

134-XS/S & SRC-XS/S SERIES

Screw compressors for air conditioning
Compressori a vite per il condizionamento

134-XS/S 40-300 Hp, 175-1100 m³/h

SRC-XS/S 40-390 Hp, 118-1100 m³/h



MODEL DESIGNATION

CODIFICA

2

134-XS/S
SRC-XS/S

COMPRESSOR - COMPRESSORE							134	XS	300	M	1		SRC	XS	985	M	2		
							134	S	300	L	4	L	SRC	S	985	L		H	
COMPRESSOR TYPE / TIPO COMPRESSORE																			
134	Semi-hermetic Refrigerant Compressor optimized for R134a Compressore frigorifero semi-ermetico ottimizzato per R134a																		
SRC	Semi-hermetic Refrigerant Compressor Compressore frigorifero semi-ermetico																		
SERIES - SERIE																			
XS	Screw compressors XS series Compressori a vite serie XS																		
S	Screw compressors S series Compressori a vite serie S																		
300	Nominal motor power Hp Potenza nominale del motore Hp																		
985	SRC-XS: Nominal motor power Hp Potenza nominale del motore Hp SRC-S: Given cooling capacity kW Potenza frigorifera resa kW, +2 °C / +40 °C (Ev./Co.), R22, 50 Hz																		
ELECTRICAL ACCESSORIES / ACCESSORI ELETTRICI																			
L	220V AC																		
M	110V AC																		
Y	24V AC																		
U	Electrical accessories UL approved 220 V AC Accessori elettrici approvati UL 220V AC																		
V	Electrical accessories UL approved 110 V AC Accessori elettrici approvati UL 110 V AC																		
CAPACITY CONTROL - CONTROLLO CAPACITÀ																			
1	2 Steps - 2 gradini (134-XS-040) / (SRC-XS)																		
2	3 Steps - 3 gradini (134-XS-05/060)																		
4	4 Steps - 4 gradini (134-S) (SRC-S)																		
Z	Infinity - continuo (SRC-S)																		
BUILT-IN VOLUMETRIC RATIO Vi RAPPORTO VOLUMETRICO INTRINSECO Vi																			
H	Vi = 3,2 (SRC-S)																		
S	Vi = 2,6 (SRC-S)																		
W	Vi = 2,2 (SRC-S)																		
HS	Vi = 3,2 ÷ 2,6 (Variable - Variabile) (SRC-S-785...985)																		
LW	Vi = 2,6 ÷ 2,2 (Variable - Variabile) (SRC-S-785...985)																		
R	Vi = 4,4 (134-S)																		
S	Vi = 3,2 (134-S)																		
L	Vi = 2,6 (134-S)																		
W	Vi = 2,2 (134-S)																		
SL	Vi = 3,2 ÷ 2,6 (Variable - Variabile) (134-S-240...300)																		
LW	Vi = 2,6 ÷ 2,2 (Variable - Variabile) (134-S-240...300)																		

INTRODUCTION

INTRODUZIONE

In the air conditioning field, together with compressor reliability and availability, attention toward other factors such as efficiency, noiseless, compactness and the simplicity of installation and maintenance have spread the compact screw compressor technology to all markets.

RefComp double screw compressors dedicated to air conditioning are:

SRC is the name of the series dedicated to the use of refrigerants R22 and non-chlorinated R407C, R134a, R404A, R507. The series is divided into two different product families: ultra-compact series SRC-XS with three models and SRC-S with 14 models.

134 is the name of the series dedicated to the use of R134a. The series is divided into two different product families: ultra compact series 134-XS with three models and 134-S with 13 models.

Nel campo del condizionamento l'attenzione verso gli aspetti legati all'efficienza energetica, la silenziosità, la compattezza, la semplicità di installazione e manutenzione, oltre ovviamente all'affidabilità e disponibilità del compressore, hanno portato progressivamente all'affermazione, su tutti i mercati, della tecnologia dei compressore a vite compatto.

I compressori doppia vite RefComp dedicate al condizionamento sono:

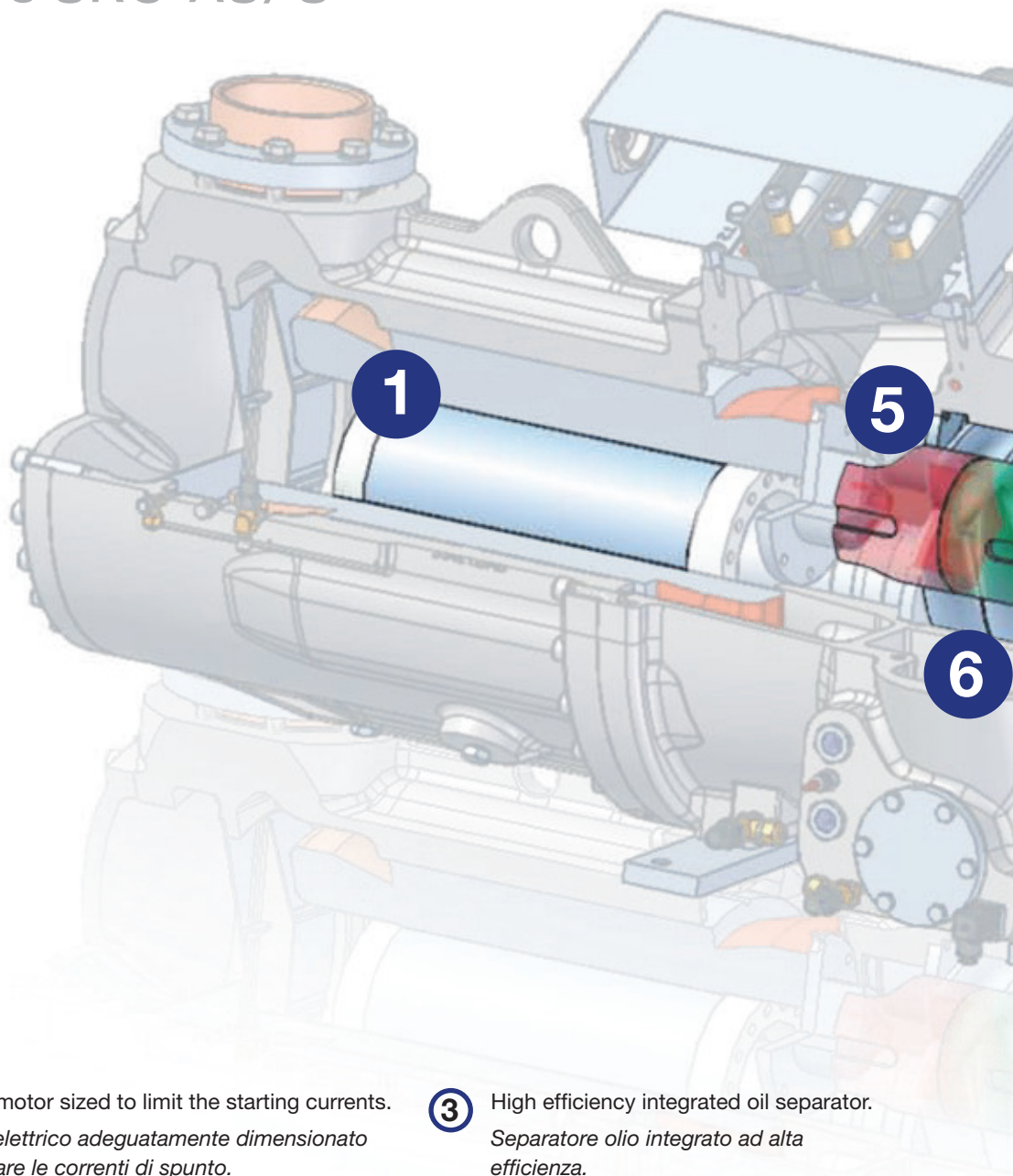
SRC è il nome della serie dedicata sia all'utilizzo dei refrigeranti R22 che non-clorurati R407C, R134a, R404A, R507. La serie si articola su due diverse famiglie di prodotto: i modelli ultracomatti SRC-XS con tre modelli e SRC-S che conta 14 modelli.

134 è il nome della serie progettata specificatamente per l'utilizzo del refrigerante R134a. La serie si articola su due diverse famiglie di prodotto: i modelli ultracomatti 134-XS con tre modelli e 134-S che conta 13 modelli.



134-XS/S Series SRC-XS/S Series

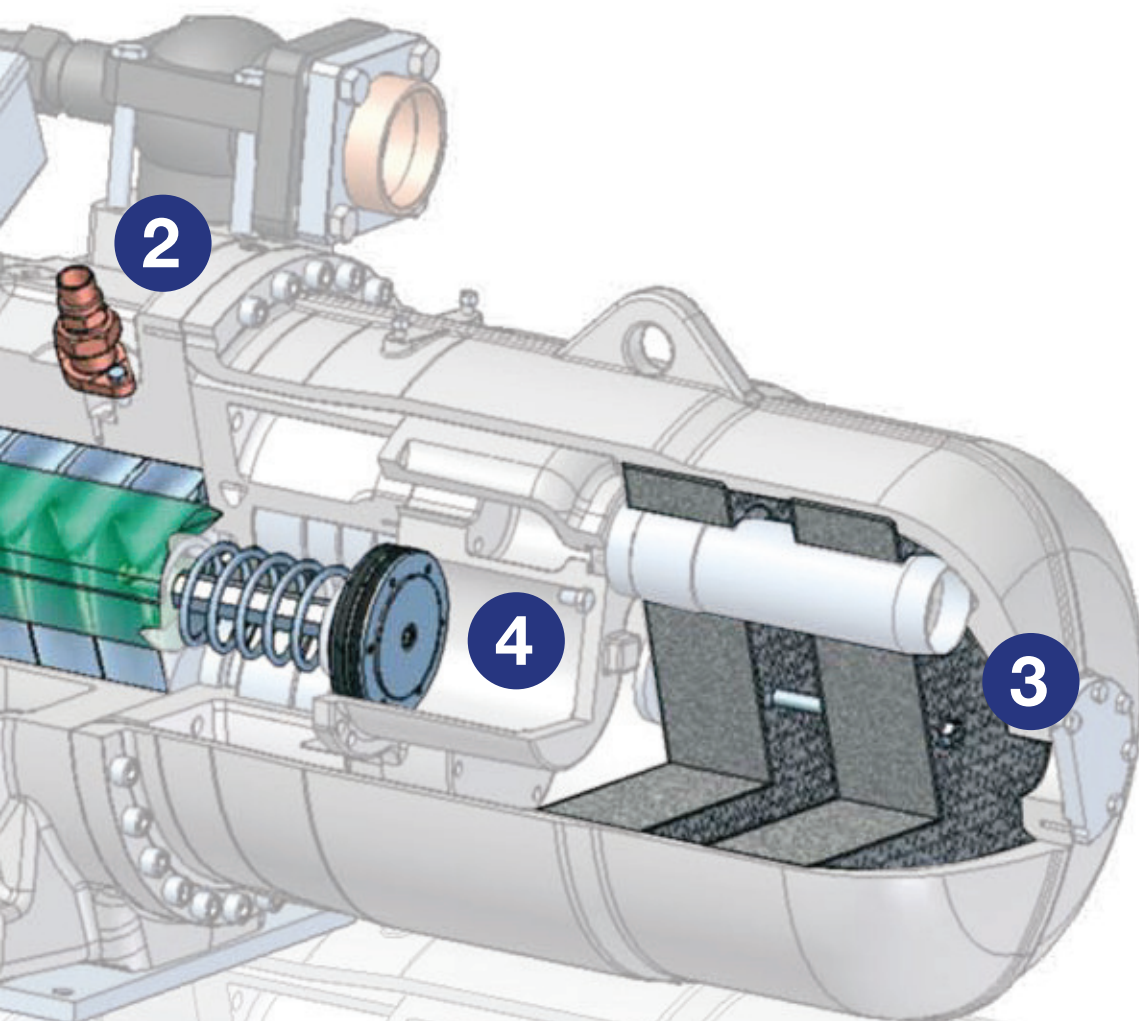
Serie 134-XS/S
Serie SRC-XS/S



① Electric motor sized to limit the starting currents.
Motore elettrico adeguatamente dimensionato per limitare le correnti di spunto.

③ High efficiency integrated oil separator.
Separatore olio integrato ad alta efficienza.

② Intermediate port to the compression area for economizer or liquid injection.
Porta intermedia zona di compressione per iniezione di liquido o economizzatore.



- ④ Capacity control through hydraulic slide valve in step or stepless modality (SRC-S and 134-S series).

Controllo di capacità tramite valvola a cassetto con modalità step o stepless (serie SRC-S e 134-S).

- ⑤ For the biggest sizes is available the adjustable built-in volumetric ratio device.

Commutazione in fase di esercizio del valore del Vi per le taglie maggiori.

- ⑥ Profiles of the screws optimized to grant the maximum efficiency.

Profilo delle viti ottimizzato per garantire massima efficienza.

TECHNICAL DATA

DATI TECNICI

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134-XS/S
SRC-XS/S

MODEL / MODELLO 134-S							71
MODEL / MODELLO 134-XS				40	50	60	
Nominal motor power <i>Potenza nominale motore</i>			Hp/kW	40/30	50/37	60/45	70/52
Displacement at 50 (60) Hz <i>Volume Spostato a 50 (60) Hz</i>			m ³ /h	175/210	210/252	250/300	270/324
Weight / <i>Peso</i>			Kg	310	315	320	510
Oil charge / <i>Carica olio</i>			dm ³	7	7	7	11
Discharge line, internal Ø <i>Raccordo mandata, Ø interno</i>			mm/ inches	42 1 5/8"	42 1 5/8"	42 1 5/8"	54 2 1/8"
Suction line, internal Ø <i>Raccordo aspirazione, Ø interno</i>			mm/ inches	54 2 1/8"	54 2 1/8"	54 2 1/8"	80 3 1/8"
PW	Starting current <i>Corrente di avviamento</i>	LRA Y	A	277	303	373	280
		LRA YY	A	398	406	547	459
	Max running current <i>Massima corrente di funzionamento</i>	FLA	A	73	83	103	118
Y / Δ	Starting current <i>Corrente di avviamento</i>	LRA Y	A	139	172	195	159
		LRA	A	398	406	547	459
	Max running current <i>Massima corrente di funzionamento</i>	FLA	A	73	83	103	118
Crankcase heater <i>Resistenza carter</i>							
Capacity control steps <i>Controllo di capacità</i>							
Protection devices <i>Dispositivi di protezione</i>							
Standard motor ⁽¹⁾ <i>Motore standard ⁽¹⁾</i>							

(1) Voltage tolerance / *Tolleranza* ± 10%
Standard Delivery / *Fornitura standard*

81	91	101	110	120	140	160	180	210	220	240	270	300
80/60	90/67	100/75	110/85	120/90	140/105	160/120	180/135	210/157	220/164	240/179	270/201	300/224
307/368	344/413	380/456	413/196	480/576	560/672	640/768	720/864	805/966	850/1020	910/1092	100/1200	1100/1320
518	532	538	660	670	680	930	940	950	980	1330	1350	1390
11	11	11	17	17	17	23	23	23	23	25	25	25
54 2 1/8"	54 2 1/8"	67 2 5/8"	80 3 1/8"	80 3 1/8"	80 3 1/8"	80 3 1/8"	80 3 1/8"	80 3 1/8"	80 3 1/8"	104,8 4 1/8"	104,8 4 1/8"	104,8 4 1/8"
80 3 1/8"	92 3 5/8"	92 3 5/8"	104,8 4 1/8"	104,8 4 1/8"	104,8 4 1/8"	104,8 4 1/8"	104,8 4 1/8"	104,8 4 1/8"	104,8 (4 1/8")	133 5 1/4"	133 5 1/4"	133 5 1/4"
351	495	495	646	742	-	-	-	-	-	-	-	-
580	770	770	953	1095	-	-	-	-	-	-		
132	148	156	182	202	-	-	-	-	-	-	-	-
193	254	254	318	361	361	374	453	543	595	703	783	876
580	770	770	953	1095	1095	1155	1333	1645	1802	2109	2348	2627
132	148	156	182	202	228	260	295	310	335	400	435	490
200 W-230 V-50/60 Hz							275 W-230 V - 50/60 Hz					
134-XS: Step/Gradini: 100,75,50% for/per 134-XS-040; 100%, 50% for/per 134-XS-050 & 60 134-S: Step/Gradini: 100,75,50%, min. (Stepless/Infinito: 100%.....min. or/o 100.....50% on request/su richiesta)												
INT 69 VS (REFCOMP RCX on request / su richiesta)										RefComp RCX		
400 V/3/50 Hz - 460 V/3/60 Hz												

TECHNICAL DATA

DATI TECNICI

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134-XS/S
SRC-XS/S

Model / <i>Modello SRC-S</i>					113	133	163	183	213
Model / <i>Modello SRC-XS</i>					40	50	60		
Nominal motor power <i>Potenza nominale motore</i>				Hp/kW ⁽¹⁾	40/30 (30/22)	50/37 (40/30)	60/45 (50/37)	70/52 (60/45)	80/60 (70/52)
Displacement at 50 (60) Hz <i>Volume Spostato a 50 (60) Hz</i>				m³/h	118 (142)	150 (180)	175 (210)	205 (246)	237 (284)
Weight / <i>Peso</i>				Kg ⁽²⁾	325 (300)	330 (305)	335 (310)	510	515
Oil charge / <i>Carica olio</i>				dm³ ⁽²⁾	6 (6,5)	6 (6,5)	6 (6,5)	8	8
Discharge line, internal Ø <i>Raccordo mandata, Ø interno</i>				mm / inches	42 1 5/8"	42 1 5/8"	42 1 5/8"	54 2 1/8"	54 2 1/8"
Suction line, internal Ø <i>Raccordo aspirazione, Ø interno</i>				mm / inches	54 2 1/8"	54 2 1/8"	54 2 1/8"	67 2 5/8"	67 2 5/8"
Full size	PW	Starting current <i>Corrente di avviamento</i>	LRA Y	A	277	303	373	280	351
			LRA YY	A	398	406	547	459	580
		Max running current <i>Massima corrente di funzionamento</i>	FLA	A	80	90	96	124	140
	Y / Δ	Starting current <i>Corrente di avviamento</i>	LRA Y	A	131	134	182	159	193
			LRA Δ	A	398	406	547	459	580
		Max running current <i>Massima corrente di funzionamento</i>	FLA	A	80	90	96	124	140
Crankcase heater <i>Resistenza carter</i>					200 W - 230 V - 50/60 Hz				
Capacity control steps <i>Controllo di capacità</i>									
Protection devices <i>Dispositivi di protezione</i>									
Standard motor ⁽³⁾ <i>Motore standard ⁽³⁾</i>									

(1) Data between brackets refer to compressor with motor 2 (small size) / I dati tra parentesi fanno riferimento a compressori con motori di taglia ridotta

(2) Data referred to XS models / Data riferiti ai modelli XS

(3) Voltage tolerance / Tolleranza ± 10%

Standard Delivery / Fornitura standard

255	285	305	353	413	463	503	553	603	755	785	885	985
100/75 (80/60)	110/82 (90/67)	120/90 (100/75)	140/105 (120/90)	160/120 (140/105)	180/135 (160/120)	200/150 (180/135)	220/164 (200/150)	240/179 (220/164)	240/179 (220/164)	300/224 (240/179)	350/261 (270/201)	390/291 (300/224)
286 (343)	318 (382)	341 (409)	402 (482)	445 (534)	510 (612)	562 (674)	600 (720)	700 (840)	860 (1032)	910 (1092)	1000 (1200)	1100 (1320)
585	590	595	730	740	775	1070	1090	1020	1020	1330	1350	1390
11	11	11	14	14	16	19	19	20	23	25	25	25
54 2 1/8"	54 2 1/8"	54 2 1/8"	80 3 1/8"	80 3 1/8"	80 3 1/8"	80 3 1/8"	80 3 1/8"	80 3 1/8"	80 3 1/8"	104,8 4 1/8"	104,8 4 1/8"	104,8 4 1/8"
80 3 1/8"	80 3 1/8"	80 3 1/8"	92 3 5/8"	92 3 5/8"	92 3 5/8"	104,8 4 1/8"	104,8 4 1/8"	104,8 4 1/8"	104,8 4 1/8"	133 5 1/4"	133 5 1/4"	133 5 1/4"
586	646	646	-	-	-	-	-	-	-	-	-	-
965	953	953	-	-	-	-	-	-	-	-	-	-
173	192	200	-	-	-	-	-	-	-	-	-	-
322	318	318	354	374	453	543	595	595	595	876	1062	1062
965	953	953	1154	1155	1333	1645	1802	1802	1802	2627	3186	3186
173	192	200	225	245	270	300	334	400	400	545	600	650
			275 W - 230 V - 50/60 Hz									
SRC-XS: Step/Gradini: 100,75,50% SRC-S: Step/Gradini: 100,75,50%, min. (Stepless/Infinito: 100%.....min. or/o 100.....50% on request/su richiesta)												
INT 69 VS (REFCOMP RCX on request / su richiesta)										RefComp RCX		
400 V/3/50 Hz - 460 V/3/60 Hz												

BENEFITS

PUNTI DI FORZA

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134-XS/S
SRC-XS/S

EFFICIENCY

Built-in volumetric ratio could be chosen, in phase of order, between these values:

- 134-S **Vi = 2,2 (W)** dedicated to water condensing units with flooded evaporator and high efficiency units
- Vi = 2,6 (L)** dedicated to water condensing units
- Vi = 3,2 (S)** dedicated to air condensing units
- Vi = 4,4 (R)** dedicated to air condensing units and/or heat pump applications
- SRC-S **Vi = 2,2 (W)** dedicated to water condensing units with flooded evaporator and high efficiency units
- Vi = 2,6 (S)** dedicated to air/water condensing units
- Vi = 3,2 (H)** dedicated to air condensing units and heat pump applications

For the biggest sizes is available, on request, the adjustable built-in volumetric ratio device, using which, the Vi can be set between different values:

- 134-S Vi = 2,6 - 2,2 (LW)
Vi = 3,2 - 2,6 (SL)
Vi = 4,4 - 3,2 (RS)
- SRC-S Vi = 2,6 - 2,2 (SW)
Vi = 3,2 - 2,6 (HS)

Choosing the right Vi the compression process can be adjusted to the actual compression ratio required, optimizing energy efficiency and allowing the highest EER

EFFICIENZA

Rapporto volumetrico intrinseco Vi selezionabile, in fase d'ordine, su diversi valori

- 134-S **Vi = 2,2 (W)** dedicato ad applicazioni condensate ad acqua ed evaporatore allagato e unità alta efficienza
- Vi = 2,6 (L)** dedicato ad applicazioni condensate ad acqua
- Vi = 3,2 (S)** dedicato ad applicazioni condensate ad aria
- Vi = 4,4 (R)** dedicato ad applicazioni condensate ad aria e/o in pompa di calore
- SRC-S **Vi = 2,2 (W)** dedicato ad applicazioni condensate ad acqua ed evaporatore allagato e unità alta efficienza
- Vi = 2,6 (S)** dedicato ad applicazioni condensate ad acqua /aria
- Vi = 3,2 (H)** dedicato ad applicazioni condensate ad aria e/o in pompa di calore

Per le taglie più grandi delle due serie è disponibile, su richiesta, un innovativo sistema di regolazione del Vi che consente di poter scegliere tra i seguenti diversi valori:

- 134-S Vi = 2,6 - 2,2 (LW)
Vi = 3,2 - 2,6 (SL)
Vi = 4,4 - 3,2 (RS)
- SRC-S Vi = 2,6 - 2,2 (SW)
Vi = 3,2 - 2,6 (HS)

La scelta del Vi ottimale consente di adattare il processo di compressione all'effettivo rapporto di compressione richiesto, ottimizzando l'efficienza energetica e permettendo di raggiungere i più alti valori di EER

VERSATILITY

Specifically designed for air conditioning applications grant working limits suitable for the most severe working conditions, reaching with R134a 70 [°C] for condensing temperature.

On request available special voltages and a wide range of accessories.

VERSATILITA'

Specificatamente sviluppati per applicazioni nel campo del condizionamento offrono un campo di applicazione adatto alle più gravose condizioni di funzionamento, fino a raggiungere con R134a 70 [°C] di condensazione.

Su richiesta sono disponibili motori a frequenza o voltaggio speciali per ampliarne al massimo l'applicabilità.

COMPACT AND SIMPLE INSTALLATION

COMPATTEZZA E SEMPLICITA' DI INSTALLAZIONE

RELIABILITY AND SAFETY

AFFIDABILITA' E SICUREZZA DI ESERCIZIO

OPTIMUM LUBRIFICATION

LUBRIFICAZIONE OTTIMALE

SIMPLICITY OF MAINTENANCE

SEMPlicità DI MANUTENZIONE

SILENTNESS AND NO VIBRATIONS

SILENZIOSITA' E ASSENZA DI VIBRAZIONI

DESIGN AND PRODUCTION

PROGETTAZIONE E PRODUZIONE

SOFTWARE, DOCUMENTATION AND SUPPORT REFCOMP

SOFTWARE, DOCUMENTAZIONE E SUPPORTO REFCOMP

ENVELOPE

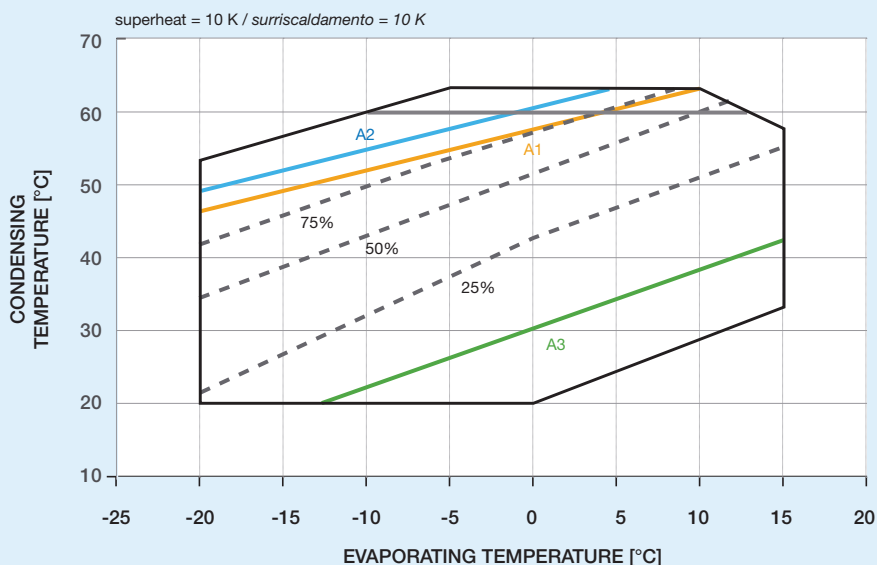
LIMITI APPLICAZIONE

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134-XS/S
SRC-XS/S

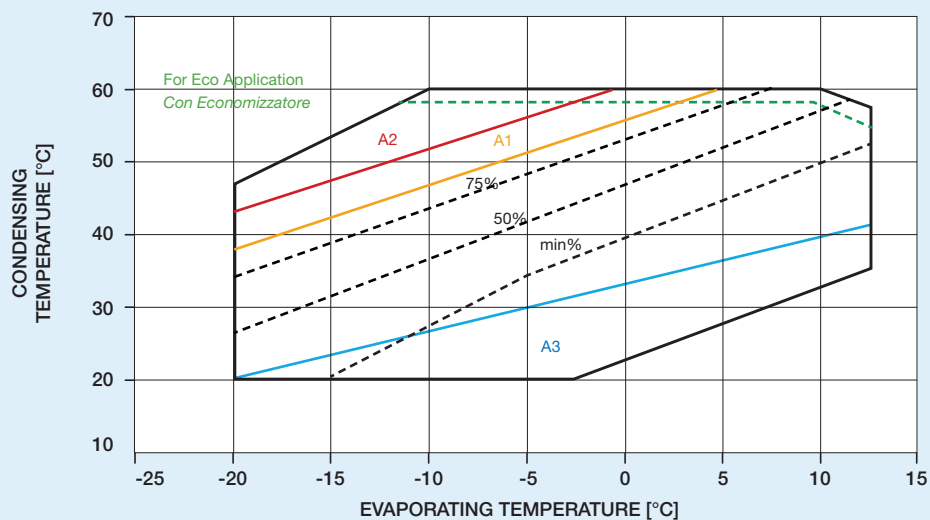
SRC-S SERIES (R407C)
SERIE SRC-S (R407C)

A1 = oil cooling or liquid inj. / raffr. olio o iniez. liquido
A2 = oil cooling / raffreddamento olio
A3 = oil filter control / controllo intasamento filtro



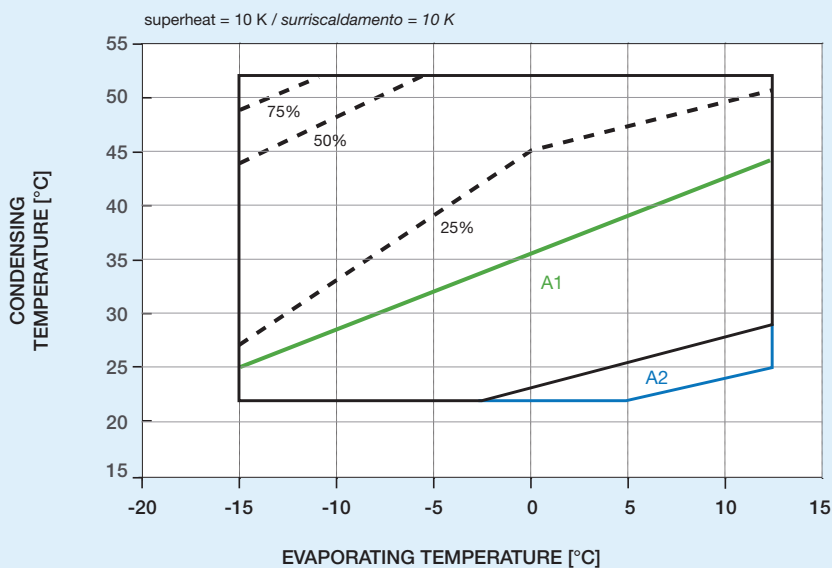
SRC-S (R22)
SRC-S (R22)

A1 = Oil cooling or liquid injection
A2 = Oil cooling only water-oil or air-oil cooler allowed / raffreddamento olio
A3 = Oil filter controll / controllo intasamento filtro



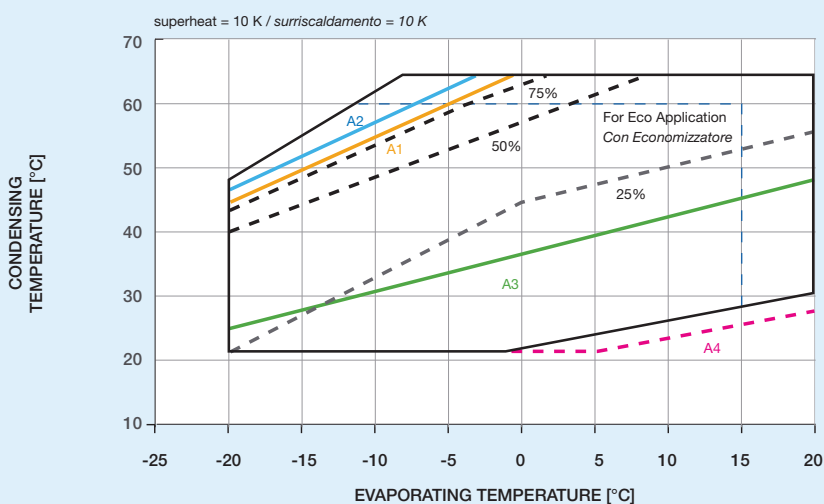
134-S(W) SERIES
SERIE 134-S(W)

A1 = oil filter control / controllo intasamento filtro
A2 = working < 75% / funzionamento < 75%



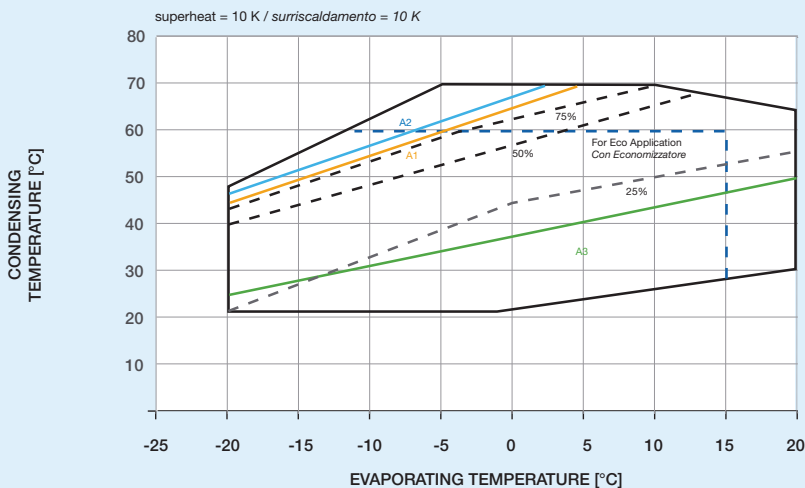
134-S AND 134-S(L) SERIES
SERIE 134-S E 134-S(L)

A1 = oil cooling or liquid inj. / raffr. olio o iniez. liquido
A2 = oil cooling / raffreddamento olio
A3 = oil filter control / controllo intasamento filtro
A4 = working < 75% / funzionamento < 75%



134-S(R) SERIES
SERIE 134-S(R)

A1 = oil cooling or liquid inj. / raffr. olio o iniez. liquido
A2 = oil cooling / raffreddamento olio
A3 = oil filter control / controllo intasamento filtro



PERFORMANCES 134-S

PRESTAZIONI 134-S

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134-XS/S
SRC-XS/S

134-S(W)				134-S(L)			
T _{ev} = 5 °C; T _{cond} = 38 °C				T _{ev} = 2 °C; T _{cond} = 45 °C			
MODEL MODELLO	Q ₀ kW	Pa kW	COP	MODEL MODELLO	Q ₀ kW	Pa kW	COP
134-XS-040	110,1	24,8	4,44	134-XS-040	110,1	24,8	4,44
134-XS-050	131,5	29	4,53	134-XS-050	131,5	29	4,53
134-XS-060	159,0	34,2	4,65	134-XS-060	159	34,2	4,65
134-S(W)-71	199,1	39,8	5	134-S(L)-71	186,2	40,1	4,64
134-S(W)-81	224,8	44,3	5,07	134-S(L)-81	210,2	44,6	4,71
134-S(W)-91	251,8	49,6	5,08	134-S(L)-91	235,4	50	4,71
134-S(W)-101	271,1	53,3	5,09	134-S(L)-101	253,5	53,6	4,73
134-S(W)-110	300,3	55,6	5,4	134-S(L)-110	301	59,6	5,05
134-S(W)-120	354,3	64,7	5,48	134-S(L)-120	338,7	65,9	5,14
134-S(W)-140	405,6	74,7	5,43	134-S(L)-140	390,6	75,2	5,19
134-S(W)-160	473	86,8	5,45	134-S(L)-160	454,4	88,9	5,11
134-S(W)-180	538,7	98,3	5,48	134-S(L)-180	514,4	99,6	5,16
134-S(W)-210	574,3	104,7	5,49	134-S(L)-210	549,8	105,3	5,22
134-S(W)-220	607,8	110,9	5,48	134-S(L)-220	580,4	112,3	5,17
134-S(W)-240	673	122,8	5,48	134-S(L)-240	642,7	123,7	5,2
134-S(W)-270	760	138,7	5,48	134-S(L)-270	725,8	138,3	5,25
134-S(W)-300	848,6	154,8	5,48	134-S(L)-300	810,3	157	5,16

134-S				134-S(R)			
T _{ev} = 2 °C; T _{cond} = 50 °C				T _{ev} = -5 °C; T _{cond} = 53 °C			
MODEL MODELLO	Q ₀ kW	Pa kW	COP	MODEL MODELLO	Q ₀ kW	Pa kW	COP
134-XS-040	85,2	29	2,94	134-XS-040	60,6	29	2,09
134-XS-050	101,7	33,8	3,01	134-XS-050	72,4	33,8	2,14
134-XS-060	123	40	3,08	134-XS-060	87,5	39,9	2,19
134-S-71	139,7	47,7	2,93	134-R-71	105,7	51,1	2,07
134-S-81	158,3	53,1	2,98	134-R-81	120,4	57	2,11
134-S-91	178,2	59,6	2,99	134-R-91	162,7	72,4	2,25
134-S-101	192	64,2	2,99	134-R-101	185,9	78,7	2,36
134-S-110	231,3	72,3	3,2	134-R-110	214,4	89,8	2,39
134-S-120	260,3	80	3,25	134-R-120	245,2	106,8	2,3
134-S-140	300,2	91,2	3,29	134-R-140	282,3	119	2,37
134-S-160	349,2	108	3,23	134-R-160	301,7	125,8	2,4
134-S-180	395,3	120,9	3,27	134-R-180	346,8	148,6	2,33
134-S-210	422,5	127,9	3,3	134-R-210	398,3	165,1	2,41
134-S-220	446	136,4	3,27	134-R-220	444,7	187,5	2,37
134-S-240	493,9	150,2	3,29	134-R-240	673	122,8	5,48
134-S-270	557,7	167,8	3,32	134-R-270	760	138,7	5,48
134-S-300	622,7	190,6	3,27	134-R-300	848,6	154,8	5,48

KEY / LEGENDA

Q₀ = Cooling Capacity / Potenza frigorifera resa [kW]

Pa = Input Power / Potenza elettrica assorbita [kW]

T_e = Evaporating temperature /
Temperatura di evaporazione [°C, DEW]

T_c = Condensing temperature /
Temperatura di condensazione [°C, DEW]

Liquid subcooling / Sottoraffreddamento liquido 5K

Suction gas superheat / Surrisaldamento gas 10K.

PERFORMANCES SRC-S

PRESTAZIONI SRC-S

MODEL MODELLO	Refrigerant R407C						Refrigerant R22					
	T _{ev} = 2 °C; T _{cond} = 40 °C			T _{ev} = 2 °C; T _{cond} = 50 °C			T _{ev} = 2 °C; T _{cond} = 40 °C			T _{ev} = 2 °C; T _{cond} = 50 °C		
	Q ₀ kW	Pa kW	COP	Q ₀ kW	Pa kW	COP	Q ₀ kW	Pa kW	COP	Q ₀ kW	Pa kW	COP
SRC-XS-040	108,3	27,5	3,94	88,5	34,6	2,56	113,8	28,7	3,97	95,7	35,5	2,7
SRC-XS-050	137,7	34,3	4,01	112,5	43,1	2,61	144,6	35,7	4,05	121,6	44,2	2,75
SRC-XS-060	150,8	36,7	4,11	125,9	45,8	2,75	158,7	37,6	4,22	137,8	45,6	3,02
SRC-S-113	108,3	27,5	3,94	88,5	34,6	2,56	113,8	28,7	3,97	95,7	35,5	2,7
SRC-S-133	137,7	34,3	4,01	112,5	43,1	2,61	144,6	35,7	4,05	121,6	44,2	2,75
SRC-S-163	150,8	36,7	4,11	125,9	45,8	2,75	158,7	37,6	4,22	137,8	45,6	3,02
SRC-S-183	174,8	42,6	4,1	146	53,1	2,75	184	43,7	4,21	159,8	52,9	3,02
SRC-S-213	202,1	48,7	4,15	168,8	60,8	2,78	212,8	50	4,26	184,7	60,5	3,05
SRC-S-255	248,5	58,8	4,23	207,5	73,3	2,83	261,6	60,3	4,34	227,1	73,1	3,11
SRC-S-285	276,5	65,3	4,23	230,9	81,4	2,84	291,1	67	4,34	252,7	81,1	3,12
SRC-S-305	299,3	70,8	4,23	250	88,3	2,83	315,1	72,6	4,34	273,5	88	3,11
SRC-S-353	356,6	83,3	4,28	297,8	103,8	2,87	375,3	85,4	4,39	325,8	103,5	3,15
SRC-S-413	398,4	92,2	4,32	332,7	115	2,89	419,4	94,6	4,43	364,0	114,6	3,18
SRC-S-463	435,7	101,9	4,28	374,1	126,2	2,96	463,5	105,7	4,39	410,6	128,7	3,19
SRC-S-503	480,2	112,3	4,28	412,3	139,1	2,96	510,8	116,5	4,38	452,5	141,8	3,19
SRC-S-553	512,6	119,9	4,28	440,1	148,5	2,96	545,3	124,4	4,38	483,1	151,4	3,19
SRC-S-603	628,8	149,4	4,21	550,1	181,5	3,03	647,9	155,3	4,17	577	184,2	3,13
SRC-S-755	715	172,6	4,14	602,7	215,7	2,79	744,4	180,2	4,13	638,9	223,2	2,86
SRC-S-785	870,2	204,7	4,25	761,3	248,6	3,06	896,7	212,8	4,21	798,5	252,3	3,16
SRC-S-885	982,7	231,2	4,25	859,6	280,8	3,06	1012,5	240,3	4,21	901,7	284,9	3,16
SRC-S-985	1097,2	258,1	4,25	959,8	313,5	3,06	1130,5	268,3	4,21	1006,8	318,1	3,17

KEY / LEGENDA

Q₀ = Cooling Capacity / Potenza frigorifera resa [kW]

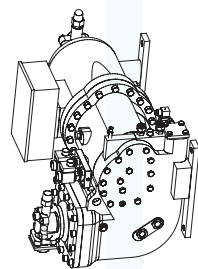
Pa = Input Power / Potenza elettrica assorbita [kW]

Te = Evaporating temperature /
Temperatura di evaporazione [°C, DEW]

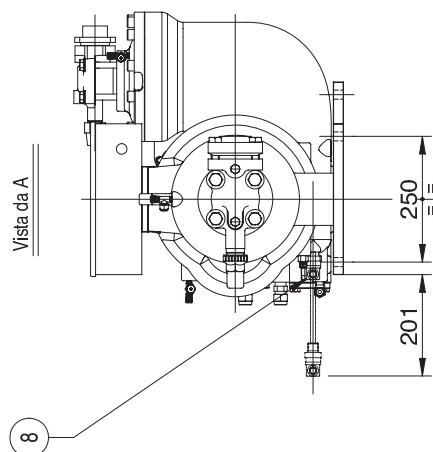
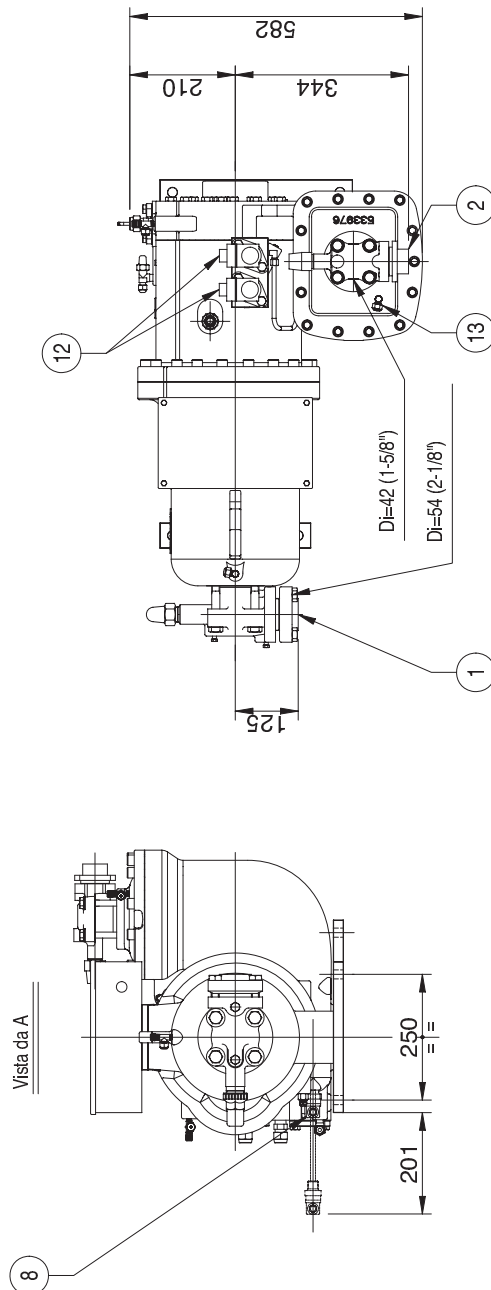
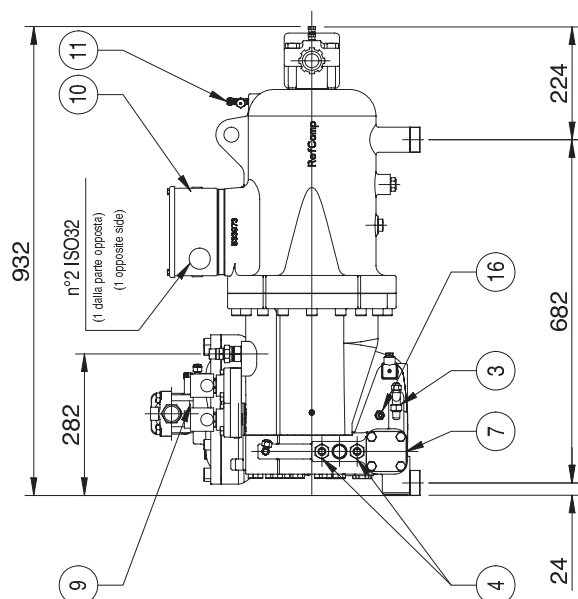
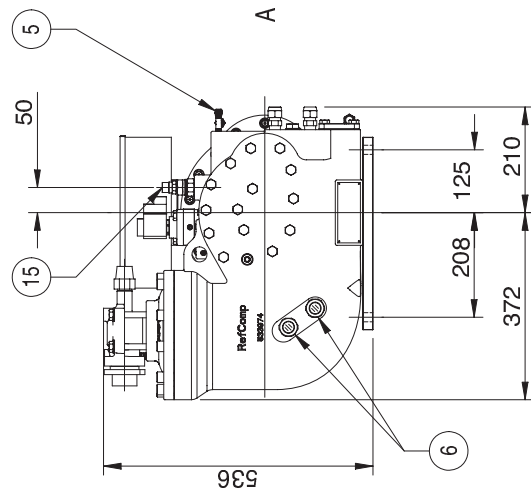
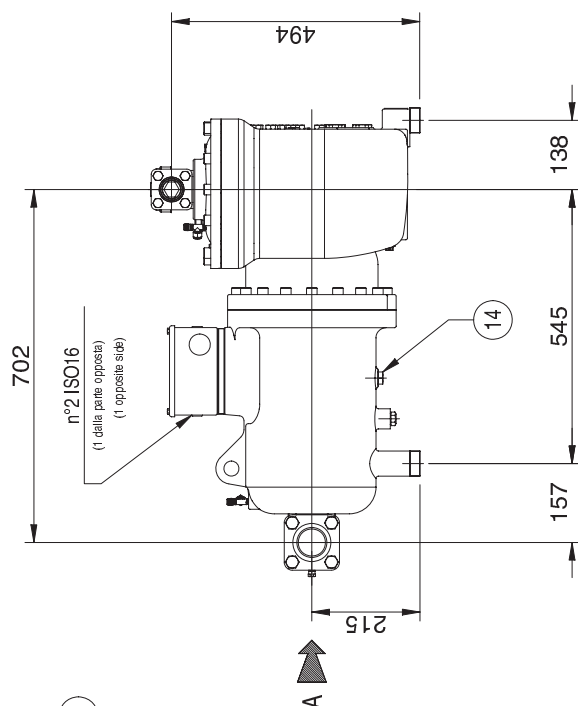
Tc = Condensing temperature /
Temperatura di condensazione [°C, DEW]

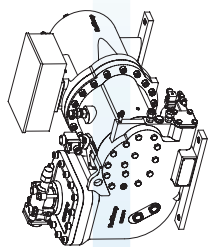
Liquid subcooling / Sottoraffreddamento liquido 5K

Suction gas superheat / Surriscaldamento gas 10K.

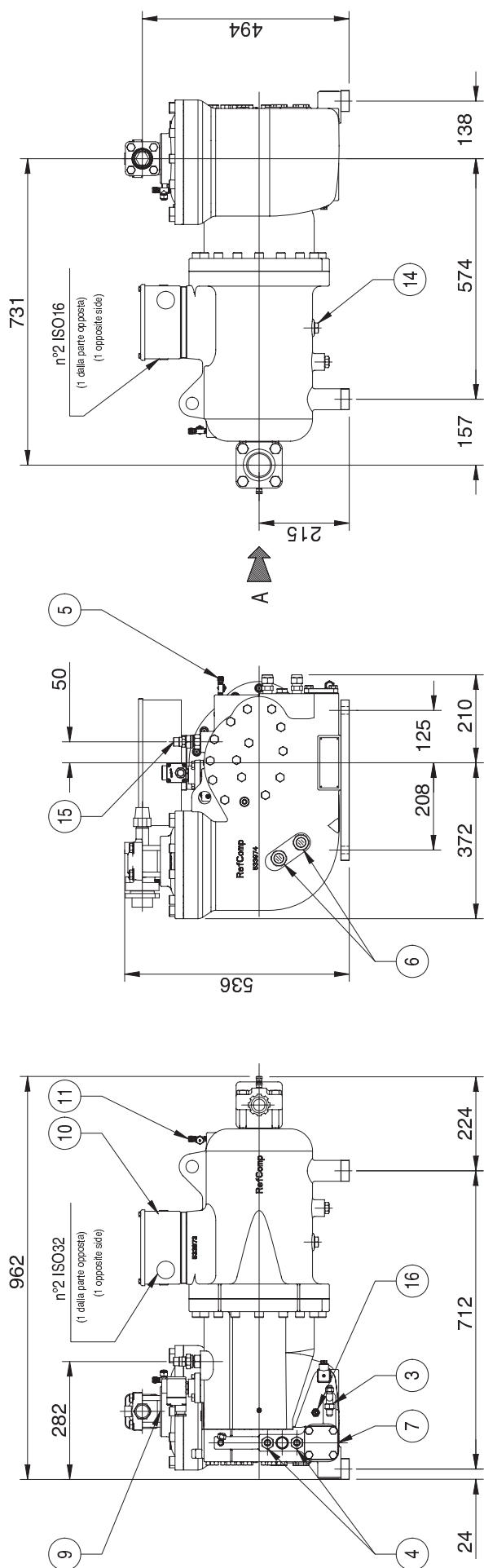


134-XS-40

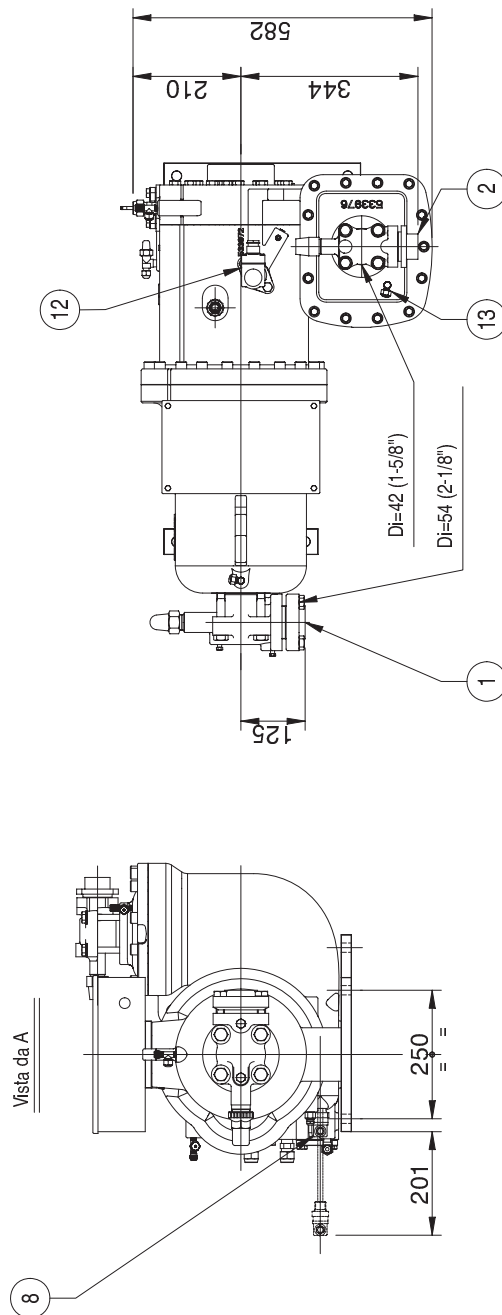




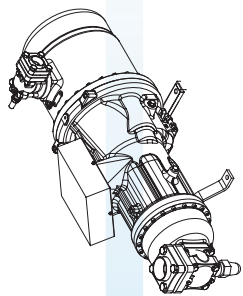
134-XS-50_60



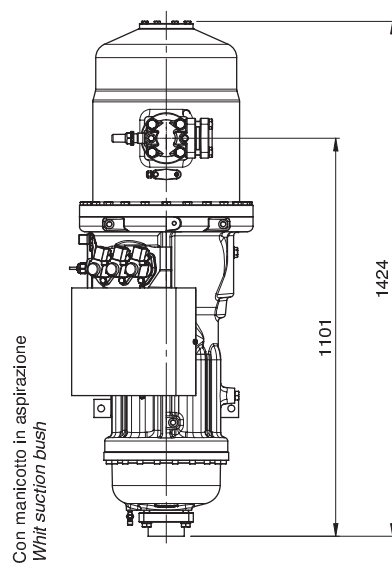
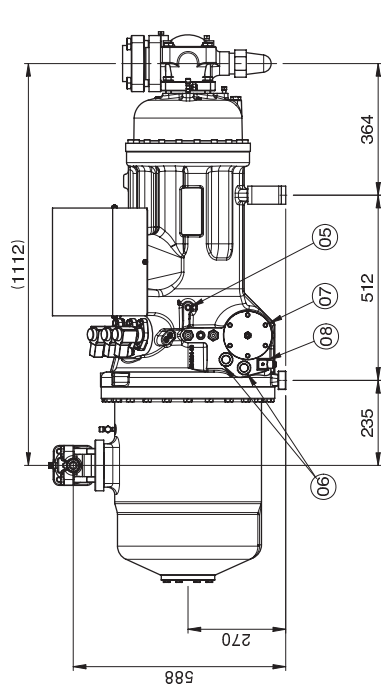
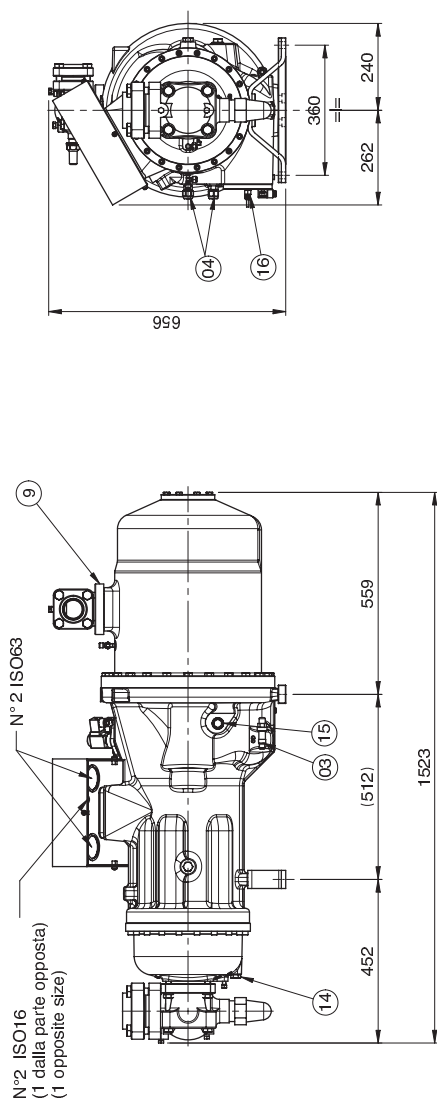
Vista da A



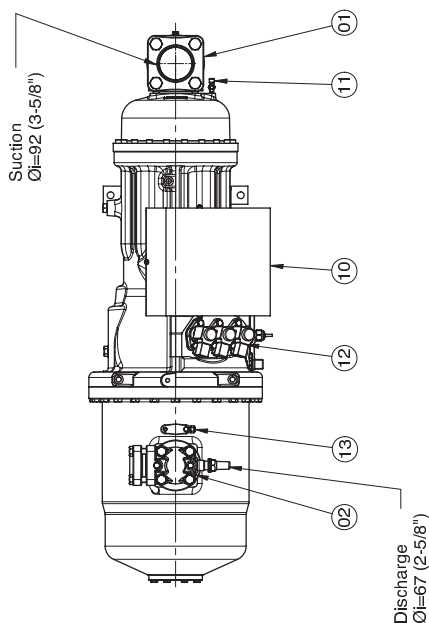
8



134-S-71_81_91_101

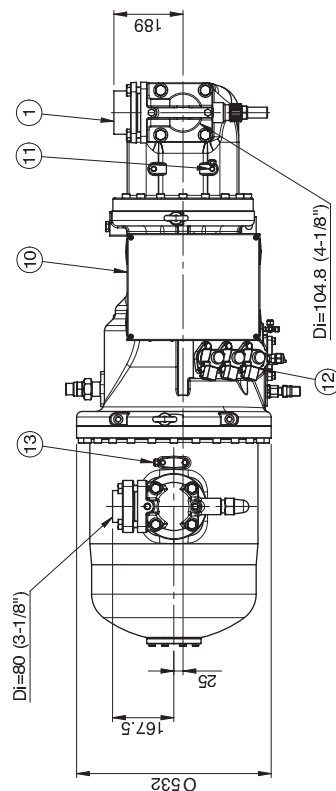
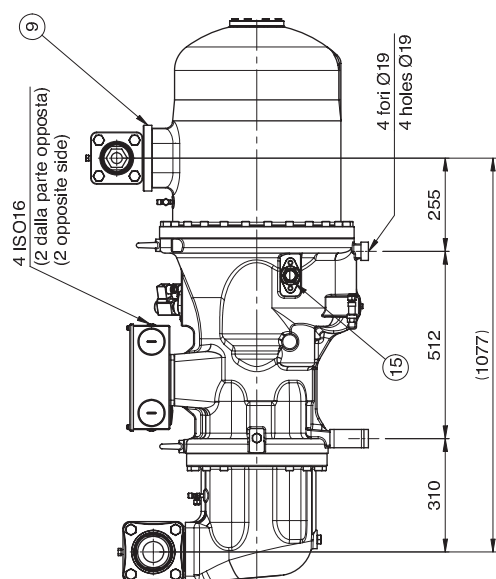
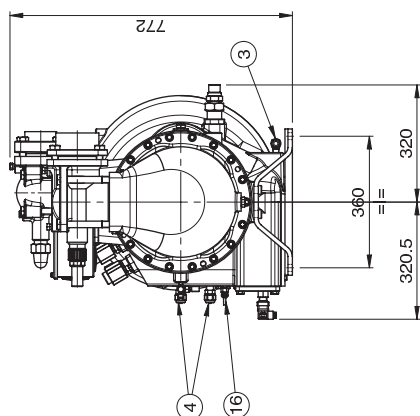
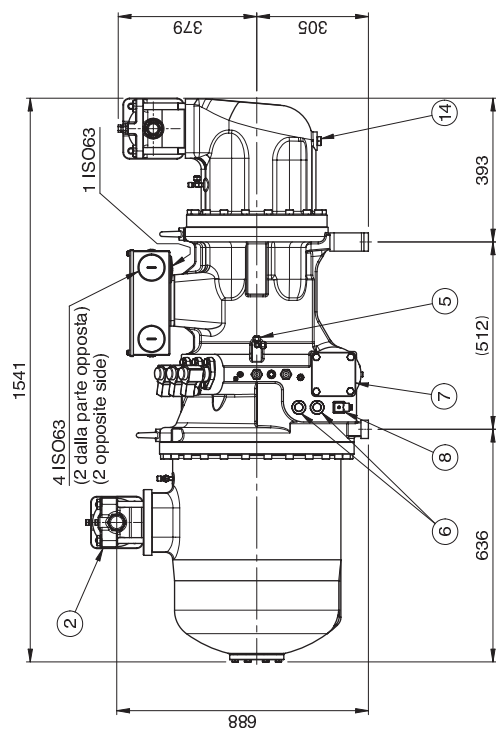
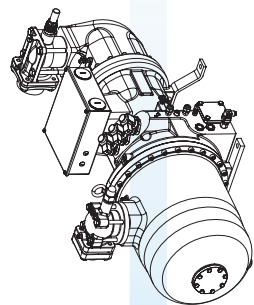


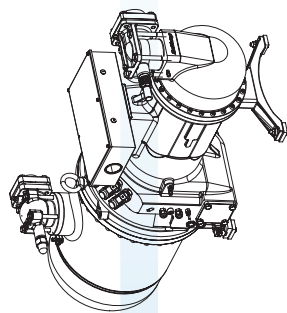
Con manicotto in aspirazione
Whit suction bush



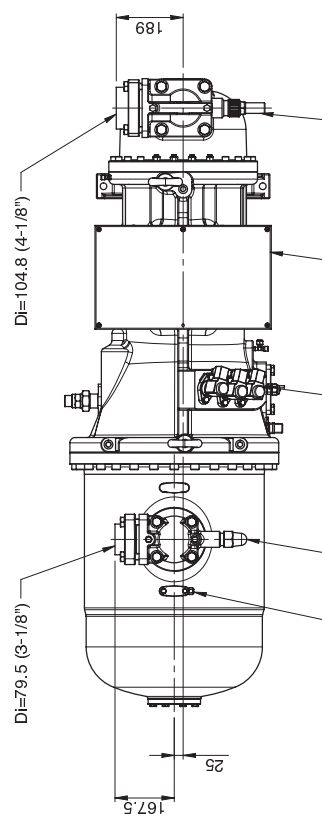
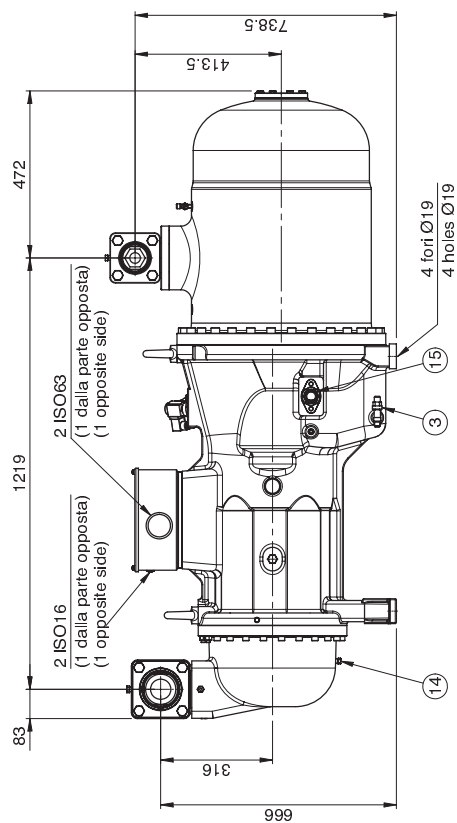
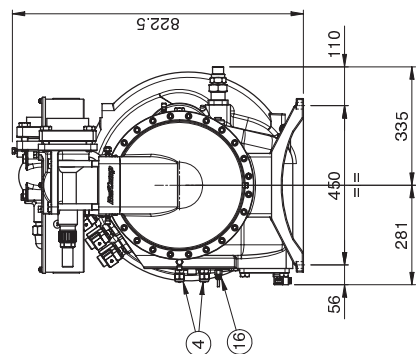
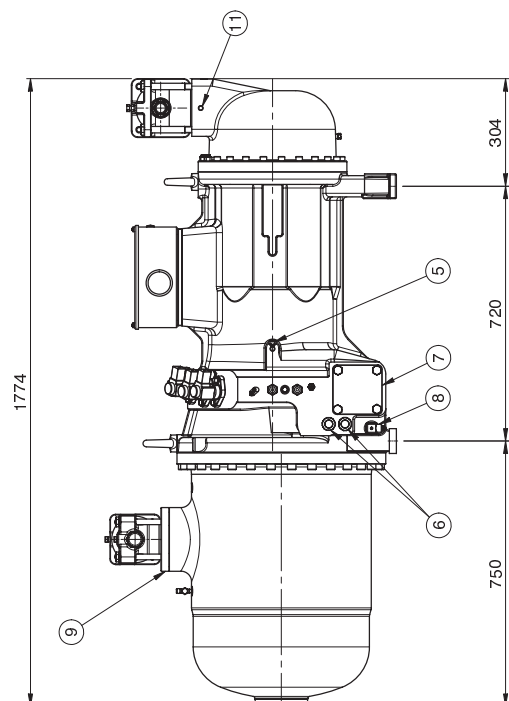
Suction
 $\varnothing=92$ (3-5/8")

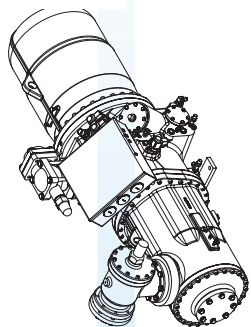
Discharge
 $\varnothing=67$ (2-5/8")



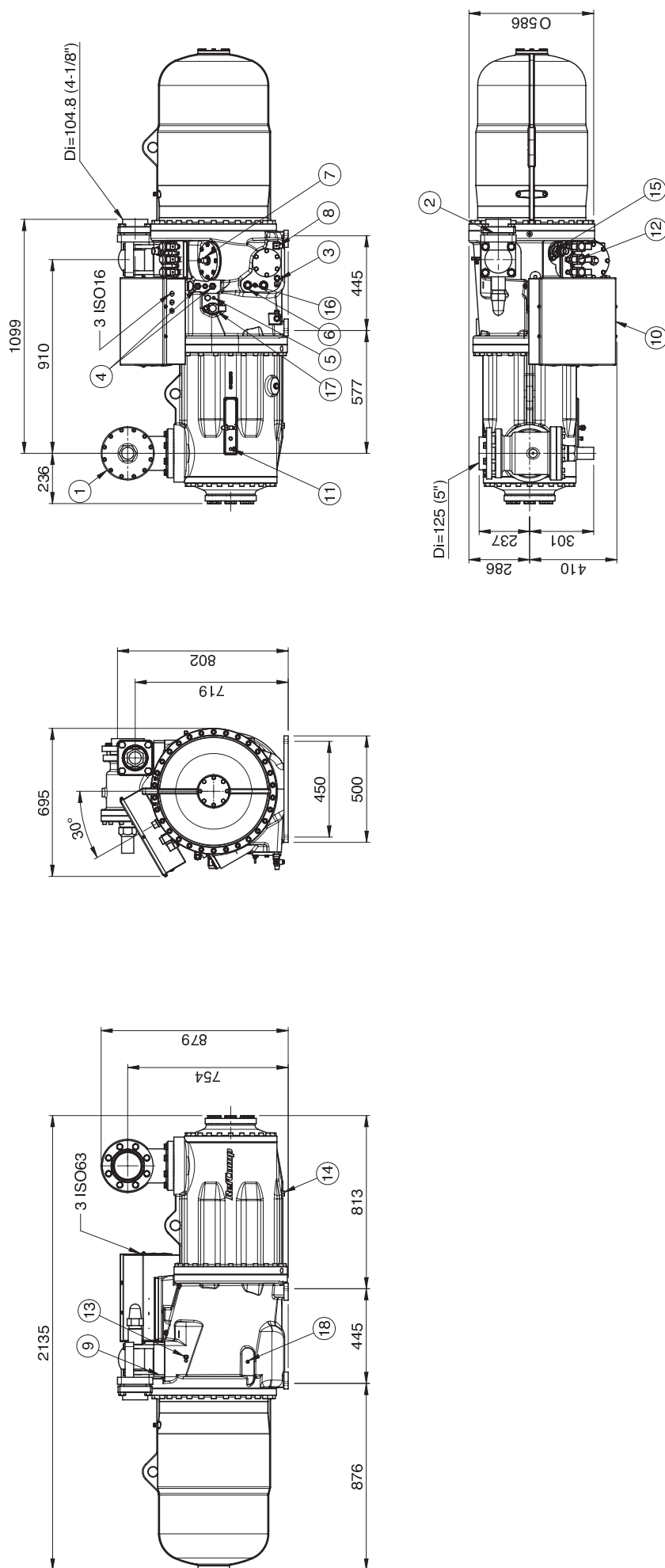


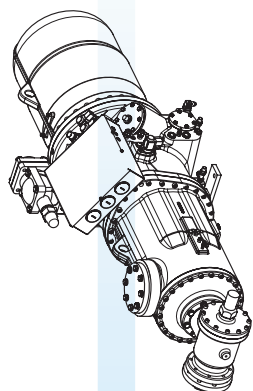
134-S-160_180_210_220 / SRC-S-755



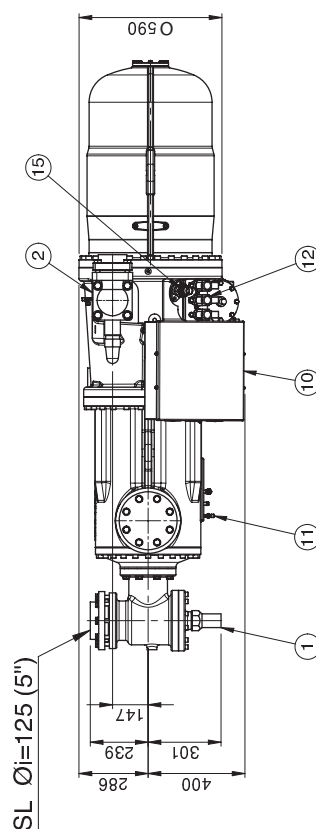
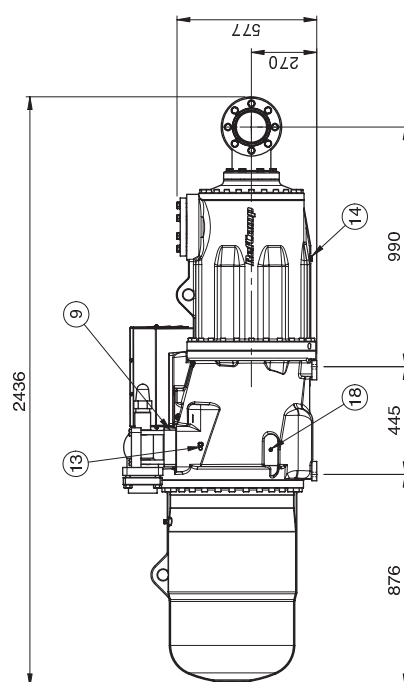
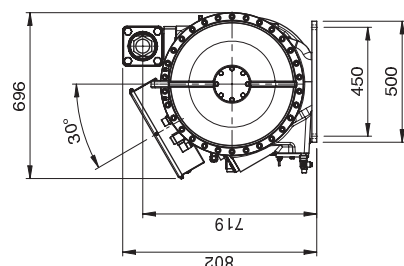
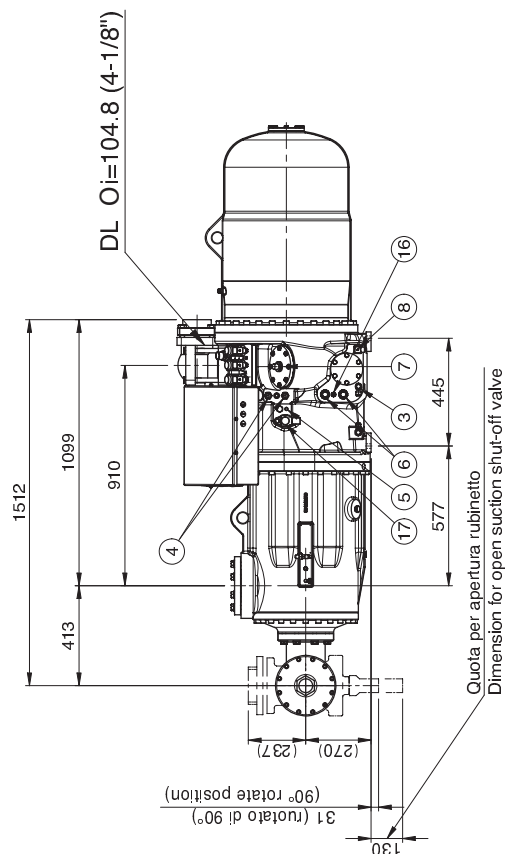


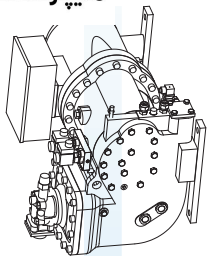
134-S-240_270_300 / SRC-S-785_885_985



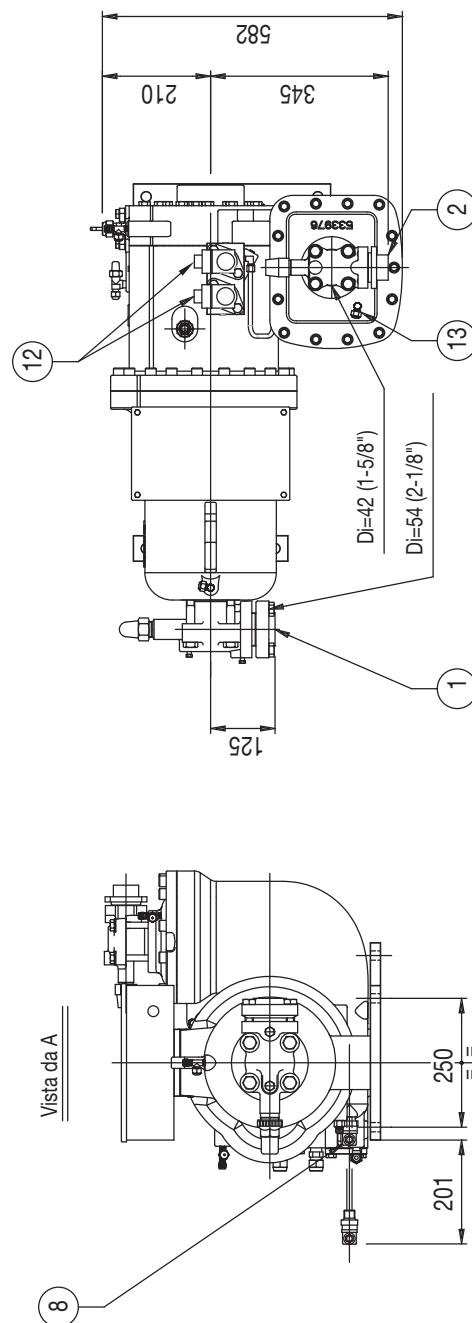
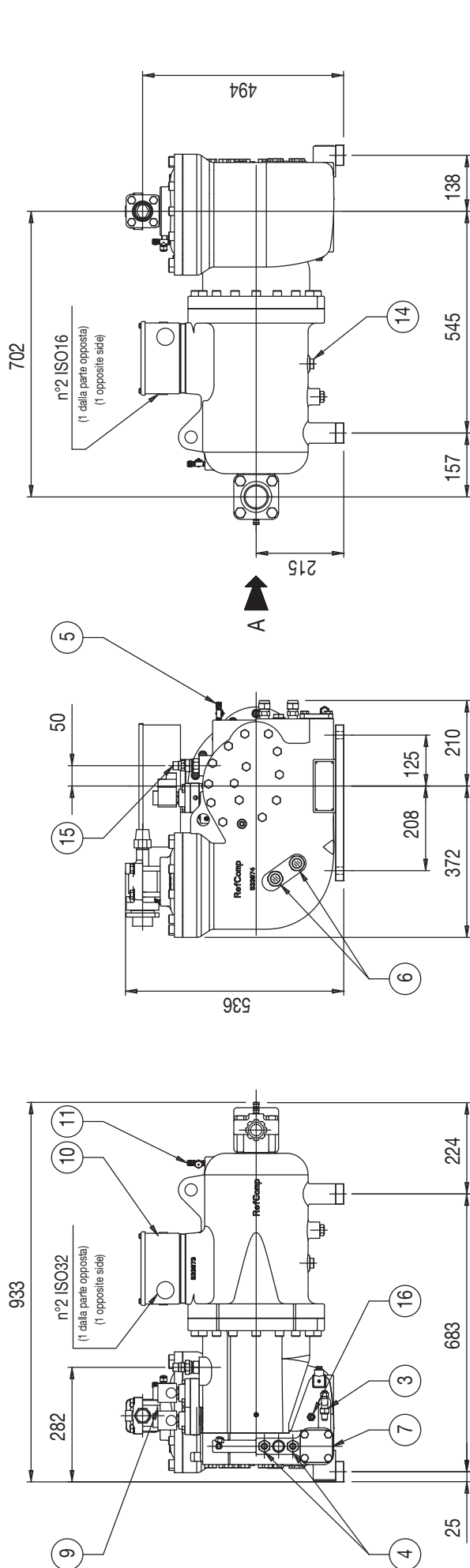


134-S-240_270_300 / SRC-S-785_885_985

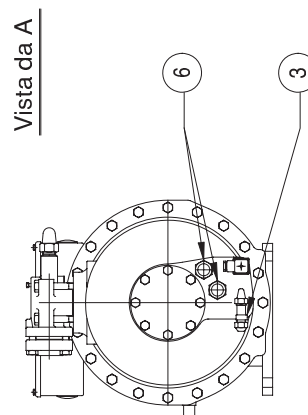
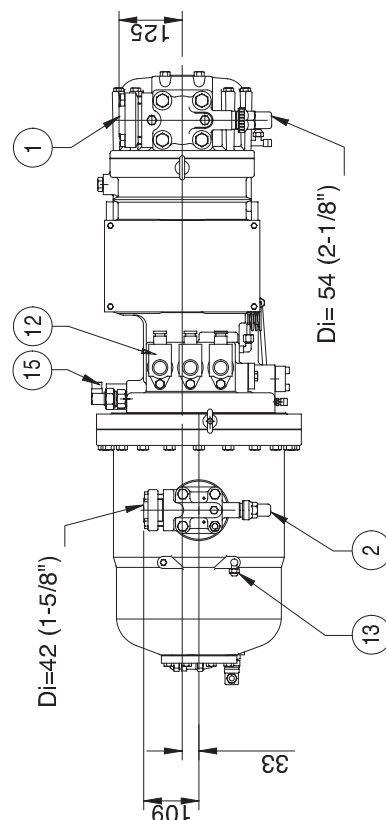
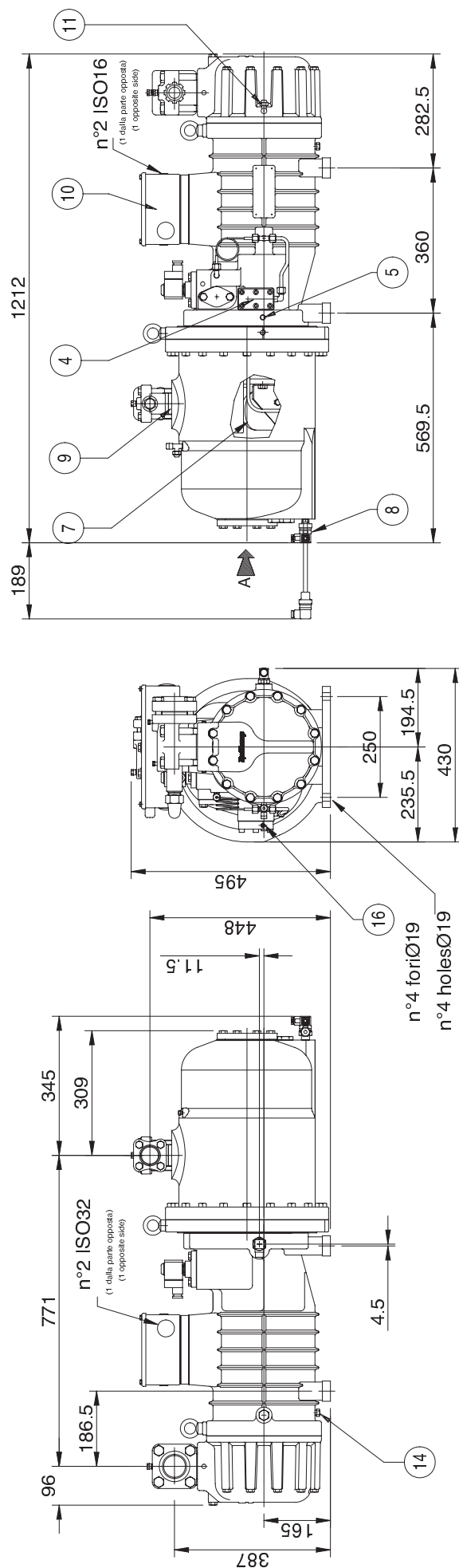


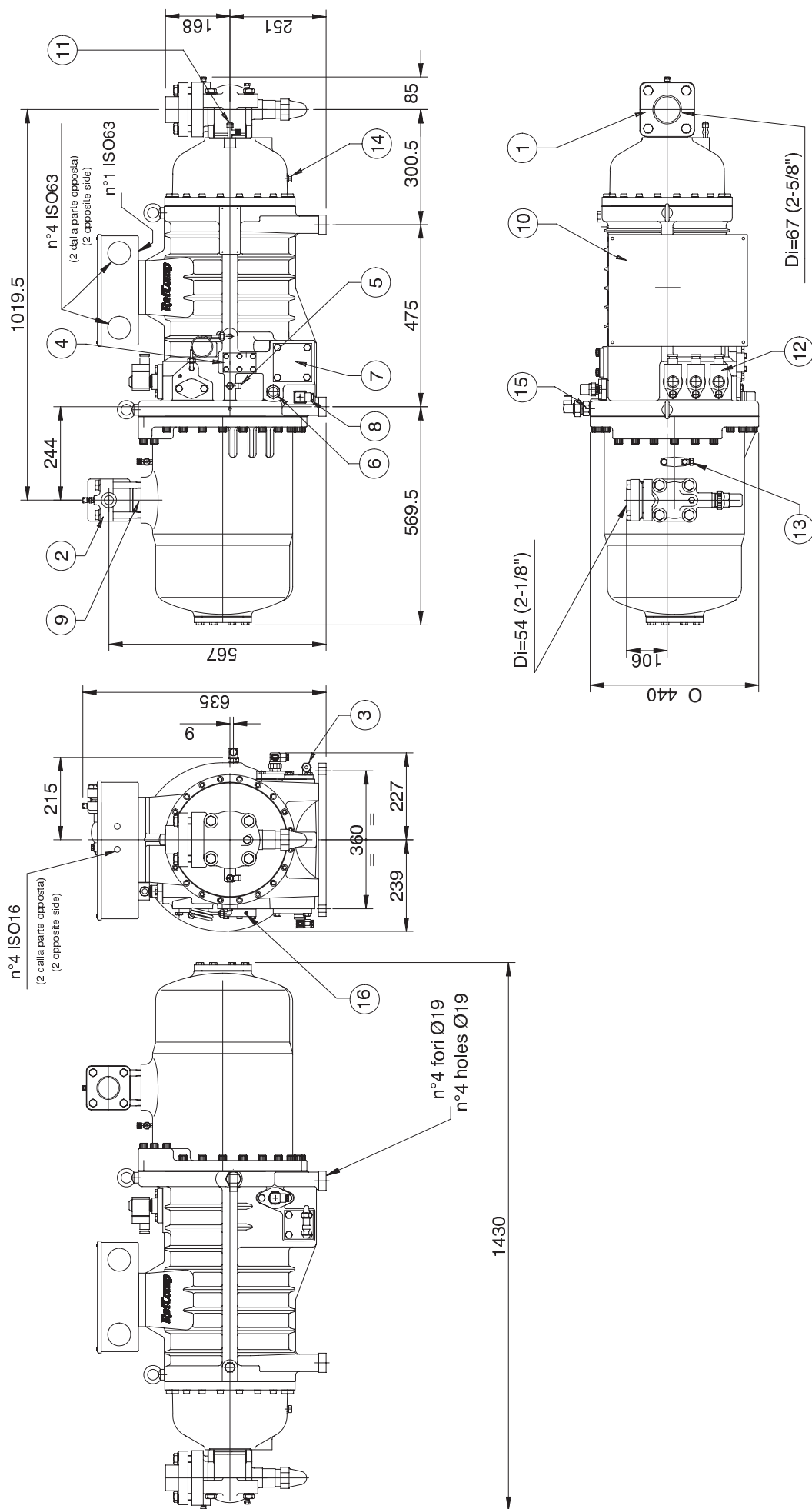


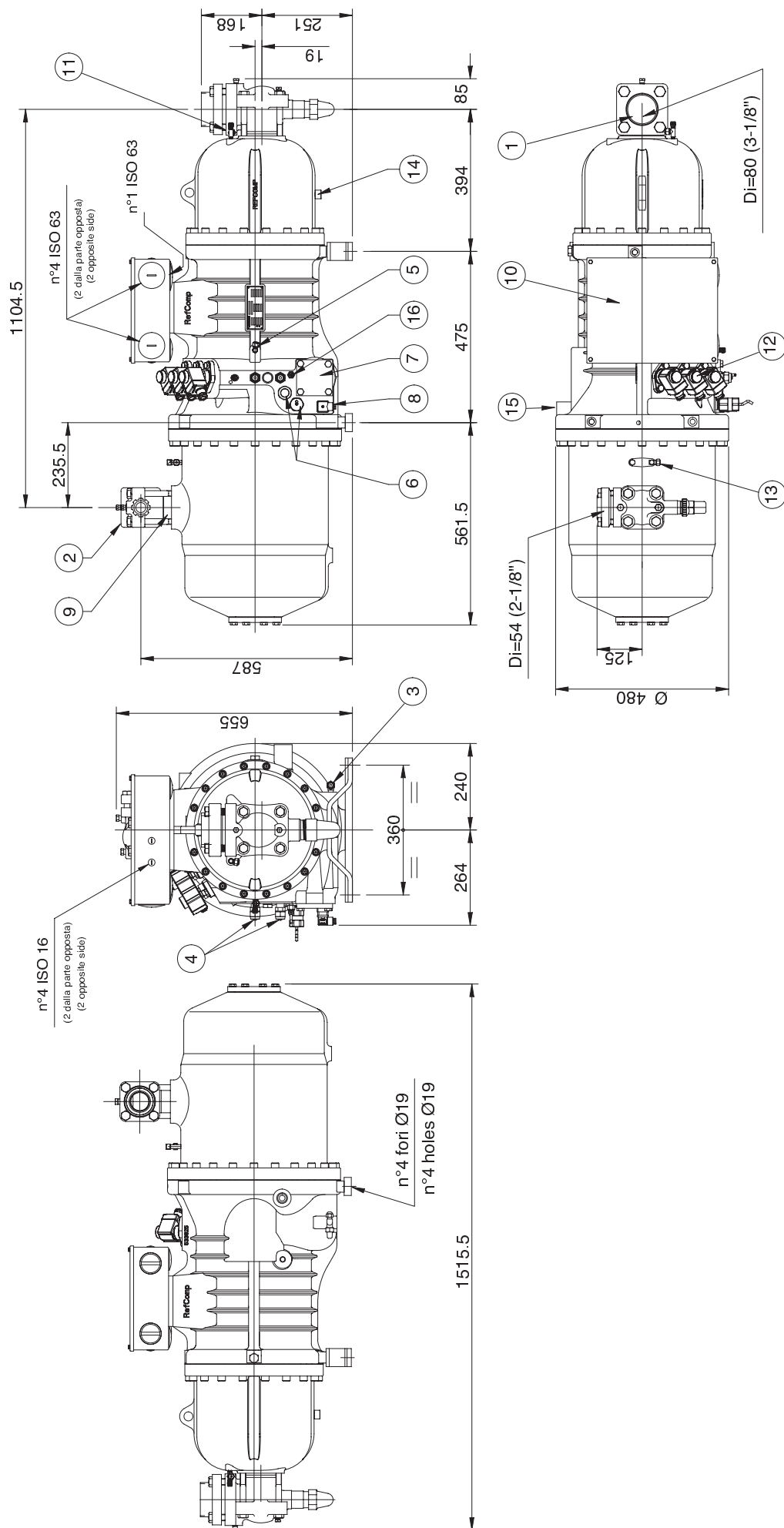
SRC-XS

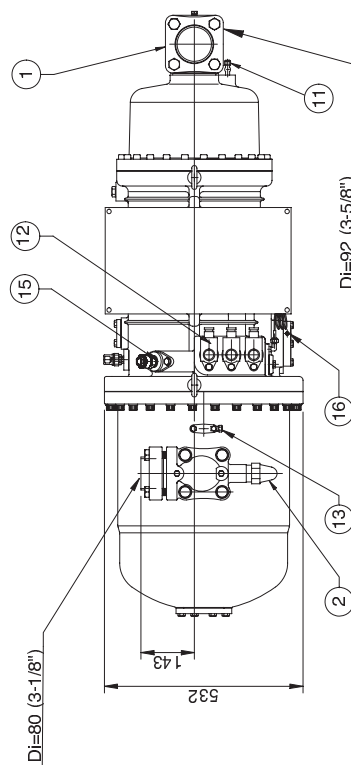
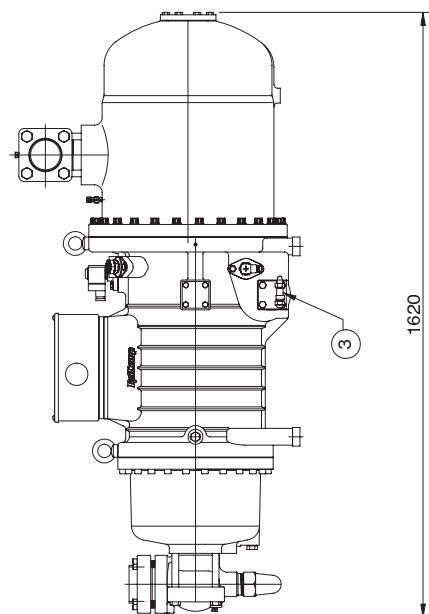
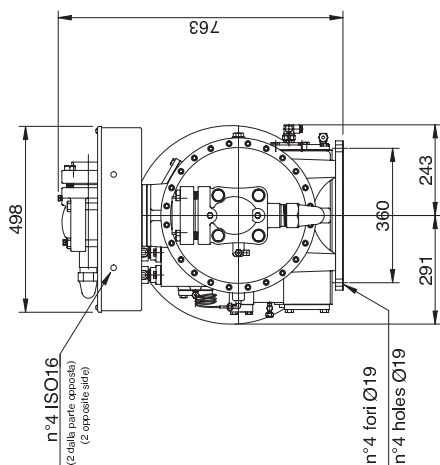
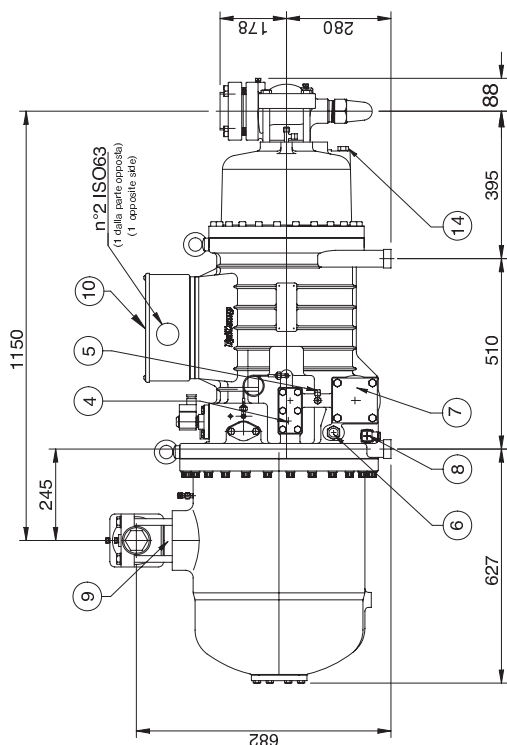


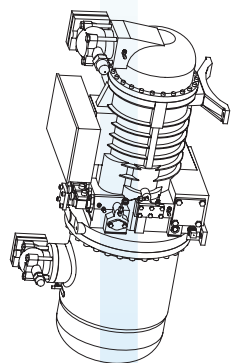
RefComp



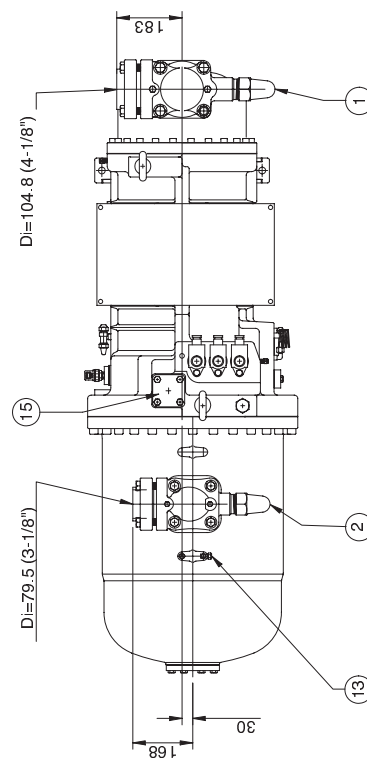
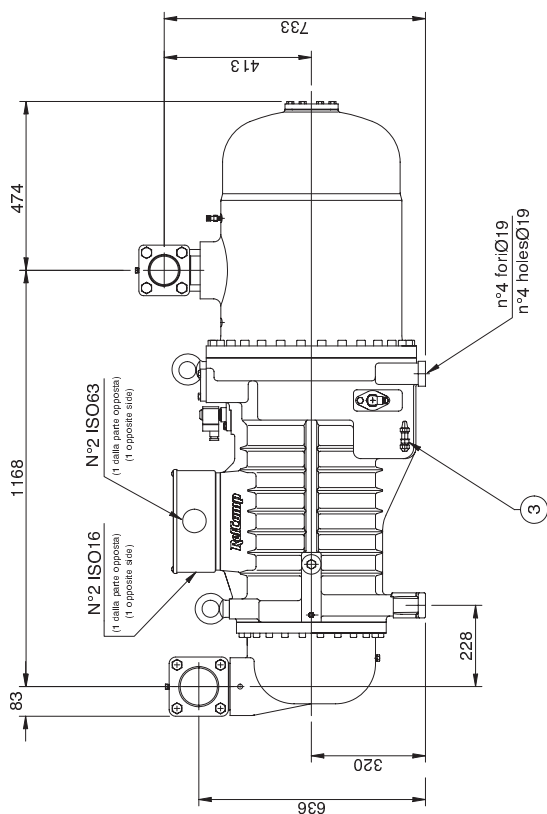
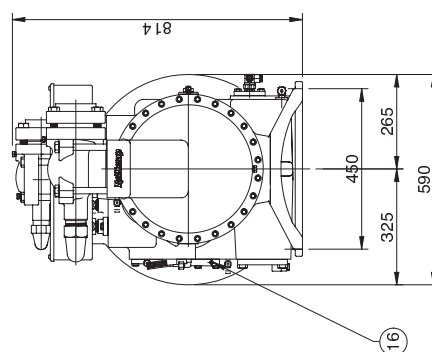
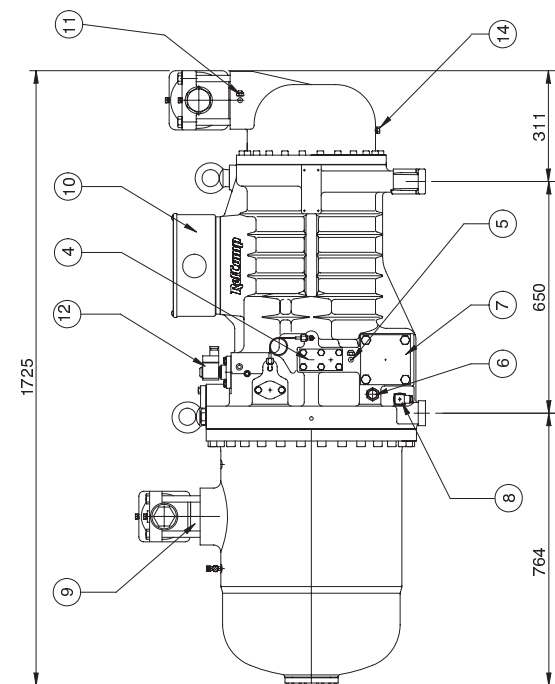








SRC-S-503_553_603



TECHNICAL DRAWINGS

DISEGNI TECNICI

KEY / LEGENDA

1	Suction shut-off valve (option)	Rubinetto aspirazione (opzionale)
2	Discharge shut-off valve	Rubinetto mandata
3	Oil charge/drain valve 3/8" SAE/FLARE	Rubinetto carico/scarico olio 3/8" SAE-FLARE
4	Oil cooling connections 1/2" SAE-FLARE	Connessioni raffreddamento olio 1/2" SAE-FLARE
5	Oil pressure connection 1/4" SAE-FLARE	Pressione olio 1/4" SAE-FLARE
6	Oil sight glass	Spia olio
7	Oil filter	Filtro olio
8	Crankase heater	Resistenza carter
9	Check valve	Valvola di non ritorno
10	Electrical box	Scatola morsettiera
11	Low pressure 1/4" SAE-FLARE	Bassa pressione 1/4" SAE-FLARE
12	Capacity control solenoid valves	Solenoidi di parzializzazione
13	High pressure 1/4" SAE-FLARE	Alta pressione 1/4" SAE-FLARE
14	Oil drain motor side	Scarico olio lato motore
15	Liquid injection/Eco connection (option)	Iniezione di liquido/economizzatore (opzionale)
16	Discharge temperature sensor 1/8"NPT (option)	Sensore temperatura di scarico 1/8"NPT (opzionale)

EXTENT OF DELIVERY

The compressors are standard provided with a built-in volumetric ratio $V_i=2,6$ for SRC-S series ("S" version) and $V_i=3,2$ for 134-S Series ("S" version).
The standard delivery consist of: part-winding or Y/ Δ motor (400V/3/50 [Hz] - 460V/3/60 [Hz]) according to different model; suction side solder connection, discharge shut-off valve, integrated discharge check valve, integrated safety relief valve, flanged-on oil separator, two oil sight glasses (1), oil filter, oil cooling connections (2), oil charge/drain valve, oil charge, capacity control (3), electrical motor with 6 PTC temperature sensors embedded, electronic protection device (4), electrical box with IP54 enclosure class, nitrogen protective charge, rubber vibration dampers.

- (1) one oil sight glass for SRC-S-183...255 and SRC-S-353...603 ; three oil sight glasses for 134-S-240...300 and SRC-S-785...985 (minimum level on both compressor sides).
- (2) Standard for SRC-XS, SRC-S-255...285 and SRC-S-785...985
- (3) 3 steps - 100, 75, 50% - for SRC-XS and 134-XS-040 and 2 steps - 100 o 50...min% - for 134-XS-050 and 134-XS-060; 4 steps - 100, 75, 50, min % - or stepless - 100 o 50...min % - for 134-S and SRC-S (to specify in phase of order).
- (4) INT 69 VS; RefComp RCX standard for 134-S-240...300 and SRC-S-785...985

ACCESSORIES

Compressors of 134-S and SRC-S series can be requested with these values of built-in volumetric ratio:

134-S Series:	$V_i = 2,2$ ("W" version)
	$V_i = 2,6$ ("L" version)
	$V_i = 3,2$ ("S" version)
	$V_i = 4,4$ ("R" version)
SRC-S Series	$V_i = 2,2$ ("W" version)
	$V_i = 2,6$ ("S" version)
	$V_i = 3,2$ ("H" version)

134-S-240...300 and SRC-S-785...985 series can be requested with the adjustable built-in volumetric ratio device:

134-S Series	$V_i = 3,2 \div 2,6$ ("SL" version)
	$V_i = 2,6 \div 2,2$ ("LW" version)
SRC-S Series	$V_i = 3,2 \div 2,6$ ("HS" version)
	$V_i = 2,6 \div 2,2$ ("SW" version)

134-S-240...300 and SRC-S-785...985 can be requested with axial suction line.

On request the following additional accessories can be provided: special motors, suction shut-off valve, connection for liquid injection, ECO connection with shut-off valve, crankcase heater, oil flow switch (1), conversion kit from stepless to step (or vice versa) capacity control (2), bridges for D.O.L. start, RefComp RCX and discharge PTC temperature sensor (oil temperature) (3).

The standard and/or optional electrical accessories (coils for solenoid valves, crankcase heater) are suitable for 230V-1-50/60 [Hz] power supply. RefComp RCX is suitable for 230/115V-1-50/60 [Hz]. However special voltages are also available upon request.

- (1) With or without additional INT 69 VS module.
- (2) Only for 134-S models.
- (3) Not applicable for 134-S-240...300, already provided, standard, with RefComp RCX and discharge temperature sensor.

ESTENSIONE FORNITURA STANDARD

I compressori sono forniti con rapporto volumetrico $V_i=2,6$ per SRC-S (versione "S") e $V_i = 3,2$ per 134-S (versione "S").
Motore PW o Y/ Δ (400V/3/50 [Hz] - 460V/3/60 [Hz]) in funzione del modello del compressore, connessione a saldare in aspirazione, rubinetto di mandata, valvola di non ritorno in mandata integrata, valvola di sicurezza integrata, separatore olio integrato, due spie olio (1), filtro olio, connessioni raffreddamento olio (2), rubinetto cario/scarico olio, carica olio, controllo di capacità (3), motore elettrico con 6 sensori di temperatura PTC integrati, modulo di protezione elettronica del motore (4), scatola morsettiera classe di protezione IP54, carica protettiva di azoto, anti-vibranti di base in gomma.

- (1) una spia per SRC-S-183...255 e SRC-S-353...603 ; tre spie per 134-S-240...300 e SRC-S-785...985 (livello minimo su entrambi i lati del compressore).
- (2) Standard per SRC-XS, SRC-S-255...285 e SRC-S-785...985
- (3) 3 gradini - 100, 75, 50% - per SRC-XS e 134-XS-040 e 2 gradini - 100 o 50...min% - per 134-XS-050 e 134-XS-060; 4 gradini - 100, 75, 50, min % - o continuo - 100 o 50...min % -per 134-S e SRC-S (da specificare in fase d'ordine).
- (4) INT 69 VS; RefComp RCX standard per 134-S-240...300 e SRC-S-785...985

ACCESSORI

I compressori 134-S e SRC-S possono essere richiesti con i seguenti valori del rapporto volumetrico intrinseco

Serie 134-S :	$V_i = 2,2$ (versione "W")
	$V_i = 2,6$ (versione "L")
	$V_i = 3,2$ (versione "S")
	$V_i = 4,4$ (versione "R")
Serie SRC-S	$V_i = 2,2$ (versione "W")
	$V_i = 2,6$ (versione "S")
	$V_i = 3,2$ (versione "H")

I modelli 134-S-240...300 e SRC-S-785...985, in particolare, possono essere richiesti con dispositivo di regolazione del V_i :

Serie 134-S	$V_i = 3,2 \div 2,6$ (versione "SL")
	$V_i = 2,6 \div 2,2$ (versione "LW")
Serie SRC-S	$V_i = 3,2 \div 2,6$ (versione "HS")
	$V_i = 2,6 \div 2,2$ (versione "SW")

I modelli 134-S-240...300 e SRC-S-785...985 possono inoltre essere richiesti nella versione con aspirazione assiale.

Su richiesta sono inoltre disponibili i seguenti accessori: motori speciali, rubinetto d'aspirazione, raccordo per iniezione di liquido, raccordo ECO con rubinetto, riscaldatore olio, flussostato olio (1), kit di conversione da parzializzazione continua a gradini (o viceversa) (2), ponticelli per avviamento diretto del motore elettrico, modulo di protezione elettronica del motore RefComp RCX e sensore PTC temperatura di scarico (sensore temperatura olio) (3).
Gli accessori elettrici, siano essi standard o opzionali (bobine valvole solenoidi, riscaldatore olio) sono previsti per alimentazione a 230V-1-50/60 [Hz]. La protezione RefComp RCX può essere alimentata a 230/115V-1-50/60 [Hz]. A richiesta sono disponibili voltaggi speciali.

- (1) Con o senza modulo INT 69 VS aggiuntivo.
- (2) Solo per i modelli 134-S e SRC-S.
- (3) Non applicabile per i modelli 134-S-240...300 e SRC-S-785...985, già corredati, standard, con il modulo di protezione RefComp RCX e sensore temperatura di scarico.

RefComp

WARM IDEAS

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SNOWMAN CO., LTD.

SP & SB SERIES

Reciprocating Compressors

SPSeries 3-70Hp, 17-222m³/h, 50Hz

2-Stage Reciprocating Compressors

SBSeries 12-30Hp, 43-103m³/h, 50Hz



MODEL DESIGNATION

2

Series SP
Series SB

COMPRESSOR		S	P	8	H	N	6000
		S	P	4	L	F	080E
		S	B	4			1400
COMPRESSOR TYPE							
	Semi-hermetic						
SERIES							
SP	Reciprocating compressor						
SB	Reciprocating compressor double stage						
N° OF CYLINDERS							
	SP Series: 2 - 4 - 6 - 8						
	SB Series: 4 - 6 - 8						
MOTOR SIZE (ONLY SP SERIES)							
H	Full size electrical motor						
L	Small size electrical motor						
LUBRICATION (ONLY SP SERIES)							
F	Pressure lubrication (with oil pump)						
N	Splasher lubrication (without oil pumps)						
NOMINAL MOTOR POWER Hp X 100							

(1) Only for 4-cylinder models from 10 to 20 [Hp] (in H version) and from 6 to 12 [Hp] (in L version)

(2) Last digit replaced with "E" letter for compressor with POE oil

INTRODUCTION

SP SERIES

The so many applications in which the semi-hermetic reciprocating compressors are involved comprise the commercial / industrial refrigeration field and, although more rarely, also specific air-conditioning projects.

Our SP series compressors fit perfectly most of such a wide variety of applications. Although already known for its high quality and reliable reciprocating compressors, RefComp has continued to invest in research and new technology, so as to improve constantly also this range. Which is now characterized by extremely high efficiency and silentness; can be used in enlarged application envelopes and comprise new smaller and larger sizes. Precisely, nowadays, the SP series consist of 34 models, with 2, 4, 6 or 8 cylinders. Its nominal power and displacement range from 3 to 70 [Hp] and from 17,5 to 222 [m³/h] at 50 [Hz], respectively.

SB SERIES

Two-stage semi-hermetic reciprocating compressors with high efficiency, robustness, compactness, reduced vibrations and minimum dead space. Through the two-stage compressors the final discharge pressure is achieved with two subsequent compression stages. In the first stage the gas is sucked from the evaporator, compressed and sent to an intermediate chamber from which it will be sent to the second compression stage, reaching then the final pressure. This way, the two compression ratios are way lower than that of a hypothetical single stage, granting thus a lower discharge temperature and a higher efficiency in comparison to that solution.

TECHNICAL DATA

4

Series SP
Series SB

		H (FULL SIZE MOTOR)					
		SP2H				SP4HF / SP4HN	
MODEL SP		0500	0600	0800	0900	1000	1200
		050E	060E	080E	090E	100E	120E
Nominal motor power	[Hp/kW]	5 / 3,7	6 / 4,4	8 / 5,9	9 / 6,6	10 / 7,5	12 / 8,9
Displacement at 50/60 [Hz]	[m ³ /hr]	17,5 / 21	21 / 25,7	24,5 / 29,4	28 / 33,6	35 / 42	42 / 50,4
N° of cylinders		2	2	2	2	4	4
Weight	[Kg]	86	87	87	91	143	146
Oil charge	[dm ³]	1,8	1,8	1,8	1,8	2,6	2,6
Crankcase heater		230 [V] -120 [W] -PTC 50/60 [Hz]				230 [V] -220 [W] 50/60 [Hz]	
Discharge line, internal Ø	[mm/ inches]	16 / 5/8"	16 / 5/8"	22 / 7/8"	22 / 7/8"	22 / 7/8"	28 / 1"1/8
Suction line, internal Ø	[mm/ inches]	28 / 1"1/8	28 / 1"1/8	28 / 1"1/8	28 / 1"1/8	28 / 1"1/8	35 / 1"3/8
Capacity control steps		-	-	-	-	100, 50%	100, 50%
Standard motor (part winding)		Δ230 [V]/3/50[Hz] Y400 [V]/3/50[Hz]				400 [V] /3/50 [Hz] 460 [V] /3/60 [Hz] ⁽¹⁾ P W	
Starting current PW/DOL	[A]	-- / 54	-- / 60	-- / 85	-- / 97	71 / 110	75 / 125
Starting current Y/ D	[A]	54 / --	60 / --	85 / --	97 / --	--	--
Max running current	[A]	12	14	16	20	24	27

		L (SMALL SIZE MOTOR)					
		SP2L				SP4LF/SP4LN	
MODEL SP		0300	0400	0500	0600	0600	0800
		030E	040E	050E	060E	060E	080E
Nominal motor power	[Hp/kW]	3 / 2	4 / 3	5 / 3,7	6 / 4,4	6 / 4,5	8 / 5,9
Displacement at 50/60 [Hz]	[m ³ /hr]	17,5 / 21	21 / 25,7	24,5 / 29,4	28 / 33,6	35 / 42	42 / 50,4
N° of cylinders		2	2	2	2	4	4
Weight	[Kg]	84	85	85	86	134	139
Oil charge	[dm ³]	1,8	1,8	1,8	1,8	2,6	2,6
Crankcase heater		230 [V] -120 [W] -PTC 50/60 [Hz]				230 [V] -220 [W] 50/60 [Hz]	
Discharge line, internal Ø	[mm/ inches]	16 / 5/8"	16 / 5/8"	22 / 7/8"	22 / 7/8"	22 / 7/8"	28 1"1/8
Suction line, internal Ø	[mm/ inches]	28 / 1"1/8	28 / 1"1/8	28 / 1"1/8	28 / 1"1/8	28 / 1"1/8	35 1"3/8
Capacity control steps		-	-	-	-	100, 50%	100, 50%
Standard motor (part winding)		Δ230 [V]/3/50[Hz] Y400 [V]/3/50[Hz]				400 [V] /3/50 [Hz] 460 [V] /3/60 [Hz] ⁽¹⁾ P W	
Starting current PW/DOL	[A]	-- / 35	-- / 49	-- / 54	-- / 60	43 / 70	54 / 88
Starting current Y/ D	[A]	35 / --	49 / --	54 / --	60 / --	--	--
Max running current	[A]	9	10	12	14	16	19

(1) Voltage tolerance ± 10%

H (FULL SIZE MOTOR)										
SP4HF / SP4HN		SP4H				SP6H			SP8H	
1500	2000	2200	2500	3000	3500	3700	4000	5000	6000	7000
150E	200E	220E	250E	300E	350E	370E	400E	500E	600E	700E
15 / 11,2	20 / 14,9	22 / 16,4	25 / 18,7	30 / 22,4	35 / 26,1	37 / 27,6	40 / 29,9	50 / 37,3	60 / 45	70 / 52
49 / 58,8	56 / 67,2	64,7 / 77,6	75 / 90	86,1 / 103,3	102,9 / 123,5	112,5 / 135	129,1 / 154,9	154,4 / 185,3	186 / 224	222 / 268
4	4	4	4	4	4	6	6	6	8	8
152	155	193	206	209	238	241	246	250	345	350
2,6	2,6	3,7	3,7	3,7	3,7	4,2	4,2	4,2	5	5
230 [V] -220 [W] 50/60 [Hz]		230 [V] -150 [W] -50/60 [Hz]							230 [V] -200 [W] -50/60 [Hz]	
28 / 1"1/8	28 / 1"1/8	28 - 1 1/8"	28 - 1 1/8"	28 - 1 1/8"	35 - 1 3/8"	35 - 1 3/8"	35 - 1 3/8"	42 - 1 5/8"	54 / 2"1/8	54 / 2"1/8
42 / 1"5/8	42 / 1"5/8	42 - 1 5/8"	54 - 2 1/8"	54 - 2 1/8"	54 - 2 1/8"	54 - 2 1/8"	54 - 2 1/8"	54 - 2 1/8"	67 / 2" 5/8	67 / 2" 5/8
100, 50%	100, 50%	100,50%	100,50%	100,50%	100,50%	100,66,33%	100,66,33%	100,66,33%	100,75,50%	100,75,50%
400 [V] /3/50 [Hz] 460 [V] /3/60 [Hz] ⁽¹⁾ P W		400 [V] /3/50 [Hz] - 460 [V] /3/60 [Hz] ⁽¹⁾							400 [V] /3/50 [Hz] 460 [V] /3/60 [Hz] ⁽¹⁾ P W	
86 / 144	106 / 168	102 / 170	123 / 201	150 / 243	178 / 290	178 / 290	201 / 330	233 / 394	271 / 361	329 / 439
--	--	--	--	--	--	--	--	--	--	--
33	40	37	43	52	56	60	75	93	115	140

L (SMALL SIZE MOTOR)										
SP4LF/SP4LN		SP4L				SP6L			SP8L	
1000	1200	1500	1800	2200	2500	2700	3000	4000	5000	6000
100E	120E	150E	180E	220E	250E	270E	300E	400E	500E	600E
10 / 7,5	12 / 8,9	15 / 11,2	18 / 13,3	22 / 16,4	25 / 18,7	27 / 20,2	30 / 22,4	40 / 29,9	50 / 37	60 / 45
49 / 58,8	56 / 67,2	64,7 / 77,6	75 / 90	86,1 / 103,3	102,9 / 123,5	112,5 / 135	129,1 / 154,9	154,4 / 185,3	186 / 224	222 / 268
4	4	4	4	4	4	6	6	6	8	8
144	146	182	186	195	220	230	236	247	340	345
2,6	2,6	3,7	3,7	3,7	3,7	4,2	4,2	4,2	5	5
230 [V] -220 [W] 50/60 [Hz]		230 [V] -150 [W] -50/60 [Hz]							230 [V] -200 [W] -50/60 [Hz]	
28 1"1/8	28 1"1/8	28 - 1 1/8"	28 - 1 1/8"	28 - 1 1/8"	35 - 1 3/8"	35 - 1 3/8"	35 - 1 3/8"	42 - 1 5/8"	54 / 2"1/8	54 / 2"1/8
35 1"3/8	35 1"3/8	42 - 1 5/8"	42 - 1 5/8"	54 - 2 1/8"	54 - 2 1/8"	54 - 2 1/8"	54 - 2 1/8"	54 - 2 1/8"	67 / 2" 5/8	67 / 2" 5/8
100, 50%	100, 50%	100,50%	100,50%	100,50%	100,50%	100,66,33%	100,66,33%	100,66,33%	100,75,50%	100,75,50%
400 [V] /3/50 [Hz] 460 [V] /3/60 [Hz] ⁽¹⁾ P W		400 [V] /3/50 [Hz] - 460 [V] /3/60 [Hz] ⁽¹⁾							400 [V] /3/50 [Hz] 460 [V] /3/60 [Hz] ⁽¹⁾ P W	
71 / 110	75 / 125	88 / 146	102 / 170	102 / 170	123 / 201	123 / 201	150 / 243	201 / 330	237 / 316	271 / 361
--	--	--	--	--	--	--	--	--	--	--
24	27	29	33	39	43	48	54	75	97	115

(1) Voltage tolerance $\pm 10\%$

TECHNICAL DATA

6

Series SP
Series SB

MODEL SB		SB4-1200	SB4-1400	SB6-1600	SB6-2000	SB6-2500	SB6-3000
		SB4-120E	SB4-140E	SB6-160E	SB6-200E	SB6-250E	SB6-300E
Nominal motor power	[Hp/kW]	18/8,8	14/10,3	16/11,8	20/14,7	25/18,4	30/22,1
Displacement at 50 [Hz] - LP/HP	[m ³ /hr]	43 / 27,6	51,5 / 27,6	64,7 / 32,4	75 / 37,5	86,1 / 43	102,9 / 51,5
N° of cylinders		4	4	6	6	6	6
Weight	[Kg]	202	206	215	225	235	242
Oil charge	[dm ³]	3,7	3,7	4,2	4,2	4,2	4,2
Crankcase heater		230 [V] - 150 [W] - 50/60 [Hz]					
Discharge line, internal Ø	[mm/ inches]	28 1" 1/8	28 1" 1/8	35 1" 3/8	35 1" 3/8	42 1" 5/8	42 1" 5/8
Suction line, internal Ø	[mm]/ ± 10%	35 1" 3/8	35 1" 3/8	42 1" 5/8	42 1" 5/8	42 1" 5/8	42 1" 5/8
Standard motor (part winding)		400 / 3 / 50 [Hz] ⁽¹⁾					
Locked rotor amperage LRA (A)	[A]	74/123	88/146	88/146	102/170	123/201	150/243
Max absorbed power (kW)	[kW]	15	20	22	26	29	33
Max running current	[A]	27	34	39	46	50	55

(1) Voltage tolerance ± 10%

BENEFITS

FLEXIBILITY FOR A WIDE RANGE OF APPLICATIONS

7

SP SERIES

- This series can be used with R22, and with the chlorine-free refrigerants R407C, R134a, R404A and R507 as well without making it necessary any mechanical changes.
- Developed specifically for air-conditioning and refrigeration applications at mid or low evaporating temperatures, this range can work up to 80 [°C] condensing temperature with R134a and down to -40 [°C] evaporating temperature with R22 or R404A or R507.
- It is available either with "full size" (H) electric motors - for air conditioning systems - or with "small size" (L) electric motors - for refrigeration systems.

SB SERIES

- Two-stage semi-hermetic reciprocating compressors, suitable for R22, R404A-R507 refrigerants.
- To further improve the efficiency of the compressor, it is possible to install a subcooler (as option - already fitted or not). This way the gas contained in the intermediate chamber is cooled down by the injection of liquid refrigerant before the second compression stage occurs.
- The lubrication is assured by an oil pump and a Venturi internal oil recovery system. It is protected by a high efficiency oil filter and can be monitored by means of differential pressure switches.
- Electrical motor provided with an electronic protection device based on temperature control and generously selected to grant the best performances, safety and reliability.
- Suction and discharge plate equipped with reed valves and made of specific materials for low temperature applications.

EFFICIENCY

OPTIMIZED LUBRICATION

RELIABILITY AND OPERATING SAFETY

LOUDNESS AND STABILITY

COMPACTNESS AND INSTALLATION
SIMPLICITY

EASY MAINTENANCE

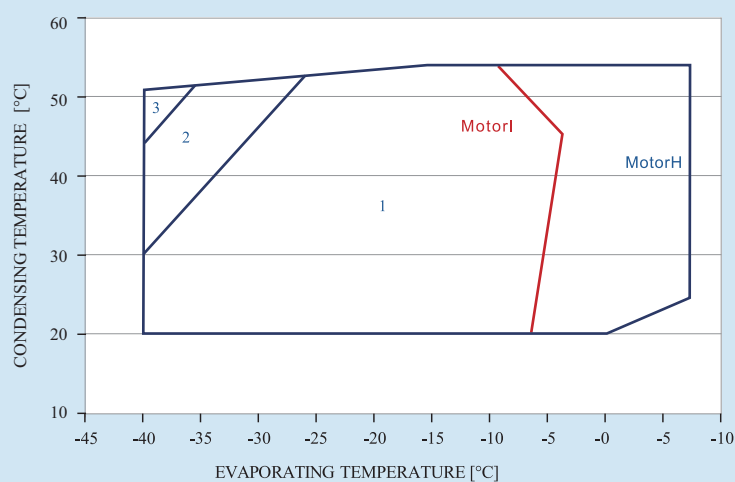
ENVELOPE

8

Series SP
Series SB

SP Series

R404A - R507 APPLICATION LIMITS



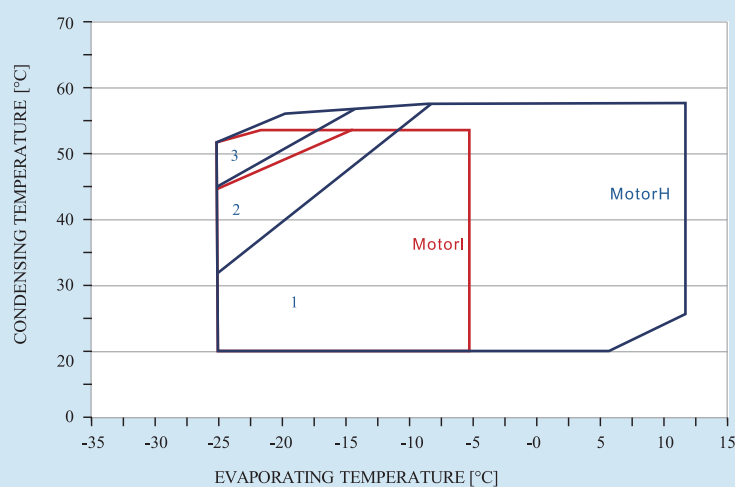
Limits refer to full load operation

1 = Standard applications (25 [°C] suction gas temperature)

2 = Additional cooling

3 = Additional cooling + 20 [K] max DT suction gas superheat

R407C APPLICATION LIMITS



Limits refer to full load operation

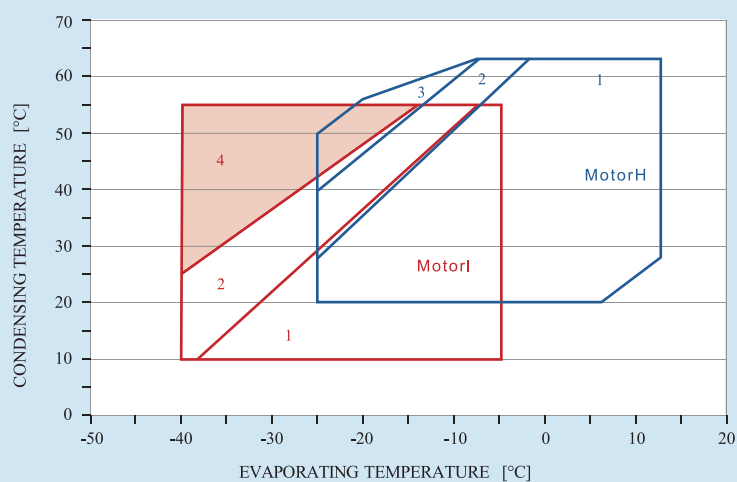
1 = Standard applications (25 [°C] suction gas temperature)

2 = Additional cooling

3 = Additional cooling + 20 [K] max DT suction gas superheat

ENVELOPE

R22 APPLICATION LIMITS



Limits refer to full load operation

1 = Standard applications (25 [°C] suction gas temperature)

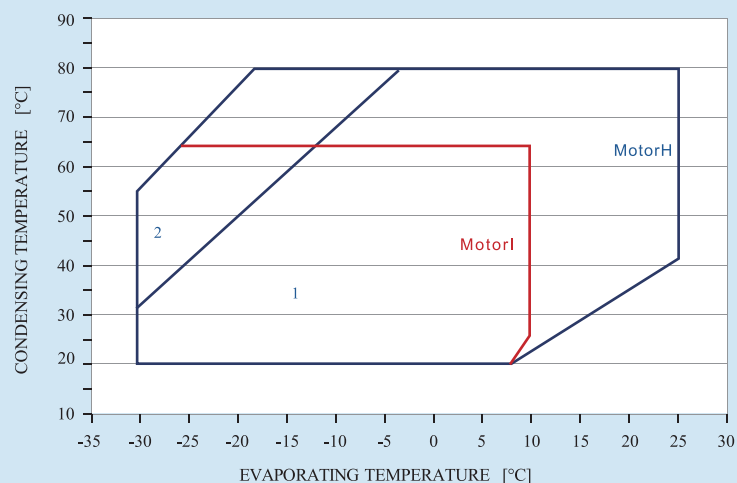
2 = Additional cooling

3 = Additional cooling + 20 [K] max DT suction gas superheat

4 = Additional cooling + liquid injection LCM

(Not applicable for SP8H...SP8L models)

R134a APPLICATION LIMITS



Limits refer to full load operation

1 = Standard applications (25 [°C] suction gas temperature)

2 = Additional cooling

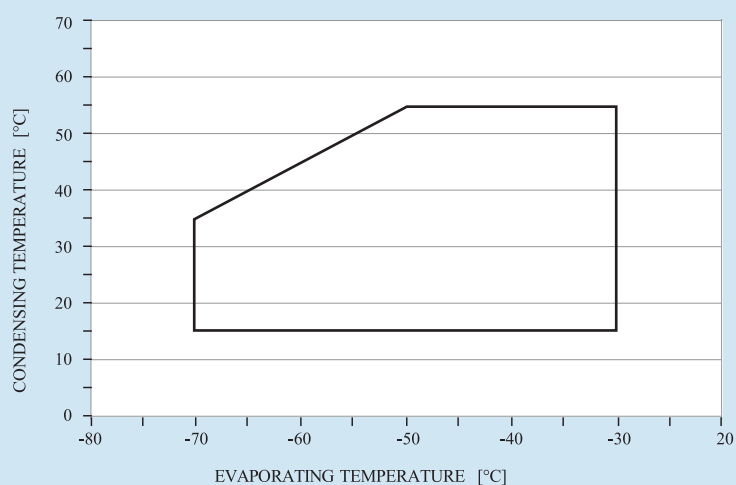
ENVELOPE

10

Series SP
Series SB

SB Series

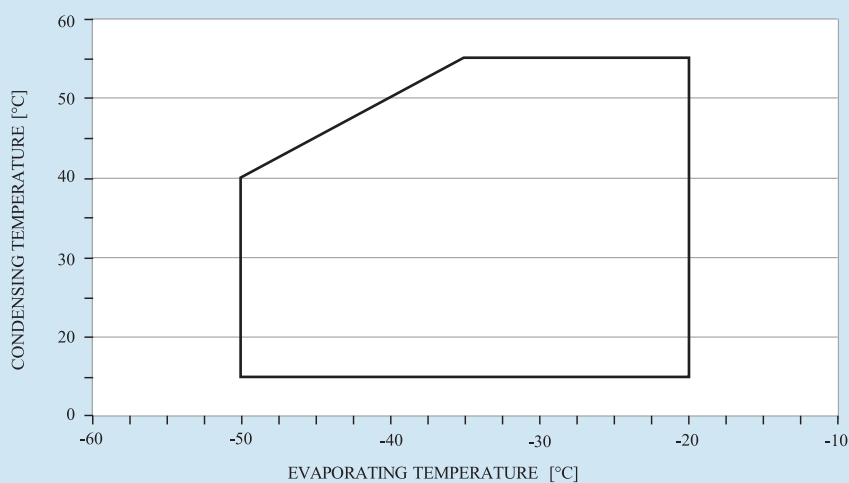
R404A - R507 APPLICATION LIMITS



Limits refer to full load operation

Suction gas superheat = 20 [°C]

R22 APPLICATION LIMITS



Limits refer to full load operation

Suction gas superheat = 20 [°C]

INTRODUCTION

SP-H, Refrigerant R22

SP2-H-0500								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	5.1	2.4	4.4	2.5	3.7	2.5	-	-
-20	6.8	2.7	5.8	2.9	4.9	3.0	-	-
-15	8.7	3.0	7.6	3.3	6.4	3.5	-	-
-10	10.9	3.3	9.6	3.6	8.2	3.9	6.8	4.2
-5	13.4	3.5	11.8	3.9	10.3	4.3	8.7	4.7
0	16.2	3.6	14.4	4.2	12.6	4.7	10.8	5.2
5	19.3	3.7	17.3	4.4	15.3	5.0	13.3	5.6
10	22.8	3.8	20.6	4.6	18.3	5.3	16.1	6.0

SP2-H-0600								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	6.1	2.8	5.3	2.9	4.4	3.0	-	-
-20	8.1	3.2	7.0	3.4	5.9	3.6	-	-
-15	10.4	3.6	9.1	3.9	7.7	4.2	-	-
-10	13.1	3.9	11.5	4.3	9.8	4.7	6.2	5.0
-5	16.1	4.2	14.2	4.7	12.3	5.2	10.4	5.6
0	19.4	4.3	17.3	5.0	15.2	5.6	13.0	6.2
5	23.2	4.5	20.8	5.2	18.4	6.0	16.0	6.7
10	27.3	4.5	24.7	5.4	22.0	6.3	19.3	7.2

SP2-H-0800								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	7.1	3.3	6.1	3.4	5.1	3.4	-	-
-20	9.5	3.8	8.2	4.0	6.9	4.2	-	-
-15	12.2	4.2	10.6	4.5	9.0	4.8	-	-
-10	15.3	4.5	13.4	5.0	11.5	5.4	9.5	5.8
-5	18.8	4.8	16.6	5.4	14.4	6.0	12.1	6.5
0	22.7	5.0	20.2	5.8	17.7	6.5	15.1	7.2
5	27.0	5.2	24.3	6.1	21.4	7.0	18.6	7.8
10	31.9	5.2	28.8	6.3	25.7	7.3	22.5	8.4

SP2-H-0900								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	8.1	3.7	7.0	3.9	5.9	3.9	-	-
-20	10.8	4.3	9.3	4.6	7.8	4.7	-	-
-15	13.9	4.8	12.1	5.2	10.3	5.5	-	-
-10	17.5	5.2	15.3	5.7	13.1	6.2	10.9	6.6
-5	21.5	5.5	19.0	6.2	16.4	6.8	13.9	7.4
0	25.9	5.7	23.1	6.6	20.2	7.4	17.3	8.2
5	30.9	5.9	27.7	6.9	24.5	7.9	21.3	8.9
10	36.4	6.0	32.9	7.2	29.3	8.4	25.8	9.5

SP4-HF-1000/SP4-HN-1000								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	10.2	4.1	8.8	4.2	7.3	4.3	-	-
-20	13.5	4.7	11.7	5.0	9.8	5.2	-	-
-15	17.4	5.2	15.1	5.7	12.8	6.0	-	-
-10	21.8	5.7	19.1	6.3	16.4	6.8	13.6	7.2
-5	26.8	6.0	23.7	6.8	20.5	7.5	17.3	8.1
0	32.4	6.3	28.9	7.2	25.3	8.1	21.6	8.9
5	38.6	6.4	34.7	7.6	30.6	8.6	26.6	9.7
10	45.5	6.5	41.1	7.8	36.7	9.1	32.2	10.4

SP4-HF-1200/SP4-HN-1200								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	12.2	4.9	10.5	5.1	8.8	5.1	-	-
-20	16.2	5.6	14.0	6.0	11.8	6.2	-	-
-15	20.9	6.3	18.2	6.8	15.4	7.2	-	-
-10	26.2	6.8	22.9	7.5	19.6	8.1	16.4	8.6
-5	32.2	7.2	28.4	8.1	24.6	9.0	20.8	9.7
0	38.9	7.5	34.6	8.6	30.3	9.7	26.0	10.7
5	46.4	7.7	41.6	9.1	36.8	10.4	31.9	11.6
10	54.6	7.8	49.4	9.4	44.0	11.0	38.6	12.5

SP4-HF-1500/SP4-HN-1500								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	14.2	5.7	12.3	5.9	10.3	6.0	-	-
-20	18.9	6.5	16.4	7.0	13.7	7.2	-	-
-15	24.4	7.3	21.2	7.9	17.9	8.4	-	-
-10	30.5	7.9	26.8	8.8	22.9	9.5	19.1	10.1
-5	37.5	8.4	33.2	9.5	28.7	10.5	24.3	11.3
0	45.4	8.8	40.4	10.1	35.4	11.3	30.3	12.5
5	54.1	9.0	48.5	10.6	42.9	12.1	37.2	13.6
10	63.7	9.1	57.6	11.0	51.3	12.8	45.1	14.6

SP4-HF-2000/SP4-HN-2000								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	16.3	6.5	14.0	6.8	11.7	6.8	-	-
-20	21.6	7.5	18.7	8.0	15.7	8.3	-	-
-15	27.8	8.3	24.2	9.0	20.5	9.6	-	-
-10	34.9	9.0	30.6	10.0	26.2	10.8	21.8	11.5
-5	42.9	9.6	37.9	10.8	32.8	11.9	27.7	13.0
0	51.9	10.0	46.2	11.5	40.4	12.9	34.6	14.3
5	61.8	10.3	55.5	12.1	49.0	13.8	42.5	15.5
10	72.8	10.4	65.8	12.5	58.7	14.6	51.5	16.4

SP4-H-2200								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	18.7	7.8	16.4	8.8	14.2	9.6	-	-
-20	23.9	8.9	21.0	10.1	18.2	11.1	-	-
-15	30.3	9.8	26.8	11.2	23.4	12.4	-	-
-10	38.0	10.6	33.8	12.2	29.8	13.7	25.9	15.2
-5	47.1	11.3	42.1	13.0	37.3	14.9	32.7	16.8
0	57.4	11.9	51.7	13.8	46.1	15.9	40.7	18.3
5	69.1	12.3	62.4	14.5	56.0	16.9	49.7	19.6
10	82.2	12.6	74.5	15.0	67.1	17.8	59.9	21.0

SP4-H-2500								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	21.7	9.0	19.0	10.3	16.4	11.1	-	-
-20	27.7	10.3	24.3	11.7	21.1	12.8	-	-
-15	35.1	11.4	31.1	13.0	27.2	14.4	-	-
-10	44.1	12.3	39.2	14.1	34.6	15.9	30.1	17.7
-5	54.6	13.1	48.8	15.1	43.3	17.2	38.0	19.5
0	66.6	13.8	59.9	16.0	53.4	18.5	47.2	21.2
5	80.2	14.3	72.4	16.8	64.9	19.6	57.6	22.8
10	95.3	14.7	86.4	17.4	77.8	20.7	69.4	24.3

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SP4-H-3000								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	24.9	10.4	21.8	11.8	18.8	12.7	-	-
-20	31.7	11.8	27.9	13.4	24.2	14.7	-	-
-15	40.3	13.1	35.6	14.9	31.2	16.5	-	-
-10	50.6	14.1	45.0	16.2	39.6	18.2	34.5	20.3
-5	62.6	15.0	56.0	17.3	49.7	19.8	43.5	22.3
0	76.4	15.8	68.7	18.4	61.3	21.2	54.1	24.3
5	92.0	16.4	83.1	19.2	74.4	22.5	66.1	26.1
10	109.3	16.8	99.1	20.0	89.2	23.7	79.6	27.9

SP4-H-3500								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	29.8	12.4	26.1	14.1	22.5	15.2	-	-
-20	37.9	14.1	33.4	16.0	29.0	17.6	-	-
-15	48.2	15.6	42.6	17.8	37.3	19.8	-	-
-10	60.5	16.9	53.8	19.3	47.4	21.8	41.2	24.2
-5	74.8	18.0	67.0	20.7	59.4	23.6	52.0	26.7
0	91.3	18.9	82.1	22.0	73.2	25.3	64.6	29.0
5	109.9	19.6	99.3	23.0	89.0	26.9	79.0	31.2
10	130.7	20.1	118.5	23.9	106.6	28.3	95.2	33.3

SP6-H-3700								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	32.6	13.6	28.5	15.4	24.6	16.7	-	-
-20	41.5	15.4	36.5	17.5	31.7	19.3	-	-
-15	52.7	17.1	46.6	19.5	40.8	21.6	-	-
-10	66.2	18.5	58.9	21.2	51.9	23.9	45.1	26.5
-5	81.9	19.7	73.3	22.7	65.0	25.9	57.0	29.2
0	99.9	20.6	89.9	24.0	80.1	27.7	70.7	31.8
5	120.3	21.4	108.7	25.2	97.4	29.4	86.5	34.2
10	143.0	22.0	129.6	26.2	116.7	31.0	104.1	36.5

SP6-H-4000								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	37.5	15.6	32.8	17.7	28.3	19.2	-	-
-20	47.7	17.7	42.0	20.2	36.4	22.1	-	-
-15	60.6	19.6	53.6	22.4	46.9	24.9	-	-
-10	76.1	21.2	67.7	24.3	59.6	27.4	54.8	30.5
-5	94.1	22.6	84.2	26.1	74.7	29.7	65.5	33.6
0	114.9	23.7	103.3	27.6	92.1	31.9	81.3	36.5
5	138.3	24.6	124.9	28.9	111.9	33.8	99.4	39.3
10	164.4	25.3	149.0	30.1	134.1	35.6	119.7	41.9

SP6-H-5000								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	44.8	18.6	39.2	21.1	38.8	22.9	-	-
-20	57.0	21.2	50.2	24.1	43.5	26.5	-	-
-15	72.4	23.5	64.0	26.7	56.0	29.7	-	-
-10	90.9	25.4	80.9	29.1	71.2	32.8	61.9	36.4
-5	112.5	27.0	100.7	31.2	89.2	35.5	78.2	40.1
0	137.3	28.4	123.4	33.0	110.1	38.1	97.2	43.6
5	165.3	29.4	149.2	34.6	133.7	40.4	118.8	47.0
10	196.4	30.2	178.1	35.9	160.3	42.6	143.1	50.1

SP8-H-6000								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	59.8	23.3	47.6	24.9	40.3	26.0	-	-
-20	74.6	25.9	61.7	28.2	53.5	30.0	-	-
-15	91.9	28.2	78.1	31.3	68.6	33.9	-	-
-10	112.2	30.3	97.2	34.2	86.1	37.6	73.9	40.4
-5	135.8	32.1	119.3	36.8	106.3	41.0	91.9	44.8
0	163.1	33.6	144.8	39.2	129.7	44.3	112.7	49.0
5	194.5	34.8	174.1	41.3	156.5	47.3	136.6	53.0
10	230.3	35.7	207.5	43.1	187.1	50.1	164.1	56.8

SP8-H-7000								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	71.4	27.8	56.8	29.8	48.1	31.0	-	-
-20	89.0	30.9	73.7	33.7	63.8	35.8	-	-
-15	109.7	33.7	93.3	37.4	81.9	40.4	-	-
-10	133.9	36.2	116.0	40.8	102.8	44.8	88.2	48.3
-5	162.1	38.3	142.4	44.0	126.9	49.0	109.7	53.5
0	194.7	40.1	172.9	46.8	154.8	52.9	134.5	58.5
5	232.1	41.6	207.8	49.3	186.7	56.5	163.1	63.3
10	274.9	42.7	247.6	51.5	223.3	59.8	195.8	67.8

KEY

Pf = cooling capacity (kW)
Pa = input power (kW)
Te = evaporating temperature (°C)
Tc = condensing temperature (°C)
50Hz = frequency
Liquid subcooling 5K
Suction gas superheat 10K

identifies additional cooling required (see application limits)

Limits refer to full load 50 Hz operation

For data at different working conditions please refer to RefComp LEONARDO selection program

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SP-L, Refrigerant R22

SP2-L-0300								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	1.5	1.7	1.5	1.5	1.3	1.5	1.0	1.5
-35	2.5	1.9	2.3	1.9	1.9	1.9	1.6	2.0
-30	3.6	2.1	3.3	2.2	2.8	2.4	2.4	2.5
-25	5.1	2.4	4.5	2.5	3.8	2.8	3.5	2.9
-20	6.7	2.6	5.9	2.9	5.1	3.2	4.7	3.4
-15	8.6	2.8	7.6	3.2	6.6	3.6	6.1	3.8
-10	10.7	3.0	9.5	3.5	8.4	4.0	7.8	4.2
-5	13.0	3.3	11.6	3.8	10.3	4.4	9.7	4.7

SP2-L-0400								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	1.8	2.0	1.8	1.8	1.5	1.8	1.2	1.8
-35	3.0	2.3	2.8	2.2	2.3	2.3	2.0	2.4
-30	4.4	2.5	4.0	2.6	3.3	2.8	2.9	3.0
-25	6.1	2.8	5.4	3.0	4.6	3.3	4.2	3.5
-20	8.0	3.1	7.1	3.4	6.2	3.8	5.6	4.0
-15	10.3	3.4	9.1	3.8	8.0	4.3	7.4	4.6
-10	12.8	3.6	11.4	4.2	10.0	4.8	9.4	5.1
-5	15.6	3.9	13.9	4.6	12.4	5.2	11.6	5.6

SP2-L-0500								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	2.1	2.4	2.1	2.1	1.8	2.1	1.4	2.1
-35	3.4	2.7	3.2	2.6	2.7	2.7	2.3	2.8
-30	5.1	3.0	4.6	3.1	3.9	3.3	3.4	3.4
-25	7.1	3.3	6.3	3.5	5.4	3.9	4.9	4.1
-20	9.4	3.6	8.3	4.0	7.2	4.4	6.6	4.7
-15	12.0	3.9	10.6	4.4	9.3	5.0	8.6	5.3
-10	15.0	4.2	13.3	4.9	11.7	5.5	10.9	5.9
-5	18.2	4.5	16.3	5.3	14.4	6.1	13.6	6.5

SP2-L-0600								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	2.4	2.7	2.4	2.4	2.0	2.4	1.6	2.4
-35	3.9	3.0	3.7	2.9	3.1	3.0	2.6	3.2
-30	5.8	3.4	5.3	3.5	4.4	3.7	3.9	3.9
-25	8.1	3.7	7.2	4.0	6.2	4.4	5.6	4.6
-20	10.7	4.1	9.5	4.5	8.2	5.0	7.5	5.3
-15	13.7	4.4	12.2	5.0	10.6	5.7	9.8	6.0
-10	17.1	4.8	15.2	5.5	13.4	6.3	12.5	6.7
-5	20.9	5.1	18.6	6.1	16.5	6.9	15.5	7.3

SP4-LF-0600/SP4-LN-0600								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	3.0	3.2	3.0	2.8	2.5	2.8	2.0	2.9
-35	4.9	3.5	4.6	3.5	3.8	3.6	3.3	3.7
-30	7.3	4.0	6.6	4.1	5.6	4.4	4.9	4.6
-25	10.1	4.4	9.0	4.7	7.7	5.2	6.9	5.4
-20	13.4	4.8	11.9	5.3	10.3	5.9	9.4	6.3
-15	17.1	5.2	15.2	5.9	13.2	6.7	12.3	7.1
-10	21.4	5.6	19.0	6.5	16.7	7.4	15.6	7.9
-5	26.1	6.1	23.2	7.1	20.6	8.4	19.4	8.6

SP4-LF-0800/SP4-LN-0800								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	3.6	3.8	3.6	3.4	3.0	3.3	2.4	3.4
-35	5.9	4.3	5.5	4.2	4.6	4.3	3.9	4.5
-30	8.8	4.7	7.9	4.9	6.7	5.3	5.9	5.5
-25	12.1	5.2	10.8	5.6	9.2	6.2	8.3	6.5
-20	16.1	5.7	14.3	6.4	12.3	7.1	11.3	7.5
-15	20.6	6.2	18.3	7.1	15.9	8.0	14.7	8.5
-10	25.6	6.8	22.8	7.8	20.1	8.9	18.7	9.4
-5	31.3	7.3	27.9	8.6	24.7	9.8	23.2	10.4

SP4-LF-1000/SP4-LN-1000								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	4.2	4.4	4.2	4.0	3.5	3.9	2.9	4.0
-35	6.9	5.0	6.4	4.8	5.4	5.0	4.6	5.2
-30	10.2	5.5	9.2	5.7	7.8	6.1	6.9	6.4
-25	14.2	6.1	12.6	6.6	10.8	7.2	9.7	7.6
-20	18.8	6.7	16.6	7.4	14.4	8.3	13.2	8.8
-15	24.0	7.3	21.3	8.3	18.6	9.4	17.2	9.9
-10	29.9	7.9	26.6	9.1	23.4	10.4	21.8	11.0
-5	36.5	8.5	32.5	10.0	28.8	11.4	27.1	12.1

SP4-LF-1200/SP4-LN-1200								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	4.8	5.1	4.8	4.6	4.0	4.5	3.3	4.6
-35	7.9	5.7	7.4	5.5	6.1	5.7	5.2	6.0
-30	11.7	6.3	10.6	6.5	8.9	7.0	7.8	7.3
-25	16.2	7.0	14.4	7.5	12.3	8.2	11.1	8.7
-20	21.4	7.6	19.0	8.5	16.4	9.5	15.0	10.0
-15	27.4	8.3	24.3	9.5	21.2	10.7	19.7	11.3
-10	34.2	9.0	30.4	10.4	26.7	11.9	25.0	12.6
-5	41.7	9.7	37.2	11.4	33.0	13.0	31.0	13.8

SP4-L-1500								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	6.9	4.7	5.8	4.9	4.8	4.9	4.5	4.8
-35	9.7	5.7	8.2	6.0	7.0	6.4	6.5	6.4
-30	13.2	6.6	11.3	7.3	9.7	7.9	9.0	8.1
-25	17.5	7.6	15.1	8.5	13.1	9.4	12.2	9.8
-20	22.7	8.6	19.8	9.8	17.4	10.9	16.3	11.5
-15	29.1	9.6	25.6	11.0	22.7	12.5	21.4	13.1
-10	36.8	10.6	32.7	12.2	29.2	14.0	27.7	14.8
-5	45.9	11.5	41.1	13.4	37.1	15.5	35.4	16.4

SP4-L-1800								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	8.0	5.5	6.7	5.6	5.6	5.7	5.2	5.6
-35	11.3	6.6	9.5	7.0	8.1	7.4	7.5	7.5
-30	15.3	7.7	13.1	8.4	11.2	9.1	10.4	9.4
-25	20.3	8.9	17.5	9.9	15.2	10.9	14.2	11.3
-20	26.4	10.0	23.0	11.3	20.1	12.7	18.9	13.3
-15	33.8	11.2	29.7	12.8	26.3	14.5	24.9	15.2
-10	42.7	12.3	37.9	14.2	33.9	16.2	32.2	17.2
-5	53.2	13.3	47.7	15.6	43.0	17.9	41.0	19.1

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Series SP
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SP4-L-2200								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	9.2	6.3	7.7	6.5	6.4	6.5	5.9	6.4
-35	13.0	7.5	10.9	8.0	9.3	8.5	8.6	8.6
-30	17.6	8.8	15.0	9.7	12.8	10.5	12.0	10.8
-25	23.3	10.2	20.0	11.3	17.4	12.5	16.3	13.0
-20	30.3	11.5	26.3	13.0	23.1	14.6	21.7	15.2
-15	38.7	12.8	34.1	14.7	30.2	16.6	28.5	17.5
-10	48.9	14.1	43.5	16.3	38.9	18.6	36.9	19.7
-5	61.0	15.3	54.7	17.8	49.3	20.6	47.0	21.9

SP4-L-2500								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	11.0	7.5	9.2	7.7	7.7	7.8	7.1	7.7
-35	15.5	9.0	13.1	9.6	11.1	10.1	10.3	10.2
-30	21.0	10.6	17.9	11.6	15.3	12.5	14.3	12.9
-25	27.8	12.2	24.0	13.5	20.8	15.0	19.4	15.5
-20	36.2	13.7	31.5	15.5	27.6	17.4	26.0	18.2
-15	46.3	15.3	40.7	17.5	36.1	19.8	34.1	20.9
-10	58.5	16.8	52.0	19.5	46.5	22.2	44.1	23.6
-5	73.0	18.3	65.4	21.3	59.0	24.6	56.2	26.1

SP6-L-2700								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	12.1	8.3	10.1	8.5	8.4	8.6	7.8	8.4
-35	17.0	9.9	14.3	10.5	12.1	11.1	11.2	11.2
-30	23.0	11.6	19.6	12.6	16.8	13.7	15.6	14.1
-25	30.4	13.3	26.2	14.8	22.7	16.4	21.3	17.0
-20	39.6	15.0	34.5	17.0	30.2	19.1	28.4	19.9
-15	50.7	16.8	44.6	19.2	39.5	21.7	37.3	22.9
-10	64.0	18.4	56.9	21.3	50.8	24.3	48.3	25.8
-5	79.8	20.0	71.6	23.3	64.6	26.9	61.5	28.6

SP6-L-3000								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	13.9	9.5	11.6	9.7	9.7	9.8	8.9	9.7
-35	19.5	11.3	16.4	12.1	13.9	12.7	12.9	12.9
-30	26.4	13.3	22.5	14.5	19.3	15.7	18.0	16.2
-25	35.0	15.3	30.1	17.0	26.1	18.8	24.5	19.5
-20	45.5	17.3	39.6	19.6	34.7	21.9	32.7	22.9
-15	58.2	19.3	51.3	22.1	45.4	25.0	42.9	26.3
-10	73.6	21.2	65.4	24.5	58.4	28.0	55.5	29.6
-5	91.8	23.0	82.3	26.8	74.2	30.9	70.7	32.9

SP6-L-4000								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	16.6	11.3	13.8	11.6	11.6	11.8	10.7	11.6
-35	23.3	13.6	19.6	14.4	16.6	15.2	15.4	15.4
-30	31.6	15.9	26.9	17.4	23.1	18.8	21.5	19.3
-25	41.8	18.3	36.0	20.4	31.2	22.5	29.2	23.3
-20	54.4	20.7	47.3	23.4	41.5	26.2	39.0	27.4
-15	69.6	23.0	61.2	26.4	54.2	29.8	51.3	31.4
-10	87.9	25.3	78.1	29.3	69.8	33.4	66.3	35.4
-5	109.7	27.5	98.3	32.1	88.7	36.9	84.5	39.3

SP8-L-5000								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	-	-	-	-	-	-	-	-
-35	36.2	17.4	24.7	17.7	-	-	-	-
-30	47.0	20.1	35.2	21.3	-	-	-	-
-25	59.6	22.9	47.4	24.8	40.0	26.0	-	-
-20	74.3	25.6	61.4	28.4	53.0	30.4	-	-
-15	91.6	28.2	77.8	31.7	68.1	34.7	63.3	35.4
-10	111.7	30.4	96.7	34.8	85.5	38.7	79.9	39.9
-5	135.0	32.3	118.7	37.5	105.7	42.3	99.0	44.1

SP8-L-6000								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	-	-	-	-	-	-	-	-
-35	43.6	20.7	29.4	21.2	-	-	-	-
-30	56.1	24.0	42.0	25.4	-	-	-	-
-25	71.1	27.4	56.5	29.7	47.8	31.0	-	-
-20	88.7	30.6	73.3	33.9	63.3	36.3	-	-
-15	109.3	33.6	92.8	37.9	81.3	41.4	75.6	42.2
-10	133.3	36.3	115.5	41.6	102.1	46.2	95.3	47.6
-5	161.2	38.5	141.7	44.8	126.2	50.5	118.2	52.6

KEY

Pf = cooling capacity (kW)
Pa = input power (kW)
Te = evaporating temperature (°C)
Tc = condensing temperature (°C)
50Hz = frequency
Liquid subcooling 5K
Suction gas superheat 10K

identifies additional cooling required (see application limits)

Limits refer to full load 50 Hz operation

For data at different working conditions please refer to RefComp LEONARDO selection program

INTRODUCTION

SP-H, Refrigerant R407C

SP2-H-050E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	4.3	1.8	3.4	1.9	2.8	1.9	-	-
-20	5.7	2.2	4.6	2.3	3.7	2.4	-	-
-15	7.5	2.5	6.2	2.7	5.1	2.9	-	-
-10	9.6	2.8	8.2	3.1	6.8	3.3	-	-
-5	12.2	3.0	10.6	6.4	8.9	3.7	7.6	3.9
0	15.3	3.1	13.3	3.6	11.4	4.0	9.8	4.4
5	18.7	3.2	16.5	3.8	14.2	4.4	12.3	4.8
10	22.5	3.3	20.1	4.0	17.5	4.7	15.3	5.1

SP2-H-060E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	5.2	2.2	4.1	2.3	3.4	2.3	-	-
-20	6.8	2.6	5.5	2.8	4.5	2.9	-	-
-15	6.9	3.0	7.4	3.3	6.4	3.4	-	-
-10	11.6	3.3	9.8	3.7	8.2	3.9	-	-
-5	14.7	3.5	12.7	4.0	10.7	4.4	9.1	4.7
0	18.3	3.7	16.0	4.3	13.7	4.8	11.7	5.2
5	22.4	3.9	19.8	4.6	17.1	5.2	14.8	5.7
10	27.0	3.9	24.1	4.8	21.0	5.5	18.3	6.1

SP2-H-050E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	6.0	2.5	4.7	2.6	3.9	2.6	-	-
-20	7.9	3.0	6.4	3.2	5.2	3.3	-	-
-15	10.4	3.5	8.6	3.8	7.1	4.0	-	-
-10	13.5	3.8	11.4	4.2	9.5	4.6	-	-
-5	17.1	4.1	14.8	4.7	12.4	5.1	10.6	5.4
0	21.4	4.3	18.7	5.0	15.9	5.6	13.7	6.0
5	26.2	4.5	23.1	5.3	19.9	6.0	17.3	6.6
10	31.5	4.6	28.2	5.6	24.5	6.4	21.4	7.1

SP2-H-090E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	6.9	2.9	5.4	3.0	4.5	3.0	-	-
-20	9.1	3.5	7.3	3.7	6.0	3.8	-	-
-15	11.9	3.9	9.9	4.3	8.1	4.5	-	-
-10	15.4	4.4	13.1	4.8	10.9	5.2	-	-
-5	19.6	4.7	16.9	5.3	14.2	5.8	12.1	6.2
0	24.4	4.9	21.4	5.7	18.2	6.4	15.6	6.9
5	29.9	5.1	26.5	6.0	22.8	6.9	19.7	7.5
10	36.0	5.2	32.2	6.3	28.0	7.3	24.4	8.1

SP4-HF-100E/SP4-HN-100E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	8.6	3.6	6.8	3.7	5.6	3.8	-	-
-20	11.4	4.3	9.2	4.6	7.5	4.8	-	-
-15	14.9	4.9	12.4	5.4	10.2	5.7	-	-
-10	19.3	5.4	16.3	6.0	13.6	6.5	-	-
-5	24.5	5.8	21.1	6.6	17.8	7.3	15.2	7.7
0	30.5	6.2	26.7	7.1	22.8	7.9	19.5	8.6
5	37.4	6.4	33.1	7.5	28.5	8.6	24.7	9.4
10	45.0	6.5	40.2	7.9	35.0	9.2	30.5	10.1

SP4-HF-120E/SP4-HN-120E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	10.3	4.3	8.1	4.5	6.7	4.5	-	-
-20	13.6	5.2	11.0	5.5	9.0	5.7	-	-
-15	17.9	5.9	14.8	6.4	12.2	6.8	-	-
-10	23.1	6.5	19.6	7.2	16.3	7.8	-	-
-5	29.4	7.0	25.3	7.9	21.3	8.7	18.2	9.3
0	36.6	7.4	32.0	8.5	27.3	9.5	23.4	10.3
5	44.8	7.6	39.7	9.0	34.2	10.3	29.6	11.2
10	54.1	7.8	48.3	9.5	42.0	11.0	36.7	12.2

SP4-HF-150E/SP4-HN-150E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	12.1	5.0	9.5	5.2	7.8	5.3	-	-
-20	15.9	6.0	12.9	6.4	10.5	6.7	-	-
-15	20.9	6.9	17.3	7.5	14.2	7.9	-	-
-10	27.0	7.6	22.9	8.4	19.0	9.1	-	-
-5	34.3	8.2	29.6	9.3	24.9	10.2	21.2	10.8
0	42.7	8.6	37.4	9.9	31.9	11.1	27.3	12.0
5	52.3	8.9	46.3	10.5	39.9	12.0	34.5	13.1
10	63.1	9.1	56.3	11.0	49.0	12.8	42.8	14.2

SP4-HF-200E/SP4-HN-200E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	13.8	5.7	10.9	6.0	9.0	6.0	-	-
-20	18.2	6.9	14.7	7.4	12.0	7.6	-	-
-15	23.9	7.9	19.8	8.6	16.3	9.1	-	-
-10	30.9	8.7	26.2	9.6	21.7	10.4	-	-
-5	39.2	9.3	33.8	10.6	28.5	11.6	24.2	12.4
0	48.8	9.8	42.7	11.4	36.4	12.7	31.3	13.7
5	59.8	10.2	52.9	12.0	45.6	13.7	39.5	15.0
10	72.1	10.4	64.4	12.6	56.0	14.7	48.9	16.2

SP4-H-220E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	15.9	7.2	12.5	8.2	10.3	9.0	-	-
-20	21.0	8.1	17.0	9.4	13.9	10.4	-	-
-15	27.6	9.0	22.9	10.4	18.8	11.8	-	-
-10	35.7	9.7	30.2	11.4	25.1	13.0	-	-
-5	45.3	10.3	39.0	12.2	32.9	14.2	28.0	15.9
0	56.4	10.9	49.3	13.0	42.1	15.3	36.1	17.2
5	69.1	11.3	61.1	13.6	52.7	16.2	45.6	18.5
10	83.3	11.6	74.4	14.1	64.7	17.0	56.5	19.7

SP4-H-250E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	18.5	8.4	14.6	9.5	12.0	10.4	-	-
-20	24.3	9.4	19.7	10.9	16.1	12.1	-	-
-15	32.0	10.4	26.5	12.1	21.8	13.7	-	-
-10	41.4	11.3	35.0	13.2	29.1	15.1	-	-
-5	52.5	12.0	45.3	14.2	38.1	16.5	32.5	18.4
0	65.4	12.6	57.2	15.0	48.8	17.7	41.9	20.0
5	80.1	13.1	70.9	15.8	61.1	18.8	52.9	21.4
10	96.6	13.5	86.3	16.4	75.1	19.8	65.5	22.8

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SP4-H-300E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	21.2	9.6	16.7	10.9	13.8	6.5	-	-
-20	27.9	10.8	22.6	12.5	18.4	8.5	-	-
-15	36.7	11.9	30.4	13.9	25.0	10.5	-	-
-10	47.4	12.9	40.2	15.1	33.4	12.5	-	-
-5	60.2	13.8	51.9	16.2	43.7	14.6	37.3	21.1
0	75.0	14.5	65.6	17.2	55.9	16.6	48.0	22.9
5	91.9	15.0	81.3	18.1	70.1	18.6	60.6	24.6
10	110.7	15.4	98.9	18.8	86.1	20.6	75.1	26.1

SP6-H-370E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	27.7	12.5	21.8	14.3	18.0	15.6	-	-
-20	36.5	14.2	29.5	16.3	24.1	18.2	-	-
-15	48.0	15.6	39.8	18.1	32.7	20.5	-	-
-10	62.0	16.9	52.6	19.8	43.7	22.7	-	-
-5	78.8	18.0	67.9	21.3	57.2	24.7	48.7	27.6
0	98.1	18.9	85.8	22.5	73.2	26.5	62.8	30.0
5	120.2	19.6	106.3	23.7	91.7	28.2	79.3	32.2
10	144.9	20.2	129.4	24.6	112.6	29.7	98.3	34.2

SP6-H-500E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	38.1	17.2	30.0	19.6	24.7	21.4	-	-
-20	50.2	19.5	40.6	22.4	33.1	24.9	-	-
-15	65.9	21.5	54.6	24.9	44.9	28.2	-	-
-10	85.2	23.2	72.2	27.2	60.0	31.2	-	-
-5	108.2	24.7	93.3	29.2	78.6	33.9	67.0	37.9
0	134.8	26.0	117.9	31.0	100.5	36.5	86.3	41.2
5	165.1	27.0	146.1	32.5	125.9	38.7	109.0	44.2
10	199.0	27.7	177.8	33.8	154.7	40.7	135.0	47.0

SP8-H-700E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	55.7	24.2	49.5	25.6	39.4	26.0	-	-
-20	74.7	27.9	66.5	30.0	54.7	31.3	-	-
-15	96.8	31.2	86.3	34.1	72.4	36.3	-	-
-10	122.6	34.1	109.3	37.9	93.0	41.1	-	-
-5	152.6	36.5	136.2	41.4	117.2	45.7	101.5	48.5
0	187.5	38.6	167.7	44.6	145.5	50.0	127.5	53.9
5	228.0	40.2	204.3	47.4	178.6	54.1	157.9	59.1
10	274.5	41.4	246.7	50.0	217.0	58.1	193.5	64.2

SP4-H-300E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	25.3	11.4	20.0	13.1	16.5	14.3	-	-
-20	33.4	12.9	27.0	14.9	22.0	16.6	-	-
-15	43.8	14.3	36.3	16.6	29.9	18.7	-	-
-10	56.7	15.5	48.0	18.1	39.9	20.7	-	-
-5	72.0	16.5	62.1	19.4	52.3	22.6	44.5	25.2
0	89.7	17.3	78.4	20.6	66.9	24.3	57.4	27.4
5	109.8	17.9	97.2	21.6	83.8	25.8	72.5	29.4
10	132.4	18.4	118.3	22.5	102.9	27.1	89.8	31.3

SP6-H-400E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	31.9	14.4	26.1	16.4	20.7	17.9	-	-
-20	42.1	16.3	33.9	18.7	27.7	20.9	-	-
-15	55.1	18.0	45.7	20.8	37.5	23.6	-	-
-10	71.3	19.4	60.4	22.7	50.2	26.1	-	-
-5	90.5	20.7	78.1	24.4	65.8	28.4	56.0	31.7
0	112.8	21.7	98.7	25.9	84.1	30.5	72.2	34.4
5	138.1	22.6	122.2	27.2	105.4	32.4	94.2	37.0
10	166.5	23.2	148.8	28.2	129.4	34.1	112.9	39.3

SP8-H-600E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	46.7	20.3	41.5	21.5	33.0	21.8	-	-
-20	62.6	23.4	55.7	25.2	45.9	26.2	-	-
-15	81.1	26.1	72.3	28.6	60.7	30.4	-	-
-10	102.7	28.5	91.6	31.8	77.9	34.4	-	-
-5	127.9	30.6	114.1	34.7	98.2	38.2	85.0	40.6
0	157.1	32.3	140.5	37.3	121.9	41.9	106.8	45.1
5	191.0	33.7	171.2	39.7	149.6	45.4	132.3	49.5
10	230.0	34.7	206.6	41.9	181.8	48.6	162.1	53.8

KEY

Pf = cooling capacity (kW)

Pa = input power (kW)

Te = evaporating temperature (°C)

Tc = condensing temperature (°C)

50Hz = frequency

Liquid subcooling 5K

Suction gas superheat 10K

identifies additional cooling required (see application limits)

Limits refer to full load 50 Hz operation

For data at different working conditions please refer to RefComp LEONARDO selection program

INTRODUCTION

SP-L, Refrigerant R407C

SP2-L-030E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	4.3	1.7	3.4	1.8	2.8	1.8	-	-
-20	5.7	2.1	4.6	2.2	3.7	2.3	3.5	2.3
-15	7.5	2.4	6.2	2.6	5.1	2.7	4.7	2.8
-10	9.6	2.6	8.2	2.9	6.8	3.1	6.3	3.2
-5	12.2	2.8	10.6	3.2	6.9	3.5	8.2	3.6

SP2-L-040E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	5.2	2.0	4.1	2.1	3.4	2.1	-	-
-20	6.8	2.5	5.5	2.6	4.5	2.7	4.2	2.7
-15	8.9	2.8	7.4	3.1	6.1	3.2	5.6	3.3
-10	11.6	3.1	9.8	3.4	8.2	3.7	7.5	3.8
-5	14.7	3.3	12.7	3.8	10.7	4.1	9.9	4.3

SP2-L-050E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	6.0	2.4	4.7	2.5	3.9	2.5	-	-
-20	7.9	2.9	6.4	3.0	5.2	3.1	4.9	3.2
-15	10.4	3.3	8.6	3.5	7.1	3.8	6.5	3.8
-10	13.5	3.6	11.4	4.0	9.5	4.3	8.8	4.4
-5	17.1	3.9	14.8	4.4	12.4	4.8	11.5	5.0

SP2-L-060E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	6.9	2.7	5.4	2.8	4.5	2.8	-	-
-20	9.1	3.2	7.3	3.5	6.0	3.6	5.5	3.6
-15	11.9	3.7	9.9	4.0	8.1	4.3	7.5	4.3
-10	15.4	4.1	13.1	4.5	10.9	4.9	10.0	5.0
-5	19.6	4.4	16.9	5.0	14.2	5.5	13.2	5.6

SP4-LF-060E/SP4-LN-060E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	8.6	3.9	6.8	4.4	5.6	4.9	-	-
-20	11.4	4.4	9.2	5.1	7.5	5.6	7.0	5.8
-15	14.9	4.9	12.4	5.6	10.2	6.4	9.4	6.7
-10	19.3	5.3	16.3	6.2	13.6	7.1	12.5	7.4
-5	24.5	5.6	21.1	6.6	17.8	7.7	16.5	8.1

SP4-LF-080E/SP4-LN-080E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	10.3	4.7	8.1	5.3	6.7	5.8	-	-
-20	13.6	5.3	11.0	6.1	9.0	6.8	8.4	7.0
-15	17.9	5.8	14.8	6.8	12.2	7.7	11.2	8.0
-10	23.1	6.3	19.6	7.4	16.3	8.5	15.0	8.9
-5	29.4	6.7	25.3	7.9	21.3	9.2	19.8	9.7

SP4-LF-100E/SP4-LN-100E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	12.1	5.5	9.5	6.2	7.8	6.8	7.4	7.0
-20	15.9	6.2	12.9	7.1	10.5	7.9	9.7	8.2
-15	20.9	6.8	17.3	7.9	14.2	8.9	13.1	9.3
-10	27.0	7.4	22.9	8.6	19.0	9.9	17.6	10.4
-5	34.3	7.8	29.6	9.3	24.9	10.8	23.1	11.4

SP4-LF-120E/SP4-LN-120E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	13.8	6.2	10.9	7.1	9.0	7.8	-	-
-20	18.2	7.0	14.7	8.1	12.0	9.0	11.1	9.4
-15	23.9	7.8	19.8	9.0	16.3	10.2	15.0	10.7
-10	30.9	8.4	26.2	9.8	21.7	11.3	20.1	11.9
-5	39.2	9.0	33.8	10.6	28.5	12.3	26.3	13.0

SP4-L-150E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	15.9	7.2	12.5	8.2	10.3	9.0	-	-
-20	21.0	8.1	17.0	9.4	13.9	10.4	12.9	10.8
-15	27.6	9.0	22.9	10.4	18.8	11.8	17.3	12.3
-10	35.7	9.7	30.2	11.4	25.1	13.0	23.2	13.7
-5	45.3	10.3	39.0	12.2	32.9	14.2	30.4	15.0

SP4-L-180E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	18.5	8.4	14.6	9.5	12.0	10.4	-	-
-20	24.3	9.4	19.7	10.9	16.1	12.1	14.9	12.5
-15	32.0	10.4	26.5	12.1	21.8	13.7	20.1	14.3
-10	41.4	11.3	35.0	13.2	29.1	15.1	26.9	15.9
-5	52.5	12.0	45.3	14.2	38.1	16.5	35.3	17.4

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Series SP
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SP4-L-220E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	21.2	9.6	16.7	10.9	13.8	11.9	-	-
-20	27.9	10.8	22.6	12.5	18.4	13.9	16.8	14.5
-15	36.7	11.9	30.4	13.9	25.0	15.7	22.6	16.5
-10	47.4	12.9	40.2	15.1	33.4	17.4	30.2	18.5
-5	60.2	13.8	51.9	16.2	43.7	18.9	39.7	20.3

SP4-L-250E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	25.5	11.5	20.1	13.2	16.6	14.4	-	-
-20	33.6	13.0	27.2	15.0	22.2	16.7	20.6	17.3
-15	44.1	14.4	36.6	16.7	30.0	18.9	27.7	19.7
-10	57.1	15.5	48.3	18.2	40.2	20.9	37.1	21.9
-5	72.4	16.6	62.5	19.5	52.6	22.7	48.7	24.0

SP6-L-270E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	27.7	12.5	21.8	14.3	18.0	15.6	-	-
-20	36.5	14.2	29.5	16.3	24.1	18.2	22.4	18.8
-15	48.0	15.6	39.8	18.1	32.7	20.5	30.1	21.4
-10	62.0	16.9	52.6	19.8	43.7	22.7	40.3	23.9
-5	78.8	18.0	67.9	21.3	57.2	24.7	53.0	26.1

SP6-L-300E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	31.9	14.4	25.1	16.4	20.7	17.9	-	-
-20	42.0	16.3	33.9	18.7	27.7	20.9	25.7	21.6
-15	55.1	18.0	45.7	20.8	37.5	23.6	34.6	24.6
-10	71.3	19.4	60.4	22.7	50.2	26.1	46.4	27.4
-5	90.5	20.7	78.1	24.4	65.8	28.4	60.9	30.0

SP6-L-400E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	38.2	17.3	30.1	19.7	24.8	21.5	-	-
-20	50.4	19.5	40.7	22.5	33.2	25.0	30.9	25.9
-15	66.2	21.6	54.9	25.0	45.1	28.3	41.6	29.5
-10	85.6	23.3	72.5	27.3	60.3	31.3	55.6	32.9
-5	108.6	24.8	93.7	29.3	78.9	34.1	73.0	36.0

SP8-L-500E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	46.7	20.3	41.5	21.5	33.0	21.8	-	-
-20	62.6	23.4	55.7	25.2	45.9	26.2	41.5	26.4
-15	81.1	26.1	72.3	28.6	60.7	30.4	55.7	30.9
-10	102.7	28.5	91.6	31.8	77.9	34.4	72.2	35.3
-5	127.9	30.6	114.1	34.7	98.2	38.2	91.6	39.5

SP8-L-600E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	55.7	24.2	49.5	25.6	39.4	26.0	-	-
-20	74.7	27.9	66.5	30.0	54.7	31.3	49.5	31.5
-15	96.8	31.2	86.3	34.1	72.4	36.3	66.4	36.9
-10	122.6	34.1	109.3	37.9	93.0	41.1	86.2	42.1
-5	152.6	36.5	136.2	41.4	117.2	45.7	109.3	47.1

KEY

Pf = cooling capacity (kW)

Pa = input power (kW)

Te = evaporating temperature (°C)

Tc = condensing temperature (°C)

50Hz = frequency

Liquid subcooling 5K

Suction gas superheat 10K

identifies additional cooling required (see application limits)

Limits refer to full load 50 Hz operation

For data at different working conditions please refer to RefComp LEONARDO selection program

INTRODUCTION

SP-H, Refrigerant R134A

SP2-H-050E								
Tc	40		50		60		70	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-20	3.2	1.7	2.5	1.8	1.8	1.8	1.3	1.8
-15	4.2	2.0	3.4	1.0	2.6	2.1	2.0	2.1
-10	5.5	2.2	4.6	2.3	3.7	2.4	2.9	2.5
-5	7.1	2.4	6.0	2.6	5.0	2.8	4.1	2.9
0	9.0	2.7	7.7	2.9	6.5	3.1	5.5	3.3
5	11.1	2.9	9.7	3.2	8.3	3.5	7.1	3.7
10	13.4	3.2	11.8	3.5	10.2	3.9	8.8	4.1
15	16.0	3.4	14.1	3.9	12.3	4.3	10.8	4.6

SP2-H-050E								
Tc	40		50		60		70	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-20	3.8	2.0	3.0	2.1	2.2	2.1	1.6	2.1
-15	5.0	2.3	4.1	2.4	3.1	2.5	2.4	2.5
-10	6.6	2.6	5.5	2.8	4.4	2.9	3.5	3.0
-5	8.6	2.9	7.2	3.1	6.0	3.3	4.9	3.4
0	10.8	3.2	9.3	3.5	7.8	3.7	6.6	3.9
5	13.3	3.5	11.6	3.9	9.9	4.2	8.5	4.4
10	16.1	3.8	14.2	4.2	12.3	4.6	10.6	4.9
15	19.2	4.1	17.0	4.6	14.8	5.1	12.9	5.5

SP2-H-080E								
Tc	40		50		60		70	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-20	4.4	2.4	3.5	2.4	2.5	2.5	1.8	2.5
-15	5.9	2.7	4.7	2.8	3.6	2.9	2.8	2.9
-10	7.7	3.0	6.4	3.2	5.1	3.4	4.1	3.4
-5	10.0	3.4	8.4	3.6	7.0	3.8	5.7	4.0
0	12.6	3.7	10.8	4.0	9.1	4.3	7.7	4.5
5	15.5	4.0	13.5	4.5	11.6	4.8	9.9	5.1
10	18.8	4.4	16.5	4.9	14.3	5.4	12.4	5.7
15	22.4	4.7	19.8	5.4	17.3	5.9	15.1	6.4

SP2-H-090E								
Tc	40		50		60		70	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-20	5.0	2.7	4.0	2.8	2.9	2.8	2.1	2.8
-15	6.7	3.1	5.4	3.2	4.2	3.3	3.2	3.3
-10	8.8	3.4	7.3	3.7	5.9	3.8	4.7	3.9
-5	11.4	3.8	9.7	4.1	8.0	4.3	6.6	4.5
0	14.4	4.2	12.4	4.6	10.4	4.9	8.8	5.1
5	17.8	4.6	15.5	5.1	13.2	5.5	11.3	5.8
10	21.5	5.0	18.9	5.6	16.3	6.1	14.1	6.5
15	25.6	5.4	22.6	6.1	19.8	6.7	17.2	7.2

SP4-HF-100E/SP4-HN-100E								
Tc	40		50		60		70	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-20	6.3	2.9	4.9	3.0	3.6	3.1	2.6	3.0
-15	8.4	3.4	6.8	3.5	5.2	3.6	4.0	3.6
-10	11.0	3.8	9.1	4.0	7.3	4.2	5.9	4.3
-5	14.3	4.2	12.1	4.5	9.9	4.8	8.2	4.9
0	18.0	4.6	15.5	5.5	13.0	5.4	10.9	5.6
5	22.2	5.0	19.3	5.6	16.5	6.0	14.1	6.3
10	26.9	5.4	23.6	6.1	20.4	6.7	17.6	7.1
15	32.0	5.9	28.3	6.7	24.7	7.3	21.5	7.9

SP4-HF-120E/SP4-HN-120E								
Tc	40		50		60		70	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-20	7.6	3.5	5.9	3.6	4.4	3.7	3.2	3.7
-15	10.1	4.0	8.1	4.2	6.3	4.3	4.8	4.4
-10	13.2	4.5	11.0	4.8	8.8	5.0	7.0	5.1
-5	17.1	5.0	14.5	5.4	11.9	5.7	9.8	5.9
0	21.6	5.5	18.6	6.0	15.6	6.4	13.2	6.7
5	26.6	6.0	23.2	6.7	19.8	7.2	17.0	7.6
10	32.2	6.5	28.3	7.3	24.5	8.0	21.2	8.5
15	38.4	7.0	33.9	8.0	29.6	8.8	25.8	9.5

SP4-HF-150E/SP4-HN-150E								
Tc	40		50		60		70	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-20	8.8	4.1	6.9	4.2	5.1	4.3	3.7	4.3
-15	11.7	4.7	9.5	4.9	7.3	5.0	5.6	5.1
-10	15.5	5.3	12.8	5.6	10.3	5.8	8.2	6.0
-5	20.0	5.9	16.9	6.3	13.9	6.7	11.5	6.9
0	25.2	6.4	21.6	7.0	18.2	7.5	15.3	7.9
5	31.1	7.0	27.0	7.8	23.1	8.4	19.8	8.9
10	37.6	7.6	33.0	8.6	28.6	9.3	24.7	10.0
15	44.7	8.2	39.6	9.3	34.6	10.3	30.1	11.1

SP4-HF-200E/SP4-HN-200E								
Tc	40		50		60		70	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-20	10.1	4.7	7.9	4.8	5.8	4.9	4.2	4.9
-15	13.4	5.4	10.8	5.6	8.3	5.8	6.4	5.8
-10	17.7	6.0	14.6	6.4	11.7	6.7	9.4	6.8
-5	22.8	6.7	19.3	7.2	15.9	7.6	13.1	7.9
0	28.8	7.4	24.7	8.1	20.8	8.6	17.5	9.0
5	35.5	8.0	30.9	8.9	26.5	9.6	22.6	10.2
10	43.0	8.7	37.8	9.8	32.7	10.7	28.3	11.4
15	51.1	9.4	45.2	10.7	39.5	11.8	34.4	12.7

SP4-H-220E								
Tc	40		50		60		70	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-20	11.7	5.6	10.0	5.7	8.4	5.8	6.9	5.7
-15	15.7	6.3	13.4	6.6	11.3	6.8	9.3	6.9
-10	20.7	7.1	17.8	7.6	15.1	7.9	12.5	8.0
-5	26.6	7.9	23.1	8.5	19.7	9.0	16.5	9.3
0	33.7	8.7	29.4	9.5	25.3	10.1	21.4	10.6
5	41.7	9.5	36.6	10.5	31.7	11.3	27.1	12.0
10	50.8	10.3	44.9	11.5	39.1	12.6	33.6	13.4
15	61.0	11.1	54.1	12.6	47.4	13.9	40.9	14.9

SP4-H-250E								
Tc	40		50		60		70	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-20	13.6	6.5	11.6	6.6	9.7	6.7	8.0	6.7
-15	18.2	7.3	15.6	7.7	13.1	7.9	10.8	8.0
-10	24.0	8.3	20.6	8.8	17.5	9.1	14.5	9.3
-5	30.9	9.2	26.8	9.9	22.9	10.4	19.2	10.8
0	39.0	10.1	34.1	11.0	29.3	11.7	24.8	12.3
5	48.4	11.0	42.5	12.2	36.8	13.1	31.4	13.9
10	59.0	11.9	52.0	13.4	45.4	14.6	38.9	15.6
15	70.8	12.8	62.7	14.6	55.0	16.1	47.5	17.3

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SP4-H-300E								
Tc	40		50		60		70	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-20	15.6	7.4	13.3	7.6	11.1	7.7	9.2	7.6
-15	20.9	8.4	17.8	8.8	15.0	9.0	12.4	9.1
-10	27.5	9.5	23.7	10.0	20.0	10.5	16.6	10.7
-5	35.4	10.5	30.7	11.3	26.3	11.9	22.0	12.4
0	44.8	11.6	39.1	12.6	33.6	13.5	28.4	14.1
5	55.5	12.6	48.7	14.0	42.2	15.1	36.0	15.9
10	67.6	13.7	59.7	15.3	52.0	16.7	44.7	17.8
15	81.1	14.7	71.9	16.7	63.1	18.4	54.5	19.8

SP4-H-350E								
Tc	40		50		60		70	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-20	18.7	8.8	15.9	9.1	13.3	9.2	10.9	9.1
-15	25.0	10.1	21.3	10.5	18.0	10.8	14.8	10.9
-10	32.8	11.3	28.3	12.0	24.0	12.5	19.9	12.8
-5	42.4	12.6	36.7	13.5	31.4	14.3	26.3	14.8
0	53.5	13.8	46.7	15.1	40.2	16.1	34.0	16.9
5	66.3	15.1	58.2	16.7	50.5	18.0	43.0	19.0
10	80.8	16.3	71.3	18.3	62.2	20.0	53.4	21.3
15	97.0	17.6	86.0	20.0	75.4	22.0	65.1	23.7

SP6-H-370E								
Tc	40		50		60		70	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-20	20.4	9.7	17.4	9.9	14.6	10.0	12.0	10.0
-15	27.3	11.0	23.3	11.5	19.6	11.8	16.2	11.9
-10	35.9	12.4	30.9	13.1	26.2	13.7	21.8	14.0
-5	46.4	13.7	40.2	14.8	34.3	15.6	28.8	16.2
0	58.6	15.1	51.1	16.5	44.0	17.6	37.2	18.4
5	72.6	16.5	63.7	18.3	55.2	19.7	47.1	20.8
10	88.5	17.9	78.1	20.1	68.1	21.9	58.4	23.3
15	106.2	19.3	94.1	21.9	82.5	24.1	71.3	26.0

SP6-H-400E								
Tc	40		50		60		70	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-20	23.5	11.1	20.0	11.4	16.8	11.5	13.8	11.5
-15	31.4	12.7	26.8	13.2	22.6	13.6	18.6	13.7
-10	41.3	14.2	35.6	15.1	30.1	15.7	25.0	16.1
-5	53.3	15.8	46.2	17.0	39.5	17.9	33.1	18.6
0	67.3	17.4	58.8	19.0	50.6	20.3	42.8	21.2
5	83.4	19.0	73.3	21.0	63.5	22.7	54.1	24.0
10	101.7	20.6	89.7	23.1	78.2	25.1	67.2	26.8
15	122.0	22.1	108.2	25.2	94.8	27.7	81.9	29.8

SP6-H-500E								
Tc	40		50		60		70	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-20	28.1	13.3	23.9	13.6	20.0	13.8	16.5	13.7
-15	37.5	15.1	32.1	15.8	27.0	16.2	22.2	16.4
-10	49.4	17.0	42.5	18.0	36.0	18.8	29.9	19.2
-5	63.7	18.9	55.2	20.3	47.2	21.4	39.5	22.2
0	80.5	20.8	70.2	22.7	60.5	24.2	51.1	25.3
5	99.7	22.7	87.6	25.1	75.9	27.1	64.7	28.6
10	121.5	24.6	107.2	27.5	93.5	30.0	80.3	32.1
15	145.8	26.5	129.3	30.1	113.3	33.1	97.9	35.6

SP8-H-600E								
Tc	40		50		60		70	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-20	34.9	16.4	29.0	17.0	22.4	17.3	15.0	18.0
-15	45.2	18.7	38.5	19.6	31.0	20.4	22.9	21.5
-10	58.0	21.0	50.1	22.4	41.4	23.5	32.2	25.1
-5	73.6	23.2	64.0	25.1	53.9	26.8	43.3	28.9
0	92.1	25.2	80.6	27.7	68.7	30.1	56.3	32.9
5	113.9	27.1	100.2	30.3	86.0	33.3	71.5	36.8
10	139.3	28.7	122.9	32.6	106.2	36.5	89.3	40.7
15	168.4	30.0	149.1	34.8	129.5	39.5	109.8	44.6

SP6-H-500E								
Tc	40		50		60		70	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-20	41.6	19.6	34.7	20.3	26.7	20.7	17.9	21.5
-15	54.0	22.3	45.9	23.4	37.0	24.3	27.3	25.6
-10	69.3	25.1	59.8	26.7	49.5	28.1	38.5	30.0
-5	87.8	27.7	76.4	29.9	64.3	32.0	51.7	34.5
0	110.0	30.1	96.2	33.1	82.0	35.9	67.2	39.2
5	136.0	32.3	119.6	36.1	102.7	39.8	85.4	43.9
10	166.2	34.2	146.7	38.9	126.8	43.5	106.5	48.6
15	201.0	35.8	177.9	41.5	154.6	47.1	131.0	53.2

KEY

Pf = cooling capacity (kW)

Pa = input power (kW)

Te = evaporating temperature (°C)

Tc = condensing temperature (°C)

50Hz = frequency

Liquid subcooling 5K

Suction gas superheat 10K

Identifies additional cooling required (see application limits)

Limits refer to full load 50 Hz operation

For data at different working conditions please refer to RefComp LEONARDO selection program

INTRODUCTION

SP-L, Refrigerant R134A

SP2-L-030E								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	2.8	1.4	2.4	1.4	2.0	1.4	1.7	1.4
-20	3.7	1.6	3.2	1.6	2.7	1.7	2.3	1.7
-15	4.9	1.7	4.2	1.9	3.6	1.9	3.1	2.0
-10	6.4	1.9	5.6	2.1	4.8	2.2	4.1	2.3
-5	8.2	2.1	7.2	2.3	6.2	2.5	5.3	2.6
0	10.3	2.3	9.1	2.5	7.9	2.8	6.8	3.0
5	12.7	2.4	11.3	2.8	9.9	3.1	8.6	3.3
10	15.4	2.6	13.7	3.0	12.1	3.4	10.6	3.7

SP2-L-040E								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	3.3	1.6	2.9	1.7	2.4	1.7	2.1	1.7
-20	4.4	1.9	3.8	1.9	3.2	2.0	2.7	2.0
-15	5.9	2.1	5.1	2.2	4.4	2.3	3.7	2.4
-10	7.7	2.3	6.7	2.5	5.8	2.6	4.9	2.7
-5	9.9	2.5	8.6	2.8	7.5	3.0	6.4	3.1
0	12.4	2.7	10.9	3.0	9.5	3.3	8.2	3.5
5	15.3	2.9	13.5	3.3	11.9	3.7	10.3	3.9
10	18.5	3.1	16.5	3.6	14.6	4.0	12.7	4.4

SP2-L-050E								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	3.9	1.9	3.3	1.9	2.8	2.0	2.4	1.9
-20	5.2	2.2	4.4	2.3	3.8	2.3	3.2	2.3
-15	6.9	2.4	5.9	2.6	5.1	2.7	4.3	2.7
-10	9.0	2.7	7.8	2.9	6.7	3.1	5.7	3.2
-5	11.5	2.9	10.1	3.2	8.7	3.4	7.5	3.6
0	14.4	3.1	12.7	3.5	11.1	3.8	9.6	4.1
5	17.8	3.4	15.8	3.8	13.9	4.2	12.0	4.6
10	21.6	3.6	19.2	4.2	17.0	4.7	14.8	5.1

SP2-L-060E								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	4.4	2.2	3.8	2.2	3.2	2.2	2.7	2.2
-20	5.9	2.5	5.1	2.6	4.3	2.6	3.6	2.7
-15	7.8	2.7	6.8	2.9	5.8	3.0	4.9	3.1
-10	10.3	3.0	8.9	3.3	7.7	3.5	6.5	3.6
-5	13.1	3.3	11.5	3.6	10.0	3.9	8.5	4.1
0	16.5	3.6	14.6	4.0	12.7	4.4	10.9	4.7
5	20.4	3.8	18.1	4.4	15.9	4.8	13.7	5.2
10	24.7	4.1	22.0	4.7	19.4	5.3	16.9	5.8

SP4-LF-060E/SP4-LN-060E								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	5.5	2.5	4.8	2.6	4.1	2.6	3.4	2.6
-20	7.4	2.9	6.4	3.0	5.4	3.1	4.5	3.1
-15	9.8	3.2	8.5	3.4	7.3	3.6	6.1	3.7
-10	12.8	3.5	11.2	3.9	9.6	4.1	8.2	4.3
-5	16.4	3.9	14.4	4.3	12.5	4.6	10.7	4.9
0	20.6	4.2	18.2	4.7	15.9	5.1	13.7	5.5
5	25.4	4.5	22.6	5.1	19.8	5.7	17.2	6.1
10	30.9	4.8	27.5	5.6	24.3	6.2	21.2	6.8

SP4-LF-080E/SP4-LN-080E								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	6.6	3.0	5.7	3.1	4.9	3.1	4.1	3.1
-20	8.8	3.5	7.6	3.6	6.5	3.7	5.4	3.7
-15	11.8	3.9	10.2	4.1	8.7	4.3	7.3	4.4
-10	15.4	4.3	13.4	4.6	11.5	4.9	9.8	5.1
-5	19.7	4.6	17.3	5.1	15.0	5.5	12.8	5.8
0	24.8	5.0	21.9	5.6	19.1	6.2	16.4	6.6
5	30.5	5.4	27.1	6.2	23.8	6.8	20.6	7.4
10	37.0	5.7	33.0	6.7	29.1	7.5	25.4	8.2

SP4-LF-100E/SP4-LN-100E								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	7.7	3.6	6.7	3.6	5.7	3.7	4.8	3.6
-20	10.3	4.0	8.9	4.2	7.6	4.3	6.3	4.4
-15	13.7	4.5	11.9	4.8	10.2	5.0	8.6	5.1
-10	18.0	5.0	15.6	5.4	13.5	5.7	11.4	6.0
-5	23.0	5.4	20.2	6.0	17.5	6.4	14.9	6.8
0	28.9	5.8	25.5	6.6	22.3	7.2	19.2	7.7
5	35.6	6.3	31.6	7.2	27.7	8.0	24.0	8.6
10	43.2	6.7	38.5	7.8	34.0	8.7	29.6	9.5

SP4-LF-120E/SP4-LN-120E								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	8.8	4.1	7.6	4.1	6.5	4.2	5.5	4.1
-20	11.8	4.6	10.2	4.8	8.7	4.9	7.3	5.0
-15	15.7	5.2	13.6	5.5	11.6	5.7	9.8	5.9
-10	20.5	5.7	17.9	6.2	15.4	6.5	13.0	6.8
-5	26.3	6.2	23.1	6.8	20.0	7.4	17.1	7.8
0	33.0	6.7	29.1	7.5	25.4	8.2	21.9	8.8
5	40.7	7.2	36.1	8.2	31.7	9.1	27.5	9.8
10	49.4	7.6	44.0	8.9	38.8	10.0	33.9	10.9

SP4-L-150E								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	10.2	4.7	8.8	4.8	7.5	4.8	6.3	4.8
-20	13.6	5.3	11.7	5.6	10.0	5.7	8.4	5.8
-15	18.1	6.0	15.7	6.3	13.4	6.6	11.3	6.8
-10	23.7	6.6	20.7	7.1	17.8	7.6	15.1	7.9
-5	30.4	7.1	26.6	7.9	23.1	8.5	19.7	9.0
0	38.1	7.7	33.7	8.7	29.4	9.5	25.3	10.1
5	47.0	8.3	41.7	9.5	36.6	10.5	31.7	11.3
10	57.0	8.8	50.8	10.3	44.9	11.5	39.1	12.6

SP4-L-180E								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	11.8	5.4	10.2	5.6	8.7	5.6	7.3	5.6
-20	15.8	6.2	13.6	6.5	11.6	6.6	9.7	6.7
-15	21.0	6.9	18.2	7.3	15.6	7.7	13.1	7.9
-10	27.5	7.6	24.0	8.3	20.6	8.8	17.5	9.1
-5	35.2	8.3	30.9	9.2	26.8	9.9	22.9	10.4
0	44.2	9.0	39.0	10.1	34.1	11.0	29.3	11.7
5	54.5	9.6	48.4	11.0	42.5	12.2	36.8	13.1
10	66.1	10.2	59.0	11.9	52.0	13.4	45.4	14.6

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SP4-L-220E								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	13.6	6.2	11.7	6.4	10.0	6.4	8.4	6.4
-20	18.1	7.1	15.6	7.4	13.3	7.6	11.1	7.7
-15	24.1	7.9	20.9	8.4	17.8	8.8	15.0	9.0
-10	31.5	8.7	27.5	9.5	23.7	10.0	20.0	10.5
-5	40.4	9.5	35.4	10.5	30.7	11.3	26.3	11.9
0	50.7	10.3	44.8	11.6	39.1	12.6	33.6	13.5
5	62.6	11.0	55.5	12.6	48.7	14.0	42.2	15.1
10	75.9	11.7	67.6	13.7	59.7	15.3	52.0	16.7

SP4-L-250E								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	16.3	7.5	14.1	7.7	12.0	7.7	10.1	7.7
-20	21.8	8.5	18.8	8.9	16.0	9.1	13.4	9.2
-15	29.0	9.5	25.1	10.1	21.5	10.6	18.1	10.9
-10	37.9	10.5	33.1	11.4	28.5	12.1	24.1	12.6
-5	48.6	11.4	42.6	12.6	37.0	13.6	31.6	14.4
0	61.0	12.4	53.9	13.9	47.0	15.2	40.5	16.2
5	75.3	13.2	66.8	15.2	58.6	16.8	50.8	18.1
10	91.3	14.1	81.3	16.4	71.8	18.4	62.6	20.1

SP6-L-270E								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	17.8	8.2	15.3	8.3	13.0	8.4	11.0	8.3
-20	23.7	9.3	20.4	9.7	17.4	9.9	14.6	10.0
-15	31.5	10.4	27.3	11.0	23.3	11.5	19.6	11.8
-10	41.2	11.4	35.9	12.4	30.9	13.1	26.2	13.7
-5	52.9	12.4	46.4	13.7	40.2	14.8	34.3	15.6
0	66.4	13.4	58.6	15.1	51.1	16.5	44.0	17.6
5	81.8	14.4	72.6	16.5	63.7	18.3	55.2	19.7
10	99.2	15.4	88.5	17.9	78.1	20.1	68.1	21.9

SP6-L-300E								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	20.4	9.4	17.6	9.6	15.0	9.7	12.7	9.6
-20	27.3	10.7	23.5	11.1	20.0	11.4	16.8	11.5
-15	36.3	11.9	31.4	12.7	26.8	13.2	22.6	13.6
-10	47.4	13.1	41.3	14.2	35.6	15.1	30.1	15.7
-5	60.8	14.3	53.3	15.8	46.2	17.0	39.5	17.9
0	76.3	15.4	67.3	17.4	58.8	19.0	50.6	20.3
5	94.1	16.6	83.4	19.0	73.3	21.0	63.5	22.7
10	114.1	17.6	101.7	20.6	89.7	23.1	78.2	25.1

SP6-L-400E								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	24.5	11.3	21.1	11.5	18.0	11.6	15.2	11.5
-20	32.7	12.8	28.2	13.4	24.0	13.7	20.1	13.8
-15	43.5	14.3	37.7	15.2	32.2	15.9	27.1	16.3
-10	56.9	15.7	49.6	17.1	42.7	18.1	36.2	18.9
-5	72.9	17.2	63.9	19.0	55.4	20.4	47.4	21.5
0	91.6	18.5	80.8	20.9	70.5	22.8	60.7	24.3
5	112.9	19.9	100.1	22.8	87.9	25.2	76.2	27.2
10	136.9	21.2	122.0	24.7	107.7	27.7	93.9	30.2

SP8-L-500E								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	31.0	13.2	26.7	14.2	21.4	14.4	15.3	14.5
-20	39.8	15.1	34.9	16.4	29.0	17.0	22.4	17.3
-15	51.1	17.1	45.2	18.7	38.5	19.6	31.0	20.4
-10	65.2	18.9	58.0	21.0	50.1	22.4	41.4	23.5
-5	82.5	20.5	73.6	23.2	64.0	25.1	53.9	26.8
0	103.0	22.0	92.1	25.2	80.6	27.7	68.7	30.1
5	127.2	23.2	113.9	27.1	100.2	30.3	86.0	33.3
10	155.3	24.0	139.3	28.7	122.9	32.6	106.2	36.5

SP8-L-600E								
Tc	30		40		50		60	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	37.0	15.7	31.9	16.9	25.6	17.2	18.2	17.2
-20	47.5	18.1	41.6	19.6	34.7	20.3	26.7	20.7
-15	61.0	20.4	54.0	22.3	45.9	23.4	37.0	24.3
-10	77.9	22.5	69.3	25.0	59.8	26.7	49.5	28.1
-5	98.4	24.5	87.8	27.7	76.4	29.9	64.3	32.0
0	123.0	26.2	110.0	30.1	96.2	33.1	82.0	35.9
5	151.9	27.7	136.0	32.3	119.6	36.1	102.7	39.8
10	185.3	28.7	166.2	34.2	146.7	38.9	126.8	43.5

KEY

Pf = cooling capacity (kW)

Pa = input power (kW)

Te = evaporating temperature (°C)

Tc = condensing temperature (°C)

50Hz = frequency

Liquid subcooling 5K

Suction gas superheat 10K

identifies additional cooling required (see application limits)

Limits refer to full load 50 Hz operation

For data at different working conditions please refer to RefComp LEONARDO selection program

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SP-H, Refrigerant R404A-R507

SP2-H-050E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	6.1	2.9	4.9	2.8	3.7	2.8	-	-
-20	8.1	3.3	6.6	3.3	5.0	3.4	-	-
-15	10.4	3.6	8.6	3.8	6.6	3.9	5.6	4.0
-10	13.0	3.9	10.9	4.2	8.6	4.4	7.4	4.5
-5	16.0	4.1	13.5	4.5	10.8	4.9	9.4	5.0
0	19.3	4.3	16.5	4.8	13.4	5.3	11.8	5.5
5	22.9	4.4	19.9	5.1	16.4	5.7	14.5	5.9

SP2-H-060E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	7.3	3.5	5.9	3.4	4.4	3.4	-	-
-20	9.7	3.9	7.9	4.0	6.0	4.1	-	-
-15	12.5	4.3	10.3	4.5	8.0	4.7	6.8	4.8
-10	15.6	4.6	13.1	5.0	10.3	5.3	8.8	5.4
-5	19.1	4.9	16.2	5.4	13.0	5.8	11.3	6.0
0	23.1	5.1	19.8	5.8	16.1	6.3	14.2	6.6
5	27.5	5.2	23.8	6.1	19.7	6.8	17.5	7.1

SP2-H-080E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	8.5	4.0	6.9	3.9	5.2	3.9	-	-
-20	11.3	4.5	9.2	4.6	7.0	4.7	-	-
-15	14.5	5.0	12.0	5.2	9.3	5.5	7.9	5.6
-10	18.2	5.4	15.3	5.8	12.0	6.1	10.3	6.3
-5	22.3	5.7	19.0	6.3	15.2	6.8	13.2	7.0
0	27.0	5.9	23.1	6.7	18.8	7.4	16.5	7.6
5	32.1	6.1	27.8	7.1	23.0	7.9	20.4	8.2

SP2-H-090E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	9.7	4.6	7.8	4.5	5.9	4.5	-	-
-20	12.9	5.2	10.6	5.3	8.0	5.4	-	-
-15	16.6	5.7	13.7	6.0	10.6	6.3	9.0	6.4
-10	20.8	6.2	17.4	6.7	13.7	7.1	11.8	7.3
-5	25.5	6.5	21.7	7.2	17.4	7.8	15.1	8.1
0	30.8	6.8	26.4	7.7	21.5	8.5	18.9	8.8
5	36.7	7.0	31.8	8.2	26.2	9.1	23.3	9.5

SP4-HF-100E/SP4-HN-100E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	11.0	5.1	8.8	5.0	6.6	5.0	-	-
-20	14.6	5.8	11.9	5.9	9.0	6.0	-	-
-15	18.7	6.4	15.5	6.7	12.0	7.0	10.2	7.1
-10	23.4	6.8	19.6	7.4	15.5	7.8	13.3	8.1
-5	28.8	7.2	24.4	8.0	19.5	8.7	17.0	8.9
0	34.7	7.6	29.8	8.6	24.2	9.4	21.3	9.8
5	41.3	7.8	35.8	9.0	29.6	10.1	26.2	10.2

SP4-HF-120E/SP4-HN-120E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	13.2	6.2	10.6	6.0	8.0	6.0	-	-
-20	17.5	7.0	14.3	7.1	10.9	7.2	-	-
-15	22.4	7.6	18.6	8.0	14.4	8.4	12.2	8.5
-10	28.1	8.2	23.6	8.8	18.6	9.4	15.9	9.7
-5	34.5	8.7	29.3	9.6	23.5	10.4	20.4	10.7
0	41.7	9.1	35.7	10.3	29.1	11.3	25.5	11.7
5	49.6	9.3	43.0	10.8	35.5	12.1	31.5	12.6

SP4-HF-150E/SP4-HN-150E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	15.4	7.2	12.4	7.0	9.3	7.0	-	-
-20	20.4	8.1	16.6	8.2	12.7	8.4	-	-
-15	26.2	8.9	21.7	9.3	16.8	9.8	14.2	10.0
-10	32.8	9.6	27.5	10.3	21.7	11.0	18.6	11.3
-5	40.3	10.1	34.2	11.2	27.4	12.1	23.8	12.5
0	48.6	10.6	41.7	12.0	33.9	13.2	29.8	13.7
5	57.9	10.9	50.1	12.7	41.4	14.1	36.7	14.7

SP4-HF-200E/SP4-HN-200E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	17.6	8.2	14.1	8.0	10.6	8.0	-	-
-20	23.3	9.3	19.0	9.4	14.5	9.6	-	-
-15	29.9	10.2	24.8	10.7	19.2	11.1	16.3	11.4
-10	37.5	11.0	31.4	11.8	24.8	12.5	21.2	12.9
-5	46.0	11.6	39.0	12.8	31.3	13.9	27.2	14.3
0	55.6	12.1	47.7	13.7	38.8	15.0	34.1	15.6
5	66.1	12.4	57.3	14.5	47.3	16.1	41.9	16.8

SP4-H-220E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	20.7	9.3	16.9	10.0	13.1	10.7	-	-
-20	26.3	10.4	21.8	11.3	17.2	12.2	-	-
-15	33.4	11.4	28.1	12.5	22.5	13.7	19.6	14.3
-10	41.9	12.3	35.7	13.7	29.0	15.1	25.4	15.8
-5	51.8	13.0	44.6	14.7	36.6	16.4	32.4	17.2
0	63.2	13.6	54.8	15.6	45.4	17.6	40.4	18.6
5	76.1	14.2	66.3	16.5	55.4	18.8	49.6	19.9

SP4-H-250E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	24.0	10.8	19.6	11.6	15.2	12.4	-	-
-20	30.5	12.1	25.3	13.1	20.0	14.2	-	-
-15	38.7	13.2	32.6	14.5	26.1	15.9	22.7	16.6
-10	48.6	14.2	41.4	15.8	33.6	17.5	29.5	18.3
-5	60.1	15.1	51.7	17.0	42.5	19.0	37.5	20.0
0	73.3	15.8	63.5	18.1	52.7	20.4	46.9	21.6
5	88.2	16.4	76.9	19.1	64.3	21.8	57.5	23.1

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SP4-H-300E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	27.6	12.4	22.4	13.3	17.4	14.2	-	-
-20	35.0	13.9	29.0	15.0	22.9	16.3	-	-
-15	44.4	15.2	37.4	16.7	29.9	18.2	26.1	19.0
-10	55.7	16.3	47.5	18.2	38.5	20.1	33.8	21.0
-5	68.9	17.3	59.3	19.5	48.7	21.8	43.1	22.9
0	84.1	18.1	72.9	20.8	60.4	23.7	53.8	24.7
5	101.2	18.8	88.2	21.9	73.7	24.9	65.9	26.5

SP4-H-350E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	33.0	14.8	26.8	15.8	20.8	17.0	-	-
-20	41.9	16.6	34.7	18.0	27.4	19.4	-	-
-15	53.1	18.1	44.7	19.9	35.8	21.8	31.2	22.7
-10	66.6	19.5	56.7	21.7	46.1	24.0	40.4	25.1
-5	82.4	20.7	70.9	23.4	58.2	26.0	51.5	27.4
0	100.5	21.7	87.1	24.8	72.2	28.0	64.3	29.6
5	120.9	22.5	105.4	26.2	88.1	29.8	78.8	31.6

SP6-H-370E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	36.1	16.2	29.3	17.3	22.8	18.6	-	-
-20	45.8	18.1	38.0	19.7	30.0	21.3	-	-
-15	58.1	19.8	48.9	21.8	39.2	23.8	34.1	24.9
-10	72.9	21.3	62.1	23.8	50.4	26.2	44.3	27.5
-5	90.2	22.6	77.6	25.6	63.7	28.5	56.3	30.0
0	110.0	23.7	95.3	27.2	79.0	30.6	70.6	32.4
5	132.4	24.6	115.3	28.6	96.4	32.6	86.2	34.6

SP6-H-400E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	41.5	18.7	33.7	19.9	26.2	21.3	-	-
-20	52.7	20.9	43.6	22.6	34.4	24.4	-	-
-15	66.8	22.8	56.2	25.1	45.0	27.4	39.2	28.6
-10	83.8	24.5	71.4	27.3	58.0	30.2	50.9	31.6
-5	103.7	26.0	89.1	29.4	73.2	32.8	64.7	34.5
0	126.5	27.3	109.6	31.2	90.9	35.2	80.8	37.2
5	152.1	28.3	132.6	32.9	110.8	37.5	99.1	39.8

SP6-H-500E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	49.5	22.3	40.3	23.8	31.3	25.5	-	-
-20	62.9	24.9	52.2	27.0	41.2	29.2	-	-
-15	79.8	27.3	67.1	29.9	53.8	32.7	46.9	34.1
-10	100.1	29.3	85.3	32.6	69.3	36.0	60.8	37.8
-5	123.9	31.1	106.5	35.1	87.5	39.2	77.4	41.2
0	151.1	32.6	130.9	37.3	108.6	42.1	96.6	44.5
5	181.8	33.8	158.4	39.3	132.4	44.8	118.5	47.6

SP8-H-600E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	68.0	29.0	49.5	29.5	37.4	29.2	-	-
-20	83.6	31.8	64.1	33.3	50.1	33.9	-	-
-15	102.2	34.5	81.3	37.0	64.9	38.7	56.9	38.9
-10	124.2	36.8	101.5	40.6	82.4	43.4	72.6	44.2
-5	150.1	38.9	125.0	43.9	102.7	48.0	91.1	49.5
0	180.1	40.4	152.3	46.9	126.4	52.4	112.6	54.7
5	214.7	41.5	183.7	49.5	153.8	56.7	137.7	59.7

SP8-H-700E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	81.1	34.6	59.1	35.3	44.6	34.8	-	-
-20	99.7	38.0	76.5	39.8	59.8	40.5	-	-
-15	122.0	41.2	97.0	44.2	77.5	46.1	67.9	46.5
-10	148.3	44.0	121.1	48.4	98.3	51.8	86.7	52.8
-5	179.1	46.4	149.2	52.4	122.6	57.3	108.7	59.1
0	215.0	48.3	181.8	56.0	150.9	62.6	134.4	65.3
5	256.3	49.6	219.3	59.1	183.6	67.6	164.4	71.3

KEY

Pf = cooling capacity (kW)

Pa = input power (kW)

Te = evaporating temperature (°C)

Tc = condensing temperature (°C)

50Hz = frequency

Liquid subcooling 5K

Suction gas superheat 10K

 identifies additional cooling required (see application limits)

Limits refer to full load 50 Hz operation

For data at different working conditions please refer to RefComp LEONARDO selection program

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SP-L, Refrigerant R404A-R507

SP2-L-030E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	2.6	1.6	2.0	1.6	1.4	1.6	-	-
-35	3.5	1.9	2.7	2.0	1.9	2.0	-	-
-30	4.6	2.2	3.6	2.3	2.7	2.4	2.5	2.5
-25	5.9	2.5	4.8	2.7	3.7	2.9	3.5	2.9
-20	7.6	2.8	6.3	3.0	5.0	3.3	4.7	3.3
-15	9.4	3.0	7.9	3.3	6.5	3.7	6.1	3.7
-10	11.5	3.3	9.9	3.7	8.2	4.1	7.9	4.1
-6	13.4	3.5	11.6	3.9	9.8	4.4	9.4	4.5

SP2-L-040E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	3.1	1.9	2.4	1.9	1.6	1.9	-	-
-35	4.2	2.3	3.2	2.3	2.3	2.4	-	-
-30	5.5	2.6	4.4	2.8	3.2	2.9	3.0	2.9
-25	7.1	3.0	5.8	3.2	4.4	3.4	4.1	3.4
-20	9.1	3.3	7.5	3.6	5.9	3.9	5.6	4.0
-15	11.3	3.6	9.5	4.0	7.7	4.4	7.4	4.5
-10	13.8	3.9	11.9	4.4	9.8	4.8	9.4	4.9
-6	16.1	4.2	13.9	4.7	11.7	5.2	11.3	5.3

SP2-L-050E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	3.6	2.2	2.8	2.2	1.9	2.2	-	-
-35	4.8	2.7	3.8	2.7	2.7	2.8	-	-
-30	6.4	3.1	5.1	3.2	3.7	3.4	3.5	3.4
-25	8.3	3.5	6.8	3.7	5.2	4.0	4.8	4.0
-20	10.6	3.9	8.8	4.2	6.9	4.5	6.6	4.6
-15	13.2	4.2	11.1	4.6	9.0	5.1	8.6	5.2
-10	16.1	4.6	13.8	5.1	11.5	5.6	11.0	5.7
-6	18.8	4.9	16.2	5.4	13.7	6.1	13.1	6.2

SP2-L-060E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	4.2	2.5	3.2	2.5	2.2	2.5	-	-
-35	5.5	3.0	4.3	3.1	3.0	3.2	-	-
-30	7.3	3.5	5.8	3.7	4.3	3.8	4.0	3.9
-25	9.5	3.9	7.7	4.2	5.9	4.5	5.5	4.6
-20	12.1	4.4	10.0	4.8	7.9	5.1	7.5	5.2
-15	15.1	4.8	12.7	5.3	10.3	5.8	9.8	5.9
-10	18.4	5.2	15.8	5.8	13.1	6.4	12.6	6.5
-6	21.4	5.5	18.6	6.2	15.6	6.9	15.0	7.0

SP4-LF-060E/SP4-LN-060E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	5.2	3.4	4.0	3.4	2.7	3.3	-	-
-35	6.9	4.0	5.4	4.4	3.8	4.2	-	-
-30	9.2	4.6	7.3	4.9	5.3	5.1	5.0	5.1
-25	11.9	5.2	9.7	5.6	7.4	6.0	6.9	6.1
-20	15.1	5.8	12.5	6.3	9.9	6.8	9.4	6.9
-15	18.8	6.4	15.9	7.0	12.9	7.7	12.3	7.8
-10	23.0	6.9	19.8	7.7	16.4	8.5	15.7	8.7
-6	26.8	7.3	23.2	8.2	19.5	9.1	18.8	9.3

SP4-LF-080E/SP4-LN-080E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	6.2	4.1	4.8	4.0	3.3	4.0	-	-
-35	8.3	4.8	6.5	4.9	4.6	5.1	-	-
-30	11.0	5.6	8.7	5.8	6.4	6.1	5.9	6.2
-25	14.3	6.3	11.6	6.7	8.9	7.2	8.3	7.3
-20	18.1	7.0	15.0	7.6	11.9	8.2	11.2	8.3
-15	22.6	7.7	19.1	8.4	15.5	9.2	14.8	9.4
-10	27.7	8.3	23.7	9.2	19.7	10.2	18.8	10.4
-6	32.1	8.8	27.8	9.9	23.4	11.0	22.5	11.2

SP4-LF-100E/SP4-LN-100E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	7.3	4.7	5.6	4.7	3.8	4.6	3.5	4.6
-35	9.7	5.6	7.5	5.8	5.3	5.9	4.9	5.9
-30	12.8	6.5	10.2	6.8	7.5	7.1	6.9	7.2
-25	16.6	7.3	13.5	7.8	10.3	8.4	9.7	8.5
-20	21.1	8.1	17.5	8.8	13.9	9.6	13.1	9.7
-15	26.4	8.9	22.3	9.8	18.1	10.7	17.2	10.9
-10	32.3	9.7	27.7	10.8	22.9	11.9	22.0	12.1
-6	37.5	10.3	32.5	11.5	27.3	12.8	26.3	13.1

SP4-LF-120E/SP4-LN-120E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	8.3	5.4	6.4	5.4	4.4	5.3	-	-
-35	11.1	6.4	8.6	6.6	6.4	6.7	-	-
-30	14.6	7.4	11.6	7.8	8.6	8.2	7.9	8.2
-25	19.0	8.4	15.5	9.0	11.8	9.6	11.1	9.7
-20	24.2	9.3	20.1	10.1	15.8	10.9	15.0	11.1
-15	30.1	10.2	25.4	11.2	20.6	12.3	19.7	12.5
-10	36.9	11.1	31.6	12.3	26.2	13.6	25.1	13.9
-6	42.9	11.7	37.1	13.2	31.2	14.6	30.1	14.9

SP4-L-150E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	9.6	6.2	7.4	6.2	5.0	6.1	-	-
-35	12.8	7.4	10.0	7.6	7.0	7.8	-	-
-30	16.9	8.6	13.5	9.0	9.9	9.4	9.2	9.5
-25	22.0	9.7	17.9	10.4	13.6	11.0	12.8	11.2
-20	27.9	10.8	23.2	11.7	18.3	12.6	17.3	12.8
-15	34.8	11.8	29.4	13.0	23.9	14.2	22.7	14.4
-10	42.6	12.8	36.5	14.2	32.3	15.7	29.0	16.0
-6	49.5	13.6	42.9	15.2	36.1	16.9	34.7	17.3

SP4-L-180E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	11.1	7.2	8.6	7.2	5.8	7.1	-	-
-35	14.8	8.6	11.6	8.8	8.1	9.0	-	-
-30	19.6	9.9	15.6	10.4	11.5	10.9	10.6	11.0
-25	25.5	11.2	20.7	12.0	15.8	12.8	14.8	13.0
-20	32.4	12.5	26.9	13.5	21.2	14.7	20.1	14.9
-15	40.4	13.7	34.1	15.0	27.7	16.5	26.4	16.7
-10	49.4	14.8	42.4	16.5	35.1	18.2	33.7	18.6
-6	57.4	15.7	49.7	17.6	41.9	19.6	40.3	20.0

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SP4-L-220E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	12.8	8.3	9.8	8.2	6.7	8.1	-	-
-35	17.0	9.9	13.3	10.1	9.3	10.4	-	-
-30	22.5	11.4	17.9	12.0	13.1	12.5	12.2	12.7
-25	29.2	12.9	23.8	13.8	18.1	14.7	17.0	14.9
-20	37.1	14.3	30.8	15.5	24.3	16.8	23.0	17.1
-15	46.3	15.7	39.1	17.2	31.7	18.9	30.2	19.2
-10	56.7	17.0	48.6	18.9	40.3	20.9	38.6	21.3
-6	65.9	18.0	57.0	20.2	48.0	22.5	46.2	23.0

SP4-L-250E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	15.4	10.0	11.8	9.9	8.1	9.8	-	-
-35	20.5	11.9	15.9	12.2	11.2	12.5	-	-
-30	27.1	13.7	21.5	14.4	15.8	15.1	14.6	15.2
-25	35.1	15.5	28.6	16.6	21.8	17.7	20.5	17.9
-20	44.7	17.2	37.1	18.7	29.3	20.2	27.7	20.5
-15	55.7	18.9	47.0	20.7	38.2	22.7	36.4	23.1
-10	68.2	20.5	58.4	22.8	48.5	25.1	46.5	25.6
-6	79.2	21.7	68.6	24.3	57.8	27.1	55.6	27.6

SP6-L-270E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	16.7	10.9	12.8	10.8	8.8	10.6	-	-
-35	22.3	12.9	17.3	13.3	12.2	13.5	-	-
-30	29.4	14.9	23.4	15.7	17.2	16.4	15.9	16.6
-25	38.2	16.9	31.1	18.0	23.7	19.2	22.3	19.5
-20	48.6	18.7	40.3	20.3	31.8	22.0	30.1	22.3
-15	60.6	20.5	51.1	22.6	41.5	24.7	39.5	25.1
-10	74.1	22.3	63.5	24.7	52.7	27.3	50.5	27.9
-6	86.2	23.6	74.6	26.4	62.8	29.4	60.4	30.0

SP6-L-300E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	19.2	12.5	14.8	12.4	10.1	12.2	-	-
-35	25.6	14.9	19.9	15.2	14.0	15.6	-	-
-30	33.8	17.2	26.9	18.0	19.8	18.9	18.3	19.0
-25	43.9	19.4	35.7	20.7	27.3	22.1	25.6	22.4
-20	55.8	21.5	46.3	23.4	36.6	25.3	34.6	25.7
-15	69.6	23.6	58.8	25.9	47.7	28.4	45.5	28.9
-10	85.2	25.6	73.0	28.4	60.6	31.4	58.1	32.0
-6	99.0	27.1	85.8	30.4	72.2	33.8	69.4	34.5

SP6-L-400E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	23.1	15.0	17.7	14.9	12.1	14.7	-	-
-35	30.7	17.8	23.9	18.3	16.8	18.7	-	-
-30	40.6	20.6	32.3	21.6	23.7	22.6	22.0	22.8
-25	52.7	23.2	42.9	24.9	32.8	26.5	30.7	26.9
-20	67.0	25.8	55.6	28.0	43.9	30.3	41.6	30.8
-15	83.5	28.3	70.5	31.1	57.2	34.1	54.6	34.7
-10	102.3	30.7	87.7	34.1	72.7	37.7	69.7	38.4
-6	118.8	32.5	102.9	36.5	86.6	40.6	83.3	41.4

SP8-L-500E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	34.8	20.6	17.6	18.5	9.2	15.8	-	-
-35	43.8	22.8	26.6	21.6	17.3	19.7	-	-
-30	54.7	25.5	37.1	25.2	26.5	24.2	24.8	23.6
-25	67.8	28.4	49.4	29.1	37.2	29.1	35.0	28.8
-20	83.4	31.4	63.9	33.2	49.7	34.3	47.1	34.2
-15	101.9	34.2	81.0	37.3	64.5	39.6	61.3	39.7
-10	123.7	36.8	101.0	41.2	81.8	44.8	78.0	45.1
-6	143.8	38.5	119.4	44.0	-	-	-	-

SP8-L-600E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	41.6	24.5	21.1	22.1	11.0	18.9	-	-
-35	52.3	27.2	31.8	25.8	20.7	23.5	-	-
-30	65.3	30.4	44.3	30.0	31.6	28.9	29.6	28.2
-25	80.9	33.9	59.0	34.7	44.4	34.8	41.8	34.4
-20	99.5	37.4	76.3	39.6	59.3	41.0	56.2	40.8
-15	121.6	40.9	96.7	44.5	76.9	47.3	73.1	47.4
-10	147.7	43.9	120.6	49.1	97.7	53.4	93.1	53.9
-6	171.7	46.0	142.6	52.5	-	-	-	-

KEY

Pf = cooling capacity (kW)

Pa = input power (kW)

Te = evaporating temperature (°C)

Tc = condensing temperature (°C)

50Hz = frequency

Liquid subcooling 5K

Suction gas superheat 10K

Identifies additional cooling required (see application limits)

Limits refer to full load 50 Hz operation

For data at different working conditions please refer to RefComp LEONARDO selection program

INTRODUCTION

SB, Refrigerant R22

SB-4-1200										
Tc	20		30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-50	5.9	4.2	5.5	4.7	-	-	-	-	-	-
-45	7.7	4.8	7.4	5.4	7.2	6	-	-	-	-
-40	9.9	5.5	9.6	6.2	9.3	6.9	-	-	-	-
-35	12.5	6.1	12.2	6.9	11.8	7.8	11.5	8.7	-	-
-30	15.5	6.7	15	7.7	14.6	8.7	14.2	9.7	14.1	10.2
-25	18.8	7.3	18.1	8.4	17.6	9.6	17.2	10.7	17	11.3
-20	22.6	7.9	21.6	9.2	20.9	10.5	20.5	11.7	20.3	12.4

SB-4-1400										
Tc	20		30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-50	7	5	6.6	5.6	-	-	-	-	-	-
-45	9.1	5.8	8.8	6.5	8.5	7.2	-	-	-	-
-40	11.7	6.5	11.4	7.4	11.1	8.2	-	-	-	-
-35	18.4	7.9	17.8	9.1	17.3	10.3	16.9	11.5	16.7	12.1
-30	14.8	7.2	14.4	8.3	14	9.3	13.7	10.3	-	-
-25	22.3	8.7	21.5	10.0	20.9	11.4	20.4	12.7	20.2	13.4
-20	26.8	9.4	25.7	10.9	24.8	12.4	24.3	13.9	24.1	14.7

SB-6-1600											
Tc	20		30		40		50		55		
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa	
-50	8.6	6.2	8.1	6.9	-	-	-	-	-	-	
-45	11.3	7.1	10.9	8	10.5	8.8	-	-	-	-	
-40	14.5	8.0	14.1	9.1	13.7	10.1	-	-	-	-	
-35	18.3	8.9	17.8	10.2	17.3	11.4	16.8	12.7	-	-	
-30	22.6	9.8	21.9	11.3	21.3	12.7	20.8	14.2	20.6	14.9	
-25	27.5	10.7	26.5	12.4	25.8	14.0	25.2	15.7	24.9	16.5	
-20	33.0	11.6	31.6	13.4	30.9	15.3	29.9	17.2	29.7	18.1	

SB-6-2000										
Tc	20		30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-50	10	7.2	9.4	8	-	-	-	-	-	-
-45	13.1	8.2	12.6	9.2	12.1	10.3	-	-	-	-
-40	16.8	9.3	16.3	10.5	15.9	11.8	-	-	-	-
-35	21.2	10.3	20.6	11.8	20.1	13.3	19.5	14.7	-	-
-30	26.2	11.3	25.4	13.1	24.7	14.7	24.1	16.4	23.8	17.3
-25	31.9	12.4	30.8	14.3	29.9	16.2	29.2	18.2	28.9	19.1
-20	38.3	13.4	36.7	15.6	35.6	17.8	34.7	19.9	34.4	21.0

SB-6-2600										
Tc	20		30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-50	11.5	8.2	10.8	9.1	-	-	-	-	-	-
-45	15.0	9.4	14.5	10.6	13.9	11.8	-	-	-	-
-40	19.3	10.6	18.7	12.1	18.2	13.5	-	-	-	-
-35	24.3	11.8	23.7	13.5	23	15.2	22.4	16.9	-	-
-30	30.1	13.0	29.2	15	28.4	16.9	27.7	18.8	27.4	19.8
-25	36.6	14.2	35.3	16.4	34.3	18.6	33.5	20.8	33.2	21.9
-20	43.9	15.4	42.1	17.9	40.7	20.4	39.8	22.9	39.5	24.1

SB-6-2000										
Tc	20		30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-50	13.7	9.9	12.9	10.9	-	-	-	-	-	-
-45	17.9	11.3	17.3	12.7	16.6	14.1	-	-	-	-
-40	23.0	12.7	22.4	14.4	21.8	26.1	-	-	-	-
-35	29.1	14.1	28.3	16.2	27.5	18.2	26.8	20.2	-	-
-30	36.0	15.6	34.9	17.9	33.9	20.2	33.1	22.5	32.7	21.7
-25	43.8	17.0	42.2	19.7	41.0	22.3	40.0	24.9	39.7	26.2
-20	52.5	18.5	50.3	21.4	48.7	24.4	47.6	27.3	47.3	28.8

KEY

Pf = cooling capacity (kW)
 Pa = input power (kW)
 Te = evaporating temperature (°C)
 Tc = condensing temperature (°C)
 Subcooling by means of subcooler only
 Suction gas superheat 20°C
 Frequency power supply 50Hz (1450 rpm)

INTRODUCTION

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Series SP
Series SB

SB,refrigerant R404A-R507

SB-4-120E										
Tc	20		30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-70	2.5	3	2.3	3.2	-	-	-	-	-	-
-65	3.5	3.5	3.2	3.9	3	4.2	-	-	-	-
-60	4.7	4.0	4.4	4.5	4.1	5	-	-	-	-
-55	6.2	4.6	5.7	5.2	5.3	5.7	5.0	6.8	-	-
-50	7.8	5.2	7.3	5.9	6.8	6.6	6.4	7.2	6.1	7.6
-45	9.7	5.9	9.1	6.6	8.6	7.4	8.0	8.2	7.7	8.6
-40	11.7	6.5	11.2	7.4	10.5	8.3	9.8	9.2	9.5	9.6
-35	14.0	7.2	13.4	8.2	12.8	9.1	12.0	10.2	11.5	10.7
-30	16.5	8.0	15.9	9.0	15.2	10.1	14.3	11.2	13.8	10.8

SB-4-140E										
Tc	20		30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-70	2.9	3.5	2.8	3.8	-	-	-	-	-	-
-65	4.2	4.1	3.8	4.6	3.6	5	-	-	-	-
-60	5.6	4.8	5.2	5.3	4.8	5.9	-	-	-	-
-55	7.3	5.5	6.8	6.1	6.3	6.8	5.9	7.5	-	-
-50	9.3	6.2	8.7	7.0	8.1	7.8	7.5	8.6	7.3	9
-45	11.5	7.0	10.8	7.9	10.2	8.8	9.5	9.7	9.1	10.2
-40	13.9	7.8	13.2	8.8	12.5	9.8	11.7	10.9	11.3	11.4
-35	16.6	8.6	15.9	9.7	15.1	10.9	14.2	12.1	13.7	12.7
-30	19.5	9.4	18.9	10.7	18.1	12.0	17.0	13.3	16.3	14.0

SB-6-160E										
Tc	20		30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-70	3.6	4.3	3.4	4.7	-	-	-	-	-	-
-65	5.1	5.1	4.7	5.6	4.4	6.2	-	-	-	-
-60	6.9	5.9	6.4	6.6	5.9	7.3	-	-	-	-
-55	9.0	6.7	8.4	7.6	7.8	8.4	7.3	9.2	-	-
-50	11.4	7.6	10.7	8.6	10.0	9.6	9.3	10.6	9	11.1
-45	14.1	8.6	13.3	9.7	12.5	10.8	11.7	12.0	11.3	12.6
-40	17.1	9.6	16.3	10.8	15.4	12.1	14.4	13.4	13.9	14.1
-35	20.5	10.6	19.6	12.0	18.7	13.4	17.5	14.9	16.8	15.6
-30	24.1	11.6	23.3	13.2	22.3	14.7	20.9	16.4	20.1	17.2

SB-6-200E										
Tc	20		30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-70	4.2	5	4	5.5	-	-	-	-	-	-
-65	5.9	5.9	5.5	6.5	5.2	7.1	-	-	-	-
-60	8.0	6.8	7.4	7.6	6.9	8.4	-	-	-	-
-55	10.5	7.8	9.7	8.8	9.0	9.7	8.4	10.7	-	-
-50	13.2	8.9	12.4	10.0	11.6	11.1	10.8	12.3	10.4	12.9
-45	16.4	9.9	15.5	11.2	14.5	12.5	13.5	13.9	13.0	14.6
-40	19.9	11.1	18.9	12.5	17.9	14.0	16.7	15.5	16.1	16.3
-35	23.7	12.3	22.8	13.9	21.6	15.5	20.3	17.2	19.5	18.1
-30	27.9	13.5	27.0	15.3	25.8	17.1	24.2	19.0	23.3	20.0

SB-6-250E										
Tc	20		30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-70	4.8	5.8	4.6	6.3	-	-	-	-	-	-
-65	6.8	6.8	6.3	7.5	5.9	8.2	-	-	-	-
-60	9.2	7.8	8.5	8.8	7.9	9.7	-	-	-	-
-55	12.0	9.0	11.1	10.1	10.4	11.2	9.7	12.3	-	-
-50	15.2	10.2	14.2	11.4	13.3	12.8	12.4	14.1	11.9	14.8
-45	18.8	11.4	17.7	12.9	16.7	14.4	15.5	15.9	15.0	16.7
-40	22.8	12.7	21.4	14.4	20.5	16.1	19.2	17.8	18.5	18.7
-35	27.2	14.1	26.1	15.9	24.8	17.8	23.3	19.8	22.4	20.8
-30	32.0	15.5	31.0	17.5	29.6	19.6	27.8	21.8	26.8	22.9

SB-6-300E										
Tc	20		30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-70	5.8	6.9	5.5	7.5	-	-	-	-	-	-
-65	8.2	8.1	7.5	9	7.1	9.8	-	-	-	-
-60	11.0	9.4	10.2	10.5	9.5	11.6	-	-	-	-
-55	14.3	10.7	13.3	12.0	12.4	13.4	11.6	14.7	-	-
-50	18.2	12.2	17.0	13.7	15.9	15.3	14.8	16.8	14.3	17.6
-45	22.5	13.6	21.2	15.4	19.9	17.2	18.6	19.0	17.9	20.0
-40	27.3	15.2	26.0	17.2	24.5	19.2	22.9	21.3	22.1	22.4
-35	32.6	16.8	31.3	19.0	29.7	21.3	27.8	23.3	26.8	24.9
-30	38.3	18.5	37.1	20.9	35.4	23.4	33.3	26.1	32.0	27.4

KEY

Pf = cooling capacity (kW)

Pa = input power (kW)

Te = evaporating temperature (°C)

Tc = condensing temperature (°C)

Subcooling by means of subcooler only /

Suction gas superheat 20 °C

Frequency power supply 50Hz (1450 rpm)

DELIVERY

COMPONENT

SP SERIES

Star (400 [V]) or Delta (230 [V]) motor for SP2 models, part-winding start-up motor for all the other models (400 [V] /3/50 [Hz] - 460/3/60 [Hz]); suction shut-off valve; discharge shut-off valve; integrated safety relief valve; oil sight glass; oil filter⁽¹⁾; oil charge; PTC sensors embedded in the electrical motor; crankcase heater electronic protection devices (230 [V] /1/50-60 [Hz]) INT 69 for SP2 and INT 69 VS for the rest of the models; IP54-class electrical box; nitrogen protective charge, spring vibration dampers⁽²⁾, bridges for D.O.L. start.

(1) Except for SP2 and SP4_N models (with splasher lubrication).

(2) Except for 2- and 8-cylinder models, supplied as standard with rubber vibration dampers.

SB SERIES

Suction and discharge shut-off valves, 4 spring vibration dampers, PTC embedded in the electrical motor and electronic motor protection device Kriwan INT 69 VS, IP54 enclosure class terminal box, internal safety relief valve, intermediate pressure line with manometer joint, oil sight glass, thermostatic valve with its own kit consisting of a solenoid valve, a liquid sight glass and a drier, all disassembled, oil charge for R22 refrigerant, nitrogen protective charge, crankcase heater, bridges for D.O.L. start.

All electric devices, either standard or optional, are meant for 230-1-50/60 [Hz] supply.

ACCESSORI

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Series SP
Series SB

SP SERIES

The compressors, save for the SP2, can be equipped with an integrated capacity control system. The user can choose to have it already installed in the factory or to buy the suitable kit for a later installation. The capacity control system is achieved by the installation of one or two⁽³⁾ special heads equipped with a solenoid valve.

When energized this solenoid valve stops the suction gas from entering the compression chamber, turning the compression stroke of the underlying pistons into an idle stroke. Together with the cooling capacity reduction, which is proportional to the number of the non-effective cylinders, the power consumption also reduces, keeping energy efficiency at very high levels. Specifically, the following are the available capacity steps.

(3) Two special heads only for 6- or 8-cylinder models.

Compressor type Tipo	N° of capacity control steps	Capacity control	N° of capacity control steps	Capacity control
2 Cyl.	--	--	--	--
4 Cyl.	1	50%	--	--
6 Cyl.	1	66%	2	66%-33%
8 Cyl.	1	75%	2	75%-50%

The following accessories are also available upon request: special voltage motors, start unloader device⁽⁴⁾ (SU), liquid injection control module LCM and related accessories⁽⁵⁾, fan for additional cooling⁽⁶⁾, spring vibration dampers⁽⁵⁾, discharge gas temperature monitoring sensor, oil differential pressure safety switch MP54⁽⁷⁾, electronic oil differential pressure switch⁽⁷⁾, opto-electronic oil sensor⁽⁸⁾, oil charging service valve, connections for compressor parallel operation and special packaging. The standard and/or optional electrical accessories such as the motor protection device, the crankcase heater and the solenoid valves, are suitable for 230 [V] AC 50/60 [Hz] power supply. However special voltages are also available upon request.

(4) Except for 2- and 8-cylinder models.

(5) Not valid for 2-cylinder models.

(6) Except for 8-cylinder models.

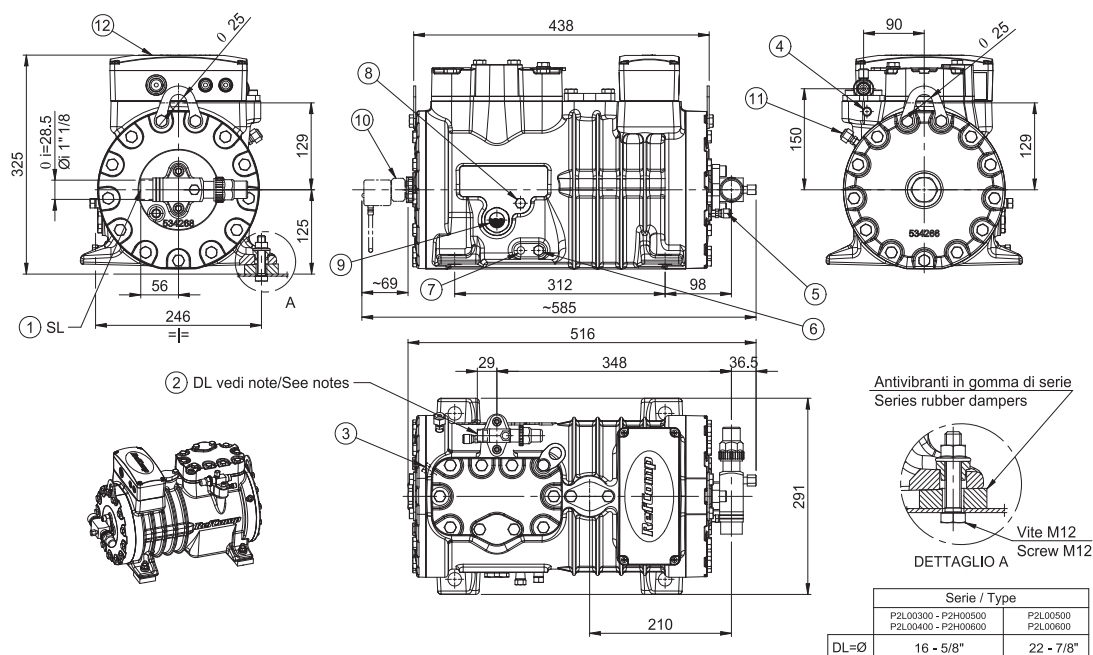
(7) Except for 4-cylinder models with splasher lubrication SP4_N.

(8) Valid for 2 and 4 cylinder models with splasher lubrication SP4_N.

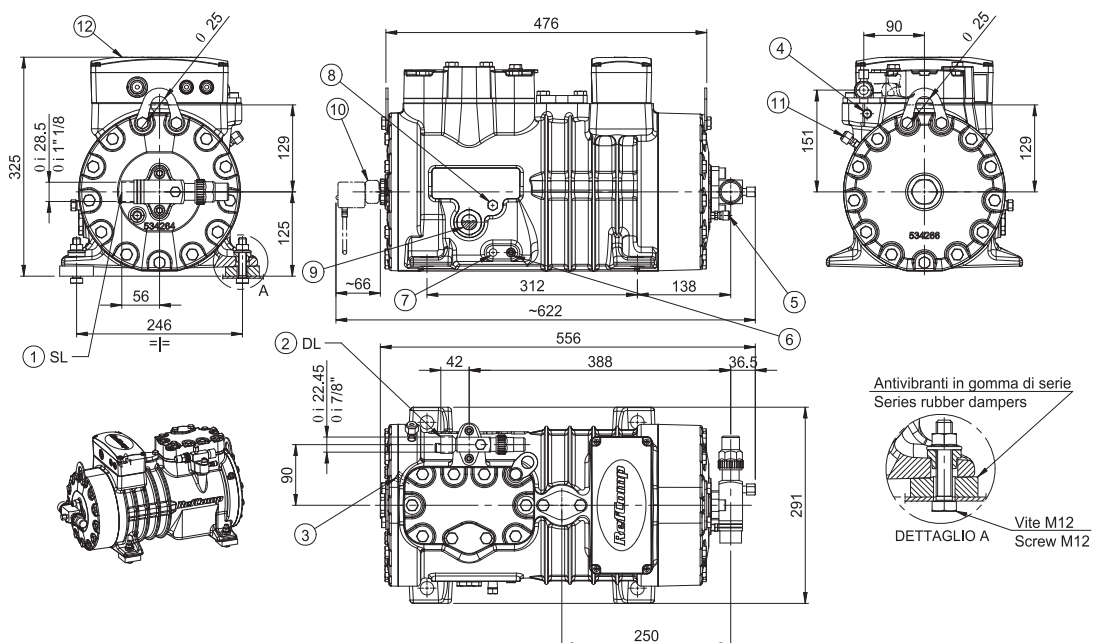
SB SERIES

Special electric motors; polyol-ester oil for HFC refrigerants; MP54 electromechanical oil pressure switch; electronic oil pressure switch; oil electric oil charge service valve; control module (LCM) for liquid injection (as an alternative to the thermostatic valve) together with its own kit consisting of a solenoid valve, a liquid sight glass and a drier, all disassembled; liquid subcooler (fitted or not, as requested); discharge temperature control sensor; kit rubber anti-vibration dampers.

SP2L0300 - SP2L030E - SP2L0400 - SP2L040E - SP2L0500 - SP2L050E
SP2L0600 - SP2L060E - SP2H0500- SP2H050E - SP2H0600 - SP2H060E



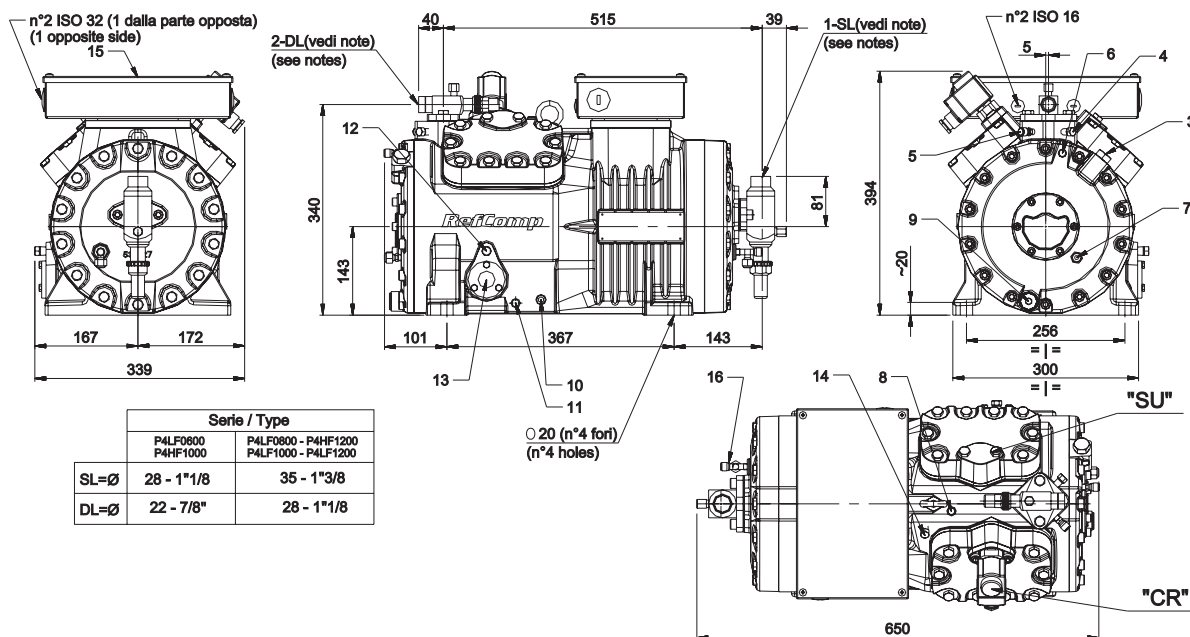
SP2H0800 - SP2H080E
SP2H0900 - SP2H090E



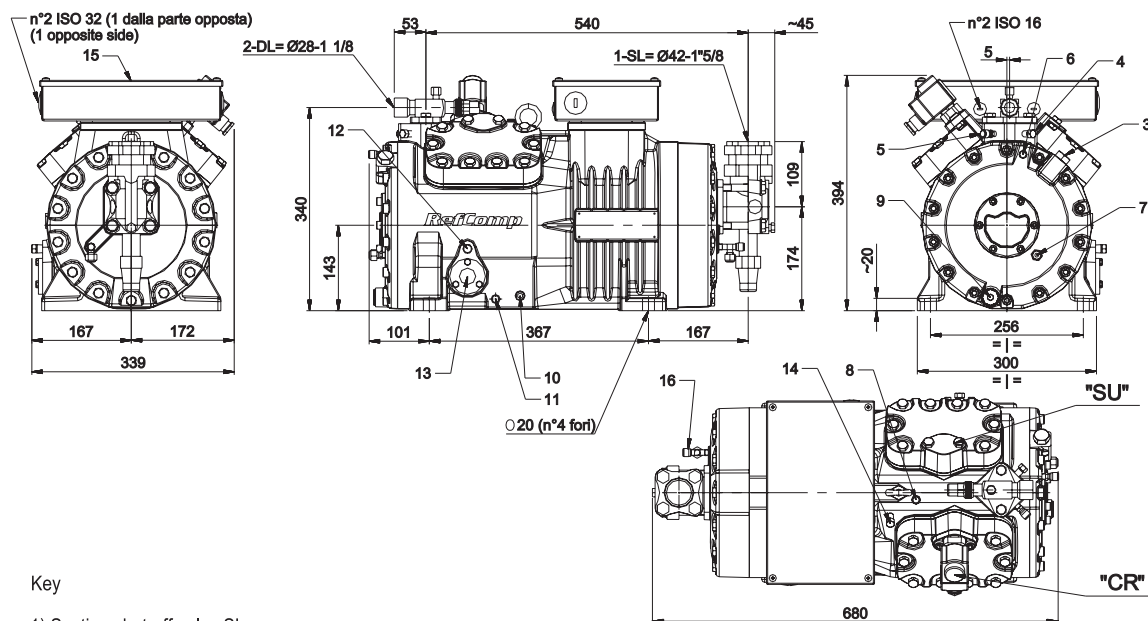
Key

- 1) Suction shut-off valve SL
- 2) Discharge shut-off valve DL
- 3) Discharge temperature sensor 1/8"NPT (optional)
- 4) High pressure 1/4" SAE-FLARE
- 5) Low pressure 1/4" SAE-FLARE
- 6) Oil drain 1/4"NPT
- 7) Crankcase heater
- 8) Oil charging shut-off valve 1/4"NPT (optional)
- 9) Oil level sight glass
- 10) Oil level sensor (optional)

SP4LF0600 - SP4LF060E - SP4LF0800 - SP4LF080E
SP4HF/LF1000 - SP4HF/LF100E - SP4HF/LF1200 - SP4HF/LF120E



SP4HF1500 - SP4HF150E
SP4HF2000 - SP4HF200E

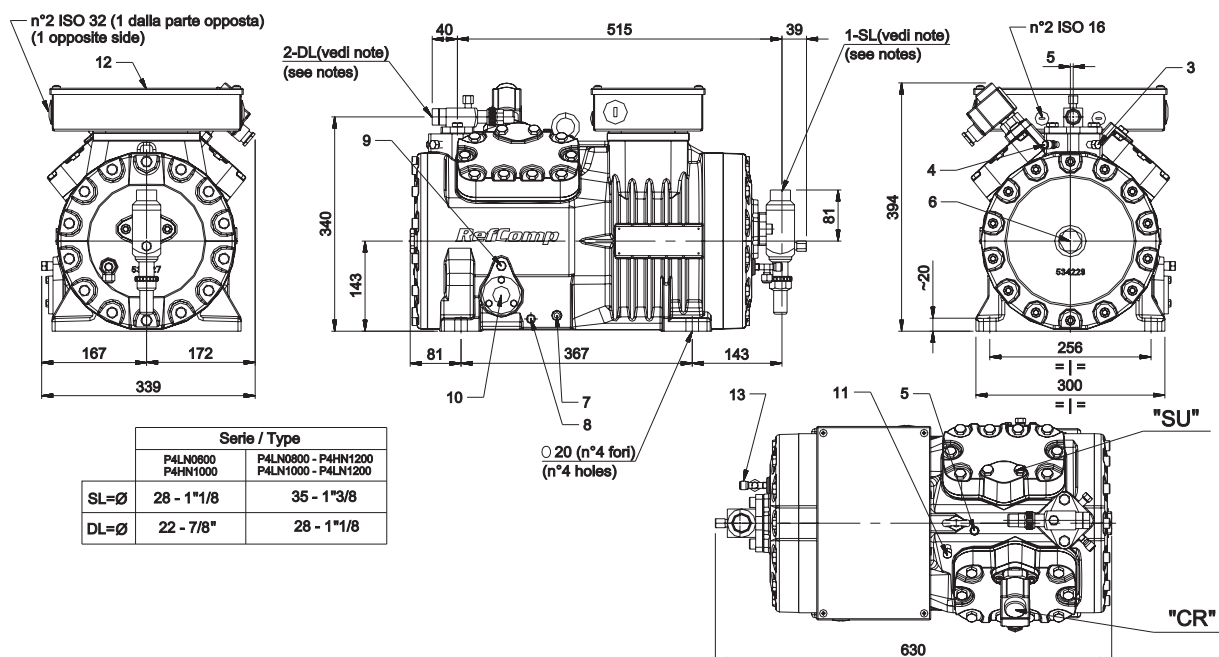


Key

- 1) Suction shut-off valve SL
- 2) Discharge shut-off valve DL
- 3) Electronic oil pressure switch connection
- 4) Discharge temperature sensor 1/8"NPT
- 5) High pressure 1/8"NPT
- 6) Oil high pressure 1/4" SAE-FLARE
- 7) Oil low pressure 1/4" SAE-FLARE
- 8) Low pressure 1/8"NPT
- 9) Oil strainer plug M22x1.5
- 10) Oil drain 3/8"NPT
- 11) Crankcase heater
- 12) Oil charging 1/4"NPT
- 13) Oil level sight glass
- 14) LCM injection connection 1/8"NPT
- 15) Electric box
- 16) Low pressure 1/4" SAE-FLARE
- "CR" Capacity regulator
- "SU" Start unloader

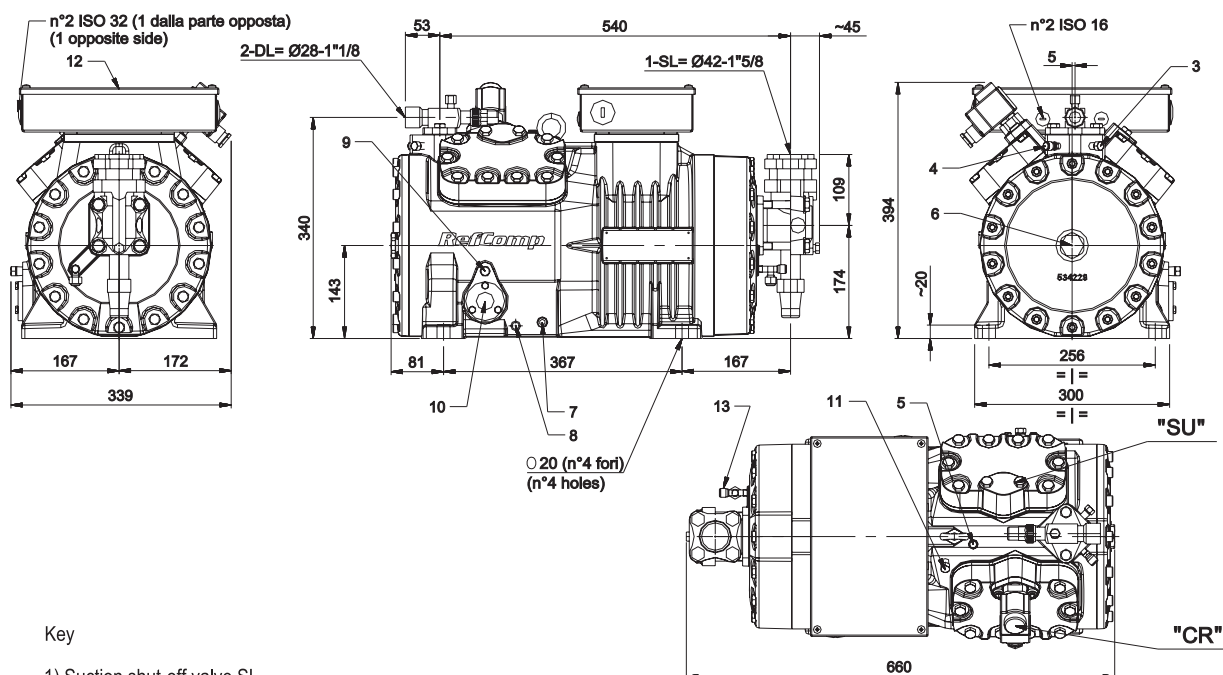
SP4LN0600 - SP4LN060E - SP4LN0800 - SP4LN080E

SP4HN/LN1000 - SP4HN/LN100E - SP4HN/LN1200 - SP4HN/LN120E



SP4HN1500 - SP4HN150E

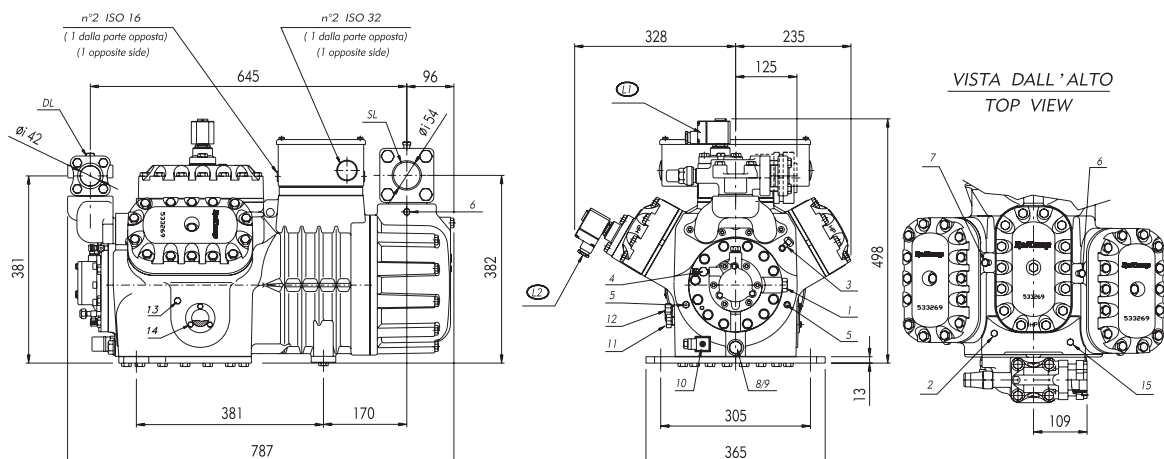
SP4HN2000 - SP4HN200E



Key

- 1) Suction shut-off valve SL
 - 2) Discharge shut-off valve DL
 - 3) Discharge temperature sensor 1/8"NPT
 - 4) High pressure 1/8"NPT
 - 5) Low pressure 1/8"NPT
 - 6) Oil plug for optical sensor 1"1/8-18UNEF
 - 7) Oil drain 3/8"NPT
 - 8) Crankcase heater
 - 9) Oil charging 1/4"NPT
 - 10) Oil level sight glass
 - 11) LCM injection connection 1/8"NPT
 - 12) Electric box
 - 13) Low pressure 1/4" SAE-FLARE
- "CR" Capacity regulator
"SU" Start unloader

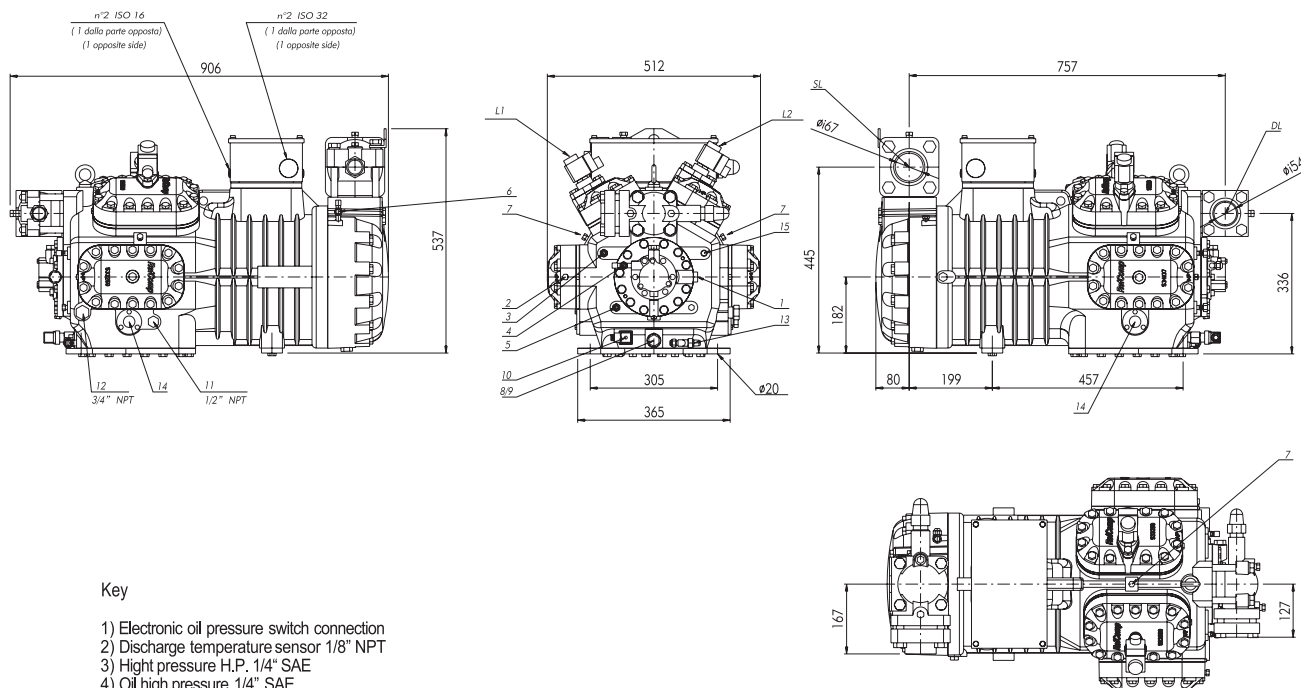
SP6L4000 - SP6L400E
SP6H5000 - SP6H500E



Key

- | | |
|--|--|
| 1) Electronic oil pressure switch connection | 11) Oil equalization(parallel operation) |
| 2) Discharge temperature sensor | 12) Gas equalization(parallel operation) |
| 3) High pressure 1/4" SAE..FLARE | 13) Oil charging 1/4"NPT |
| 4) Oil high pressure 1/4" SAE-FLARE | 14) Oil level sight glass |
| 5) Oil low pressure 1/4" SAE-FLARE | 15) High pressure 1/4"NPT |
| 6) Low pressure 1/8"NPT | DL) Discharge shut off valve |
| 7) Low pressure 1/8"NPT (liquid injection) | SL) Suction shut off valve |
| 8) Oil strainer plug | L1) Solenoid valve 1 st stage |
| 9) Oil drain | L2) Solenoid valve 2 nd stage |
| 10) Crankcase heater | |

SP8H6000 - SP8H600E - SP8H7000- SP8H700E
SP8L5000 - SP8L500E - SP8L6000 - SP8L600E

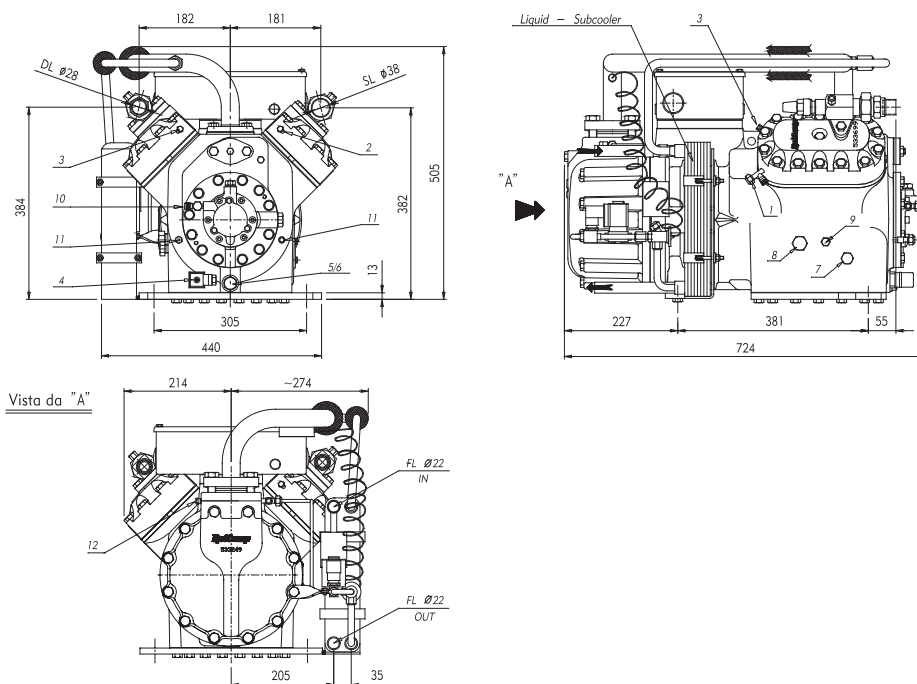


Key

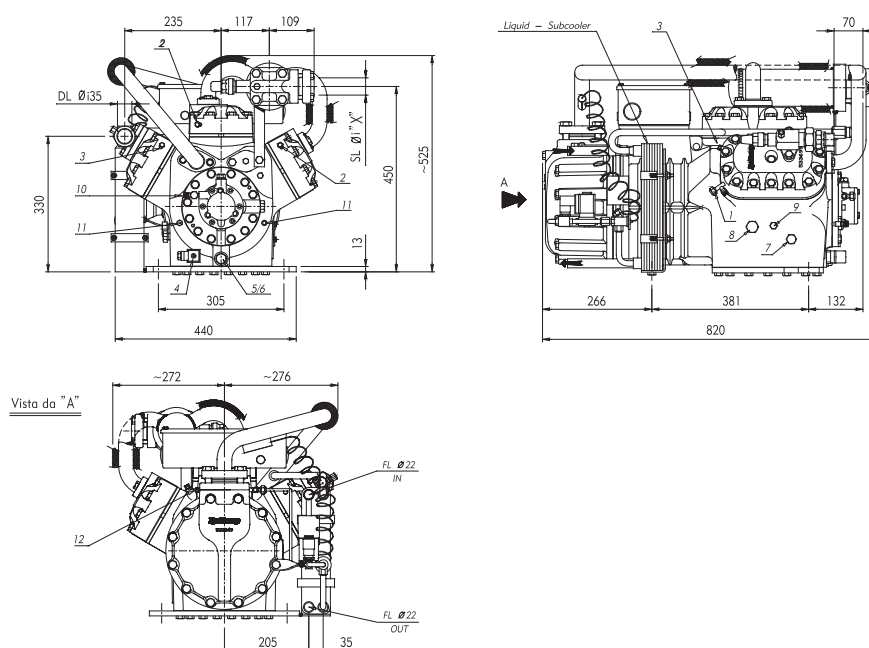
- | |
|--|
| 1) Electronic oil pressure switch connection |
| 2) Discharge temperature sensor 1/8" NPT |
| 3) High pressure H.P. 1/4" SAE |
| 4) Oil high pressure 1/4" SAE |
| 5) Oil low pressure 1/4" SAE |
| 6) Low pressure L. P. 1/4" SAE |
| 7) Low pressure L.P. 1/8" NPT (liquid injection) |
| 8) Oil strainer plug |
| 9) Oil drain |
| 10) Crankcase heater |
| 11) Oil equalization(parallel operation) |
| 12) Gas equalization(parallel operation) |
| 13) Oil charging 1/4"SAE (on request) |
| 14) Oil level sight glass |
| 15) High pressure H.P. Schrader-connection |
| DL) Discharge shut off valve |
| SL) Suction shut off valve |
| L1) Solenoid valve 1 st step |
| L2) Solenoid valve 2 nd step |

SB4 1200 - SB4 120E
SB4 1400 - SB4 140E

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SB6 1600 - SB6 160E - SB6 2000 - SB6 200E
SB6 2500 - SB6 250E - SB6 3000 - SB6 300E



KEY

- | | |
|---|---|
| 1) Intermediate pressure 1/4" S.A.E. - FLARE | 9) Oil charging 1/4" NPT |
| 2) Low pressure 1/8" NPT | 10) Oil high pressure 1/4" S.A.E. - FLARE |
| 3) High pressure 1/4" S.A.E. - FLARE | 11) Oil low pressure 1/4" S.A.E. - FLARE |
| 4) Crankcase heater | 12) Oil return from separator 1/8" NPT |
| 5) Oil strainer plug | 13) Suction shut-off valve |
| 6) Oil drain 1/4" NPT | 14) Discharge shut-off valve |
| 7) Oil equalization (parallel operation) 1/2" NPT | 15) Oil sight glass |
| 8) Gas equalization (parallel operation) 3/4" NPT | 16) Plate heat exchanger (optional) controlled on liquid injection module LCM or thermostatic valve |

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