

ENGINEERING
TOMORROW

Danfoss

Quick reference

Danfoss scroll compressors **SH series**

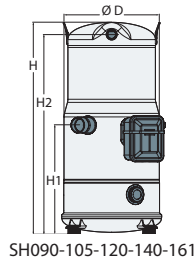
R410A - 60 Hz



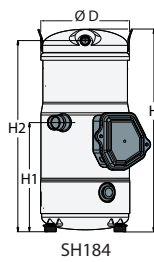
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Quick reference

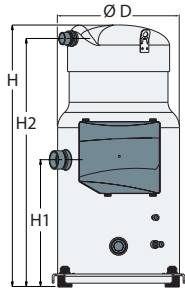
Product range single compressors



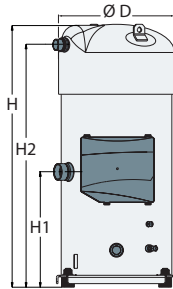
SH090-105-120-140-161



SH184



SH180-240-295



SH380-485

Model	D	H	H1	H2
SH090	243	482	235	451
SH105	243	540	278	509
SH120	243	540	278	509
SH140	243	540	278	509
SH161	243	540	278	509
SH184	243	555	300	525
SH180	318	683	331	648
SH240	318	683	331	648
SH295	318	683	331	648
SH380	333	755	331	697
SH485	333	755	331	697

All dimensions in mm

Motor voltage code	Code 3	Code 4	Code 7	Code 9
Nominal voltage	200-230V - 3 ph	460V - 3 ph	575V - 3 ph	380V - 3ph
Voltage range	180 - 253V	415 - 506V	517- 632 V	342 - 418 V

Technical specifications

Model	Nominal tons 60 Hz	Nominal cooling capacity		Power input	COP	E.E.R.	Swept volume	Displacement ①	Oil charge	Net weight ②
	TR	W	Btu/h	kW	W/W	Btu/h/W	cm ³ /rev	m ³ /h	dm ³	kg
SH090	7.5	27100	92500	8.57	3.16	10.78	88.40	18.60	3.0	58.0
SH105	9	32100	109600	9.96	3.22	10.99	103.50	21.80	3.3	64.0
SH120	10	36800	125600	11.25	3.27	11.16	116.90	24.60	3.3	64.0
SH140	12	42300	144400	12.77	3.31	11.30	133.00	27.90	3.3	67.0
SH161	13	47200	161100	14.43	3.27	11.16	151.70	31.90	3.3	69.0
SH184	15	54000	184300	16.45	3.28	11.19	170.30	35.80	3.6	71.5
SH180	15	54300	185300	16.58	3.27	11.16	170.20	35.70	6.7	108.0
SH240	20	72200	246400	22.10	3.27	11.16	227.60	47.80	6.7	108.0
SH295	25	88500	302000	27.21	3.25	11.09	276.20	58.00	6.7	111.0
SH380	30	109600	374100	33.99	3.22	10.99	345.00	72.30	6.7	159.0
SH485	40	140600	479900	43.28	3.25	11.09	442.60	92.90	6.7	175.0

① Displacement at nominal speed: 3500 rpm at 60 Hz

② Net weight with oil charge

TR: Ton of Refrigeration,
EER: Energy Efficiency Ratio
COP: Coefficient Of Performance,

Standard rating conditions: ARI standard
Refrigerant: R410A

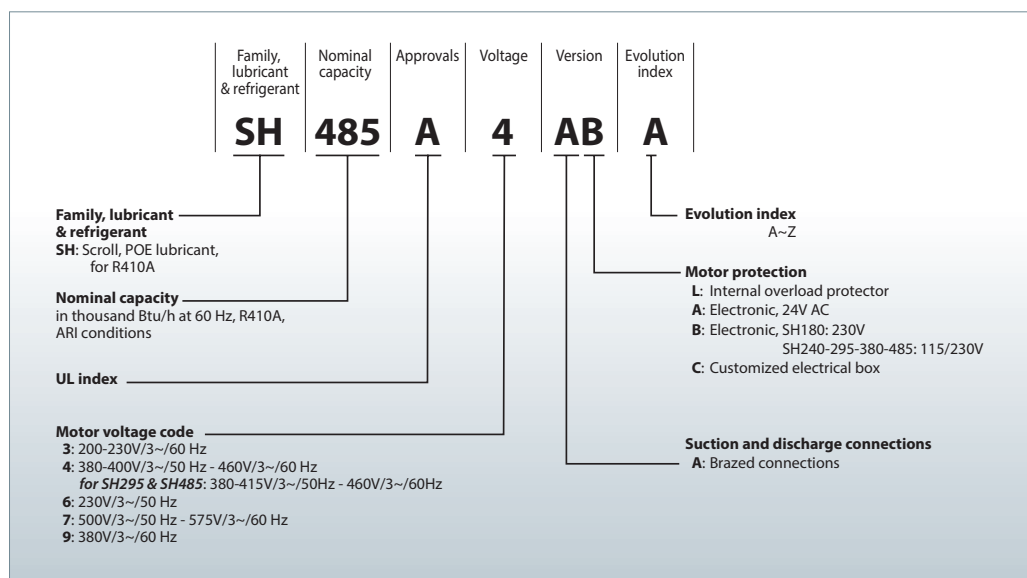
Evaporating temperature: 7.2 °C
Condensing temperature: 54.4 °C

Superheat: 11.1 K
Subcooling: 8.3 K

Subject to modification without prior notification.

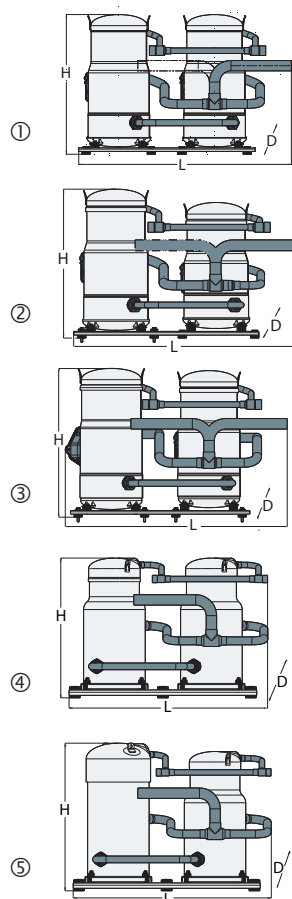
For full data details and capacity tables refer to Online Datasheet Generator: www.danfoss.com/odsg

Nameplate reference



Quick reference

Product range tandem compressors



Outline n°	Model	Composition	Voltage code				Dimensions (mm)		
			3	4	7	9	L	D	H
			220-230/3/60	400/3/50 460/3/60	500/3/50 575/3/60	380/3/60			
①	SH182	2 x SH090	○	○	○	○	844	446	514
	SH212	2 x SH105	○	○	○	○	844	446	564
	SH242	2 x SH120	○	○	○	○	844	446	564
	SH282	2 x SH140	○	○	○	○	844	446	564
	SH322	2 x SH161	○	○	○	○	844	446	564
②	SH195	SH090 + SH105	○	○	○	○	842	469	564
	SH210	SH090 + SH120	○	○	○	○	842	469	564
	SH230	SH090 + SH140	○	○	○	○	842	469	564
	SH260	SH120 + SH140	○	○	○	○	842	469	564
	SH281	SH120 + SH161	○	○	○	○	842	469	564
③	SH301	SH140 + SH161	○	○	○	○	842	469	564
	SH304	SH120 + SH184	○	○	○	○	866	473	580
	SH324	SH140 + SH184	○	○	○	○	866	473	580
	SH345	SH161 + SH184	○	○	○	○	866	473	580
	SH368	2 x SH184	○	○	○	○	866	473	580
④	SH360	2 x SH180	○	○	○	○	1025	527	731
	SH482	2 x SH240	○	○	○	○	1025	527	731
	SH590	2 x SH295	○	○	○	○	1025	527	731
	SH760	2 x SH380	○	○	○	○	1025	527	803
	SH420	SH180 + SH240	○	○	○	○	1025	527	731
⑤	SH475	SH180 + SH295	○	○	○	○	1025	527	731
	SH535	SH240 + SH295	○	○	○	○	1025	527	731
	SH560	SH380 + SH180	○	○	○	○	1025	527	803
	SH620	SH240 + SH380	○	○	○	○	1025	527	803
	SH675	SH295 + SH380	○	○	○	○	1025	527	803
	SH725	SH240 + SH485	○	○	○	○	1025	546	803
	SH780	SH295 + SH485	○	○	○	○	1025	546	803
	SH865	SH380 + SH485	○	○	○	○	1025	553	803
	SH970	SH485 + SH485	○	○	○	○	1025	553	803

○ Tandems to be achieved by assembly of individual compressors. Specific outline drawings of tandems and trio units

Technical specifications

Model	Nominal tons 60 Hz TR	Nominal cooling capacity		Power input kW	Efficiency		Swept volume cm ³ /rev	Displacement ^① m ³ /h	Oil charge dm ³
		W	Btu/h		COP W/W	E.E.R. Btu/h/W			
SH182	15	53700	183300	17.14	3.13	10.68	176.8	37.13	6.0
SH195	16	58700	200300	18.53	3.17	10.82	191.9	40.30	6.3
SH210	17.5	63300	216000	19.82	3.19	10.89	205.3	43.11	6.3
SH212	17.5	63600	217100	19.91	3.19	10.89	207.0	43.47	6.6
SH230	19	68800	234800	21.34	3.22	10.99	221.4	46.47	6.3
SH242	20	72800	248500	22.49	3.24	11.06	233.8	49.10	6.6
SH260	21.5	78300	267200	24.01	3.26	11.13	249.9	52.46	6.6
SH281	23.5	83100	283600	25.68	3.24	11.06	268.6	56.41	6.6
SH282	23.5	83800	286000	25.53	3.28	11.19	266.0	55.82	6.6
SH301	25	88600	302400	27.20	3.26	11.13	284.7	59.77	6.6
SH304	25.5	89900	306800	27.70	3.25	11.09	287.2	60.31	6.9
SH322	27	93500	319100	28.86	3.24	11.06	303.4	63.71	6.6
SH324	27	95400	325600	29.22	3.27	11.16	303.3	63.67	6.9
SH345	29	100200	342000	30.88	3.25	11.09	322.0	67.62	6.9
SH360	30	107600	367200	33.17	3.24	11.06	340.4	71.48	13.4
SH368	30.5	107000	365200	32.90	3.25	11.09	340.6	71.53	7.2
SH420	35	125400	428000	38.68	3.24	11.06	397.8	83.54	13.4
SH475	39.5	141500	482900	43.79	3.23	11.02	446.4	93.74	13.4
SH482	40	143100	488400	44.20	3.24	11.06	455.2	95.59	13.4
SH535	44.5	159300	543700	49.31	3.23	11.02	503.8	105.80	13.4
SH560	46.5	162400	554300	50.58	3.21	10.96	515.2	108.19	13.9
SH590	49	175400	598600	54.41	3.22	10.99	552.4	116.00	13.4
SH620	51.5	180200	615000	56.09	3.21	10.96	572.6	120.25	13.9
SH675	56.5	196300	670000	61.20	3.21	10.96	621.2	130.45	13.9
SH725	60	210800	719500	65.38	3.23	11.02	670.2	140.74	13.4
SH760	63.5	217300	741600	67.98	3.2	10.92	690.0	144.90	14.4
SH780	65	227000	774700	70.48	3.22	10.99	718.8	150.95	13.4
SH865	70	247900	846100	77.27	3.21	10.96	787.6	165.40	13.9
SH970	80	278600	950900	86.56	3.22	10.99	885.2	185.89	13.4

① Displacement at nominal speed: 3500 rpm at 60 Hz

TR= Ton of Refrigeration
Rating conditions: SH compressors
Evaporating temperature: 7.2 °C

COP= Coefficient Of Performance
Refrigerant: R410A
Condensing temperature: 54.4 °C

Frequency: 60 Hz
Sub-cooling: 8.3 K

Standard rating conditions: ARI standard
Superheat: 11.1 K

Subject to modification without prior notification. For full data details and capacity tables refer to Online Datasheet Generator <http://cc.danfoss.com>

Quick reference

Technical data single compressors

Model	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	11500	5.5	14400	5.6	17800	5.6	21800	5.7	26400	5.7	31600	5.8	37600	5.9	44400	6.0
	45	10000	6.8	12700	6.9	15800	6.9	19500	6.9	23600	7.0	28500	7.0	33900	7.1	40200	7.2
	55	-	-	-	-	13500	8.6	16800	8.6	20500	8.6	24800	8.7	29700	8.7	35300	8.8
SH105-4	35	14200	6.5	17500	6.6	21400	6.7	25900	6.8	31000	6.9	37000	7.0	43700	7.0	51300	7.1
	45	12500	7.9	15600	7.9	19200	8.0	23300	8.1	28000	8.2	33500	8.3	39700	8.4	46800	8.5
	55	-	-	-	-	16600	9.8	20300	9.8	24500	9.9	29400	10.0	35100	10.1	41500	10.3
SH120-4	35	16000	7.2	19900	7.3	24500	7.4	29800	7.5	35800	7.7	42800	7.8	50700	8.1	59700	8.3
	45	14000	8.8	17600	8.9	21800	9.0	26600	9.1	32200	9.2	38500	9.4	45700	9.5	53900	9.8
	55	-	-	-	-	18700	11.1	23000	11.1	28000	11.2	33700	11.3	40100	11.5	47500	11.6
SH140-4	35	19100	8.2	23400	8.3	28500	8.4	34400	8.6	41200	8.7	49000	8.9	57900	9.0	67900	9.2
	45	16900	10.0	20900	10.1	25500	10.2	30900	10.3	37100	10.5	44300	10.6	52400	10.8	61700	11.0
	55	-	-	-	-	22100	12.5	26900	12.6	32400	12.7	38800	12.8	46100	13.0	54500	13.2
SH161-4	35	21400	9.2	26300	9.3	32100	9.5	38700	9.6	46400	9.7	55200	9.9	65200	10.1	76600	10.3
	45	18700	11.4	23300	11.5	28500	11.6	34600	11.7	41600	11.8	49600	11.9	58800	12.1	69200	12.2
	55	-	-	-	-	24500	14.3	29900	14.4	36100	14.5	43200	14.6	51500	14.7	60800	14.8
SH180-4	35	23400	10.9	29300	10.9	36100	10.9	44000	11.0	53200	11.0	63600	11.0	75500	11.1	88900	11.1
	45	20300	13.5	25700	13.5	31900	13.5	39200	13.5	47600	13.6	57200	13.6	68100	13.6	80400	13.7
	55	-	-	-	-	27200	16.9	33600	16.8	41100	16.8	49600	16.8	59400	16.8	70600	16.8
SH184-4	35	24500	10.4	30100	10.7	36600	10.9	44100	11.1	52700	11.3	62600	11.5	73800	11.7	86500	11.8
	45	21600	12.7	26700	12.9	32700	13.1	39500	13.3	47500	13.5	56500	13.8	66800	14.0	78500	14.2
	55	-	-	-	-	28300	15.9	34400	16.1	41500	16.3	49600	16.5	58900	16.8	69500	17.0
SH240-4	35	32800	14.3	40400	14.4	49200	14.5	59400	14.6	71200	14.7	84600	14.9	100000	15.2	117300	15.6
	45	28800	17.5	35700	17.7	43800	17.8	53000	17.9	63700	18.0	75900	18.1	89900	18.3	105800	18.6
	55	-	-	-	-	37800	21.9	46000	22.1	55400	22.2	66300	22.3	78700	22.5	93000	22.7
SH295-4	35	40300	17.4	49600	17.7	60300	17.9	72800	18.1	87200	18.4	103700	18.8	122400	19.4	143700	20.2
	45	35500	21.2	43900	21.6	53700	21.8	65000	22.0	78000	22.3	93000	22.5	110100	22.9	129400	23.5
	55	-	-	-	-	46400	26.6	56400	26.9	68000	27.2	81300	27.4	96500	27.7	113800	28.1
SH380-4	35	48700	22.2	60200	22.4	73600	22.7	89200	23.0	107100	23.4	127600	23.8	151000	24.2	177500	24.6
	45	42800	27.1	53300	27.2	65400	27.4	79600	27.7	96000	28.0	114800	28.3	136300	28.7	160800	29.2
	55	-	-	-	-	56400	33.5	68900	33.7	83500	33.9	100400	34.2	119900	34.6	142100	35.0
SH485-4	35	63100	28.0	77700	28.4	94700	28.8	114500	29.2	137400	29.5	163800	29.6	193900	29.3	228200	28.7
	45	55800	34.2	69100	34.4	84500	34.8	102400	35.2	123200	35.7	147100	36.0	174500	36.2	205800	36.1
	55	-	-	-	-	73300	42.4	89200	42.7	107600	43.1	129000	43.6	153500	44.0	181700	44.2

To: Evaporating temperature in °C
Tc: Condensing temperature in °C

Qo: Cooling capacity in W
Pe: Power input in kW

Superheat = 11.1 K
Subcooling = 8.3 K

Voltage: 460 V / 3 / 50 Hz

Further reference



Compressor model	Connections	Mounting feet	Motor protection	Nbr	Code no. for Industrial pack			Code no. for Single pack			
					3	4	9	3	4	7	9
					200-230/3/60	460/3/60 380-400/3/50	380/3/60	200-230/3/60	460/3/60 380-400/3/50	575/3/60 500/3/50	380/3/60
SH090	Brazed	Flexible	Internal	8	120H0002	120H0004	120H0010	120H0001	120H0003	120H0007	120H0009
SH105	Brazed	Flexible	Internal	8	120H0210	120H0212	120H0218	120H0209	120H0211	120H0215	120H0217
SH120	Brazed	Flexible	Internal	8	120H0012	120H0014	120H0020	120H0011	120H0013	120H0017	120H0019
SH140	Brazed	Flexible	Internal	8	120H0200	120H0202	120H0208	120H0199	120H0201	120H0205	120H0207
SH161	Brazed	Flexible	Internal	8	120H0022	120H0024	120H0030	120H0021	120H0023	120H0027	120H0029
SH184	Brazed	Flexible	Internal	8	120H0360	120H0362	120H0368	120H0359	120H0361	120H0365	120H0367
SH180 ①	Brazed	Rigid	Module 24V AC *	6	120H0266	120H0268	120H0272	120H0265	120H0267	120H0269	120H0271
	Brazed	Rigid	Module 230V *	6	120H0274	120H0276	120H0280	120H0273	120H0275	120H0277	120H0279
SH240 ①	Brazed	Rigid	Module 24V AC *	6	120H0290	120H0292	120H0296	120H0289	120H0291	120H0293	120H0295
	Brazed	Rigid	Module 115-230V *	6	120H0298	120H0300	120H0304	120H0297	120H0299	120H0301	120H0303
SH295 ①	Brazed	Rigid	Module 24V AC *	6	120H0852	120H0826	120H0842	120H0851	120H0825	120H0833	120H0841
	Brazed	Rigid	Module 115-230V *	6	120H0854	120H0828	120H0844	120H0853	120H0827	120H0835	120H0843
SH380 ①	Brazed	Rigid	Module 24V AC *	4	120H0250	120H0254	120H0262	120H0151	120H0253	120H0257	120H0261
	Brazed	Rigid	Module 115-230V *	4	120H0252	120H0256	120H0264	120H0152	120H0255	120H0259	120H0263
SH485 ①	Brazed	Rigid	Module 24V AC *	4	-	120H1063	120H1073	-	120H1062	120H1099	120H1072
	Brazed	Rigid	Module 115-230V *	4	-	120H1065	120H1075	-	120H1064	120H1098	120H1074

① Models with rigid mounting feet are for parallel mounting only. For single mounting use flexible grommet kit ref 8156138
* Electronic motor protection, module located in terminal box

Further reference

For more exhaustive information on Danfoss scroll compressors single & tandem units, please refer to the following documents:

- Online Datasheet Generator: www.danfoss.com/odsg - a tool providing user-friendly access to full technical data, performance tables, spareparts & accessories and outlines drawings for each individual compressor.
- Selection and application guidelines for Danfoss scroll compressors, Single - SH090 to SH485, 50 Hz - 60 Hz, R410A, Literature: FRCC.PC.007.
- Selection & application guidelines for Danfoss scroll compressors in parallel installations, SH R410A, Literature: FRCC.PC.008.

Above documents and datasheet generator are available on the Danfoss Commercial Compressors internet website: <http://cc.danfoss.com>

Danfoss Commercial Compressors

is a worldwide manufacturer of compressors and condensing units for refrigeration and HVAC applications. With a wide range of high quality and innovative products we help your company to find the best possible energy efficient solution that respects the environment and reduces total life cycle costs.

We have 40 years of experience within the development of hermetic compressors which has brought us amongst the global leaders in our business, and positioned us as distinct variable speed technology specialists. Today we operate from engineering and manufacturing facilities spread across three continents.



Danfoss Scrolls



Danfoss Inverter Scrolls



Danfoss Maneurop Reciprocating Compressors



Secop Compressors for Danfoss



Danfoss Turbocor Compressors



Danfoss Optyma Condensing Units

Our products can be found in a variety of applications such as rooftops, chillers, residential air conditioners, heatpumps, coldrooms, supermarkets, milk tank cooling and industrial cooling processes.

<http://cc.danfoss.com>

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