www.snowman.cn/en

Version Number: C-RC14-EN-V1.0

雪人集团 SNOWMAN GROUP 25TH

Official LinkedIn

Sales Network

FUJIAN SNOWMAN GROUP CO., LTD.

Address: No. 8 Dongjiang West Road, Changle District, Fuzhou, Fujian, China.

Tel: +86 (591) 2870 1111

Fax: +86 (591) 2870 9222

E-mail: info@snowman.cn

www.snowman.cn/en

RefComp

Screw Compressor

134-S Series Semi-hermetic Compact Screw Compressor

Global Service Hotline
400-109-6660

CONTENT

Structural Diagram of 134-S Series Semi-hermetic Compact Screw Compressor

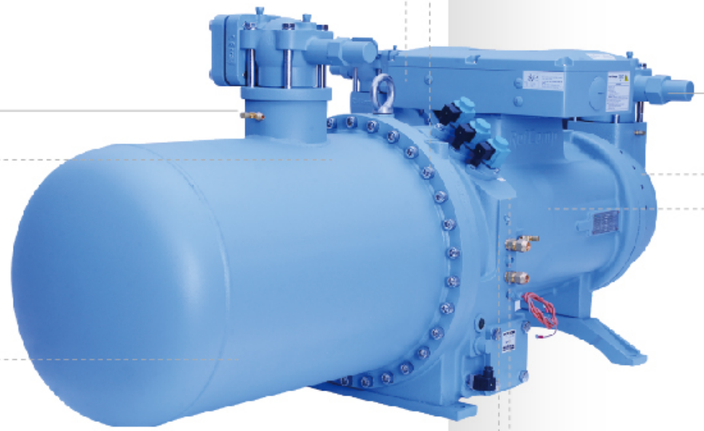
The 134-S series compressor is a dedicated compressor for R134a and is also suitable for HFO refrigerants such as R1234yf and R1234ze. It has a discharge capacity range of 270~1100 m³/h (@2960 rpm) and a rated power range of 60~390 HP. This series of compressors features a compact structure, low noise, low vibration, high efficiency, and a complete range of models. They are widely used in many fields such as air conditioning, refrigeration, and process cooling water. Different configurations are available for various applications, including heat pumps and chiller units, meeting the needs of manufacturers for producing advanced refrigeration or heat pump units.

Compressor body

- Optimized intake air passage design reduces intake resistance while fully cooling the motor.
- Straight-through middle passage reduces pressure loss. low exhaust pressure loss and low consumption.
- Highly integrated with filters, check valves, temperature sensors, and other components, the machine has a compact size and effectively improves equipment reliability.

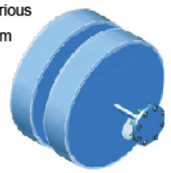
Motor protection

- INT69 SNY protection module, protection against high motor temperature, reverse phase, and phase loss.
- 6 series-connected PTC thermistors protect the motor from normal operation.
- System operation information tracking, real-time feedback on the operating status of the motor and the system.



Safety valve

- The machine body features an integrated safety valve design, connecting the high-pressure and low-pressure sides, dynamically regulating internal pressure and precisely maintaining it within the preset safety value.
- High sensitivity and sealed structure design ensure timely full opening, stable discharge, and prompt reseating, providing the overall system with excellent adaptability to various working conditions and long-term stable operation.

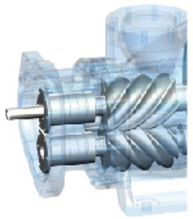


Internal oil separator

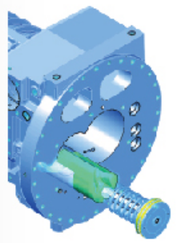
- Built-in oil separator with low-noise design, multi-stage separation, and multi-layer oil mist filter.
- Embedded structure to reduce the volume of the compressor, ensuring that internal components such as bearings and rotors have lubricating oil, while also preventing lubricating oil from entering the refrigeration system.

Bearings

- Combination of multiple bearings guarantee high load capacity, high wear resistance, low noise and extend service life.
- High wear resistance and special linear raceway design ensure a lifespan of 40,000 hours.



Cooling capacity control



- Adjust the refrigeration capacity based on operating load to achieve stepless or step energy control.
- Step regulation includes start & unload refrigeration level, 50% refrigeration level, 75% refrigeration level, and 100% refrigeration level, meeting the system's refrigeration requirements to a large extent.
- The slide valve is located between the housing and the rotor, with a reasonable and compact design, and superior sealing performance.
- Reasonable discharge port structure design effectively improves radial discharge efficiency.

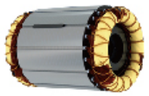
Shut-off valve

- Internal discharge check valve features low resistance, effectively preventing refrigerant backflow during shutdown.
- Suction and discharge valve can be rotated 360°, offering convenient installment and compact, flexible design.

Suction filter

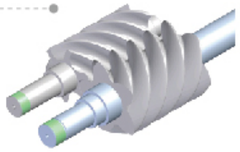
- Internal delicate suction filter effectively filters the impurities from the refrigerant gases and protects the motor.

Motor



- Partial winding or Y-Δ starting, low starting current.
- Available with variable frequency motors for vector control.
- ASpecial materials that are compatible with R404A, R507A, R410A, and other refrigerants.
- Special materials that are compatible with R404A, R507A, R410A, and other refrigerants.
- Special structure design and spatial layout together with the refrigerant gas flowing from the suction stop valve to the screw suction side effectively cool the motor and ensure the suction superheat.

Rotor



- RefComp's proprietary design of asymmetric screw rotor profile optimizes the compression process.
- The rotor has high rigidity and efficiency, core technology ensures stable and reliable operation, while reducing airflow pulsation and noise., reaching a higher level compared to similar models.

Model Description

Compressor	134	-S	-071	R	-L	4
	134	-S	-300	W	-Y	Z

Type of Compressor	
134	R134a specialized semi-hermetic compressor

Series	
S	S series screw compressor
071	specification code
300	

Built-in Volume Ratio Vi	
R	Vi=4.4
S	Vi=3.2 (S omitted)
L	Vi=2.6 (water-cooled compressor)
W	Vi=2.2
SL	Vi=3.2-2.6 (Adjustable) (134-S-240/270/300)
LW	Vi=2.6-2.2 (Adjustable) (134-S-240/270/300)

Electrical accessories	
L	220V AC
M	110V AC
Y	24V AC

Energy control	
4	4-Step
Z	stepless

Technical Parameters

Model				071	081	091	101	110	120	140
Displacement 50/60[Hz]			m³/h	270/324	307/368	344/413	380/456	413/496	480/576	560/672
Weight			Kg	510	518	532	538	660	670	680
Oil charge			dm³	11	11	11	11	17	17	17
Oil heater				200W-230V-50/60Hz						
Inner diameter of suction pipe Ø/ pipe connection size			mm/ inch	54.1/ 2 1/8"	54.1/ 2 1/8"	54.1/ 2 1/8"	67/ 2 5/8"	80/ 3 1/8"	80/ 3 1/8"	80/ 3 1/8"
Inner diameter of discharge pipe Ø/ pipe connection size			mm/ inch	80/ 3 1/8"	80/ 3 1/8"	92.5/ 3 5/8"	92.5/ 3 5/8"	105.5/ 4 1/8"	105.5/ 4-1/8"	105.5/ 4 1/8"
Capacity regulation				134-S: stepped: full load, 75%, 50%, minimum or stepless: full load ··· minimum						
Motor protection module				INT69 SNY						
Lubricating oil				S002(exceptVi=2.2), S003(Vi=2.2)						
Standard motor(1)				400V/3/50Hz - 460V/3/60Hz						
Y/△	134-S-W	Start current	LRA Y	A	138	159	193	254	224	280	280
			LRA△	A	422	459	580	770	693	842	842
		Maximum start current	FLA	A	107	111	123	131	156	174	199
	134-S/134-S-L	Start current	LRA Y	A	159	193	254	254	318	361	361
			LRA△	A	459	580	770	770	953	1095	1095
		Maximum start current	FLAL	A	118	132	148	156	182	202	228
	134-S-R	Start current	RA Y	A	-	254	254	-	361	403	403
			LRA△	A	-	770	770	-	1095	1208	1208
		Maximum start current	FLA	A	-	142	160	-	203	230	263

Model				160	180	210	220	240	270	300
Displacement 50/60[Hz]			m³/h	640/768	720/864	805/966	850/1020	910/1092	1000/1200	1100/1320
Weight			Kg	930	940	950	980	1330	1350	1390
Oil charge			dm³	23	23	23	23	25	25	25
Oil heater				275W-230V-50/60Hz						
Inner diameter of suction pipe Ø/ pipe connection size			mm/ inch	80.0/ 3 1/8"	80.0/ 3 1/8"	80.0/ 3 1/8"	80.0/ 3 1/8"	105.5/ 4 1/8"	105.5/ 4 1/8"	105.5/ 4 1/8"
Inner diameter of discharge pipe Ø/ pipe connection size			mm/ inch	105.5/ 4 1/8"	105.5/ 4 1/8"	105.5/ 4 1/8"	105.5/ 4 1/8"	134.8/Ø133	134.8/Ø133	134.8/Ø133
Capacity regulation				134-S: stepped: full load, 75%, 50%, minimum or stepless: full load ··· minimum						
Motor protection module				INT69 SNY						
Lubricating oil				S002(exceptVi=2.2), S003(Vi=2.2)						
Standard motor(1)				400V/3/50Hz - 460V/3/60Hz						
Y/△	134-S-W	Start current	LRA Y	A	354	374	453	543	551	703	791
			LRA△	A	1064	1155	1333	1645	1667	2109	2390
		Maximum start current	FLA	A	229	254	266	276	330	367	402
	134-S/134-S-L	Start current	LRA Y	A	374	453	543	595	703	783	876
			LRA△	A	1155	1333	1645	1802	2109	2348	2627
		Maximum start current	FLAL	A	260	295	310	335	400	435	490
	134-S-R	Start current	RA Y	A	453	543	595	-	783	876	1062
			LRA△	A	1333	1645	1802	-	2348	2627	3186
		Maximum start current	FLA	A	299	341	366	-	446	501	569

(1) Voltage error ± 10%

Product Supply

Standard configuration			
Item	accessories	134-S/XS	134-S-W/L/R
1	refrigerant oil for R134a only: S002 (except Vi=2.2), S003 (Vi=2.2)	√	√
2	compressor body	√	√
3	discharge shut-off valve	√	√
4	check valve	√	√
5	suction side welding connection	√	√
6	6 thermistors and electronic modules embedded in the motor winding group (monitoring motor and oil temperature, motor rotation direction, phase fault)	√	√
7	IP54 terminal box	√	√
8	400V ±10% -3-50Hz / 460V ±10% -3-60Hz motor (starting method can be referred to section SA-05 "Electrical Equipment")	√	√
9	electrical equipment 230V-1-50/60Hz	√	√
10	nitrogen purging	√	√
11	rubber vibration damper	√	√
12	built-in safety valve	√	√
13	built-in oil separator （with flange)	√	√
14	oil sight glass	√	√
15	oil filter	√	√
16	oil heater	√	√
17	stepped or stepless capacity control unit (SRC-XS series compressors only provide step capacity control units)	√	√
18	volume control slide(Vi)	3.2	2.2/2.6/4.4
Optional accessories			
1	Suction shut-off valve	√	√
2	Electric motor with special voltage	√	√
3	S series with selectable built-in volume ratio (refer to "Model Naming and Technical Parameters" in EA06)	L/SL	
4	Electrical accessories with voltage different from standard voltage	√	√
5	Liquid injection connector	√	√
6	Economizer connector with shut-off valve	√	√
7	Direct on-line (D.O.L)	√	√
8	Photoelectric oil level sensor	√	√
9	Stepless capacity regulation conversion device	√	√
10	Oil flow switch	√	√

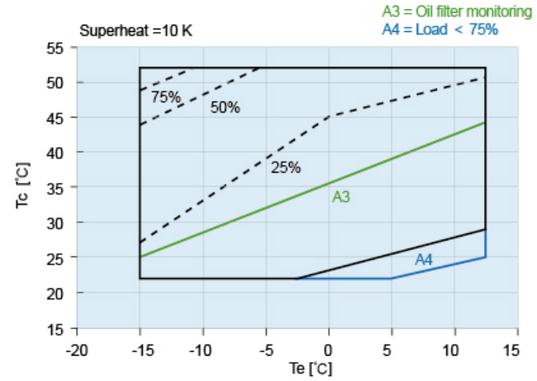
Note: 1. "√" indicates provided

2. If optional accessories are needed, please note when ordering.

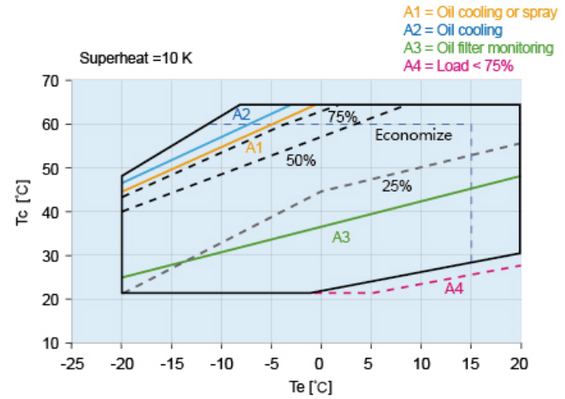
3.If special suction and discharge pipes are required, please select according to the table below, it is recommended to prioritize the selection of standard connections for smooth delivery.

Application Range

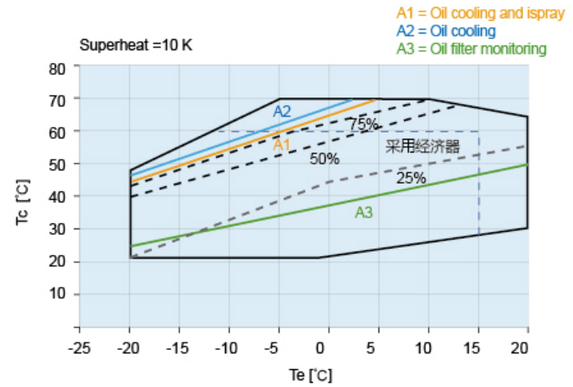
134-S(W) Series



134-S and 134-S(L) series



134-S(R) Series



134-S Performance Parameters

Model	134-S(W)		
	Te = 5 [℃]; Tcond = 38 [℃]		
	Q_o [kW]	Pa [kW]	COP
134-S(W)-071	199.1	39.8	5.00
134-S(W)-081	218	44.3	4.92
134-S(W)-091	241.7	49.6	4.87
134-S(W)-101	260.3	53.3	4.89
134-S(W)-110	300.3	55.6	5.4
134-S(W)-120	343.7	64.7	5.32
134-S(W)-140	393.4	74.7	5.27
134-S(W)-160	465.9	86.8	5.37
134-S(W)-180	525.2	98.3	5.35
134-S(W)-210	560	104.7	5.35
134-S(W)-220	592.6	110.9	5.34
134-S(W)-240	652.9	122.8	5.32
134-S(W)-270	737.2	138.7	5.32
134-S(W)-300	823.1	154.8	5.32

Model	134-S(L)		
	Te = 2 [℃]; Tcond = 45 [℃]		
	Q_o [kW]	Pa [kW]	COP
134-S(L)-071	148.5	44.5	3.34
134-S(L)-081	167.5	49.4	3.39
134-S(L)-091	187.6	55.3	3.39
134-S(L)-101	201.9	59.4	3.40
134-S(L)-110	244.6	67.1	3.65
134-S(L)-120	275.2	74.2	3.71
134-S(L)-140	317.4	84.7	3.75
134-S(L)-160	369.3	100.2	3.69
134-S(L)-180	418.1	112.2	3.73
134-S(L)-210	446.8	118.7	3.76
134-S(L)-220	471.7	126.5	3.73
134-S(L)-240	522.3	139.4	3.75
134-S(L)-270	589.8	155.8	3.79
134-S(L)-300	658.5	176.9	3.72

Model	134-S		
	Te = 2 [℃]; Tcond = 50 [℃]		
	Q_o [kW]	Pa [kW]	COP
134-S-071	139.7	47.7	2.93
134-S-081	158.3	53.1	2.98
134-S-091	178.2	59.6	2.99
134-S-101	192	64.2	2.99
134-S-110	231.3	72.3	3.2
134-S-120	260.3	80	3.25
134-S-140	300.2	91.2	3.29
134-S-160	349.2	108	3.23
134-S-180	395.3	120.9	3.27
134-S-210	422.5	127.9	3.3
134-S-220	446	136.4	3.27
134-S-240	493.9	150.2	3.29
134-S-270	557.7	167.8	3.32
134-S-300	622.7	190.6	3.27

Model	134-S(R)		
	Te = -5 [℃]; Tcond = 53 [℃]		
	Q_o [kW]	Pa [kW]	COP
134-S(R)-081	105.7	51.1	2.07
134-S(R)-091	120.4	57	2.11
134-S(R)-110	162.7	72.4	2.25
134-S(R)-120	185.9	78.7	2.36
134-S(R)-140	214.4	89.8	2.39
134-S(R)-160	245.2	106.8	2.3
134-S(R)-180	282.3	119	2.37
134-S(R)-210	301.7	125.8	2.4
134-S(R)-240	346.8	148.6	2.33
134-S(R)-270	398.3	165.1	2.41
134-S(R)-300	444.7	187.5	2.37

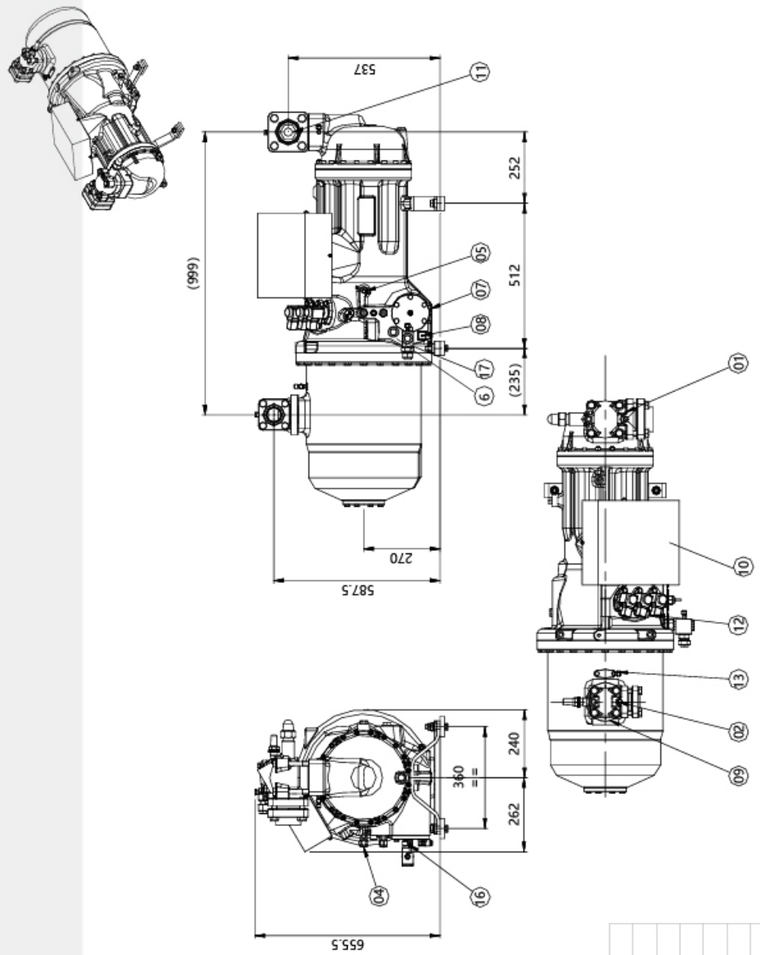
Note:

Q_o=cooling capacity [kW] PA=input power[kW] Te=evaporating temperature[℃, DEW] Tc=condensing temperature

sub cooling 5K

superheat 10K/1K

Product improvement and performance parameters shall be subject to the selection software of RefComp.



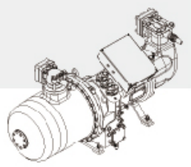
Compressor Standard Configuration	Suction Valve Inlet Diameter	Discharge Valve Inlet Diameter
134-S-071/081	80.0(3-1/8")	54.1(2-1/8")
134-S-091	92.5(3-5/8")	54.1(2-1/8")
134-S-101	92.5(3-5/8")	67(2-5/8")

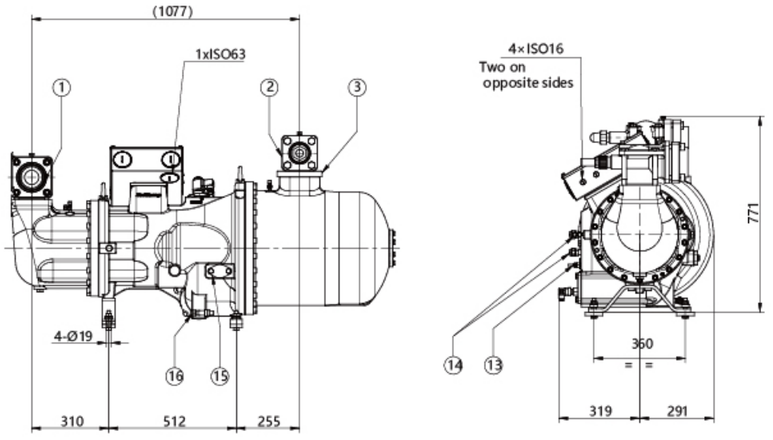
Legend:

1	Suction shut-off valve (W type optional)
2	Discharge shut-off valve
3	Oil charge/drain valve 3/8" SAE-FLARE
4	Oil cooler connection 5/8" SAE-FLARE
5	Oil pressure connection 1/4" SAE-FLARE
6	Oil sight glass
7	Oil filter
8	Oil heater
9	Check valve
10	Terminal box
11	Low-pressure connection1/4" SAE-FLARE
12	Cooling capacity regulation solenoid valve
13	High-pressure connection 1/4" SAE-FLARE
14	Low-pressure side oil drain port
15	Liquid injection connection Ø10/Economizer connection Ø22 (optional)
16	Oil temperature sensor 1/8" NPT
17	Oil level switch (optional)

134-S-071_081_091_101

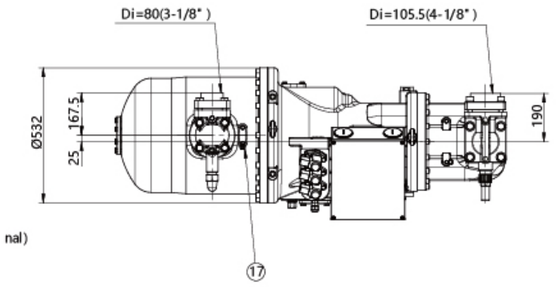
134-S-110_120_140



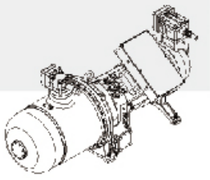


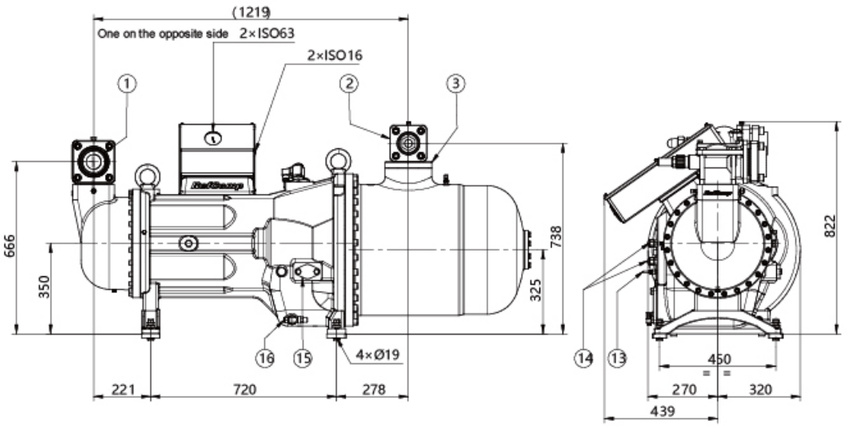
Legend:

1	Suction shut-off valve (SRC-S(W) optional)
2	Discharge shut-off valve
3	Check valve
4	Capacity regulation solenoid valve
5	Terminal box
6	Low-pressure connection1/4" SAE-FLARE
7	Low-pressure side oil drain port
8	Oil pressure connection 1/4" SAE-FLARE
9	Oil filter
10	Oil heater
11	Oil level switch (optional)
12	Oil sight glass
13	Temperature sensor 1/8" NPT
14	Oil cooler connection 5/8" SAE-FLARE
15	Liquid injection connection 3/8" SAE-FLARE/Economizer connection Ø28 (optional)
16	Oil charge/drain valve 3/8" SAE-FLARE
17	High-pressure connection 1/4" SAE-FLARE



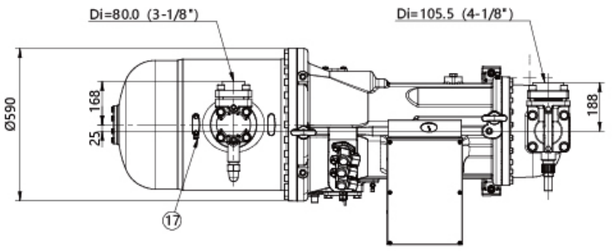
134-S-160_180_210_220



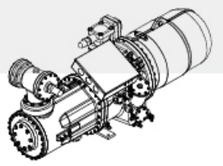


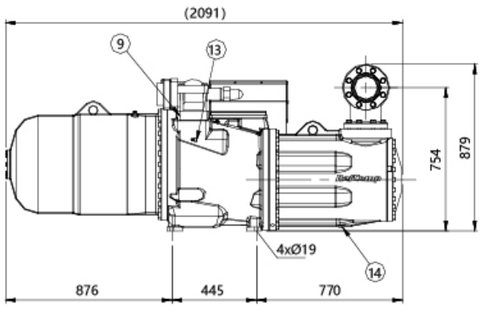
Legend:

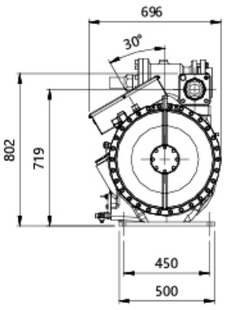
1	Suction shut-off valve (134-S(W) optional)
2	Discharge shut-off valve
3	Check valve
4	Capacity regulation solenoid valve
5	Terminal box
6	Low-pressure connection 1/4" SAE-FLARE
7	Low-pressure side oil drain port1/4" -18 NPT
8	Oil pressure connection 1/4" SAE-FLARE
9	Oil filter
10	Oil heater
11	Oil level switch (optional)
12	Oil sight glass
13	Temperature sensor 1/8" NPT
14	Oil cooler connection 5/8" SAE-FLARE
15	Liquid injection connection 3/8" SAE-FLARE/Economizer connection Ø28 (optional)
16	Oil charge/drain valve 3/8" SAE-FLARE
17	High-pressure connection 1/4" SAE-FLARE

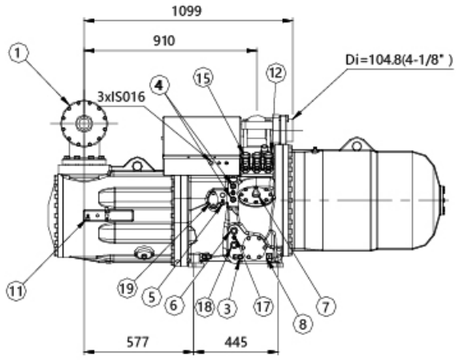


134-S-240_270_300（Radial suction, standard ）



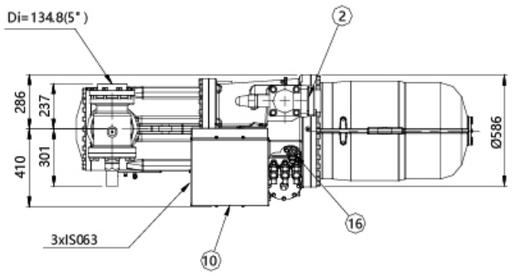




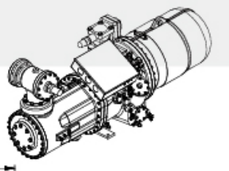


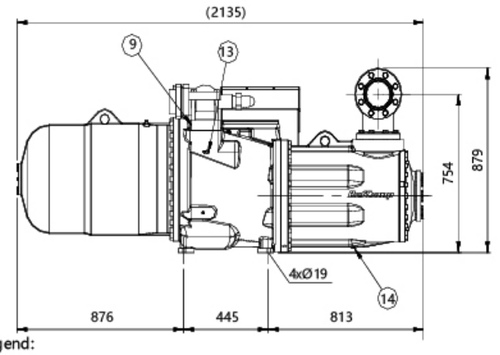
Legend:

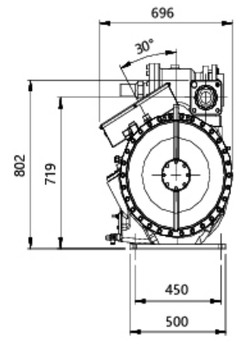
1	Suction shut-off valve (W type optional)
2	Discharge shut-off valve
3	Oil charge/drain valve 3/8" SAE-FLARE
4	Oil cooler connection 5/8" SAE-FLARE
5	Oil pressure connection 1/4" SAE-FLARE
6	Oil sight glass
7	Oil filter
8	Oil heater
9	Check valve
10	Terminal box
11	Low-pressure connection 1/4" SAE-FLARE
12	Cooling capacity regulation solenoid valve
13	High-pressure connection 1/4" SAE-FLARE
14	Low-pressure side oil drain port
15	Solenoid valve (stepless energy control)
16	Liquid injection connection Ø10/Economizer connection Ø42 (optional)
17	Oil temperature sensor 1/8" NPT
18	Oil level switch (optional)
19	VI control solenoid valve (optional)

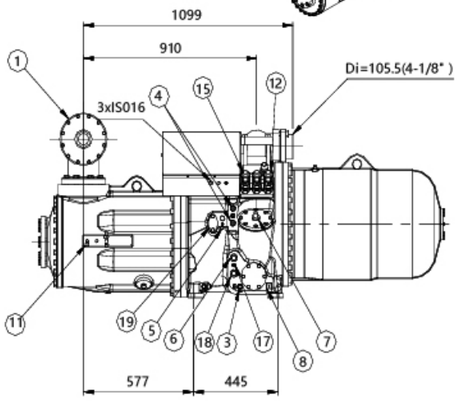


134-S-240_270_300(Radial suction, optional)



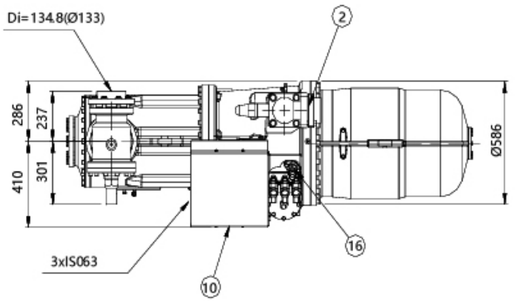




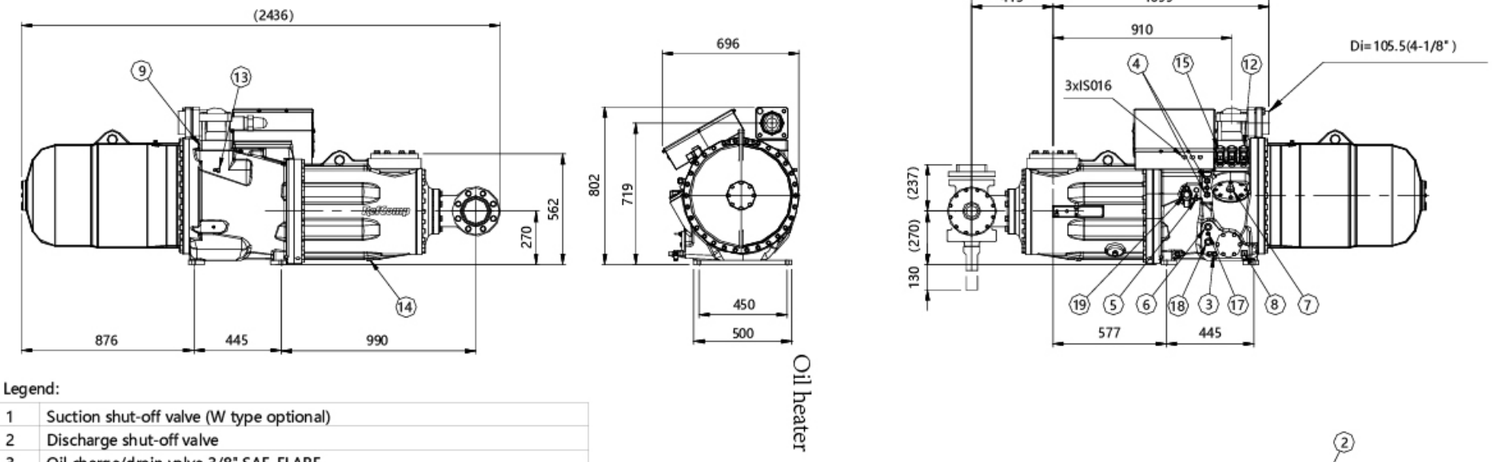


Legend:

1	Suction shut-off valve (W type optional)
2	Discharge shut-off valve
3	Oil charge/drain valve 3/8" SAE-FLARE
4	Oil cooler connection 5/8" SAE-FLARE
5	Oil pressure connection 1/4" SAE-FLARE
6	Oil sight glass
7	Oil filter
8	Oil heater
9	Check valve
10	Terminal box
11	Low-pressure connector 1/4" SAE-FLARE
12	Cooling capacity regulation solenoid valve
13	High-pressure connector 1/4" SAE-FLARE
14	Low-pressure side oil drain port
15	Solenoid valve (stepless energy control)
16	Liquid injection connection Ø10/Economizer connection Ø42 (optional)
17	Oil temperature sensor 1/8" NPT
18	Oil level switch (optional)
19	VI control solenoid valve (optional)



134-S-240_270_300(axial suction, optional)



Legend:

1	Suction shut-off valve (W type optional)
2	Discharge shut-off valve
3	Oil charge/drain valve 3/8" SAE-FLARE
4	Oil cooler connection 5/8" SAE-FLARE
5	Oil pressure connection 1/4" SAE-FLARE
6	Oil sight glass
7	Oil filter
8	Oil heater
9	Check valve
10	Terminal box
11	Low-pressure connection 1/4" SAE-FLARE
12	Cooling capacity regulation solenoid valve
13	High-pressure connection 1/4" SAE-FLARE
14	Low-pressure side oil drain connection M14
15	Solenoid valve (stepless energy control)
16	Liquid injection connection Ø10/Economizer connection Ø42 (optional)
17	Oil temperature sensor 1/8" NPT
18	Oil level switch (optional)
19	VI control solenoid valve (optional)

NOTES