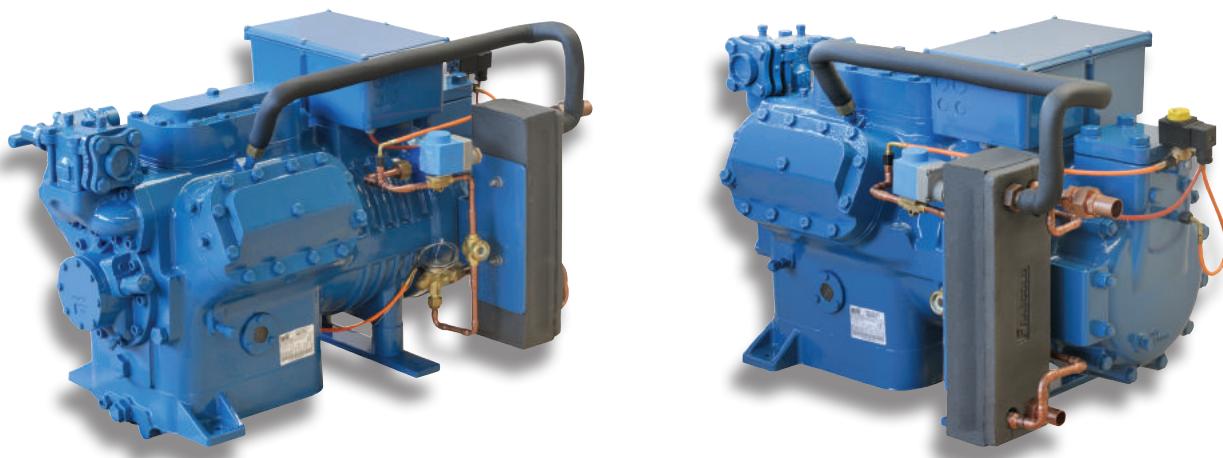




Two-stage semi-hermetic reciprocating compressors

Application at low temperature



v1

Catalogue index

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General information

Frascold produces a wide range of semi-hermetic reciprocating single- and two-stage compressors with displacement ranging from 4 to 240 m³/h at 50Hz and electrical ratings from 0.50 to 80 HP. Suitable for conventional HFC-based coolants, new low-GWP coolants, HFO, natural coolants.

The compressors are suitable for use in a wide range of retail and industrial cooling applications, process chillers and AC, heat pumps; in single, multi-compressor systems and cascade systems. A rich list of accessories multiplies their application versatility. All models can work with inverter.

The range stands out for its high efficiency and ensuing operating cost savings. The design also assures sturdiness, low noise and compact overall dimensions. The protection systems integrated in the compressors are among the most advanced on the market.

In addition to standard models, the range of compressors also includes ECOinside models optimised for use with R134a and R1234ze, ATEX construction AXH, AXY and AXE models, VS models with integrated inverter, SK2 and TK models for CO₂ applications in sub-critical and trans-critical cycle, two-stage models, Twin construction models. The performance of most models is ASERCOM certified, while the entire range is UL-certified.

Other certifications are available on request.



ASERCOM performance certification



Frascold is a member of ASERCOM, the Association which ensures the accuracy and reliability of its compressors and that has set out the procedure for measuring the performance of compressors and their certification process. The certification of compressors certifies and guarantees that the published performance matches the performance measured with reference to European standard EN12900.

The compressors with certified performance are marked with the Certified Product logo. Further details on www.asercom.org.

FSS3 Product Selection Software

The FSS3 selection software, quick and easy to use, allows users to obtain the capacity in the various operating points and to access all the information on Frascold compressors.

If you have any questions on how to use software please contact customer service via e-mail or telephone. You can also send your comments and suggestions to improve the FSS3 program. Your feedback is always welcome.

Download the 'setup.exe' file on your computer, run it and follow the installation instructions. A program shortcut will be created on your desktop for easier start up.

Two stage semi-hermetics reciprocating compressors

Data on compressor capacity

This catalogue indicates the data for compressors with R404A, R507A and R22. Data relating to other coolants are available on request.

The capacities are indicated in accordance with European EN12900 standard and at 50Hz operation. To calculate capacity in other conditions and at 60 Hz use the FSS3 Selection Software.

Operating limits

Compressor operation is possible within the application diagram; pay attention to the indications for the various areas of the diagram. The limits refer to the operation of the compressor at full load and with a power supply frequency of 50 Hz.

The diagrams published in this catalogue are to be considered as a general diagram for the full range of compressors. Check the diagram of every single compressor model on the Frascold Selection Software program.

Safety

Frascold compressors are constructed according to European and American (UL) safety standards. They may only be used if installed within systems complying with the operating instructions and conforming to the regulations in force. The relevant standards are listed in the Manufacturer's Declaration, available on request or on the www.frascold.it website in the certification section. The compressors will be put into service by experienced staff, suitably documented in relation to the manufacturer's declarations and able to understand and apply the instructions contained in the installation manual supplied with the compressor or available on www.frascold.it.

Protection of compressors with Diagnose technology

Frascold equips semi-hermetic reciprocating compressors with Diagnose technology, which enables a significant step forwards in the compressor protection system and adds new diagnostic and communication functions.

Increased protection

Frascold compressors are even more reliable. The Diagnose technology monitors conditions inside the system and stops the compressor in the event of incorrect functional parameters.

Lower costs

Quick identification of the cause of the malfunction. With the information saved on the Diagnose devices, technicians can quickly and accurately diagnose the past and present state of the cooling system, thereby allowing for quick and cost-effective intervention time with short downtime for the system.

More information

With the communication systems envisaged by Diagnose technology you can monitor and download the system's operating data in real time. This means that technicians can intervene by improving the efficiency and reliability of the system by diagnosing required maintenance in advance.

Two stage semi-hermetics reciprocating compressors

Safety device to control delivery temperature

The internal delivery temperature, in certain extreme conditions (such as loss of coolant or extremely high compression ratios), can reach values that can damage the compressor.

All models 2V and 2Z are fitted with a temperature probe that is connected to the electronic control module and stops the compressor if the delivery temperature exceeds the set safety limit.

Electronic safety device to control lubrication

Frascold compressors of the 2V and 2Z series are supplied with an electronic pressure switch of proven reliability to control lubrication. The device efficiently monitors the pressure changes of the lubrication system and stops the compressor in the event of insufficient oil flow. The pressure switch is installed directly on the compressor's oil pump and does not require additional fittings.

Lubricating oil

All compressors are supplied filled with oil with specific features for cooling fluids and having low carryover. Oil viscosity is suitable to assure perfect lubrication within the application limits of the compressors and are appropriate to their mechanics.

Accessories

Frascold has selected and developed a comprehensive range of accessories for its compressors, suitable to assure efficiency and reliability in all intended operating conditions.

General information

Frascold reserves ownership of this brochure FCAT105.1, no reproduction is allowed without our explicit consent. The data and information contained in the brochure were determined based on our current capabilities and do not exempt the user from his duty to check the suitability of the products with respect to the intended application. Frascold reserves the right to change the content of the brochure in view of normal innovations and updates deemed necessary.

Two stage semi-hermetics reciprocating compressors

Special features

The new two-stage compressors by Frascold, models 2V and 2Z, have been redesigned and re-engineered by eliminating external conduits for interstage circuitry and including an additional liquid injection system.

These new features provide the following benefits:

Compact: thanks to the elimination of external conduits, the compressor features reduced dimensions. Plus, the absence of welding and pipes protects against refrigerant leaks and heat dissipation, which cause system inefficiency.

Liquid injection on the motor side: thanks to the exclusive Motor Cooling System, the motor is injected solely with the exact amount of fluid required to cool the motor. This system, only available on Frascold compressors, prevents the formation of ice on the motor by eliminating damage by oxidation, by condensate in the electrical box and liquid slugging.

Injection of liquid in the second stage intake conduit: the amount of liquid injected is enough to optimise efficiency. The compressed gas and injected liquid mixing process is instantaneous and the liquid is not overheated as it does not go through the motor.

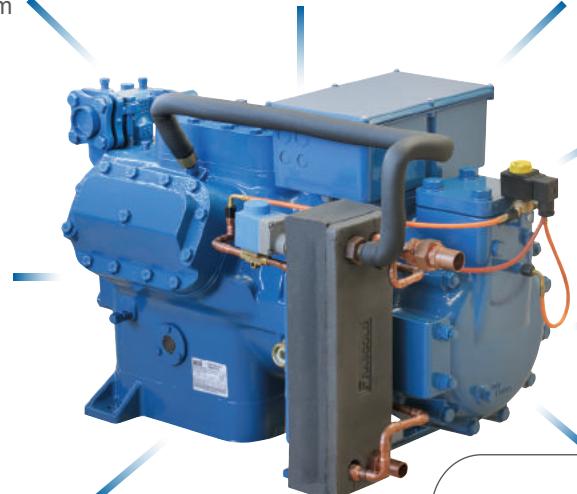
Sub-cooler kit: all models can be fitted with a pre-assembled sub-cooler that can be provided installed and connected by the manufacturer or supplied separately.

Reliable and sturdy: The new specially designed components make the compressor resistant to all operating conditions within its working range.

Quiet: the optimisation of the centre of gravity and the homogeneous distribution of weights ensure low vibrations and low noise.

Increased efficiency thanks to the **dual liquid injection**, purposely designed to optimise the operation of the compressor to achieve maximum performance.

Compressor control: there are three versions designed to control the oil pressure switch and protection and diagnostics system to be adapted to the different types of plants.



Control	Protection device			Differential Pressure Switch		Operating logic
	Frascold ICC Module	Kriwan INT69 Diagnose	Kriwan INT69ML Diagnose	Delta/P-II	INT250FR	
Standard Control	X			X		The Differential Oil Pressure Switch (supplied) communicates directly with the Central Control Panel (PCC) of the system. The ICC module sends alarm signals directly to the PCC
Diagnostic Control (optional)	X	X		X		The Differential Oil Pressure Switch (supplied) communicates directly with the Central Control Panel (PCC) of the system. The ICC module sends alarm signals to the INT69 module Diagnose (supplied as standard and to be installed on the electrical panel of the PCC) to allow for diagnostics on the compressor (alarm log, start-up sequences, etc.).
Direct Control (optional)	X		X		X	The Differential Oil Pressure Switch (provided as standard) communicates with the INT69ML Diagnose module (provided as standard and to be installed in the electrical panel of the PCC). The INT69ML Diagnose module performs full diagnostics of the compressor (alarms log, start-up sequences, etc.), by acquiring the alarm signals both from the ICC and the INT250 FR pressure switch.

Two stage semi-hermetics reciprocating compressors

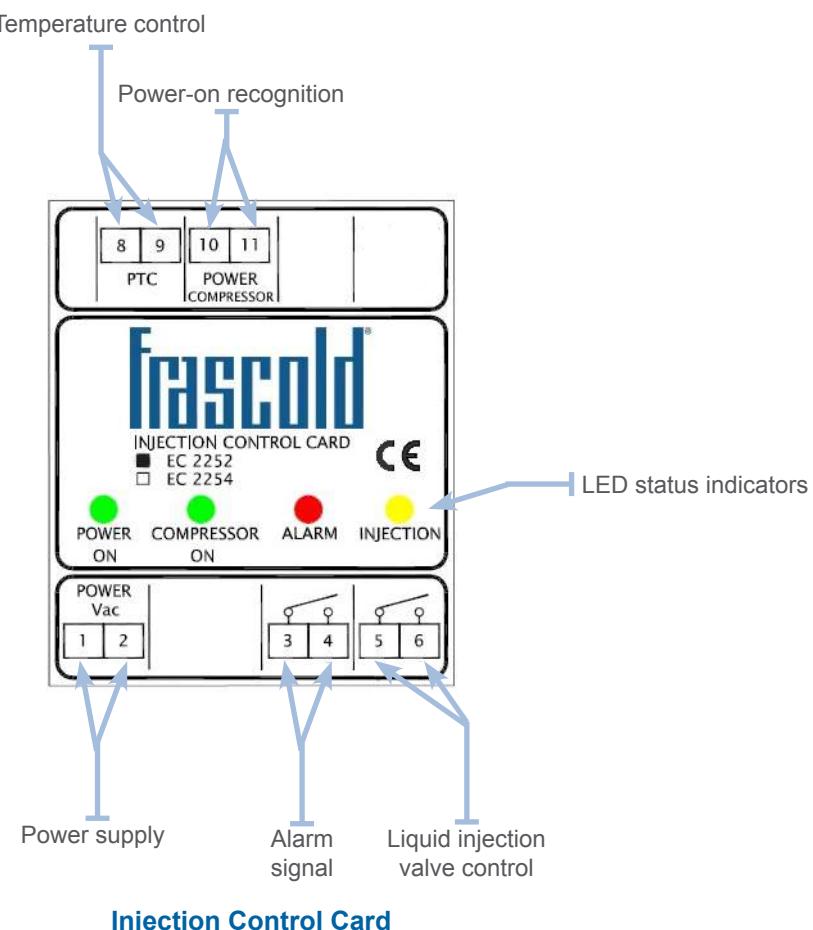
Motor Cooling System

The Motor Cooling System is an exclusive feature by Frascold designed to activate a series of fundamental controls to optimise the functionality and efficiency of the two-stage compressors of the 2V and 2Z series. The system includes the liquid injection control card, the Injection Control Card (ICC), the TA current detector, the AMS motor temperature sensors and the liquid injection valve.

Here are the features of the device:

- **Constant and accurate control of the motor temperature.** The system accurately and constantly checks the temperature via the AMS sensors located inside the windings. Indeed, the position of the sensors has been specifically designed to identify the most critical areas in terms of overheating, thereby allowing to protect the motor also during the critical start-up stage.
- **Efficient motor cooling.** The system identifies when the pre-alarm temperature threshold is reached and activates the injection of liquid in the motor according to optimised amounts and time.
- **Compressor reliability.** The controlled cooling of the motor prevents excessive cooling on neighbouring areas, eliminating the risk of frost and resulting oxidation, thereby preventing the formation of condensation in the electrical box of the compressor and the risk of a short circuit.
- **Prevention of burns on the motor.** The system identifies when the CRITICAL TEMPERATURE threshold has been reached and stops the compressor in the event of anomalous overheating.
- **Liquid injection monitoring.** Thanks to the TA device installed as standard, as well as injecting the liquid as required, the system can prevent this function when the compressor stops due to a malfunction of the compressor itself or due to external system management logics.

The ICC module is supplied as standard and already fully wired inside the electrical box.



Two stage semi-hermetics reciprocating compressors

Control and protection device

Kriwan INT69 ®Diagnose and INT69 TML ®Diagnose

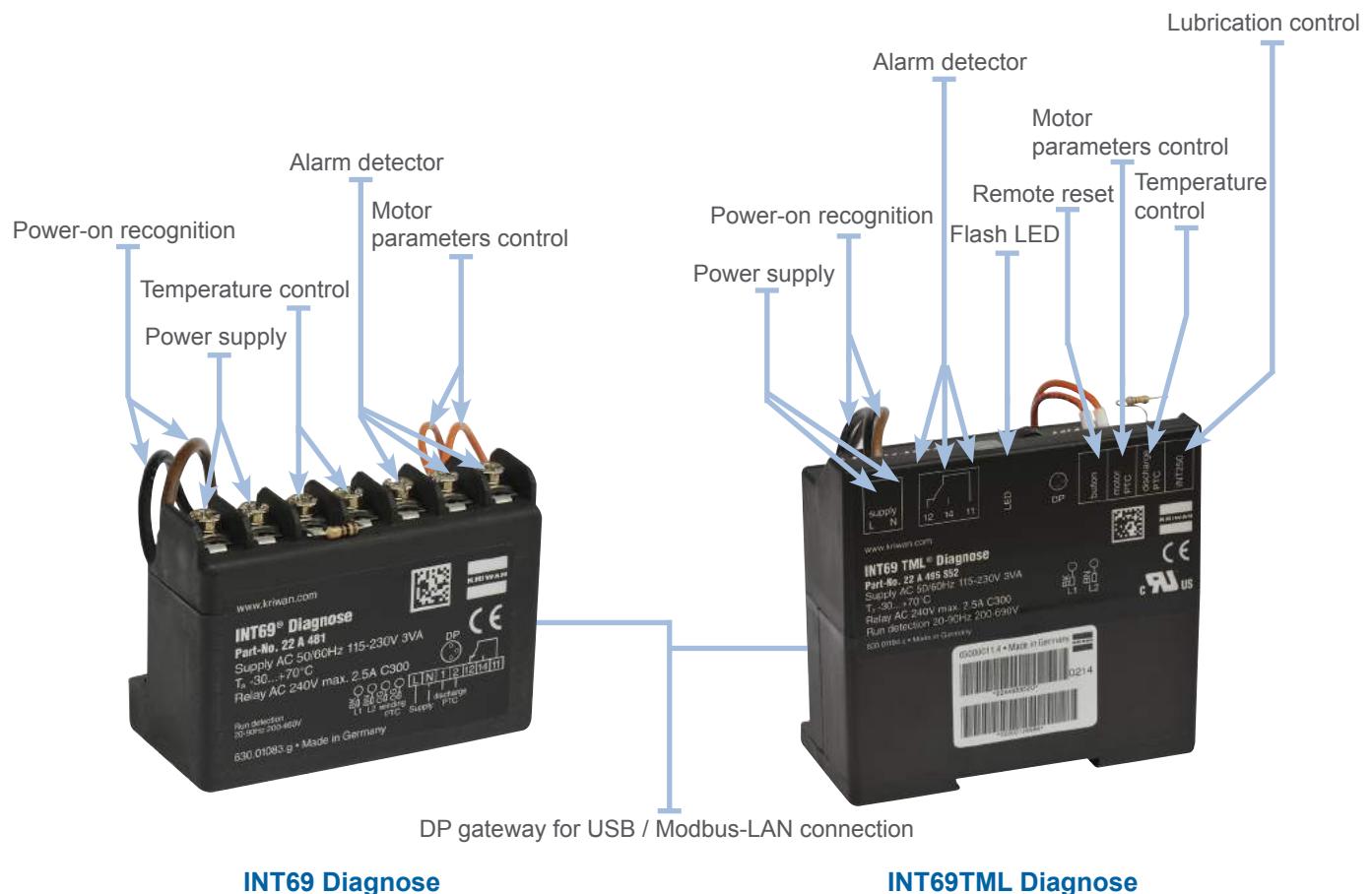
Kriwan Diagnose devices are a further development of compressors' protection units.

The Diagnose technology is not only limited to protecting the compressor, but also offers diagnosis and system optimisation features; providing detailed information to technicians in order to promptly diagnose any plant problems; it even makes it possible to prevent malfunctioning before it occurs thanks to data analysis. The additional protection features help extending the compressor's service life. Through this technology applied to compressors, users will benefit from enhanced reliability of the cooling system and from the reduction in running and maintenance costs.

Frascold was the first compressor manufacturer to adopt this innovative technology and today it is standard on all our compressors.

Advantages

- Guaranteed optimal operation throughout the compressor's entire life cycle
- Convenient and with straightforward operation
- Instantaneous diagnosis and precise problem-solving in case of error or fault
- Specifically adapted to the user's needs
- Intelligent monitoring of compressor operation
- It extends the operative life of cooling systems
- Improves compressor protection
- Reduces running and maintenance costs
- Automatic storage of operative data and errors in a memory
- Technical card with retrieval of stored data
- Display of compressor status through flash LED code
- Data download through USB connection
- Remote communication through Modbus-Gateway and LAN-Gateway protocol
- Also applicable to previously installed compressors



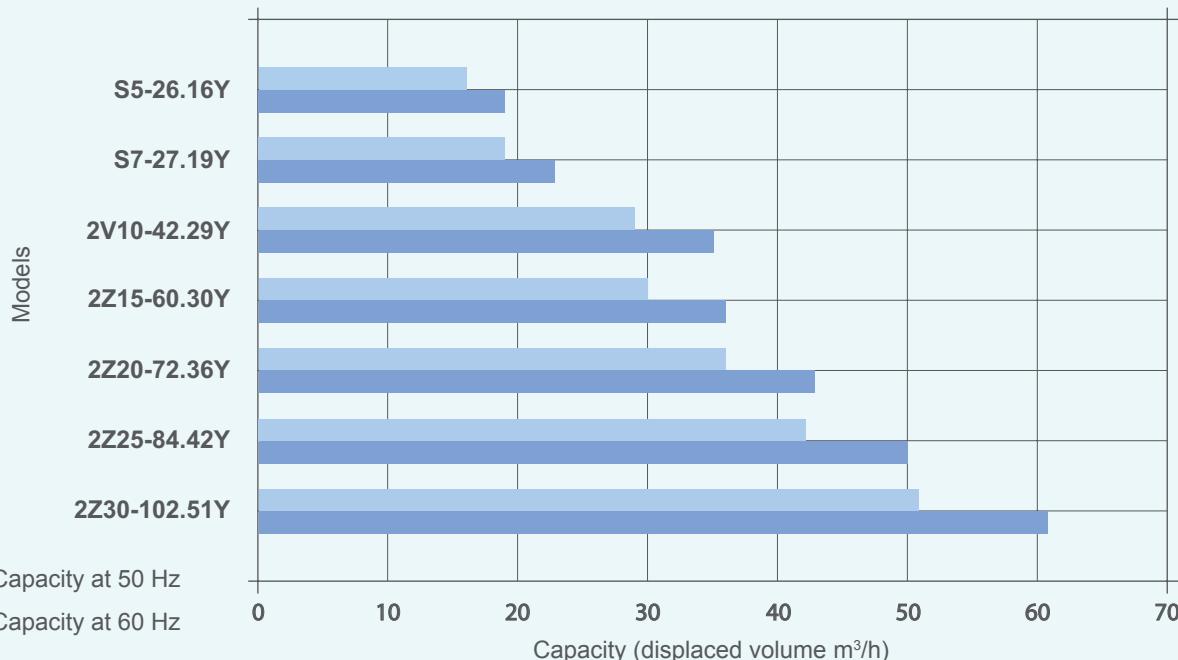
INT69 Diagnose and INT69TML Diagnose are intellectual property and trademarks ® of KRIWAN Industrie-Elektronik GmbH.

Two stage semi-hermetics reciprocating compressors

Range of models

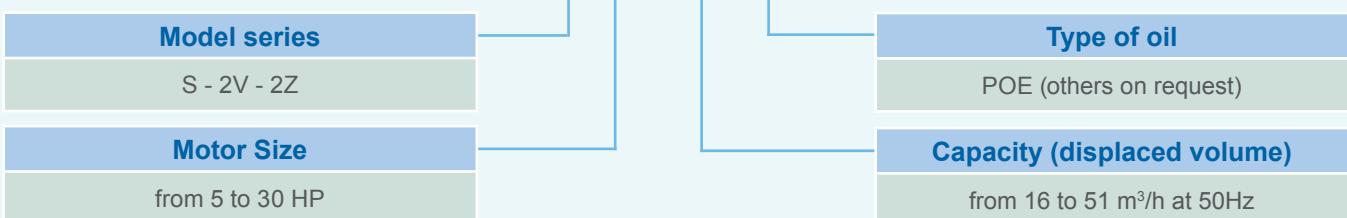
Current program:

3 main series, 7 models with 7 capacity stages, from 16 to 51 m³/h (50 Hz)



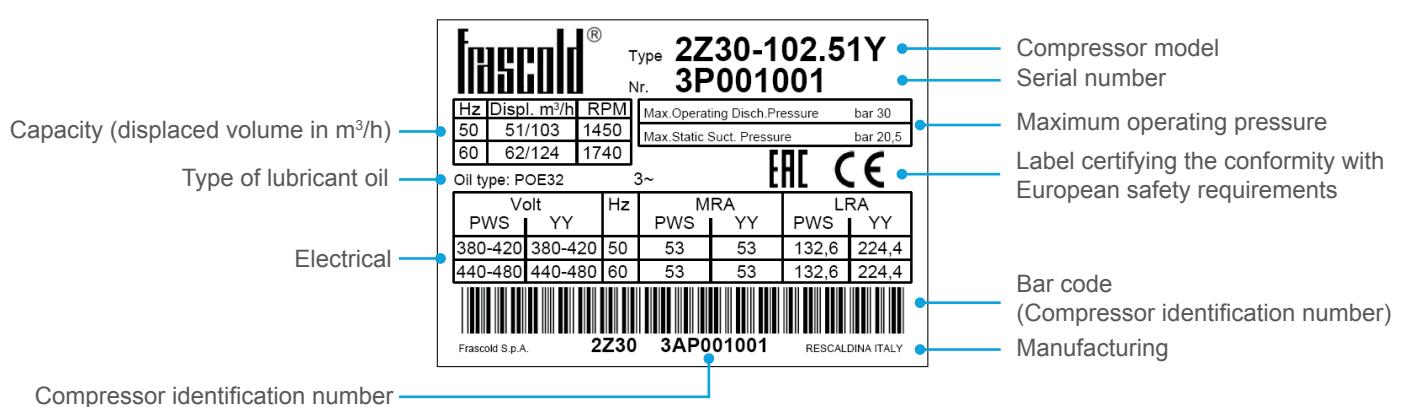
Model names

2Z30-102.51Y



Information plate

All the important information to identify the compressor is displayed on the plate. The date of production is contained in the serial number. The indication of the type of coolant is the installer's responsibility.



Two stage semi-hermetics reciprocating compressors

Operating limits

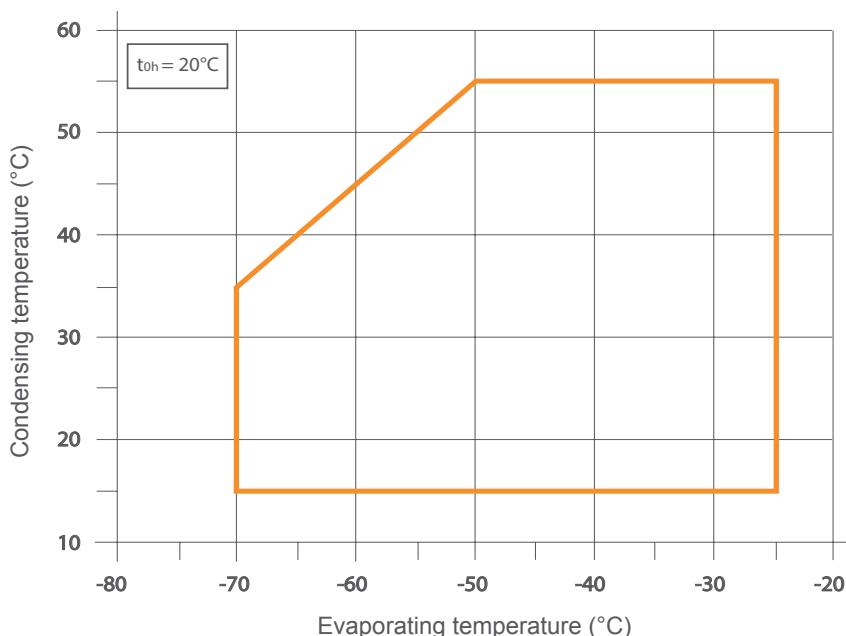
Frascold two-stage compressors can be used with a wide range of coolants.

The compressor operates only within the application diagrams reported below.

For further details and to check the exact operating limits for each single compressor, please see the Frascold Selection Software available on our website.

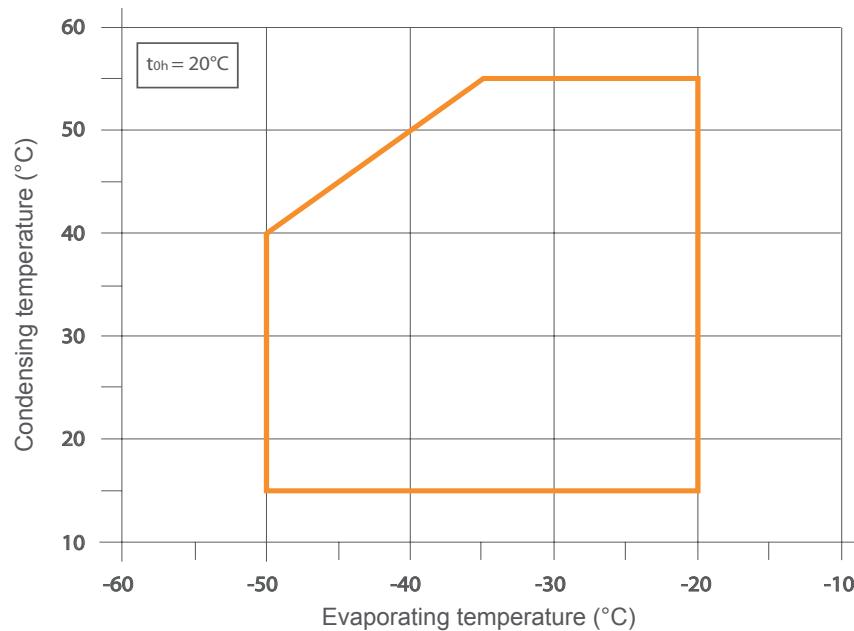
R404A - R507

Standard application diagram
Check the diagram of every single compressor model on the Frascold Selection Software



R22

Standard application diagram
Check the diagram of every single compressor model on the Frascold Selection Software



Compressor at 100% capacity

t_{oh} Suction gas temperature = 20°C

Maximum allowed operating pressure

P_s HP (high pressure side) = 30 bar(a)

P_{ss} LP (low pressure side) = 20,5 bar(a)

Two stage semi-hermetics reciprocating compressors

Technical data

Model	no. of cylinders		Displaced volume at 50 Hz m ³ /h ②		Oil charge dm ³ ③	Net weight kg ④	Electrical data				Line connections			
							Motor	Max operating current 400V A ⑤	Max absorbed current kW ⑥	Locked rotor current 400V A ⑥	Suction	Discharge		
	LP	HP	LP	HP	③	④	⑤	⑥	⑥	⑥	inch	mm	inch	mm
S5-26.16Y	2	2	25,2	16,4	2,9	120	⑧	14,0	8,3	35,5	1 ³ / ₈	35	7/8"	22
S7-27.19Y	2	2	26,9	19,1	2,9	122	⑧	18,0	9,5	47,0	1 ³ / ₈	35	7/8"	22
2V10-42.29Y	2	2	41,9	29,4	4,0	173	⑧	23,0	13,5	53,9	1 ³ / ₈	35	1 ¹ / ₈	28,6
2Z15-60.30Y	4	2	58,8	29,4	7,2	220	⑧	31,0	17,0	74,8	1 ⁵ / ₈	42	1 ³ / ₈	35
2Z20-72.36Y	4	2	70,8	35,4	7,2	225	⑧	37,0	20,9	107,0	1 ⁵ / ₈	42	1 ³ / ₈	35
2Z25-84.42Y	4	2	83,8	41,9	7,2	230	⑧	45,0	25,8	118,0	1 ⁵ / ₈	42	1 ³ / ₈	35
2Z30-102.51Y	4	2	102,9	51,5	7,2	239	⑧	53,0	30,9	133,0	2 ¹ / ₈	54	1 ³ / ₈	35

② Conversion factor for 60Hz = 1.2.

③ Oil charge POE 32 cSt. We always recommend using the heating element.

④ Net weight, including: valves, oil charge, rubber dampers.

⑤ ± 10% with reference to the average value of the voltage field. Other voltage values provided upon request.

⑥ The reported value refers to operation at 50Hz.

Operation at 60Hz multiply by 1.2. The max operating current remains unchanged.

The size of the contactors, cables and fuses must take into account the maximum operating temperature and the maximum power absorbed. AC3 category contactors.

⑦ Connections of weld-on valves.

⑧ 380V-420V // 3 / 50Hz

440V-480V // 3 / 60Hz

Two stage semi-hermetics reciprocating compressors

Standard supply

Frascold supplies its compressors equipped with components for standard intended use, as shown on the technical and operating sheets and instructions. Different accessories are available on request for other needs.

Description	Compressor series		
	S	2V	2Z
Semi-hermetic compressor, 4/6 cylinders with integrated part-winding start-up electric motor 380-420V / 3 / 50 440-480V / 3 / 60 Electrical motor with PTC sensor	S	S	S
Electrical connections box	S	S	S
Discharge temperature probe	S	S	S
High and low pressure safety valves	S	S	S
Intake and compression valves	S	S	S
Oil charge POE 32 cSt	S	S	S
Protective nitrogen charge	S	S	S
Oil level visual indicator	S	S	S
Oil heating resistance	▲	▲	▲
Rubber vibration dampers	S	S	S
Electronic oil level switch	n.a.	▲	▲
Electronic oil level regulator	▲	▲	▲
Sub-cooler	▲	▲	▲
Injection Control Card	n.a.	S	S
INT69 Diagnose control and protection device (only with Diagnostic Control)	S	■	■
INT69 TML Diagnose control and protection device (only with Direct Control)	n.a.	●	●
Electronic differential pressure switch to control lubrication Delta P-II (only with Standard Control and Diagnostic Control)	n.a.	S	S
Electronic differential pressure switch to control lubrication INT250FR (only with Direct Control)	n.a.	S	S
Modbus application	▲	▲	▲

S Standard

▲ Optional accessory

■ Only with Diagnostic Control

● Only with Direct Control

Two stage semi-hermetics reciprocating compressors

Performance R404A - R507A [50 Hz] with liquid sub-cooling

Compressor	Cond. Temp. [°C]	Qo [W] = Cooling capacity Pe [kW] = Power consumption ①	Evaporating temperature [°C]									
			-25	-30	-35	-40	-45	-50	-55	-60	-65	-70
S5-26.16Y	30	Qo 12109 Pe 6,0	10168 5,52	8438 5,03	6913 4,54	5585 4,06	4444 3,59	3478 3,14	2674 2,71	2017 2,32	1488 1,96	
	35	Qo 11868 Pe 6,51	9976 5,93	8290 5,36	6804 4,8	5508 4,26	4391 3,75	3441 3,26	2642 2,81	1978 2,4	1429 2,03	
	40	Qo 11627 Pe 7,04	9781 6,36	8138 5,71	6688 5,08	5423 4,49	4329 3,92	3393 3,4	2598 2,92	1925 2,5		
	45	Qo 11391 Pe 7,58	9588 6,82	7984 6,08	6569 5,38	5333 4,73	4261 4,12	3337 3,56	2543 3,06			
	50	Qo 11172 Pe 8,16	9405 7,31	7836 6,49	6452 5,72	5242 5,0	4188 4,34	3274 3,75				
	55	Qo 9247 Pe 7,86	7705 6,95	6347 6,11	5157 5,33	4118 4,62						
	30	Qo 13050 Pe 6,55	10954 6,05	9085 5,53	7436 5,0	6001 4,47	4768 3,94	3725 3,43	2860 2,96	2155 2,52	1592 2,13	
	35	Qo 12804 Pe 7,09	10755 6,5	8929 5,89	7319 5,29	5916 4,7	4709 4,12	3683 3,58	2825 3,07	2115 2,61	1535 2,21	
S7-27.19Y	40	Qo 12557 Pe 7,64	10554 6,95	8770 6,27	7198 5,6	5826 4,94	4643 4,32	3634 3,73	2782 3,2	2067 2,72		
	45	Qo 12314 Pe 8,21	10353 7,44	8608 6,67	7071 5,93	5731 5,21	4572 4,54	3579 3,91	2732 3,34			
	50	Qo 12084 Pe 8,84	10158 7,96	8448 7,11	6944 6,29	5631 5,51	4495 4,78	3516 4,11				
	55	Qo 11882 Pe 9,54	9982 8,56	8300 7,62	6822 6,71	5534 5,87	4416 5,08					
	30	Qo 18763 Pe 9,84	15836 9,05	13216 8,25	10896 7,46	8865 6,68	7111 5,92	5620 5,19	4373 4,51	3350 3,87	2528 3,29	
	35	Qo 18411 Pe 10,72	15562 9,78	13012 8,86	10753 7,95	8772 7,08	7057 6,24	5590 5,45	4351 4,72	3318 4,06	2465 3,46	
	40	Qo 18066 Pe 11,63	15292 10,55	12809 9,49	10608 8,48	8676 7,51	6997 6,59	5551 5,74	4318 4,97	3271 4,28		
	45	Qo 17733 Pe 12,59	15028 11,36	12608 10,17	10462 9,04	8576 7,97	6930 6,98	5503 6,07	4270 5,25			
2V10-42-29Y	50	Qo 14779 Pe 12,23	12415 10,91	10318 9,66	8472 8,5	7855 7,43	6442 6,45					
	55	Qo 14561 Pe 13,21	12242 11,75	10186 10,38	8372 9,11	7776 7,95						
	30	Qo 25786 Pe 13,19	21746 12,17	18132 11,11	14934 10,04	12138 8,97	9727 7,93	7678 6,92	5968 5,19	4567 4,51	3444 3,29	
	35	Qo 25295 Pe 14,33	21365 13,12	17849 11,89	14737 10,67	12012 9,48	9653 8,34	7639 7,26	5939 6,25	4524 5,34	3357 4,54	
	40	Qo 24806 Pe 15,51	20980 14,1	17558 12,71	14528 11,34	11870 10,03	9562 8,79	7578 7,63	5885 6,57	4450 5,62		
	45	Qo 24329 Pe 16,74	20599 15,14	17266 13,57	14312 12,06	11718 10,63	9456 9,28	7497 8,04	5806 6,92			
	50	Qo 20240 Pe 16,25	16985 14,51	14101 12,85	11563 11,29	9341 9,84	7401 8,51					
	55	Qo 16743 Pe 15,58	13916 13,76	11423 12,06	9230 10,49							
Z215-60.30Y	30	Qo 31405 Pe 15,69	26470 14,5	22057 13,31	18154 12,11	14743 10,93	11803 9,76	9310 8,61	7231 7,5	5534 6,43	4178 5,41	
	35	Qo 30833 Pe 17,06	26025 15,64	21725 14,23	17920 12,86	14591 11,52	11713 10,23	9258 9,0	7193 7,83	5478 6,73	4071 5,7	
	40	Qo 30271 Pe 18,47	25582 16,81	21390 15,2	17680 13,65	14429 12,17	11610 10,76	9190 9,44	7133 8,21	5396 7,08		
	45	Qo 29726 Pe 19,95	25147 18,05	21056 16,23	17435 14,51	14257 12,88	11492 11,36	903 9,95	7048 8,66			
	50	Qo 24734 Pe 19,39	20733 17,37	17191 15,46	14079 13,68	11361 12,04	8995 10,54					
	55	Qo 20445 Pe 18,67	16967 16,58	13906 15,58	11222 13,76	10445 12,04	10,49					
	30	Qo 37070 Pe 18,44	31252 16,99	26050 15,52	21449 14,02	17428 12,54	13962 11,09	11019 9,69	8563 8,36	6553 7,14	4940 6,04	
	35	Qo 36404 Pe 20,05	30731 18,34	25659 16,62	21172 14,92	17245 13,26	13851 11,67	10954 10,23	8514 8,76	6485 7,48	4814 6,36	
Z220-72.36Y	40	Qo 35748 Pe 21,71	30211 19,73	25264 17,78	20886 15,88	17050 14,05	13725 12,31	10870 10,69	8442 9,21	6388 7,89		
	45	Qo 35112 Pe 23,45	29701 21,2	24870 19,01	20594 16,9	16844 14,9	13582 13,03	10764 11,3	8341 9,73			
	50	Qo 34520 Pe 25,32	29217 22,79	24488 20,36	20304 18,04	16631 15,86	13424 13,83	10635 11,99				
	55	Qo 28796 Pe 24,59	24147 21,89	20037 19,35	16424 16,97	13260 14,79						
	30	Qo 46243 Pe 23,18	38811 21,27	32206 19,34	26402 17,4	21364 15,48	17052 13,62	13416 11,83	10399 10,14	7937 8,57	5957 7,15	
	35	Qo 45530 Pe 25,36	38251 23,06	31784 20,77	26102 18,54	21167 16,38	16932 14,32	13345 12,39	10344 10,61	7858 9,01	5807 7,59	
	40	Qo 44826 Pe 27,62	37688 24,92	31353 22,29	25787 19,76	20950 17,36	16791 15,12	13250 13,05	10261 11,18	7745 9,53		
	45	Qo 44148 Pe 29,99	37136 26,89	30919 23,91	25461 21,09	20716 18,44	16627 16,0	13129 13,8	10146 11,83			
Z230-102.51Y	50	Qo 36617 Pe 29,02	30501 25,68	25137 22,55	20474 19,66	16446 17,02	12982 14,66					
	55	Qo 30138 Pe 27,71	24844 24,25	20243 21,09	16261 18,23							

① Suction gas temperature 20°C without liquid sub-cooling.

The performance refers to European standard EN12900 and with operation at 50Hz. For operation at 60HZ see page 14.

To calculate the performance in different operating points refer to the Frascold Selection Software.

All published data is subject to change.

This field requires limitation of the suction temperature.

Two stage semi-hermetics reciprocating compressors

Performance R404A - R507A [50 Hz] without liquid sub-cooling

Compressor	Cond. Temp. [°C]	Qo [W] = Cooling capacity Pe [kW] = Power consumption ①	Evaporating temperature [°C]									
			-25	-30	-35	-40	-45	-50	-55	-60	-65	-70
S5-26.16Y	30	Qo Pe	9648 5,28	7923 4,81	6433 4,35	5157 3,9	4077 3,47	3176 3,06	2433 2,67	1832 2,31	1353 1,97	977 1,67
	35	Qo Pe	9085 5,62	7464 5,07	6065 4,54	4867 4,04	3854 3,56	3006 3,12	2304 2,71	1731 2,33	1268 2,0	897 1,71
	40	Qo Pe	8510 5,94	6993 5,31	5684 4,72	4566 4,16	3619 3,65	2824 3,17	2165 2,74	1621 2,36	1175 2,03	
	45	Qo Pe	7922 6,23	6509 5,53	5292 4,88	4253 4,28	3373 3,72	2633 3,22	2015 2,78	1501 2,39		
	50	Qo Pe	7322 6,5	6014 5,74	4890 5,03	3930 4,38	3117 3,79	2432 3,27	1857 2,81			
	55	Qo Pe	6712 6,74	5509 5,92	4477 5,15	3598 4,46	2853 3,85	2223 3,3				
	30	Qo Pe	10397 5,77	8536 5,29	6925 4,81	5547 4,32	4381 3,84	3407 3,38	2606 2,93	1959 2,52	1445 2,15	1046 1,82
	35	Qo Pe	9801 6,12	8047 5,57	6532 5,01	5236 4,47	4139 3,95	3223 3,45	2467 2,98	1851 2,56	1356 2,18	964 1,86
	40	Qo Pe	9190 6,45	7545 5,82	6126 5,2	4913 4,61	3888 4,04	3029 3,52	2318 3,03	1736 2,59	1262 2,22	
	45	Qo Pe	8563 6,75	7028 6,05	5706 5,38	4578 4,74	3624 4,13	2825 3,57	2161 3,07	1613 2,63		
S7-27.19Y	50	Qo Pe	7920 7,04	6495 6,27	5272 5,54	4230 4,85	3349 4,21	2611 3,63	1994 3,11			
	55	Qo Pe	7259 7,29	5947 6,46	4823 5,68	3868 4,95	3061 4,27	2384 3,67				
	30	Qo Pe	14948 8,72	12340 7,95	10075 7,2	8127 6,46	6472 5,76	5082 5,08	3931 4,44	2995 3,84	2247 3,3	1661 2,8
	35	Qo Pe	14094 9,33	11644 8,44	9519 7,57	7692 6,75	6138 5,96	4830 5,23	3743 4,55	2851 3,93	2128 3,38	1547 2,9
	40	Qo Pe	13222 9,92	10932 8,9	8947 7,93	7242 7,02	5789 6,17	4565 5,38	3541 4,67	2694 4,03	1996 3,48	
	45	Qo Pe	12332 10,49	10202 9,35	8357 8,28	6773 7,28	5424 6,36	4282 5,53	3323 4,78	2521 4,14		
	50	Qo Pe	11420 11,02	9450 9,76	7747 8,6	6285 7,52	5039 6,54	3981 5,66	3087 4,9			
	55	Qo Pe	10484 11,51	8675 10,15	7114 8,89	5775 7,74	4632 6,7	3659 5,79				
2V10-42-29Y	30	Qo Pe	20543 11,65	16945 10,66	13822 9,66	11140 8,67	8861 7,71	6950 6,78	5371 5,89	4087 5,07	3063 4,32	2262 3,66
	35	Qo Pe	19364 12,43	15986 11,27	13057 10,13	10542 9,02	8404 7,96	6607 6,96	5115 6,02	3892 5,18	2901 4,42	2107 3,78
	40	Qo Pe	18155 13,16	14998 11,84	12265 10,57	9917 9,35	7920 8,2	6238 7,13	4834 6,16	3672 5,29	2715 4,54	
	45	Qo Pe	16918 13,85	13984 12,38	11445 10,98	9266 9,65	7411 8,42	5844 7,29	4528 6,28	3427 5,4		
	50	Qo Pe	15655 14,49	12942 12,87	10599 11,35	8590 9,92	6877 8,61	5425 7,43	4198 6,4			
	55	Qo Pe	14366 15,07	11876 13,31	9730 11,67	7889 10,15	6320 8,77	4984 7,55				
	30	Qo Pe	25021 13,82	20626 12,67	16814 11,54	13541 10,45	10763 9,39	8434 8,36	6513 7,36	4953 6,41	3711 5,49	2744 4,61
	35	Qo Pe	23604 14,74	19473 13,38	15893 12,09	12819 10,85	10209 9,67	8017 8,56	6200 7,51	4713 6,53	3513 5,61	2555 4,78
	40	Qo Pe	22155 15,61	18289 14,06	14941 12,6	12069 11,22	9628 9,94	7574 8,75	5863 7,66	4450 6,66	3292 5,77	
	45	Qo Pe	20671 16,42	17071 14,69	13957 13,07	11288 11,57	9017 10,19	7102 8,94	5498 7,81	4161 6,81		
Z215-60.30Y	50	Qo Pe	19150 17,18	15816 15,27	12938 13,35	10472 11,89	8373 10,43	6598 9,12	5102 7,97			
	55	Qo Pe	17588 17,87	14522 15,8	11881 13,9	9619 12,18	7694 10,64	6060 9,29				
	30	Qo Pe	25021 16,23	20626 14,83	16814 13,43	13541 12,06	10763 10,72	8434 9,43	6513 8,21	4953 7,07	3711 6,02	2744 5,09
	35	Qo Pe	23604 17,3	19473 15,68	15893 14,09	12819 12,55	10209 11,07	8017 9,69	6200 8,39	4713 7,22	3513 6,17	2555 5,26
	40	Qo Pe	22155 18,33	18289 16,48	14941 14,7	12069 13,01	9628 11,41	7574 9,93	5863 8,59	4450 7,38	3292 6,34	
	45	Qo Pe	20671 19,29	17071 17,23	13957 15,28	11288 13,44	9017 11,73	7102 10,17	5498 8,77	4161 7,55		
	50	Qo Pe	19150 20,17	15816 17,92	12938 15,8	10472 13,82	8373 12,01	6598 10,38	5102 8,95			
	55	Qo Pe	17588 20,98	14522 18,53	11881 16,25	9619 14,16	7694 12,25	6060 10,56				
Z220-72.36Y	30	Qo Pe	29534 20,42	24352 18,58	19858 16,76	15999 14,98	12723 13,25	9977 11,59	7708 10,03	5865 8,56	4395 7,22	3245 6,01
	35	Qo Pe	27868 21,93	22994 19,75	18770 17,63	15145 15,61	12066 13,69	9480 11,9	7336 10,24	5579 8,74	4159 7,41	3022 6,27
	40	Qo Pe	26164 23,38	21598 20,87	17647 18,47	14258 16,22	11377 14,13	8954 12,21	6934 10,48	5266 8,95	4450 7,41	3898 6,27
	45	Qo Pe	24417 24,76	20162 21,92	16485 19,27	13333 16,8	10653 14,54	8393 12,51	6501 10,72	4924 9,18		
	50	Qo Pe	22624 26,05	18682 22,91	15281 20,0	12368 17,33	9891 14,93	7797 12,79	6033 10,95			
	55	Qo Pe	20783 26,29	17156 21,557	14032 17,513	11360 14,085	9087 11,199	7160 8,780				
	30	Qo Pe	36842 20,42	30242 18,58	24551 16,76	19694 14,98	15597 13,25	12185 11,59	9385 10,03	7122 8,56	5323 7,22	3913 6,01
	35	Qo Pe	34854 21,93	28621 19,75	23251 17,63	18672 15,61	14810 13,69	11590 11,9	8937 10,24	6778 8,74	5039 7,41	3645 6,27
	40	Qo Pe	32808 23,38	26944 20,87	21900 18,47	17603 16,22	13979 14,13	10954 12,21	8453 10,48	6401 8,95	4726 7,65	
	45	Qo Pe	30700 24,76	25209 21,92	20495 19,27	16484 16,8	13102 14,54	10275 12,51	7929 10,72	5989 9,18		
Z230-102.51Y	50	Qo Pe	28529 26,05	23414 22,91	19033 20,0	15312 17,33	12176 14,93	9552 12,79	7364 10,95			
	55	Qo Pe	26291 26,29	21557 23,82	17513 20,67	14085 17,81	11199 15,27	8780 13,05				

① Suction gas temperature 20°C without liquid sub-cooling.

The performance refers to European standard EN12900 and with operation at 50Hz. For operation at 60HZ see page 15.

To calculate the performance in different operating points refer to the Frascold Selection Software.

All published data is subject to change.

This field requires limitation of the suction temperature.

Performance R404A - R507A [60 Hz] with liquid sub-cooling

Compressor	Cond. Temp. [°C]	Qo [W] = Cooling capacity Pe [kW] = Power consumption ①	Evaporating temperature [°C]									
			-25	-30	-35	-40	-45	-50	-55	-60	-65	-70
S5-26.16Y	30	Qo 14531 Pe 7,21	12202	10126	8296	6702	5333	4174	3209	2420	1786	
	35	Qo 14241 Pe 7,82	11971	9948	8165	6609	5269	4129	3171	2374	1715	2,35
	40	Qo 13952 Pe 8,44	11737	9765	8026	6507	5195	4072	3118	2310	1786	2,44
	45	Qo 13670 Pe 9,1	11506	9581	7883	6399	5113	4004	3051	2374	1715	
	50	Qo 11286 Pe 8,77	9403	7743	6290	5026	3929					
	55	Qo 11097 Pe 9,43	9246	7616	6188	4941						
	30	Qo 15661 Pe 7,86	13145	10902	8923	7201	5721	4471	3432	2586	1911	
	35	Qo 15364 Pe 8,5	12906	10715	8783	7099	5650	4420	3389	2538	1842	2,65
S7-27.19Y	40	Qo 15068 Pe 9,16	12665	10524	8637	6991	5572	4361	3339	2481		
	45	Qo 14777 Pe 9,86	12423	10330	8486	6877	5486	4294	3278	3,26		
	50	Qo 14500 Pe 10,6	12190	10138	8333	6758	5394	4219				
	55	Qo 14258 Pe 11,45	11978	9960	8187	6640	5299					
	30	Qo 22515 Pe 11,81	19003	15859	13075	10638	8534	6744	5248	4020	3034	
	35	Qo 22093 Pe 12,86	18675	15615	12904	10527	8468	6708	5221	3981	2958	
	40	Qo 21679 Pe 13,96	18350	15371	12730	10411	8396	6662	5181	3925		
	45	Qo 21280 Pe 15,11	18034	15130	12555	10291	8316	6603	5125	5,13		
2V10-42-29Y	50	Qo 17734 Pe 14,67	17334	14898	12382	10167	8226	6530				
	55	Qo 14691 Pe 14,1	17224	14047	8131							
	30	Qo 22515 Pe 15,83	19003	15859	13075	10638	8534	6744	5248	4020	3034	
	35	Qo 22093 Pe 17,2	18675	15615	12904	10527	8468	6708	5221	3981	2958	
	40	Qo 21679 Pe 18,61	18350	15371	12730	10411	8396	6662	5181	3925		
	45	Qo 21280 Pe 18,16	18034	15130	12555	10291	8316	6603	5125			
	50	Qo 17734 Pe 19,5	17334	14898	12382	10167	8226	6530				
	55	Qo 14691 Pe 19,1	17224	14047	8131							
Z215-60.30Y	30	Qo 30943 Pe 15,83	26095	21758	17921	14566	11672	9214	7161	5481	4133	
	35	Qo 30354 Pe 17,2	25638	21419	17684	14414	11584	9166	7127	5429	4029	
	40	Qo 29767 Pe 18,61	25176	21070	17433	14244	11474	9093	7062	5340		
	45	Qo 24719 Pe 18,16	20719	17175	14061	11347	8996	6967				
	50	Qo 24288 Pe 19,5	20383	16921	13876	11209	8881					
	55	Qo 20092 Pe 19,69	16699	13707	11076							
	30	Qo 37686 Pe 18,82	31764	26469	21784	17691	14164	11171	8678	6641	5013	
	35	Qo 37000 Pe 20,47	31230	26070	21504	17509	14056	11110	8631	6574	4885	
Z220-72.36Y	40	Qo 36325 Pe 22,16	30698	25668	21216	17315	13932	11029	8560	6475		
	45	Qo 35671 Pe 23,94	30176	25268	20922	17108	13790	10924	8458			
	50	Qo 29681 Pe 23,27	20383	16921	13876	11209	10794					
	55	Qo 24534 Pe 22,41	20360	16688	13467							
	30	Qo 37686 Pe 22,12	31764	26469	21784	17691	14164	11171	8678	6641	5013	
	35	Qo 37000 Pe 20,47	31230	26070	21504	17509	14056	11110	8631	6574	4885	
	40	Qo 36325 Pe 22,16	30698	25668	21216	17315	13932	11029	8560	6475		
	45	Qo 35671 Pe 23,94	30176	25268	20922	17108	13790	10924	8458			
Z225-84.42Y	50	Qo 29681 Pe 23,27	20383	16921	13876	11209	10794					
	55	Qo 24534 Pe 22,41	20360	16688	13467							
	30	Qo 44484 Pe 22,12	37502	31260	25738	20914	16754	13223	10276	7864	5928	
	35	Qo 43685 Pe 24,05	36877	30791	25406	20694	16621	13145	10217	7782	5777	
	40	Qo 42898 Pe 26,05	36254	30317	25063	20461	16470	13044	10130	7665		
	45	Qo 42135 Pe 28,14	35642	29844	24713	20213	16298	12917	10009			
	50	Qo 35061 Pe 27,35	29386	24365	19957	16109	12762					
	55	Qo 34556 Pe 29,51	28977	24045	19709	15912						
Z230-102.51Y	30	Qo 55491 Pe 27,81	46573	38647	31682	25637	20462	16099	12479	9524	7149	
	35	Qo 54636 Pe 30,43	45901	38141	31323	25400	20319	16014	12413	9429	6969	
	40	Qo 53792 Pe 33,15	45226	37623	30945	25140	20149	15900	12313	9294		
	45	Qo 44563 Pe 32,27	37103	30554	24859	19953	15755	12175				
	50	Qo 43940 Pe 34,82	36601	30165	24568	19735	15578					
	55	Qo 36165 Pe 33,25	29813	24291	19513							
	30	Qo 55491 Pe 27,81	46573	38647	31682	25637	20462	16099	12479	9524	7149	
	35	Qo 54636 Pe 30,43	45901	38141	31323	25400	20319	16014	12413	9429	6969	

① Suction gas temperature 20°C without liquid sub-cooling.

The performance refers to European standard EN12900 and with operation at 60Hz. For operation at 50HZ see page 12.

To calculate the performance in different operating points refer to the Frascold Selection Software.

All published data is subject to change.

This field requires limitation of the suction temperature.

Performance R404A - R507A [60 Hz] without liquid sub-cooling

Compressor	Cond. Temp. [°C]	Qo [W] = Cooling capacity Pe [kW] = Power consumption ①	Evaporating temperature [°C]									
			-25	-30	-35	-40	-45	-50	-55	-60	-65	-70
S5-26.16Y	30	Qo Pe	11577 6,34	9508 5,77	7719 5,22	6188 4,68	4893 4,17	3811 3,67	2920 3,21	2198 2,77	1623 2,37	1173 2,01
	35	Qo Pe	10902 6,74	8957 6,08	7278 5,45	5841 4,85	4624 4,28	3607 3,74	2765 3,25	2078 2,8	1522 2,4	1076 2,05
	40	Qo Pe	10211 7,12	8391 6,37	6821 5,66	5479 5,0	4342 4,38	3389 3,81	2598 3,29	1945 2,83	1409 2,44	
	45	Qo Pe	9506 7,48	7811 6,64	6351 5,86	5104 5,13	4047 4,47	3160 3,87	2418 3,33	1801 2,87		
	50	Qo Pe	8786 7,8	7217 6,88	5868 6,03	4716 5,26	3741 4,55	2919 3,92	2229 3,37			
	55	Qo Pe	8054 8,09	6611 7,1	5373 6,19	4318 5,36	3424 4,61	2668 3,96				
	30	Qo Pe	12477 6,93	10243 6,35	8310 5,77	6656 5,18	5257 4,61	4088 4,05	3127 3,52	2351 3,03	1734 2,58	1255 2,18
	35	Qo Pe	11762 7,35	9657 6,68	7839 6,01	6283 5,36	4967 4,74	3867 4,14	2960 3,58	2221 3,07	1628 2,62	1156 2,23
	40	Qo Pe	11028 7,74	9054 6,98	7351 6,24	5896 5,53	4665 4,85	3635 4,22	2782 3,64	2083 3,11	1514 2,66	
	45	Qo Pe	10276 8,1	8433 7,27	6847 6,46	5494 5,68	4349 4,96	3390 4,29	2593 3,69	1935 3,16		
S7-27.19Y	50	Qo Pe	9503 8,44	7794 7,52	6326 6,65	5076 5,82	4019 5,05	3133 4,35	2393 3,73			
	55	Qo Pe	8711 8,75	7136 7,76	5788 6,81	4641 5,94	3674 5,13	2861 4,4				
	30	Qo Pe	17938 10,46	14808 9,54	12090 8,64	9753 7,76	7766 6,91	6098 6,1	4718 5,33	3594 4,61	2696 3,96	1993 3,36
	35	Qo Pe	16912 11,2	13973 10,12	11423 9,09	9231 8,1	7366 7,16	5796 6,28	4492 5,46	3421 4,72	2553 4,06	1857 3,48
	40	Qo Pe	15867 11,91	13119 10,68	10737 9,52	8690 8,42	6947 7,4	5478 6,46	4250 5,6	3232 4,84	2395 4,18	
	45	Qo Pe	14798 12,58	12242 11,22	10029 9,93	8128 8,73	6509 7,63	5139 6,63	3988 5,74	3025 4,97		
	50	Qo Pe	13703 13,22	11340 11,72	9297 10,32	7542 9,02	6046 7,85	4777 6,8	3704 5,88			
	55	Qo Pe	12580 13,81	10410 12,18	8537 10,67	6930 9,29	5558 8,05	4391 6,95				
2V10-42-29Y	30	Qo Pe	24652 13,98	20334 12,79	16587 11,59	13368 10,41	10633 9,25	8340 8,13	6445 7,07	4905 6,08	3676 5,19	2714 3,39
	35	Qo Pe	23237 14,91	19183 13,52	15669 12,15	12651 10,82	10085 9,55	7929 8,35	6138 7,23	4671 6,21	3421 5,31	2553 4,54
	40	Qo Pe	21786 15,8	17998 14,21	14717 12,68	11901 11,22	9505 9,84	7486 8,56	5801 7,39	4406 6,35	3232 5,45	
	45	Qo Pe	20302 16,63	16780 14,86	13734 13,17	11119 11,58	8893 10,1	7012 8,75	5433 7,54	4113 6,48		
	50	Qo Pe	18786 17,39	15531 15,45	12719 13,62	10308 11,91	8252 10,34	6510 8,92	5038 7,67			
	55	Qo Pe	17239 18,08	14251 15,97	11675 14,0	9467 12,18	7584 10,53	5981 9,06				
	30	Qo Pe	30025 16,58	24751 15,2	20177 13,85	16250 12,54	12915 11,26	10121 10,03	7815 8,83	5943 7,69	4454 6,59	3293 5,54
	35	Qo Pe	28325 17,69	23367 16,06	19071 14,5	15383 13,02	12251 11,6	9621 10,27	7440 9,01	5656 7,83	4216 6,74	3066 5,73
	40	Qo Pe	26586 18,73	21946 16,87	17930 15,12	14483 13,47	11554 11,93	9089 10,5	7035 9,19	5340 8,0	3951 6,92	
	45	Qo Pe	24805 19,71	20485 17,62	16749 15,68	13545 13,89	10820 12,23	8522 10,73	6597 9,38	4993 8,18		
Z215-60.30Y	50	Qo Pe	22980 20,61	18979 18,32	15526 16,21	12566 14,27	10048 12,52	7918 10,95	6123 9,56			
	55	Qo Pe	21105 21,44	17426 18,96	14257 16,68	11543 14,62	9232 12,77	7272 11,15				
	30	Qo Pe	35441 19,47	29222 17,79	23830 16,12	19199 14,47	15267 12,86	11972 11,32	9250 9,85	7038 8,48	5274 7,23	3893 6,11
	35	Qo Pe	33442 20,77	27593 18,81	22525 16,9	18174 15,06	14479 13,29	11376 11,62	8803 10,07	6695 8,66	4991 7,4	3626 6,32
	40	Qo Pe	31396 21,99	25918 19,78	21177 17,64	17109 15,61	13653 13,7	10744 11,92	8321 10,3	6320 8,86	4677 7,61	
	45	Qo Pe	29300 23,14	24195 20,68	19782 18,33	16000 16,12	12784 14,08	10072 12,2	7801 10,53	5908 9,06		
	50	Qo Pe	27149 24,21	22419 21,5	18337 18,96	14842 16,59	11869 14,42	9356 12,46	7240 10,73			
	55	Qo Pe	24940 25,17	20587 22,24	16839 19,5	13632 16,99	10904 14,7	8592 12,67				
Z220-72.36Y	30	Qo Pe	44210 24,51	36291 22,3	29461 20,11	23633 17,97	18716 15,9	14622 13,91	11262 12,03	8547 10,27	6388 8,66	4695 7,21
	35	Qo Pe	41825 26,32	34345 23,7	27902 21,16	22407 18,73	17772 16,43	13907 14,28	10725 12,29	8134 10,49	6047 8,89	4374 7,52
	40	Qo Pe	39370 28,06	32332 25,04	26280 22,17	21124 19,47	16775 16,95	13145 14,65	10143 12,57	7682 10,74	5671 9,18	
	45	Qo Pe	36840 29,71	30251 26,31	24594 23,12	19781 20,16	15723 17,45	12330 15,01	9515 12,86	7187 11,02		
	50	Qo Pe	34234 31,26	28097 27,49	22840 24,0	18375 20,8	14612 17,91	11462 15,35	8837 13,14			
	55	Qo Pe	31549 32,7	25868 28,58	21016 24,8	16902 21,38	13439 18,32	10537 15,66				
	30	Qo Pe	44210 24,51	36291 22,3	29461 20,11	23633 17,97	18716 15,9	14622 13,91	11262 12,03	8547 10,27	6388 8,66	4695 7,21
	35	Qo Pe	41825 26,32	34345 23,7	27902 21,16	22407 18,73	17772 16,43	13907 14,28	10725 12,29	8134 10,49	6047 8,89	4374 7,52
	40	Qo Pe	39370 28,06	32332 25,04	26280 22,17	21124 19,47	16775 16,95	13145 14,65	10143 12,57	7682 10,74	5671 9,18	
	45	Qo Pe	36840 29,71	30251 26,31	24594 23,12	19781 20,16	15723 17,45	12330 15,01	9515 12,86	7187 11,02		
Z230-102.51Y	50	Qo Pe	34234 31,26	28097 27,49	22840 24,0	18375 20,8	14612 17,91	11462 15,35	8837 13,14			
	55	Qo Pe	31549 32,7	25868 28,58	21016 24,8	16902 21,38	13439 18,32	10537 15,66				

① Suction gas temperature 20°C without liquid sub-cooling.

The performance refers to European standard EN12900 and with operation at 60Hz. For operation at 50HZ see page 13.

To calculate the performance in different operating points refer to the Frascold Selection Software.

All published data is subject to change.

This field requires limitation of the suction temperature.

Two stage semi-hermetics reciprocating compressors

Performance R22 [50 Hz] with liquid sub-cooling

Compressor	Cond. Temp. [°C]	Qo [W] = Cooling capacity Pe [kW] = Power consumption ①	Evaporating temperature [°C]						
			-20	-25	-30	-35	-40	-45	-50
S5-26.16Y	30	Qo 13444 Pe 5,32	11021 4,95	8944 4,56	7184 4,14	5708 3,72	4481 3,29	3465 2,88	
	35	Qo 13152 Pe 5,74	10798 5,3	8781 4,85	7069 4,38	5631 3,91	4428 3,46	3421 3,02	
	40	Qo 12868 Pe 6,13	10579 5,63	8619 5,11	6954 4,59	5549 4,08	4367 3,59	3366 3,14	
	45	Qo 12590 Pe 6,52	10364 5,95	8457 5,37	6835 4,8	5462 4,26	4296 3,74		
	50	Qo 12318 Pe 6,94	10151 6,3	8295 5,67	6712 5,05	5366 4,47			
	55	Qo 12053 Pe 7,43	9941 6,72	8131 6,03	6584 5,37				
	30	Qo 14489 Pe 5,81	11868 5,43	9619 5,0	7713 4,55	6119 4,08	4800 3,61	3721 3,16	
	35	Qo 14193 Pe 6,25	11642 5,8	9453 5,32	7596 4,81	6037 4,3	4740 3,79	3666 3,31	
	40	Qo 13899 Pe 6,65	11418 6,14	9288 5,6	7478 5,04	5954 4,49	4676 3,94	3605 3,43	
	45	Qo 13606 Pe 7,05	11193 6,48	9121 5,88	7358 5,28	5867 4,68	4608 4,1		
S7-27.19Y	50	Qo 13314 Pe 7,49	10967 6,85	8952 6,2	7235 5,55	5775 4,91			
	55	Qo 13023 Pe 8,0	10741 7,3	8781 6,6	7107 5,9				
	30	Qo 20775 Pe 8,59	17097 8,02	13930 7,38	11237 6,69	8974 6,0	7094 5,32	5546 4,68	
	35	Qo 20350 Pe 9,31	16779 8,63	13703 7,89	11083 7,13	8874 6,36	7026 5,62	5487 4,93	
	40	Qo 19935 Pe 9,96	16468 9,18	13482 8,36	10934 7,51	8776 6,68	6958 5,88	5424 5,14	
	45	Qo 19524 Pe 10,62	16160 9,74	13261 8,83	10782 7,91	8674 7,01	6883 6,15		
	50	Qo 19108 Pe 11,34	15845 10,36	13031 9,36	10620 8,37	8559 7,4			
	55	Qo 18682 Pe 12,19	15516 11,11	12785 10,03	10438 8,96				
	30	Qo 20775 Pe 11,75	17097 10,99	13930 10,11	11237 9,17	8974 8,19	7094 7,23	5546 6,32	
	35	Qo 20350 Pe 12,71	16779 11,8	13703 10,8	11083 9,75	8874 8,68	7026 7,64	5487 6,67	
2V10-42-29Y	40	Qo 19935 Pe 13,59	16468 12,54	13482 11,42	10934 10,26	8776 9,11	6958 7,99	5424 6,95	
	45	Qo 19524 Pe 14,46	16160 13,28	13261 12,05	10782 10,79	8674 9,55	6883 8,36		
	50	Qo 19108 Pe 15,42	15845 14,11	13031 12,76	10620 11,4	8559 10,08			
	55	Qo 18682 Pe 16,54	15516 15,11	12785 13,64	10438 12,19				
	30	Qo 28533 Pe 11,75	23477 10,99	19118 10,11	15408 9,17	12294 8,19	9716 7,23	7610 6,32	
	35	Qo 27920 Pe 12,71	23023 11,8	18799 10,8	15197 9,75	12158 8,68	9623 7,64	7524 6,67	
	40	Qo 27325 Pe 13,59	22585 12,54	18492 11,42	14993 10,26	12027 9,11	9530 7,99	7431 6,95	
	45	Qo 26734 Pe 14,46	22148 13,28	18183 12,05	14783 10,79	11885 9,55	9420 8,36		
	50	Qo 26135 Pe 15,42	21698 14,11	17857 12,76	14552 11,4	11716 10,08			
	55	Qo 25513 Pe 16,54	21220 15,11	17498 13,64	14282 12,19				
ZZ15-60.30Y	30	Qo 28533 Pe 11,75	23477 10,99	19118 10,11	15408 9,17	12294 8,19	9716 7,23	7610 6,32	
	35	Qo 27920 Pe 12,71	23023 11,8	18799 10,8	15197 9,75	12158 8,68	9623 7,64	7524 6,67	
	40	Qo 27325 Pe 13,59	22585 12,54	18492 11,42	14993 10,26	12027 9,11	9530 7,99	7431 6,95	
	45	Qo 26734 Pe 14,46	22148 13,28	18183 12,05	14783 10,79	11885 9,55	9420 8,36		
	50	Qo 26135 Pe 15,42	21698 14,11	17857 12,76	14552 11,4	11716 10,08			
	55	Qo 25513 Pe 16,54	21220 15,11	17498 13,64	14282 12,19				
	30	Qo 34719 Pe 13,99	28547 13,1	23237 12,12	18721 11,08	14930 10,01	11784 8,93	9198 7,86	
	35	Qo 34014 Pe 15,13	28021 14,04	22862 12,91	18470 11,74	14771 10,57	11681 9,4	9112 8,28	
	40	Qo 33334 Pe 16,17	27513 14,91	22501 13,62	18228 12,33	14615 11,05	11575 9,81	9016 8,63	
	45	Qo 32664 Pe 17,23	27010 15,79	22141 14,35	17981 12,93	14448 11,55	11451 10,24		
ZZ20-72.36Y	50	Qo 31994 Pe 18,38	26501 16,76	21767 15,17	17714 13,63	14253 12,16			
	55	Qo 31310 Pe 19,72	25970 17,93	21364 16,19	17410 14,53				
	30	Qo 41005 Pe 16,4	33713 15,31	27444 14,08	22120 12,76	17650 11,41	13940 10,07	10884 8,79	
	35	Qo 40177 Pe 17,74	33092 16,45	27002 15,04	21822 13,58	17460 12,09	13816 10,64	10780 9,28	
	40	Qo 39374 Pe 18,96	32492 17,48	26575 15,91	21534 14,29	17273 12,69	13688 11,13	10662 9,69	
	45	Qo 38585 Pe 20,2	31899 18,53	26148 16,79	21241 15,03	17075 13,3	13540 11,65		
	50	Qo 37797 Pe 21,55	31301 19,69	25710 17,79	20928 15,89	16849 14,04			
	55	Qo 37000 Pe 23,14	30683 21,09	25244 19,03	20580 16,99				
ZZ25-84.42Y	30	Qo 50955 Pe 20,55	41750 19,11	33867 17,52	27199 15,85	21627 14,11	17022 12,37	13244 10,65	
	35	Qo 50088 Pe 22,39	41098 20,62	33401 18,77	26885 16,87	21427 14,97	16892 13,1	13134 11,3	
	40	Qo 49226 Pe 24,1	40447 22,02	32932 19,89	26564 17,78	21215 15,71	16746 13,72	13003 11,85	
	45	Qo 48369 Pe 25,84	39795 23,44	32457 21,05	26233 18,72	20990 16,48	16581 14,38		
	50	Qo 47516 Pe 27,77	39141 25,05	31975 22,4	25892 19,85	20749 17,45			
	55	Qo 46671 Pe 30,05	38487 27,01	31487 24,09	25537 21,33				

① Suction gas temperature 20°C without liquid sub-cooling.

The performance refers to European standard EN12900 and with operation at 50Hz. For operation at 60HZ see page 18.

To calculate the performance in different operating points refer to the Frascold Selection Software.

All published data is subject to change.

This field requires limitation of the suction temperature.

Two stage semi-hermetics reciprocating compressors

Performance R22 [50 Hz] without liquid sub-cooling

Compressor	Cond. Temp. [°C]	Qo [W] = Cooling capacity Pe [kW] = Power consumption ①	Evaporating temperature [°C]						
			-20	-25	-30	-35	-40	-45	-50
S5-26.16Y	30	Qo Pe	11716 4,91	9451 4,55	7547 4,17	5966 3,78	4665 3,39	3604 3,0	2743 2,62
	35	Qo Pe	11195 5,24	9040 4,82	7230 4,39	5726 3,95	4486 3,53	3471 3,11	2638 2,72
	40	Qo Pe	10677 5,52	8629 5,05	6912 4,57	5483 4,09	4302 3,63	3329 3,2	2523 2,79
	45	Qo Pe	10161 5,79	8219 5,26	6591 4,74	5235 4,22	4111 3,74	3179 3,28	
	50	Qo Pe	9645 6,08	7807 5,5	6266 4,93	4981 4,38	3912 3,86		
	55	Qo Pe	9128 6,41	7392 5,77	5936 5,16	4720 4,58			
	30	Qo Pe	12627 5,36	10177 5,0	8116 4,59	6405 4,17	5000 3,73	3861 3,3	2945 2,88
	35	Qo Pe	12081 5,71	9746 5,28	7784 4,83	6153 4,36	4810 3,89	3715 3,42	2827 2,99
	40	Qo Pe	11533 5,99	9313 5,52	7448 5,02	5897 4,51	4616 4,0	3565 3,52	2703 3,06
	45	Qo Pe	10981 6,27	8876 5,74	7108 5,2	5636 4,65	4417 4,12	3409 3,61	
S7-27.19Y	50	Qo Pe	10424 6,56	8434 5,98	6763 5,4	5369 4,82	4211 4,26		
	55	Qo Pe	9863 6,9	7986 6,28	6411 5,66	5095 5,06			
	30	Qo Pe	18105 7,96	14660 7,4	11754 6,78	9331 6,13	7333 5,48	5705 4,85	4390 4,26
	35	Qo Pe	17322 8,53	14046 7,87	11283 7,18	8977 6,46	7070 5,75	5507 5,07	4231 4,44
	40	Qo Pe	16541 9,02	13433 8,28	10812 7,51	8621 6,73	6805 5,96	5305 5,24	4067 4,58
	45	Qo Pe	15756 9,49	12815 8,67	10334 7,83	8258 6,99	6530 6,17	5093 5,41	
	50	Qo Pe	14961 10,0	12185 9,11	9844 8,2	7881 7,3	6240 6,44		
	55	Qo Pe	14149 10,61	11537 9,64	9334 8,67	7483 7,72			
2V10-42-29Y	30	Qo Pe	24867 10,88	20132 10,13	16132 9,29	12795 8,4	10047 7,49	7814 6,59	6024 5,75
	35	Qo Pe	23765 11,64	19274 10,77	15480 9,83	12309 8,84	9688 7,85	7543 6,9	5802 6,0
	40	Qo Pe	22673 12,29	18422 11,31	14830 10,26	11822 9,19	9325 8,13	7266 7,12	5571 6,19
	45	Qo Pe	21576 12,92	17564 11,82	14170 10,68	11323 9,53	8947 8,41	6971 7,35	
	50	Qo Pe	20463 13,59	16686 12,39	13489 11,16	10799 9,94	8542 8,76		
	55	Qo Pe	19322 14,38	15778 13,09	12774 11,78	10239 10,5			
	30	Qo Pe	30258 12,93	24480 12,05	19607 11,12	15546 10,15	12201 9,16	9478 8,16	7281 7,17
	35	Qo Pe	28953 13,82	23458 12,78	18825 11,72	14960 10,64	11769 9,56	9156 8,5	7027 7,47
	40	Qo Pe	27658 14,59	22442 13,4	18045 12,21	14373 11,02	11331 9,86	8825 8,75	6760 7,7
	45	Qo Pe	26361 15,34	21420 14,0	17255 12,68	13772 11,4	10876 10,17	8473 9,01	
ZZ15-60.30Y	50	Qo Pe	25050 16,13	20380 14,66	16443 13,22	13146 11,85	10392 10,55		
	55	Qo Pe	23712 17,07	19310 15,46	15598 13,92	12481 12,46			
	30	Qo Pe	35736 15,14	28909 14,08	23158 12,91	18368 11,66	14424 10,4	11211 9,15	8615 7,97
	35	Qo Pe	34198 16,19	27704 14,96	22234 13,64	17675 12,27	13912 10,9	10829 9,57	8313 8,33
	40	Qo Pe	32670 17,1	26504 15,7	21312 14,24	16980 12,75	13393 11,28	10436 9,88	7994 8,59
	45	Qo Pe	31139 17,97	25297 16,42	20378 14,82	16269 13,22	12854 11,66	10019 10,19	
	50	Qo Pe	29594 18,9	24071 17,2	19422 15,48	15531 13,78	12284 12,14		
	55	Qo Pe	28022 20,01	22814 18,18	18430 16,34	14754 14,54			
	30	Qo Pe	44407 18,99	35801 17,58	28577 16,07	22586 14,49	17674 12,87	13691 11,25	10484 9,66
	35	Qo Pe	42635 20,47	34406 18,78	27503 17,03	21776 15,26	17072 13,5	13240 11,79	10128 10,15
ZZ20-72.36Y	40	Qo Pe	40845 21,77	32992 19,8	26410 17,83	20946 15,88	16449 13,99	12767 12,19	9749 10,51
	45	Qo Pe	39035 23,04	31558 20,81	25294 18,62	20093 16,49	15802 14,47	12269 12,6	
	50	Qo Pe	37203 24,44	30100 21,95	24154 19,54	19214 17,25	15128 15,11		
	55	Qo Pe	35346 26,1	28617 23,36	22988 20,74	18308 18,3			

① Suction gas temperature 20°C without liquid sub-cooling.

The performance refers to European standard EN12900 and with operation at 50Hz. For operation at 60HZ see page 19.

To calculate the performance in different operating points refer to the Frascold Selection Software.

All published data is subject to change.

This field requires limitation of the suction temperature.

Performance R22 [60 Hz] with liquid sub-cooling

Compressor	Cond. Temp. [°C]	Qo [W] = Cooling capacity Pe [kW] = Power consumption ①	Evaporating temperature [°C]						
			-20	-25	-30	-35	-40	-45	-50
S5-26.16Y	30	Qo Pe	16132 6,39	13225 5,94	10733 5,47	8621 4,97	6850 4,46	5377 3,95	4158 3,46
	35	Qo Pe	15783 6,89	12957 6,36	10537 5,81	8483 5,25	6757 4,69	5313 4,15	4105 3,63
	40	Qo Pe	15441 7,36	12695 6,75	10342 6,13	8344 5,51	6659 4,9	5240 4,31	4039 3,76
	45	Qo Pe	15108 7,83	12437 7,14	10148 6,45	8202 5,77	6554 5,11	5156 4,49	
	50	Qo Pe	14782 8,33	12182 7,56	9953 6,8	8055 6,06	6440 5,36		
	55	Qo Pe	14464 8,91	11929 8,06	9757 7,23	7901 6,44			
	30	Qo Pe	17386 6,97	14241 6,52	11542 6,01	9256 5,46	7342 4,9	5760 4,33	4465 3,79
	35	Qo Pe	17032 7,5	13971 6,96	11344 6,38	9115 5,78	7245 5,16	5688 4,55	4399 3,97
	40	Qo Pe	16679 7,98	13701 7,37	11145 6,72	8974 6,05	7144 5,38	5612 4,73	4326 4,12
	45	Qo Pe	16328 8,46	13431 7,77	10945 7,06	8830 6,33	7040 5,62	5529 4,92	
S7-27.19Y	50	Qo Pe	15977 8,99	13161 8,22	10743 7,44	8682 6,66	6931 5,9		
	55	Qo Pe	15627 9,6	12889 8,76	10538 7,92	8529 7,08			
	30	Qo Pe	24930 10,31	20516 9,62	16716 8,85	13484 8,03	10769 7,2	8513 6,38	6656 5,61
	35	Qo Pe	24420 11,17	20134 10,35	16444 9,47	13300 8,55	10648 7,63	8431 6,74	6584 5,91
	40	Qo Pe	23922 11,96	19762 11,02	16179 10,03	13121 9,01	10532 8,01	8350 7,05	6509 6,17
	45	Qo Pe	23428 12,75	19391 11,69	15913 10,59	12939 9,49	10409 8,41	8260 7,38	
	50	Qo Pe	22930 13,61	19013 12,44	15637 11,24	12744 10,04	10271 8,89		
	55	Qo Pe	22418 14,63	18619 13,33	15342 12,03	12526 10,75			
	30	Qo Pe	34240 14,1	28172 13,18	22942 12,13	18490 11,0	14753 9,83	11659 8,68	9132 7,58
	35	Qo Pe	33504 15,26	27628 14,17	22559 12,96	18236 11,7	14590 10,42	11548 9,17	9029 8,0
2V10-42-29Y	40	Qo Pe	32790 16,31	27102 15,05	22191 13,71	17991 12,32	14433 10,93	11436 9,59	8917 8,34
	45	Qo Pe	32081 17,36	26577 15,94	21820 14,46	17740 12,94	14263 11,45	11305 10,03	
	50	Qo Pe	31362 18,5	26037 16,93	21428 15,31	17463 13,68	14060 12,09		
	55	Qo Pe	30801 18,13	25464 16,37	20997 15,37	17138 14,63			
	30	Qo Pe	34240 14,1	28172 13,18	22942 12,13	18490 11,0	14753 9,83	11659 8,68	9132 7,58
	35	Qo Pe	33504 15,26	27628 14,17	22559 12,96	18236 11,7	14590 10,42	11548 9,17	9029 8,0
	40	Qo Pe	32790 16,31	27102 15,05	22191 13,71	17991 12,32	14433 10,93	11436 9,59	8917 8,34
	45	Qo Pe	32081 17,36	26577 15,94	21820 14,46	17740 12,94	14263 11,45	11305 10,03	
	50	Qo Pe	31362 18,5	26037 16,93	21428 15,31	17463 13,68	14060 12,09		
	55	Qo Pe	30801 18,13	25464 16,37	20997 15,37	17138 14,63			
ZZ15-60.30Y	30	Qo Pe	41663 16,79	34257 15,72	27884 14,54	22466 13,3	17916 12,01	14141 10,72	11038 9,43
	35	Qo Pe	40817 18,15	33625 16,85	27434 15,49	22164 14,09	17725 12,68	14017 11,29	10935 9,93
	40	Qo Pe	40000 19,41	33015 17,89	27001 16,34	21874 14,79	17538 13,26	13890 11,77	10819 10,36
	45	Qo Pe	39197 20,67	32413 18,94	26569 17,21	21577 15,51	17337 13,86	13741 12,29	
	50	Qo Pe	38393 22,05	31801 20,12	26121 18,21	21257 16,36	17104 14,59		
	55	Qo Pe	37572 23,67	31164 21,52	25637 19,43	20892 17,44			
	30	Qo Pe	49206 19,68	40455 18,37	32933 16,9	26544 15,32	21180 13,69	16728 12,08	13060 10,55
	35	Qo Pe	48212 21,28	39711 19,74	32403 18,05	26187 16,29	20952 14,51	16579 12,77	12935 11,13
	40	Qo Pe	47248 22,76	38990 20,98	31890 19,09	25841 17,15	20728 15,22	16425 13,36	12795 11,62
	45	Qo Pe	46301 24,24	38279 22,23	31378 20,14	25489 18,03	20490 15,96	16248 13,98	
ZZ25-84.42Y	50	Qo Pe	45357 25,86	37561 23,63	30852 21,34	25114 19,07	20218 16,85		
	55	Qo Pe	44400 27,77	36820 25,31	30293 22,83	24696 20,39			
	30	Qo Pe	61146 24,66	50100 22,93	40640 21,03	32639 19,01	25953 16,94	20427 14,84	15893 12,78
	35	Qo Pe	60106 26,87	49318 24,75	40082 22,52	32262 20,24	25712 17,96	20270 15,72	15761 13,56
	40	Qo Pe	59071 28,92	48537 26,42	39518 23,87	31877 21,33	25458 18,85	20095 16,46	15604 14,22
	45	Qo Pe	58042 31,01	47754 28,13	38948 25,26	31480 22,47	25188 19,78	19897 17,25	
	50	Qo Pe	57019 33,33	46969 30,07	38370 26,88	31070 23,82	24899 20,94		
	55	Qo Pe			46184 32,42	37784 28,91	30645 25,6		

① Suction gas temperature 20°C without liquid sub-cooling.

The performance refers to European standard EN12900 and with operation at 60Hz. For operation at 50HZ see page 16.

To calculate the performance in different operating points refer to the Frascold Selection Software.

All published data is subject to change.

This field requires limitation of the suction temperature.

Performance R22 [60 Hz] without liquid sub-cooling

Compressor	Cond. Temp. [°C]	Qo [W] = Cooling capacity Pe [kW] = Power consumption ①	Evaporating temperature [°C]						
			-20	-25	-30	-35	-40	-45	-50
S5-26.16Y	30	Qo Pe	14059 5,89	11341 5,46	9057 5,01	7159 4,54	5598 4,07	4325 3,6	3291 3,15
	35	Qo Pe	13434 6,29	10847 5,78	8676 5,27	6871 4,75	5384 4,23	4165 3,73	3166 3,26
	40	Qo Pe	12812 6,63	10355 6,06	8294 5,48	6579 4,91	5163 4,36	3995 3,83	3028 3,35
	45	Qo Pe	12193 6,95	9863 6,31	7909 5,68	6282 5,07	4934 4,48	3815 3,93	
	50	Qo Pe	11574 7,3	9368 6,59	7519 5,91	5977 5,25	4695 4,64		
	55	Qo Pe	10954 7,69	8870 6,93	7123 6,2	5664 5,5			
	30	Qo Pe	15152 6,44	12212 6,0	9740 5,51	7686 5,0	6000 4,48	4633 3,95	3534 3,45
	35	Qo Pe	14497 6,85	11696 6,34	9341 5,79	7383 5,23	5772 4,66	4459 4,11	3392 3,58
	40	Qo Pe	13839 7,19	11176 6,62	8938 6,02	7076 5,41	5539 4,81	4278 4,22	3243 3,67
	45	Qo Pe	13177 7,52	10651 6,89	8530 6,24	6763 5,58	5300 4,94	4091 4,33	
S7-27.19Y	50	Qo Pe	12509 7,87	10121 7,18	8115 6,48	6443 5,79	5053 5,12		
	55	Qo Pe	11835 8,28	9583 7,54	7693 6,8	6114 6,07			
	30	Qo Pe	21727 9,55	17593 8,87	14105 8,14	11197 7,36	8800 6,58	6847 5,82	5268 5,11
	35	Qo Pe	20787 10,23	16856 9,45	13540 8,61	10772 7,76	8484 6,9	6609 6,09	5077 5,33
	40	Qo Pe	19850 10,82	16120 9,94	12974 9,01	10346 8,08	8165 7,16	6366 6,29	4880 5,5
	45	Qo Pe	18908 11,39	15378 10,41	12401 9,4	9910 8,39	7836 7,41	6112 6,49	
	50	Qo Pe	17953 12,0	14622 10,93	11812 9,84	9457 8,76	7488 7,73		
	55	Qo Pe	16978 12,73	13844 11,57	11201 10,4	8980 9,26			
2V10-42-29Y	30	Qo Pe	21727 13,05	17593 12,16	14105 11,15	11197 10,08	8800 8,99	6847 7,91	5268 6,9
	35	Qo Pe	20787 13,97	16856 12,92	13540 11,79	10772 10,61	8484 9,42	6609 8,27	5077 7,21
	40	Qo Pe	19850 14,75	16120 13,57	12974 12,31	10346 11,03	8165 9,76	6366 8,54	4880 7,43
	45	Qo Pe	18908 15,5	15378 14,18	12401 12,82	9910 11,44	7836 10,09	6112 8,82	
	50	Qo Pe	17953 16,3	14622 14,87	11812 13,39	9457 11,93	7488 10,51		
	55	Qo Pe	16978 17,26	13844 15,71	11201 14,14	8980 12,6			
	30	Qo Pe	29840 15,51	24158 14,47	19359 13,35	15354 12,18	12056 10,99	9377 9,79	7228 8,6
	35	Qo Pe	28519 16,39	23129 15,34	18576 14,06	14770 12,76	11625 11,47	9052 10,2	6962 8,97
	40	Qo Pe	27207 17,51	22107 16,09	17796 14,65	14186 13,23	11190 11,84	8719 10,5	6685 9,24
	45	Qo Pe	25891 18,4	21076 16,8	17005 15,22	13587 13,68	10737 12,2	8365 10,81	
Z215-60.30Y	50	Qo Pe	24556 19,36	20023 17,59	16187 15,87	12959 14,22	10251 12,66		
	55	Qo Pe	23187 20,49	18933 18,56	15329 16,7	12287 14,95			
	30	Qo Pe	36309 15,51	29376 14,47	23529 13,35	18655 12,18	14641 10,99	11373 9,79	8737 8,6
	35	Qo Pe	34744 16,58	28149 15,34	22590 14,06	17952 12,76	14123 11,47	10987 10,2	8432 8,97
	40	Qo Pe	33190 17,51	26930 16,09	21654 14,65	17248 13,23	13597 11,84	10590 10,5	8111 9,24
	45	Qo Pe	31634 18,4	25704 16,8	20706 15,22	16526 13,68	13052 12,2	10168 10,81	
	50	Qo Pe	30060 19,36	24456 17,59	19732 15,87	15775 14,22	12470 12,66		
	55	Qo Pe	28455 20,49	23172 18,56	18717 16,7	14978 14,95			
	30	Qo Pe	42883 18,17	34691 16,9	27789 15,49	22041 14,0	17309 12,48	13454 10,98	10338 9,57
	35	Qo Pe	41038 19,43	33244 17,95	26681 16,37	21210 14,72	16694 13,08	12995 11,48	9975 10,0
Z220-72.36Y	40	Qo Pe	39204 20,52	31804 18,85	25574 17,09	20375 15,3	16071 13,54	12523 11,86	9593 10,3
	45	Qo Pe	37367 21,56	30356 19,7	24454 17,78	19522 15,87	15425 14,0	12022 12,23	
	50	Qo Pe	35513 22,68	28885 20,65	23306 18,58	18637 16,54	14741 14,57		
	55	Qo Pe	33626 24,01	27377 21,81	22116 19,61	17705 17,45			
	30	Qo Pe	53289 22,79	42961 21,1	34293 19,29	27103 17,39	21209 15,45	16429 13,5	12581 11,59
	35	Qo Pe	51162 24,56	41287 22,53	33004 20,44	26131 18,31	20487 16,2	15888 14,14	12154 12,18
	40	Qo Pe	49014 26,12	39591 23,76	31692 21,39	25135 19,05	19739 16,78	15321 14,62	11699 12,61
	45	Qo Pe	46843 27,65	37870 24,97	30353 22,34	24111 19,79	18962 17,37	14723 15,11	
	50	Qo Pe	44644 29,33	36120 26,33	28985 23,44	23057 20,7	18153 18,14		
	55	Qo Pe	42415 31,32	34340 28,03	27585 24,89	21969 21,96			

① Suction gas temperature 20°C without liquid sub-cooling.

The performance refers to European standard EN12900 and with operation at 60Hz. For operation at 50HZ see page 17.

To calculate the performance in different operating points refer to the Frascold Selection Software.

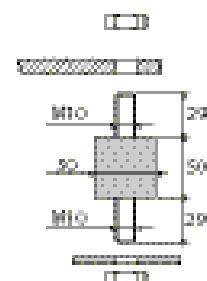
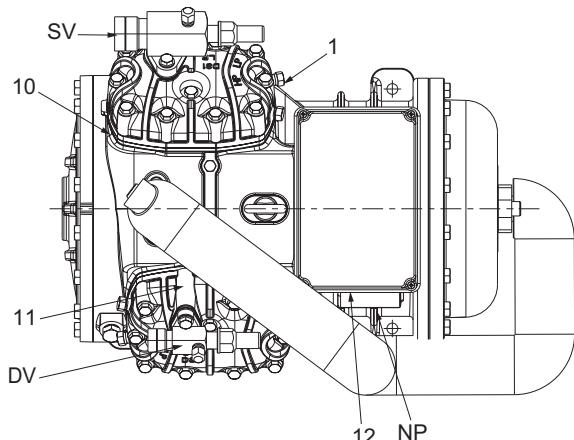
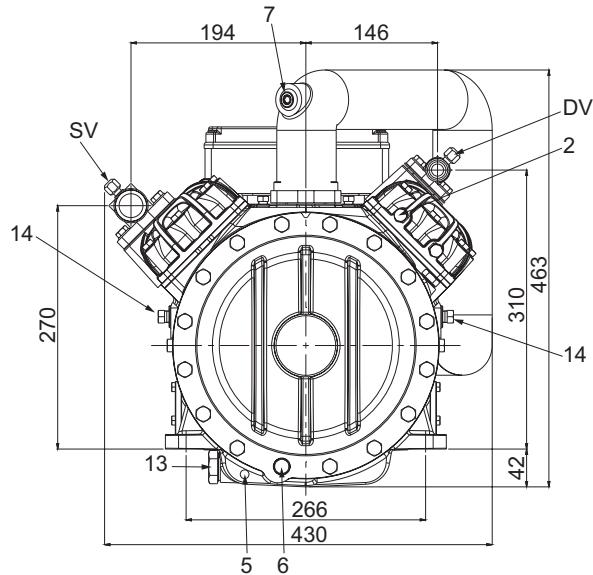
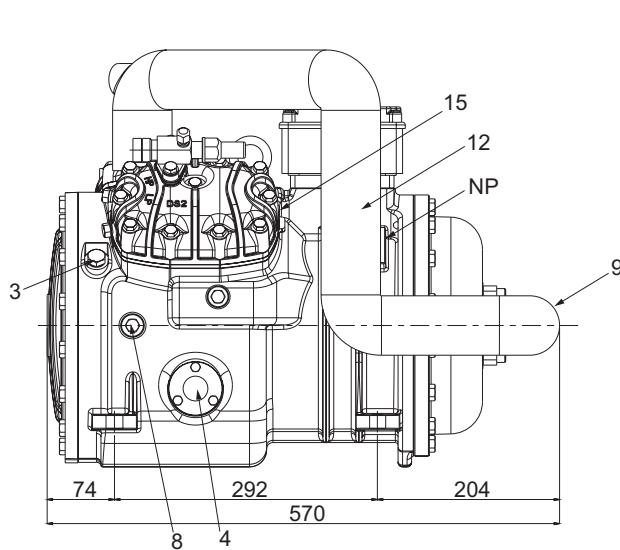
All published data is subject to change.

This field requires limitation of the suction temperature.

Two stage semi-hermetics reciprocating compressors

Dimensionali drawings

Series **S**



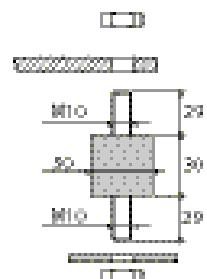
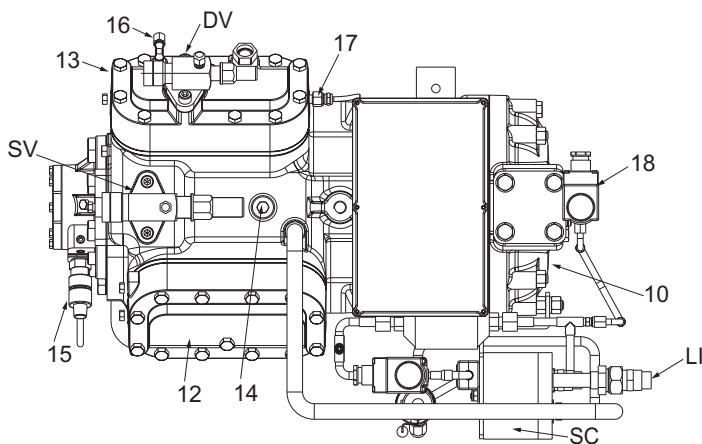
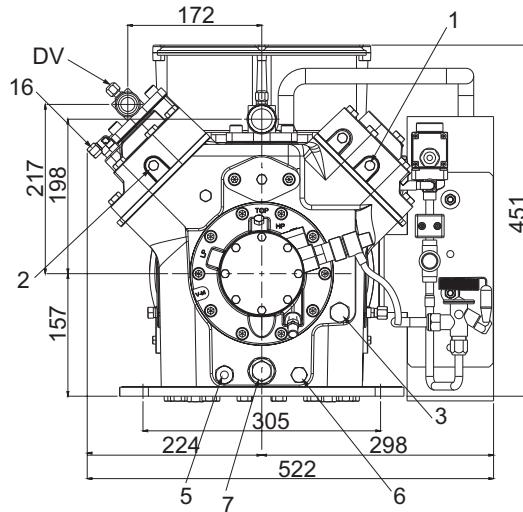
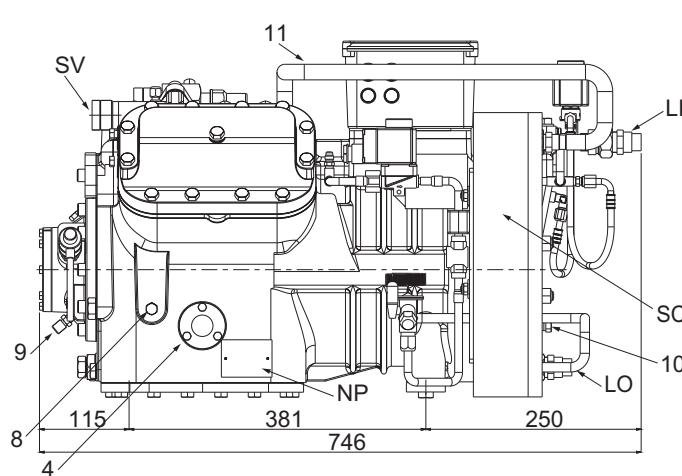
Vibration absorber

1	Low pressure plug	$\frac{1}{8}$ " NPT
2	High pressure plug	$\frac{1}{8}$ " NPT
3	Oil charge plug	$\frac{1}{4}$ " GAS
4	Oil level sight glass	
5	Crankcase heater seat	
6	Oil drain plug	
7	Connection for liquid injection thermostatic valve	
8	Oil return plug	$\frac{1}{4}$ " NPT
9	1st-2nd stage collector	
10	1st stage head	
11	2nd stage head	
12	Intermediate pressure coupling	$\frac{1}{4}$ " NPT
13	Magnetic plug	
14	Coupling for the thermostatic valve equalisation line	$\frac{1}{4}$ " NPT
28	Discharge gas temperature sensor	
SV	Suction valve	ODS 1 $\frac{3}{8}$ 35 mm
DV	Discharge valve	ODS $\frac{1}{6}$ " 22 mm
NP	Nameplate	

Two stage semi-hermetics reciprocating compressors

Dimensionali drawings
With liquid sub-cooling

Series **2V**



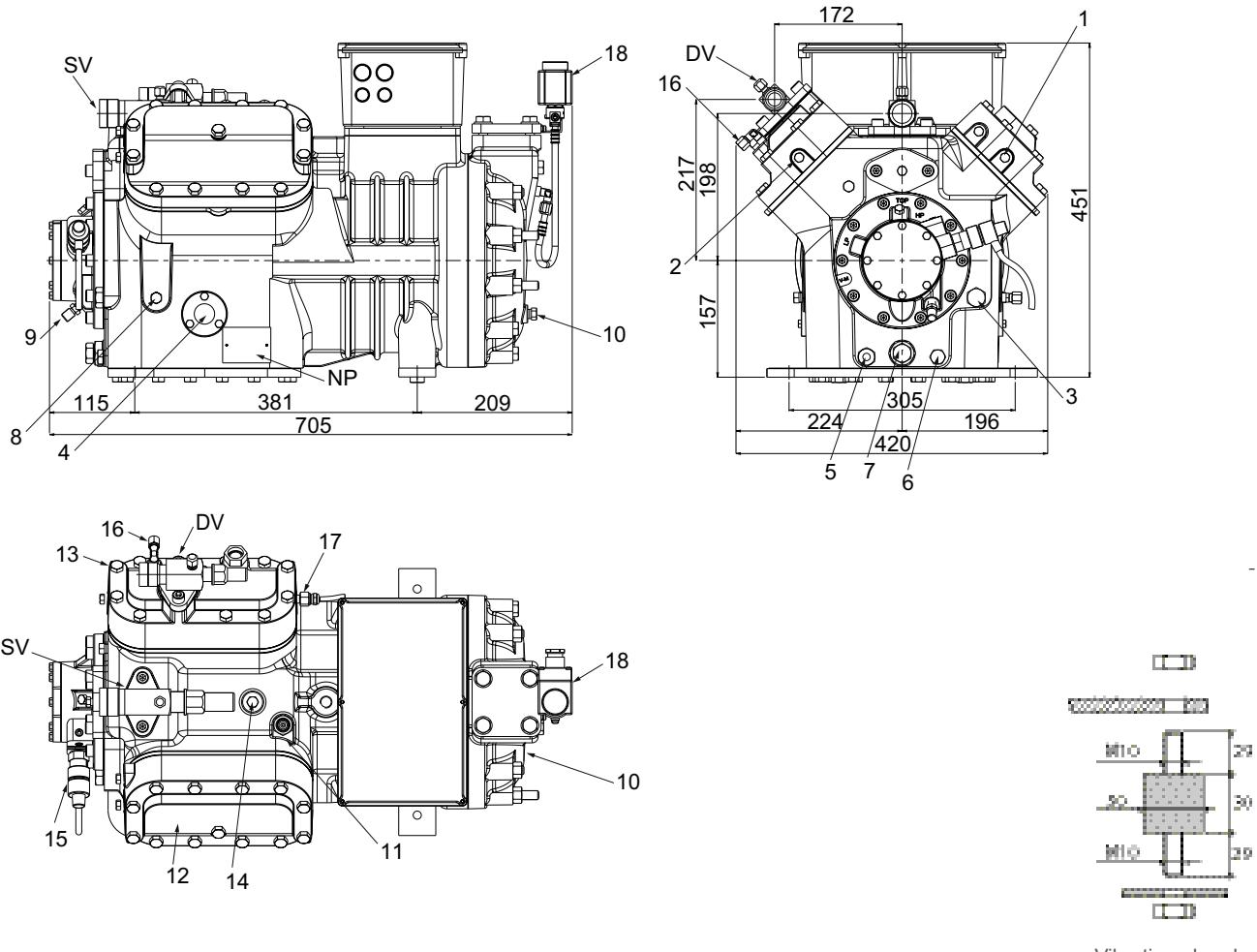
Vibration absorber

1	Low pressure plug	$\frac{1}{8}$ " NPT
2	High pressure plug	$\frac{1}{8}$ " NPT
3	Oil charge plug	$\frac{3}{8}$ " GAS
4	Oil level sight glass	
5	Crankcase heater seat	
6	Oil drain plug	
7	Oil filter	
8	Oil low pressure plug	$\frac{1}{4}$ " SAE
9	Oil high pressure plug	$\frac{1}{4}$ " SAE
10	Oil return plug	$\frac{1}{4}$ " NPT
11	1st-2nd stage liquid injection collector	
12	1st stage head	
13	2nd stage head	
14	Intermediate pressure coupling	$\frac{1}{4}$ " NPT
15	Oil electronic pressure switch	
16	Coupling for the thermostatic valve equalisation line	$\frac{1}{4}$ " SAE
17	Discharge gas temperature sensor	
18	Liquid injection valve	
SV	Suction valve	ODS 1 $\frac{3}{8}$ 35 mm
DV	Discharge valve	ODS 1 $\frac{1}{8}$ 28,6 mm
SC	Liquid sub-cooler	
LI	Sub-cooler liquid inlet	
LO	Sub-cooler liquid outlet	
NP	Nameplate	

Two stage semi-hermetics reciprocating compressors

Dimensional drawings
Without liquid sub-cooling

Series **2V**



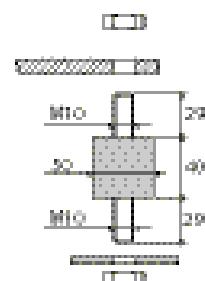
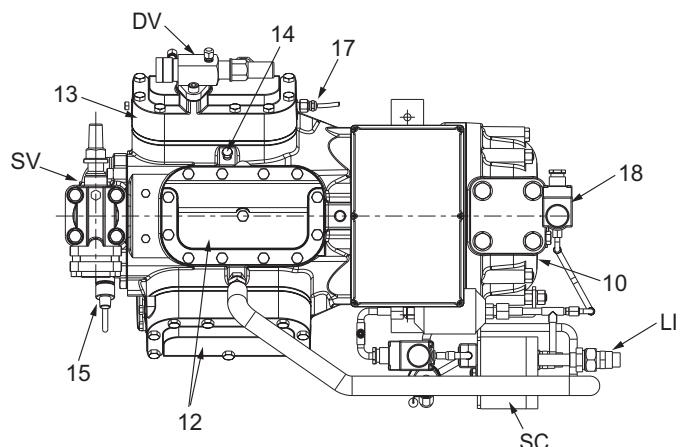
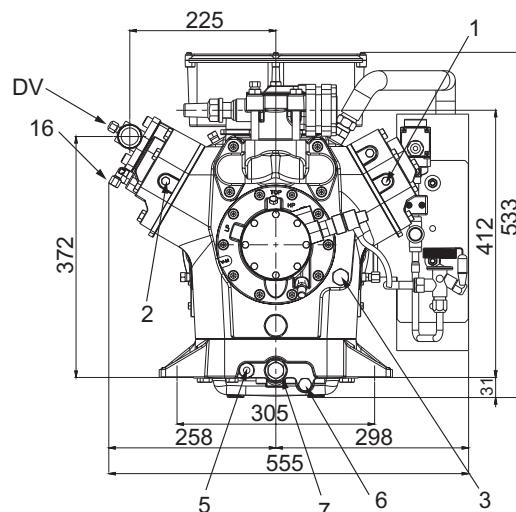
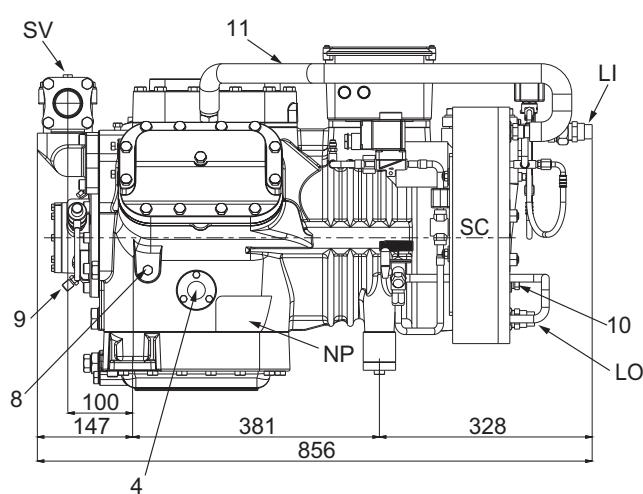
Vibration absorber

1	Low pressure plug	$\frac{1}{8}$ " NPT
2	High pressure plug	$\frac{1}{8}$ " NPT
3	Oil charge plug	$\frac{3}{8}$ " GAS
4	Oil level sight glass	
5	Crankcase heater seat	
6	Oil drain plug	
7	Oil filter	
8	Oil low pressure plug	$\frac{1}{4}$ " SAE
9	Oil high pressure plug	$\frac{1}{4}$ " SAE
10	Oil return plug	$\frac{1}{4}$ " NPT
11	1st-2nd stage liquid injection collector	$\frac{3}{8}$ " SAE
12	1st stage head	
13	2nd stage head	
14	Intermediate pressure coupling	$\frac{1}{4}$ " NPT
15	Oil electronic pressure switch	
16	Coupling for the thermostatic valve equalisation line	$\frac{1}{4}$ " SAE
17	Discharge gas temperature sensor	
18	Liquid injection valve	
SV	Suction valve	ODS 1 $\frac{3}{8}$ 35 mm
DV	Discharge valve	ODS 1 $\frac{1}{8}$ 28,6 mm
NP	Nameplate	

Two stage semi-hermetics reciprocating compressors

Dimensional drawings With liquid sub-cooling

Series 2Z



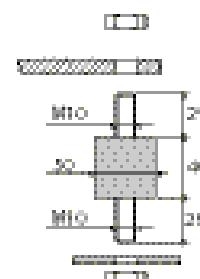
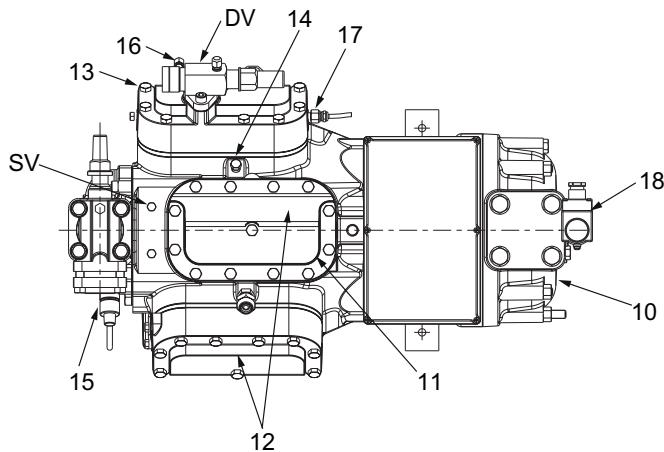
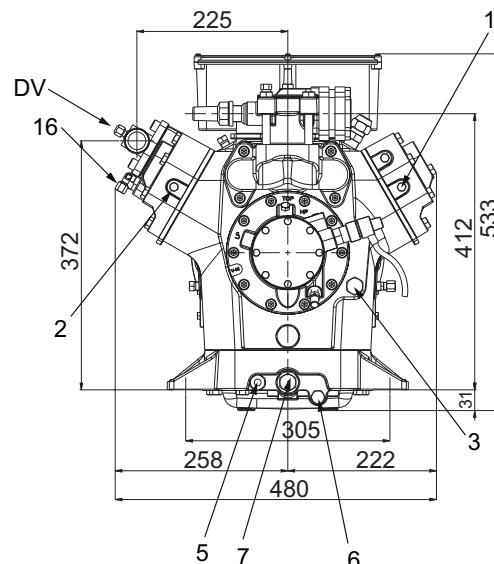
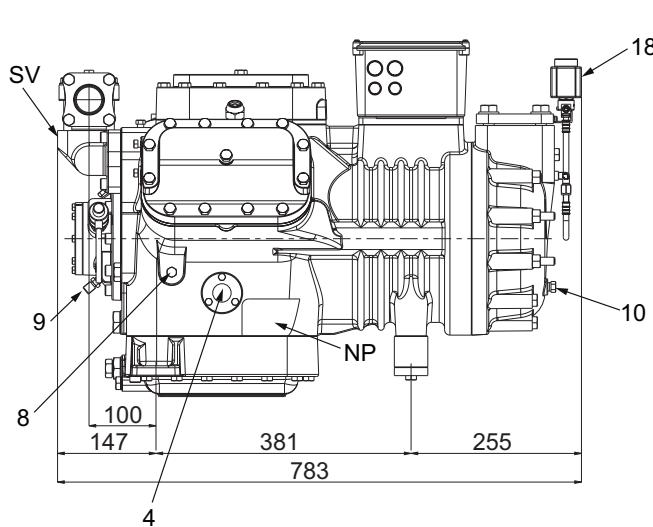
Vibration absorber

1	Low pressure plug	1/8" NPT
2	High pressure plug	1/8" NPT
3	Oil charge plug	3/8" GAS
4	Oil level sight glass	
5	Crankcase heater seat	
6	Oil drain plug	
7	Oil filter	
8	Oil low pressure plug	1/4" SAE
9	Oil high pressure plug	1/4" SAE
10	Oil return plug	1/4" NPT
11	1st-2nd stage liquid injection collector	
12	1st stage head	
13	2nd stage head	
14	Intermediate pressure coupling	1/4" NPT
15	Oil electronic pressure switch	
16	Coupling for the thermostatic valve equalisation line	1/4" SAE
17	Discharge gas temperature sensor	
18	Liquid injection valve	
SV	Suction valve 2Z15, 2Z20, 2Z25 models	ODS 1" 5/8 42 mm
SV	Suction valve 2Z30 model	ODS 1" 5/8 42 mm
DV	Discharge valve 2Z15, 2Z20, 2Z25 models	ODS 1" 3/8 35 mm
DV	Discharge valve 2Z30 model	ODS 2" 1/8 54 mm
SC	Liquid sub-cooler	
LI	Sub-cooler liquid inlet	
LO	Sub-cooler liquid outlet	
NP	Nameplate	

Two stage semi-hermetics reciprocating compressors

Dimensionali drawings Without liquid sub-cooling

Series **2Z**

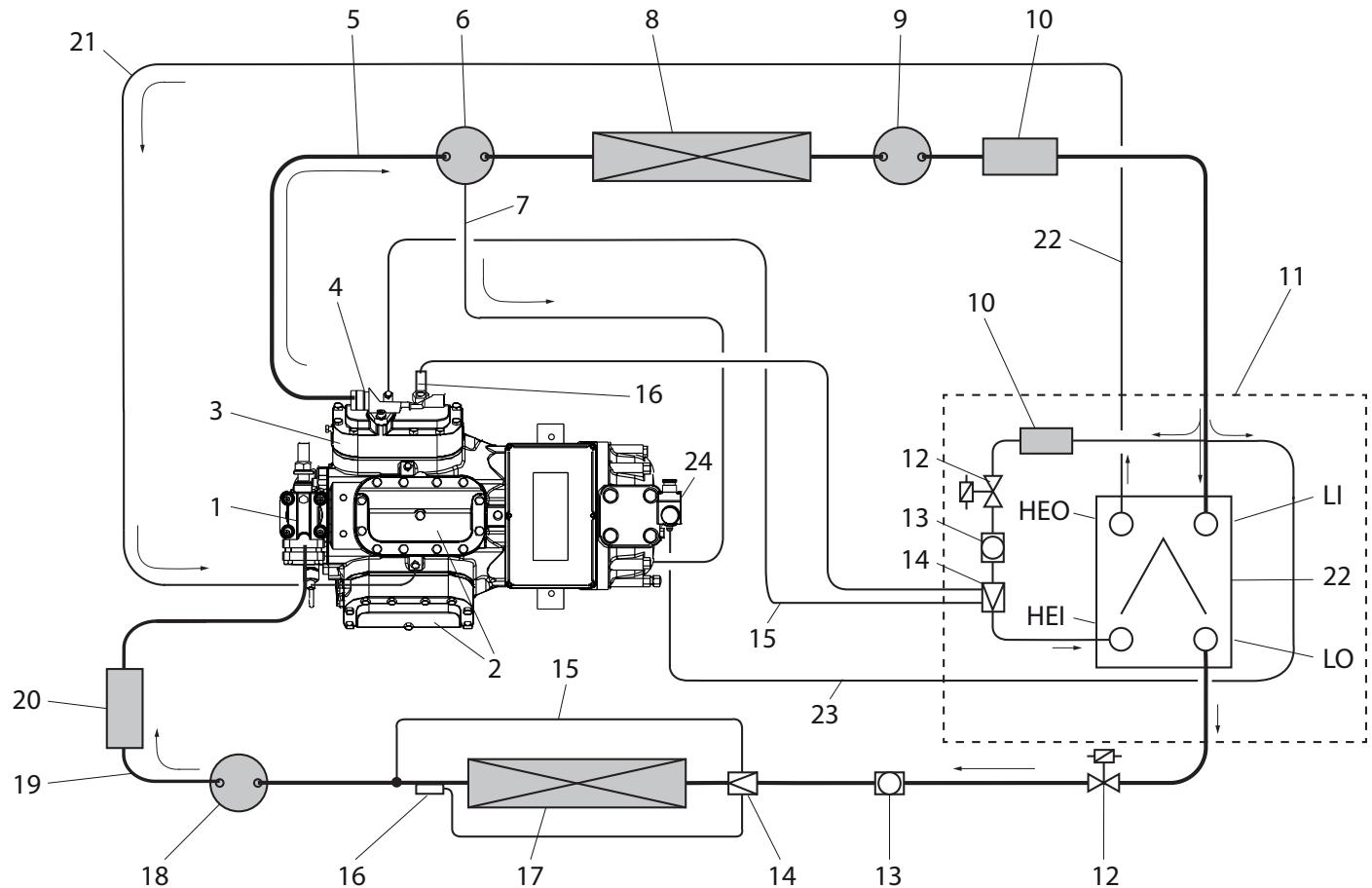


Vibration absorber

1	Low pressure plug	$\frac{1}{8}$ " NPT
2	High pressure plug	$\frac{1}{8}$ " NPT
3	Oil charge plug	$\frac{3}{8}$ " GAS
4	Oil level sight glass	
5	Crankcase heater seat	
6	Oil drain plug	
7	Oil filter	
8	Oil low pressure plug	$\frac{1}{4}$ " SAE
9	Oil high pressure plug	$\frac{1}{4}$ " SAE
10	Oil return plug	$\frac{1}{4}$ " NPT
11	1st-2nd stage liquid injection collector	$\frac{5}{8}$ " SAE
12	1st stage head	
13	2nd stage head	
14	Intermediate pressure coupling	$\frac{1}{4}$ " NPT
15	Oil electronic pressure switch	
16	Coupling for the thermostatic valve equalisation line	$\frac{1}{4}$ " SAE
17	Discharge gas temperature sensor	
18	Liquid injection valve	
SV	Suction valve 2Z15, 2Z20, 2Z25 models	ODS 1 $\frac{5}{8}$ 42 mm
SV	Suction valve 2Z30 model	ODS 1 $\frac{5}{8}$ 42 mm
DV	Discharge valve 2Z15, 2Z20, 2Z25 models	ODS 1 $\frac{5}{8}$ 35 mm
DV	Discharge valve 2Z30 model	ODS 2 $\frac{1}{2}$ 54 mm
NP	Nameplate	

Two stage semi-hermetics reciprocating compressors

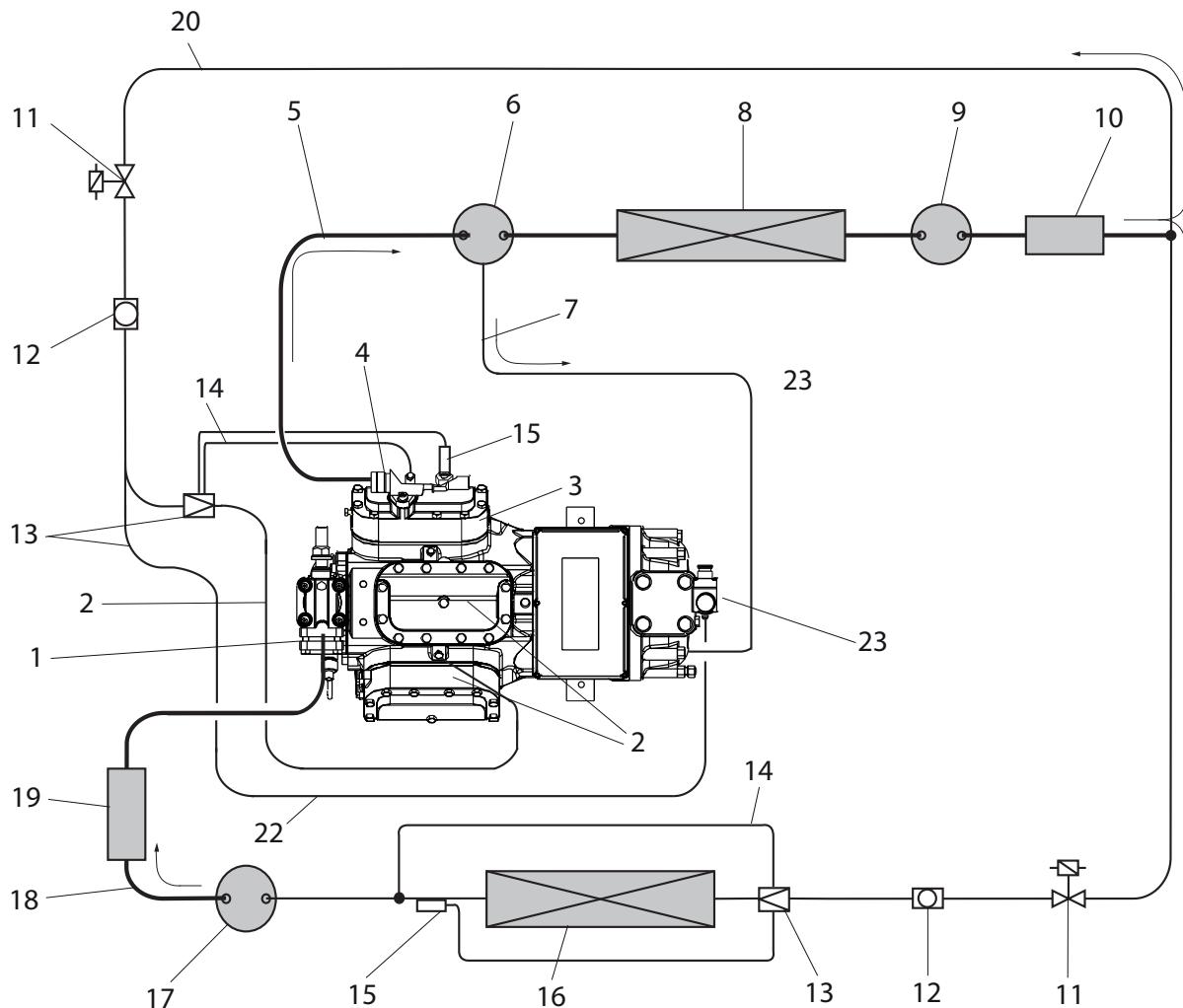
Cooling system diagram with liquid sub-cooling



- ① Suction valve
- ② 1st stage compressor head
- ③ 2nd stage compressor head
- ④ Discharge valve
- ⑤ Discharge line
- ⑥ Oil separator
- ⑦ Compressor oil return line
- ⑧ Condenser
- ⑨ Liquid receiver
- ⑩ Dehydrating filter
- ⑪ Liquid sub-cooling kit
- ⑫ Solenoid valve
- ⑬ Liquid indicator
- ⑭ Thermostatic expansion valve

- ⑯ Thermostatic valve balance line
- ⑯ Thermostatic expansion valve bulb
- ⑰ Evaporator
- ⑱ Liquid separator
- ⑲ Suction line
- ⑳ Suction filter
- ㉑ Liquid injection line between 1st and 2nd stage
- ㉒ Liquid sub-cooling exchanger
- ㉓ Motor cooling liquid injection line
- ㉔ Motor cooling liquid injection valve
- LI Liquid inlet
- LO Liquid outlet
- HEI Exchanger inlet
- HEO Exchanger outlet

Cooling system diagram without liquid sub-cooling



- ① Suction valve
- ② 1st stage compressor head
- ③ 2nd stage compressor head
- ④ Discharge valve
- ⑤ Discharge line
- ⑥ Oil separator
- ⑦ Compressor oil return line
- ⑧ Condenser
- ⑨ Liquid receiver
- ⑩ Dehydrating filter
- ⑪ Solenoid valve
- ⑫ Liquid indicator
- ⑬ Thermostatic expansion valve

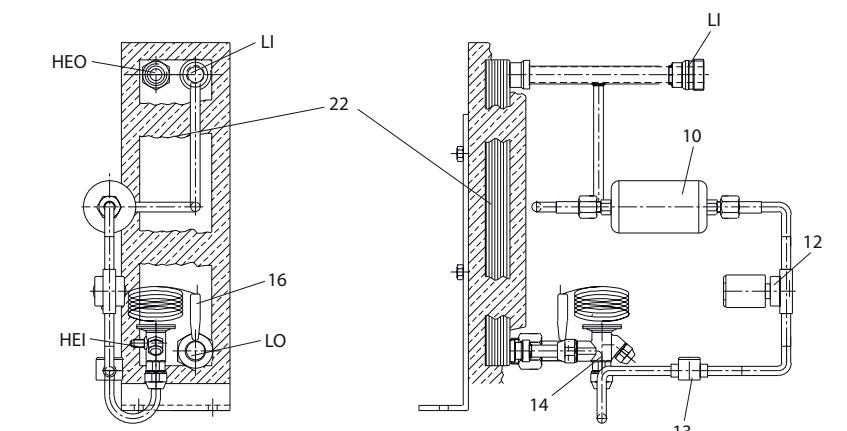
- ⑭ Thermostatic valve balance line
- ⑮ Thermostatic expansion valve bulb
- ⑯ Evaporator
- ⑰ Liquid separator
- ⑱ Suction line
- ⑲ Suction filter
- ⑳ Injection liquid line
- ㉑ Liquid injection line between 1st and 2nd stage
- ㉒ Motor cooling liquid injection line
- ㉓ Motor cooling liquid injection valve

Two stage semi-hermetics reciprocating compressors

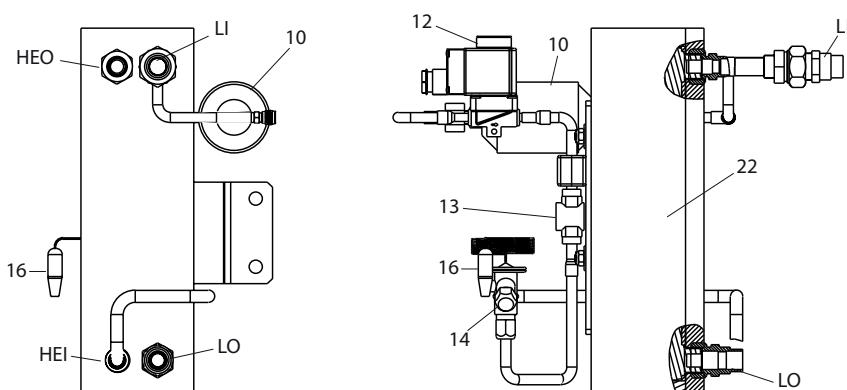
Liquid sub-cooling kit

Models	Code	Connections		
		LI Liquid inlet	LO Liquid outlet	HEO Exchanger outlet
R404a - R507 Refrigerant				
S5-26.16Y	T00SK300210	18 mm	18 mm	$\frac{3}{8}$ ODS
S7-27.19Y	T00SK300220	18 mm	18 mm	$\frac{3}{8}$ ODS
2V10-42.29Y	T00SK300330	18 mm	18 mm	$\frac{3}{8}$ ODS
2Z15-60.30Y	T00SK310325	18 mm	18 mm	$\frac{5}{8}$ ODS
2Z20-72.36Y	T00SK310310	18 mm	18 mm	$\frac{5}{8}$ ODS
2Z25-84.42Y	T00SK310310	18 mm	18 mm	$\frac{5}{8}$ ODS
2Z30-102.51Y	T00SK310335	22 mm	18 mm	$\frac{5}{8}$ ODS
R22 Refrigerant				
S5-26.16Y	T00SK300110	18 mm	18 mm	$\frac{3}{8}$ ODS
S7-27.19Y	T00SK300110	18 mm	18 mm	$\frac{3}{8}$ ODS
2V10-42.29Y	T00SK305110	18 mm	18 mm	$\frac{3}{8}$ ODS
2Z15-60.30Y	T00SK310315	18 mm	18 mm	$\frac{5}{8}$ ODS
2Z20-72.36Y	T00SK310315	18 mm	18 mm	$\frac{5}{8}$ ODS
2Z25-84.42Y	T00SK310320	18 mm	18 mm	$\frac{5}{8}$ ODS
2Z30-102.51Y	T00SK310330	18 mm	18 mm	$\frac{5}{8}$ ODS

Series **S**



Series **2V-2Z**



10	Dehydrating filter
12	Solenoid valve
13	Liquid indicator
14	Thermostatic expansion valve
16	Thermostatic expansion valve bulb
22	Liquid sub-cooling
HEI	Exchanger inlet
HEO	Exchanger outlet
LI	Liquid inlet
LO	Liquid outlet



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