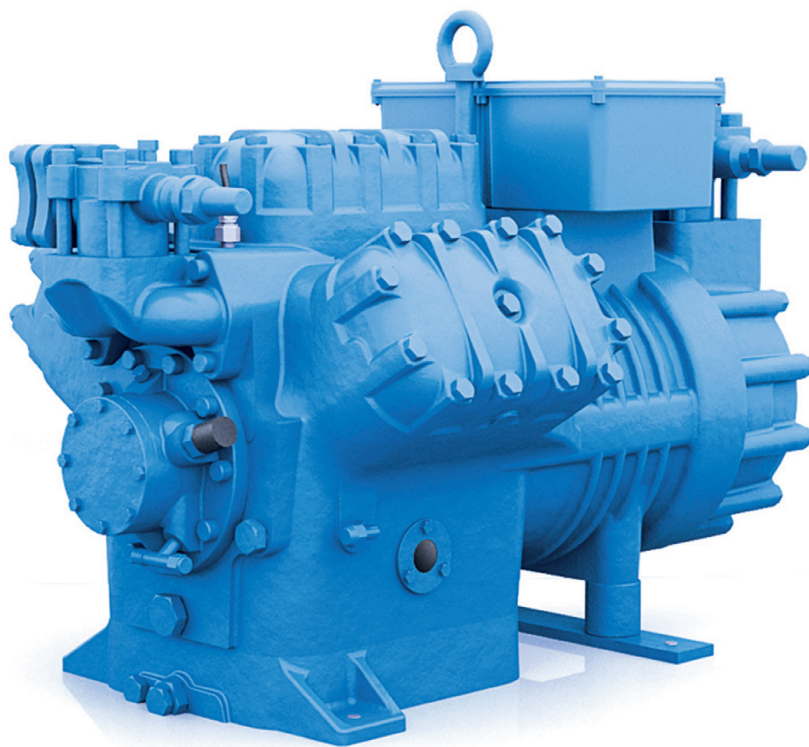


# STANDARD SERIES

Semi-hermetic Reciprocating Compressors



50Hz & 60Hz

**frascold**<sup>®</sup>  
*Blue is better*



# INDEX

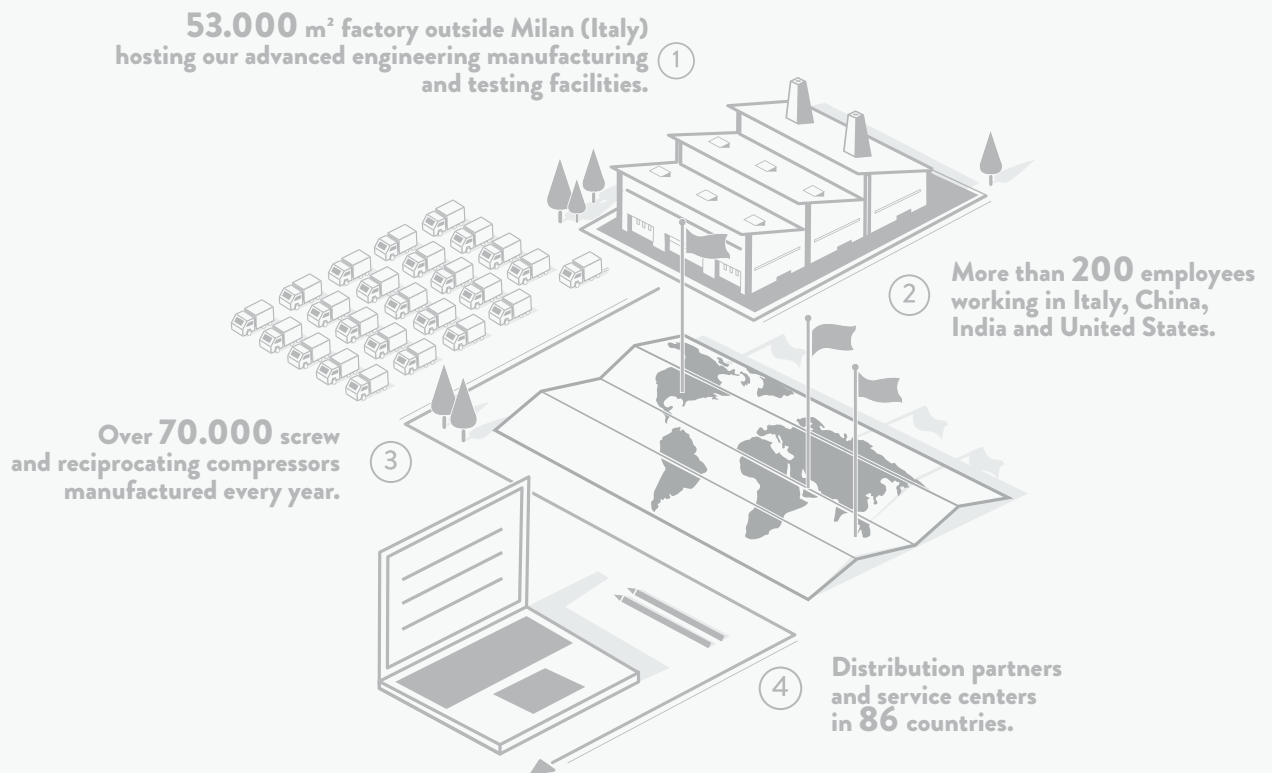
---

|    |                                             |
|----|---------------------------------------------|
| 4  | About the company                           |
| 5  | Segments and solution                       |
| 6  | Product information                         |
|    | Features and benefits                       |
|    | Conformity declaration                      |
|    | Performance data FSS3 software              |
|    | ASERCOM and ATEX certification              |
|    | Cooling capacity                            |
|    | Product range                               |
|    | Model designation                           |
|    | Information plate                           |
|    | Standard equipment and optional accessories |
|    | Control protection device                   |
|    | Capacity regulation                         |
| 18 | <b>Technical data</b>                       |
|    | Operating limits                            |
| 26 | <b>Technical drawings and dimensions</b>    |
| 39 | <b>Contact &amp; subsidiaries</b>           |

# ABOUT THE COMPANY

Frascold manufactures over 70.000 screw and reciprocating compressors a year. Our 53.000 m<sup>2</sup> factory outside of Milan (Italy) houses our advanced engineering, manufacturing and testing facilities. More than 200 employees work in the Headquarters and in the Subsidiaries based in the United States, China and India, with distribution partners and service centers in 86 countries.

4



*More than 85 years ago Frascold was born as a small family owned Company developing solutions in refrigeration and conditioning industry. Today we invest more and more in people, products, technologies and services aiming to become the best partner for our Customers and the touchstone for the market.*

**GIUSEPPE GALLI** - Frascold Executive Managing Director

# SEGMENTS

## COMFORT



## COMMERCIAL & TRANSPORT REFRIGERATION



## INDUSTRIAL REFRIGERATION



## PROCESS COOLING



# SOLUTIONS

Cooling capacity range @50Hz & @60Hz



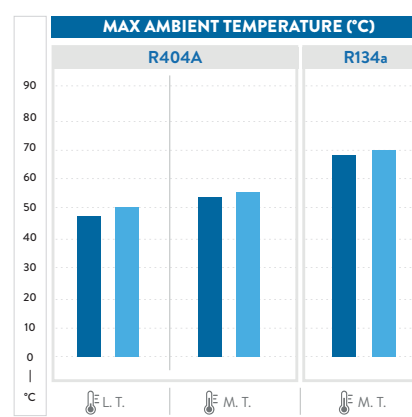
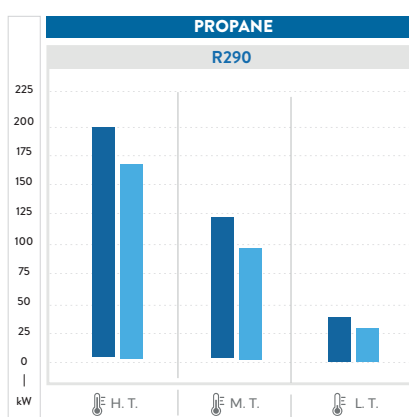
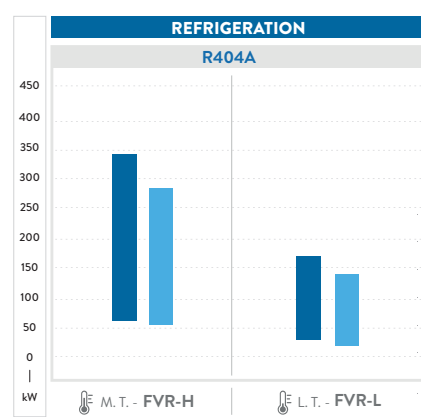
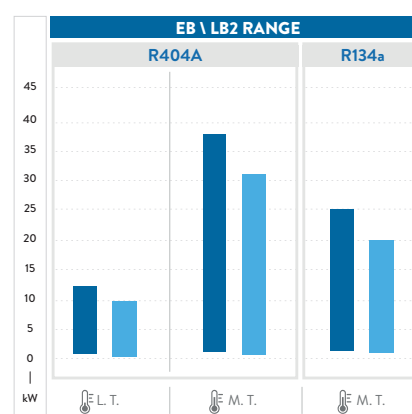
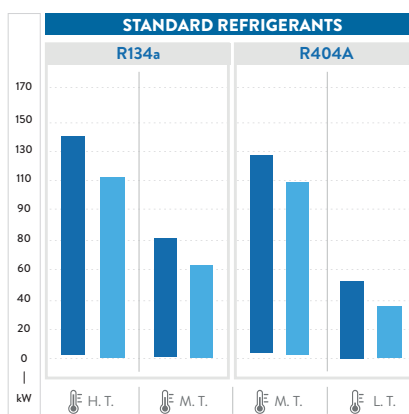
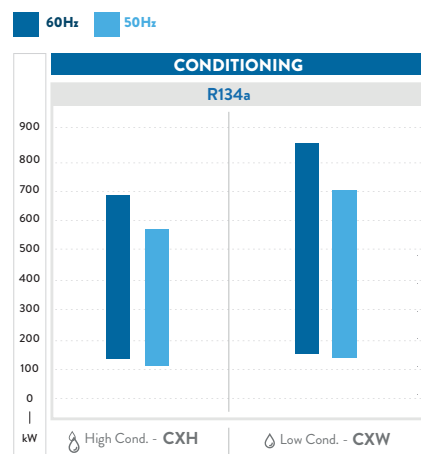
## SCREW COMPRESSORS



## RECIPROCATING COMPRESSORS



## CONDENSING UNITS





# SEMI-HERMETIC RECIPROCATING COMPRESSORS

---

Performance, reliability and efficiency: the 3 keywords when it comes to Frascold semi-hermetic reciprocating compressor range. This product line consists of 8 sizes including 84 models from 0,5 to 80HP and all the sizes can be powered by an inverter. Models from D, Q, S, V, Z & W are also compatible with our revolutionary **Reduced Suction Head (RSH)** capacity control system and are suitable for variable frequency drive use.

# FEATURES & BENEFITS



*Compact design*



*Safe operation*



*All models VFD compatible*



*Silent*

Perfect mechanical balancing allowing low vibrations, pulsations and noise.



*RSH capacity control*



*High efficiency*



*Refrigerants*

HFOs, HFCs and natural refrigerants.



*Advanced protection systems*



*Flexibility*

The right compressor for any application: Air conditioning, Industrial refrigeration, Commercial refrigeration, Pharmaceutical manufacturing, HVAC chillers, Process chillers, Transport refrigeration, Marine cooling systems, Cryogenic systems & Heat pumps.

# CONFORMITY DECLARATION

**Frascold Reciprocating compressors** are intended for installation in refrigeration systems. The machine or partly completed machines shall comply with local safety regulation and standards of the place of installation **(within the EU according to the EU Directives 2006/42/EC Machinery Directive, 2014/68/EU Pressure Equipment Directive, 2006/95/EC Low Voltage Directive)**. The compressor may be put into operation only if it has been installed in accordance with the assembly instructions provided in the installation manual.

Commissioning is only possible if the entire system into which it is integrated has been inspected and approved in accordance to the provisions of legal regulations.

The standards applied are described in the Manufacturer Declaration of incorporation, according to the 2006/42/EC, and available at: [www.frascold.it](http://www.frascold.it)

8

## PERFORMANCE DATA FSS3 SOFTWARE

Please refer to **Frascold Selection Software FSS3** to check performances of all our compressors.



①

① Operating limits



②

② Cooling capacity



③

③ All operating data with any kind of refrigerant



④

④ European standard EN12900 at 50Hz



⑤

⑤ Technical information



⑥

⑥ Drawings



⑦

⑦ Manuals



⑧

⑧ Catalogues and certifications



# ASERCOM CERTIFICATION

## What is ASERCOM

ASERCOM (Association of European Refrigeration Component Manufacturers) promotes standards for safety and performance ratings in the refrigeration industry. ASERCOM certification means that a compressor's performance has been determined to meet the specifications stated by its manufacturer.

## How It Works

Manufacturer's performance data for a particular compressor model and refrigerant are submitted to ASERCOM for certification. To ensure objectivity, members of the certification committee are selected from competing manufacturers. If the committee agrees with the submitted performance data that model is added to the certified list.

## Performance Testing

Models from the certified list are regularly tested to verify performance. To ensure fairness, the compressor to be tested is obtained from a distributor's stock and tested at a competitor's facility. If test results are not up to the listed specifications that model is removed from the certified list.



Fracold stands behind the quality, performance and reliability of all of our products. We currently have 110 ASERCOM certified models and more on the way. All of our compressors are run tested at the factory and carry a standard 2 year warranty.

9

# ATEX CERTIFICATION

The ATEX directive (2014/34/UE) is a certification for equipment and protective systems intended for use in potentially explosive atmospheres, caused by the presence of gases or solid dust. **Our complete range of reciprocating and screw compressors is 100% certified** in category 3G: devices or protection systems that guarantee a very high level of protection Zone 2, an area where an explosive atmosphere may be present, but only in rare cases or for short periods. The compressor label includes the following ATEX assembly marking, usually placed on the wiring box:

3: Category 3 (Zone 2)

II: Group 2 - surface industries

G: Use in an explosive atmosphere

IIB: Use with gas group IIB

CE  II 3G IIB T3 Gc -20°C < Ta < 60°C

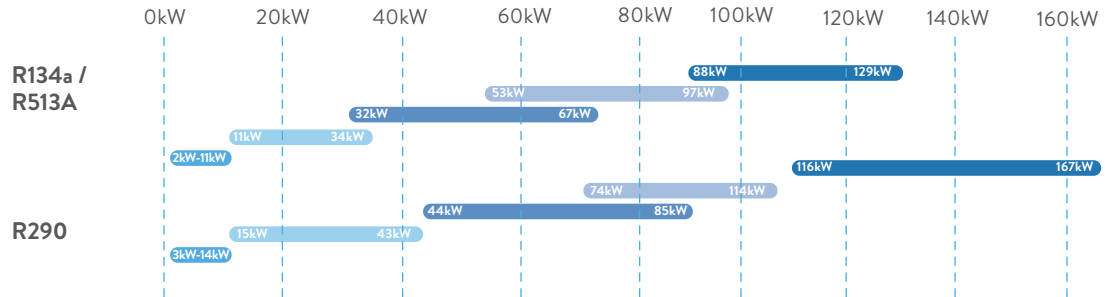
Ta: Ambient temperature range

Gc: Equipment Protection Level (EPL)

T3: T3 Category temperature (200°C)

# COOLING CAPACITY AT 50Hz

Models: ■ A/B/D ■ Q / S ■ V ■ Z ■ W

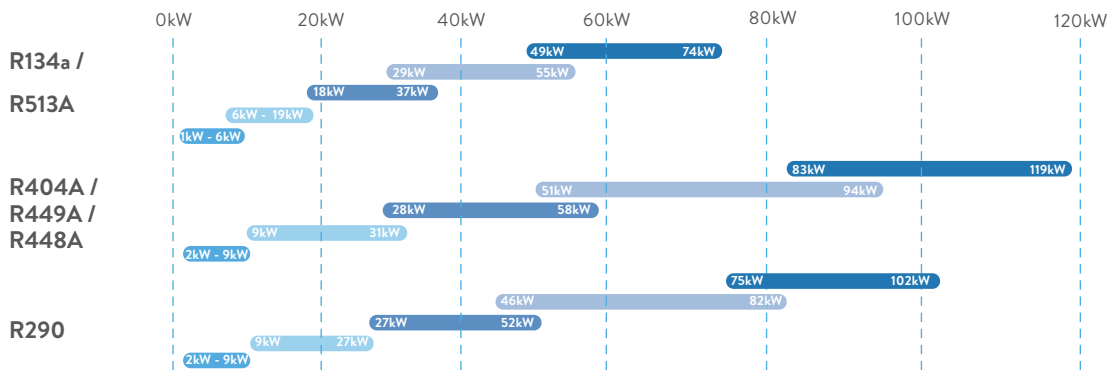


## HIGH TEMPERATURE

@ Evap. T. +5 °C  
Cond T. +50 °C

## DISPLACEMENT

Range @50Hz

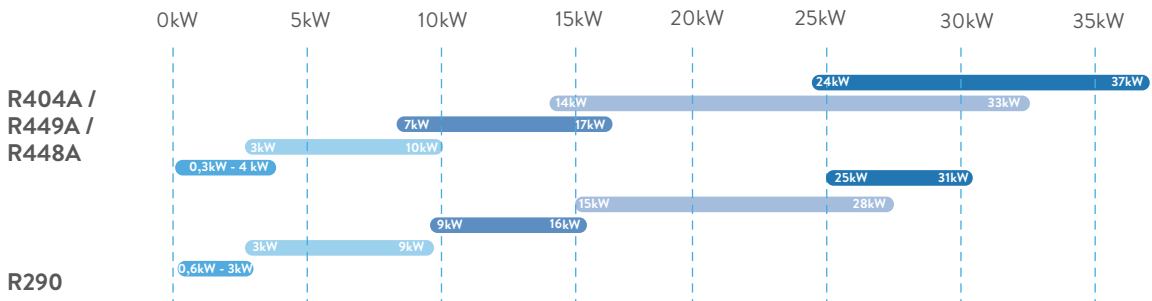


## MEDIUM TEMPERATURE

@ Evap. T. -10 °C  
Cond T. +45 °C

## DISPLACEMENT

Range @50Hz



## LOW TEMPERATURE

@ Evap. T. -35 °C  
Cond T. +40 °C

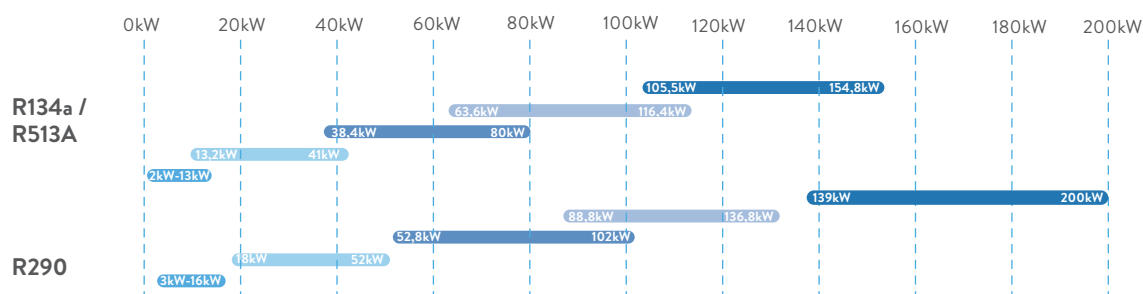
## DISPLACEMENT

Range @50Hz

LEGAL DISCLAIMER: While Frascold has made every effort at the time of publication to ensure the accuracy of the information provided herein, product specifications and performances could be subject to change without notice. You can find the most updated information in our Frascold Selection Software FSS3 at the link: <https://www.frascold.it/en/software>

# COOLING CAPACITY AT 60Hz

Models: ■ A/B/D ■ Q / S ■ V ■ Z ■ W

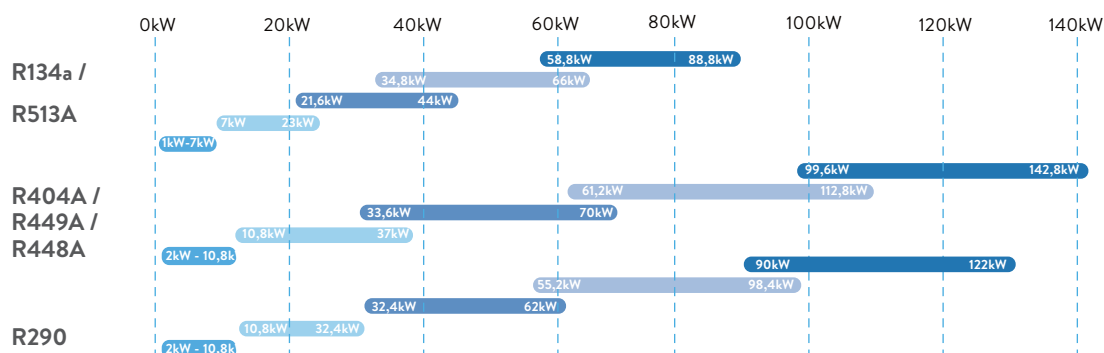


## HIGH TEMPERATURE

@ Evap. T. +5 °C  
Cond. T. +50 °C

## DISPLACEMENT

Range @60Hz

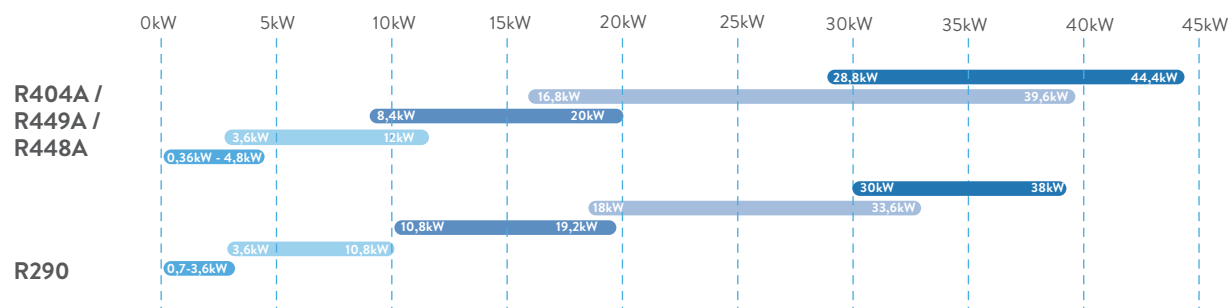


## MEDIUM TEMPERATURE

@ Evap. T. -10 °C  
Cond. T. +45 °C

## DISPLACEMENT

Range @60Hz



## LOW TEMPERATURE

@ Evap. T. -35 °C  
Cond. T. +40 °C

## DISPLACEMENT

Range @60Hz

# PRODUCT RANGE

## SEMI HERMETIC RECIPROCATING

### A, B, D SIZES

2 Cylinders  
22 Models

0.5 - 4 HP

4 - 19 m<sup>3</sup>/h @50Hz | 4 - 22 m<sup>3</sup>/h @60Hz

4 - 40 HP

20 - 123 m<sup>3</sup>/h @50Hz | 24 - 148 m<sup>3</sup>/h @60Hz

### Q, S, V SIZES

4 Cylinders  
40 Models

### Z SIZES

6 Cylinders  
11 Models

25 - 50 HP

106 - 185 m<sup>3</sup>/h @50Hz | 127 - 222 m<sup>3</sup>/h @60Hz

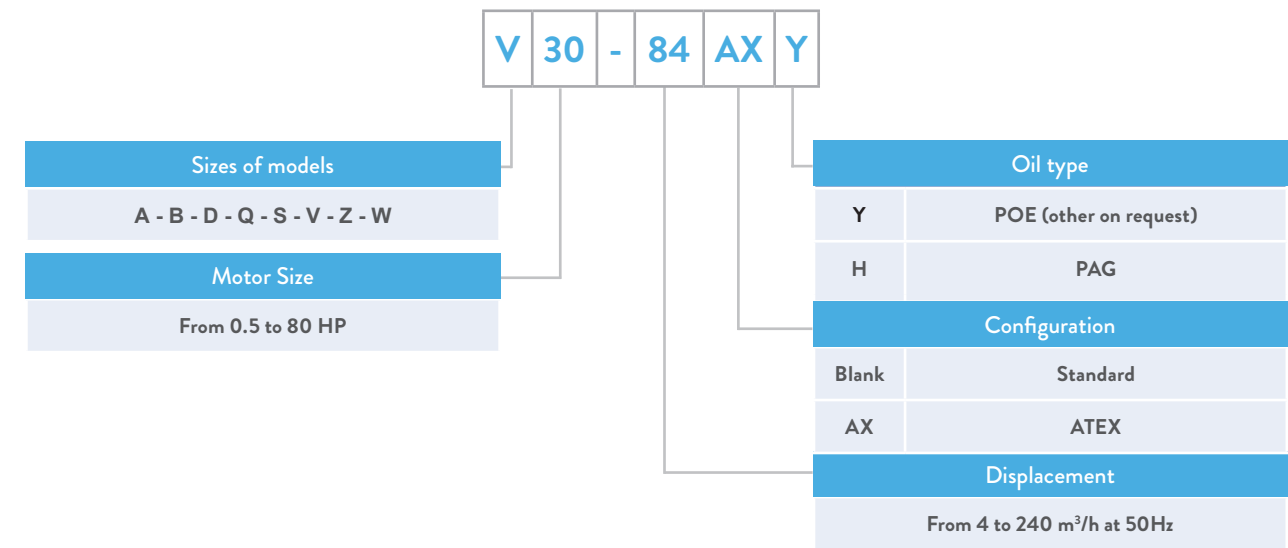
40 - 80 HP

142 - 240 m<sup>3</sup>/h @50Hz | 170 - 288 m<sup>3</sup>/h @60Hz

### W SIZES

8 Cylinders  
11 Models

# MODEL DESIGNATION



# INFORMATION PLATE

All the important information to identify the compressor is displayed on the nameplate. The date of production is contained in the serial number. The user is responsible for indicating the refrigerant type.

Compressor model

**frascold®** Type **Z50-154Y** Nr. **3S001074** Serial number

Frequency/ Displacement/ Speed

| Hz | Displ. m³/h | RPM  |
|----|-------------|------|
| 50 | 154,38      | 1450 |
| 60 | 185,26      | 1740 |

Oil type: POE68 3~

Max. Operating Disch. Pressure bar 30  
Max. Static Suct. Pressure bar 20,5

Maximum operating pressure  
Maximum standstill pressure

Oil type

Voltage and frequencies

| Volt    |         | Hz | MRA  |      | LRA   |       |
|---------|---------|----|------|------|-------|-------|
| PWS     | YY      |    | PWS  | YY   | PWS   | YY    |
| 380-420 | 380-420 | 50 | 90,4 | 90,4 | 188,6 | 321,4 |
| 440-480 | 440-480 | 60 | 90,4 | 90,4 | 188,6 | 321,4 |

Locked rotor current

Maximum operating current

Identification barcode

Identification code

Place of manufacturing

Frascold S.p.A. **Z50154 30S001074** MADE IN ITALY

# STANDARD EQUIPMENT AND OPTIONAL ACCESSORIES

14

| Description                                                                                           | Sizes |      |      |      |      |      |       |      |
|-------------------------------------------------------------------------------------------------------|-------|------|------|------|------|------|-------|------|
|                                                                                                       | A-B   |      | D    |      | Q-S  |      | V-Z-W |      |
|                                                                                                       | Std.  | Opt. | Std. | Opt. | Std. | Opt. | Std.  | Opt. |
| Electric terminal box IP class protection<br>(IP56 For Sizes A, B, D, Q & S, IP65 For Sizes V, Z & W) | •     |      | •    |      | •    |      | •     |      |
| Thermistor                                                                                            | •     |      | •    |      | •    |      | •     |      |
| Control and protection device (INT69)                                                                 | •     |      | •    |      | •    |      |       |      |
| Control, diagnostics & protection device<br>(INT69 Diagnose and INT69 TML Diagnose)                   |       | •    |      | •    |      | •    | •     |      |
| Discharge temperature control sensor                                                                  |       |      |      |      |      | •    | •     |      |
| Electronic oil differential pressure switch                                                           |       |      |      |      |      |      |       | •    |
| Reversible oil pump                                                                                   |       |      |      |      |      |      | •     |      |
| Oil level sight glass (Two for Sizes Q,S,V,Z,& W)                                                     | •     |      | •    |      | •    |      | •     |      |
| Oil charge (POE32 For Sizes A, B, D, Q & S, POE68 For Sizes V, Z & W)                                 | •     |      | •    |      | •    |      | •     |      |
| Liquid injection connection                                                                           |       |      |      |      | •    |      | •     |      |
| Suction shut-off valve                                                                                | •     |      | •    |      | •    |      | •     |      |
| Discharge shut-off valve                                                                              | •     |      | •    |      | •    |      | •     |      |
| Nitrogen charge (2bar min)                                                                            | •     |      | •    |      | •    |      | •     |      |
| Rubber supports                                                                                       | •     |      | •    |      | •    |      | •     |      |
| Oil heater                                                                                            |       | •    |      | •    |      | •    |       | •    |
| US unloader start head                                                                                |       |      |      | •    |      | •    |       | •    |
| RSH capacity control head                                                                             |       |      |      | •    |      | •    |       | •    |
| CC capacity control head                                                                              |       |      |      |      |      | •    |       | •    |
| Head cooling fan                                                                                      |       | •    |      | •    |      | •    |       | •    |
| Liquid injection kit (FLI)                                                                            |       |      |      |      |      | •    |       | •    |
| Optoelectronic oil level switch                                                                       |       |      |      |      |      | •    |       | •    |
| Kit adapters for oil equalization line                                                                |       | •    |      | •    |      | •    |       | •    |
| DP-Modbus Gateway                                                                                     |       | •    |      | •    |      | •    |       | •    |
| Connection cable Modbus Gateway - INT69                                                               |       | •    |      | •    |      | •    |       | •    |
| USB adapter cable                                                                                     |       | •    |      | •    |      | •    |       | •    |
| Bluetooth module for Diagnose                                                                         |       | •    |      | •    |      | •    |       | •    |

# CONTROL PROTECTION DEVICE

## Discharge Temperature Cutoff

The discharge temperature in certain conditions such as high condensing temperatures, low evaporating pressures or extremely high compression ratios, may reach values that can damage the compressor. All V, Z and W sizes models are supplied with a **safety device** which, in combination with the electronic control module, stops the compressor in the event that the discharge temperature exceeds the set safety limit.

## Electronic Safety Device to control lubrication

Frascold compressors in the V, Z and W sizes are supplied complete with an **electronic pressure switch** to control lubrication. It monitors the differential pressure in the lubrication system and stops the compressor in the event of any detected measurement that does not comply with the set safety values. The device is attached directly to the compressor's oil pump and does not require additional fittings.

## INT69 ®

Standard protection equipment on A, B, D, Q and S sizes compressors consists of a chain of PTC or AMS thermistors inserted in the electric motor stator and connected to the **Kriwan INT69 ®** electronic control module inside the electrical box. The **INT69®** device is triggered and stops the compressor in the event of thermal overload due to electric motor or mechanical issues.

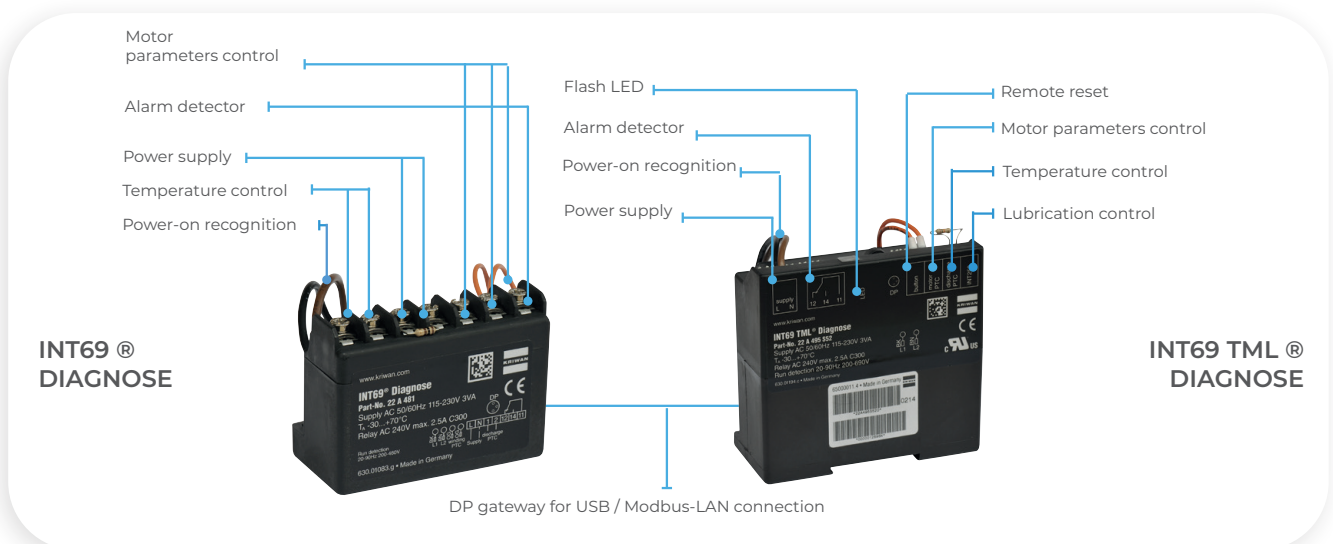
## INT69 ® Diagnose

**Kriwan INT69 ® Diagnose** protection device provides all of the protection of the **INT69 ®** with advanced diagnostic and communication functions, allowing the compressor to be remotely monitored in real time via modbus. System conditions are constantly monitored allowing the compressor to be stopped in the event of incorrect functional parameters and a quick identification of the cause of the malfunction through detailed reports. Stored data allows technicians to accurately and quickly diagnose the past and present state of the cooling system, ensuring fast and cost-effective servicing with short system downtime. Kriwan INT69® Diagnose is optional for all models from A to S sizes.

## INT69 TML Diagnose

**Kriwan INT69 TML Diagnose** protection device provides all of the protection data logging and remote monitoring capabilities of the **INT69 ®** and **INT69 ® Diagnose** but with the addition of lubrication protection. Frascold V, Z and W sizes compressors come standard with INT69 TML ® Diagnose module.

15



\*INT69® Diagnose is intellectual property and trademarks of KRIWAN Industrie-Elektronik GmbH.

# CAPACITY REGULATION

Frascold reciprocating compressors capacity can be regulated with:

- 1. CAPACITY CONTROL (CC)
- 2. REDUCED SUCTION HEADS (RSH)
- 3. VARIABLE FREQUENCY DRIVE (VFD)

## CAPACITY CONTROL (CC)

Frascold offers a standard capacity control feature. Available on request on 4, 6 and 8-cylinder compressors, capacity may be adjusted by choking the heads in order to adapt the cooling capacity of the system to the actual thermal demand. This reduces the number of start-stop cycles and the stress on the compressor mechanics and electric motor. **Possible control stages:**

|              | 4 Cylinder | 6 Cylinder | 8 Cylinder     |
|--------------|------------|------------|----------------|
| 2 Steps      | 50 / 100%  |            |                |
| 2 or 3 Steps |            | 66 / 100%  | 50 / 75 / 100% |
|              |            |            |                |

## REDUCED SUCTION HEADS (RSH)

Frascold’s patented Reduced Suction Head (RSH) unloading technology represents a revolution in capacity control for reciprocating compressors, avoiding problems caused by traditional unloading methods. Reducing to 50% the gas flow of the head, RSH equipped systems:

- Can run unloaded indefinitely with no additional vibration, heat and stress to the motor compared to standard unloading methods.
- Match more accurately fluctuating cooling demand, saving a significant amount of energy over traditional unloading.

**RSH** unloading is available exclusively on Frascold’s reciprocating compressors (2, 4, 6 and 8 cylinders). RSH equipped systems provide greater application flexibility and significantly reduced energy costs due to the continuous operation of different partialization steps. Fewer start-stop cycles means increased service life, less downtime and lower maintenance costs.

| RSH Heads | 2 Cylinder | 4 Cylinder     | 6 Cylinder          | 8 Cylinder                   |
|-----------|------------|----------------|---------------------|------------------------------|
| 1         | 50 / 100%  | 75 / 100%      | 83 / 100%           | 87.5 / 100%                  |
| 2         |            | 50 / 75 / 100% | 66 / 83 / 100%      | 75 / 87.5 / 100%             |
| 3         |            |                | 50 / 66 / 83 / 100% | 62.5 / 75 / 87.5 / 100%      |
| 4         |            |                |                     | 50 / 62.5 / 75 / 87.5 / 100% |

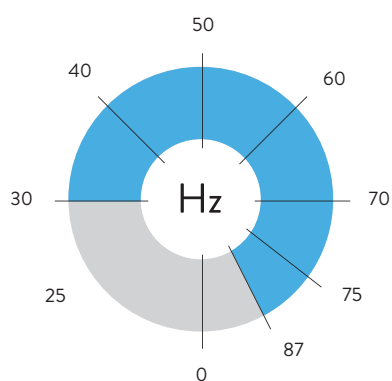


## VARIABLE FREQUENCY DRIVE (VFD)

All Frascold compressors are designed to be compatible with inverter technology. Inverters, also known as variable frequency drives, can greatly improve performance and efficiency in many applications.

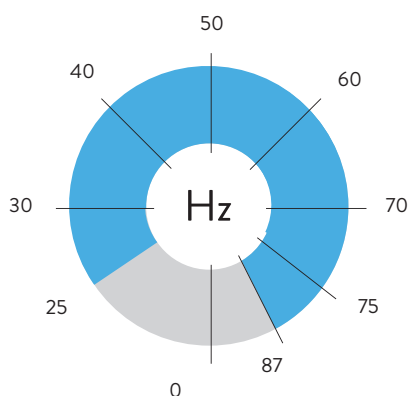
*Always check on the Frascold Selection Software FSS3 for capacity data at the various frequencies. For 400V motors in certain application conditions, there might be a narrowing of the frequency range.*

### A-B-D Sizes Operating range

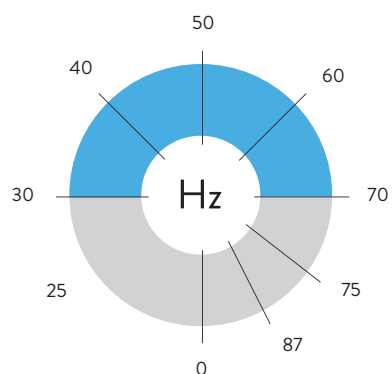


17

### Q-S Sizes Operating range



### V-Z-W Sizes Operating range



# TECHNICAL DATA AND OPERATING LIMITS

---

## Standard Series

### LEGAL DISCLAIMER:

While Frascold has made every effort at the time of publication to ensure the accuracy of the information provided herein, product specifications and performances could be subject to change without notice. You can find the most updated information in our Frascold Selection Software FSS3 at the link: <https://www.frascold.it/en/software>



## Motor power supply

220-240V (Δ) - 380-420V (Y) / 3ph / **50Hz** | 265-290V (Δ) - 440-480V (Y) / 3ph / **60Hz** | **DOL connection**

| Model      | Cylinders | Displacement |       | Oil Charge<br>(3/4 of sightglass) | Motor Ver. | Standard                  |      | AXH                       |      | LRA Locked motor current<br>DOL motor |      |
|------------|-----------|--------------|-------|-----------------------------------|------------|---------------------------|------|---------------------------|------|---------------------------------------|------|
|            |           |              |       |                                   |            | MRA max operating current |      | MRA max operating current |      |                                       |      |
|            |           | 50Hz         | 60Hz  |                                   |            | Δ                         | ∩    | Δ                         | ∩    | Δ                                     | ∩    |
|            |           | [m³/h]       | [l]   | [A]                               |            | [A]                       |      | [A]                       |      |                                       |      |
| A05-4Y     | 2         | 3,95         | 4,74  | 1                                 | 1          | 4,9                       | 2,8  | 4,9                       | 2,5  | 18,6                                  | 10,7 |
| A05-5Y     | 2         | 4,93         | 5,92  | 1                                 | 2          | 4,7                       | 2,7  | 4,7                       | 2,4  | 18,6                                  | 10,7 |
| A07-5Y     | 2         | 4,93         | 5,92  | 1                                 | 1          | 4,7                       | 2,7  | 4,7                       | 2,6  | 18,6                                  | 10,7 |
| A07-6Y     | 2         | 5,47         | 6,56  | 1                                 | 2          | 4,9                       | 2,8  | 4,9                       | 2,8  | 18,6                                  | 10,7 |
| A1-6Y      | 2         | 5,47         | 6,56  | 1                                 | 1          | 6,2                       | 3,6  | 6,3                       | 3,6  | 23,6                                  | 13,6 |
| A1-7Y      | 2         | 6,91         | 8,29  | 1                                 | 2          | 6,4                       | 3,7  | 6,4                       | 4,3  | 23,6                                  | 13,6 |
| A1.5-7Y    | 2         | 6,91         | 8,29  | 1                                 | 1          | 7,9                       | 4,5  | 7,9                       | 4,7  | 35,8                                  | 20,6 |
| A1.5-8Y    | 2         | 7,65         | 9,18  | 1                                 | 1          | 8,4                       | 4,8  | 7,5                       | 4,3  | 35,8                                  | 20,6 |
| B1.5-9.1Y  | 2         | 8,96         | 10,75 | 1                                 | 2          | 10,2                      | 5,9  | 10,2                      | 6,1  | 46,6                                  | 26,8 |
| B1.5-10.1Y | 2         | 9,88         | 11,86 | 1                                 | 2          | 9,5                       | 5,5  | 9,5                       | 5,5  | 46,6                                  | 26,8 |
| B2-10.1Y   | 2         | 9,88         | 11,86 | 1                                 | 1          | 11,7                      | 6,7  | 10,4                      | 6    | 62,5                                  | 35,9 |
| D2-11.1Y   | 2         | 11,26        | 13,51 | 0,95                              | 1          | 12,4                      | 7,1  | 11,1                      | 6,4  | 62,5                                  | 35,9 |
| D2-13.1Y   | 2         | 13,15        | 15,78 | 0,95                              | 2          | 12,4                      | 7,1  | 11,6                      | 6,7  | 62,5                                  | 35,9 |
| D3-13.1Y   | 2         | 13,15        | 15,78 | 0,95                              | 1          | 15,3                      | 8,8  | 15,3                      | 8,6  | 75,9                                  | 43,7 |
| D2-15.1Y   | 2         | 15,36        | 18,43 | 0,95                              | 2          | 14,6                      | 8,4  | 14,6                      | 7,7  | 62,5                                  | 35,9 |
| D3-15.1Y   | 2         | 15,36        | 18,43 | 0,95                              | 1          | 17,6                      | 10,1 | 17,5                      | 9    | 75,9                                  | 43,7 |
| D3-16.1Y   | 2         | 16,4         | 19,68 | 0,95                              | 2          | 17,2                      | 9,9  | 17,2                      | 8,3  | 75,9                                  | 43,7 |
| D4-16.1Y   | 2         | 16,4         | 19,68 | 1,1                               | 1          | 20,1                      | 11,6 | 20,1                      | 10,7 | 90,3                                  | 52   |
| D3-18.1Y   | 2         | 17,93        | 21,52 | 0,95                              | 2          | 17,3                      | 10   | 17,3                      | 9,7  | 75,9                                  | 43,7 |
| D4-18.1Y   | 2         | 17,93        | 21,52 | 1,1                               | 1          | 21,7                      | 12,5 | 20,5                      | 11,8 | 90,3                                  | 52   |
| D3-19.1Y   | 2         | 19,12        | 22,94 | 0,95                              | 2          | 17                        | 9,8  | 17                        | 10,3 | 75,9                                  | 43,7 |
| D4-19.1Y   | 2         | 19,12        | 22,94 | 1,1                               | 1          | 20,5                      | 11,8 | 20,6                      | 11,9 | 90,3                                  | 52   |
| Q4-20.1Y   | 4         | 19,77        | 23,72 | 1,3                               | 2          | 17,5                      | 10,1 | 15,6                      | 9    | 92,6                                  | 53,2 |
| Q4-21.1Y   | 4         | 21,18        | 25,42 | 1,3                               | 2          | 17,3                      | 10   | 16,5                      | 9,5  | 92,6                                  | 53,2 |
| Q5-21.1Y   | 4         | 21,18        | 25,42 | 1,3                               | 1          | 20,1                      | 11,6 | 18,8                      | 10,8 | 110                                   | 63,1 |
| Q4-24.1Y   | 4         | 23,91        | 28,69 | 1,3                               | 2          | 20,3                      | 11,7 | 18                        | 10,4 | 92,6                                  | 53,2 |
| Q5-24.1Y   | 4         | 23,91        | 28,69 | 1,3                               | 1          | 23,9                      | 13,8 | 23,9                      | 13,8 | 110                                   | 63,1 |
| Q4-25.1Y   | 4         | 24,69        | 29,63 | 1,3                               | 2          | 19,1                      | 11   | 18,4                      | 10,6 | 92,6                                  | 53,2 |
| Q5-25.1Y   | 4         | 24,69        | 29,63 | 1,3                               | 2          | 22,1                      | 12,7 | 23,1                      | 13,3 | 110                                   | 63,1 |
| Q7-25.1Y   | 4         | 24,69        | 29,63 | 1,3                               | 1          | 26,8                      | 15,4 | 26,8                      | 14,7 | 152                                   | 87,3 |
| Q5-28.1Y   | 4         | 28,02        | 33,62 | 1,3                               | 2          | 24,3                      | 14   | 20,8                      | 12   | 110                                   | 63,1 |
| Q7-28.1Y   | 4         | 28,02        | 33,62 | 1,3                               | 1          | 30,7                      | 17,6 | 30,3                      | 17,4 | 152                                   | 87,3 |
| Q5-33.1Y   | 4         | 32,66        | 39,19 | 1,3                               | 2          | 25                        | 14,4 | 25                        | 14,5 | 110                                   | 63,1 |
| Q7-33.1Y   | 4         | 32,66        | 39,19 | 1,3                               | 1          | 34,7                      | 20   | 34,7                      | 20,6 | 152                                   | 87,3 |
| Q7-36.1Y   | 4         | 35,86        | 43,03 | 1,3                               | 2          | 33,6                      | 19,4 | 34,3                      | 20,4 | 152                                   | 87,3 |
| Q9-36.1Y   | 4         | 35,86        | 43,03 | 1.3                               | 1          | 38,6                      | 22,2 | 38,6                      | 22,2 | 168                                   | 96,8 |
| Q9-39.1Y   | 4         | 38.57        | 46,28 | 1.3                               | 2          | 38,6                      | 22,2 | 38,6                      | 22,2 | 168                                   | 96,8 |
| Q10-39.1Y  | 4         | 38.57        | 46,28 | 1.3                               | 1          | 41,2                      | 23,7 | 41,2                      | 23,7 | 201                                   | 116  |

Data reference valid for the same model in ATEX version (except MRA for AXH models).

Find the most updated information and other supply voltages in our Frascold Selection Software FSS3 at the link:  
<https://www.frascold.it/en/software>

## Motor power supply

380-420V (Y) / 3ph / 50Hz | 440-480V (Y) / 3ph / 60Hz | PWS connection

| Model    | Cylinders | Displacement |        | Oil Charge<br>(3/4 of sightglass) | Motor Ver. | Standard                  | AXH  | LRA locked motor current<br>PWS motor |
|----------|-----------|--------------|--------|-----------------------------------|------------|---------------------------|------|---------------------------------------|
|          |           | 50Hz         | 60Hz   |                                   |            | MRA max operating current |      |                                       |
|          |           | [m³/h]       |        | [l]                               |            | [A]                       |      | [A]                                   |
| S5-33Y   | 4         | 32,8         | 39,36  | 2,9                               | 2          | 15,9                      | 15,5 | 35,5                                  |
| S7-33Y   | 4         | 32,8         | 39,36  | 2,9                               | 1          | 20,4                      | 18,9 | 47                                    |
| S8-42Y   | 4         | 41,32        | 49,58  | 2,9                               | 2          | 20,3                      | 19,5 | 52,7                                  |
| S12-42Y  | 4         | 41,32        | 49,58  | 2,9                               | 1          | 22,4                      | 21,6 | 59,1                                  |
| S10-52Y  | 4         | 51,5         | 61,8   | 2,9                               | 2          | 24,5                      | 22   | 59,1                                  |
| S15-52Y  | 4         | 51,5         | 61,8   | 2,9                               | 1          | 32,4                      | 28,7 | 74,8                                  |
| S15-56Y  | 4         | 56           | 67,2   | 2,9                               | 2          | 30,7                      | 26,6 | 74,8                                  |
| S20-56Y  | 4         | 56           | 67,2   | 2,9                               | 1          | 38,4                      | 35,9 | 87,5                                  |
| S20-63Y  | 4         | 63,2         | 75,84  | 2,9                               | 2          | 33                        | 28,3 | 102                                   |
| S25-63Y  | 4         | 63,2         | 75,84  | 2,9                               | 1          | 39,5                      | 37,9 | 112                                   |
| V15-59Y  | 4         | 58,48        | 70,18  | 4                                 | 2          | 31,1                      | 26,8 | 74,8                                  |
| V20-59Y  | 4         | 58,48        | 70,18  | 4                                 | 1          | 35,3                      | 30,2 | 107                                   |
| V15-71Y  | 4         | 70,77        | 84,92  | 4                                 | 2          | 32,2                      | 31,5 | 74,8                                  |
| V25-71Y  | 4         | 70,77        | 84,92  | 4                                 | 1          | 43,5                      | 36,9 | 118                                   |
| V20-84Y  | 4         | 83,81        | 100,57 | 4                                 | 2          | 42,6                      | 36,2 | 107                                   |
| V30-84Y  | 4         | 83,81        | 100,57 | 4                                 | 1          | 49,2                      | 44   | 132,6                                 |
| V25-93Y  | 4         | 93,05        | 111,66 | 4                                 | 2          | 52,3                      | 39,6 | 118,3                                 |
| V32-93Y  | 4         | 93,05        | 111,66 | 4                                 | 1          | 53,1                      | 42,8 | 144,5                                 |
| V25-103Y | 4         | 102,9        | 123,48 | 4                                 | 2          | 52,3                      | 42,2 | 118,3                                 |
| V35-103Y | 4         | 102,9        | 123,48 | 4                                 | 1          | 61                        | 47   | 144,5                                 |
| V30-112Y | 4         | 112,11       | 134,53 | 4                                 | 2          | 56                        | 45,6 | 132,6                                 |
| V35-112Y | 4         | 112,11       | 134,53 | 4                                 | 1          | 67,5                      | 63,4 | 144,5                                 |
| V30-123Y | 4         | 123,13       | 147,76 | 4                                 | 2          | 60,5                      | 51,5 | 132,6                                 |
| V40-123Y | 4         | 123,13       | 147,76 | 4                                 | 1          | 76,5                      | 70,3 | 159,2                                 |
| Z25-106Y | 6         | 106,16       | 127,39 | 3,7                               | 2          | 53,6                      | 43,9 | 118,3                                 |
| Z35-106Y | 6         | 106,16       | 127,39 | 3,7                               | 1          | 60,2                      | 53,9 | 144,5                                 |
| Z30-126Y | 6         | 125,72       | 150,86 | 7,2                               | 2          | 55,7                      | 51   | 132,6                                 |
| Z40-126Y | 6         | 125,72       | 150,86 | 7,2                               | 1          | 71,9                      | 61   | 159,2                                 |
| Z40-140Y | 6         | 139,68       | 167,62 | 7,2                               | 2          | 70                        | 64,2 | 159,2                                 |
| Z50-140Y | 6         | 139,68       | 167,62 | 7,2                               | 1          | 79,5                      | 67   | 188,6                                 |
| Z40-154Y | 6         | 154,38       | 185,26 | 7,2                               | 2          | 77,9                      | 71,5 | 159,2                                 |
| Z50-154Y | 6         | 154,38       | 185,26 | 7,2                               | 1          | 90,4                      | 74,6 | 189                                   |
| Z40-168Y | 6         | 168,16       | 201,79 | 7,2                               | 2          | 77,9                      | 71,5 | 159                                   |
| Z50-168Y | 6         | 168,16       | 201,79 | 7,2                               | 1          | 90,4                      | 74,6 | 189                                   |
| Z50-185Y | 6         | 184,7        | 221,64 | 7,2                               | 2          | 90,4                      | 74,6 | 189                                   |
| W40-142Y | 8         | 141,5        | 169,8  | 7,7                               | 1          | 89,3                      | 72,5 | 215                                   |
| W40-168Y | 8         | 167,6        | 201,12 | 7,7                               | 2          | 71,4                      | 73,7 | 215                                   |
| W50-168Y | 8         | 167,6        | 201,12 | 7,7                               | 1          | 94,8                      | 89,3 | 258                                   |
| W50-187Y | 8         | 186,1        | 223,32 | 7,7                               | 2          | 89,1                      | 87,3 | 258                                   |
| W60-187Y | 8         | 186,1        | 223,32 | 7,7                               | 1          | 103,5                     | 99,8 | 326                                   |
| W60-206Y | 8         | 205,8        | 246,96 | 7,7                               | 2          | 98,8                      | 85,4 | 326                                   |
| W70-206Y | 8         | 205,8        | 246,96 | 7,7                               | 1          | 116,8                     | 103  | 390                                   |
| W70-228Y | 8         | 227,77       | 273,32 | 7,7                               | 2          | 109,5                     | 94,2 | 390                                   |
| W75-228Y | 8         | 227,77       | 273,32 | 7,7                               | 1          | 128,4                     | 108  | 417                                   |
| W75-240Y | 8         | 239,02       | 286,82 | 7,7                               | 2          | 115,3                     | 102  | 417                                   |
| W80-240Y | 8         | 239,02       | 286,82 | 7,7                               | 1          | 135,7                     | 111  | 417                                   |

Tolerance ±10% compared to the average value of the motor voltage range. Other voltages are available on request.

To select contactors, cables and fuses, consider the MRA and the maximum absorbed power. Use AC3 category contactors.

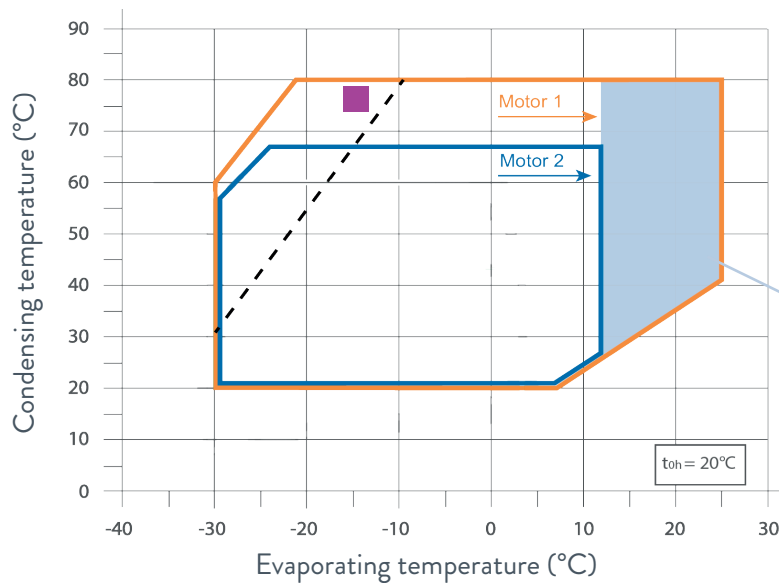
# OPERATING LIMITS

Diagrams published in this catalogue are to be considered as a general diagram for the full range of semi-hermetic reciprocating compressors. For specific model and refrigerant performance data, please use the **FSS3 Frascold Selection Software** available for free download at <https://www.frascold.it/en/software>

**Motor 1** - Medium temperature applications

**Motor 2** - Low temperature applications

## R134a

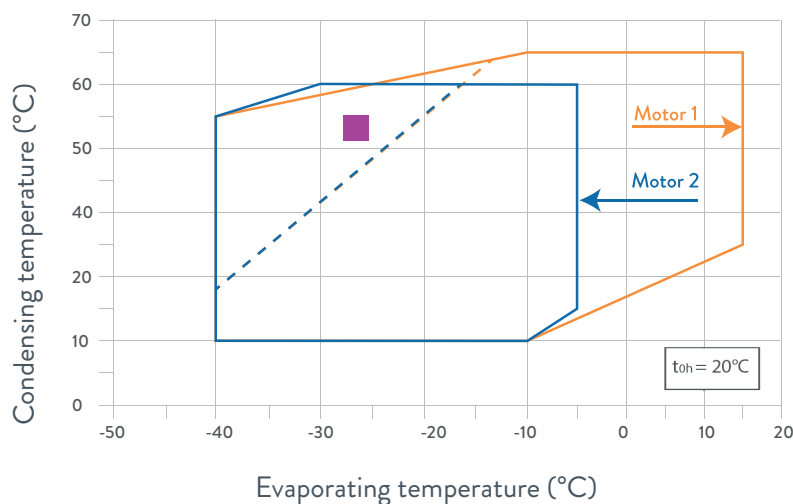


### Standard application diagram

Motor size 1 - 2  
Compressor capacity 100%  
Suction gas temperature 20°C

For operation in this area  
please contact Frascold

## R290

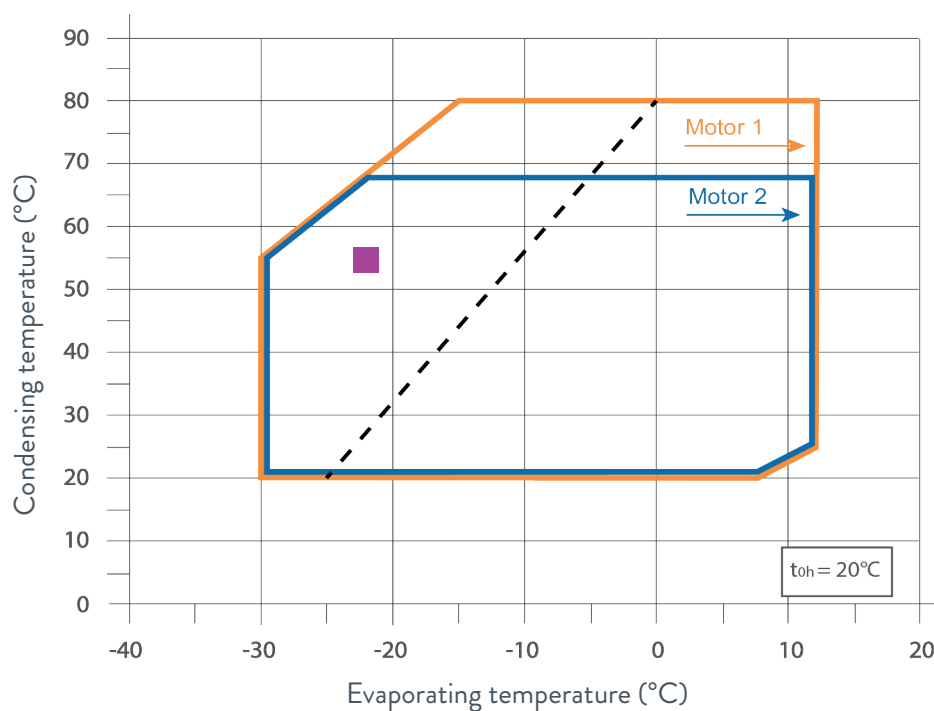


### Standard application diagram

Motor size 1 - 2  
Compressor capacity 100%  
Suction gas temperature 20°C

Find the most updated information in our Frascold Selection Software FSS3 at the link :  
<https://www.frascold.it/en/software>

## R450A - R513A



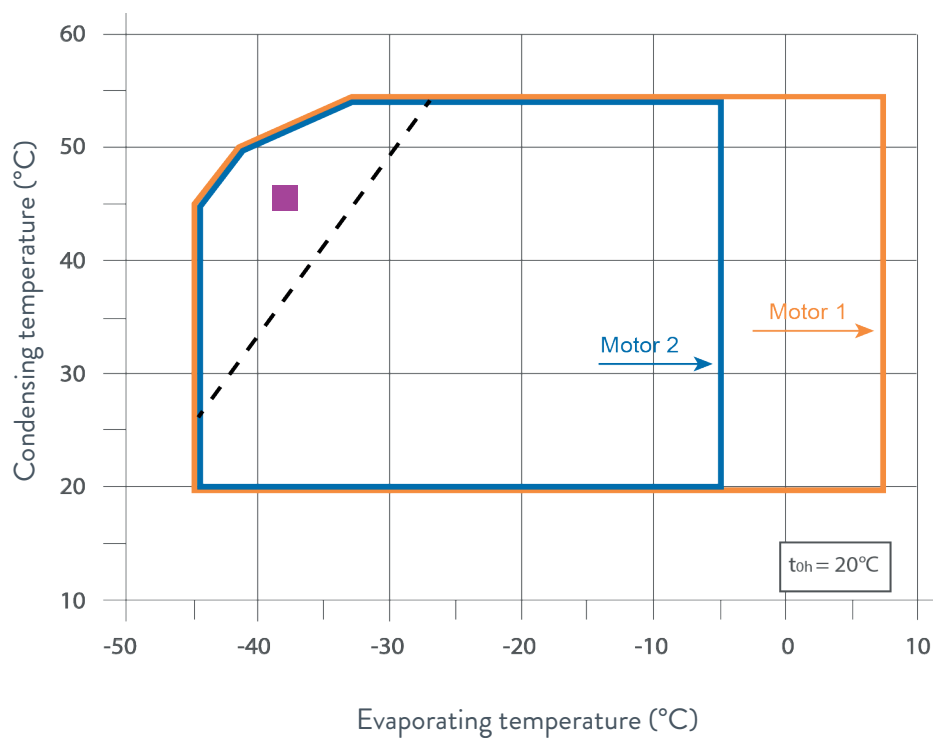
### Standard application diagram

Motor size 1 - 2

Compressor capacity 100%

Suction gas temperature 20°C

## R404A - R507A



### Standard application diagram

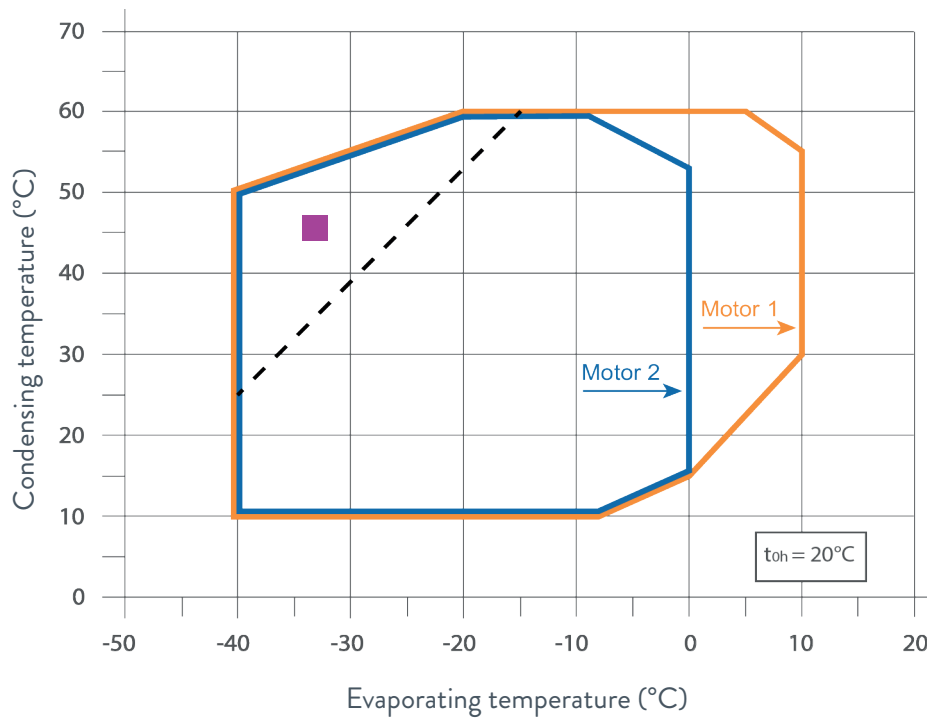
Motor size 1 - 2

Compressor capacity 100%

Suction gas temperature 20°C

■ For additional cooling or superheat reduction or for performance data on a specific compressor model, please refer to Frascold selection software FSS3

## R448A - R449A

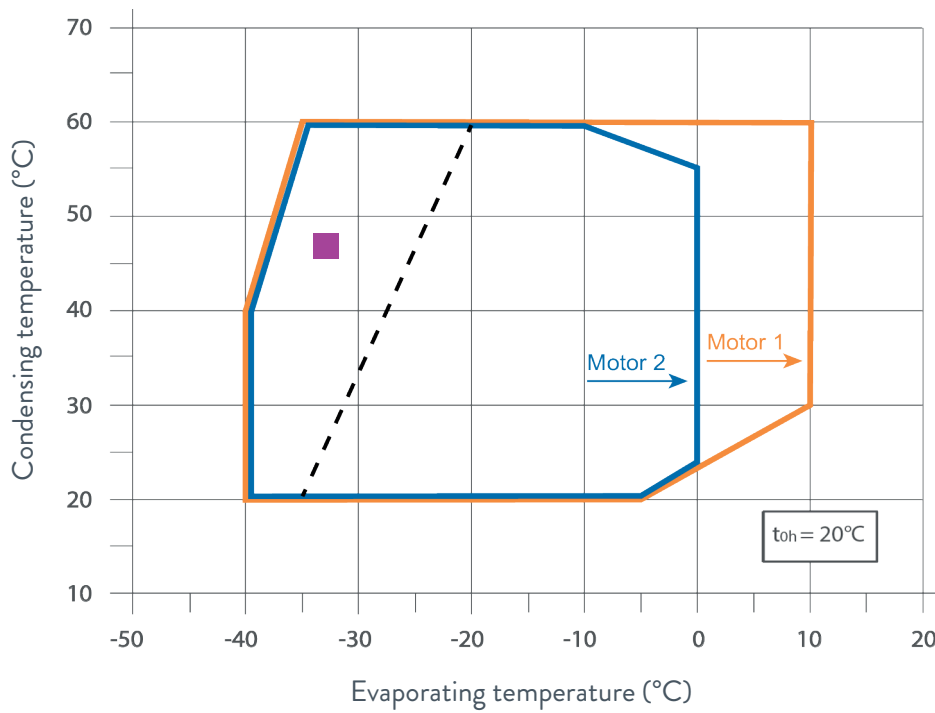


### Standard application diagram

Motor size 1 - 2  
Compressor capacity 100%  
Suction gas temperature  $20^{\circ}\text{C}$

24

## R407F - R407A

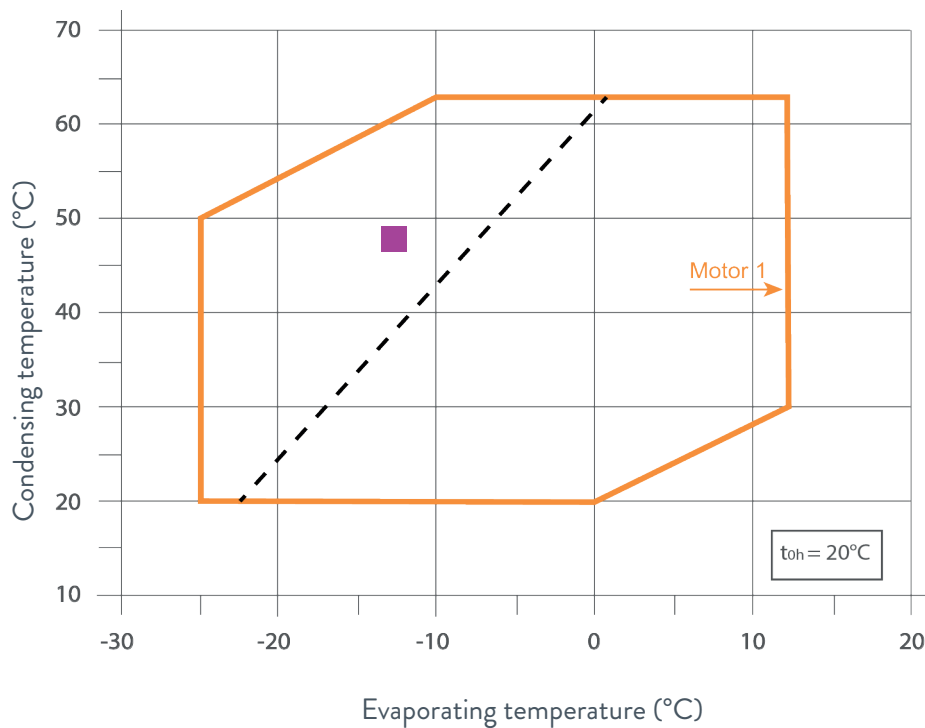


### Standard application diagram

Motor size 1 - 2  
Compressor capacity 100%  
Suction gas temperature  $20^{\circ}\text{C}$



## R407C



### Standard application diagram

Motor size 1

Compressor capacity 100%

Suction gas temperature 20°C

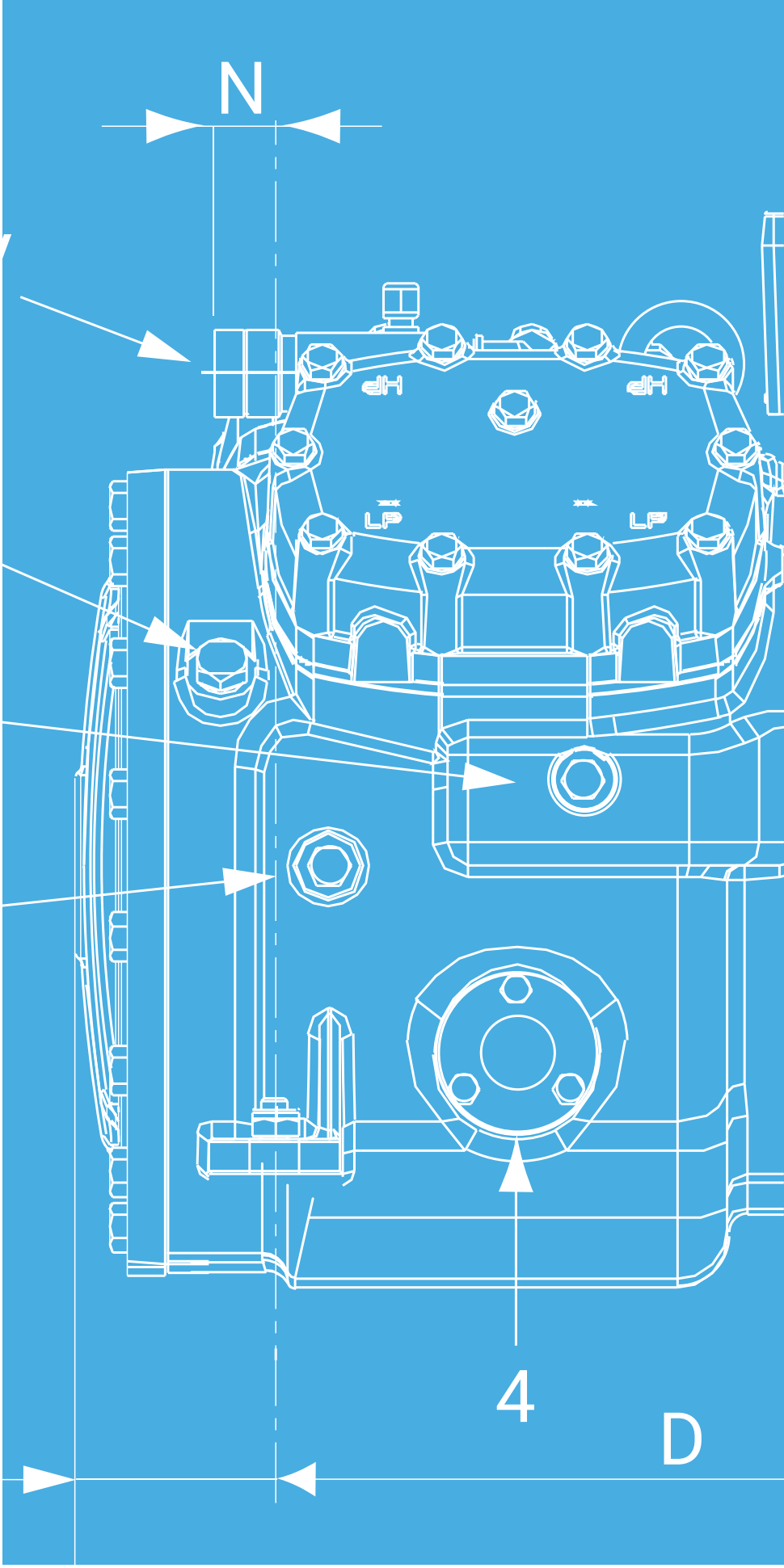
■ For additional cooling or superheat reduction or for performance data on a specific compressor model, please refer to Frascold selection software FSS3

# TECHNICAL DRAWINGS AND DIMENSIONS

26

---

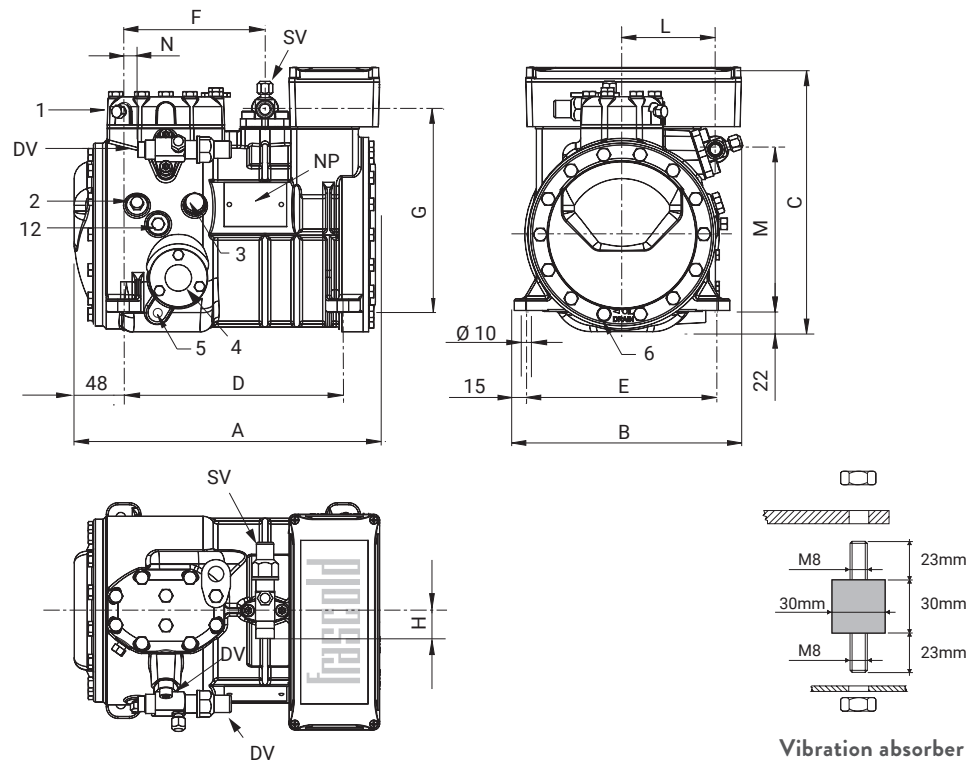
Standard Series



## Dimensional drawing

### Size A

|         | Compressor |       |        |               |      | Valves position |      |      |           |      |      | Valves  |      |           |      | Net Weight |
|---------|------------|-------|--------|---------------|------|-----------------|------|------|-----------|------|------|---------|------|-----------|------|------------|
|         | Length     | Width | Height | Base mounting |      | Suction         |      |      | Discharge |      |      | Suction |      | Discharge |      |            |
|         | A          | B     | C      | D             | E    | F               | G    | H    | L         | M    | N    | Ø       |      | Ø         |      |            |
|         | [mm]       | [mm]  | [mm]   | [mm]          | [mm] | [mm]            | [mm] | [mm] | [mm]      | [mm] | [mm] | [inch]  | [mm] | [inch]    | [mm] |            |
| A05-4Y  | 317        | 237   | 275    | 234           | 194  | 150             | 209  | 29   | 97        | 167  | 18   | 5/8"    | 15,8 | 1/2"      | 12,7 | 36         |
| A05-5Y  |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |
| A07-5Y  |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |
| A07-6Y  |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |
| A1-6Y   |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |
| A1-7Y   |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |
| A1.5-7Y |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |
| A1.5-8Y |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |

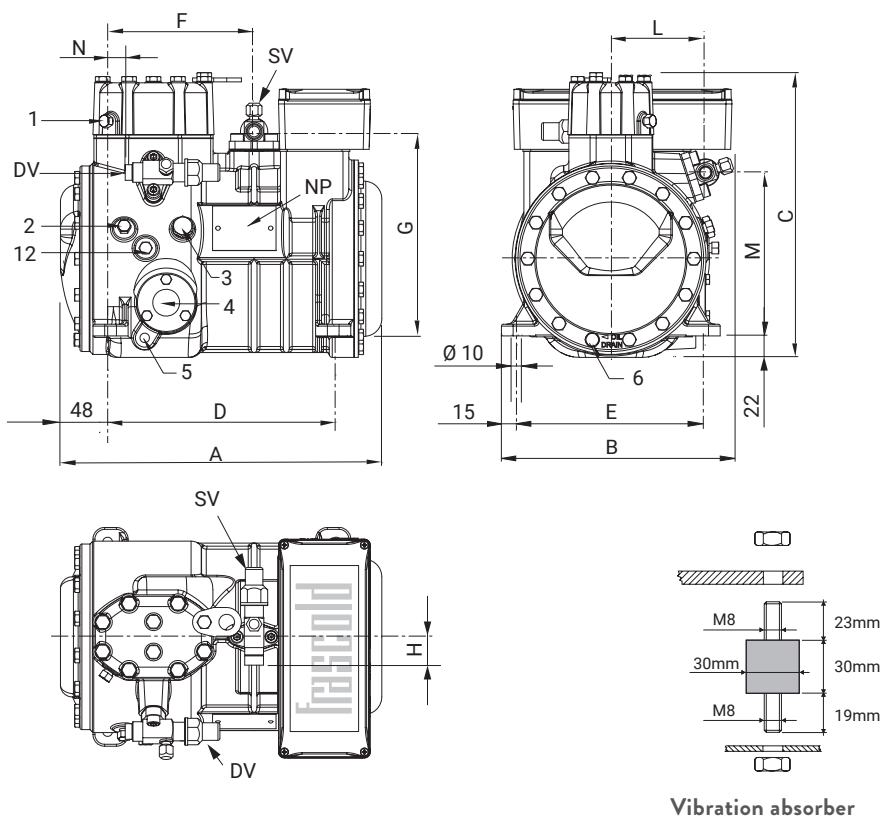


|    |                         |          |
|----|-------------------------|----------|
| 1  | High pressure plug      | 1/8" NPT |
| 2  | Low pressure plug       | 1/8" NPT |
| 3  | Oil charge plug         | 1/4" GAS |
| 4  | Oil level sight glass   |          |
| 5  | Crankcase heater socket |          |
| 6  | Oil drain plug          | M8 x 22  |
| 12 | Oil return plug         | 1/8" NPT |
| DV | Discharge valve         |          |
| SV | Suction valve           |          |
| NP | Nameplate               |          |

## Dimensional drawing

### Size B

|            | Compressor |       |        |               |      | Valves position |      |      |           |      |      | Valves  |      |           |      | Net Weight |
|------------|------------|-------|--------|---------------|------|-----------------|------|------|-----------|------|------|---------|------|-----------|------|------------|
|            | Length     | Width | Height | Base mounting |      | Suction         |      |      | Discharge |      |      | Suction |      | Discharge |      |            |
|            | A          | B     | C      | D             | E    | F               | G    | H    | L         | M    | N    | Ø       |      | Ø         |      |            |
|            | [mm]       | [mm]  | [mm]   | [mm]          | [mm] | [mm]            | [mm] | [mm] | [mm]      | [mm] | [mm] | [inch]  | [mm] | [inch]    | [mm] |            |
| B1.5-9.1Y  | 329        | 237   | 292    | 234           | 194  | 150             | 209  | 29   | 97        | 167  | 18   | 5/8"    | 15,8 | 1/2"      | 12,7 | 38         |
| B1.5-10.1Y |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |
| B2-10.1Y   | 334        | 237   | 292    | 234           | 194  | 150             | 209  | 31   | 97        | 167  | 18   | 3/4"    | 19   | 5/8"      | 15,8 | 40         |

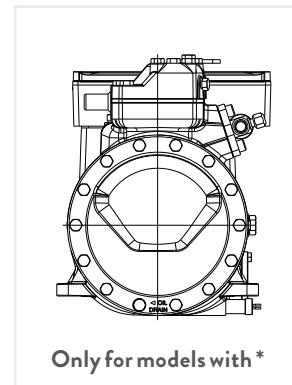
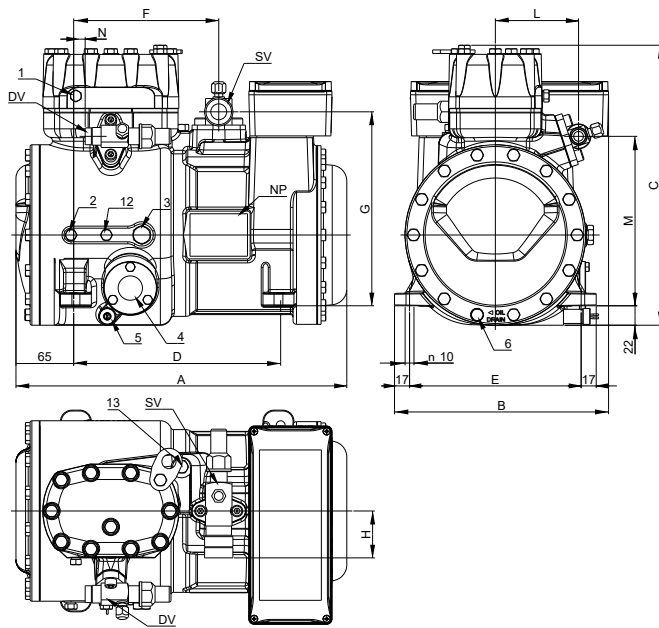


|    |                         |          |
|----|-------------------------|----------|
| 1  | High pressure plug      | 1/8" NPT |
| 2  | Low pressure plug       | 1/8" NPT |
| 3  | Oil charge plug         | 1/4" GAS |
| 4  | Oil level sight glass   |          |
| 5  | Crankcase heater socket |          |
| 6  | Oil drain plug          | M8 x 22  |
| 12 | Oil return plug         | 1/8" NPT |
| DV | Discharge valve         |          |
| SV | Suction valve           |          |
| NP | Nameplate               |          |

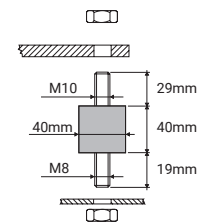
## Dimensional drawing

### Size D

|           | Compressor |       |        |               |      | Valves position |      |      |           |      |      | Valves  |      |           |      | Net Weight |
|-----------|------------|-------|--------|---------------|------|-----------------|------|------|-----------|------|------|---------|------|-----------|------|------------|
|           | Length     | Width | Height | Base mounting |      | Suction         |      |      | Discharge |      |      | Suction |      | Discharge |      |            |
|           |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |
|           |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |
| A         | B          | C     | D      | E             | F    | G               | H    | L    | M         | N    | Ø    |         | Ø    |           |      |            |
| [mm]      | [mm]       | [mm]  | [mm]   | [mm]          | [mm] | [mm]            | [mm] | [mm] | [mm]      | [mm] | [mm] | [inch]  | [mm] | [inch]    | [mm] | [Kg]       |
| D2-11.1Y* | 369        | 242   | 294    | 234           | 194  | 165             | 221  | 42   | 94        | 192  | 13   | 7/8"    | 22,2 | 5/8"      | 16   | 45         |
| D2-13.1Y* | 369        | 242   | 294    | 234           | 194  | 165             | 221  | 42   | 94        | 192  | 13   | 7/8"    | 22,2 | 5/8"      | 16   | 45         |
| D3-13.1Y  | 374        | 242   | 317    | 234           | 194  | 165             | 225  | 53   | 94        | 192  | 13   | 1-1/8"  | 28,6 | 5/8"      | 16   | 49         |
| D2-15.1Y* | 369        | 242   | 294    | 234           | 194  | 165             | 221  | 42   | 94        | 192  | 13   | 7/8"    | 22,2 | 5/8"      | 16   | 45         |
| D3-15.1Y  | 374        | 242   | 317    | 234           | 194  | 165             | 225  | 53   | 94        | 192  | 13   | 1-1/8"  | 28,6 | 5/8"      | 16   | 49         |
| D3-16.1Y  | 374        | 242   | 317    | 234           | 194  | 165             | 225  | 53   | 94        | 192  | 13   | 1-1/8"  | 28,6 | 5/8"      | 16   | 49         |
| D4-16.1Y  | 401        | 242   | 317    | 234           | 194  | 165             | 225  | 53   | 94        | 192  | 5    | 1-1/8"  | 28,6 | 3/4"      | 19   | 55         |
| D3-18.1Y  | 374        | 242   | 317    | 234           | 194  | 165             | 225  | 53   | 94        | 192  | 13   | 1-1/8"  | 28,6 | 5/8"      | 16   | 55         |
| D4-18.1Y  | 401        | 242   | 317    | 234           | 194  | 165             | 225  | 53   | 94        | 192  | 5    | 1-1/8"  | 28,6 | 3/4"      | 19   | 55         |
| D3-19.1Y  | 374        | 242   | 317    | 234           | 194  | 165             | 225  | 53   | 94        | 192  | 13   | 1-1/8"  | 28,6 | 5/8"      | 16   | 49         |
| D4-19.1Y  | 401        | 242   | 317    | 234           | 194  | 165             | 225  | 53   | 94        | 192  | 5    | 1-1/8"  | 28,6 | 3/4"      | 19   | 55         |



Only for models with \*



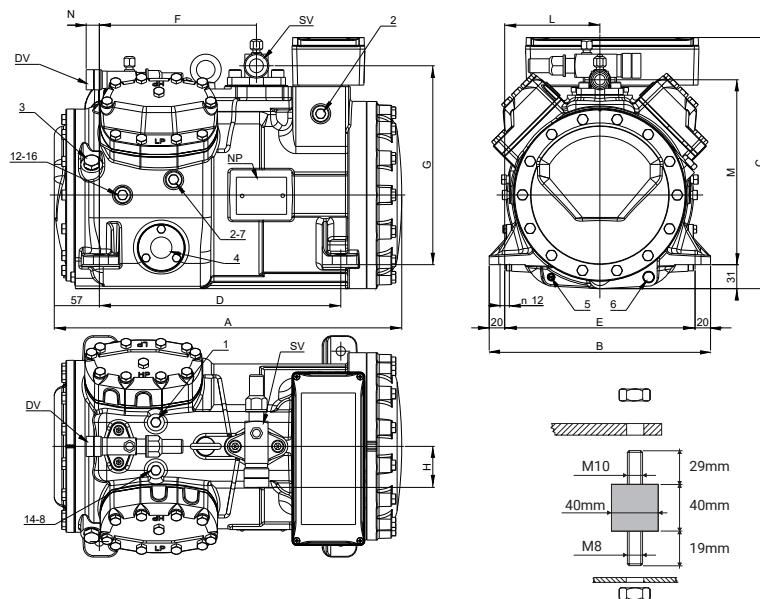
Vibration absorber

|    |                         |          |
|----|-------------------------|----------|
| 1  | High pressure plug      | 1/8" NPT |
| 2  | Low pressure plug       | 1/8" NPT |
| 3  | Oil charge plug         | 1/4" GAS |
| 4  | Oil level sight glass   |          |
| 5  | Crankcase heater socket |          |
| 6  | Oil drain plug          | M8 x 22  |
| 12 | Oil return plug         | 1/8" NPT |
| 13 | Liquid injection plug   |          |
| DV | Discharge valve         |          |
| SV | Suction valve           |          |
| NP | Nameplate               |          |

## Dimensional drawing

### Size Q

|           | Compressor |       |        |               |      | Valves position |      |      |           |      |      | Valves  |      |           |      | Net Weight |
|-----------|------------|-------|--------|---------------|------|-----------------|------|------|-----------|------|------|---------|------|-----------|------|------------|
|           | Length     | Width | Height | Base mounting |      | Suction         |      |      | Discharge |      |      | Suction |      | Discharge |      |            |
|           |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |
|           | A          | B     | C      | D             | E    | F               | G    | H    | L         | M    | N    | Ø       |      | Ø         |      |            |
|           | [mm]       | [mm]  | [mm]   | [mm]          | [mm] | [mm]            | [mm] | [mm] | [mm]      | [mm] | [mm] | [inch]  | [mm] | [inch]    | [mm] | [Kg]       |
| Q4-20.1Y  | 449        | 286   | 325    | 312           | 246  | 203             | 258  | 53   | 123       | 239  | 12   | 1-1/8"  | 28,6 | 3/4"      | 19   | 74         |
| Q4-21.1Y  | 449        | 286   | 325    | 312           | 246  | 203             | 258  | 53   | 123       | 239  | 12   | 1-1/8"  | 28,6 | 3/4"      | 19   | 79         |
| Q5-21.1Y  |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |
| Q4-24.1Y  |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |
| Q5-24.1Y  | 449        | 286   | 325    | 312           | 246  | 203             | 258  | 53   | 123       | 239  | 17   | 1-1/8"  | 28,6 | 7/8"      | 22,2 | 79         |
| Q4-25.1Y  | 449        | 286   | 325    | 312           | 246  | 203             | 258  | 53   | 123       | 239  | 12   | 1-1/8"  | 28,6 | 3/4"      | 19   | 77         |
| Q5-25.1Y  | 449        | 286   | 325    | 312           | 246  | 203             | 258  | 53   | 123       | 239  | 17   | 1-1/8"  | 28,6 | 7/8"      | 22,2 | 79         |
| Q7-25.1Y  |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |
| Q5-28.1Y  |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |
| Q7-28.1Y  | 449        | 286   | 328    | 312           | 246  | 203             | 261  | 58   | 123       | 239  | 28   | 1-3/8"  | 35   | 1-1/8"    | 28,6 | 79         |
| Q5-33.1Y  |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |
| Q7-33.1Y  |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |
| Q7-36.1Y  | 464        | 286   | 328    | 312           | 246  | 203             | 261  | 58   | 123       | 239  | 28   | 1-3/8"  | 35   | 1-1/8"    | 28,6 | 83         |
| Q9-36.1Y  |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |
| Q9-39.1Y  |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |
| Q10-39.1Y | 480        | 286   | 328    | 312           | 246  | 203             | 261  | 58   | 123       | 239  | 28   | 1-3/8"  | 35   | 1-1/8"    | 28,6 | 88         |



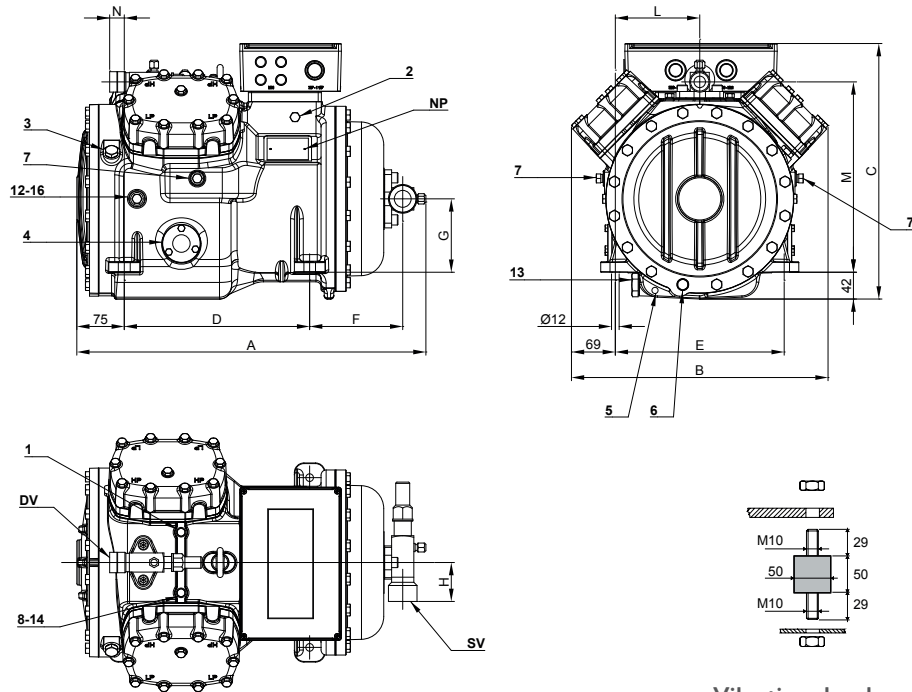
Vibration absorber

|    |                                  |          |
|----|----------------------------------|----------|
| 1  | High pressure plug               | 1/8" NPT |
| 2  | Low pressure plug                | 1/8" NPT |
| 3  | Oil charge plug                  | 1/4" GAS |
| 4  | Oil level sight glass            |          |
| 5  | Crankcase heater socket          |          |
| 6  | Oil drain plug                   | M8 x 22  |
| 7  | Liquid injection valve plug      | 1/8" NPT |
| 8  | Liquid injection sensor plug     | 1/8" NPT |
| 12 | Oil return plug                  | 1/8" NPT |
| 14 | Max discharge temperature sensor | 1/8" NPT |
| 16 | Crankcase pressure plug          | 1/8" NPT |
| DV | Discharge valve                  |          |
| SV | Suction valve                    |          |
| NP | Nameplate                        |          |

## Dimensional drawing

### Size S

|         | Compressor |       |        |               |      | Valves position |      |      |           |      |      | Valves  |      |           |      | Net Weight |
|---------|------------|-------|--------|---------------|------|-----------------|------|------|-----------|------|------|---------|------|-----------|------|------------|
|         | Length     | Width | Height | Base mounting |      | Suction         |      |      | Discharge |      |      | Suction |      | Discharge |      |            |
|         | A          | B     | C      | D             | E    | F               | G    | H    | L         | M    | N    | Ø       |      | Ø         |      |            |
|         | [mm]       | [mm]  | [mm]   | [mm]          | [mm] | [mm]            | [mm] | [mm] | [mm]      | [mm] | [mm] | [inch]  | [mm] | [inch]    | [mm] |            |
| S5-33Y  | 550        | 405   | 405    | 292           | 266  | 147             | 115  | 58   | 133       | 298  | 23   | 1-3/8"  | 35   | 1-1/8"    | 28,6 | 115        |
| S7-33Y  | 550        | 405   | 405    | 292           | 266  | 147             | 115  | 58   | 133       | 298  | 23   | 1-3/8"  | 35   | 1-1/8"    | 28,6 | 117        |
| S8-42Y  |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |
| S12-42Y | 550        | 405   | 405    | 292           | 266  | 147             | 115  | 58   | 133       | 298  | 23   | 1-3/8"  | 35   | 1-1/8"    | 28,6 | 120        |
| S10-52Y |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |
| S15-52Y | 550        | 405   | 405    | 292           | 266  | 147             | 115  | 61   | 133       | 298  | 23   | 1-5/8"  | 42   | 1-1/8"    | 28,6 | 126        |
| S15-56Y | 550        | 405   | 405    | 292           | 266  | 147             | 115  | 61   | 133       | 298  | 23   | 1-5/8"  | 42   | 1-1/8"    | 28,6 | 130        |
| S20-56Y | 550        | 405   | 405    | 292           | 266  | 147             | 115  | 61   | 133       | 298  | 23   | 1-5/8"  | 42   | 1-1/8"    | 28,6 | 132        |



Vibration absorber

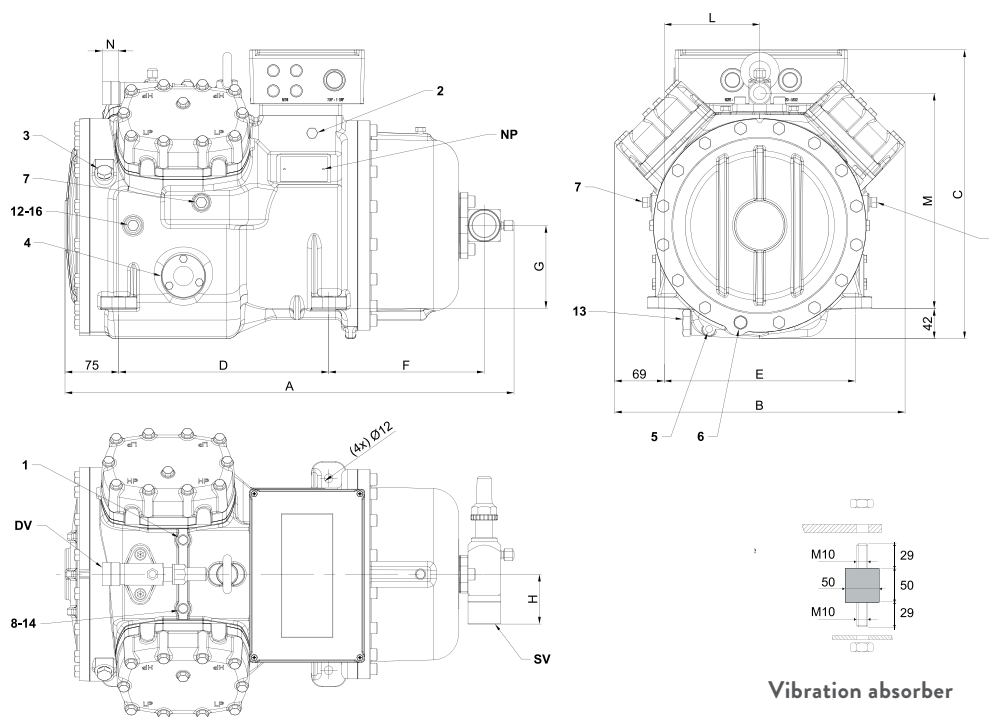
|    |                                  |          |
|----|----------------------------------|----------|
| 1  | High pressure plug               | 1/8" NPT |
| 2  | Low pressure plug                | 1/4" NPT |
| 3  | Oil charge plug                  | 1/4" GAS |
| 4  | Oil level sight glass            |          |
| 5  | Crankcase heater socket          |          |
| 6  | Oil drain plug                   | M10 x 30 |
| 7  | Liquid injection valve plug      | 1/4" NPT |
| 8  | Liquid injection sensor plug     | 1/8" NPT |
| 12 | Oil return plug                  | 1/4" NPT |
| 13 | Magnetic plug                    | 1/2" GAS |
| 14 | Max discharge temperature sensor | 1/8" NPT |
| 16 | Crankcase pressure plug          | 1/4" NPT |
| DV | Discharge valve                  |          |
| SV | Suction valve                    |          |
| NP | Nameplate                        |          |



## Dimensional drawing

### Size S

|         | Compressor |       |        |               |      | Valves position |      |      |           |      |      | Valves  |      |           |      | Net Weight |
|---------|------------|-------|--------|---------------|------|-----------------|------|------|-----------|------|------|---------|------|-----------|------|------------|
|         | Length     | Width | Height | Base mounting |      | Suction         |      |      | Discharge |      |      | Suction |      | Discharge |      |            |
|         | A          | B     | C      | D             | E    | F               | G    | H    | L         | M    | N    | Ø       |      | Ø         |      |            |
|         | [mm]       | [mm]  | [mm]   | [mm]          | [mm] | [mm]            | [mm] | [mm] | [mm]      | [mm] | [mm] | [inch]  | [mm] | [inch]    | [mm] |            |
| S20-63Y | 625        | 405   | 401    | 292           | 266  | 216             | 115  | 69   | 133       | 298  | 23   | 1-5/8"  | 42   | 1-1/8"    | 28,6 | 137        |
| S25-63Y | 625        | 405   | 401    | 292           | 266  | 216             | 115  | 69   | 133       | 298  | 23   | 1-5/8"  | 42   | 1-1/8"    | 28,6 | 139        |



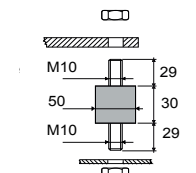
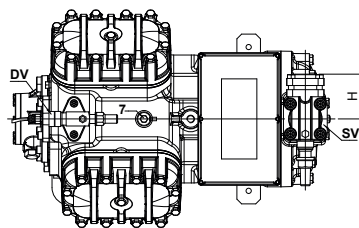
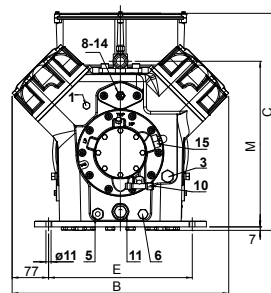
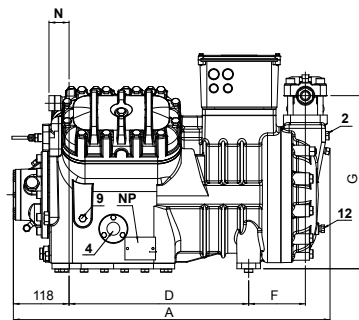
Vibration absorber

|    |                                  |          |
|----|----------------------------------|----------|
| 1  | High pressure plug               | 1/8" NPT |
| 2  | Low pressure plug                | 1/8" NPT |
| 3  | Oil charge plug                  | 1/4" GAS |
| 4  | Oil level sight glass            |          |
| 5  | Crankcase heater socket          |          |
| 6  | Oil drain plug                   | M10 x 30 |
| 7  | Liquid injection valve plug      | 1/4" NPT |
| 8  | Liquid injection sensor plug     | 1/8" NPT |
| 12 | Oil return plug                  | 1/4" NPT |
| 13 | Magnetic plug                    | 1/2" GAS |
| 14 | Max discharge temperature sensor | 1/8" NPT |
| 16 | Crankcase pressure plug          | 1/4" NPT |
| DV | Discharge valve                  |          |
| SV | Suction valve                    |          |
| NP | Nameplate                        |          |

## Dimensional drawing

### Size V

|          | Compressor |       |        |               |      | Valves position |      |      |           |      |        | Valves  |        |           |      | Net Weight |
|----------|------------|-------|--------|---------------|------|-----------------|------|------|-----------|------|--------|---------|--------|-----------|------|------------|
|          | Length     | Width | Height | Base mounting |      | Suction         |      |      | Discharge |      |        | Suction |        | Discharge |      |            |
|          |            |       |        |               |      |                 |      |      |           |      |        |         |        |           |      |            |
|          |            |       |        |               |      |                 |      |      |           |      |        |         |        |           |      |            |
| A        | B          | C     | D      | E             | F    | G               | H    | L    | M         | N    | Ø      |         | Ø      |           |      |            |
| [mm]     | [mm]       | [mm]  | [mm]   | [mm]          | [mm] | [mm]            | [mm] | [mm] | [mm]      | [mm] | [inch] | [mm]    | [inch] | [mm]      | [Kg] |            |
| V15-59Y  | 672        | 460   | 463    | 381           | 305  | 120             | 367  | 95   | 152       | 352  | 43     | 1-5/8"  | 42     | 1-1/8"    | 28,6 | 170        |
| V20-59Y  | 672        | 460   | 463    | 381           | 305  | 120             | 367  | 95   | 152       | 352  | 43     | 1-5/8"  | 42     | 1-1/8"    | 28,6 | 174        |
| V15-71Y  | 672        | 460   | 463    | 381           | 305  | 120             | 367  | 95   | 152       | 352  | 43     | 1-5/8"  | 42     | 1-1/8"    | 28,6 | 170        |
| V25-71Y  | 703        | 460   | 463    | 381           | 305  | 133             | 389  | 130  | 152       | 352  | 48     | 2-1/8"  | 54     | 1-1/8"    | 35   | 184        |
| V20-84Y  | 672        | 460   | 463    | 381           | 305  | 120             | 367  | 95   | 152       | 352  | 43     | 1-5/8"  | 42     | 1-1/8"    | 28,6 | 180        |
| V30-84Y  | 703        | 460   | 463    | 381           | 305  | 133             | 389  | 130  | 152       | 352  | 48     | 2-1/8"  | 54     | 1-3/8"    | 35   | 187        |
| V25-93Y  | 703        | 460   | 463    | 381           | 305  | 133             | 389  | 130  | 152       | 352  | 48     | 2-1/8"  | 54     | 1-3/8"    | 35   | 190        |
| V32-93Y  | 743        | 460   | 463    | 381           | 305  | 158             | 389  | 130  | 152       | 352  | 48     | 2-1/8"  | 54     | 1-3/8"    | 35   | 192        |
| V25-103Y | 703        | 460   | 463    | 381           | 305  | 133             | 389  | 130  | 152       | 352  | 48     | 2-1/8"  | 54     | 1-3/8"    | 35   | 190        |
| V35-103Y | 743        | 460   | 463    | 381           | 305  | 158             | 389  | 130  | 152       | 352  | 48     | 2-1/8"  | 54     | 1-3/8"    | 35   | 192        |
| V30-112Y | 743        | 460   | 463    | 381           | 305  | 158             | 389  | 130  | 152       | 352  | 48     | 2-1/8"  | 54     | 1-3/8"    | 35   | 190        |
| V35-112Y | 743        | 460   | 463    | 381           | 305  | 158             | 389  | 130  | 152       | 352  | 48     | 2-1/8"  | 54     | 1-3/8"    | 35   | 193        |
| V30-123Y | 743        | 460   | 463    | 381           | 305  | 158             | 389  | 130  | 152       | 352  | 48     | 2-1/8"  | 54     | 1-3/8"    | 35   | 190        |
| V40-123Y | 743        | 460   | 463    | 381           | 305  | 158             | 389  | 130  | 152       | 352  | 48     | 2-1/8"  | 54     | 1-3/8"    | 35   | 199        |



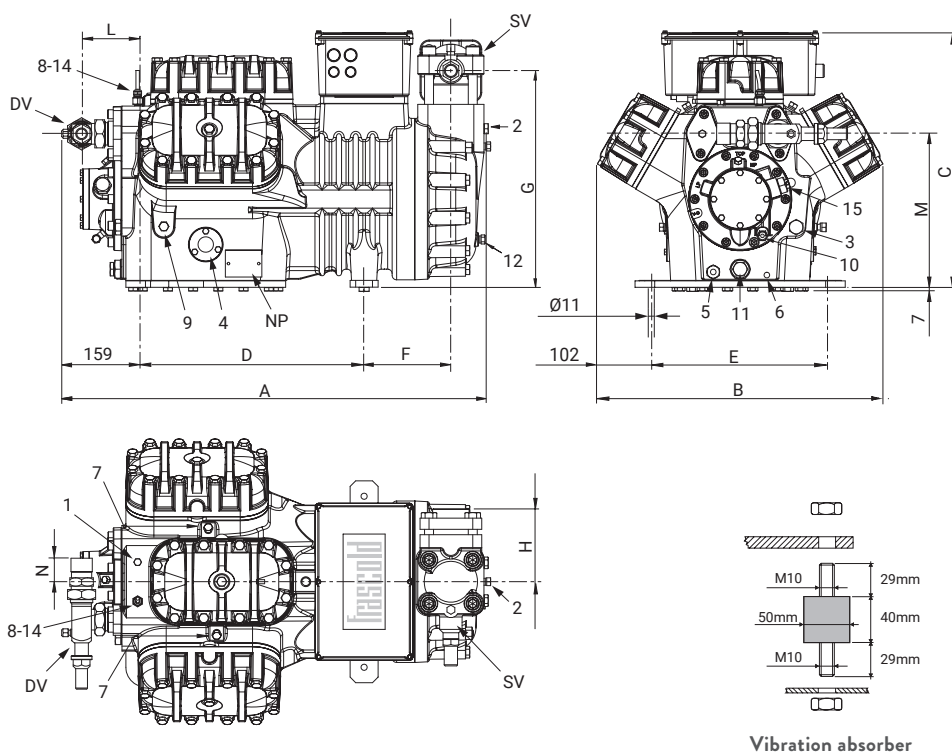
Vibration absorber

|    |                                           |          |
|----|-------------------------------------------|----------|
| 1  | High pressure plug                        | 1/8" NPT |
| 2  | Low pressure plug                         | 1/4" NPT |
| 3  | Oil charge plug                           | 3/8" GAS |
| 4  | Oil level sight glass                     |          |
| 5  | Crankcase heater socket                   |          |
| 6  | Oil drain plug                            | 1/4" GAS |
| 7  | Liquid injection valve plug               | 1/4" NPT |
| 8  | Liquid injection sensor plug              | 1/8" NPT |
| 9  | Oil pressure switch connection (LP)       | 1/4" NPT |
| 10 | Oil pressure switch connection (HP)       | 1/4" SAE |
| 11 | Oil filter                                | 3/8" GAS |
| 12 | Oil return plug                           | 1/4" NPT |
| 14 | Max discharge temperature sensor          | 1/8" NPT |
| 15 | Electronic oil pressure switch connection | 3/4" UNF |
| DV | Discharge valve                           |          |
| SV | Suction valve                             |          |
| NP | Nameplate                                 |          |

## Dimensional drawing

### Size Z

|          | Compressor |       |        |               |      | Valves position |      |      |           |      |      | Valves  |      |           |      | Net Weight |
|----------|------------|-------|--------|---------------|------|-----------------|------|------|-----------|------|------|---------|------|-----------|------|------------|
|          | Length     | Width | Height | Base mounting |      | Suction         |      |      | Discharge |      |      | Suction |      | Discharge |      |            |
|          | A          | B     | C      | D             | E    | F               | G    | H    | L         | M    | N    | Ø       |      | Ø         |      |            |
|          | [mm]       | [mm]  | [mm]   | [mm]          | [mm] | [mm]            | [mm] | [mm] | [mm]      | [mm] | [mm] | [inch]  | [mm] | [inch]    | [mm] |            |
| Z25-106Y | 765        | 509   | 457    | 381           | 305  | 155             | 386  | 130  | 123       | 274  | 42   | 2-1/8"  | 54   | 1-3/8"    | 35   | 220        |
| Z35-106Y | 806        | 509   | 457    | 381           | 305  | 180             | 386  | 130  | 123       | 274  | 42   | 2-1/8"  | 54   | 1-3/8"    | 35   | 223        |



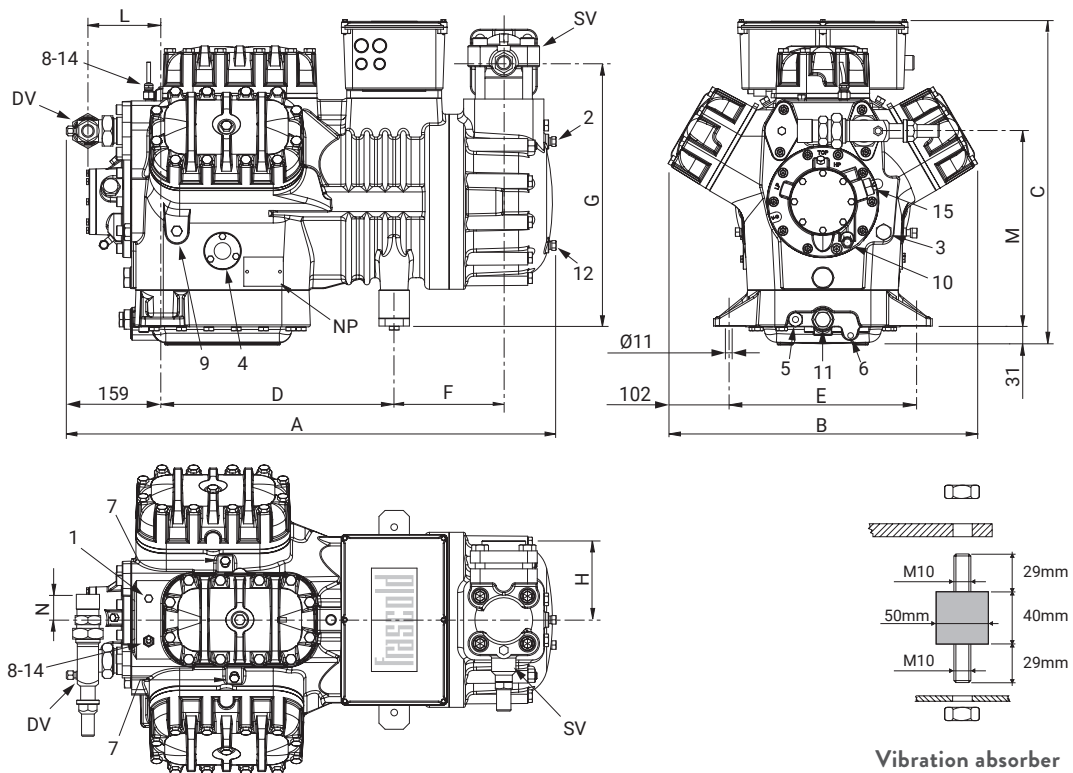
35

|    |                                           |          |
|----|-------------------------------------------|----------|
| 1  | High pressure plug                        | 1/8" NPT |
| 2  | Low pressure plug                         | 1/4" NPT |
| 3  | Oil charge plug                           | 3/8" GAS |
| 4  | Oil level sight glass                     |          |
| 5  | Crankcase heater socket                   |          |
| 6  | Oil drain plug                            | 1/4" GAS |
| 7  | Liquid injection valve plug               | 1/8" NPT |
| 8  | Liquid injection sensor plug              | 1/8" NPT |
| 9  | Oil pressure switch connection (LP)       | 1/4" NPT |
| 10 | Oil pressure switch connection (HP)       | 1/4" SAE |
| 11 | Oil filter                                | 3/8" GAS |
| 12 | Oil return plug                           | 1/4" NPT |
| 14 | Max discharge temperature sensor          | 1/8" NPT |
| 15 | Electronic oil pressure switch connection | 3/4" UNF |
| DV | Discharge valve                           |          |
| SV | Suction valve                             |          |
| NP | Nameplate                                 |          |

## Dimensional drawing

### Size Z

|          | Compressor |       |        |               |      | Valves position |      |      |           |      |      | Valves  |      |           |      | Net Weight |
|----------|------------|-------|--------|---------------|------|-----------------|------|------|-----------|------|------|---------|------|-----------|------|------------|
|          | Length     | Width | Height | Base mounting |      | Suction         |      |      | Discharge |      |      | Suction |      | Discharge |      |            |
|          | A          | B     | C      | D             | E    | F               | G    | H    | L         | M    | N    | Ø       |      | Ø         |      |            |
|          | [mm]       | [mm]  | [mm]   | [mm]          | [mm] | [mm]            | [mm] | [mm] | [mm]      | [mm] | [mm] | [inch]  | [mm] | [inch]    | [mm] |            |
| Z30-126Y | 765        | 509   | 536    | 381           | 305  | 155             | 433  | 130  | 123       | 321  | 42   | 2-1/8"  | 54   | 1-3/8"    | 35   | 229        |
| Z40-126Y | 806        | 509   | 536    | 381           | 305  | 180             | 433  | 130  | 123       | 321  | 42   | 2-5/8"  | 67   | 1-3/8"    | 42   | 240        |



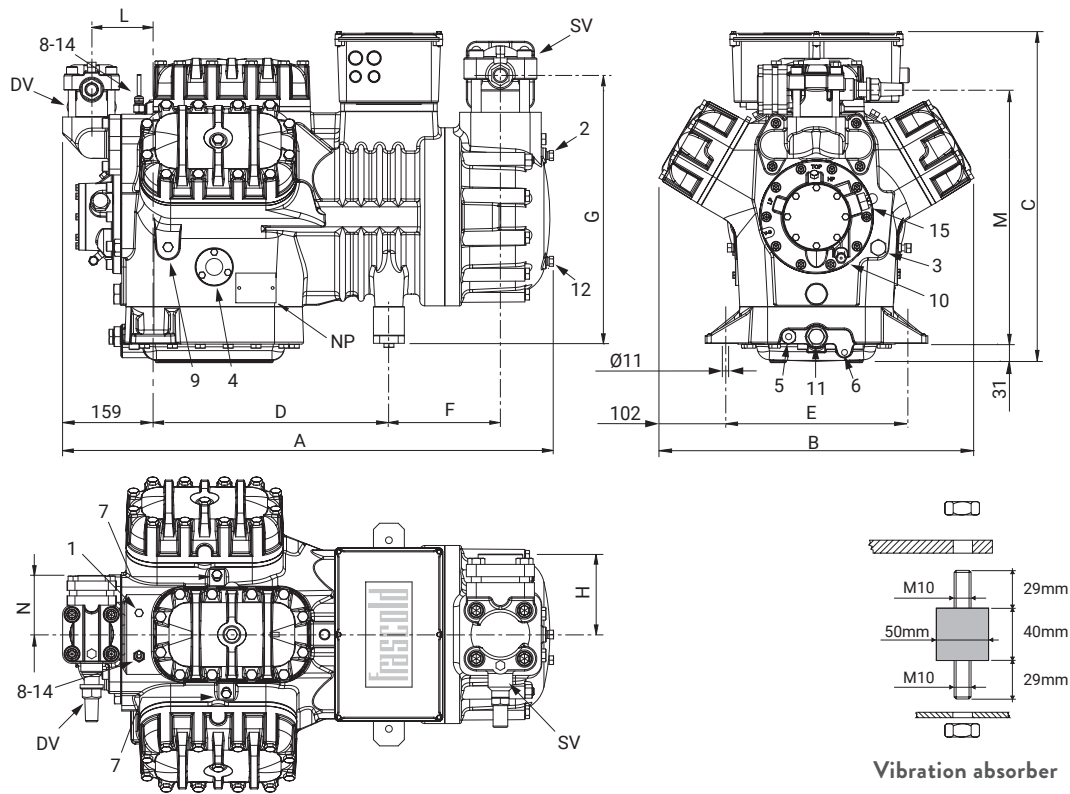
Vibration absorber

|    |                                           |          |
|----|-------------------------------------------|----------|
| 1  | High pressure plug                        | 1/8" NPT |
| 2  | Low pressure plug                         | 1/4" NPT |
| 3  | Oil charge plug                           | 3/8" GAS |
| 4  | Oil level sight glass                     |          |
| 5  | Crankcase heater socket                   |          |
| 6  | Oil drain plug                            | 1/4" GAS |
| 7  | Liquid injection valve plug               | 1/8" NPT |
| 8  | Liquid injection sensor plug              | 1/8" NPT |
| 9  | Oil pressure switch connection (LP)       | 1/4" NPT |
| 10 | Oil pressure switch connection (HP)       | 1/4" SAE |
| 11 | Oil filter                                | 3/8" GAS |
| 12 | Oil return plug                           | 1/4" NPT |
| 14 | Max discharge temperature sensor          | 1/8" NPT |
| 15 | Electronic oil pressure switch connection | 3/4" UNF |
| DV | Discharge valve                           |          |
| SV | Suction valve                             |          |
| NP | Nameplate                                 |          |

## Dimensional drawing

### Size Z

|          | Compressor |       |        |               |      | Valves position |      |      |           |      |      | Valves  |      |           |      | Net Weight |
|----------|------------|-------|--------|---------------|------|-----------------|------|------|-----------|------|------|---------|------|-----------|------|------------|
|          | Length     | Width | Height | Base mounting |      | Suction         |      |      | Discharge |      |      | Suction |      | Discharge |      |            |
|          | A          | B     | C      | D             | E    | F               | G    | H    | L         | M    | N    | Ø       |      | Ø         |      |            |
|          | [mm]       | [mm]  | [mm]   | [mm]          | [mm] | [mm]            | [mm] | [mm] | [mm]      | [mm] | [mm] | [inch]  | [mm] | [inch]    | [mm] |            |
| Z40-140Y | 794        | 509   | 536    | 381           | 305  | 180             | 433  | 130  | 100       | 411  | 95   | 2-5/8"  | 67   | 1-5/8"    | 42   | 240        |
| Z50-140Y | 794        | 509   | 536    | 381           | 305  | 180             | 433  | 130  | 100       | 411  | 95   | 2-5/8"  | 67   | 1-5/8"    | 42   | 244        |
| Z40-154Y | 794        | 509   | 536    | 381           | 305  | 180             | 433  | 130  | 100       | 411  | 95   | 2-5/8"  | 67   | 1-5/8"    | 42   | 240        |
| Z50-154Y | 794        | 509   | 536    | 381           | 305  | 180             | 433  | 130  | 100       | 411  | 95   | 2-5/8"  | 67   | 1-5/8"    | 42   | 244        |
| Z40-168Y | 794        | 509   | 536    | 381           | 305  | 180             | 433  | 130  | 100       | 411  | 95   | 2-5/8"  | 67   | 1-5/8"    | 42   | 240        |
| Z50-168Y | 794        | 509   | 536    | 381           | 305  | 180             | 433  | 130  | 100       | 411  | 95   | 2-5/8"  | 67   | 1-5/8"    | 42   | 244        |
| Z50-185Y |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |



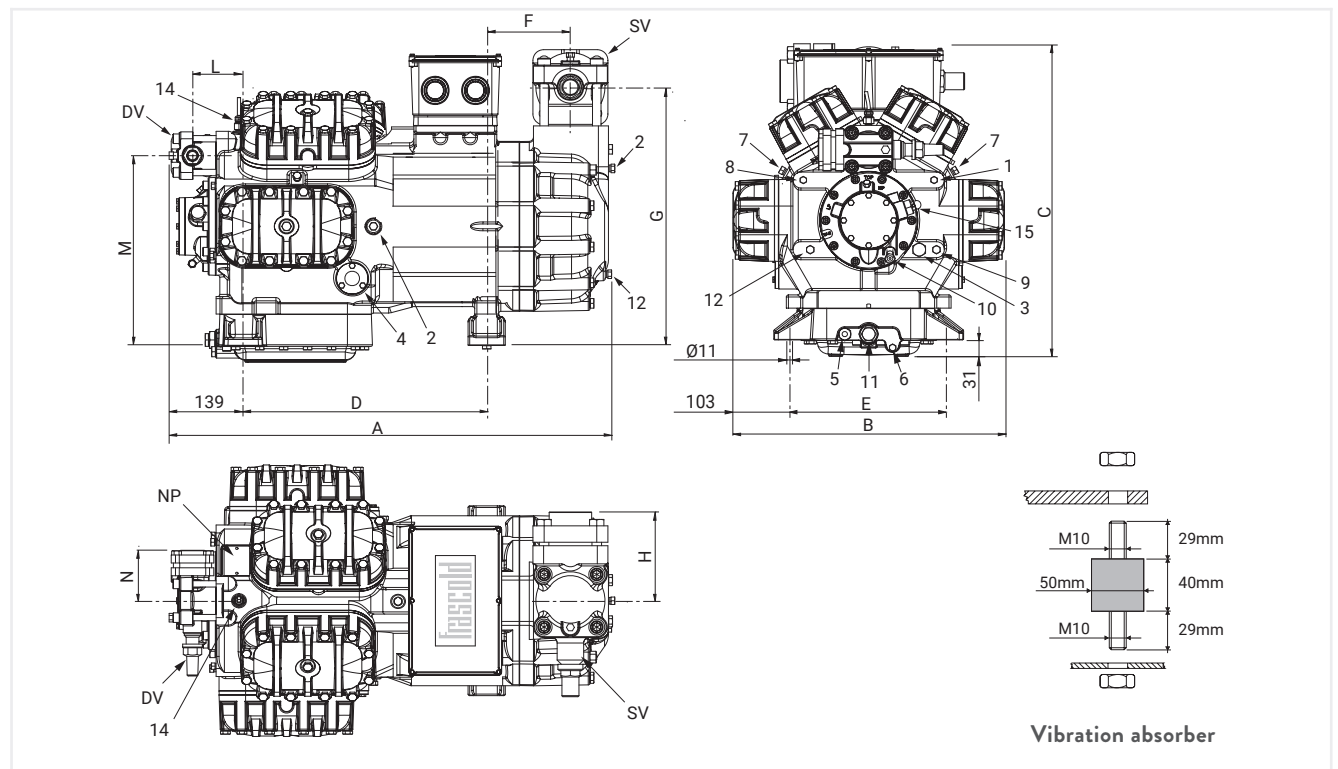
37

|    |                                           |          |
|----|-------------------------------------------|----------|
| 1  | High pressure plug                        | 1/8" NPT |
| 2  | Low pressure plug                         | 1/4" NPT |
| 3  | Oil charge plug                           | 3/8" GAS |
| 4  | Oil level sight glass                     |          |
| 5  | Crankcase heater socket                   |          |
| 6  | Oil drain plug                            | 1/4" GAS |
| 7  | Liquid injection valve plug               | 1/8" NPT |
| 8  | Liquid injection sensor plug              | 1/8" NPT |
| 9  | Oil pressure switch connection (LP)       | 1/4" NPT |
| 10 | Oil pressure switch connection (HP)       | 1/4" SAE |
| 11 | Oil filter                                | 3/8" GAS |
| 12 | Oil return plug                           | 1/4" NPT |
| 14 | Max discharge temperature sensor          | 1/8" NPT |
| 15 | Electronic oil pressure switch connection | 3/4" UNF |
| DV | Discharge valve                           |          |
| SV | Suction valve                             |          |
| NP | Nameplate                                 |          |

## Dimensional drawing

### Size W

|          | Compressor |       |        |               |      | Valves position |      |      |           |      |      | Valves  |      |           |      | Net Weight |
|----------|------------|-------|--------|---------------|------|-----------------|------|------|-----------|------|------|---------|------|-----------|------|------------|
|          | Length     | Width | Height | Base mounting |      | Suction         |      |      | Discharge |      |      | Suction |      | Discharge |      |            |
|          | A          | B     | C      | D             | E    | F               | G    | H    | L         | M    | N    | Ø       |      | Ø         |      |            |
|          | [mm]       | [mm]  | [mm]   | [mm]          | [mm] | [mm]            | [mm] | [mm] | [mm]      | [mm] | [mm] | [inch]  | [mm] | [inch]    | [mm] |            |
| W40-142Y | 838        | 511   | 588    | 458           | 305  | 158             | 486  | 160  | 95        | 358  | 95   | 2-5/8"  | 67   | 1-5/8"    | 42   | 295        |
| W40-168Y | 838        | 511   | 588    | 458           | 305  | 158             | 486  | 160  | 95        | 358  | 95   | 2-5/8"  | 67   | 1-5/8"    | 42   | 299        |
| W50-168Y | 838        | 511   | 588    | 458           | 305  | 158             | 486  | 160  | 95        | 358  | 95   | 3-1/8"  | 79,4 | 1-5/8"    | 42   | 305        |
| W50-187Y | 838        | 511   | 588    | 458           | 305  | 158             | 486  | 160  | 95        | 358  | 95   | 3-1/8"  | 79,4 | 1-5/8"    | 42   | 311        |
| W60-187Y | 838        | 511   | 588    | 458           | 305  | 158             | 486  | 160  | 95        | 358  | 95   | 3-1/8"  | 79,4 | 1-5/8"    | 42   | 315        |
| W60-206Y | 838        | 511   | 588    | 458           | 305  | 158             | 486  | 160  | 95        | 358  | 95   | 3-1/8"  | 79,4 | 2-1/8"    | 54   | 320        |
| W70-206Y | 864        | 511   | 588    | 458           | 305  | 190             | 486  | 160  | 95        | 358  | 162  | 3-1/8"  | 79,4 | 2-1/8"    | 54   | 328        |
| W70-228Y | 864        | 519   | 588    | 458           | 305  | 190             | 486  | 160  | 95        | 358  | 162  | 3-1/8"  | 79,4 | 2-1/8"    | 54   | 328        |
| W75-228Y |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |
| W75-240Y |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |
| W80-240Y |            |       |        |               |      |                 |      |      |           |      |      |         |      |           |      |            |



|    |                                           |          |
|----|-------------------------------------------|----------|
| 1  | High pressure plug                        | 1/8" NPT |
| 2  | Low pressure plug                         | 1/4" NPT |
| 3  | Oil charge plug                           | 3/8" GAS |
| 4  | Oil level sight glass                     |          |
| 5  | Crankcase heater socket                   |          |
| 6  | Oil drain plug                            | 1/4" GAS |
| 7  | Liquid injection valve plug               | 1/8" NPT |
| 8  | Liquid injection sensor plug              | 1/8" NPT |
| 9  | Oil pressure switch connection (LP)       | 1/4" NPT |
| 10 | Oil pressure switch connection (HP)       | 1/4" SAE |
| 11 | Oil filter                                | 3/8" GAS |
| 12 | Oil return plug                           | 1/4" NPT |
| 14 | Max discharge temperature sensor          | 1/8" NPT |
| 15 | Electronic oil pressure switch connection | 3/4" UNF |
| DV | Discharge valve                           |          |
| SV | Suction valve                             |          |
| NP | Nameplate                                 |          |

# CONTACT & SUBSIDIARIES





## HEADQUARTERS & PRODUCTION PLANT

### FRASCOLD SPA - ITALY, MILAN

Via B. Melzi 105, 20027 Rescaldina (MI) Italy  
Tel. +39 0331 742201 - Fax +39 0331 576102  
frascold@frascold.it - www.frascold.it

## SALES OFFICE

### FRASCOLD CHINA

Frascold Refrigeration Co. Ltd  
Room 612, 6th Floor,  
Jinqiao Life Hub, No.3611  
Zhangyang Road, New Pudong District,  
Shanghai, CHINA  
Ph. +86 021 58650192 / 58650180  
Fax +86 021 58650180 - frascold.china@frascold.net  
www.frascold.net

### FRASCOLD INDIA PVT LTD

Frascold India Pvt Ltd.  
A1/2/14/15, Gallops Industrial Park,  
NH-8A, Sarkhej-Bavla Road, Rajoda,  
Ahmedabad 382220 Gujarat. INDIA  
Ph: +91 2717 685858,  
sales@frascoldindia.com - www.frascoldindia.com

### FRASCOLD USA

5343 Bowden Road, Suite 2  
Jacksonville, FL 32216 - USA  
Ph. +1 (855) 547 5600 Office  
info@frascoldusa.com - www.frascoldusa.com

## CDU ASSEMBLY PLANT

Frascold India Pvt Ltd.  
A172715716, Gallops Industrial Park,  
NH-8A, Sarkhej-Bavla Rd, Rajoda,  
Ahmedabad, Gujarat 382220



