nm     |

## Parts shipped with compressor

|                                                                                                    |
|----------------------------------------------------------------------------------------------------|
| Mounting kit with grommets, bolts, nuts, sleeves and washers                                       |
| Suction & Discharge solder sleeves, rotolock nuts and gaskets (shipped with rotolock version only) |
| Initial oil charge                                                                                 |
| Installation instructions                                                                          |

**Approvals** : CE certified, UL certified (file SA6873), CCC certified

\*Singlepack: Compressor in cardboard box

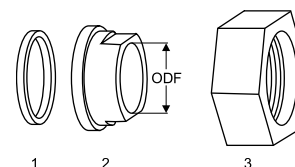
\*\*Industrial pack: 12 Unboxed compressors on pallet (order per multiples of 12)

**Rotolock accessories, suction side**

**Code no.**

|                                                 |         |
|-------------------------------------------------|---------|
| Solder sleeve, P09 (1-1/4" Rotolock, 5/8" ODF)  | 8153011 |
| Angle adapter, C09 (1-1/4" Rotolock, 5/8" ODF)  | 8168009 |
| Rotolock valve, V09 (1-1/4" Rotolock, 5/8" ODF) | 8168033 |
| Gasket, 1-1/4"                                  | 8156131 |

**Gaskets, sleeves and nuts**



- 1: Gasket  
2: Solder sleeve  
3: Rotolock nut

**Rotolock accessories, discharge side**

**Code no.**

|                                             |         |
|---------------------------------------------|---------|
| Solder sleeve, P06 (1" Rotolock, 1/2" ODF)  | 8153007 |
| Angle adapter, C06 (1" Rotolock, 1/2" ODF)  | 8168007 |
| Rotolock valve, V06 (1" Rotolock, 1/2" ODF) | 8168031 |
| Gasket, 1"                                  | 8156130 |

**Rotolock accessories, sets**

**Code no.**

|                                                           |         |
|-----------------------------------------------------------|---------|
| Angle adapter set, C09 (1-1/4"~5/8"), C06 (1"~1/2")       | 7703012 |
| Valve set, V09 (1-1/4"~5/8"), V06 (1"~1/2")               | 7703005 |
| Gasket set, 1", 1-1/4", 1-3/4", OSG gaskets black & white | 8156009 |

**Oil / lubricants**

**Code no.**

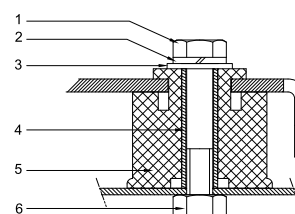
|                                     |          |
|-------------------------------------|----------|
| POE lubricant, 160PZ, 1 litre can   | 7754019  |
| POE lubricant, 160PZ, 2.5 litre can | 120Z0573 |

**Crankcase heaters**

**Code no.**

|                                                      |          |
|------------------------------------------------------|----------|
| PTC heater 27W, CE mark, UL                          | 120Z0459 |
| Belt type crankcase heater, 54 W, 230 V, CE mark, UL | 7773106  |
| Belt type crankcase heater, 54 W, 400 V, UL          | 7773013  |

**Mounting kit**



- 1: Bolt (3x)  
2: Lock washer (3x)  
3: Flat washer (3x)  
4: Sleeve (3x)  
5: Grommet (3x)  
6: Nut (3x)

**Miscellaneous accessories**

**Code no.**

|                                         |          |
|-----------------------------------------|----------|
| Electronic soft start kit, MCI 15 C     | 7705006  |
| Acoustic hood for 1 cylinder compressor | 120Z0471 |
| Oil equalisation nut                    | 8153127  |

**Spare parts**

**Code no.**

|                                                                             |         |
|-----------------------------------------------------------------------------|---------|
| Mounting kit for 1 and 2 cylinder compressor, including 3 grommets, 3 bolts | 8156001 |
| Oil sight glass with gaskets (black & white)                                | 8156019 |
| Gasket for oil sight glass (black chloroprene)                              | 8156145 |
| Service kit for terminal box 80 x 96 mm, including 1 cover, 1 clamp         | 8156134 |

# Datasheet, performance data

# Maneurop reciprocating compressor. MTZ040-4

## Performance data at 50 Hz, EN 12900 rating conditions

# R407C

| Cond. temp. in<br>°C (tc) | Evaporating temperature in °C (to) |     |    |   |   |    |    |  |
|---------------------------|------------------------------------|-----|----|---|---|----|----|--|
|                           | -15                                | -10 | -5 | 0 | 5 | 10 | 15 |  |

### Cooling capacity in W

|    |       |       |       |       |        |        |        |   |   |
|----|-------|-------|-------|-------|--------|--------|--------|---|---|
| 35 | 4 283 | 5 574 | 7 096 | 8 876 | 10 939 | 13 312 | 16 019 | - | - |
| 40 | 3 928 | 5 152 | 6 585 | 8 252 | 10 179 | 12 392 | 14 916 | - | - |
| 45 | 3 557 | 4 719 | 6 067 | 7 625 | 9 420  | 11 477 | 13 822 | - | - |
| 50 | -     | 4 271 | 5 537 | 6 991 | 8 658  | 10 564 | 12 734 | - | - |
| 55 | -     | -     | 4 992 | 6 345 | 7 889  | 9 647  | 11 647 | - | - |
| 60 | -     | -     | -     | 5 683 | 7 108  | 8 723  | 10 556 | - | - |
| 65 | -     | -     | -     | 5 001 | 6 310  | 7 787  | 9 458  | - | - |

### Power input in W

|    |       |       |       |       |       |       |       |   |   |
|----|-------|-------|-------|-------|-------|-------|-------|---|---|
| 35 | 2 036 | 2 254 | 2 445 | 2 609 | 2 746 | 2 854 | 2 935 | - | - |
| 40 | 2 119 | 2 373 | 2 597 | 2 793 | 2 959 | 3 094 | 3 198 | - | - |
| 45 | 2 182 | 2 479 | 2 744 | 2 977 | 3 179 | 3 348 | 3 483 | - | - |
| 50 | -     | 2 567 | 2 879 | 3 158 | 3 402 | 3 611 | 3 785 | - | - |
| 55 | -     | -     | 2 999 | 3 330 | 3 624 | 3 880 | 4 099 | - | - |
| 60 | -     | -     | -     | 3 489 | 3 840 | 4 150 | 4 420 | - | - |
| 65 | -     | -     | -     | 3 632 | 4 045 | 4 417 | 4 746 | - | - |

### Current consumption in A

|    |      |      |      |      |      |      |      |   |   |
|----|------|------|------|------|------|------|------|---|---|
| 35 | 4.68 | 4.93 | 5.15 | 5.34 | 5.51 | 5.64 | 5.73 | - | - |
| 40 | 4.78 | 5.08 | 5.36 | 5.60 | 5.81 | 5.98 | 6.11 | - | - |
| 45 | 4.85 | 5.22 | 5.56 | 5.86 | 6.13 | 6.35 | 6.52 | - | - |
| 50 | -    | 5.34 | 5.76 | 6.13 | 6.46 | 6.74 | 6.98 | - | - |
| 55 | -    | -    | 5.94 | 6.39 | 6.80 | 7.16 | 7.47 | - | - |
| 60 | -    | -    | -    | 6.64 | 7.14 | 7.59 | 7.98 | - | - |
| 65 | -    | -    | -    | 6.88 | 7.48 | 8.02 | 8.51 | - | - |

### Mass flow in kg/h

|    |    |     |     |     |     |     |     |   |   |
|----|----|-----|-----|-----|-----|-----|-----|---|---|
| 35 | 93 | 119 | 149 | 183 | 223 | 267 | 317 | - | - |
| 40 | 90 | 116 | 145 | 179 | 217 | 261 | 309 | - | - |
| 45 | 86 | 112 | 141 | 174 | 212 | 254 | 301 | - | - |
| 50 | -  | 107 | 136 | 169 | 206 | 247 | 293 | - | - |
| 55 | -  | -   | 131 | 163 | 199 | 239 | 284 | - | - |
| 60 | -  | -   | -   | 156 | 192 | 231 | 275 | - | - |
| 65 | -  | -   | -   | 149 | 184 | 222 | 265 | - | - |

### Coefficient of performance (C.O.P.)

|    |      |      |      |      |      |      |      |   |   |
|----|------|------|------|------|------|------|------|---|---|
| 35 | 2.10 | 2.47 | 2.90 | 3.40 | 3.98 | 4.66 | 5.46 | - | - |
| 40 | 1.85 | 2.17 | 2.54 | 2.95 | 3.44 | 4.01 | 4.66 | - | - |
| 45 | 1.63 | 1.90 | 2.21 | 2.56 | 2.96 | 3.43 | 3.97 | - | - |
| 50 | -    | 1.66 | 1.92 | 2.21 | 2.55 | 2.93 | 3.36 | - | - |
| 55 | -    | -    | 1.66 | 1.91 | 2.18 | 2.49 | 2.84 | - | - |
| 60 | -    | -    | -    | 1.63 | 1.85 | 2.10 | 2.39 | - | - |
| 65 | -    | -    | -    | 1.38 | 1.56 | 1.76 | 1.99 | - | - |

### Nominal performance at to = 5 °C, tc = 50 °C

|                     |       |      |
|---------------------|-------|------|
| Cooling capacity    | 8 658 | W    |
| Power input         | 3 402 | W    |
| Current consumption | 6.46  | A    |
| Mass flow           | 206   | kg/h |
| C.O.P.              | 2.55  |      |



to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

### Pressure switch settings

|                           |      |        |
|---------------------------|------|--------|
| Maximum HP switch setting | 29.4 | bar(g) |
| Minimum LP switch setting | 0.2  | bar(g) |
| LP pump down setting      | 1.3  | bar(g) |

### Sound power data

|                    |    |       |
|--------------------|----|-------|
| Sound power level  | 74 | dB(A) |
| With acoustic hood | 69 | dB(A) |

All performance data +/- 5%

**Datasheet, performance data**
**Maneurop reciprocating compressor. MTZ040-4**
**Performance data at 50 Hz, ARI rating conditions**
**R407C**

| Cond. temp. in<br>°C (tc) | Evaporating temperature in °C (to) |     |    |   |   |    |    |  |
|---------------------------|------------------------------------|-----|----|---|---|----|----|--|
|                           | -15                                | -10 | -5 | 0 | 5 | 10 | 15 |  |

**Cooling capacity in W**

|    |       |       |       |       |        |        |        |   |   |
|----|-------|-------|-------|-------|--------|--------|--------|---|---|
| 35 | 4 610 | 5 992 | 7 619 | 9 520 | 11 720 | 14 247 | 17 128 | - | - |
| 40 | 4 251 | 5 568 | 7 107 | 8 895 | 10 959 | 13 326 | 16 023 | - | - |
| 45 | 3 874 | 5 132 | 6 588 | 8 268 | 10 201 | 12 412 | 14 930 | - | - |
| 50 | -     | 4 678 | 6 056 | 7 633 | 9 439  | 11 500 | 13 843 | - | - |
| 55 | -     | -     | 5 506 | 6 986 | 8 670  | 10 585 | 12 759 | - | - |
| 60 | -     | -     | -     | 6 321 | 7 889  | 9 664  | 11 674 | - | - |
| 65 | -     | -     | -     | 5 635 | 7 093  | 8 734  | 10 585 | - | - |

**Power input in W**

|    |       |       |       |       |       |       |       |   |   |
|----|-------|-------|-------|-------|-------|-------|-------|---|---|
| 35 | 2 036 | 2 254 | 2 445 | 2 609 | 2 746 | 2 854 | 2 935 | - | - |
| 40 | 2 119 | 2 373 | 2 597 | 2 793 | 2 959 | 3 094 | 3 198 | - | - |
| 45 | 2 182 | 2 479 | 2 744 | 2 977 | 3 179 | 3 348 | 3 483 | - | - |
| 50 | -     | 2 567 | 2 879 | 3 158 | 3 402 | 3 611 | 3 785 | - | - |
| 55 | -     | -     | 2 999 | 3 330 | 3 624 | 3 880 | 4 099 | - | - |
| 60 | -     | -     | -     | 3 489 | 3 840 | 4 150 | 4 420 | - | - |
| 65 | -     | -     | -     | 3 632 | 4 045 | 4 417 | 4 746 | - | - |

**Current consumption in A**

|    |      |      |      |      |      |      |      |   |   |
|----|------|------|------|------|------|------|------|---|---|
| 35 | 4.68 | 4.93 | 5.15 | 5.34 | 5.51 | 5.64 | 5.73 | - | - |
| 40 | 4.78 | 5.08 | 5.36 | 5.60 | 5.81 | 5.98 | 6.11 | - | - |
| 45 | 4.85 | 5.22 | 5.56 | 5.86 | 6.13 | 6.35 | 6.52 | - | - |
| 50 | -    | 5.34 | 5.76 | 6.13 | 6.46 | 6.74 | 6.98 | - | - |
| 55 | -    | -    | 5.94 | 6.39 | 6.80 | 7.16 | 7.47 | - | - |
| 60 | -    | -    | -    | 6.64 | 7.14 | 7.59 | 7.98 | - | - |
| 65 | -    | -    | -    | 6.88 | 7.48 | 8.02 | 8.51 | - | - |

**Mass flow in kg/h**

|    |    |     |     |     |     |     |     |   |   |
|----|----|-----|-----|-----|-----|-----|-----|---|---|
| 35 | 92 | 118 | 148 | 182 | 221 | 266 | 316 | - | - |
| 40 | 89 | 115 | 144 | 178 | 216 | 259 | 307 | - | - |
| 45 | 85 | 111 | 140 | 173 | 210 | 252 | 299 | - | - |
| 50 | -  | 106 | 135 | 168 | 204 | 245 | 291 | - | - |
| 55 | -  | -   | 130 | 162 | 198 | 238 | 282 | - | - |
| 60 | -  | -   | -   | 155 | 191 | 230 | 273 | - | - |
| 65 | -  | -   | -   | 148 | 183 | 221 | 263 | - | - |

**Coefficient of performance (C.O.P.)**

|    |      |      |      |      |      |      |      |   |   |
|----|------|------|------|------|------|------|------|---|---|
| 35 | 2.26 | 2.66 | 3.12 | 3.65 | 4.27 | 4.99 | 5.84 | - | - |
| 40 | 2.01 | 2.35 | 2.74 | 3.19 | 3.70 | 4.31 | 5.01 | - | - |
| 45 | 1.78 | 2.07 | 2.40 | 2.78 | 3.21 | 3.71 | 4.29 | - | - |
| 50 | -    | 1.82 | 2.10 | 2.42 | 2.77 | 3.18 | 3.66 | - | - |
| 55 | -    | -    | 1.84 | 2.10 | 2.39 | 2.73 | 3.11 | - | - |
| 60 | -    | -    | -    | 1.81 | 2.05 | 2.33 | 2.64 | - | - |
| 65 | -    | -    | -    | 1.55 | 1.75 | 1.98 | 2.23 | - | - |

**Nominal performance at to = 7.2 °C, tc = 54.4 °C**

|                     |       |      |
|---------------------|-------|------|
| Cooling capacity    | 9 582 | W    |
| Power input         | 3 712 | W    |
| Current consumption | 6.92  | A    |
| Mass flow           | 216   | kg/h |
| C.O.P.              | 2.58  |      |

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

**Pressure switch settings**

|                           |      |        |
|---------------------------|------|--------|
| Maximum HP switch setting | 29.4 | bar(g) |
| Minimum LP switch setting | 0.2  | bar(g) |
| LP pump down setting      | 1.3  | bar(g) |

**Sound power data**

|                    |    |       |
|--------------------|----|-------|
| Sound power level  | 74 | dB(A) |
| With acoustic hood | 69 | dB(A) |

All performance data +/- 5%

**Performance data at 50 Hz, EN 12900 rating conditions**
**R134a**

| Cond. temp. in<br>°C (tc) | Evaporating temperature in °C (to) |     |    |   |   |    |    |    |
|---------------------------|------------------------------------|-----|----|---|---|----|----|----|
|                           | -15                                | -10 | -5 | 0 | 5 | 10 | 15 | 20 |

**Cooling capacity in W**

|    |       |       |       |       |       |       |       |        |   |
|----|-------|-------|-------|-------|-------|-------|-------|--------|---|
| 35 | 2 832 | 3 614 | 4 531 | 5 599 | 6 830 | 8 240 | 9 843 | 11 651 | - |
| 40 | 2 642 | 3 394 | 4 274 | 5 298 | 6 479 | 7 831 | 9 368 | 11 105 | - |
| 45 | 2 446 | 3 163 | 4 002 | 4 978 | 6 103 | 7 393 | 8 861 | 10 521 | - |
| 50 | 2 241 | 2 920 | 3 713 | 4 636 | 5 703 | 6 926 | 8 320 | 9 899  | - |
| 55 | 2 027 | 2 662 | 3 406 | 4 272 | 5 275 | 6 427 | 7 743 | 9 237  | - |
| 60 | -     | 2 389 | 3 079 | 3 884 | 4 818 | 5 895 | 7 129 | 8 532  | - |
| 65 | -     | -     | -     | 3 470 | 4 331 | 5 328 | 6 475 | 7 784  | - |
| 70 | -     | -     | -     | -     | -     | 4 726 | 5 780 | 6 990  | - |

**Power input in W**

|    |       |       |       |       |       |       |       |       |   |
|----|-------|-------|-------|-------|-------|-------|-------|-------|---|
| 35 | 1 325 | 1 445 | 1 555 | 1 653 | 1 733 | 1 791 | 1 824 | 1 827 | - |
| 40 | 1 400 | 1 531 | 1 656 | 1 771 | 1 872 | 1 954 | 2 013 | 2 046 | - |
| 45 | 1 465 | 1 610 | 1 752 | 1 887 | 2 010 | 2 118 | 2 205 | 2 269 | - |
| 50 | 1 520 | 1 681 | 1 842 | 1 998 | 2 145 | 2 280 | 2 398 | 2 495 | - |
| 55 | 1 564 | 1 742 | 1 923 | 2 103 | 2 276 | 2 440 | 2 590 | 2 722 | - |
| 60 | -     | 1 791 | 1 995 | 2 200 | 2 402 | 2 597 | 2 780 | 2 949 | - |
| 65 | -     | -     | -     | 2 287 | 2 519 | 2 747 | 2 967 | 3 174 | - |
| 70 | -     | -     | -     | -     | -     | 2 891 | 3 149 | 3 397 | - |

**Current consumption in A**

|    |      |      |      |      |      |      |      |      |   |
|----|------|------|------|------|------|------|------|------|---|
| 35 | 3.51 | 3.65 | 3.79 | 3.91 | 4.01 | 4.10 | 4.16 | 4.20 | - |
| 40 | 3.57 | 3.73 | 3.89 | 4.04 | 4.19 | 4.31 | 4.43 | 4.52 | - |
| 45 | 3.62 | 3.81 | 4.00 | 4.19 | 4.37 | 4.55 | 4.71 | 4.86 | - |
| 50 | 3.68 | 3.90 | 4.12 | 4.35 | 4.58 | 4.80 | 5.02 | 5.23 | - |
| 55 | 3.74 | 3.99 | 4.25 | 4.52 | 4.80 | 5.08 | 5.35 | 5.62 | - |
| 60 | -    | 4.08 | 4.39 | 4.70 | 5.03 | 5.37 | 5.71 | 6.05 | - |
| 65 | -    | -    | -    | 4.90 | 5.28 | 5.68 | 6.08 | 6.49 | - |
| 70 | -    | -    | -    | -    | -    | 6.01 | 6.48 | 6.97 | - |

**Mass flow in kg/h**

|    |    |    |     |     |     |     |     |     |   |
|----|----|----|-----|-----|-----|-----|-----|-----|---|
| 35 | 69 | 86 | 105 | 127 | 152 | 180 | 212 | 246 | - |
| 40 | 67 | 85 | 104 | 126 | 151 | 179 | 211 | 245 | - |
| 45 | 66 | 83 | 103 | 125 | 150 | 178 | 209 | 244 | - |
| 50 | 64 | 81 | 101 | 123 | 148 | 176 | 207 | 241 | - |
| 55 | 62 | 79 | 98  | 120 | 145 | 173 | 203 | 237 | - |
| 60 | -  | 76 | 95  | 117 | 142 | 169 | 199 | 233 | - |
| 65 | -  | -  | -   | 113 | 138 | 164 | 194 | 228 | - |
| 70 | -  | -  | -   | -   | -   | 159 | 189 | 221 | - |

**Coefficient of performance (C.O.P.)**

|    |      |      |      |      |      |      |      |      |   |
|----|------|------|------|------|------|------|------|------|---|
| 35 | 2.14 | 2.50 | 2.91 | 3.39 | 3.94 | 4.60 | 5.40 | 6.38 | - |
| 40 | 1.89 | 2.22 | 2.58 | 2.99 | 3.46 | 4.01 | 4.65 | 5.43 | - |
| 45 | 1.67 | 1.96 | 2.28 | 2.64 | 3.04 | 3.49 | 4.02 | 4.64 | - |
| 50 | 1.47 | 1.74 | 2.02 | 2.32 | 2.66 | 3.04 | 3.47 | 3.97 | - |
| 55 | 1.30 | 1.53 | 1.77 | 2.03 | 2.32 | 2.63 | 2.99 | 3.39 | - |
| 60 | -    | 1.33 | 1.54 | 1.77 | 2.01 | 2.27 | 2.56 | 2.89 | - |
| 65 | -    | -    | -    | 1.52 | 1.72 | 1.94 | 2.18 | 2.45 | - |
| 70 | -    | -    | -    | -    | -    | 1.63 | 1.84 | 2.06 | - |

**Nominal performance at to = 5 °C, tc = 50 °C**

|                     |       |      |
|---------------------|-------|------|
| Cooling capacity    | 5 703 | W    |
| Power input         | 2 145 | W    |
| Current consumption | 4.58  | A    |
| Mass flow           | 148   | kg/h |
| C.O.P.              | 2.66  |      |

**Pressure switch settings**

|                           |      |        |
|---------------------------|------|--------|
| Maximum HP switch setting | 22.6 | bar(g) |
| Minimum LP switch setting | 0.2  | bar(g) |
| LP pump down setting      | 0.5  | bar(g) |

**Sound power data**

|                    |   |       |
|--------------------|---|-------|
| Sound power level  | 0 | dB(A) |
| With acoustic hood | 0 | dB(A) |

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

All performance data +/- 5%

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**Performance data at 50 Hz, ARI rating conditions**
**R134a**

| Cond. temp. in<br>°C (tc) | Evaporating temperature in °C (to) |     |    |   |   |    |    |    |
|---------------------------|------------------------------------|-----|----|---|---|----|----|----|
|                           | -15                                | -10 | -5 | 0 | 5 | 10 | 15 | 20 |

**Cooling capacity in W**

|    |       |       |       |       |       |       |        |        |   |
|----|-------|-------|-------|-------|-------|-------|--------|--------|---|
| 35 | 3 068 | 3 907 | 4 891 | 6 034 | 7 351 | 8 856 | 10 563 | 12 488 | - |
| 40 | 2 878 | 3 689 | 4 637 | 5 738 | 7 006 | 8 454 | 10 099 | 11 953 | - |
| 45 | 2 680 | 3 458 | 4 367 | 5 421 | 6 635 | 8 023 | 9 600  | 11 380 | - |
| 50 | 2 474 | 3 214 | 4 079 | 5 082 | 6 238 | 7 561 | 9 066  | 10 767 | - |
| 55 | 2 256 | 2 955 | 3 771 | 4 718 | 5 811 | 7 064 | 8 493  | 10 111 | - |
| 60 | -     | 2 677 | 3 440 | 4 327 | 5 353 | 6 533 | 7 880  | 9 411  | - |
| 65 | -     | -     | -     | 3 907 | 4 862 | 5 963 | 7 225  | 8 664  | - |
| 70 | -     | -     | -     | -     | -     | 5 354 | 6 526  | 7 868  | - |

**Power input in W**

|    |       |       |       |       |       |       |       |       |   |
|----|-------|-------|-------|-------|-------|-------|-------|-------|---|
| 35 | 1 325 | 1 445 | 1 555 | 1 653 | 1 733 | 1 791 | 1 824 | 1 827 | - |
| 40 | 1 400 | 1 531 | 1 656 | 1 771 | 1 872 | 1 954 | 2 013 | 2 046 | - |
| 45 | 1 465 | 1 610 | 1 752 | 1 887 | 2 010 | 2 118 | 2 205 | 2 269 | - |
| 50 | 1 520 | 1 681 | 1 842 | 1 998 | 2 145 | 2 280 | 2 398 | 2 495 | - |
| 55 | 1 564 | 1 742 | 1 923 | 2 103 | 2 276 | 2 440 | 2 590 | 2 722 | - |
| 60 | -     | 1 791 | 1 995 | 2 200 | 2 402 | 2 597 | 2 780 | 2 949 | - |
| 65 | -     | -     | -     | 2 287 | 2 519 | 2 747 | 2 967 | 3 174 | - |
| 70 | -     | -     | -     | -     | -     | 2 891 | 3 149 | 3 397 | - |

**Current consumption in A**

|    |      |      |      |      |      |      |      |      |   |
|----|------|------|------|------|------|------|------|------|---|
| 35 | 3.51 | 3.65 | 3.79 | 3.91 | 4.01 | 4.10 | 4.16 | 4.20 | - |
| 40 | 3.57 | 3.73 | 3.89 | 4.04 | 4.19 | 4.31 | 4.43 | 4.52 | - |
| 45 | 3.62 | 3.81 | 4.00 | 4.19 | 4.37 | 4.55 | 4.71 | 4.86 | - |
| 50 | 3.68 | 3.90 | 4.12 | 4.35 | 4.58 | 4.80 | 5.02 | 5.23 | - |
| 55 | 3.74 | 3.99 | 4.25 | 4.52 | 4.80 | 5.08 | 5.35 | 5.62 | - |
| 60 | -    | 4.08 | 4.39 | 4.70 | 5.03 | 5.37 | 5.71 | 6.05 | - |
| 65 | -    | -    | -    | 4.90 | 5.28 | 5.68 | 6.08 | 6.49 | - |
| 70 | -    | -    | -    | -    | -    | 6.01 | 6.48 | 6.97 | - |

**Mass flow in kg/h**

|    |    |    |     |     |     |     |     |     |   |
|----|----|----|-----|-----|-----|-----|-----|-----|---|
| 35 | 68 | 85 | 105 | 127 | 151 | 179 | 210 | 245 | - |
| 40 | 67 | 84 | 104 | 126 | 151 | 178 | 210 | 244 | - |
| 45 | 66 | 83 | 102 | 124 | 149 | 177 | 208 | 242 | - |
| 50 | 64 | 81 | 100 | 122 | 147 | 175 | 206 | 240 | - |
| 55 | 61 | 79 | 98  | 120 | 144 | 172 | 202 | 236 | - |
| 60 | -  | 76 | 95  | 117 | 141 | 168 | 198 | 232 | - |
| 65 | -  | -  | -   | 113 | 137 | 164 | 193 | 226 | - |
| 70 | -  | -  | -   | -   | -   | 158 | 188 | 220 | - |

**Coefficient of performance (C.O.P.)**

|    |      |      |      |      |      |      |      |      |   |
|----|------|------|------|------|------|------|------|------|---|
| 35 | 2.31 | 2.70 | 3.15 | 3.65 | 4.24 | 4.94 | 5.79 | 6.83 | - |
| 40 | 2.06 | 2.41 | 2.80 | 3.24 | 3.74 | 4.33 | 5.02 | 5.84 | - |
| 45 | 1.83 | 2.15 | 2.49 | 2.87 | 3.30 | 3.79 | 4.35 | 5.02 | - |
| 50 | 1.63 | 1.91 | 2.21 | 2.54 | 2.91 | 3.32 | 3.78 | 4.32 | - |
| 55 | 1.44 | 1.70 | 1.96 | 2.24 | 2.55 | 2.89 | 3.28 | 3.71 | - |
| 60 | -    | 1.49 | 1.72 | 1.97 | 2.23 | 2.52 | 2.83 | 3.19 | - |
| 65 | -    | -    | -    | 1.71 | 1.93 | 2.17 | 2.44 | 2.73 | - |
| 70 | -    | -    | -    | -    | -    | 1.85 | 2.07 | 2.32 | - |

**Nominal performance at to = 7.2 °C, tc = 54.4 °C**

|                     |       |      |
|---------------------|-------|------|
| Cooling capacity    | 6 398 | W    |
| Power input         | 2 333 | W    |
| Current consumption | 4.89  | A    |
| Mass flow           | 156   | kg/h |
| C.O.P.              | 2.74  |      |

**Pressure switch settings**

|                           |      |        |
|---------------------------|------|--------|
| Maximum HP switch setting | 22.6 | bar(g) |
| Minimum LP switch setting | 0.2  | bar(g) |
| LP pump down setting      | 0.5  | bar(g) |

**Sound power data**

|                    |   |       |
|--------------------|---|-------|
| Sound power level  | 0 | dB(A) |
| With acoustic hood | 0 | dB(A) |

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

All performance data +/- 5%

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# Datasheet, performance data

# Maneurop reciprocating compressor. MTZ040-4

## Performance data at 50 Hz, EN 12900 rating conditions

## R404A

| Cond. temp. in<br>°C (tc) | Evaporating temperature in °C (to) |     |     |     |     |    |   |   |    |
|---------------------------|------------------------------------|-----|-----|-----|-----|----|---|---|----|
|                           | -30                                | -25 | -20 | -15 | -10 | -5 | 0 | 5 | 10 |

### Cooling capacity in W

|    |       |       |       |       |       |       |        |        |        |
|----|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 30 | 2 448 | 3 330 | 4 396 | 5 669 | 7 172 | 8 925 | 10 953 | 13 277 | 15 919 |
| 35 | 2 168 | 2 997 | 3 993 | 5 177 | 6 573 | 8 202 | 10 087 | 12 250 | 14 713 |
| 40 | 1 885 | 2 659 | 3 581 | 4 674 | 5 959 | 7 461 | 9 200  | 11 200 | 13 482 |
| 45 | 1 601 | 2 316 | 3 161 | 4 159 | 5 333 | 6 704 | 8 294  | 10 128 | 12 225 |
| 50 | 1 314 | 1 968 | 2 734 | 3 635 | 4 693 | 5 930 | 7 370  | 9 033  | 10 944 |
| 55 | -     | 1 616 | 2 300 | 3 101 | 4 040 | 5 141 | 6 427  | 7 918  | 9 638  |
| 60 | -     | 1 262 | 1 860 | 2 557 | 3 376 | 4 338 | 5 466  | 6 782  | 8 308  |

### Power input in W

|    |       |       |       |       |       |       |       |       |       |
|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 30 | 1 685 | 1 940 | 2 176 | 2 393 | 2 590 | 2 766 | 2 921 | 3 056 | 3 169 |
| 35 | 1 696 | 1 977 | 2 237 | 2 477 | 2 697 | 2 896 | 3 073 | 3 229 | 3 363 |
| 40 | 1 703 | 2 013 | 2 302 | 2 571 | 2 818 | 3 043 | 3 247 | 3 429 | 3 587 |
| 45 | 1 702 | 2 046 | 2 368 | 2 669 | 2 948 | 3 205 | 3 439 | 3 650 | 3 839 |
| 50 | 1 689 | 2 070 | 2 430 | 2 767 | 3 083 | 3 375 | 3 644 | 3 890 | 4 112 |
| 55 | -     | 2 082 | 2 483 | 2 862 | 3 218 | 3 550 | 3 859 | 4 144 | 4 404 |
| 60 | -     | 2 077 | 2 524 | 2 949 | 3 349 | 3 726 | 4 079 | 4 406 | 4 709 |

### Current consumption in A

|    |      |      |      |      |      |      |      |      |      |
|----|------|------|------|------|------|------|------|------|------|
| 30 | 4.20 | 4.48 | 4.76 | 5.03 | 5.29 | 5.52 | 5.71 | 5.87 | 5.98 |
| 35 | 4.26 | 4.58 | 4.89 | 5.20 | 5.49 | 5.76 | 6.00 | 6.21 | 6.36 |
| 40 | 4.29 | 4.64 | 5.00 | 5.35 | 5.68 | 6.00 | 6.29 | 6.55 | 6.76 |
| 45 | 4.29 | 4.69 | 5.09 | 5.48 | 5.87 | 6.24 | 6.59 | 6.90 | 7.17 |
| 50 | 4.27 | 4.71 | 5.16 | 5.62 | 6.06 | 6.49 | 6.89 | 7.27 | 7.61 |
| 55 | -    | 4.73 | 5.24 | 5.75 | 6.25 | 6.75 | 7.22 | 7.66 | 8.07 |
| 60 | -    | 4.74 | 5.31 | 5.88 | 6.46 | 7.02 | 7.57 | 8.09 | 8.57 |

### Mass flow in kg/h

|    |    |     |     |     |     |     |     |     |     |
|----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| 30 | 77 | 102 | 132 | 166 | 204 | 249 | 299 | 355 | 419 |
| 35 | 73 | 99  | 128 | 162 | 200 | 243 | 293 | 348 | 410 |
| 40 | 69 | 95  | 124 | 157 | 195 | 238 | 286 | 340 | 401 |
| 45 | 64 | 90  | 119 | 152 | 189 | 231 | 278 | 331 | 391 |
| 50 | 59 | 85  | 113 | 146 | 182 | 224 | 270 | 322 | 380 |
| 55 | -  | 78  | 107 | 139 | 175 | 215 | 261 | 311 | 368 |
| 60 | -  | 71  | 100 | 131 | 167 | 206 | 250 | 300 | 355 |

### Coefficient of performance (C.O.P.)

|    |      |      |      |      |      |      |      |      |      |
|----|------|------|------|------|------|------|------|------|------|
| 30 | 1.45 | 1.72 | 2.02 | 2.37 | 2.77 | 3.23 | 3.75 | 4.34 | 5.02 |
| 35 | 1.28 | 1.52 | 1.78 | 2.09 | 2.44 | 2.83 | 3.28 | 3.79 | 4.38 |
| 40 | 1.11 | 1.32 | 1.56 | 1.82 | 2.11 | 2.45 | 2.83 | 3.27 | 3.76 |
| 45 | 0.94 | 1.13 | 1.33 | 1.56 | 1.81 | 2.09 | 2.41 | 2.77 | 3.18 |
| 50 | 0.78 | 0.95 | 1.13 | 1.31 | 1.52 | 1.76 | 2.02 | 2.32 | 2.66 |
| 55 | -    | 0.78 | 0.93 | 1.08 | 1.26 | 1.45 | 1.67 | 1.91 | 2.19 |
| 60 | -    | 0.61 | 0.74 | 0.87 | 1.01 | 1.16 | 1.34 | 1.54 | 1.76 |

### Nominal performance at to = -10 °C, tc = 45 °C

|                     |       |      |
|---------------------|-------|------|
| Cooling capacity    | 5 333 | W    |
| Power input         | 2 948 | W    |
| Current consumption | 5.87  | A    |
| Mass flow           | 189   | kg/h |
| C.O.P.              | 1.81  |      |



### Pressure switch settings

|                           |      |        |
|---------------------------|------|--------|
| Maximum HP switch setting | 27.7 | bar(g) |
| Minimum LP switch setting | 0.2  | bar(g) |
| LP pump down setting      | 0.9  | bar(g) |

### Sound power data

|                    |    |       |
|--------------------|----|-------|
| Sound power level  | 70 | dB(A) |
| With acoustic hood | 65 | dB(A) |

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 10 K , Subcooling = 0 K

All performance data +/- 5%

# Datasheet, performance data

# Maneurop reciprocating compressor. MTZ040-4

## Performance data at 50 Hz, ARI rating conditions

## R404A

| Cond. temp. in<br>°C (tc) | Evaporating temperature in °C (to) |     |     |     |     |    |   |   |    |
|---------------------------|------------------------------------|-----|-----|-----|-----|----|---|---|----|
|                           | -30                                | -25 | -20 | -15 | -10 | -5 | 0 | 5 | 10 |

### Cooling capacity in W

|    |       |       |       |       |       |       |        |        |        |
|----|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| 30 | 2 725 | 3 697 | 4 868 | 6 262 | 7 904 | 9 815 | 12 020 | 14 541 | 17 402 |
| 35 | 2 439 | 3 361 | 4 465 | 5 773 | 7 309 | 9 098 | 11 163 | 13 526 | 16 212 |
| 40 | 2 149 | 3 020 | 4 052 | 5 271 | 6 701 | 8 364 | 10 286 | 12 489 | 14 997 |
| 45 | 1 855 | 2 671 | 3 631 | 4 759 | 6 079 | 7 615 | 9 391  | 11 431 | 13 760 |
| 50 | 1 557 | 2 318 | 3 203 | 4 237 | 5 445 | 6 851 | 8 481  | 10 357 | 12 504 |
| 55 | -     | 1 959 | 2 768 | 3 707 | 4 802 | 6 078 | 7 560  | 9 271  | 11 237 |
| 60 | -     | 1 595 | 2 329 | 3 174 | 4 157 | 5 303 | 6 638  | 8 186  | 9 974  |

### Power input in W

|    |       |       |       |       |       |       |       |       |       |
|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 30 | 1 685 | 1 940 | 2 176 | 2 393 | 2 590 | 2 766 | 2 921 | 3 056 | 3 169 |
| 35 | 1 696 | 1 977 | 2 237 | 2 477 | 2 697 | 2 896 | 3 073 | 3 229 | 3 363 |
| 40 | 1 703 | 2 013 | 2 302 | 2 571 | 2 818 | 3 043 | 3 247 | 3 429 | 3 587 |
| 45 | 1 702 | 2 046 | 2 368 | 2 669 | 2 948 | 3 205 | 3 439 | 3 650 | 3 839 |
| 50 | 1 689 | 2 070 | 2 430 | 2 767 | 3 083 | 3 375 | 3 644 | 3 890 | 4 112 |
| 55 | -     | 2 082 | 2 483 | 2 862 | 3 218 | 3 550 | 3 859 | 4 144 | 4 404 |
| 60 | -     | 2 077 | 2 524 | 2 949 | 3 349 | 3 726 | 4 079 | 4 406 | 4 709 |

### Current consumption in A

|    |      |      |      |      |      |      |      |      |      |
|----|------|------|------|------|------|------|------|------|------|
| 30 | 4.20 | 4.48 | 4.76 | 5.03 | 5.29 | 5.52 | 5.71 | 5.87 | 5.98 |
| 35 | 4.26 | 4.58 | 4.89 | 5.20 | 5.49 | 5.76 | 6.00 | 6.21 | 6.36 |
| 40 | 4.29 | 4.64 | 5.00 | 5.35 | 5.68 | 6.00 | 6.29 | 6.55 | 6.76 |
| 45 | 4.29 | 4.69 | 5.09 | 5.48 | 5.87 | 6.24 | 6.59 | 6.90 | 7.17 |
| 50 | 4.27 | 4.71 | 5.16 | 5.62 | 6.06 | 6.49 | 6.89 | 7.27 | 7.61 |
| 55 | -    | 4.73 | 5.24 | 5.75 | 6.25 | 6.75 | 7.22 | 7.66 | 8.07 |
| 60 | -    | 4.74 | 5.31 | 5.88 | 6.46 | 7.02 | 7.57 | 8.09 | 8.57 |

### Mass flow in kg/h

|    |    |     |     |     |     |     |     |     |     |
|----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| 30 | 77 | 102 | 131 | 165 | 203 | 247 | 297 | 353 | 416 |
| 35 | 73 | 98  | 127 | 161 | 199 | 242 | 291 | 346 | 408 |
| 40 | 69 | 94  | 123 | 156 | 194 | 236 | 284 | 338 | 398 |
| 45 | 64 | 90  | 118 | 151 | 188 | 230 | 277 | 329 | 388 |
| 50 | 59 | 84  | 113 | 145 | 181 | 222 | 268 | 320 | 377 |
| 55 | -  | 78  | 106 | 138 | 174 | 214 | 259 | 309 | 365 |
| 60 | -  | 71  | 99  | 131 | 166 | 205 | 249 | 298 | 352 |

### Coefficient of performance (C.O.P.)

|    |      |      |      |      |      |      |      |      |      |
|----|------|------|------|------|------|------|------|------|------|
| 30 | 1.62 | 1.91 | 2.24 | 2.62 | 3.05 | 3.55 | 4.11 | 4.76 | 5.49 |
| 35 | 1.44 | 1.70 | 2.00 | 2.33 | 2.71 | 3.14 | 3.63 | 4.19 | 4.82 |
| 40 | 1.26 | 1.50 | 1.76 | 2.05 | 2.38 | 2.75 | 3.17 | 3.64 | 4.18 |
| 45 | 1.09 | 1.31 | 1.53 | 1.78 | 2.06 | 2.38 | 2.73 | 3.13 | 3.58 |
| 50 | 0.92 | 1.12 | 1.32 | 1.53 | 1.77 | 2.03 | 2.33 | 2.66 | 3.04 |
| 55 | -    | 0.94 | 1.11 | 1.30 | 1.49 | 1.71 | 1.96 | 2.24 | 2.55 |
| 60 | -    | 0.77 | 0.92 | 1.08 | 1.24 | 1.42 | 1.63 | 1.86 | 2.12 |

### Nominal performance at to = -10 °C, tc = 45 °C

|                     |       |      |
|---------------------|-------|------|
| Cooling capacity    | 6 079 | W    |
| Power input         | 2 948 | W    |
| Current consumption | 5.87  | A    |
| Mass flow           | 188   | kg/h |
| C.O.P.              | 2.06  |      |

to: Evaporating temperature at dew point

tc: Condensing temperature at dew point

Rating conditions : Superheat = 11.1 K , Subcooling = 8.3 K

### Pressure switch settings

|                           |      |        |
|---------------------------|------|--------|
| Maximum HP switch setting | 27.7 | bar(g) |
| Minimum LP switch setting | 0.2  | bar(g) |
| LP pump down setting      | 0.9  | bar(g) |

### Sound power data

|                    |    |       |
|--------------------|----|-------|
| Sound power level  | 70 | dB(A) |
| With acoustic hood | 65 | dB(A) |

All performance data +/- 5%

