





# Technical data and ordering

## LLZ - Scroll compressors - R404A - 50 / 60 Hz

### Performance table - Without economizer

Type		To	-40			-35		-30		-25		-20		-15		-10	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	
50 Hz	LLZ013T4	30	2200	1.94	2900	2.10	3700	2.25	4600	2.40	5700	2.53	6900	2.62	8400	2.66	
		40	1800	2.19	2400	2.37	3100	2.55	3900	2.74	4800	2.91	6000	3.06	7300	3.17	
		50	-	-	1900	2.72	2500	2.92	3200	3.14	3900	3.35	4900	3.55	6000	3.73	
	LLZ015T4	30	2700	2.28	3500	2.48	4400	2.69	5600	2.89	7000	3.08	8600	3.25	10600	3.38	
		40	2300	2.57	2900	2.78	3800	3.01	4700	3.26	5900	3.50	7400	3.74	9000	3.96	
		50	-	-	2300	3.16	3000	3.41	3800	3.69	4800	3.98	6000	4.28	7400	4.58	
	LLZ018T4	30	3200	2.59	4100	2.81	5200	3.05	6600	3.28	8200	3.50	10200	3.69	12400	3.83	
		40	2700	2.91	3500	3.15	4400	3.42	5600	3.69	7000	3.98	8600	4.24	10600	4.49	
		50	-	-	2800	3.58	3500	3.87	4500	4.18	5600	4.52	7000	4.86	8700	5.19	
	LLZ024T4	30	4100	3.25	5200	3.54	6700	3.83	8400	4.12	10500	4.40	13000	4.63	15900	4.81	
		40	3400	3.66	4400	3.96	5600	4.29	7100	4.64	8900	5.00	11000	5.33	13600	5.64	
		50	-	-	3500	4.50	4500	4.86	5700	5.25	7200	5.68	9000	6.10	11100	6.52	
60 Hz	LLZ013T4	30	2600	2.27	3400	2.46	4400	2.65	5500	2.81	6800	2.94	8300	3.03	10100	3.06	
		40	2200	2.57	2900	2.77	3700	2.99	4700	3.20	5800	3.39	7100	3.56	8600	3.69	
		50	-	-	2300	3.15	3000	3.39	3800	3.63	4700	3.88	5800	4.11	7100	4.32	
	LLZ015T4	30	3300	2.74	4200	2.98	5300	3.22	6700	3.46	8400	3.68	10400	3.85	12800	3.96	
		40	2700	3.07	3600	3.31	4500	3.58	5700	3.86	7200	4.15	8900	4.41	10900	4.63	
		50	-	-	2900	3.76	3700	4.03	4700	4.34	5900	4.67	7300	5.00	9000	5.31	
	LLZ018T4	30	3900	3.15	5000	3.42	6400	3.70	8000	3.98	10000	4.23	12400	4.42	15200	4.55	
		40	3300	3.53	4200	3.80	5400	4.11	6800	4.44	8600	4.77	10600	5.07	13000	5.32	
		50	-	-	3400	4.32	4400	4.63	5600	4.99	7000	5.36	8700	5.74	10700	6.10	
	LLZ024T4	30	4800	3.82	6200	4.15	7900	4.49	10000	4.83	12500	5.13	15500	5.37	19000	5.53	
		40	4100	4.28	5300	4.61	6800	4.99	8500	5.39	10700	5.78	13200	6.15	16300	6.46	
		50	-	-	4200	5.24	5500	5.62	6900	6.05	8700	6.51	10900	6.97	13400	7.41	

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Qo: Cooling capacity in [W]

Pe: Power input in [kW]

Subcooling: 0 K

Superheat: 10

# Technical data and ordering

## LLZ - Scroll compressors - R404A - 50 / 60 Hz

### Performance table - With economizer

Type		To	-40			-35		-30		-25		-20		-15		-10	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	
50 Hz	LLZ013T4	30	3300	2.44	4200	2.59	5100	2.74	6100	2.88	7300	3.01	8500	3.13	9800	3.24	
		40	3200	2.96	4000	3.13	4800	3.28	5800	3.42	6900	3.55	8000	3.68	9200	3.80	
		50	-	-	3700	3.80	4600	3.99	5500	4.18	6500	4.35	7500	4.51	8600	4.66	
	LLZ015T4	30	4000	2.90	5000	3.05	6000	3.20	7200	3.35	8600	3.49	10200	3.58	12000	3.63	
		40	3900	3.48	4700	3.66	5700	3.85	6900	4.04	8200	4.22	9700	4.36	11300	4.46	
		50	-	-	4500	4.46	5400	4.71	6500	4.95	7700	5.19	9000	5.40	10500	5.56	
	LLZ018T4	30	4800	3.34	5900	3.50	7200	3.68	8600	3.86	10300	4.01	12200	4.13	14300	4.18	
		40	4600	4.01	5600	4.21	6800	4.43	8200	4.65	9800	4.86	11500	5.02	13500	5.14	
		50	-	-	5400	5.14	6500	5.42	7700	5.70	9200	5.97	10800	6.21	12500	6.40	
	LLZ024T4	30	6000	4.13	7400	4.33	9000	4.55	10800	4.77	12900	4.96	15300	5.10	17900	5.16	
		40	5800	4.95	7100	5.20	8600	5.48	10300	5.75	12300	6.00	14500	6.21	16900	6.35	
		50	-	-	6700	6.35	8100	6.69	9700	7.04	11500	7.38	13500	7.67	15700	7.91	
60 Hz	LLZ013T4	30	3900	2.80	5000	2.99	6100	3.16	7300	3.31	8600	3.45	10100	3.57	11800	3.67	
		40	3800	3.42	4800	3.62	5800	3.80	6900	3.97	8100	4.12	9500	4.25	11000	4.36	
		50	-	-	4500	4.40	5500	4.65	6500	4.88	7600	5.10	8800	5.29	10200	5.47	
	LLZ015T4	30	4900	3.42	5900	3.64	7200	3.83	8700	3.99	10400	4.14	12300	4.28	14500	4.41	
		40	4700	4.08	5700	4.33	6900	4.57	8300	4.79	9900	5.00	11700	5.22	13600	5.44	
		50	-	-	5400	5.26	6600	5.56	7800	5.85	9300	6.14	10900	6.44	12600	6.76	
	LLZ018T4	30	5900	3.89	7100	4.15	8600	4.36	10400	4.55	12400	4.72	14700	4.88	17300	5.03	
		40	5600	4.65	6800	4.94	8200	5.21	9900	5.46	11800	5.70	13900	5.95	16300	6.20	
		50	-	-	6500	6.00	7800	6.33	9400	6.66	11100	6.99	13000	7.34	15100	7.70	
	LLZ024T4	30	7300	4.75	8800	5.06	10600	5.32	12800	5.55	15400	5.76	18200	5.95	21400	6.14	
		40	6900	5.67	8400	6.03	10200	6.36	12300	6.66	14600	6.96	17300	7.26	20200	7.57	
		50	-	-	8000	7.32	9700	7.73	11600	8.13	13800	8.54	16100	8.96	18700	9.40	

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Qo: Cooling capacity in [W]

Pe: Power input in [kW]

Subcooling: 0 K

Superheat: 10 K

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# Nomenclature and Dimensions

Type	Size	Motor	Features
<b>MLZ</b>	<b>021</b>	<b>T4L</b>	<b>P9</b>

**Application:**  
M: medium temperature refrigeration

**Family, refrigerant and lubricant:**  
LZ: R404A - R507 - R134a - R22, PVE lubricant  
LM: R22, alkylbenzene lubricant

**Nominal capacity:**  
in thousand Btu/h at 60 Hz, ARI / MBP conditions

**Model variation:**  
T: design optimized for refrigeration

**Other features**

Oil sight glass	Oil equalisation	Oil drain	LP gauge port	Gas equalis. port
9	Threaded	None	Schrader	None

**Tubing and electrical connections:**  
**P:** brazed connections, spade terminals  
**C:** brazed connections, screw terminals  
**T:** rotolock connections, spade terminals  
**Q:** rotolock connections, screw terminals

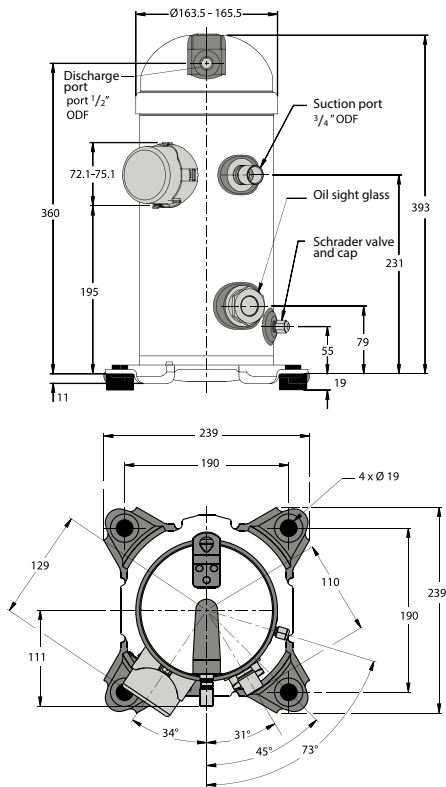
**Motor protection:**  
L: internal motor protection

**Motor voltage code**

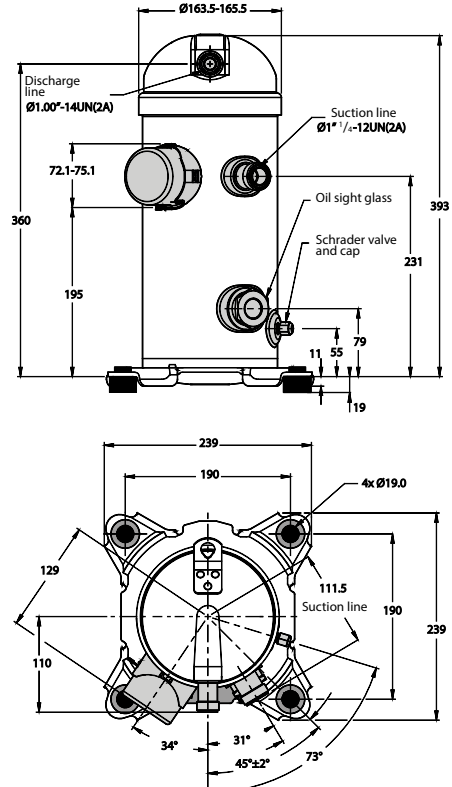
- 1: 208 – 230 V / 1 ~ / 60 Hz
- 2: 200 – 220 V / 3 ~ / 50 Hz & 208 – 230 V / 3 ~ / 60 Hz
- 4: 380 – 400 V / 3 ~ / 50 Hz & 460 V / 3 / 60 Hz
- 5: 220 – 240 V / 1 ~ / 50 Hz
- 7: 500 V / 3 ~ / 50 Hz & 575 V / 3 ~ / 60 Hz
- 9: 380 V / 3 ~ / 60 Hz

## MLZ015-019-021-026

### Brazed



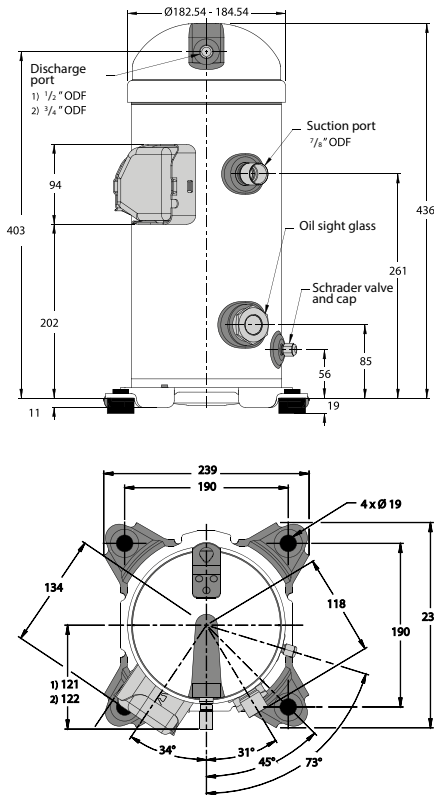
### Rotolock



# Dimensions

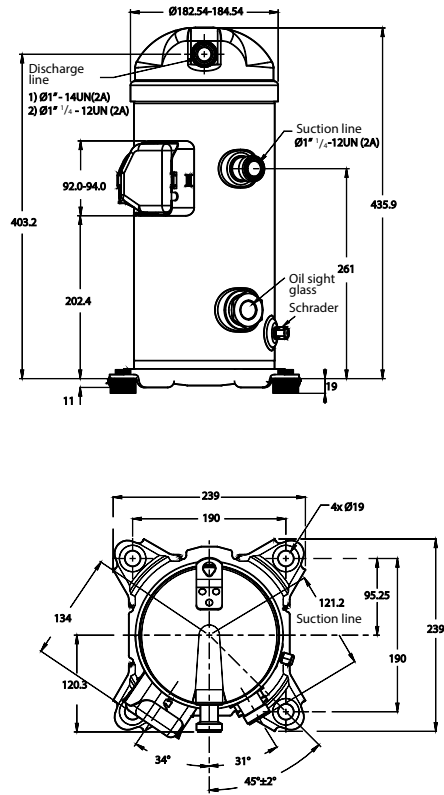
## MLZ030-038-042-045-048

Brazed



1) MLZ030-038-042-045  
2) MLZ048

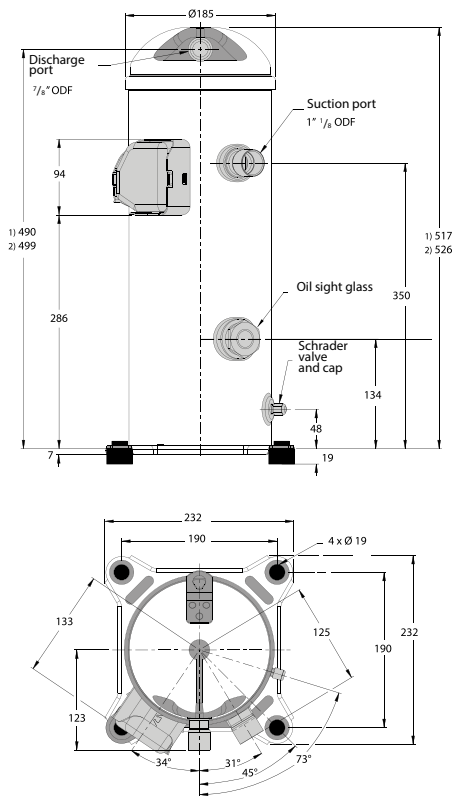
Rotolock



1) MLZ030-038-042-045  
2) MLZ048

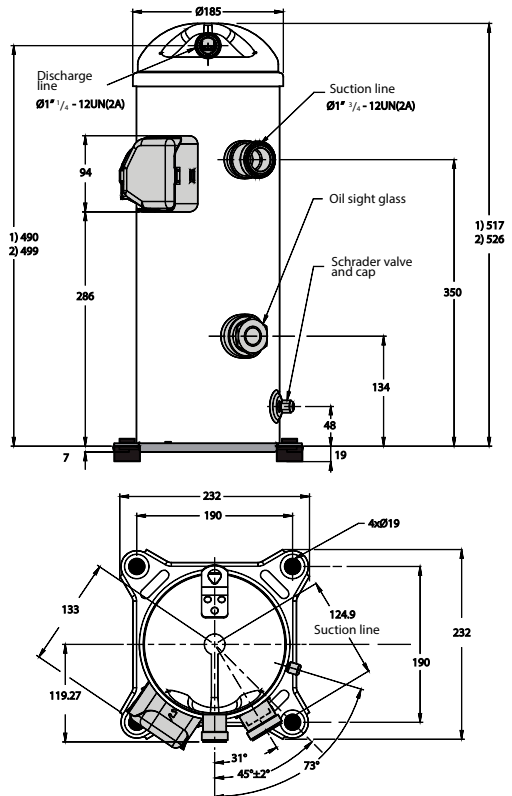
## MLZ058-066-076

Brazed



1) MLZ030-038-042-045  
2) MLZ048

Rotolock



1) MLZ085  
2) MLZ066-076

# Nomenclature and Dimensions

Type	Size	Motor	Features
<b>LLZ</b>	<b>013</b>	<b>T4L</b>	<b>Q9</b>

Application: L: low temperature refrigeration

Family, refrigerant and lubricant: LZ: R404A - R507, PVE lubricant

Nominal capacity: in thousand Btu/h at 60 Hz, ARI / LBP conditions

Model variation: T: design optimized for refrigeration


Other features

Oil sight glass	Oil equalisation	Oil drain	LP gauge port	Gas equalis. port
9 Threaded	None	Schrader	None	None

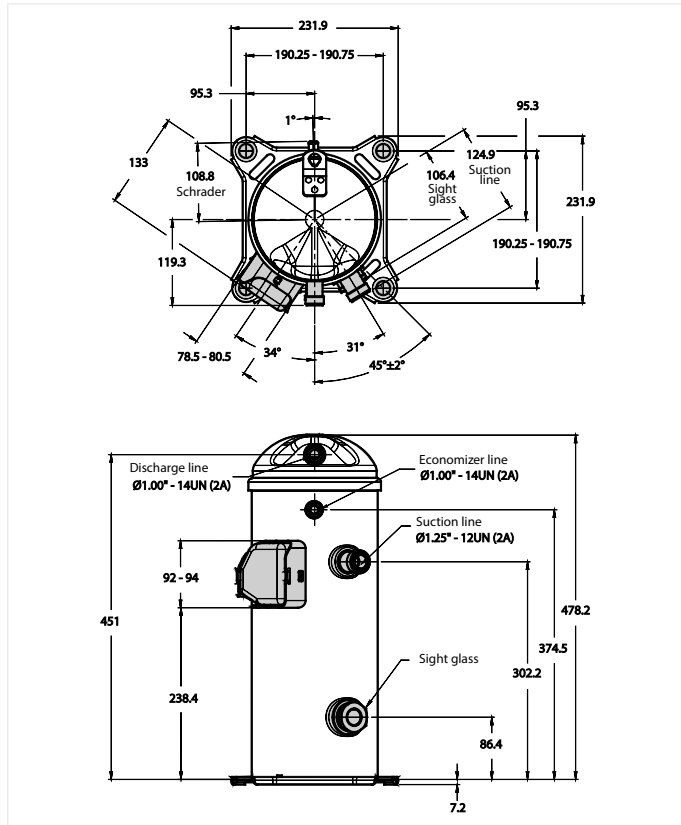
Tubing and electrical connections: Q: rotolock connections, screw terminals

Motor protection: L: internal motor protection

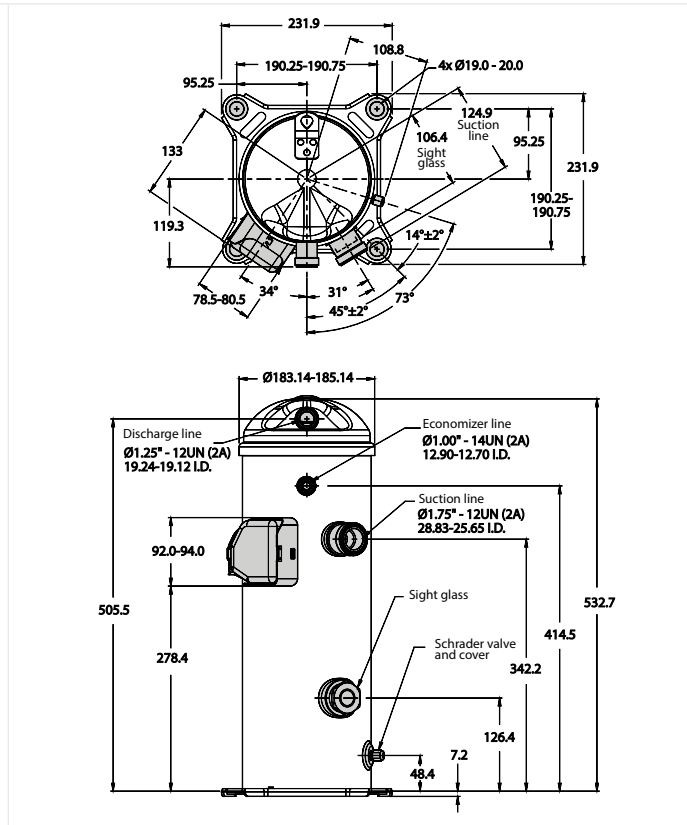
Motor voltage code:  
 2: 200 – 220 V / 3 ~ / 50 Hz & 208 – 230 V / 3 ~ / 60 Hz  
 4: 380 – 415 V / 3 ~ / 50 Hz & 460 V / 3 / 60 Hz  
 7: 500 V / 3 ~ / 50 Hz & 575 V / 3 ~ / 60 Hz  
 9: 380 V / 3 ~ / 60 Hz



## LLZ013-015-018



## LLZ024



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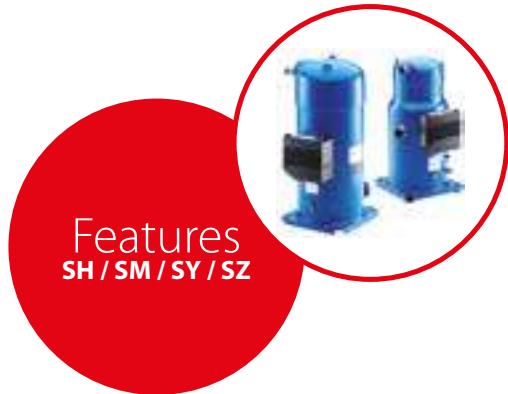
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# SH / SM / SY / SZ - S-Series, Scroll compressors

By combining an in-depth understanding of customer needs with continuous investment in product technology Danfoss is able to offer you the S series, which comprise a 7.5 – 40 TR industry-leading range of high efficiency scroll compressors optimized for rooftop and chiller applications.

Available in a large variety of single and manifold models for R410A, R407C, R134a and R22. The compressors combine high energy efficiency with low sound and minimal vibration.



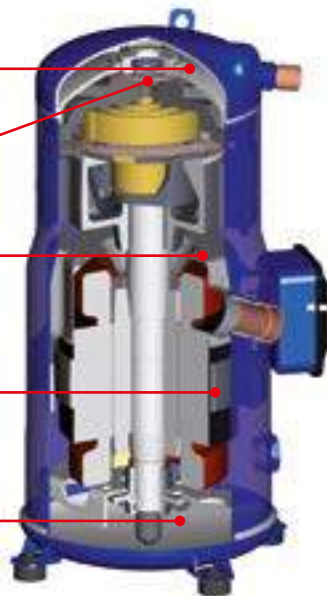
Heat shield that lowers the heat transfer between discharge and suction gas and the acoustic level

New PTFE spring seal for even lower leaks

Patented motor cap

Patented motor centring spacer

Improved lower bearing centring



Heat shield that lowers the heat transfer between discharge and suction gas and the acoustic level

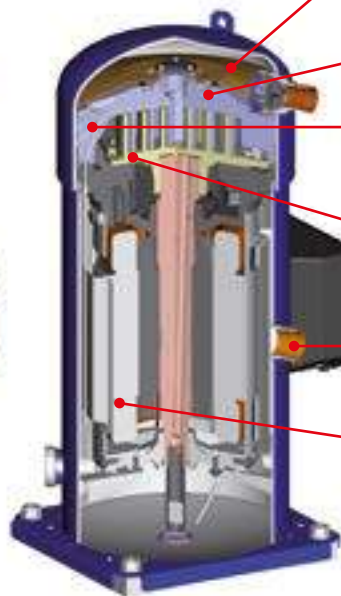
Intermediate discharge valves (SH485)

Integrated discharge gas temperature protection (SH485)

Intermediate discharge valves (SH485)

Liquid slug protection per suction fitting in upper position

Patented gas path flow (SH485)



## Facts

### S-Series compressor design

- Improved energy efficiency and reduced sound levels with the intermediate cap design feature
- Greater reliability with the internal non-return valve, which avoids refrigerant migration from the high pressure side
- Quieter and more efficient operation with "no contact – no wear" scroll design for reduced friction
- Environmentally-friendly lead-free bearings
- Highly efficient and reliable protection against overheating, overloading, phase loss and phase order with specific electronic module protection
- Prepared for manifolding with oil sight glass and oil equalizer
- Easy maintenance with oil drain tube
- The Surface Sump Heater provides thermal insulation, higher efficiency and greater noise reduction 2 – 4 dB [A]

# Technical data and ordering

## SH - Scroll compressors - R410A - 50 / 60 Hz

### Technical data

Type	Nominal tons 60 Hz	Nominal cooling capacity		Power input	COP	E.E.R.	Swept volume	Displacement <sup>1)</sup>	Oil charge	Net weight <sup>2)</sup>	
	[TR]	[W]	[Btu/h]	[kW]	[W]/[W]	[Btu/h]/[W]	[cm <sup>3</sup> /rev]	[m <sup>3</sup> /h]	[dm <sup>3</sup> ]	[kg]	
50 Hz	SH090	7.5	22300	76100	7.19	3.10	10.58	88.40	15.4	3.0	58.0
	SH105	9	26800	91500	8.47	3.17	10.82	103.50	18.0	3.3	64.0
	SH120	10	30000	102400	9.46	3.17	10.82	116.90	20.3	3.3	64.0
	SH140	12	34700	118400	10.58	3.28	11.19	133.00	23.1	3.3	67.0
	SH161	13	38800	132400	12.15	3.19	10.89	151.70	26.4	3.3	69.0
	SH184	15	44700	152600	13.73	3.25	11.09	170.30	29.6	3.6	71.5
	SH180	15	44500	151900	13.87	3.21	10.96	170.20	29.6	6.7	108.0
	SH240	20	59700	203800	18.50	3.23	11.02	227.60	39.6	6.7	108.0
	SH295 <sup>3)</sup>	25	73200	249800	22.51	3.25	11.09	276.20	48.1	6.7	111.0
	SH380	30	90500	308900	28.18	3.21	10.96	345.00	60.0	6.7	159.0
60 Hz	SH090	7.5	27100	92500	8.57	3.16	10.78	88.40	18.6	3.0	58.0
	SH105	9	32100	109600	9.96	3.22	10.99	103.50	21.8	3.3	64.0
	SH120	10	36800	125600	11.25	3.27	11.16	116.90	24.6	3.3	64.0
	SH140	12	42300	144400	12.77	3.31	11.30	133.00	27.9	3.3	67.0
	SH161	13	47200	161100	14.43	3.27	11.16	151.70	31.9	3.3	69.0
	SH184	15	54000	184300	16.45	3.28	11.19	170.30	35.8	3.6	71.5
	SH180	15	54300	185300	16.58	3.27	11.16	170.20	35.7	6.7	108.0
	SH240	20	72200	246400	22.10	3.27	11.16	227.60	47.8	6.7	108.0
	SH295 <sup>3)</sup>	25	88500	302000	27.21	3.25	11.09	276.20	58.0	6.7	111.0
	SH380	30	109600	374100	33.99	3.22	10.99	345.00	72.3	6.7	159.0
SH485	40	140600	479900	43.28	3.25	11.09	442.60	92.9	6.7	175.0	

<sup>1)</sup> Displacement at nominal speed: 2900 rpm at 50 Hz, 3500 rpm at 60 Hz

<sup>2)</sup> Net weight with oil charge

**TR)** Ton of Refrigeration

**EER)** Energy Efficiency Ratio

**COP)** Coefficient Of Performance

Standard rating conditions ARI standard

Refrigerant: R410A

Evaporating temperature: 7.2 °C

Condensing temperature: 54.4 °C

Superheat: 11.1 K

Subcooling: 8.3 K

Subject to modification without prior notification

Data given for motor code 4 compressor

<sup>3)</sup> SH295 replaces SH300. SH300 model remains available for after-market

## SH - Scroll compressors - R410A - 50 / 60 Hz

### Ordering single pack

Type	Connections	Mounting feet	Motor protection	Code no.				
				3	4	6	7	9
				200 - 230 / 3 / 60	460 / 3 / 60 380 - 400 / 3 / 50	230 / 3 / 50	575 / 3 / 60 500 / 3 / 50	380 / 3 / 60
SH090	Brazed	Flexible	Internal	120H0001	120H0003	120H0005	120H0007	120H0009
SH105	Brazed	Flexible	Internal	120H0209	120H0211	120H0213	120H0215	120H0217
SH120	Brazed	Flexible	Internal	120H0011	120H0013	120H0015	120H0017	120H0019
SH140	Brazed	Flexible	Internal	120H0199	120H0201	120H0203	120H0205	120H0207
SH161	Brazed	Flexible	Internal	120H0021	120H0023	120H0025	120H0027	120H0029
SH184	Brazed	Flexible	Internal	120H0359	120H0361	120H0363	120H0365	120H0367
SH180	Brazed	Rigid	Module 24 V AC <sup>1)</sup>	120H0265	120H0267	-	120H0269	120H0271
	Brazed	Rigid	Module 230 V <sup>1)</sup>	120H0273	120H0275	-	120H0277	120H0279
SH240	Brazed	Rigid	Module 24 V AC <sup>1)</sup>	120H0289	120H0291	-	120H0293	120H0295
	Brazed	Rigid	Module 115 - 230 V <sup>1)</sup>	120H0297	120H0299	-	120H0301	120H0303
SH295	Brazed	Rigid	Module 24 V AC <sup>1)</sup>	120H0851	120H0825	-	120H0833	120H0841
	Brazed	Rigid	Module 115 - 230 V <sup>1)</sup>	120H0853	120H0827	-	120H0835	120H0843
SH380	Brazed	Rigid	Module 24 V AC <sup>1)</sup>	120H0151	120H0253	-	120H0257	120H0261
	Brazed	Rigid	Module 115 - 230 V <sup>1)</sup>	120H0152	120H0255	-	120H0259	120H0263
SH485	Brazed	Rigid	Module 24 V AC <sup>1)</sup>	120H1105	120H1062	-	120H1099	120H1072
	Brazed	Rigid	Module 115 - 230 V <sup>1)</sup>	120H1107	120H1064	-	120H1098	120H1074

<sup>1)</sup> Electronic motor protection, module located in terminal box

# Technical data and ordering

## SH - Scroll compressors - R410A - 50 / 60 Hz

### Ordering industrial pack

Type	Connections	Mounting feet	Motor protection	Code no.		
				3	4	9
				200 - 230 / 3 / 60	400 / 3 / 50 460 / 3 / 60	380 / 3 / 60
SH090	Brazed	Flexible	Internal	120H0002	120H0004	120H0010
SH105	Brazed	Flexible	Internal	120H0210	120H0212	120H0218
SH120	Brazed	Flexible	Internal	120H0012	120H0014	120H0020
SH140	Brazed	Flexible	Internal	120H0200	120H0202	120H0208
SH161	Brazed	Flexible	Internal	120H0022	120H0024	120H0030
SH184	Brazed	Flexible	Internal	120H0360	120H0362	120H0368
SH180	Brazed	Rigid	Module 24 V AC <sup>1)</sup>	-	120H0268	120H0272
	Brazed	Rigid	Module 230 V <sup>1)</sup>	120H0274	120H0276	120H0280
SH240	Brazed	Rigid	Module 24 V AC <sup>1)</sup>	120H0290	120H0292	120H0296
	Brazed	Rigid	Module 115 - 230 V <sup>1)</sup>	120H0298	120H0300	120H0304
SH295	Brazed	Rigid	Module 24 V AC <sup>1)</sup>	120H0852	120H0826	120H0842
	Brazed	Rigid	Module 115 - 230 V <sup>1)</sup>	120H0854	120H0828	120H0844
SH380	Brazed	Rigid	Module 24 V AC <sup>1)</sup>	120H0250	120H0254	120H0262
	Brazed	Rigid	Module 115 - 230 V <sup>1)</sup>	120H0252	120H0256	120H0264
SH485	Brazed	Rigid	Module 24 V AC <sup>1)</sup>	-	120H1063	120H1073
	Brazed	Rigid	Module 115 - 230 V <sup>1)</sup>	-	120H1065	120H1075

<sup>1)</sup> Electronic motor protection, module located in terminal box

## SH - Scroll compressors - R410A - 50 Hz

### Performance table

Type	To	-20		-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
SH090-4	35	9700	4.5	12100	4.6	15000	4.7	18200	4.8	22000	4.8	26300	4.9	31200	4.9	36800	4.9
	45	8500	5.6	10700	5.7	13200	5.7	16200	5.8	19600	5.9	23500	5.9	28000	6.0	33000	6.0
	55	-	-	-	-	11300	7.1	13900	7.1	16900	7.2	20400	7.3	24400	7.3	28900	7.4
SH105-4	35	11200	5.4	14100	5.5	17400	5.6	21400	5.7	25900	5.7	31200	5.9	37200	6.0	44000	6.1
	45	10200	6.7	12800	6.7	15900	6.8	19400	6.8	23500	6.9	28100	7.0	33400	7.2	39500	7.3
	55	-	-	-	-	13900	8.4	17000	8.4	20600	8.5	24600	8.5	29200	8.6	34500	8.8
SH120-4	35	13100	5.9	16300	6.0	20100	6.1	24500	6.2	29500	6.3	35300	6.4	41900	6.5	49400	6.5
	45	11400	7.4	14300	7.4	17800	7.5	21800	7.6	26300	7.7	31600	7.8	37600	7.9	44400	7.9
	55	-	-	-	-	15200	9.3	18700	9.4	22800	9.5	27400	9.6	32700	9.6	38800	9.7
SH140-4	35	15700	6.8	19300	6.9	23500	7.0	28400	7.0	34000	7.1	40400	7.2	47700	7.2	56000	7.2
	45	13700	8.3	17000	8.4	20900	8.5	25400	8.6	30500	8.6	36400	8.7	43200	8.8	50800	8.8
	55	-	-	-	-	18000	10.5	22000	10.5	26500	10.6	31800	10.7	37900	10.7	44800	10.8
SH161-4	35	17300	7.8	21500	7.9	26300	7.9	31900	8.0	38300	8.0	45700	8.1	54100	8.2	63600	8.4
	45	15100	9.8	18900	9.8	23300	9.8	28400	9.8	34300	9.9	41000	9.9	48700	10.0	57400	10.1
	55	-	-	-	-	19900	12.4	24300	12.3	29500	12.3	35500	12.3	42400	12.3	50200	12.3
SH180-4	35	19200	9.1	24000	9.1	29600	9.1	36000	9.2	43500	9.2	52100	9.2	61800	9.3	72700	9.4
	45	16600	11.3	21000	11.3	26200	11.3	32100	11.3	39000	11.3	46800	11.3	55700	11.3	65800	11.4
	55	-	-	-	-	22300	14.1	27600	14.1	33700	14.1	40700	14.1	48700	14.0	57800	14.0
SH184-4	35	20200	8.7	24900	8.8	30300	9.0	36700	9.2	44000	9.4	52400	9.5	61900	9.7	72700	9.8
	45	17800	10.6	22100	10.8	27100	10.9	32800	11.1	39400	11.2	47000	11.4	55700	11.6	65500	11.8
	55	-	-	-	-	23400	13.4	28400	13.5	34300	13.6	41000	13.8	48700	14.0	57500	14.2
SH240-4	35	26700	12.0	33200	12.0	40700	12.1	49200	12.1	59000	12.2	70200	12.3	82800	12.4	97100	12.6
	45	23300	14.8	29300	14.9	36100	15.0	43900	15.0	52800	15.1	63000	15.1	74500	15.2	87400	15.3
	55	-	-	-	-	30900	18.6	37800	18.6	45800	18.7	54800	18.7	65100	18.8	76800	18.8
SH295-4	35	32700	14.5	40600	14.6	49800	14.7	60300	14.8	72400	14.9	86100	15.1	101700	15.5	119200	15.9
	45	28700	17.9	35800	18.1	44100	18.2	53600	18.3	64600	18.3	77100	18.5	91200	18.7	107200	18.9
	55	-	-	-	-	37800	22.4	46200	22.6	56000	22.7	67100	22.7	79900	22.9	94300	23.0
SH380-4	35	40400	18.4	50000	18.6	61100	18.7	74000	18.8	88900	19.0	105900	19.2	125300	19.6	147200	20.2
	45	35500	22.3	44200	22.7	54300	22.9	66000	23.0	79600	23.1	95100	23.3	112900	23.5	133000	23.8
	55	-	-	-	-	46600	28.0	57000	28.2	69000	28.3	82900	28.5	98900	28.6	117100	28.8
SH485-4	35	52600	23.0	64800	23.5	78900	23.8	95400	24.1	114400	24.1	136200	23.9	161100	23.4	189400	22.6
	45	46700	28.0	57700	28.4	70600	28.8	85400	29.2	102500	29.4	122200	29.5	144700	29.4	170300	29.0
	55	-	-	-	-	61200	35.0	74300	35.4	89400	35.8	106900	36.0	126900	36.1	149800	36.0

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Pe: Power input in [kW]

Qo: Cooling capacity in [W]

Subcooling: 8.3 K

Superheat: 11.1 K

Voltage: 400 V / 3 / 50 Hz

# Technical data and ordering

## SH - Scroll compressors - R410A - 60 Hz

Performance table

Type	To	-20			-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	
SH090	35	11500	5.53	14400	5.56	17800	5.61	21800	5.66	26400	5.72	31600	5.79	37600	5.87	44400	5.96	
	45	10000	6.84	12700	6.87	15800	6.90	19500	6.94	23600	6.98	28500	7.04	33900	7.11	40200	7.20	
	55	-	-	-	-	13500	8.58	16800	8.60	20500	8.62	24800	8.66	29700	8.71	35300	8.77	
SH105	35	14200	6.51	17500	6.59	21400	6.68	25900	6.78	31000	6.88	37000	6.96	43700	7.03	51300	7.06	
	45	12500	7.91	15600	7.94	19200	8.01	23300	8.10	28000	8.21	33500	8.33	39700	8.44	46800	8.55	
	55	-	-	-	-	16600	9.76	20300	9.81	24500	9.90	29400	10.01	35100	10.15	41500	10.29	
SH120	35	16000	7.15	19900	7.26	24500	7.38	29800	7.51	35800	7.67	42800	7.85	50700	8.06	59700	8.31	
	45	14000	8.80	17600	8.88	21800	8.98	26600	9.08	32200	9.21	38500	9.36	45700	9.55	53900	9.77	
	55	-	-	-	-	18700	11.08	23000	11.14	28000	11.22	33700	11.32	40100	11.46	47500	11.63	
SH140	35	19100	8.18	23400	8.31	28500	8.44	34400	8.59	41200	8.73	49000	8.88	57900	9.02	67900	9.16	
	45	16900	9.97	20900	10.07	25500	10.19	30900	10.32	37100	10.47	44300	10.63	52400	10.80	61700	10.96	
	55	-	-	-	-	22100	12.47	26900	12.57	32400	12.70	38800	12.85	46100	13.01	54500	13.18	
SH161	35	21400	9.22	26300	9.34	32100	9.47	38700	9.60	46400	9.75	55200	9.91	65200	10.09	76600	10.28	
	45	18700	11.37	23300	11.47	28500	11.56	34600	11.67	41600	11.79	49600	11.92	58800	12.07	69200	12.24	
	55	-	-	-	-	24500	14.34	29900	14.40	36100	14.48	43200	14.56	51500	14.67	60800	14.79	
SH180	35	23400	10.85	29300	10.89	36100	10.93	44000	10.96	53200	11.00	63600	11.03	75500	11.07	88900	11.11	
	45	20300	13.46	25700	13.48	31900	13.51	39200	13.54	47600	13.56	57200	13.59	68100	13.62	80400	13.65	
	55	-	-	-	-	27200	16.86	33600	16.84	41100	16.82	49600	16.81	59400	16.79	70600	16.78	
SH184	35	24500	10.44	30100	10.66	36600	10.89	44100	11.11	52700	11.32	62600	11.51	73800	11.66	86500	11.76	
	45	21600	12.68	26700	12.87	32700	13.08	39500	13.31	47500	13.55	56500	13.77	66800	13.98	78500	14.16	
	55	-	-	-	-	28300	15.90	34400	16.09	41500	16.31	49600	16.53	58900	16.76	69500	16.98	
SH240	35	32800	14.32	40400	14.41	49200	14.48	59400	14.56	71200	14.69	84600	14.89	100000	15.20	117300	15.65	
	45	28800	17.53	35700	17.71	43800	17.83	53000	17.92	63700	18.01	75900	18.14	89900	18.33	105800	18.62	
	55	-	-	-	-	37800	21.90	46000	22.07	55400	22.20	66300	22.32	78700	22.46	93000	22.66	
SH295	35	40300	17.44	49600	17.66	60300	17.86	72800	18.07	87200	18.37	103700	18.79	122400	19.39	143600	20.23	
	45	35500	21.18	43900	21.55	53700	21.82	65000	22.04	78000	22.26	93000	22.54	110100	22.93	129400	23.48	
	55	-	-	-	-	46400	26.60	56400	26.92	68000	27.18	81300	27.42	96500	27.69	113800	28.06	
SH380	35	48700	22.23	60200	22.44	73600	22.71	89200	23.02	107100	23.37	127600	23.77	151000	24.19	177500	24.65	
	45	42800	27.08	53300	27.23	65400	27.44	79600	27.69	96000	28.00	114800	28.35	136300	28.73	160800	29.15	
	55	-	-	-	-	56400	33.48	68900	33.68	83500	33.94	100400	34.24	119900	34.58	142100	34.97	
SH485	35	63100	28.00	77700	28.38	94700	28.81	114500	29.22	137400	29.50	163800	29.56	193900	29.33	228200	28.71	
	45	55800	34.23	69100	34.42	84500	34.79	102400	35.24	123100	35.69	147100	36.05	174500	36.23	205800	36.14	
	55	-	-	-	-	73300	42.35	89200	42.68	107600	43.12	129000	43.58	153500	43.99	181700	44.24	

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Pe: Power input in [kW]

Qo: Cooling capacity in [W]

Subcooling: 8.3 K

Superheat: 11.1 K

Voltage: 400 V / 3 / 60 Hz

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# Technical data and ordering

## SM / SY / SZ - Scroll compressors - R22 / R407C - 50 Hz

### Technical data

Type	Nominal cooling capacity		Power input	COP	E.E.R.	Swept volume	Displacement <sup>1)</sup>	Oil charge	Net weight <sup>2)</sup>		
	Nominal Cap. 60 Hz [TR]	[W]	[Btu/h]	[kW]	[W]/[W]	[Btu/h]/[W]	[cm <sup>3</sup> /rev]	[m <sup>3</sup> /h]	[dm <sup>3</sup> ]	[kg]	
R22 SINGLE	SM084	7	20400	69600	6.12	3.33	11.4	114.5	19.9	3.25	64
	SM090	7.5	21800	74400	6.54	3.33	11.4	120.5	21.0	3.25	65
	SM100	8	23100	78800	6.96	3.33	11.4	127.2	22.1	3.25	65
	SM110	9	25900	88400	7.82	3.32	11.3	144.2	25.1	3.25	73
	SM112	9.5	27600	94200	7.92	3.49	11.9	151.5	26.4	3.3	64
	SM120	10	30100	102700	8.96	3.36	11.5	166.6	29.0	3.25	73
	SM124	10	31200	106500	8.75	3.56	12.2	169.5	29.5	3.3	64.2
	SM147	12	36000	122900	10.08	3.57	12.2	193.5	33.7	3.3	67
	SM148	12	36100	123200	10.8	3.34	11.4	199	34.6	3.6	88
	SM161	13	39000	133100	11.59	3.37	11.5	216.6	37.7	3.6	88
	SM175	14	42000	143300	12.47	3.37	11.5	233	40.5	6.2	100
	SM/SY185	15	45500	155300	13.62	3.34	11.4	249.9	43.5	6.2	100
	SY240	20	61200	208900	18.2	3.36	11.5	347.8	60.5	8	150
	SY300	25	78200	266900	22.83	3.43	11.7	437.5	76.1	8	157
SY380	30	94500	322500	27.33	3.46	11.8	531.2	92.4	8.4	158	
R407C SINGLE	SZ084	7	19300	65900	6.13	3.15	10.8	114.5	19.9	3.25	64
	SZ090	7.5	20400	69600	6.45	3.16	10.8	120.5	21.0	3.25	65
	SZ100	8	21600	73700	6.84	3.15	10.8	127.2	22.1	3.25	65
	SZ110	9	24600	84000	7.76	3.17	10.8	144.2	25.1	3.25	73
	SZ120	10	28600	97600	8.99	3.17	10.8	166.6	29.0	3.25	73
	SZ147	12	34900	119079	9.92	3.52	12.0	193.5	33.7	3.30	67
	SZ148	12	35100	119800	10.99	3.19	10.9	199	34.6	3.6	88
	SZ161	13	38000	129700	11.84	3.21	11.0	216.6	37.7	3.6	88
	SZ175	14	40100	136900	12.67	3.17	10.8	233	40.5	6.2	100
	SZ185	15	43100	147100	13.62	3.16	10.8	249.9	43.5	6.2	100
	SZ240	20	59100	201700	18.55	3.19	10.9	347.8	60.5	8	150
	SZ300	25	72700	248100	22.73	3.2	10.9	437.5	76.1	8	157
	SZ380	30	89600	305800	27.59	3.25	11.1	531.2	92.4	8.4	158

TR: Ton of Refrigeration

COP: Coefficient Of Performance

EER: Energy Efficiency Ratio

Subcooling: 8.3 K

Superheat: 11.1 K

<sup>1)</sup> Displacement at nominal speed: 2900 rpm at 50 Hz, 3500 rpm at 60 Hz

<sup>2)</sup> Net weight with oil charge

# Technical data and ordering

## SM / SY / SZ - Scroll compressors - R22 / R407C - 60 Hz

### Technical data

Type	Nominal Cap. 60 Hz	Nominal cooling capacity			Power input	COP	E.E.R.	Swept volume	Displacement <sup>1)</sup>	Oil charge	Net weight <sup>2)</sup>
		[TR]	[W]	[Btu/h]							
R22 SINGLE	SM084	7	24600	84000	7.40	3.34	11.4	114.5	24.1	3.25	64
	SM090	7.5	26400	90100	7.80	3.37	11.5	120.5	25.3	3.25	65
	SM100	8	27500	93900	8.10	3.38	11.5	127.2	26.7	3.25	65
	SM110	9	31600	107800	9.30	3.38	11.5	144.2	30.3	3.25	73
	SM112	9.5	34000	116000	9.60	3.53	12.1	151.5	31.8	3.30	64
	SM120	10	36700	125300	10.80	3.40	11.6	166.6	35.0	3.25	73
	SM124	10.5	37700	128700	10.60	3.56	12.2	169.5	35.6	3.30	64
	SM147	12	43600	148800	12.20	3.58	12.2	193.5	40.6	3.30	67
	SM148	12	43800	149500	13.00	3.37	11.5	199.0	41.8	3.60	88
	SM161	13	47600	162500	14.10	3.39	11.6	216.6	45.5	3.60	88
	SM175	14	51100	174400	15.30	3.34	11.4	233.0	48.9	6.20	100
	SM/SY185	15	55300	188700	16.30	3.39	11.6	249.9	52.5	6.20	100
	SY240	20	74100	252900	22.10	3.35	11.4	347.8	73.0	8.00	150
	SY300	25	94500	322500	27.50	3.43	11.7	437.5	91.9	8.00	157
SY380	30	115300	393500	33.40	3.46	11.8	531.2	111.6	8.40	158	
R407C SINGLE	SZ084	7	22500	76800	7.10	3.19	10.9	114.5	24.1	3.25	64
	SZ090	7.5	24400	83300	7.60	3.20	10.9	120.5	25.3	3.25	65
	SZ100	8	26500	90400	8.20	3.24	11.1	127.2	26.7	3.25	65
	SZ110	9	30100	102700	9.30	3.24	11.1	144.2	30.3	3.25	73
	SZ120	10	34800	118800	10.70	3.24	11.1	166.6	35.0	3.25	73
	SZ147	12	42300	144328	12.03	3.52	12.0	193.5	40.6	3.30	67
	SZ148	12	42600	145400	13.30	3.19	10.9	199.0	41.8	3.60	88
	SZ161	13	46000	157000	14.30	3.21	11.0	216.6	45.5	3.60	88
	SZ175	14	48700	166200	15.30	3.19	10.9	233.0	48.9	6.20	100
	SZ185	15	51800	176800	16.40	3.15	10.8	249.9	52.5	6.20	100
	SZ240	20	71100	242700	22.70	3.14	10.7	347.8	73.0	8.00	150
	SZ300	25	87900	300000	27.50	3.20	10.9	437.5	91.9	8.00	157
	SZ380	30	107300	366200	33.50	3.20	10.9	531.2	111.6	8.40	158

TR: Ton of Refrigeration

COP: Coefficient Of Performance

EER: Energy Efficiency Ratio

Subcooling: 8.3 K

Superheat: 11.1 K

<sup>1)</sup> Displacement at nominal speed: 2900 rpm at 50 Hz, 3500 rpm at 60 Hz

<sup>2)</sup> Net weight with oil charge

## SM112-124-147 - Scroll compressors - R22

### Ordering single pack

Type	Connections	Motor protection	Code no.				
			3	4	6	7	9
			200 - 230 / 3 / 60	460 / 3 / 60 380 - 400 / 3 / 50	230 / 3 / 50	575 / 3 / 60 500 / 3 / 50	380 / 3 / 60
SM112	Brazed	Internal	-	120H0611	-	-	120H0613
SM124	Brazed	Internal	120H0183	120H0185	-	-	120H0187
SM147	Brazed	Internal	120H0189	120H0191	-	-	120H0197
SZ147	Brazed	Internal	-	120H1096	-	-	-

## SM112-124-147 - Scroll compressors - R22

### Ordering industrial pack

Type	Connections	Motor protection	Code no.				
			3	4	6	7	9
			200 - 230 / 3 / 60	460 / 3 / 60 380 - 400 / 3 / 50	230 / 3 / 50	575 / 3 / 60 500 / 3 / 50	380 / 3 / 60
SM112	Brazed	Internal	120H0610	120H0612	-	-	120H0614
SM124	Brazed	Internal	120H0184	120H0186	-	-	120H0188
SM147	Brazed	Internal	120H0190	120H0311	-	-	120H0198
SZ147	Brazed	Internal	-	120H1097	-	-	-

# Technical data and ordering

## SM / SY - Scroll compressors - R22

### Ordering single pack

Type	Connections	Motor protection	Code no.				
			3	4	6	7	9
			200 – 230 / 3 / 60	460 / 3 / 60 380 – 400 / 3 / 50	230 / 3 / 50	575 / 3 / 60 500 / 3 / 50	380 / 3 / 60
SM084	Brazed	Internal	–	SM084-4VI	–	SM084-7VI	SM084-9VI
SM090	Brazed	Internal	SM090-3VI	SM090-4VI	SM090-6VI	SM090-7VI	SM090-9VI
SM100	Brazed	Internal	SM100-3VI	SM100-4VI	–	SM100-7VI	SM100-9VI
SM110	Brazed	Internal	SM110-3VI	SM110-4VI	SM110-6VI	SM110-7VI	SM110-9VI
SM120	Brazed	Internal	SM120-3VI	SM120-4VI	SM120-6VI	SM120-7VI	SM120-9VI
SM148	Brazed	Internal	SM148-3VAI	SM148-4VAI	SM148-6VAI	–	SM148-9VAI
SM161	Brazed	Internal	SM161-3VAI	SM161-4VAI	–	SM161-7VAI	SM161-9VAI
SM175	Brazed	Thermostat	SM175-3CAI	SM175-4CAI	SM175-6CAI	SM175-7CAI	–
	Brazed	Module 24 V AC	–	SM175-4PCI	–	–	–
	Rotolock	Thermostat	–	SM175-4RI	–	–	–
	Rotolock	Module 24 V AC	SM175-3SCI	SM175-4SCI	–	SM175-7SCI	–
SM185	Brazed	Thermostat	SM185-3CAI	SM185-4CAI	–	SM185-7CAI	SM185-9CAI
	Brazed	Module 24 V AC	–	SM185-4PCI	–	–	–
	Brazed	Module 230 V AC	–	–	–	–	SM185-9XCI
	Rotolock	Thermostat	SM185-3RI	SM185-4RI	SM185-6RI	–	SM185-9RI
	Rotolock	Module 24 V AC	SM185-3SCI	–	–	SM185-7SCI	–
	Rotolock	Module 230 V AC	–	SM185-4YCI	–	–	SM185-9YCI
SY185 <sup>1)</sup>	Brazed	Thermostat	–	SY185-4CAI	–	–	–
	Rotolock	Thermostat	–	SY185-4RI	–	–	–
SY240	Brazed	Module 24 V AC	–	SY240A4CAI	–	–	–
	Brazed	Module 115 / 230 V AC	SY240A3CBI	SY240A4CBI	SY240A6CBI	SY240A7CBI	SY240A9CBI
	Rotolock	Module 24 V AC	–	SY240A4PAI	–	–	–
	Rotolock	Module 115 / 230 V AC	SY240A3PBI	SY240A4PBI	SY240A6PBI	SY240A7PBI	SY240A9PBI
SY300	Brazed	Module 24 V AC	–	SY300A4CAI	–	–	–
	Brazed	Module 115 / 230 V AC	SY300A3CBI	SY300A4CBI	SY300A6CBI	SY300A7CBI	SY300A9CBI
	Rotolock	Module 24 V AC	–	SY300A4PAI	–	–	–
	Rotolock	Module 115 / 230 V AC	SY300A3PBI	SY300A4PBI	SY300A6PBI	SY300A7PBI	SY300A9PBI
SY380	Brazed	Module 24 V AC	–	SY380A4CAI	–	–	–
	Brazed	Module 115 / 230 V AC	–	SY380A4CBI	–	–	–

<sup>1)</sup> No module version available

SM / SY compressors in industrial pack: use numbers from above table and replace the last digit by "M". Example: SY240A3CAM, except for voltage codes 6 and 7 available in single pack only

# Technical data and ordering

## SZ - Scroll compressors - R407C / R134a

### Ordering single pack

Type	Connections	Motor protection	Code no.				
			3	4	6	7	9
			200 – 230 / 3 / 60	460 / 3 / 60 380 – 400 / 3 / 50	230 / 3 / 50	575 / 3 / 60 500 / 3 / 50	380 / 3 / 60
SZ084	Brazed	Internal	SZ084-3VI	SZ084-4VI	SZ084-6VI	–	SZ084-9VI
SZ090	Brazed	Internal	SZ090-3VI	SZ090-4VI	SZ090-6VI	–	SZ090-9VI
SZ100	Brazed	Internal	SZ100-3VI	SZ100-4VI	SZ100-6VI	SZ100-7VI	SZ100-9VI
SZ110	Brazed	Internal	SZ110-3VI	SZ110-4VI	SZ110-6VI	SZ110-7VI	SZ110-9VI
SZ120	Brazed	Internal	SZ120-3VI	SZ120-4VI	SZ120-6VI	SZ120-7VI	SZ120-9VI
SZ147	Brazed	Internal	–	–	–	–	–
SZ148	Brazed	Internal	SZ148-3VAI	SZ148-4VAI	SZ148-6VAI	–	SZ148-9VAI
SZ161	Brazed	Internal	SZ161-3VAI	SZ161-4VAI	SZ161-6VAI	–	SZ161-9VAI
SZ175	Brazed	Thermostat	SZ175-3CAI	SZ175-4CAI	SZ175-6CAI	SZ175-7CAI	SZ175-9CAI
	Brazed	Module 24 V AC	–	SZ175-4PCI	–	–	–
	Rotolock	Thermostat	–	SZ175-4RI	–	–	SZ175-9RI
	Rotolock	Module 24 V AC	SZ175-3SCI	SZ175-4SCI	–	SZ175-7SCI	–
SZ185	Brazed	Thermostat	SZ185-3CAI	SZ185-4CAI	SZ185-6CAI	SZ185-7CAI	SZ185-9CAI
	Brazed	Module 24 V AC	–	SZ185-4PCI	–	–	–
	Brazed	Module 230 V	–	SZ185-4XCI	–	–	SZ185-9XCI
	Rotolock	Thermostat	SZ185-3RI	SZ185-4RI	SZ185-6RI	SZ185-7RI	SZ185-9RI
	Rotolock	Module 24 V AC	–	SZ185-4SCI	–	SZ185-7SCI	–
	Rotolock	Module 230 V	–	–	–	–	SZ185-9YCI
SZ240	Brazed	Module 24 V AC	–	SZ240A4CAI	–	–	–
	Brazed	Module 115 / 230 V	–	SZ240A4CBI	SZ240A6CBI	–	SZ240A9CBI
	Rotolock	Module 24 V AC	–	SZ240A4PAI	–	–	–
	Rotolock	Module 115 / 230 V	SZ240A3PBI	SZ240A4PBI	SZ240A6PBI	SZ240A7PBI	SZ240A9PBI
SZ300	Brazed	Module 24 V AC	–	SZ300A4CAI	–	–	–
	Brazed	Module 115 / 230 V	SZ300A3CBI	SZ300A4CBI	SZ300A6CBI	SZ300A7CBI	SZ300A9CBI
	Rotolock	Module 24 V AC	–	SZ300A4PAI	–	–	–
	Rotolock	Module 115 / 230 V	SZ300A3PBI	SZ300A4PBI	–	SZ300A7PBI	SZ300A9PBI
SZ380	Brazed	Module 24 V AC	–	SZ380A4CAI	–	–	–
	Brazed	Module 115 / 230 V	–	SZ380A4CBI	–	–	–

SZ compressors in industrial pack: use numbers from above table and replace the last digit by "M". Example: SZ240A4CAM, except for voltage codes 6 and 7 available in single pack only

01  
02  
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# Technical data and ordering

## SZ - Scroll compressors - R134a - 50 Hz

Performance table

Type	To	-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
SZ084	35	6200	2.8	8000	2.8	10100	2.8	12600	2.8	15400	2.7	18700	2.7	22400	2.6
	55	-	-	6100	4.3	7900	4.3	9900	4.3	12400	4.3	15100	4.3	18300	4.2
SZ090	35	6700	2.9	8600	2.9	10900	3.0	13400	2.9	16400	2.9	19800	2.9	23600	2.8
	55	-	-	6600	4.5	8500	4.6	10700	4.6	13200	4.6	16000	4.5	19300	4.5
SZ100	35	7300	3.1	9400	3.1	11700	3.1	14400	3.1	17500	3.1	21000	3.1	25000	3.1
	55	-	-	7300	4.8	9300	4.8	11500	4.9	14100	4.9	17100	4.9	20400	4.8
SZ110	35	8200	3.5	10500	3.5	13200	3.5	16200	3.5	19800	3.5	23800	3.5	28400	3.5
	55	-	-	8100	5.4	10400	5.4	13000	5.5	16000	5.5	19400	5.5	23300	5.4
SZ120	35	9400	4.0	12000	4.0	15100	4.1	18700	4.1	22800	4.1	27500	4.1	32900	4.0
	55	-	-	9300	6.2	11900	6.3	14900	6.3	18400	6.3	22400	6.3	27000	6.2
SZ148	35	11200	5.0	14400	5.0	18100	5.0	22600	5.0	27900	5.0	34000	5.0	41100	5.0
	55	-	-	11200	7.7	14200	7.7	17800	7.7	22100	7.7	27100	7.8	32800	7.8
SZ161	35	12000	5.2	15300	5.2	19200	5.3	23800	5.3	29200	5.4	35500	5.4	42700	5.4
	55	-	-	12100	8.0	15300	8.0	19200	8.1	23700	8.1	28900	8.1	35000	8.1
SZ175	35	13200	5.7	16900	5.8	21200	5.8	26200	5.9	32100	5.9	38700	5.9	46200	5.8
	55	-	-	13100	8.6	16700	8.6	21000	8.7	26000	8.7	31700	8.8	38100	8.8
SZ185	35	14000	6.1	18000	6.1	22600	6.2	27900	6.2	34100	6.3	41200	6.3	49200	6.2
	55	-	-	13900	9.1	17800	9.2	22400	9.3	27700	9.3	33700	9.3	40600	9.3
SZ240	35	18900	8.4	23900	8.5	29900	8.6	37100	8.7	45700	8.7	56000	8.8	68200	8.9
	55	-	-	18800	12.3	23800	12.5	29700	12.6	36700	12.7	45000	12.9	54700	13.0
SZ300	35	23700	10.2	30000	10.4	37500	10.5	46300	10.6	56700	10.7	68900	10.8	82800	11.0
	55	-	-	23600	15.2	29700	15.4	37100	15.6	45800	15.9	55900	16.1	67800	16.4
SZ380	35	30200	12.3	38000	12.5	47300	12.7	58200	12.9	71000	13.1	85800	13.4	102900	13.6
	55	-	-	30100	18.1	37800	18.4	46900	18.7	57600	19.0	70000	19.2	84400	19.4
SZ170	35	12200	5.5	15700	5.6	19900	5.6	24800	5.5	30400	5.5	36800	5.4	44000	5.3
	55	-	-	11900	8.6	15500	8.6	19600	8.6	24300	8.6	29800	8.5	36000	8.4
SZ180	35	13300	5.9	17000	5.9	21400	5.9	26500	5.9	32300	5.8	39000	5.8	46500	5.7
	55	-	-	13100	9.1	16800	9.1	21100	9.1	26000	9.1	31600	9.1	38000	9.0
SZ200	35	14500	6.2	18400	6.2	23000	6.3	28400	6.3	34500	6.2	41400	6.2	49200	6.1
	55	-	-	14400	9.6	18200	9.7	22700	9.7	27800	9.7	33600	9.7	40200	9.7
SZ220	35	16300	7.0	20700	7.0	25900	7.1	32000	7.1	39000	7.1	46900	7.0	56000	6.9
	55	-	-	16100	10.8	20500	10.9	25600	10.9	31400	10.9	38200	10.9	45900	10.9
SZ230	35	17800	7.6	22800	7.6	28600	7.6	35300	7.6	43000	7.6	51700	7.5	61600	7.4
	55	-	-	17500	11.7	22500	11.8	28200	11.8	34800	11.8	42200	11.8	50700	11.7
SZ242	35	18600	8.0	23700	8.1	29700	8.1	36800	8.1	44900	8.1	54200	8.1	64900	8.0
	55	-	-	18300	12.5	23400	12.5	29300	12.5	36200	12.5	44200	12.5	53300	12.4
SZ250	35	19000	8.1	24300	8.1	30500	8.1	37600	8.1	45800	8.1	55100	8.0	65600	7.9
	55	-	-	18600	12.5	23900	12.5	30000	12.6	37000	12.6	45000	12.5	54000	12.5
SZ268	35	20600	9.0	26400	9.1	33200	9.1	41200	9.1	50600	9.1	61400	9.1	73900	9.0
	55	-	-	20100	13.9	25700	14.0	32300	14.0	39900	14.0	48800	14.0	59100	14.0
SZ271	35	20200	8.7	25800	8.7	32300	8.8	40000	8.9	48900	8.9	59200	8.9	71000	8.9
	55	-	-	19900	13.4	25300	13.5	31600	13.5	39000	13.6	47600	13.6	57400	13.6
SZ281	35	21400	9.2	27300	9.3	34300	9.3	42400	9.4	51900	9.4	62900	9.4	75500	9.4
	55	-	-	21000	14.2	26800	14.3	33500	14.3	41500	14.4	50600	14.4	61200	14.3
SZ285	35	21700	9.3	27800	9.4	34900	9.4	43100	9.5	52600	9.5	63400	9.4	75600	9.3
	55	-	-	21400	14.2	27500	14.2	34500	14.3	42600	14.4	51900	14.4	62400	14.3
SZ290	35	21900	9.5	28000	9.6	35200	9.6	43500	9.7	53100	9.7	64000	9.6	76300	9.5
	55	-	-	21600	14.4	27700	14.5	34800	14.6	43000	14.6	52300	14.7	62900	14.6
SZ296	35	22100	10.0	28300	10.0	35700	10.0	44500	10.0	54900	10.0	67000	10.0	80900	10.0
	55	-	-	22000	15.4	28000	15.4	35200	15.4	43500	15.5	53300	15.5	64700	15.6
SZ310	35	23300	10.1	29800	10.2	37500	10.3	46300	10.3	56500	10.3	68100	10.2	81200	10.1
	55	-	-	23000	15.4	29500	15.5	37100	15.5	45800	15.6	55700	15.6	67000	15.6
SZ320	35	24400	10.5	31300	10.6	39300	10.7	48700	10.8	59400	10.8	71700	10.8	85700	10.8
	55	-	-	24200	15.8	31000	15.9	39000	16.0	48200	16.1	58700	16.2	70700	16.2
SZ322	35	23600	10.4	30100	10.5	37800	10.5	46900	10.6	57600	10.7	69900	10.8	84100	10.8
	55	-	-	23800	15.9	30200	16.0	37800	16.1	46600	16.2	56900	16.2	68900	16.2
SZ350	35	26000	11.4	33200	11.5	41800	11.6	51700	11.7	63100	11.8	76200	11.7	91100	11.7
	55	-	-	25700	17.1	33000	17.3	41400	17.4	51200	17.5	62400	17.5	75100	17.5
SZ370	35	27600	12.1	35400	12.3	44500	12.4	55000	12.5	67200	12.5	81100	12.5	96900	12.4
	55	-	-	27400	18.2	35100	18.4	44100	18.5	54500	18.6	66400	18.7	79900	18.6

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Pe: Power input in [kW]

Qo: Cooling capacity in [W]

Subcooling: 8.3 K

Superheat: 11.1 K

Voltage: 400 V / 3 / 50 Hz

# Technical data and ordering

## SZ - Scroll compressors - R134a - 60 Hz

### Performance table

Type	To	-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
SZ084	35	7800	3.28	9800	3.30	12300	3.31	15300	3.32	18700	3.31	22700	3.28	27200	3.25
	55	-	-	7800	5.02	9900	5.05	12300	5.09	15200	5.11	18500	5.13	22400	5.13
SZ090	35	8200	3.45	10400	3.48	13100	3.50	16100	3.51	19700	3.50	23900	3.48	28600	3.45
	55	-	-	8300	5.28	10500	5.33	13000	5.36	16000	5.39	19500	5.41	23600	5.41
SZ100	35	8800	3.65	11100	3.68	13900	3.70	17100	3.72	20900	3.72	25300	3.71	30200	3.68
	55	-	-	8800	5.58	11100	5.63	13800	5.67	17000	5.70	20700	5.72	24900	5.72
SZ110	35	10100	4.14	12800	4.18	15900	4.23	19600	4.26	23800	4.27	28700	4.28	34300	4.26
	55	-	-	10000	6.35	12700	6.40	15800	6.45	19400	6.48	23600	6.50	28300	6.51
SZ120	35	11900	4.78	15000	4.85	18600	4.91	22800	4.97	27700	5.00	33300	5.02	39600	5.02
	55	-	-	11700	7.35	14800	7.41	18400	7.47	22600	7.51	27400	7.54	32800	7.54
SZ148	35	13400	6.00	17100	6.14	21400	6.23	26500	6.27	32500	6.26	39500	6.17	47500	6.01
	55	-	-	13400	9.24	17000	9.39	21300	9.48	26300	9.50	32200	9.45	39000	9.31
SZ161	35	14600	6.23	18600	6.34	23300	6.42	28800	6.48	35300	6.52	42800	6.54	51400	6.53
	55	-	-	14700	9.44	18700	9.59	23300	9.70	28600	9.78	34900	9.82	42000	9.84
SZ175	35	16300	6.76	20500	6.85	25600	6.94	31500	7.02	38400	7.08	46300	7.11	55300	7.13
	55	-	-	16100	10.13	20300	10.25	25400	10.37	31200	10.47	38000	10.56	45800	10.63
SZ185	35	17300	7.22	21900	7.32	27200	7.42	33500	7.50	40900	7.56	49300	7.60	58900	7.61
	55	-	-	17100	10.82	21700	10.95	27000	11.08	33300	11.19	40500	11.29	48800	11.36
	35	17300	7.22	21900	7.32	27200	7.42	33500	7.50	40900	7.56	49300	7.60	58900	7.61
SZ240	35	23200	10.14	29400	10.24	36700	10.37	45400	10.51	55500	10.68	67300	10.86	80800	11.06
	55	-	-	23000	14.86	29100	15.04	36400	15.23	44900	15.44	54800	15.67	66200	15.91
SZ300	35	29100	12.32	36500	12.69	45400	12.98	55900	13.21	68300	13.40	82700	13.58	99500	13.75
	55	-	-	28800	18.40	36100	18.91	44700	19.34	55100	19.69	67200	20.00	81400	20.28
SZ380	35	36200	15.20	45500	15.65	56500	16.00	69500	16.29	84800	16.54	102600	16.78	123200	17.05
	55	-	-	36000	22.19	45200	22.72	56100	23.11	68900	23.38	84000	23.56	101500	23.68
SZ170	35	15300	6.56	19400	6.60	24300	6.62	30100	6.63	36800	6.61	44700	6.56	53600	6.49
	55	-	-	15400	10.02	19500	10.10	24300	10.17	29900	10.22	36500	10.25	44100	10.26
SZ180	35	16200	6.90	20500	6.95	25700	6.99	31800	7.01	38900	7.00	47100	6.96	56400	6.89
	55	-	-	16300	10.56	20600	10.65	25700	10.72	31600	10.77	38500	10.81	46500	10.82
SZ200	35	17200	7.29	21800	7.35	27300	7.40	33700	7.43	41200	7.44	49800	7.41	59600	7.35
	55	-	-	17300	11.16	21800	11.25	27200	11.33	33500	11.39	40800	11.43	49100	11.43
SZ220	35	19900	8.27	25100	8.36	31300	8.45	38600	8.51	47000	8.54	56600	8.54	67500	8.51
	55	-	-	19800	12.68	25000	12.79	31200	12.88	38300	12.95	46400	12.99	55800	13.00
SZ242	35	23300	9.56	29500	9.70	36700	9.82	45000	9.93	54600	10.00	65500	10.04	77900	10.04
	55	-	-	23100	14.69	29200	14.82	36300	14.93	44500	15.01	53900	15.06	64600	15.07
SZ268	35	24900	10.78	31600	10.99	39400	11.15	48600	11.24	59300	11.26	71600	11.19	85700	11.03
	55	-	-	24700	16.58	31400	16.80	39200	16.95	48200	17.01	58700	16.98	70700	16.85
SZ271	35	24300	10.36	30900	10.52	38600	10.65	47700	10.74	58200	10.79	70400	10.81	84400	10.79
	55	-	-	24400	15.78	30900	15.99	38500	16.14	47300	16.26	57600	16.32	69300	16.34
SZ281	35	26100	11.01	33000	11.19	41300	11.34	50900	11.45	62100	11.52	74900	11.56	89600	11.55
	55	-	-	26000	16.79	33000	17.00	41100	17.17	50500	17.29	61300	17.36	73700	17.38
SZ296	35	26500	11.99	33700	12.27	42200	12.46	52300	12.54	64000	12.50	77700	12.33	93500	12.01
	55	-	-	26400	18.46	33500	18.77	42000	18.95	51900	19.00	63500	18.88	76900	18.61
SZ322	35	28800	12.44	36600	12.67	45900	12.84	56800	12.96	69500	13.03	84300	13.06	101300	13.05
	55	-	-	29000	18.87	36700	19.16	45800	19.38	56400	19.54	68700	19.63	82800	19.66
SZ350	35	32100	13.50	40500	13.70	50400	13.88	62100	14.03	75600	14.14	91200	14.22	109000	14.24
	55	-	-	31600	20.25	40100	20.49	50000	20.73	61500	20.94	74900	21.11	90200	21.25
SZ370	35	34100	14.42	43100	14.63	53700	14.82	66100	14.98	80500	15.11	97100	15.19	116000	15.21
	55	-	-	33700	21.63	42700	21.89	53200	22.14	65500	22.37	79700	22.56	96100	22.70

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Pe: Power input in [kW]

Qo: Cooling capacity in [W]

Subcooling: 8.3 K

Superheat: 11.1 K

Voltage: 400 V / 3 / 60 Hz

# Technical data and ordering

## SZ - Scroll compressors - R407C - 50 Hz

Performance table

Type	To	-20		-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
SZ084	35	7200	3.9	9300	3.9	11800	4.0	14800	4.0	18300	4.0	22300	4.0	27000	4.0	32300	3.9
	55	-	-	-	-	-	-	11300	6.2	14200	6.2	17500	6.2	21400	6.2	25800	6.2
SZ090	35	7600	4.1	9800	4.1	12500	4.2	15600	4.2	19300	4.2	23600	4.2	28500	4.2	34100	4.1
	55	-	-	-	-	-	-	12000	6.5	15000	6.5	18500	6.5	22500	6.5	27200	6.5
SZ100	35	8100	4.3	10500	4.4	13300	4.4	16600	4.4	20500	4.5	25000	4.4	30100	4.4	36000	4.4
	55	-	-	-	-	-	-	12700	6.9	15900	6.9	19600	6.9	23800	6.9	28700	6.9
SZ110	35	9300	4.9	12000	5.0	15200	5.0	19000	5.0	23400	5.0	28500	5.0	34300	5.0	40900	4.9
	55	-	-	-	-	-	-	14500	7.9	18100	7.9	22300	7.9	27200	7.8	32700	7.8
SZ120	35	11000	5.7	14200	5.7	17900	5.8	22200	5.8	27300	5.8	33200	5.8	39900	5.7	47600	5.6
	55	-	-	-	-	-	-	17000	9.2	21200	9.2	26100	9.2	31600	9.1	38000	9.0
SZ148	35	13500	6.9	17300	7.0	21700	7.0	27000	7.0	33100	7.1	40300	7.1	48500	7.1	57800	7.2
	55	-	-	-	-	-	-	21200	11.1	26200	11.1	32100	11.1	38900	11.1	46700	11.1
SZ161	35	14600	7.4	18700	7.5	23500	7.5	29200	7.6	35800	7.6	43500	7.6	52400	7.7	62600	7.8
	55	-	-	-	-	-	-	22900	12.0	28400	12.0	34700	12.0	42100	12.0	50600	12.0
SZ175	35	15500	8.0	19800	8.0	25000	8.1	31100	8.2	38100	8.2	46300	8.2	55600	8.2	66200	8.2
	55	-	-	-	-	-	-	24000	12.7	29800	12.8	36500	12.8	44200	12.8	53000	12.8
SZ185	35	16600	8.6	21300	8.6	26900	8.7	33400	8.8	41000	8.8	49700	8.8	59700	8.8	71100	8.8
	55	-	-	-	-	-	-	25700	13.7	32000	13.7	39200	13.8	47500	13.8	56900	13.8
SZ240	35	22400	11.7	28900	11.8	36500	11.9	45400	12.1	55900	12.2	68000	12.4	82000	12.5	98000	12.6
	55	-	-	21900	17.9	28100	18.0	35500	18.2	44000	18.4	54000	18.7	65500	18.9	78800	19.2
SZ300	35	28700	13.7	36200	13.9	45100	14.1	55500	14.3	67600	14.5	81700	14.7	98000	14.9	116600	15.2
	55	-	-	28500	21.2	35900	21.6	44600	22.1	54800	22.5	66600	22.9	80400	23.2	96300	23.6
SZ380	35	36000	16.9	45300	17.3	56400	17.6	69400	18.0	84600	18.3	102200	18.6	122400	18.9	145400	19.4
	55	-	-	35000	26.1	44200	26.6	55000	27.0	67500	27.4	82100	27.8	98900	28.1	118200	28.5
SZ170	35	14200	7.8	18300	7.9	23200	8.0	29100	8.0	36000	8.0	44000	8.0	53200	8.0	63700	7.9
	55	-	-	-	-	-	-	22300	12.3	27900	12.4	34500	12.4	42100	12.4	50900	12.4
SZ180	35	15000	8.2	19400	8.3	24600	8.3	30800	8.4	38000	8.4	46400	8.4	56100	8.3	67100	8.2
	55	-	-	-	-	-	-	23600	13.0	29500	13.0	36400	13.1	44400	13.0	53600	13.0
SZ200	35	16000	8.7	20600	8.8	26100	8.8	32700	8.9	40300	8.9	49200	8.9	59300	8.8	70900	8.7
	55	-	-	-	-	-	-	25000	13.8	31300	13.9	38600	13.9	47000	13.8	56600	13.8
SZ220	35	18400	9.9	23700	9.9	30000	10.0	37400	10.1	46100	10.1	56100	10.0	67500	10.0	80600	9.8
	55	-	-	-	-	-	-	28600	15.8	35800	15.8	44000	15.8	53500	15.7	64400	15.5
SZ230	35	20000	10.8	25800	10.8	32800	10.9	40900	10.9	50400	10.9	61200	10.9	73700	10.8	87700	10.7
	55	-	-	-	-	-	-	31100	17.4	38900	17.3	48000	17.3	58400	17.2	70200	17.0
SZ242	35	21600	11.4	27900	11.5	35200	11.6	43800	11.6	53800	11.6	65400	11.5	78600	11.4	93700	11.2
	55	-	-	-	-	-	-	33600	18.3	41800	18.4	51300	18.3	62300	18.1	74800	17.9
SZ250	35	21200	11.4	27500	11.4	34900	11.5	43500	11.5	53600	11.5	65200	11.4	78300	11.4	93300	11.3
	55	-	-	-	-	-	-	33100	18.3	41400	18.3	51100	18.2	62100	18.1	74700	17.9
SZ268	35	24100	12.6	31000	12.7	39000	12.8	48500	12.9	59500	12.9	72300	12.9	87000	12.9	103800	12.8
	55	-	-	-	-	-	-	37600	20.3	46700	20.3	57300	20.3	69400	20.2	83400	20.1
SZ271	35	23900	12.4	30600	12.5	38700	12.6	48100	12.6	59100	12.6	71900	12.7	86600	12.7	103400	12.7
	55	-	-	-	-	-	-	36700	19.9	45700	19.9	56000	19.9	68000	19.9	81800	19.8
SZ281	35	25200	13.1	32300	13.2	40800	13.3	50700	13.4	62200	13.4	75600	13.4	90900	13.4	108500	13.4
	55	-	-	-	-	-	-	39300	21.2	48800	21.2	59900	21.2	72600	21.1	87200	21.0
SZ285	35	25500	13.0	32900	13.2	41500	13.3	51700	13.3	63500	13.3	77200	13.3	92900	13.3	110800	13.2
	55	-	-	-	-	-	-	39300	21.0	48900	21.0	60100	21.0	73100	21.0	87900	20.9
SZ290	35	25200	13.4	32500	13.5	41000	13.5	51100	13.6	62800	13.7	76200	13.7	91600	13.6	109000	13.5
	55	-	-	-	-	-	-	39100	21.4	48800	21.5	59900	21.5	72700	21.4	87300	21.3
SZ296	35	26600	13.8	34000	13.9	42800	14.0	53200	14.1	65300	14.2	79300	14.2	95500	14.3	114000	14.4
	55	-	-	-	-	-	-	41700	22.2	51700	22.3	63200	22.3	76600	22.3	92000	22.3
SZ310	35	27000	14.2	34700	14.4	43900	14.5	54700	14.5	67200	14.6	81600	14.6	98000	14.5	116700	14.4
	55	-	-	-	-	-	-	41900	22.9	52200	22.9	64100	22.9	77800	22.9	93400	22.8
SZ320	35	29200	14.7	37300	14.9	47000	15.0	58400	15.1	71800	15.2	87200	15.2	105000	15.2	125400	15.2
	55	-	-	-	-	-	-	45700	23.6	56700	23.7	69400	23.8	84200	23.8	101300	23.9
SZ322	35	28700	14.9	36800	15.0	46300	15.1	57500	15.1	70600	15.2	85800	15.3	103300	15.4	123300	15.5
	55	-	-	-	-	-	-	45100	23.9	55900	24.0	68400	24.0	82900	24.0	99600	24.0
SZ350	35	30500	15.9	39100	16.1	49300	16.2	61200	16.3	75200	16.4	91200	16.4	109500	16.4	130300	16.4
	55	-	-	-	-	-	-	47200	25.4	58600	25.6	71900	25.6	87100	25.7	104400	25.7
SZ370	35	32700	17.1	42000	17.3	52900	17.4	65800	17.5	80700	17.6	98000	17.7	117700	17.7	140000	17.6
	55	-	-	-	-	-	-	50700	27.4	63000	27.5	77200	27.6	93500	27.6	112100	27.6

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Pe: Power input in [kW]

Qo: Cooling capacity in [W]

Subcooling: 8.3 K

Superheat: 11.1 K

Voltage: 400 V / 3 / 50 Hz

# Technical data and ordering

## SZ - Scroll compressors - R407C - 60 Hz

### Performance table

Type	To	-20		-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
SZ084	35	8400	4.45	11100	4.49	14300	4.52	17900	4.53	22000	4.52	26700	4.49	32000	4.42	37900	4.33
	55	-	-	-	-	-	-	12600	7.16	16200	7.17	20300	7.17	25000	7.14	30100	7.08
SZ090	35	9200	4.82	12000	4.87	15300	4.92	19100	4.95	23500	4.96	28500	4.95	34200	4.91	40700	4.84
	55	-	-	-	-	-	-	14100	7.69	17800	7.72	22100	7.74	27000	7.73	32500	7.69
SZ100	35	10000	5.16	12900	5.23	16400	5.30	20400	5.35	25100	5.39	30600	5.41	36800	5.40	43800	5.36
	55	-	-	-	-	-	-	15800	8.19	19700	8.24	24100	8.28	29200	8.29	35000	8.28
SZ110	35	11500	5.85	14800	5.93	18700	6.01	23300	6.06	28600	6.10	34700	6.10	41700	6.08	49600	6.02
	55	-	-	-	-	-	-	18000	9.35	22400	9.40	27400	9.41	33200	9.40	39700	9.35
SZ112	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SZ120	35	13500	6.76	17300	6.85	21800	6.94	27000	7.00	33100	7.03	40100	7.02	48100	6.98	57100	6.88
	55	-	-	-	-	-	-	20900	10.88	25900	10.91	31700	10.91	38300	10.86	45900	10.76
SZ124	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SZ147	35	17200	7.51	21500	7.59	26600	7.71	32500	7.85	39500	8.03	47600	8.25	56900	8.52	67600	8.82
	55	-	-	-	-	-	-	26100	11.94	31900	12.01	38700	12.12	46500	12.27	55600	12.47
SZ148	35	16500	8.31	21100	8.40	26400	8.52	32700	8.66	40000	8.78	48500	8.88	58300	8.92	69500	8.89
	55	-	-	-	-	-	-	25800	13.28	31800	13.36	38800	13.47	46900	13.59	56200	13.70
SZ161	35	17800	8.90	22700	9.03	28500	9.14	35300	9.24	43200	9.34	52300	9.44	62900	9.56	75000	9.69
	55	-	-	-	-	-	-	27900	14.27	34400	14.38	41900	14.47	50600	14.55	60700	14.63
SZ175	35	19300	9.48	24600	9.63	30800	9.77	38000	9.89	46500	9.99	56300	10.07	67500	10.12	80200	10.14
	55	-	-	-	-	-	-	29400	15.14	36300	15.29	44300	15.43	53600	15.54	64100	15.62
SZ185	35	20600	10.19	26100	10.35	32700	10.50	40500	10.63	49500	10.75	59900	10.83	71800	10.89	85400	10.90
	55	-	-	-	-	-	-	31300	16.28	38600	16.44	47200	16.59	57000	16.71	68200	16.79
SZ185	35	20600	10.19	26100	10.35	32700	10.50	40500	10.63	49500	10.75	59900	10.83	71800	10.89	85400	10.90
	55	-	-	-	-	-	-	31300	16.28	38600	16.44	47200	16.59	57000	16.71	68200	16.79
SZ240	35	26900	13.97	34700	14.33	43900	14.68	54700	15.00	67300	15.31	81900	15.62	98700	15.92	117900	16.22
	55	-	-	26600	21.18	34200	21.63	42900	22.05	53100	22.43	64800	22.78	78400	23.11	94000	23.40
SZ300	35	35800	16.75	44900	17.09	55700	17.43	68400	17.76	83500	18.09	101300	18.42	122000	18.75	146100	19.08
	55	-	-	34300	25.62	43000	26.11	53300	26.61	65500	27.10	80000	27.61	97100	28.11	117100	28.62
SZ380	35	42900	20.29	54100	20.75	67300	21.23	82900	21.73	101000	22.24	122100	22.76	146400	23.28	174100	23.81
	55	-	-	41900	31.38	52800	31.88	65500	32.42	80500	33.00	97900	33.62	118100	34.26	141300	34.93
SZ170	35	16600	8.90	21900	8.98	28100	9.04	35300	9.06	43400	9.04	52600	8.97	63000	8.84	74600	8.65
	55	-	-	-	-	-	-	24800	14.31	31900	14.34	40000	14.33	49200	14.26	59400	14.14
SZ180	35	18100	9.63	23600	9.74	30100	9.83	37600	9.89	46300	9.92	56200	9.89	67500	9.82	80100	9.68
	55	-	-	-	-	-	-	27800	15.37	35100	15.44	43600	15.47	53100	15.45	63900	15.37
SZ200	35	19800	10.31	25500	10.46	32300	10.59	40200	10.70	49500	10.77	60200	10.80	72400	10.78	86300	10.71
	55	-	-	-	-	-	-	31200	16.37	38700	16.48	47500	16.55	57600	16.57	69000	16.54
SZ220	35	22700	11.69	29200	11.86	36800	12.00	45800	12.12	56300	12.19	68300	12.20	82100	12.15	97600	12.02
	55	-	-	-	-	-	-	35500	18.69	44100	18.78	54000	18.81	65300	18.79	78200	18.69
SZ242	35	26600	13.50	34000	13.70	42900	13.86	53200	13.98	65200	14.05	79000	14.04	94800	13.95	112600	13.76
	55	-	-	-	-	-	-	41200	21.75	51100	21.81	62500	21.80	75500	21.71	90400	21.51
SZ268	35	29600	15.07	37800	15.25	47400	15.46	58800	15.65	72000	15.81	87300	15.90	104800	15.90	124700	15.77
	55	-	-	-	-	-	-	46100	24.16	56900	24.27	69500	24.37	84000	24.45	100600	24.46
SZ271	35	28900	14.75	37000	14.96	46500	15.14	57700	15.30	70700	15.43	85700	15.54	103000	15.63	122700	15.71
	55	-	-	-	-	-	-	45200	23.63	55900	23.78	68300	23.89	82500	23.95	98900	23.98
SZ281	35	30900	15.65	39400	15.88	49500	16.07	61300	16.24	75100	16.37	91100	16.46	109300	16.53	130100	16.57
	55	-	-	-	-	-	-	48100	25.16	59400	25.30	72500	25.38	87600	25.41	105000	25.39
SZ294	35	34100	15.02	42600	15.18	52700	15.41	64500	15.70	78300	16.07	94400	16.51	112800	17.03	133900	17.64
	55	-	-	-	-	-	-	51800	23.88	63300	24.02	76700	24.24	92300	24.54	110200	24.94
SZ296	35	32600	16.62	41500	16.79	52000	17.03	64400	17.30	78800	17.55	95500	17.74	114800	17.83	136900	17.76
	55	-	-	-	-	-	-	50900	26.55	62700	26.70	76500	26.92	92500	27.16	110800	27.38
SZ322	35	35100	17.78	44800	18.04	56100	18.27	69500	18.47	85000	18.66	103100	18.87	123900	19.10	147700	19.37
	55	-	-	-	-	-	-	54900	28.53	67700	28.75	82600	28.93	99800	29.09	119600	29.24
SZ350	35	38100	18.95	48400	19.24	60600	19.52	74900	19.77	91700	19.98	110900	20.14	133000	20.23	158100	20.26
	55	-	-	-	-	-	-	57900	30.26	71600	30.56	87300	30.83	105500	31.05	126200	31.22
SZ370	35	40500	20.38	51500	20.69	64400	20.99	79700	21.26	97500	21.48	118000	21.65	141500	21.76	168200	21.79
	55	-	-	-	-	-	-	61600	32.53	76100	32.86	92900	33.15	112300	33.39	134300	33.57

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Pe: Power input in [kW]

Qo: Cooling capacity in [W]

Subcooling: 8.3 K

Superheat: 11.1 K

Voltage: 400 V / 3 / 60 Hz

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# Technical data and ordering

## SM / SY - Scroll compressors - R22 - 50 Hz

### Performance table

Type	To	-20		-15		-10		-5		0		5		10		15	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo
SM084	35	7700	4.0	9900	4.0	12500	4.0	15500	4.0	18900	4.0	22800	4.0	27200	3.9	32100	3.9
	55	—	—	—	—	—	—	12000	6.4	15000	6.3	18500	6.2	22500	6.2	26900	6.1
SM090	35	8600	4.3	10900	4.4	13600	4.4	16700	4.4	20200	4.4	24300	4.4	28900	4.4	34100	4.4
	55	—	—	—	—	—	—	13300	6.7	16400	6.7	19900	6.6	23900	6.6	28400	6.5
SM100	35	9000	4.6	11500	4.6	14400	4.7	17700	4.7	21500	4.7	25800	4.7	30700	4.7	36200	4.7
	55	—	—	—	—	—	—	14200	7.1	17400	7.1	21200	7.1	25400	7.0	30200	7.0
SM110	35	10200	5.2	13000	5.2	16200	5.2	20000	5.2	24200	5.2	29000	5.2	34400	5.2	40400	5.2
	55	—	—	—	—	—	—	15900	8.0	19600	8.0	23800	7.9	28400	7.9	33700	7.8
SM112	35	11300	5.1	14100	5.1	17400	5.2	21200	5.3	25500	5.4	30500	5.5	36100	5.6	42500	5.7
	55	—	—	—	—	—	—	17500	7.8	21200	7.9	25400	8.0	30200	8.1	35700	8.2
SM120	35	11800	6.0	15200	6.0	19000	6.0	23300	5.9	28200	5.9	33700	5.9	39900	5.9	46700	5.9
	55	—	—	—	—	—	—	18600	9.2	22800	9.2	27600	9.1	33000	9.0	38900	9.0
SM124	35	13100	5.4	16200	5.5	19800	5.7	23900	5.8	28700	6.0	34100	6.1	40300	6.2	47200	6.4
	55	—	—	—	—	—	—	19800	8.4	24000	8.6	28700	8.8	34100	9.0	40200	9.2
SM147	35	14900	6.3	18600	6.4	22900	6.5	27800	6.7	33500	6.9	40000	7.1	47300	7.2	55600	7.4
	55	—	—	—	—	—	—	22700	9.8	27500	9.9	33100	10.1	39400	10.3	46600	10.5
SM148	35	14800	7.0	18500	7.0	22900	7.1	27800	7.1	33600	7.2	40100	7.2	47500	7.3	55900	7.3
	55	—	—	—	—	—	—	22600	10.9	27500	10.9	33100	10.9	39500	11.0	46800	11.0
SM161	35	16000	7.5	20100	7.6	24700	7.6	30100	7.6	36300	7.7	43400	7.7	51400	7.8	60500	7.8
	55	—	—	—	—	—	—	24400	11.7	29700	11.7	35800	11.7	42800	11.8	50600	11.8
SM175	35	17000	8.1	21300	8.1	26400	8.2	32300	8.3	39000	8.4	46600	8.4	55200	8.5	64800	8.5
	55	—	—	—	—	—	—	26200	12.4	32000	12.5	38500	12.6	46000	12.6	54400	12.7
SM185	35	18400	8.8	23100	8.9	28600	9.0	35000	9.1	42200	9.1	50500	9.2	59800	9.3	70200	9.3
	55	—	—	—	—	—	13.5	28400	13.6	34600	13.7	41800	13.8	49800	13.8	58900	13.9
SY185	35	17600	8.7	22500	8.7	28100	8.7	34500	8.8	42000	8.9	50400	9.0	60000	9.1	70900	9.2
	55	—	—	—	—	—	13.3	28600	13.3	34800	13.3	41900	13.4	49800	13.5	58600	13.7
SY240	35	25100	11.7	31400	11.8	38800	12.0	47300	12.1	57100	12.4	68300	12.6	81000	13.0	95300	13.3
	55	—	—	—	—	—	—	38400	17.8	46600	18.0	56100	18.3	67000	18.6	79300	18.9
SY300	35	31900	14.2	39900	14.5	49300	14.8	60300	15.1	73100	15.6	87900	16.1	104800	16.7	124100	17.4
	55	—	—	—	—	—	—	48600	22.0	59200	22.4	71600	22.8	85900	23.4	102300	24.1
SY380	35	40100	17.3	49500	17.6	60500	18.0	73300	18.4	88100	18.8	104900	19.2	124100	19.8	145800	20.4
	55	—	—	—	—	—	—	59700	26.8	72300	27.1	86800	27.5	103400	27.9	122300	28.4
SM170	35	15200	8.0	19500	8.0	24600	8.0	30500	8.0	37200	8.0	44900	7.9	53500	7.9	63200	7.8
	55	—	—	—	—	—	—	23600	12.7	29600	12.6	36500	12.5	44300	12.3	53100	12.1
SM180	35	16900	8.6	21400	8.7	26700	8.8	32800	8.8	39900	8.8	47900	8.8	56900	8.8	67100	8.7
	55	—	—	—	—	—	—	26200	13.4	32300	13.3	39300	13.3	47100	13.2	56000	13.1
SM200	35	17700	9.2	22600	9.3	28300	9.3	34800	9.3	42300	9.4	50900	9.4	60500	9.4	71300	9.4
	55	—	—	—	—	—	—	27900	14.3	34400	14.2	41700	14.1	50000	14.0	59400	13.9
SM220	35	20000	10.4	25500	10.4	32000	10.4	39300	10.4	47700	10.5	57100	10.5	67700	10.4	79500	10.4
	55	—	—	—	—	—	—	31400	16.0	38600	16.0	46800	15.9	56000	15.8	66300	15.6
SM230	35	22000	10.8	27400	10.9	33700	10.9	41000	10.9	49500	10.9	59100	10.9	70100	10.9	82400	10.8
	55	—	—	—	—	—	—	32500	17.2	40800	17.1	50200	16.9	61000	16.7	73100	16.5
SM242	35	23300	12.0	29900	11.9	37400	11.9	45900	11.9	55600	11.9	66400	11.9	78500	11.8	92000	11.8
	55	—	—	—	—	—	—	36600	18.4	45000	18.3	54400	18.2	64900	18.1	76600	17.9
SM248	35	26300	10.9	32500	11.1	39600	11.3	47900	11.6	57400	11.9	68200	12.2	80500	12.5	94400	12.7
	55	—	—	—	—	—	—	39700	16.9	47900	17.2	57400	17.5	68100	17.9	80300	18.4
SM250	35	23700	11.6	29500	11.7	36200	11.7	44100	11.7	53200	11.7	63500	11.7	75300	11.7	88600	11.6
	55	—	—	—	—	—	—	35000	18.5	43800	18.4	54000	18.2	65600	18.0	78600	17.7
SM268	35	26600	13.0	33700	13.0	41800	13.0	51100	13.1	61700	13.1	73700	13.2	87300	13.2	102400	13.2
	55	—	—	—	—	—	—	40700	20.1	49800	20.1	60100	20.0	71700	20.0	84800	20.0
SM271	35	25800	12.7	32500	12.8	40300	12.8	49300	12.9	59600	12.9	71300	13.0	84500	13.0	99300	13.0
	55	—	—	—	—	—	—	39700	19.7	48600	19.7	58700	19.7	70100	19.6	83000	19.6
SM272	35	28000	11.7	34800	11.9	42600	12.2	51700	12.5	62100	12.8	73900	13.2	87400	13.5	102600	13.8
	55	—	—	—	—	—	—	41700	18.3	50500	18.5	60600	18.9	72100	19.3	85200	19.7
SM281	35	27500	13.5	34700	13.5	43000	13.6	52600	13.6	63600	13.6	75900	13.7	89900	13.7	105500	13.7
	55	—	—	—	—	—	—	42300	20.9	51800	20.9	62500	20.8	74600	20.8	88200	20.8
SM285	35	27100	13.4	34000	13.5	42100	13.6	51400	13.7	62000	13.8	74100	13.9	87800	14.0	103200	14.1
	55	—	—	—	—	—	—	41200	20.8	51100	20.8	62300	20.8	75000	20.8	89300	20.7
SM290	35	27700	13.5	34700	13.6	42900	13.7	52300	13.8	63100	13.8	75400	13.9	89400	13.9	105100	13.9
	55	—	—	—	—	—	—	42000	21.0	51900	21.1	63100	21.1	75800	21.0	90100	20.9
SM294	35	29900	12.5	37200	12.7	45800	13.0	55600	13.4	67000	13.7	79900	14.1	94600	14.5	111200	14.8
	55	—	—	—	—	—	—	45400	19.7	55100	19.9	66200	20.2	78900	20.6	93300	21.1
SM296	35	29200	14.0	36500	14.1	45000	14.2	54800	14.2	66100	14.3	79000	14.4	93600	14.5	110100	14.6
	55	—	—	—	—	—	—	44500	21.8	54100	21.8	65200	21.8	77900	21.9	92200	21.9
SM310	35	30000	14.6	37500	14.7	46300	14.8	56500	14.9	68200	15.0	81500	15.1	96500	15.1	113500	15.1
	55	—	—	—	—	—	—	45400	22.8	56000	22.9	68100	22.9	81900	22.8	97300	22.7
SM320	35	30600	15.2	38600	15.4	47900	15.6	58600	15.7	70800	15.9	84700	16.1	100300	16.3	117900	16.5
	55	—	—	—	—	—	—	47400	23.1	58300	23.3	70600	23.4	84500	23.5	100100	23.7
SM322	35	31600	15.0	39500	15.1	48700	15.2	59300	15.3	71500	15.4	85500	15.5	101300	15.6	119100	15.6
	55	—	—	—	—	—	—	48100	23.4	58600	23.4	70600	23.4	84200	23.5	99700	23.5
SM350	35	33500	16.1	42000	16.3	52000	16.4	63600	16.6	76800	16.7	91800	16.8	108700	16.9	127700	17.0
	55	—	—	—	—	—	—	51600	24.9	63000	25.0	75900	25.2	90600	25.3	107100	25.4
SM370	35	36200	17.6	45500	17.8	56400	18.0	68900	18.1	83200	18.3	99400	18.4	117700	18.5	138300	18.6
	55	—	—	—	—	—	—	55900	27.2	68200	27.3	82300	27.5	98200	27.6	116000	27.7

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Pe: Power input in [kW]

Qo: Cooling capacity in [W]

Subcooling: 8.3 K

Superheat: 11.1 K

Voltage: 400 V / 3 / 50 Hz

# Technical data and ordering

## SM / SY - Scroll compressors - R22 - 60 Hz

### Performance table

Type	To Tc	-20			-15		-10		-5		0		5		10		15	
		Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	
SM084	35	9600	4.78	12200	4.81	15200	4.83	18700	4.86	22600	4.89	27100	4.91	32100	4.92	37800	4.93	
	55	-	-	-	-	-	-	15000	7.53	18500	7.51	22500	7.49	27000	7.45	32100	7.40	
SM090	35	10600	5.20	13300	5.25	16500	5.29	20200	5.33	24500	5.36	29400	5.38	34900	5.39	41100	5.39	
	55	-	-	-	-	-	-	16400	7.93	20000	7.93	24200	7.92	28900	7.90	34300	7.86	
SM100	35	11200	5.41	14100	5.46	17400	5.50	21300	5.54	25700	5.58	30700	5.61	36400	5.62	42700	5.63	
	55	-	-	-	-	-	-	17200	8.26	21000	8.26	25300	8.25	30100	8.23	35600	8.19	
SM110	35	12800	6.17	16100	6.22	20000	6.26	24400	6.30	29500	6.34	35200	6.37	41600	6.40	48800	6.43	
	55	-	-	-	-	-	-	19800	9.46	24100	9.47	29000	9.47	34500	9.46	40700	9.44	
SM112	35	14100	6.07	17600	6.19	21600	6.33	26200	6.48	31500	6.64	37600	6.83	44400	7.02	52200	7.23	
	55	-	-	-	-	-	-	21700	9.40	26200	9.51	31300	9.66	37100	9.82	43700	10.02	
SM120	35	15000	7.10	18800	7.13	23300	7.17	28400	7.20	34200	7.25	40800	7.29	48300	7.34	56600	7.39	
	55	-	-	-	-	-	-	23000	10.92	28000	10.93	33700	10.94	40100	10.94	47300	10.95	
SM124	35	16000	6.50	19800	6.64	24300	6.82	29500	7.05	35400	7.32	42200	7.63	49900	7.97	58600	8.36	
	55	-	-	-	-	-	-	24100	10.20	29100	10.37	34700	10.60	41200	10.87	48600	11.18	
SM147	35	18600	7.58	22800	7.75	27800	7.93	33500	8.10	40000	8.29	47500	8.47	55900	8.66	65500	8.84	
	55	-	-	-	-	-	-	28000	11.75	33600	11.97	40100	12.20	47600	12.46	56000	12.73	
SM148	35	18100	8.32	22600	8.44	27800	8.54	33800	8.62	40600	8.71	48500	8.79	57400	8.89	67500	9.00	
	55	-	-	-	-	-	-	27600	12.91	33500	13.03	40300	13.13	48000	13.22	56700	13.31	
SM161	35	19700	8.99	24600	9.12	30200	9.23	36700	9.32	44200	9.41	52700	9.51	62400	9.61	73300	9.72	
	55	-	-	-	-	-	-	30000	13.96	36400	14.08	43800	14.19	52100	14.29	61600	14.39	
SM175	35	21100	9.81	26400	9.98	32500	10.15	39500	10.31	47500	10.46	56500	10.59	66600	10.70	77800	10.80	
	55	-	-	-	-	-	-	32200	15.06	39200	15.23	47000	15.39	55800	15.53	65600	15.65	
SM185	35	22500	10.42	28100	10.60	34600	10.78	42000	10.95	50500	11.10	60100	11.25	70800	11.37	82800	11.47	
	55	-	-	-	-	-	-	34300	15.99	41700	16.17	50000	16.34	59300	16.49	69800	16.62	
SY185	35	22500	10.37	28000	10.49	34500	10.60	42000	10.71	50800	10.83	60800	10.94	72200	11.05	85100	11.16	
	55	-	-	-	-	-	-	34600	15.85	42100	16.13	50800	16.39	60700	16.63	71900	16.86	
SY240	35	30600	13.98	38200	14.17	47100	14.43	57300	14.75	69100	15.15	82500	15.63	97600	16.19	114800	16.84	
	55	-	-	-	-	-	-	46700	21.37	56700	21.74	68100	22.16	81000	22.64	95700	23.19	
SY300	35	39800	16.39	49400	16.85	60600	17.38	73600	17.97	88500	18.59	105600	19.25	125000	19.91	146900	20.58	
	55	-	-	-	-	-	-	59600	25.95	72300	26.65	86800	27.43	103400	28.30	122300	29.22	
SY380	35	49000	20.86	60600	21.18	74200	21.63	89900	22.16	108000	22.77	128600	23.41	152100	24.06	178600	24.68	
	55	-	-	-	-	-	-	72800	32.58	88300	32.94	106000	33.45	126200	34.09	149000	34.81	
SM170	35	18900	9.54	24000	9.60	29900	9.66	36800	9.72	44500	9.77	53300	9.80	63300	9.83	74400	9.85	
	55	-	-	-	-	-	-	29500	15.04	36400	15.01	44300	14.96	53300	14.89	63300	14.80	
SM180	35	20900	10.40	26200	10.49	32600	10.57	39900	10.65	48300	10.71	57900	10.76	68700	10.78	80900	10.78	
	55	-	-	-	-	-	-	32300	15.85	39400	15.85	47600	15.83	57000	15.79	67500	15.71	
SM200	35	22000	10.81	27700	10.91	34300	11.00	41900	11.08	50600	11.15	60500	11.21	71700	11.24	84200	11.25	
	55	-	-	-	-	-	-	34000	16.50	41400	16.51	49800	16.49	59400	16.45	70100	16.37	
SM220	35	25300	12.34	31800	12.42	39400	12.51	48100	12.59	58000	12.66	69300	12.74	82000	12.80	96200	12.85	
	55	-	-	-	-	-	-	39000	18.91	47500	18.92	57100	18.92	68000	18.90	80300	18.86	
SM242	35	29500	14.19	37100	14.25	45800	14.32	55900	14.40	67400	14.48	80400	14.58	95100	14.67	111400	14.78	
	55	-	-	-	-	-	-	45300	21.83	55200	21.84	66400	21.86	79100	21.87	93200	21.88	
SM248	35	32000	13.01	39600	13.27	48600	13.64	58900	14.09	70700	14.63	84300	15.25	99700	15.95	117200	16.71	
	55	-	-	-	-	-	-	48100	20.40	58100	20.75	69400	21.19	82400	21.73	97100	22.36	
SM268	35	32600	15.41	40800	15.56	50300	15.70	61200	15.83	73700	15.95	88000	16.08	104100	16.23	122200	16.39	
	55	-	-	-	-	-	-	49900	23.83	60600	23.95	72900	24.06	86800	24.16	102500	24.25	
SM271	35	32100	15.16	40100	15.33	49400	15.48	60200	15.62	72500	15.75	86600	15.88	102500	16.01	120300	16.15	
	55	-	-	-	-	-	-	49100	23.42	59600	23.55	71700	23.66	85400	23.75	100800	23.83	
SM272	35	34500	14.08	42600	14.39	52000	14.74	62900	15.15	75300	15.60	89600	16.09	105700	16.63	124000	17.20	
	55	-	-	-	-	-	-	52000	21.95	62600	22.34	74800	22.80	88700	23.32	104500	23.91	
SM281	35	34200	16.09	42700	16.25	52700	16.39	64100	16.53	77200	16.66	92100	16.80	109000	16.95	128000	17.11	
	55	-	-	-	-	-	-	52200	24.87	63500	25.01	76300	25.13	90900	25.24	107300	25.34	
SM294	35	37100	15.15	45600	15.50	55500	15.85	66900	16.21	79900	16.57	94800	16.94	111700	17.31	130900	17.69	
	55	-	-	-	-	-	-	55900	23.50	67200	23.94	80200	24.40	95000	24.91	111800	25.46	
SM296	35	35800	16.62	44500	16.86	54700	17.06	66500	17.24	80000	17.40	95500	17.57	113100	17.76	132900	17.98	
	55	-	-	-	-	-	-	54400	25.80	66000	26.04	79300	26.24	94500	26.42	111700	26.60	
SM322	35	38900	17.97	48400	18.22	59500	18.44	72300	18.63	87000	18.81	103800	19.00	122900	19.20	144500	19.43	
	55	-	-	-	-	-	-	59100	27.89	71700	28.15	86200	28.37	102700	28.57	121400	28.76	
SM350	35	41600	19.61	52000	19.95	64000	20.28	77800	20.60	93500	20.90	111200	21.16	131100	21.40	153300	21.58	
	55	-	-	-	-	-	-	63500	30.10	77100	30.44	92600	30.75	109900	31.04	129200	31.28	
SM370	35	44300	20.83	55300	21.19	68100	21.54	82800	21.88	99500	22.19	118300	22.48	139500	22.72	163100	22.92	
	55	-	-	-	-	-	-	67600	31.96	82100	32.32	98500	32.66	116900	32.96	137500	33.22	

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Pe: Power input in [kW]

Qo: Cooling capacity in [W]

Subcooling: 8.3 K

Superheat: 11.1 K

Voltage: 400 V / 3 / 60 Hz

# Nomenclature

	Family, lubricant & refrigerant	Normal capacity	Approval	Voltage	Version	Evolution index
	<b>SH</b>	<b>485</b>	<b>A</b>	<b>4</b>	<b>AB</b>	<b>A</b>

**Family, refrigerant & lubricant:**  
SH: scroll, POE lubricant for R410A

**Nominal capacity:**  
in thousand [Btu/h] at 60 Hz, R410A, ARI condition

**UL index**

**Motor voltage code:**  
 3: 200 – 230 V / 3 ~ / 60 Hz  
 4: 380 – 400 V / 3 ~ / 50 Hz & 460 V / 3 / 60 Hz  
 6: 230 V / 3 ~ / 50 Hz  
 7: 500 V / 3 ~ / 50 Hz & 575 V / 3 ~ / 60 Hz  
 9: 380 V / 3 ~ / 60 Hz

**Evolution index:**  
A~Z

**Motor protection:**  
 L: internal overload protector  
 A: electronic, 24 V AC  
 B: electronic, SH180: 230V  
     SH240-295-380-485: 115 / 230 V  
 C: customized electrical box

**Suction and discharge connections:**  
A: brazed connections

\*)for SH485 only  
for further information refer to application guidelines FRCC.PC.027

	Family, lubricant & refrigerant	Normal capacity	Approval	Voltage	Version	Evolution index
	<b>SZ</b> <b>SY</b>	<b>185</b> <b>300</b>	<b>-</b> <b>A</b>	<b>4</b> <b>7</b>	<b>R</b> <b>CA</b>	<b>C</b> <b>A</b>

**Family, refrigerant & lubricant:**  
 SM: scroll, Mineral oil, R22/R417A \*)  
 SY: scroll, POE lubricant, R22 / R414A (R407 for SY185-240-300)  
 SZ: scroll, POE lubricant, R407C, R134a (R404A, R507A for SZ084 – SZ185)

**Nominal capacity:**  
in thousand Btu / h at 60 Hz, R22, ARI condition

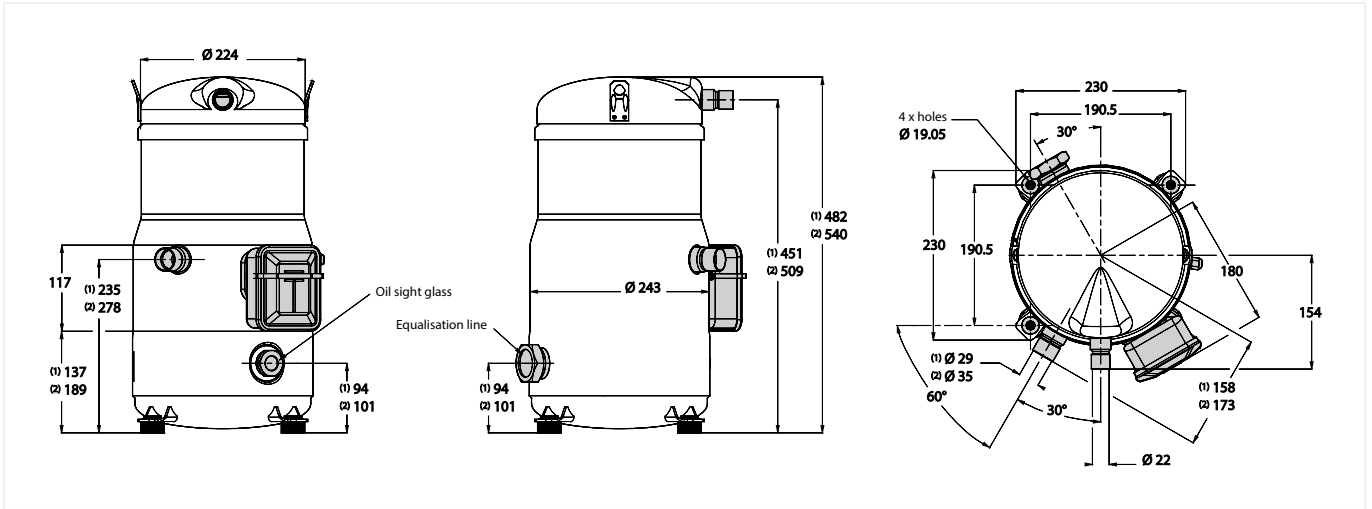
**Motor voltage code:**  
 3: 200 – 230 V / 3 ~ / 60 Hz  
 4: 380 – 400 V / 3 ~ / 50 Hz & 460 V / 3 / 60 Hz  
 6: 230 V / 3 ~ / 50 Hz  
 7: 500 V / 3 ~ / 50 Hz & 575 V / 3 ~ / 60 Hz  
 9: 380 V / 3 ~ / 60 Hz

Motor protection type	Connection	Module voltage	Applies to	
Internal overload protector	<b>V</b> : brazed		S 084-090-100-110-120-148-161	
	<b>A</b> : brazed		S 112-124-147	
Internal thermostat	<b>C</b> : brazed		S 175-185	
	<b>R</b> : rotolock			
Electronic protection module	<b>P</b> : brazed	24 V AC 230 V		S 240-300
	<b>X</b> : brazed			
	<b>S</b> : rotolock	24 V AC 230 V		
	<b>Y</b> : rotolock			
	<b>CA</b> <b>CB</b> <b>PA</b> <b>PB</b>	C: brazed	A: 24 V AC B: 115 / 230 V	
		P: rotolock	A: 24 V AC B: 115 / 230 V	
<b>CA</b> <b>CB</b>	C: brazed	A: 24 V AC B: 115 / 230 V	S 380	

\*) When SM compressors are used with R417A, the factory charged mineral oil 160P must be replaced by polyolester oil 160SZ

# Dimensions

**SH090 / 105 / 120 / 140<sup>3)</sup> / 161<sup>3)</sup>**

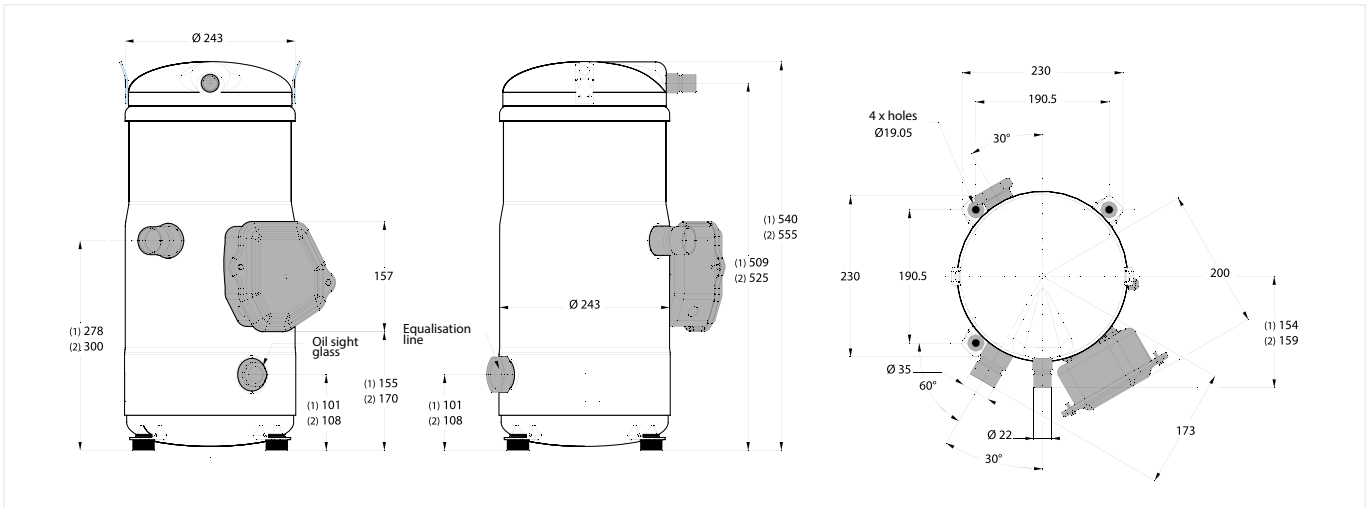


<sup>1)</sup> SH090

<sup>2)</sup> SH105 / 120 / 140 / 161

<sup>3)</sup> except code 3

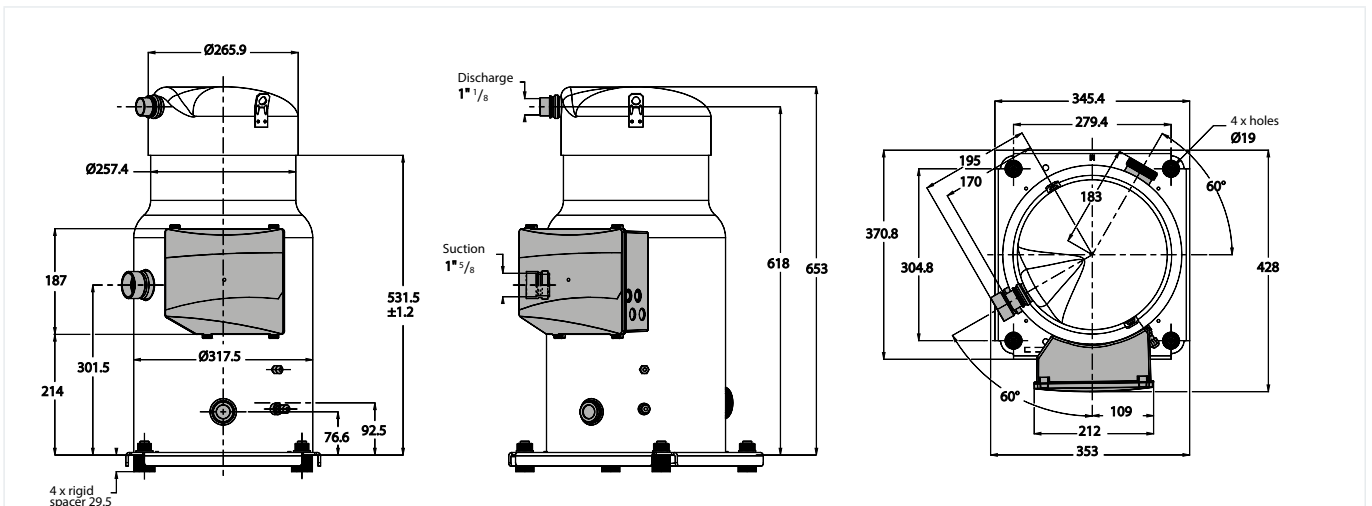
**SH 140 / 161 code 3 and SH184**



<sup>1)</sup> SH140 / 161 code 3

<sup>2)</sup> SH184

**SH180-240-295**

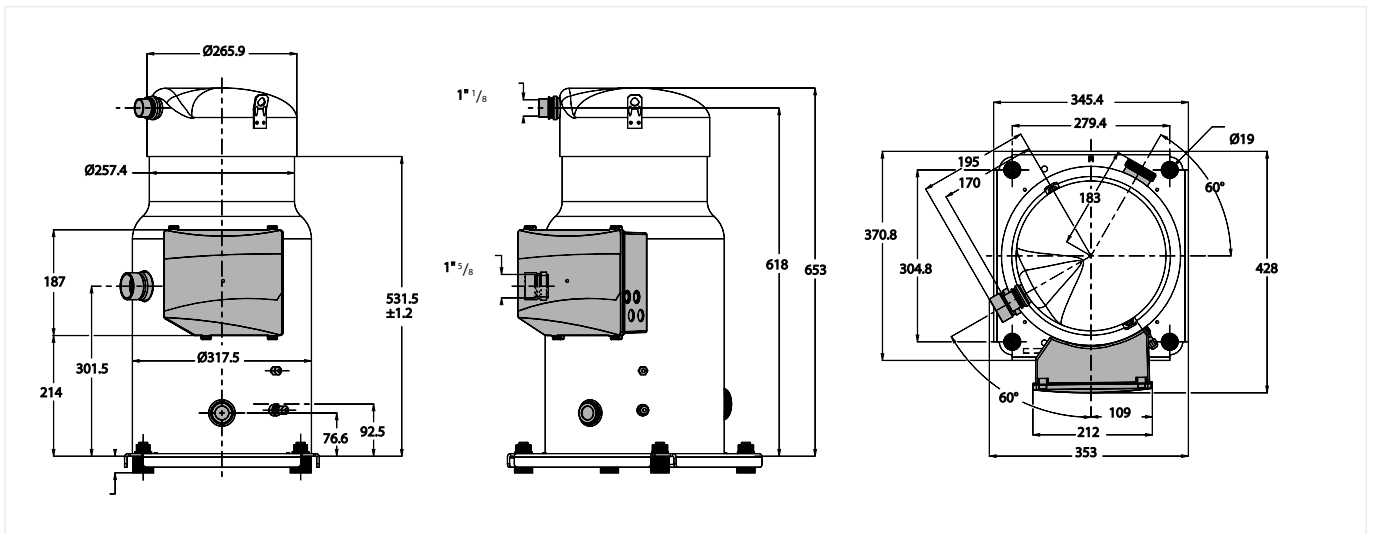


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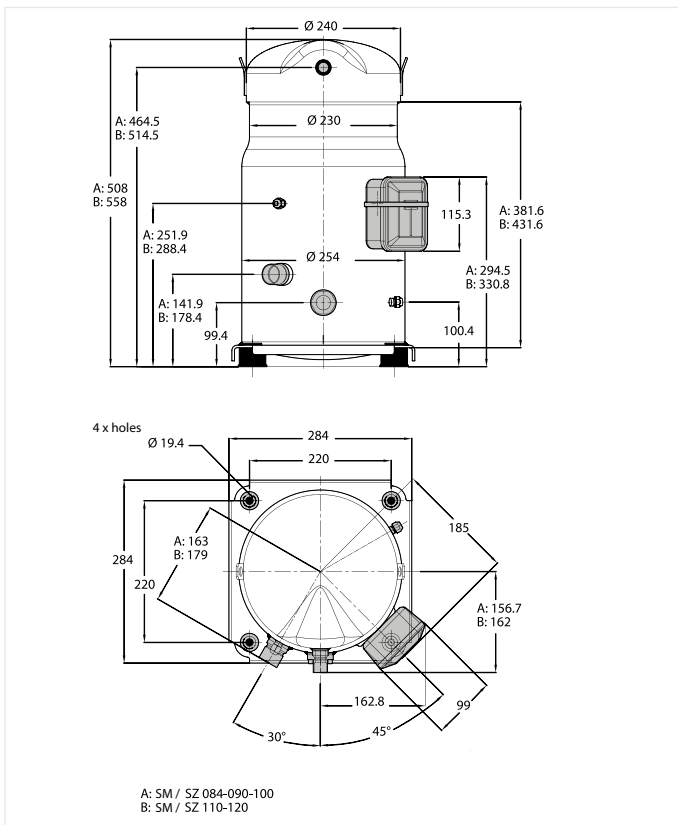


# Dimensions

## SH380-485



## SM / SZ 084-090-100-110-120

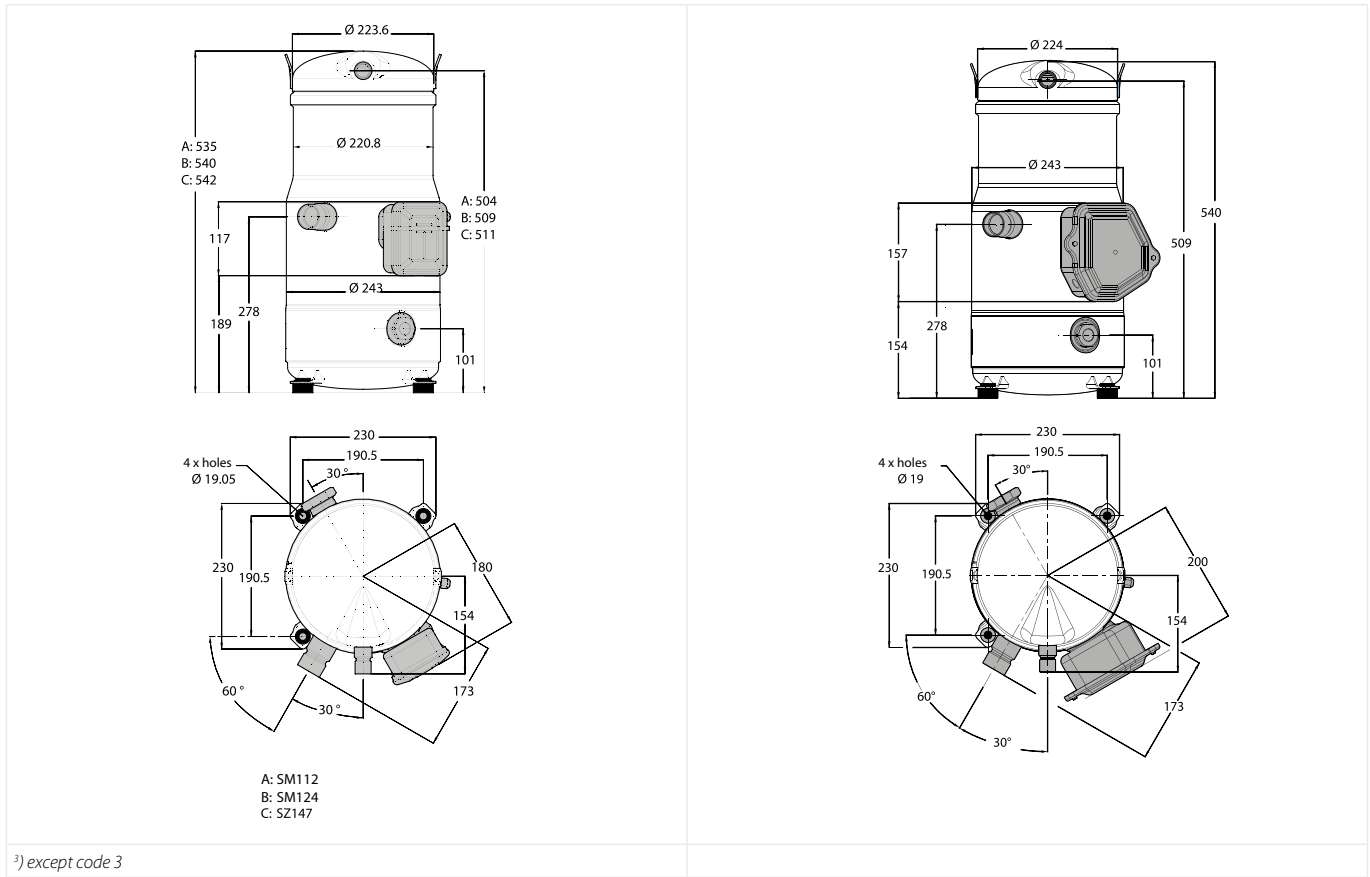


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# Dimensions

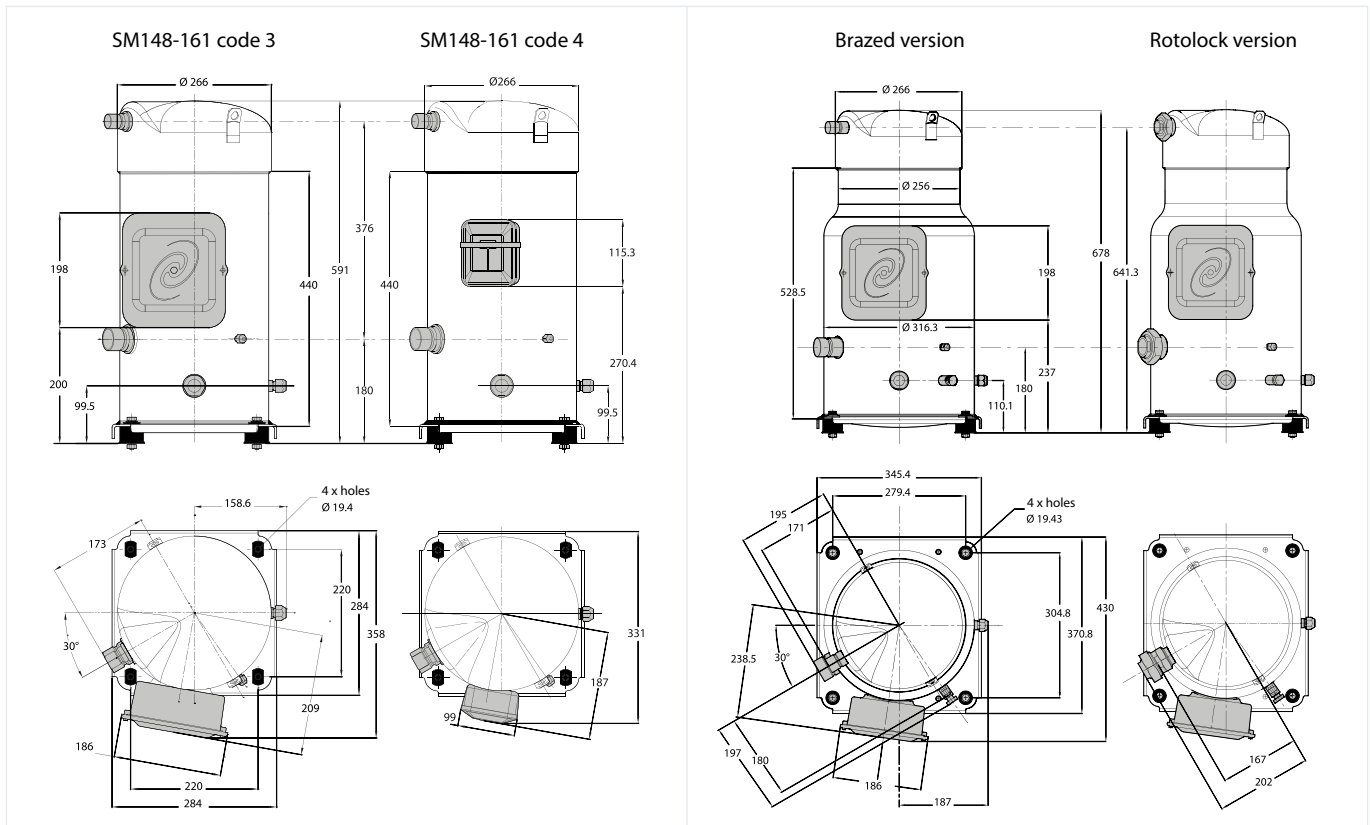
**SM 112-124-SM / SZ147<sup>3)</sup>**

**SM / SZ 147 code 3**



**SM / SZ148-161**

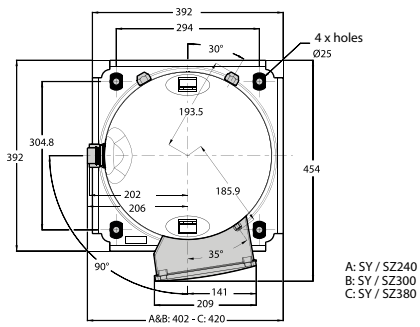
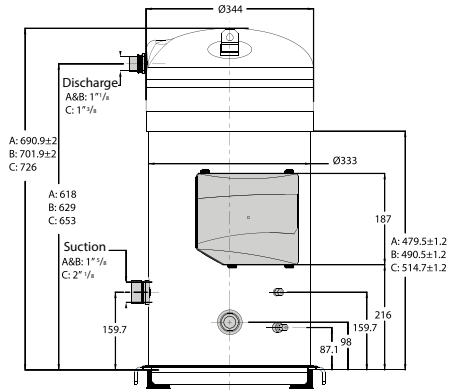
**SM / SZ 175-185 and SY185**



# Dimensions

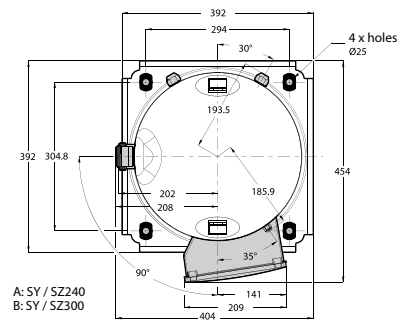
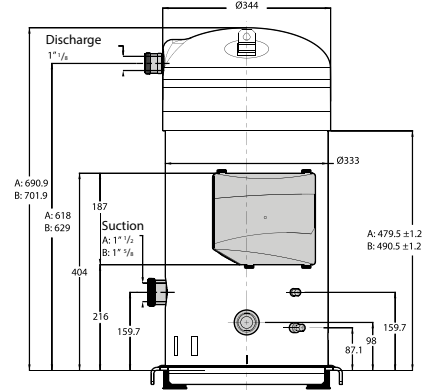
## SY / SZ 240-300-380

Brazed version



A: SY / SZ240  
B: SY / SZ300  
C: SY / SZ380

Rotolockversion



A: SY / SZ240  
B: SY / SZ300

# Technical data

## Tandem models

### Ordering

CP1		CP2		Tandem model	Suction from	Kit code no. to order	Washer reference	Washer Ø [mm]	Washer in suction of
SH090	+	SH090	=	SH182	Left Right	7777044		Not needed	
SH090	+	SH105	=	SH195	Left Right	7777043	5312497P03 5312497P03	23 23	CP2 CP2
SH090	+	SH120	=	SH210	Left Right	7777043	5312497P01 5312497P02	25 24	CP2 CP1
SH105	+	SH105	=	SH212	Left Right	7777044		Not needed	
SH090	+	SH140	=	SH230	Left Right	7777043		Not needed	
SH120	+	SH120	=	SH242	Left Right	7777044		Not needed	
SH120	+	SH140	=	SH260	Left Right	7777042		Not needed	
SH120	+	SH161	=	SH281	Left Right	7777042	5312497P01 5312497P03	25 23	CP1 CP1
SH140	+	SH140	=	SH282	Left Right	7777044		Not needed	
SH140	+	SH161	=	SH301	Left Right	7777042	5312497P05	26	CP1
SH120	+	SH184	=	SH304	Left Right	7777052	5312497P03	23	CP1
SH161	+	SH161	=	SH322	Left Right	7777044		Not needed	
SH140	+	SH184	=	SH324	Left Right	7777052	5312479P06	35	CP1
SH161	+	SH184	=	SH345	Left Right	7777052	5312479P05	26	CP1
SH180	+	SH180	=	SH360	Left Right	7777041		Not needed	
SH184	+	SH184	=	SH368	Left Right	7777053		Not needed	
SH180	+	SH240	=	SH420	Left Right	7777037	5311579P01 5311579P01	31 31	CP1 CP1
SH180	+	SH295	=	SH475	Left Right	7777038	5311579P04 5311579P04	26 26	CP1 CP1
SH240	+	SH240	=	SH482	Left Right	7777041		Not needed	
SH240	+	SH295	=	SH535	Left Right	7777037	5311579P01 5311579P01	31 31	CP1 CP1
SH180	+	SH380	=	SH560	Left Right	7777038	5311579P04 5311579P04	26 26	CP1 CP1
SH295	+	SH295	=	SH590	Left Right	7777041		Not needed	
SH240	+	SH380	=	SH620	Left Right	7777048	5311579P05 5311579P05	29 29	CP1 CP1
SH295	+	SH380	=	SH675	Left Right	7777037	5311579P01 5311579P01	31 31	CP1 CP1
SH240	+	SH485	=	SH725	Left Right	120Z0569	5311579P09	24	CP1
SH380	+	SH380	=	SH760	Left Right	7777041		Not needed	
SH295	+	SH485	=	SH780	Left Right	120Z0551	5311579P07	27	CP1
SH380	+	SH485	=	SH865	Left Right	120Z0550	5311579P08	30	CP1
SH485	+	SH485	=	SH970	Left Right	120Z0578		Not needed	

# Technical data

## Trio models

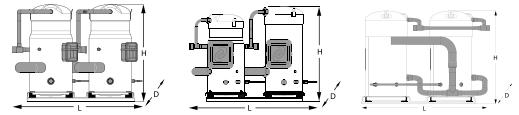
### Ordering

CP1		CP2		CP3		Trio model	Suction from	Kit code no. to order	Washer reference	Washer Ø [mm]	Washer in suction of
SH180	+	SH180	+	SH180	=	SH550	Left	7777040	5311579P02	33	CP3
							Right	7777039	5311579P03	34.5	CP1 and CP3
SH240	+	SH240	+	SH240	=	SH720	Left	7777040	5311579P02	33	CP3
							Right	7777039	5311579P03	34.5	CP1 and CP3
SH295	+	SH295	+	SH295	=	SH885	Left	7777040	5311579P02	33	CP3
							Right	7777039	5311579P03	34.5	CP1 and CP3
SH380	+	SH380	+	SH380	=	SH1140	Left	7777040	5311579P02	33	CP3
							Right	7777049		Not needed	
SH485	+	SH485	+	SH485	=	SH1455	Left	7777040	5311579P02	33	CP2 and CP3
							Right				

# Technical data

## SM / SY / SZ - Scroll compressors - Tandem / Trio

### Features



Type	Composition	R22	R404A / R507A	R407C	R134a	Oil management	
Tandem	SM / SZ170	SM / SZ084 + SM / SZ084	•	•	•	•	Dynamic
	SM / SZ180	SM / SZ090 + SM / SZ090	•	•	•	•	Dynamic
	SM / SZ200	SM / SZ100 + SM / SZ100	•	•	•	•	Dynamic
	SM / SZ220	SM / SZ110 + SM / SZ110	•	•	•	•	Dynamic
	SM / SZ242	SM / SZ120 + SM / SZ120	•	•	•	•	Dynamic
	SM248	SM124 + SM124	•	–	–	–	Static
	SM / SZ268	SM / SZ120 + SM / SZ148	•	•	•	•	Dynamic
	SM / SZ271	SM / SZ110 + SM / SZ161	◦	◦	◦	◦	Dynamic
	SM272	SM124 + SM147	•	–	–	–	Static
	SM / SZ281	SM / SZ120 + SM / SZ161	•	•	•	•	Dynamic
	SM / SZ294	SM / SZ147 + SM / SZ147	•	–	◦	–	Static
	SM / SZ296	SM / SZ148 + SM / SZ148	•	•	•	•	Dynamic
	SM / SZ322	SM / SZ161 + SM / SZ161	•	•	•	•	Dynamic
	SM / SZ350	SM / SZ175 + SM / SZ175	•	•	•	•	Dynamic
	SY / SZ370	SY / SZ185 + SY / SZ185	•	•	•	•	Dynamic
	SY / SZ425	SY / SZ240 + SY / SZ185	◦	–	◦	◦	Dynamic
	SY / SZ482	SY / SZ240 + SY / SZ240	◦	–	◦	◦	Static
	SY / SZ485	SY / SZ300 + SY / SZ185	◦	–	◦	◦	Dynamic
	SY / SZ540	SY / SZ300 + SY / SZ240	◦	–	◦	◦	Static
	SY / SZ600	SY / SZ300 + SY / SZ300	◦	–	◦	◦	Static
SY / SZ620	SY / SZ240 + SY / SZ380	◦	–	◦	◦	Static	
SY / SZ680	SY / SZ300 + SY / SZ380	◦	–	◦	◦	Static	
SY / SZ760	SY / SZ380 + SY / SZ380	◦	–	◦	◦	Static	
Trio	SM / SZ444	3 x SM / SZ148	◦	◦	◦	◦	Static
	SM / SZ483	3 x SM / SZ161	◦	◦	◦	◦	Static
	SY / SZ550	3 x SY / SZ185	◦	◦	◦	◦	Dynamic
	SY / SZ720	3 x SY / SZ240	◦	–	◦	◦	Static
	SY / SZ900	3 x SY / SZ300	◦	–	◦	◦	Static
	SY / SZ1140	3 x SY / SZ380	◦	–	◦	◦	Static
Quadro	SM / SZ740	4 x SY / SZ185	◦	◦	◦	◦	Dynamic

• Factory built or field assembly  
 ◦ Field assembly  
 – Not available

## SM / SY / SZ - Scroll compressors

### Field assembly

Tandem Type	Connection	Configuration example	Tandem assembly kit code no		Oil equalisation fittings
			Kit ①	Kit ②	
SM / SZ170	Brazed	SZ084-4VI + SZ084-4VI	7703251	7765012	2 x 023U8014
SM / SZ180	Brazed	SZ090-4VI + SZ090-4VI	7703251	7765012	2 x 023U8014
SM / SZ200	Brazed	SZ100-4VI + SZ100-4VI	7703251	7765012	2 x 023U8014
SM / SZ220	Brazed	SZ110-4VI + SZ110-4VI	7703384	7765025	2 x 023U8014
SM / SZ242	Brazed	SZ120-4VI + SZ120-4VI	7703384	7765025	2 x 023U8014
SM / SZ268	Brazed	SZ148-4VAI + SZ120-4VI	7703390	7765025	2 x 023U8014
SM / SZ271	Brazed	SZ161-4VAI + SZ110-4VI	7703390	7765025	2 x 023U8014
SM / SZ281	Brazed	SZ161-4VAI + SZ120-4VI	7703390	7765025	2 x 023U8014
SM / SZ296	Brazed	SZ148-4VAI + SZ148-4VAI	7703390	7765025	2 x 023U8014
SM / SZ322	Brazed	SZ161-4VAI + SZ161-4VAI	7703390	7765025	2 x 023U8014
SM / SZ350	Rotolock	SZ175-4SCI + SZ175-4SCI	7703371	7765013	2 x 023U8014
SM / SZ350	Brazed	SZ175-4PCI + SZ175-4PCI	–	7765017	2 x 023U8014
SM / SZ370	Rotolock	SZ185-4SCI + SZ185-4SCI	7703371	7765013	2 x 023U8014
SM / SZ370	Brazed	SZ185-4PCI + SZ185-4PCI	–	7765017	2 x 023U8014
SY / SZ425	Brazed	SZ240A4AAI + SZ185-4PCI	–	7765027	023U8016 + 023U8014
SY / SZ485	Rotolock	SZ300A4AAI + SZ185-4PCI	–	7765027	023U8016 + 023U8014

**Different tandem assembly kits are available:**

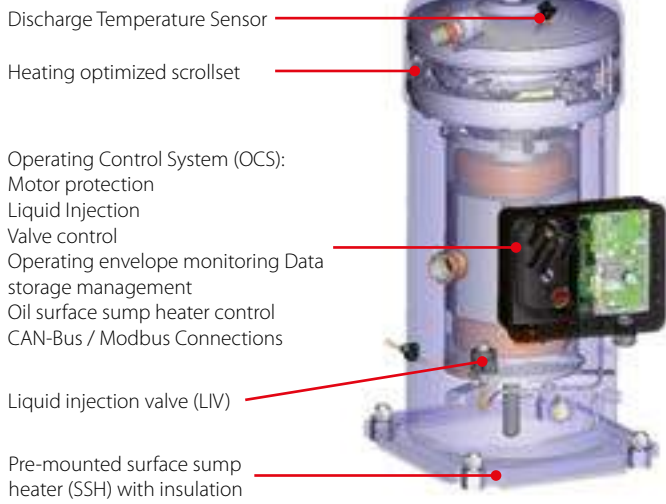
Kit ① containing the suction and discharge Tees sleeves and the suction oil separator / gas restrictor  
 Kit ② containing the suction oil separator / gas restrictor only

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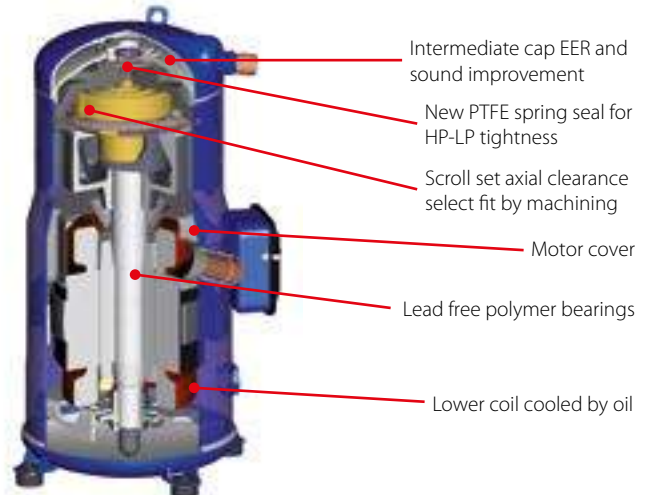
# PSH - Scroll compressors heating optimized - R410A

R410A, single, Danfoss scroll compressors dedicated to heating applications. PSH compressors have an extended operating envelope thanks to a liquid injection system and an integrated electronic module. The product reliability is improved via map monitoring, data storage and bus communication.

PSH compressors are suitable with a patented Surface Sump Heater (SSH) with integrated insulation, which largely contributes to the reduction in sound level. PSH 51-64-77 are fitted as standard with a SSH.



PSH 077



PSH 019 - 039

## Facts

- Water heated to 60 °C at -15 °C ambient temperature
- Equipment manufacturers will benefit from the liquid injection system, which offers a wider operating temperature envelope. In comparison with gas or oil furnaces for space heating and Hot Sanitary Water (HSW) production, a heat pump system offers very large energy savings – up to 50%. But until now, most heat pumps have been limited with regard to operating temperatures
- An energy efficient solution that qualifies for the European Ecolabel. The PSH019-039 obtain a compressor COP better than that required for the Ecolabel (3.4W / W). All displacements offer a minimum COP of 3.77, and figures of up 4.11 can be achieved for Air-to-Water heat pumps, depending on the model
- Heat pumps for heating in factories, offices, shopping malls, etc
- A simpler and more efficient solution for OEMs 25% cost reduction. A light PSH compressor requires fewer components in the system. It saves installing an brazed plate heat exchanger, electronic expansion valves and extra piping, thus reducing costs. The new integrated liquid injection valve and controller make it simpler to design and manufacture heat pumps

## Technical data and ordering

### PSH - Scroll compressors heating optimized

#### Ordering - Single pack

Compressor	Connections	Code no.		
		Motor code 3	Motor code 4	Motor code 9
PSH019	Full package	120H0963	120H0931	120H0987
PSH023	Full package	120H0965	120H0933	120H0989
PSH026	Full package	120H0967	120H0935	120H0991
PSH030	Full package	120H0969	120H0937	120H0993
PSH034	Full package	120H0971	120H0939	120H0995
PSH039	Full package	120H0973	120H0941	120H0997
PSH019	Bare compressor	–	120H0951	–
PSH023	Bare compressor	–	120H0953	–
PSH026	Bare compressor	–	120H0955	–
PSH030	Bare compressor	–	120H0957	–
PSH034	Bare compressor	–	120H0959	–
PSH039	Bare compressor	–	120H0961	–

### PSH - Scroll compressors heating optimized

#### Ordering - Single pack

Compressor	OCS supply voltage	Code no.	
		Motor code 4	Motor code 9
PSH051	230 V AC	120H0864	120H0904
PSH064	230 V AC	120H0866	120H0906
PSH077	230 V AC	120H0868	120H0908

### PSH - Scroll compressors heating optimized

#### Ordering - Industrial pack

Compressor	Connections	Code no.		
		Motor code 3	Motor code 4	Motor code 9
PSH019	Full package	120H0964	120H0932	120H0988
PSH023	Full package	120H0966	120H0934	120H0990
PSH026	Full package	120H0968	120H0936	120H0992
PSH030	Full package	120H0970	120H0938	120H0994
PSH034	Full package	120H0972	120H0940	120H0996
PSH039	Full package	120H0974	120H0942	120H0998
PSH019	Bare compressor	–	120H0952	–
PSH023	Bare compressor	–	120H0954	–
PSH026	Bare compressor	–	120H0956	–
PSH030	Bare compressor	–	120H0958	–
PSH034	Bare compressor	–	120H0960	–
PSH039	Bare compressor	–	120H0962	–

### PSH - Scroll compressors heating optimized

#### Ordering - Industrial pack

Compressor	OCS supply voltage	Code no.	
		Motor code 4	Motor code 9
PSH051	230 V AC	120H0863	120H0903
PSH064	230 V AC	120H0865	120H0905
PSH077	230 V AC	120H0867	120H0907



# Technical data and ordering

## PSH - Scroll compressors heating optimized

### Compressor specifications

Type		Nominal Heating capacity	Power Input	Heating COP	Swept volume	Displacement <sup>1)</sup>	Oil charge	Net weight <sup>2)</sup>
		[W]	[W]	[W]/[W]	[cm <sup>3</sup> /rev]	[m <sup>3</sup> /h]	[dm <sup>3</sup> ]	[kg]
50 Hz	PSH019	19600	6.62	2.96	88.40	15.40	3.0	58.5
	PSH023	23000	7.47	3.07	103.50	18.00	3.3	64.5
	PSH026	26000	8.65	3.00	116.90	20.30	3.3	64.5
	PSH030	30000	9.60	3.13	133.00	23.12	3.3	67.5
	PSH034	34200	10.95	3.12	151.17	26.40	3.3	69.5
	PSH039	38900	12.19	3.19	170.30	29.60	3.6	72.0
60 Hz	PSH019	23600	7.97	2.96	88.40	18.60	3.0	58.5
	PSH023	28000	8.84	3.17	103.50	21.80	3.3	64.5
	PSH026	31400	10.19	3.08	116.90	24.60	3.3	64.5
	PSH030	35700	11.35	3.15	133.00	27.90	3.3	67.5
	PSH034	40500	12.72	3.18	151.17	31.90	3.3	69.5
	PSH039	46500	14.49	3.21	170.30	35.80	3.6	72.0

Evaporating temperature: -7 °C

Condensing temperature: 50 °C

Superheat: 5 K

Subcooling: 4 K

Refrigerant: R410A

<sup>1)</sup> Displacement at nominal speed: 2900 rpm at 50 Hz. 3500 rpm at 60 Hz

<sup>2)</sup> Net weight with oil charge

## PSH - Scroll compressors heating optimized

### Compressor specifications

Type		Nominal Heating capacity	Nominal Cooling capacity	Power Input	Heating COP	Cooling COP	Swept volume	Displacement <sup>1)</sup>	Oil charge	Net weight <sup>2)</sup>
		[W]	[W]	[W]	[W]/[W]	[W]/[W]	[cm <sup>3</sup> /ev]	[m <sup>3</sup> /h]	[dm <sup>3</sup> ]	[kg]
50 Hz	PSH051	53337	36167	17170	3.11	2.11	227.6	39.6	6.7	108
	PSH064	65481	44683	21575	3.04	2.07	286.2	49.8	6.7	153
	PSH077	80303	55051	25979	3.09	2.12	344.6	60	7.2	161
60 Hz	PSH051	64057	43436	20621	3.11	2.11	227.6	47.8	6.7	108
	PSH064	78643	53665	25911	3.04	2.07	286.2	60.1	6.7	153
	PSH077	96114	66061	31175	3.08	2.12	344.6	72.4	7.2	161

Evaporating temperature: -7 °C

Condensing temperature: 50 °C

Superheat: 5 K

Subcooling: 5 K

Refrigerant: R410A

<sup>1)</sup> Displacement at nominal speed: 2900 rpm at 50 Hz. 3500 rpm at 60 Hz

<sup>2)</sup> Net weight with oil charge

# Technical data and ordering

## PSH - Scroll compressors heating optimized - R410A - 50 Hz

### Cooling performance table - Heating optimized

Type	Te	-30			-20		-15		-10		-5		0		5		10		15	
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	
PSH019-4	20	7040	3.48	11140	3.59	13810	3.66	16930	3.75	20570	3.87	24740	4.03	29510	4.23	-	-	-	-	-
	30	6170	4.26	10070	4.36	12560	4.41	15470	4.48	18840	4.57	22710	4.68	27130	4.83	32130	5.02	37760	5.27	43400
	40	5230	5.25	8820	5.36	11100	5.40	13750	5.44	16810	5.50	20330	5.58	24340	5.68	28900	5.81	34040	5.99	39760
	50	4230	6.52	7430	6.65	9430	6.68	11770	6.72	14470	6.75	17590	6.79	21160	6.86	25220	6.94	29820	7.06	34540
	60	-	-	5890	8.31	7580	8.35	9550	8.37	11840	8.39	14510	8.41	17580	8.44	21100	8.48	25110	8.55	29660
	68	-	-	-	-	-	-	7600	10.03	9530	10.04	11800	10.04	14440	10.04	17490	10.06	20990	10.09	24640
PSH023-4	20	8570	4.08	13310	4.38	16360	4.52	19940	4.61	24100	4.64	28880	4.58	34340	4.42	-	-	-	-	-
	30	7470	4.91	11980	5.13	14860	5.29	18220	5.44	22100	5.57	26560	5.66	31650	5.67	37420	5.60	43920	5.41	50200
	40	6310	6.15	10500	6.14	13140	6.25	16220	6.39	19780	6.55	23870	6.70	28540	6.83	33840	6.90	39830	6.90	46900
	50	5080	8.01	8830	7.63	11190	7.61	13940	7.67	17120	7.78	20780	7.93	24990	8.09	29770	8.24	35200	8.36	41000
	60	-	-	6990	9.82	9010	9.60	11370	9.50	14120	9.50	17310	9.57	20980	9.69	25200	9.84	30010	10.00	34800
	68	-	-	-	-	-	-	9100	11.50	11460	11.35	14230	11.31	17450	11.35	21180	11.45	25450	11.59	29300
PSH026-4	20	9490	4.47	15160	4.64	18860	4.76	23220	4.93	28290	5.14	34130	5.41	40800	5.74	-	-	-	-	-
	30	8350	5.49	13720	5.61	17160	5.69	21200	5.81	25880	5.97	31260	6.17	37410	6.44	44370	6.77	52210	7.18	60000
	40	7140	6.82	12060	6.90	15190	6.95	18840	7.02	23070	7.13	27930	7.28	33490	7.47	39800	7.73	46910	8.05	54600
	50	5840	8.55	10210	8.60	12950	8.63	16160	8.67	19870	8.73	24150	8.82	29050	8.95	34640	9.14	40980	9.38	48000
	60	-	-	8150	10.82	10450	10.82	13140	10.83	16270	10.85	19910	10.90	24100	10.97	28910	11.09	34390	11.26	40400
	68	-	-	-	-	-	-	10490	13.01	13120	13.00	16190	13.01	19770	13.05	23910	13.12	28670	13.23	33500
PSH030-4	20	11280	5.02	17620	5.23	21730	5.34	26560	5.49	32160	5.67	38600	5.90	45950	6.19	-	-	-	-	-
	30	9960	6.05	15940	6.28	19760	6.38	24220	6.50	29380	6.64	35320	6.81	42080	7.03	49750	7.32	58370	7.69	67000
	40	8580	7.35	14070	7.63	17530	7.74	21570	7.85	26240	7.96	31600	8.10	37720	8.27	44670	8.49	52500	8.77	60400
	50	7130	8.98	12000	9.36	15050	9.50	18590	9.61	22690	9.72	27420	9.84	32840	9.98	39000	10.15	45990	10.37	53000
	60	-	-	9710	11.56	12280	11.74	15270	11.88	18740	12.00	22770	12.12	27420	12.24	32740	12.38	38810	12.56	45400
	68	-	-	-	-	-	-	12350	14.11	15280	14.26	18710	14.39	22690	14.51	27290	14.64	32580	14.80	38000
PSH034-4	20	12690	5.57	20070	5.82	24860	5.97	30460	6.14	36960	6.33	44430	6.52	52940	6.72	-	-	-	-	-
	30	11140	6.83	18060	6.99	22470	7.12	27620	7.28	33580	7.45	40410	7.65	48200	7.86	57020	8.08	66940	8.30	75000
	40	9560	8.55	15910	8.59	19900	8.67	24530	8.78	29880	8.93	36020	9.10	43030	9.30	50970	9.52	59930	9.76	68000
	50	7930	10.91	13580	10.77	17080	10.78	21140	10.83	25830	10.92	31220	11.05	37380	11.22	44400	11.42	52330	11.64	60000
	60	-	-	11030	13.70	14000	13.61	17430	13.58	21390	13.60	25970	13.66	31230	13.77	37250	13.92	44110	14.11	51000
	68	-	-	-	-	-	-	14190	16.39	17540	16.34	21420	16.33	25920	16.38	31110	16.48	37060	16.62	43000
PSH039-4	20	14480	6.13	22290	6.48	27420	6.70	33450	6.95	40450	7.26	48500	7.63	57660	8.07	-	-	-	-	-
	30	12950	7.46	20350	7.81	25110	8.01	30690	8.24	37140	8.51	44530	8.83	52930	9.21	62420	9.66	73050	10.20	82000
	40	11290	9.13	18110	9.48	22440	9.67	27480	9.87	33300	10.10	39960	10.38	47530	10.70	56090	11.08	65690	11.54	74000
	50	9450	11.31	15540	11.69	19350	11.86	23780	12.04	28880	12.24	34730	12.47	41400	12.73	48940	13.05	57440	13.43	65000
	60	-	-	12560	14.60	15790	14.77	19520	14.93	23830	15.10	28790	15.28	34470	15.50	40920	15.75	48230	16.05	55000
	68	-	-	-	-	-	-	15680	17.89	19300	18.03	23490	18.19	28320	18.36	33850	18.56	40150	18.80	47000

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Pe: Power input in [kW]

Qo: Cooling capacity in [W]

Subcooling: 4 K

Superheat: 5 K

Frequency: 50 Hz

Subject to modification without prior notification

# Technical data and ordering

## PSH - Scroll compressors heating optimized - R410A - 50 Hz

### Heating performance table - Heating optimized

Type	Te	-30		-20		-15		-10		-5		0		5		10		15	
		Tc	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H
PSH019-4	20	10370	3.48	14580	3.59	17310	3.66	20520	3.75	24270	3.87	28600	4.03	33560	4.23	-	-	-	-
	30	10240	4.26	14240	4.36	16790	4.41	19760	4.48	23210	4.57	27190	4.68	31750	4.83	36940	5.02	42800	5.27
	40	10250	5.25	13950	5.36	16270	5.40	18960	5.44	22070	5.50	25660	5.58	29780	5.68	34470	5.81	39780	5.99
	50	10470	6.52	13790	6.65	15830	6.68	18200	6.72	20930	6.75	24090	6.79	27720	6.86	31870	6.94	36580	7.06
	60	-	-	13840	8.31	15570	8.35	17560	8.37	19880	8.39	22560	8.41	25650	8.44	29220	8.48	33290	8.55
	68	-	-	-	-	-	-	17200	10.03	19140	10.04	21410	10.04	24050	10.04	27120	10.06	30650	10.09
PSH023-4	20	12500	4.08	17520	4.38	20710	4.52	24380	4.61	28570	4.64	33300	4.58	38590	4.42	-	-	-	-
	30	12200	4.91	16920	5.13	19950	5.29	23450	5.44	27460	5.57	32010	5.66	37120	5.67	42810	5.60	49130	5.41
	40	12230	6.15	16410	6.14	19150	6.25	22370	6.39	26080	6.55	30320	6.70	35110	6.83	40490	6.90	46470	6.90
	50	12790	8.01	16180	7.63	18520	7.61	21320	7.67	24610	7.78	28420	7.93	32780	8.09	37710	8.24	43250	8.36
	60	-	-	16440	9.82	18250	9.60	20510	9.50	23260	9.50	26520	9.57	30310	9.69	34680	9.84	39640	10.00
	68	-	-	-	-	-	-	20170	11.50	22390	11.35	25120	11.31	28380	11.35	32210	11.45	36620	11.59
PSH026-4	20	13880	4.47	19720	4.64	23540	4.76	28060	4.93	33340	5.14	39450	5.41	46450	5.74	-	-	-	-
	30	13750	5.49	19230	5.61	22760	5.69	26910	5.81	31740	5.97	37330	6.17	43730	6.44	51020	6.77	59260	7.18
	40	13840	6.82	18840	6.90	22020	6.95	25750	7.02	30080	7.13	35080	7.28	40830	7.47	47390	7.73	54830	8.05
	50	14250	8.55	18660	8.60	21430	8.63	24670	8.67	28440	8.73	32810	8.82	37850	8.95	43620	9.14	50190	9.38
	60	-	-	18780	10.82	21090	10.82	23790	10.83	26940	10.85	30620	10.90	34880	10.97	39810	11.09	45460	11.26
	68	-	-	-	-	-	-	23280	13.01	25900	13.00	28980	13.01	32590	13.05	36800	13.12	41670	13.23
PSH030-4	20	16270	5.02	22820	5.23	27050	5.34	32010	5.49	37790	5.67	44460	5.90	52110	6.19	-	-	-	-
	30	15980	6.05	22190	6.28	26110	6.38	30680	6.50	35980	6.64	42090	6.81	49080	7.03	57030	7.32	66020	7.69
	40	15890	7.35	21660	7.63	25230	7.74	29370	7.85	34150	7.96	39650	8.10	45940	8.27	53110	8.49	61230	8.77
	50	16060	8.98	21310	9.36	24490	9.50	28150	9.61	32360	9.72	37210	9.84	42760	9.98	49100	10.15	56300	10.37
	60	-	-	21200	11.56	23950	11.74	27080	11.88	30680	12.00	34830	12.12	39600	12.24	45060	12.38	51300	12.56
	68	-	-	-	-	-	-	26380	14.11	29460	14.26	33020	14.39	37120	14.51	41860	14.64	47300	14.80
PSH034-4	20	17960	5.57	25580	5.82	30500	5.97	36270	6.14	42950	6.33	50600	6.52	59300	6.72	-	-	-	-
	30	17600	6.83	24670	6.99	29210	7.12	34510	7.28	40630	7.45	47650	7.65	55630	7.86	64660	8.08	74790	8.30
	40	17660	8.55	24030	8.59	28090	8.67	32840	8.78	38330	8.93	44630	9.10	51830	9.30	59980	9.52	69160	9.76
	50	18250	10.91	23760	10.77	27280	10.78	31390	10.83	36160	10.92	41680	11.05	48000	11.22	55200	11.42	63340	11.64
	60	-	-	23990	13.70	26870	13.61	30270	13.58	34250	13.60	38900	13.66	44260	13.77	50430	13.92	57460	14.11
	68	-	-	-	-	-	-	29700	16.39	32990	16.34	36880	16.33	41420	16.38	46700	16.48	52780	16.62
PSH039-4	20	20570	6.13	28720	6.48	34060	6.70	40340	6.95	47650	7.26	56060	7.63	65660	8.07	-	-	-	-
	30	20350	7.46	28090	7.81	33060	8.01	38860	8.24	45570	8.51	53280	8.83	62070	9.21	72000	9.66	83170	10.20
	40	20340	9.13	27520	9.48	32030	9.67	37280	9.87	43320	10.10	50250	10.38	58150	10.70	67080	11.08	77140	11.54
	50	20670	11.31	27130	11.69	31120	11.86	35720	12.04	41020	12.24	47100	12.47	54030	12.73	61880	13.05	70750	13.43
	60	-	-	27040	14.60	30440	14.77	34330	14.93	38810	15.10	43950	15.28	49840	15.50	56540	15.75	64150	16.05
	68	-	-	-	-	-	-	33420	17.89	37190	18.03	41530	18.19	46520	18.36	52250	18.56	58790	18.80

**To:** Evaporating temperature in [°C]

**Tc:** Condensing temperature in [°C]

**Pe:** Power input in [kW]

**H:** Heating capacity in [W]

**Subcooling:** 4 K

**Superheat:** 5 K

**Frequency:** 50 Hz

Subject to modification without prior notification

# Technical data and ordering

## PSH - Scroll compressors heating optimized - R410A - 50 Hz

### Cooling performance table - Heating optimized

Type	Tc	-30		-20		-10		-5		0		5		10		15		20	
	Te	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe
PSH051-4	20	19440	8.76	30420	9.74	45380	11.13	54580	12.02	65060	13.07	76910	14.28	-	-	-	-	-	-
	30	17380	10.34	27520	11.24	41210	12.48	49620	13.26	59200	14.19	70060	15.27	82270	16.52	95950	17.96	-	-
	40	15160	12.37	24440	13.22	36850	14.34	44470	15.05	53150	15.87	63000	16.83	74100	17.94	86560	19.23	100470	20.70
	50	12680	14.92	21080	15.76	32190	16.80	39000	17.44	46780	18.18	55610	19.03	65600	20.03	76830	21.17	89410	22.50
	60	-	-	17310	18.93	27110	19.92	33110	20.51	39970	21.19	47780	21.96	56640	22.85	66640	23.88	77880	25.10
	68	-	-	-	-	22660	22.95	28010	23.52	34120	24.15	41110	24.87	49060	25.69	58070	26.64	-	-
PSH064-4	20	24450	11.18	38160	12.35	57180	13.98	69030	15.06	82630	16.34	98110	17.88	-	-	-	-	-	-
	30	21960	13.06	34460	14.24	51610	15.70	62280	16.63	74530	17.72	88500	19.02	104340	20.56	122190	22.36	-	-
	40	19170	15.36	30520	16.66	45870	18.07	55390	18.89	66330	19.85	78830	20.97	93020	22.28	109060	23.83	127090	25.60
	50	15900	18.13	26180	19.65	39780	21.11	48190	21.90	57850	22.77	68910	23.77	81500	24.91	95770	26.24	111850	27.80
	60	-	-	21260	23.25	33190	24.87	40520	25.68	48930	26.53	58580	27.45	69600	28.48	82130	29.66	96310	31.00
	68	-	-	-	-	27440	28.43	33920	29.29	41370	30.16	49910	31.06	59690	32.04	70860	33.13	-	-
PSH077-4	20	30220	13.72	46750	15.15	69640	17.37	83940	18.81	100370	20.46	119130	22.34	-	-	-	-	-	-
	30	27030	15.93	42390	17.20	63380	19.21	76450	20.51	91480	22.02	108660	23.74	128180	25.68	150210	27.85	-	-
	40	23650	18.81	37630	19.97	56520	21.81	68280	23.00	81810	24.38	97310	25.97	114970	27.76	134960	29.76	157480	32.00
	50	20030	22.53	32430	23.63	49030	25.34	59370	26.44	71310	27.73	85040	29.19	100740	30.85	118590	32.71	138790	34.80
	60	-	-	26740	28.33	40860	29.96	49680	31.00	59920	32.21	71780	33.59	85420	35.14	101050	36.88	118830	38.80
	68	-	-	-	-	33790	34.56	41330	35.57	50150	36.73	60430	38.05	72370	39.53	86130	41.19	-	-

To: Evaporating temperature in [°C]  
Tc: Condensing temperature in [°C]  
Pe: Power input in [kW]  
Qo: Cooling capacity in [W]  
Subcooling: 5 K  
Superheat: 5 K  
Frequency: 50 Hz

## PSH - Scroll compressors heating optimized - R410A - 50 Hz

### Heating performance - Heating optimized

Type	Tc	-30		-20		-10		-5		0		5		10		15		20	
	Te	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe
PSH051-4	20	28200	8.76	40160	9.74	56500	11.13	66600	12.02	78120	13.07	91190	14.28	-	-	-	-	-	-
	30	27720	10.34	38750	11.24	53680	12.48	62880	13.26	73400	14.19	85330	15.27	98790	16.52	113910	17.96	-	-
	40	27530	12.37	37660	13.22	51190	14.34	59510	15.05	69020	15.87	79830	16.83	92050	17.94	105790	19.23	121160	20.70
	50	27600	14.92	36840	15.76	48990	16.80	56440	17.44	64950	18.18	74640	19.03	85620	20.03	98000	21.17	111900	22.50
	60	-	-	36240	18.93	47030	19.92	53620	20.51	61150	21.19	69730	21.96	79490	22.85	90520	23.88	102930	25.10
	68	-	-	-	-	45620	22.95	51520	23.52	58270	24.15	65980	24.87	74750	25.69	84710	26.64	-	-
PSH064-4	20	35230	11.18	50070	12.35	70660	13.98	83550	15.06	98380	16.34	115340	17.88	-	-	-	-	-	-
	30	34550	13.06	48190	14.24	66750	15.70	78300	16.63	91610	17.72	106840	19.02	124160	20.56	143750	22.36	-	-
	40	33970	15.36	46580	16.66	63280	18.07	73600	18.89	85460	19.85	99040	20.97	114510	22.28	132030	23.83	151790	25.60
	50	33380	18.13	45120	19.65	60130	21.11	69300	21.90	79800	22.77	91820	23.77	105510	24.91	121070	26.24	138640	27.80
	60	-	-	43670	23.25	57170	24.87	65270	25.68	74510	26.53	85040	27.45	97050	28.48	110720	29.66	126200	31.00
	68	-	-	-	-	54850	28.43	62160	29.29	70440	30.16	79850	31.06	90580	32.04	102790	33.13	-	-
PSH077-4	20	43550	13.72	61470	15.15	86530	17.37	102210	18.81	120260	20.46	140850	22.34	-	-	-	-	-	-
	30	42520	15.93	59110	17.20	82050	19.21	96380	20.51	112880	22.02	131740	23.74	153140	25.68	177280	27.85	-	-
	40	41940	18.81	57040	19.97	77720	21.81	90630	23.00	105510	24.38	122550	25.97	141950	27.76	163890	29.76	188570	32.00
	50	41930	22.53	55400	23.63	73660	25.34	85070	26.44	98260	27.73	113410	29.19	130730	30.85	150390	32.71	172600	34.80
	60	-	-	54280	28.33	69980	29.96	79810	31.00	91230	32.21	104420	33.59	119580	35.14	136890	36.88	156550	38.80
	68	-	-	-	-	67380	34.56	75900	35.57	85850	36.73	97420	38.05	110790	39.53	126170	41.19	-	-

To: Evaporating temperature in [°C]  
Tc: Condensing temperature in [°C]  
Pe: Power input in [kW]  
H: Heating capacity in [W]  
Subcooling: 5 K  
Superheat: 5 K  
Frequency: 50 Hz

# Technical data and ordering

## PSH - Scroll compressors heating optimized - R410A - 60 Hz

### Cooling performance table - Heating optimized

Tipo	Te	-30			-20			-15			-10			-5			0		5		10		15		
	Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe		
PSH019-4	20	8700	4.00	13620	4.35	16810	4.49	20550	4.62	24900	4.74	29910	4.85	35620	4.98	-	-	-	-	-	-	-	-	-	-
	30	7720	4.89	12350	5.29	15320	5.46	18780	5.61	22790	5.74	27400	5.88	32650	6.02	38610	6.17	45310	6.34	53160	6.59	61330	6.85	69270	7.11
	40	6700	5.82	10950	6.26	13640	6.44	16770	6.61	20390	6.76	24550	6.91	29310	7.06	34700	7.22	40780	7.39	48060	8.62	55240	9.59	62160	11.17
	50	5620	7.00	9400	7.46	11760	7.65	14510	7.83	17700	7.99	21360	8.14	25560	8.30	30350	8.46	35760	8.63	42350	10.03	48420	11.09	54460	12.80
	60	-	-	7670	9.09	9660	9.29	11980	9.47	14680	9.63	17800	9.78	21410	9.94	25530	10.10	30230	10.27	35760	11.99	41780	13.29	48420	11.09
	68	-	-	-	-	-	-	9750	11.22	12020	11.38	14680	11.53	17770	11.68	21330	11.83	25430	11.99	-	-	-	-	-	-
PSH023-4	20	10290	4.81	16020	5.02	19740	5.16	24110	5.33	29180	5.54	35020	5.79	41670	6.10	-	-	-	-	-	-	-	-	-	-
	30	9210	5.80	14640	6.00	18110	6.12	22160	6.27	26850	6.45	32230	6.67	38370	6.92	45330	7.23	53160	7.59	61330	6.85	69270	7.11	77180	7.43
	40	8080	7.02	13090	7.23	16250	7.35	19930	7.48	24170	7.64	29050	7.82	34620	8.04	40930	8.31	48060	8.62	55240	9.59	62160	11.17	70070	11.77
	50	6860	8.54	11340	8.78	14130	8.90	17370	9.03	21120	9.18	25430	9.34	30370	9.54	35990	9.76	42350	10.03	48420	11.09	54460	12.80	60570	13.29
	60	-	-	9350	10.72	11720	10.86	14470	11.00	17660	11.14	21350	11.30	25600	11.48	30460	11.68	36000	11.91	42350	10.03	48420	11.09	54460	12.80
	68	-	-	-	-	-	-	11880	12.92	14580	13.07	17730	13.23	21390	13.40	25600	13.59	30450	13.81	36000	11.91	42350	10.03	48420	11.09
PSH026-4	20	11670	5.40	18260	5.67	22560	5.83	27620	6.03	33510	6.27	40300	6.57	48050	6.94	-	-	-	-	-	-	-	-	-	-
	30	10400	6.52	16610	6.75	20610	6.88	25290	7.04	30730	7.23	36980	7.47	44120	7.76	52210	8.13	61330	8.57	69270	7.11	77180	7.43	85130	8.87
	40	9050	7.95	14750	8.17	18370	8.28	22610	8.40	27510	8.55	33160	8.73	39620	8.95	46960	9.24	55240	9.59	62160	11.17	70070	11.77	85130	8.87
	50	7600	9.80	12650	10.02	15830	10.11	19540	10.20	23850	10.31	28830	10.44	34540	10.61	41050	10.82	48420	11.09	54460	12.80	60570	13.29	70070	11.77
	60	-	-	10290	12.38	12960	12.46	16090	12.54	19730	12.61	23960	12.70	28850	12.81	34460	12.96	40860	13.16	48420	11.09	54460	12.80	60570	13.29
	68	-	-	-	-	-	-	13030	14.84	16090	14.90	19670	14.96	23860	15.03	28700	15.14	34270	15.28	40860	13.16	48420	11.09	54460	12.80
PSH030-4	20	13780	5.98	21300	6.25	26190	6.44	31920	6.71	38570	7.06	46210	7.51	54930	8.08	-	-	-	-	-	-	-	-	-	-
	30	12240	7.26	19280	7.48	23780	7.63	29040	7.83	35130	8.09	42120	8.44	50090	8.89	59120	9.45	69270	10.15	77180	7.43	85130	8.87	10110	11.17
	40	10670	8.85	17110	9.06	21170	9.18	25910	9.34	31380	9.54	37670	9.81	44840	10.16	52980	10.61	62160	11.17	70070	11.77	85130	8.87	10110	11.17
	50	8990	10.84	14720	11.09	18300	11.21	22460	11.34	27260	11.50	32790	11.71	39120	11.99	46320	12.35	54460	12.80	60570	13.29	70070	11.77	85130	8.87
	60	-	-	12070	13.65	15110	13.79	18630	13.92	22710	14.07	27430	14.24	32850	14.47	39050	14.75	46120	15.12	53160	7.59	61330	6.85	69270	7.11
	68	-	-	-	-	-	-	15250	16.46	18710	16.61	22740	16.78	27400	16.97	32770	17.22	38930	17.53	45460	12.80	53160	7.59	61330	6.85
PSH034-4	20	15400	6.67	23950	6.99	29530	7.24	36080	7.57	43680	7.99	52430	8.53	62400	9.20	-	-	-	-	-	-	-	-	-	-
	30	13590	8.16	21680	8.39	26860	8.57	32900	8.81	39900	9.14	47920	9.56	57060	10.09	67400	10.76	79020	11.57	88360	12.41	99760	13.52	11150	12.41
	40	11800	10.03	19260	10.21	23960	10.34	29420	10.51	35720	10.75	42950	11.07	51180	11.49	60500	12.02	70990	12.68	79020	11.57	88360	12.41	99760	13.52
	50	9910	12.43	16590	12.60	20730	12.69	25530	12.81	31060	12.98	37410	13.22	44650	13.54	52870	13.95	62160	14.48	70070	11.77	85130	8.87	10110	11.17
	60	-	-	13580	15.70	17090	15.77	21140	15.86	25820	15.98	31210	16.15	37380	16.38	44430	16.69	52440	17.10	60570	13.29	70070	11.77	85130	8.87
	68	-	-	-	-	-	-	17220	18.94	21160	19.03	25720	19.15	30980	19.33	37030	19.57	43950	19.90	51180	11.07	57060	10.09	64060	11.19
PSH039-4	20	17880	7.41	27450	7.90	33630	8.20	40880	8.54	49280	8.94	58930	9.41	69930	9.97	-	-	-	-	-	-	-	-	-	-
	30	15910	8.92	24920	9.39	30660	9.66	37350	9.96	45080	10.31	53950	10.71	64060	11.19	75500	11.75	88360	12.41	99760	13.52	11150	12.41	12500	12.41
	40	13830	10.84	22120	11.31	27330	11.56	33370	11.84	40350	12.14	48360	12.49	57490	12.90	67840	13.39	79510	13.95	88360	12.41	99760	13.52	11150	12.41
	50	11600	13.27	18990	13.78	23580	14.02	28900	14.28	35040	14.56	42100	14.87	50160	15.23	59340	15.64	69720	16.12	79020	11.57	88360	12.41	99760	13.52
	60	-	-	15480	16.89	19370	17.15	23880	17.40	29100	17.67	35120	17.95	42040	18.27	49960	18.63	58970	19.04	67400	10.09	67400	10.76	77180	7.43
	68	-	-	-	-	-	-	19440	20.47	23850	20.73	28980	21.00	34930	21.29	41780	21.62	49630	21.99	57490	12.90	64060	11.19	75500	11.75

Te: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Pe: Power input in [kW]

Qo: Cooling capacity in [W]

Subcooling: 4 K

Superheat: 5 K

Frequency: 60 Hz

Subject to modification without prior notification

# Technical data and ordering

## PSH - Scroll compressors heating optimized - R410A - 60 Hz

### Heating performance table - Heating optimized

Type	Te	-30		-20		-15		-10		-5		0		5		10		15	
		Tc	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H
PSH019-4	20	12490	4.00	17740	4.35	21070	4.49	24930	4.62	29400	4.74	34520	4.85	40340	4.98	-	-	-	-
	30	12360	4.89	17370	5.29	20490	5.46	24100	5.61	28240	5.74	32980	5.88	38360	6.02	44460	6.17	51320	6.34
	40	12230	5.82	16890	6.26	19760	6.44	23040	6.61	26810	6.76	31110	6.91	36000	7.06	41550	7.22	47790	7.39
	50	12260	7.00	16480	7.46	19020	7.65	21940	7.83	25270	7.99	29090	8.14	33430	8.30	38370	8.46	43950	8.63
	60	-	-	16290	9.09	18470	9.29	20960	9.47	23820	9.63	27090	9.78	30830	9.94	35110	10.10	39980	10.27
	68	-	-	-	-	-	-	20390	11.22	22820	11.38	25620	11.53	28850	11.68	32560	11.83	36810	11.99
PSH023-4	20	14880	4.81	20810	5.02	24660	5.16	29190	5.33	34460	5.54	40540	5.79	47480	6.10	-	-	-	-
	30	14740	5.80	20360	6.00	23950	6.12	28140	6.27	33000	6.45	38590	6.67	44970	6.92	52220	7.23	60400	7.59
	40	14770	7.02	19980	7.23	23260	7.35	27060	7.48	31450	7.64	36510	7.82	42290	8.04	48850	8.31	56270	8.62
	50	15000	8.54	19710	8.78	22620	8.90	25980	9.03	29870	9.18	34340	9.34	39460	9.54	45300	9.76	51910	10.03
	60	-	-	19580	10.72	22070	10.86	24960	11.00	28280	11.14	32120	11.30	36540	11.48	41600	11.68	47360	11.91
	68	-	-	-	-	-	-	24190	12.92	27040	13.07	30340	13.23	34160	13.40	38560	13.59	43610	13.81
PSH026-4	20	16920	5.40	23770	5.67	28230	5.83	33480	6.03	39610	6.27	46690	6.57	54810	6.94	-	-	-	-
	30	16730	6.52	23180	6.75	27310	6.88	32140	7.04	37760	7.23	44240	7.47	51670	7.76	60120	8.13	69670	8.57
	40	16780	7.95	22700	8.17	26430	8.28	30780	8.40	35830	8.55	41650	8.73	48330	8.95	55940	9.24	64570	9.59
	50	17130	9.80	22400	10.02	25670	10.11	29470	10.20	33880	10.31	38980	10.44	44850	10.61	51570	10.82	59210	11.09
	60	-	-	22340	12.38	25090	12.46	28280	12.54	32000	12.61	36320	12.70	41310	12.81	47070	12.96	53660	13.16
	68	-	-	-	-	-	-	27460	14.84	30580	14.90	34220	14.96	38480	15.03	43420	15.14	49130	15.28
PSH030-4	20	19410	5.98	27180	6.25	32250	6.44	38240	6.71	45220	7.06	53290	7.51	62540	8.08	-	-	-	-
	30	19080	7.26	26320	7.48	30960	7.63	36410	7.83	42750	8.09	50070	8.44	58460	8.89	68020	9.45	78830	10.15
	40	19000	8.85	25640	9.06	29820	9.18	34700	9.34	40370	9.54	46910	9.81	54410	10.16	62970	10.61	72680	11.17
	50	19190	10.84	25170	11.09	28860	11.21	33140	11.34	38100	11.50	43820	11.71	50410	11.99	57940	12.35	66520	12.80
	60	-	-	24920	13.65	28090	13.79	31740	13.92	35960	14.07	40840	14.24	46470	14.47	52950	14.75	60350	15.12
	68	-	-	-	-	-	-	30750	16.46	34360	16.61	38540	16.78	43390	16.97	48990	17.22	55440	17.53
PSH034-4	20	21570	6.67	30420	6.99	36220	7.24	43070	7.57	51070	7.99	60320	8.53	70910	9.20	-	-	-	-
	30	21140	8.16	29440	8.39	34780	8.57	41050	8.81	48350	9.14	56760	9.56	66400	10.09	77350	10.76	89720	11.57
	40	21070	10.03	28700	10.21	33520	10.34	39140	10.51	45660	10.75	53180	11.07	61800	11.49	71610	12.02	82720	12.68
	50	21410	12.43	28230	12.60	32470	12.69	37380	12.81	43070	12.98	49630	13.22	57170	13.54	65770	13.95	75550	14.48
	60	-	-	28090	15.70	31680	15.77	35810	15.86	40600	15.98	46140	16.15	52530	16.38	59870	16.69	68250	17.10
	68	-	-	-	-	-	-	34730	18.94	38760	19.03	43430	19.15	48860	19.33	55130	19.57	62350	19.90
PSH039-4	20	25070	7.41	35120	7.90	41590	8.20	49160	8.54	57950	8.94	68060	9.41	79600	9.97	-	-	-	-
	30	24560	8.92	34040	9.39	40030	9.66	47010	9.96	55080	10.31	64350	10.71	74920	11.19	86900	11.75	100400	12.41
	40	24340	10.84	33100	11.31	38550	11.56	44850	11.84	52130	12.14	60480	12.49	70010	12.90	80830	13.39	93040	13.95
	50	24470	13.27	32360	13.78	37190	14.02	42750	14.28	49160	14.56	56520	14.87	64940	15.23	74520	15.64	85370	16.12
	60	-	-	31870	16.89	36010	17.15	40770	17.40	46240	17.67	52530	17.95	59760	18.27	68030	18.63	77450	19.04
	68	-	-	-	-	-	-	39290	20.47	43960	20.73	49360	21.00	55580	21.29	62750	21.62	70970	21.99

To: Evaporating temperature in [°C]

Tc: Condensing temperature in [°C]

Pe: Power input in [kW]

H: Heating capacity in [W]

Subcooling: 4 K

Superheat: 5 K

Frequency: 60 Hz

Subject to modification without prior notification

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# Technical data and ordering

## PSH - Scroll compressors heating optimized - R410A - 60 Hz

### Cooling performance table - Heating optimized

Type	Te	-30		-20		-10		-5		0		5		10		15		20	
		Tc	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo	Pe	Qo
PSH051-4	20	23350	10.52	36540	11.69	54500	13.36	65550	14.43	78130	15.69	92360	17.15	-	-	-	-	-	-
	30	20870	12.42	33050	13.50	49490	14.98	59590	15.93	71100	17.04	84140	18.34	98810	19.84	115230	21.57	-	-
	40	18210	14.86	29350	15.88	44260	17.22	53400	18.07	63830	19.06	75660	20.21	89000	21.55	103960	23.09	120660	24.90
	50	15230	17.92	25310	18.93	38660	20.18	46840	20.94	56180	21.83	66790	22.86	78780	24.05	92270	25.43	107380	27.00
	60	-	-	20790	22.73	32560	23.93	39760	24.64	48000	25.44	57380	26.37	68020	27.44	80030	28.68	93530	30.10
	68	-	-	-	-	27220	27.57	33630	28.24	40980	29.00	49370	29.87	58920	30.86	69740	31.99	-	-
PSH064-4	20	29360	13.43	45840	14.84	68680	16.80	82910	18.08	99240	19.63	117830	21.47	-	-	-	-	-	-
	30	26370	15.68	41390	17.10	61980	18.86	74800	19.97	89510	21.28	106290	22.84	125320	24.69	146750	26.86	-	-
	40	23020	18.45	36650	20.01	55080	21.70	66520	22.69	79660	23.84	94670	25.18	111720	26.76	130990	28.61	152630	30.80
	50	19100	21.77	31440	23.60	47780	25.35	57870	26.30	69480	27.35	82760	28.55	97880	29.92	115020	31.52	134340	33.40
	60	-	-	25530	27.92	39860	29.87	48660	30.84	58770	31.86	70350	32.97	83590	34.21	98640	35.62	115670	37.20
	68	-	-	-	-	32960	34.15	40740	35.18	49680	36.22	59940	37.31	71690	38.49	85100	39.79	-	-
PSH077-4	20	36260	16.46	56100	18.18	83570	20.85	100720	22.57	120440	24.55	142960	26.81	-	-	-	-	-	-
	30	32440	19.12	50860	20.64	76050	23.05	91740	24.61	109780	26.42	130400	28.48	153810	30.82	180250	33.42	-	-
	40	28390	22.58	45160	23.97	67830	26.17	81930	27.60	98170	29.26	116780	31.16	137960	33.31	161960	35.71	188970	38.40
	50	24040	27.04	38920	28.35	58840	30.40	71240	31.73	85570	33.27	102040	35.03	120880	37.02	142310	39.26	166550	41.70
	60	-	-	32090	33.99	49030	35.95	59610	37.20	71910	38.65	86130	40.30	102510	42.17	121260	44.25	142600	46.60
	68	-	-	-	-	40540	41.47	49590	42.68	60180	44.08	72520	45.66	86840	47.44	103360	49.43	-	-

**To:** Evaporating temperature in [°C]  
**Tc:** Condensing temperature in [°C]  
**Pe:** Power input in [kW]  
**Qo:** Cooling capacity in [W]  
**Subcooling:** 5 K  
**Superheat:** 5 K  
**Frequency:** 60 Hz

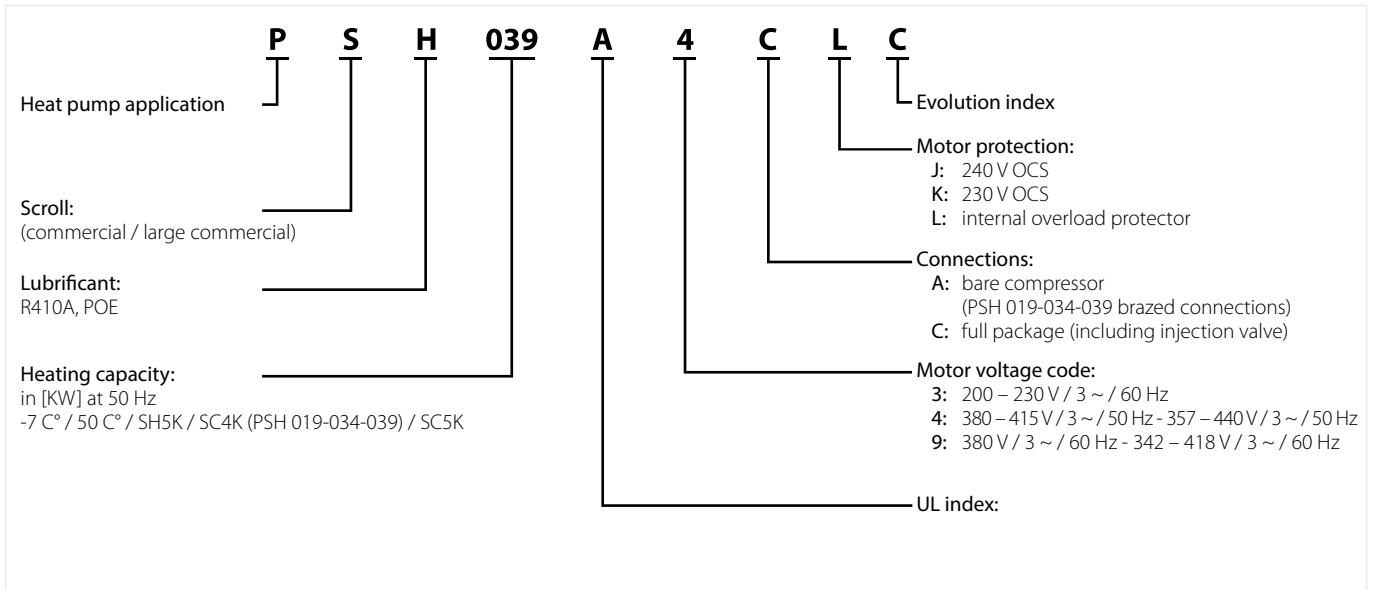
## PSH - Scroll compressors heating optimized - R410A - 60 Hz

### Heating performance - Heating optimized

Type	Te	-30		-20		-10		-5		0		5		10		15		20	
		Tc	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H	Pe	H
PSH051-4	20	33870	10.52	48230	11.69	67860	13.36	79980	14.43	93820	15.69	109520	17.15	-	-	-	-	-	-
	30	33290	12.42	46540	13.50	64470	14.98	75520	15.93	88150	17.04	102480	18.34	118650	19.84	136800	21.57	-	-
	40	33070	14.86	45230	15.88	61480	17.22	71470	18.07	82890	19.06	95870	20.21	110550	21.55	127050	23.09	145520	24.90
	50	33140	17.92	44240	18.93	58840	20.18	67780	20.94	78010	21.83	89650	22.86	102830	24.05	117700	25.43	134390	27.00
	60	-	-	43520	22.73	56490	23.93	64400	24.64	73440	25.44	83750	26.37	95460	27.44	108710	28.68	123620	30.10
	68	-	-	-	-	54790	27.57	61880	28.24	69980	29.00	79240	29.87	89780	30.86	101730	31.99	-	-
PSH064-4	20	42310	13.43	60140	14.84	84870	16.80	100340	18.08	118160	19.63	138530	21.47	-	-	-	-	-	-
	30	41490	15.68	57870	17.10	80160	18.86	94040	19.97	110020	21.28	128310	22.84	149110	24.69	172640	26.86	-	-
	40	40800	18.45	55940	20.01	76000	21.70	88390	22.69	102640	23.84	118950	25.18	137520	26.76	158570	28.61	182300	30.80
	50	40080	21.77	54180	23.60	72220	25.35	83230	26.30	95840	27.35	110270	28.55	126720	29.92	145400	31.52	166510	33.40
	60	-	-	52450	27.92	68660	29.87	78390	30.84	89480	31.86	102140	32.97	116560	34.21	132970	35.62	151570	37.20
	68	-	-	-	-	65880	34.15	74660	35.18	84600	36.22	95900	37.31	108790	38.49	123460	39.79	-	-
PSH077-4	20	52130	16.46	73620	18.18	103670	20.85	122480	22.57	144110	24.55	168800	26.81	-	-	-	-	-	-
	30	50870	19.12	70760	20.64	98270	23.05	115460	24.61	135250	26.42	157850	28.48	183520	30.82	212470	33.42	-	-
	40	50150	22.58	68260	23.97	93060	26.17	108540	27.60	126380	29.26	146810	31.16	170070	33.31	196380	35.71	225970	38.40
	50	50100	27.04	66250	28.35	88150	30.40	101830	31.73	117640	33.27	135810	35.03	156570	37.02	180150	39.26	206780	41.70
	60	-	-	64860	33.99	83680	35.95	95480	37.20	109170	38.65	124990	40.30	143160	42.17	163920	44.25	187490	46.60
	68	-	-	-	-	80520	41.47	90740	42.68	102670	44.08	116540	45.66	132570	47.44	151010	49.43	-	-

**To:** Evaporating temperature in [°C]  
**Tc:** Condensing temperature in [°C]  
**Pe:** Power input in [kW]  
**H:** Heating capacity in [W]  
**Subcooling:** 5 K  
**Superheat:** 5 K  
**Frequency:** 60 Hz

# Nomenclature



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