

MAKING MODERN LIVING POSSIBLE



Quick reference

Danfoss scroll compressors

SH series

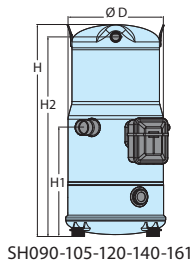
R410A - 50 Hz



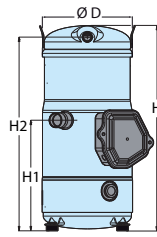
<http://cc.danfoss.com>

Quick reference

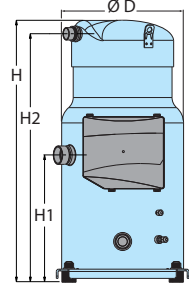
Product range single compressors



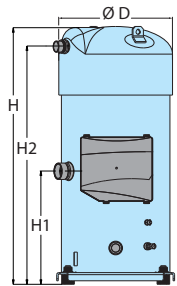
SH090-105-120-140-161



SH184



SH180-240-295



SH300-380-485

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
SH300	333	723	331	664
SH380	333	755	331	697
SH485	333	755	331	697

All dimensions in mm

Motor voltage code	Code 4	Code 6	Code 7
Nominal voltage	380-400V - 3 ph 380-415V - 3 ph*	230V - 3 ph	500V - 3 ph
Voltage range	340-440 V 340-457 V *	207-253 V	450 - 550 V

* For SH295 and SH485

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						
SH090	7.5	22300	76100	7.19	3.10	10.58	88.40	15.40	3.0	58.0
SH105	9	26800	91500	8.47	3.17	10.82	103.50	18.00	3.3	64.0
SH120	10	30000	102400	9.46	3.17	10.82	116.90	20.30	3.3	64.0
SH140	12	34700	118400	10.58	3.28	11.19	133.00	23.12	3.3	67.0
SH161	13	38800	132400	12.15	3.19	10.89	151.70	26.40	3.3	69.0
SH184	15	44700	152600	13.73	3.25	11.09	170.30	29.60	3.6	71.5
SH180	15	44500	151900	13.87	3.21	10.96	170.20	29.60	6.7	108.0
SH240	20	59700	203800	18.50	3.23	11.02	227.60	39.60	6.7	108.0
SH295	25	73200	249800	22.51	3.25	11.09	276.2	48.10	6.7	111.0
SH300	25	75200	256700	23.32	3.22	10.99	285.50	49.70	6.7	153.0
SH380	30	90500	308900	28.18	3.21	10.96	345.00	60.00	7.2	159.0
SH485	40	116400	397300	35.65	3.26	11.13	442.60	77.00	6.7	175.0

① Displacement at nominal speed: 2900 rpm at 50 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

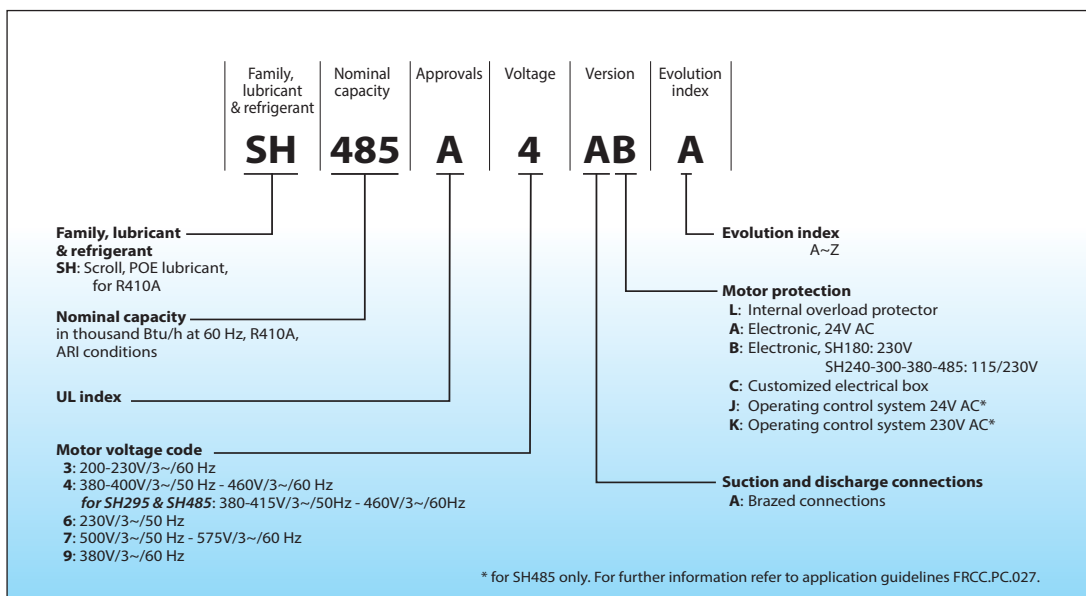
Evaporating temperature: 7.2 °C
Condensing temperature: 54.4 °C

Superheat: 11.1 K
Subcooling: 8.3 K

Subject to modification without prior notification.

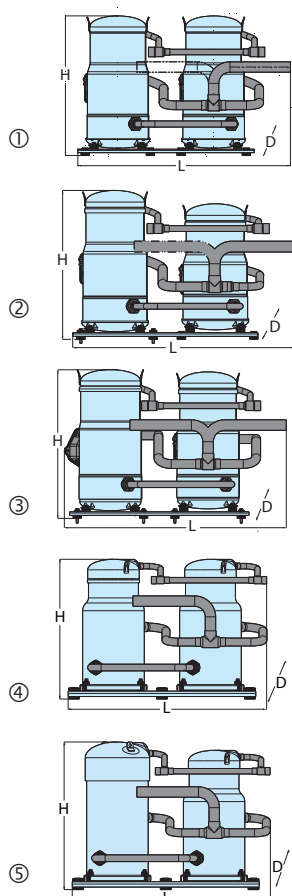
For full data details and capacity tables refer to Online Datasheet Generator: www.danfoss.com/odsg

Nameplate reference



Quick reference

Product range tandem compressors



Outline n°	Model	Composition	Voltage code			Dimensions (mm)		
			4	6	7	L	D	H
			400/3/50 460/3/60	230/3/50	500/3/50 575/3/60			
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
	SH301	SH140 + SH161	○	○	○	842	469	564
③	SH304	SH120 + SH184	○	○	○	866	473	580
	SH324	SH140 + SH184	○	○	○	866	473	580
	SH345	SH161 + SH184	○	○	○	866	473	580
④	SH368	2 x SH184	○	○	○	866	473	580
	SH360	2 x SH180	○	○	○	1025	527	731
	SH482	2 x SH240	○	○	○	1025	527	731
	SH590	2 x SH295	○	○	○	1025	527	731
	SH600	2 x SH300	○	○	○	1025	527	771
	SH760	2 x SH380	○	○	○	1025	527	803
	SH420	SH180 + SH240	○	○	○	1025	527	731
⑤	SH475	SH180 + SH295	○	○	○	1025	527	731
	SH480	SH180 + SH300	○	○	○	1025	527	771
	SH535	SH240 + SH295	○	○	○	1025	527	731
	SH540	SH240 + SH300	○	○	○	1025	527	771
	SH560	SH380 + SH180	○	○	○	1025	527	803
	SH620	SH240 + SH380	○	○	○	1025	527	803
	SH675	SH295 + SH380	○	○	○	1025	527	803
	SH680	SH300 + 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 ^② m ³ /h	Oil charge dm ³	
		W	Btu/h		COP W/W	E.E.R. Btu/h /W				
Tandem	SH182	15	44200	150900	14.37	3.08	10.51	176.8	30.76	6.0
	SH195	16	48700	166200	15.66	3.11	10.61	191.9	33.39	6.3
	SH210	17.5	51800	176800	16.65	3.11	10.61	205.3	35.72	6.3
	SH212	17.5	53100	181200	16.95	3.14	10.72	207.0	36.02	6.6
	SH230	19	56500	192800	17.76	3.18	10.85	221.4	38.51	6.3
	SH242	20	59400	202700	18.92	3.14	10.72	233.8	40.68	6.6
	SH260	21.5	64100	218800	20.04	3.20	10.92	249.9	43.47	6.6
	SH281	23.5	68100	232400	21.61	3.15	10.75	268.6	46.74	6.6
	SH282	23.5	68800	234800	21.15	3.25	11.09	266.0	46.25	6.6
	SH301	25	72800	248500	22.72	3.21	10.96	284.7	49.52	6.6
	SH304	25.5	73900	252200	23.19	3.19	10.89	287.2	49.97	6.9
	SH322	27	76900	262500	24.29	3.17	10.82	303.4	52.79	6.6
	SH324	27	78700	268600	24.31	3.24	11.06	303.3	52.76	6.9
	SH345	29	82700	282300	25.88	3.20	10.92	322.0	56.03	6.9
	SH360	30	88200	301000	27.73	3.18	10.85	340.4	59.23	13.4
	SH368	30.5	88500	302000	27.46	3.22	10.99	340.6	59.26	7.2
	SH420	35	103300	352600	32.37	3.19	10.89	397.8	69.22	13.4
	SH475	39.5	116600	398000	36.37	3.21	10.96	446.4	77.67	13.4
	SH480	40	118600	404800	37.19	3.19	10.89	455.7	79.29	13.4
	SH482	40	118400	404100	37.00	3.20	10.92	455.2	79.20	13.4
SH535	44.5	131700	449500	41.01	3.21	10.96	503.8	87.66	13.4	
SH540	45	133700	456300	41.82	3.20	10.92	513.1	89.28	13.4	
SH560	46.5	133800	456700	42.05	3.18	10.85	515.2	89.64	13.9	
SH590	49	145100	495200	45.01	3.22	10.99	552.4	96.12	13.4	
SH600	50	149000	508500	46.64	3.19	10.89	571.0	99.35	13.4	
SH620	51.5	148800	507800	46.68	3.19	10.89	572.6	99.63	13.9	
SH675	56.5	162200	553600	50.69	3.20	10.92	621.2	108.09	13.9	
SH680	56.5	164100	560100	51.50	3.19	10.89	630.5	109.71	13.9	
SH725	60	174500	595600	54.15	3.22	10.99	670.2	116.61	13.4	
SH760	63.5	179300	611900	56.36	3.18	10.85	690.0	120.06	14.4	
SH780	65	187900	641300	58.15	3.23	11.02	718.8	125.07	13.4	
SH865	70	205000	699700	63.83	3.21	10.96	787.6	137.04	13.9	
SH970	80	230700	787400	71.30	3.24	11.06	885.2	154.02	13.4	

① for +15°C evap. temp; +68°C cond. temp under nominal voltage 400V-3-50Hz

② displacement at nominal speed: 2900 rpm at 50 Hz

TR= Ton of Refrigeration

COP= Coefficient Of Performance

Rating conditions: SH compressors

Refrigerant: R410A

Frequency: 50 Hz / 60 Hz

Standard rating conditions: ARI standard

Evaporating temperature: 7.2 °C

Condensing temperature: 54.4 °C

Sub-cooling: 8.3 K

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 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
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
SH300-4	35	34000	15.0	42000	15.1	51300	15.3	62100	15.5	74400	15.7	88500	16.0	104600	16.3	122700	16.7
	45	29800	18.3	37100	18.5	45500	18.7	55200	18.8	66500	19.0	79300	19.3	93900	19.6	110500	19.9
	55	-	-	-	-	39000	23.0	47600	23.1	57500	23.3	68900	23.5	82000	23.8	97000	24.1
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

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

Superheat = 11.1 K
Subcooling = 8.3 K

Voltage: 400 V / 3 / 50 Hz

Further reference



Compressor model	Connections	Mounting feet	Motor protection	Code no. for Industrial pack		Code no. for Single pack		
				Nbr	4 460/3/60 380-400/3/50	4 460/3/60 380-400/3/50	6 230/3/50	7 575/3/60 500/3/50
SH090	Brazed	Flexible	Internal	8	120H0004	120H0003	120H0005	120H0007
SH105	Brazed	Flexible	Internal	8	120H0212	120H0211	120H0213	120H0215
SH120	Brazed	Flexible	Internal	8	120H0014	120H0013	120H0015	120H0017
SH140	Brazed	Flexible	Internal	8	120H0202	120H0201	120H0203	120H0205
SH161	Brazed	Flexible	Internal	8	120H0024	120H0023	120H0025	120H0027
SH184	Brazed	Flexible	Internal	8	120H0362	120H0361	120H0363	120H0365
SH180 ①	Brazed	Rigid	Module 24V AC *	6	120H0268	120H0267	-	120H0269
	Brazed	Rigid	Module 230V *	6	120H0276	120H0275	-	120H0277
SH240 ①	Brazed	Rigid	Module 24V AC *	6	120H0292	120H0291	-	120H0293
	Brazed	Rigid	Module 115-230V *	6	120H0300	120H0299	-	120H0301
SH295 ①	Brazed	Rigid	Module 24V AC *	6	120H0826	120H0825	-	120H0833
	Brazed	Rigid	Module 115-230V *	6	120H0828	120H0827	-	120H0835
SH300 ①	Brazed	Rigid	Module 24V AC *	4	120H0238	120H0237	-	120H0241
	Brazed	Rigid	Module 115-230V *	4	120H0240	120H0239	-	120H0243
SH380 ①	Brazed	Rigid	Module 24V AC *	4	120H0254	120H0253	-	120H0257
	Brazed	Rigid	Module 115-230V *	4	120H0256	120H0255	-	120H0259
SH485 ①	Brazed	Rigid	Module 24V AC *	4	120H1063	120H1062	-	-
	Brazed	Rigid	Module 115-230V *	4	120H1065	120H1064	-	-

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 Inverter scroll compressors



Danfoss Air Conditioning scroll compressors



Danfoss Heat Pump scroll compressors



Maneurop® Inverter reciprocating compressors



Danfoss Refrigeration scroll compressors



Maneurop® Reciprocating Compressors



Optyma™ & Optyma Plus™ Condensing Units



Light commercial reciprocating compressors (manufactured by Secop)

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.