

## S-Series Reciprocating Compressor Range

From 2 to 8 cylinder semi-hermetic reciprocating compressors for medium / low temperature refrigeration and comfort applications.

The S-series ranges from 5 to 70 hp and provide cooling capacities from 11 to 90 kW in medium temperature (R404A, -10/45°C) and 4 to 29 kW in low temperature (R404A, -35/40°C). These compressors are qualified for R404A, R507, R134a, R22 and R407C (some models).

The S-series comprises the 2S, 3S, 4S, 6S and 8S models. It is suction gas cooled and uses reed valve technology, found on all reciprocating compressors except Discus® and Stream. It is suited for numerous single or multi-compressor applications such as condensing units or compact compressor packs for medium to large supermarkets.

All compressors are designed for unquestionable reliability.

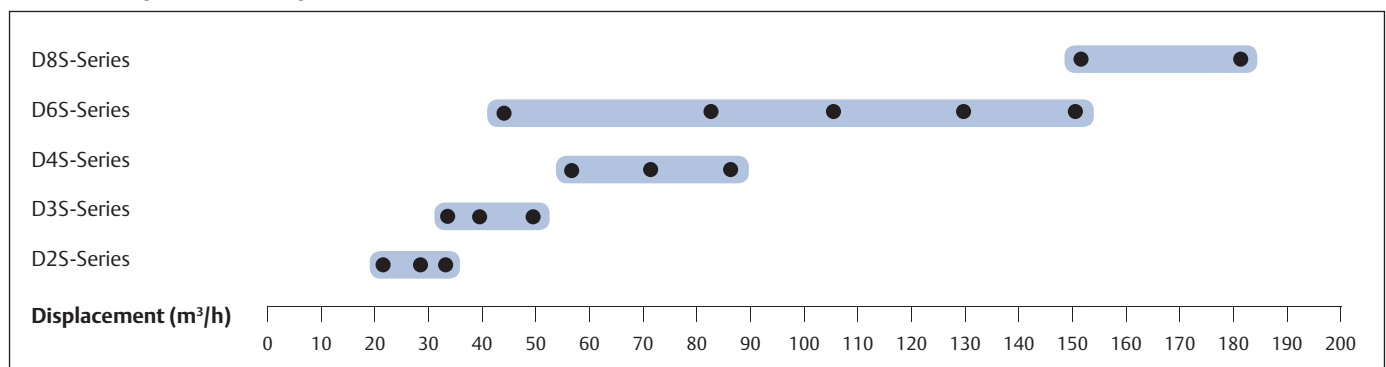
- Positive displacement high flow oil pump guarantees high oil feeding pressure for good lubrication and bearings' cooling
- PTFE coated bearings for especially low friction and good protection at start up
- Aluminium piston with optimized geometry for good performance and resistance to liquid handling
- High temperature resistant Molybdenum piston rings preventing from wear



S-Series Compressor

- Optimized bearing surface dimensions
- Valve reeds of impact resistant spring steel
- Pre-set internal pressure relief valve between suction and discharge that opens if the maximum differential pressure is exceeded
- Electronic motor protection module

### S Series compressor Line-up



Conditions: EN12900, R404A: Evaporating -10°C, Condensing 40°C, Suction Gas Temperature 20°C, Subcooling 0K

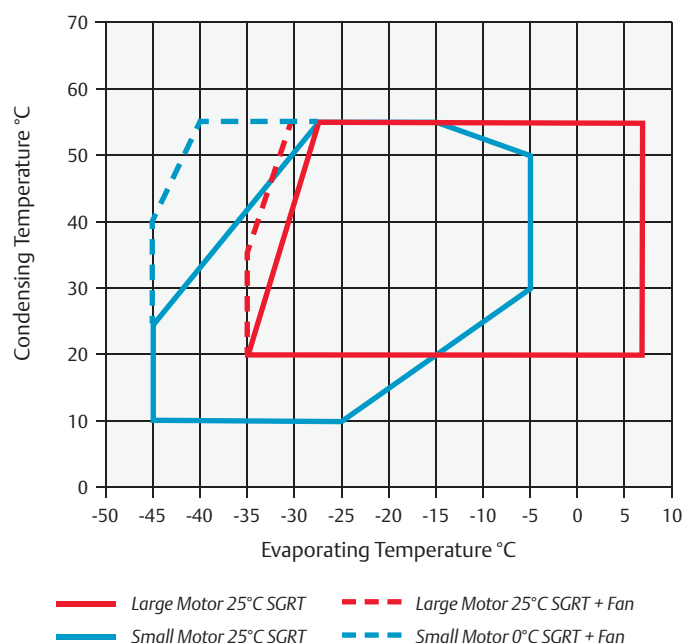
### Features and Benefits

- Integrated oil pump and Electronic Oil Pressure Switch OPS2 for durability
- Two motor sizes per displacement, optimized for different applications
- Ability of the refrigeration compressors with small motor size to operate as low as 10°C condensing
- Large operating envelope that allows medium and low temperature applications to be covered by one single model
- Provide cooling capacity modulation either by cylinder head blocked suction or with use of frequency inverters from 25 to 60Hz with the standard AWM motors
- Multi-refrigerant compressor range – one model to cover all standard refrigerants

### Maximum Allowable Pressure (PS)

- Low Side PS 22.5 bar (g)/ High Side PS 28 bar (g)

### Operating Envelope R404A



## Technical Overview

R404A	Nominal hp	Capacity (kW) 1)	COP 1)	Capacity (kW) 2)	COP 2)	Displacement (m <sup>3</sup> /h)	Oil Quantity (l)	Length/Width/ Height (mm)	Net Weight (kg)	Motor Version / Code	Maximum Operating Current (A)	Locked Rotor Current (A)	Sound Pressure @ 1 m (dBA) **
										3 Ph *	3 Ph *	3 Ph *	
D2SA-45X	4.5			3.5	1.2	22.4	2.40	560/330/395	90	EWL	11	69	
D2SC-55X	5.5			4.1	1.3	26.8	2.40	560/330/395	91	EWL	13	74	67
D2SK-65X	6.5			4.9	1.2	31.2	2.40	560/330/395	92	EWL	16	85	
D3SC-75X	10.0			5.5	1.3	38.0	3.70	655/370/480	159	AWM	19	82	66
D3SS-100X	10.0			8.2	1.3	49.9	3.70	680/370/480	162	AWM	26	109	67
D4SF-100X	10.0			8.9	1.3	56.0	3.30	680/485/495	178	AWM	27	105	72
D4SL-150X	15.0			11.9	1.4	70.8	3.30	680/490/495	186	AWM	36	156	72
D6SF-200X	20.0			13.5	1.4	84.0	3.30	740/540/490	212	AWM	38	175	
D4ST-200X	20.0			14.5	1.4	84.7	3.30	700/490/495	198	AWM	42	175	72
D6ST-300X	32.0			21.3	1.4	127.0	6.80	740/540/545	252	AWM	63	255	
D6ST-320X	32.0			21.3	1.4	127.0	6.80	740/540/545	252	AWM	63	255	
D8SH-370X	37.0			24.6	1.4	151.0	7.60	835/467/610	314	AWM	71	349	
D6SU-400X	40.0			26.6	1.4	151.8	6.80	740/540/545	265	AWM	78	304	
D8SJ-450X	45.0			28.7	1.4	181.0	7.60	835/527/610	345	AWM	91	441	
D2SA-55X	5.5	11.2	2.0			22.4	2.40	560/330/395	90	EWL	13	67	
D2SC-65X	6.5	13.3	2.0			26.9	2.40	560/330/395	91	EWL	16	85	
D3SA-75X	7.5	15.6	2.2			32.2	3.70	655/370/480	159	AWM	18	82	
D3SC-100X	10.0	18.9	2.2			38.0	3.70	682/370/480	159	AWM	22	106	
D3SS-150X	15.0	25.9	2.1			49.9	3.70	680/370/480	162	AWM	30	125	
D4SA-200X	20.0	27.5	2.2			56.0	3.30	650/485/495	183	AWM	32	175	70
D4SH-250X	25.0	35.1	2.1			70.8	3.30	670/490/495	194	AWM	42	199	71
D6SA-300X	30.0	41.8	2.2			84.0	3.30	740/540/490	214	AWM	50	221	75
D4SJ-300X	30.0	42.8	2.2			84.5	3.30	690/515/495	210	AWM	48	221	70
D6SJ-400X	40.0	62.7	2.2			127.0	6.80	760/565/545	252	AWM	75	304	74
D8SH-500X	50.0	78.2	2.2			151.0	7.60	835/467/610	326	AWM	95	458	77
D6SK-500X	50.0	73.1	2.1			152.0	6.80	770/570/539	268	AWM	89	393	78
D8SJ-600X	60.0	90.4	2.2			181.0	7.60	835/527/610	346	AWM	106	476	76

(1) MT= Conditions EN12900 : Evaporating -10°C, Condensing 45°C, Suction Gas Temperature 20°C, Subcooling 0K

(2) LT= Conditions EN12900 : Evaporating -35°C, Condensing 40°C, Suction Gas Temperature 20°C, Subcooling 0K

\* 3 Ph: 380-420V/ 50Hz

\*\* @ 1m: sound pressure level at 1m distance from the compressor, free field condition

## Capacity Data

Condensing Temperature 40°C															
R404A	Cooling Capacity (kW)							R404A	Power Input (kW)						
	Evaporating Temperature (°C)								Evaporating Temperature (°C)						
Model	-45	-35	-30	-20	-10	-5	5	Model	-45	-35	-30	-20	-10	-5	5
D2SA-45X	1.1*	3.5	4.8	7.9	12.2	14.8		D2SA-45X	1.9*	2.9	3.4	4.5	5.4	5.8	
D2SA-55X			4.7	7.9	12.3	15.0	21.5	D2SA-55X			3.3	4.3	5.2	5.6	6.2
D2SC-55X	1.1*	4.1	5.5	9.4	14.7	18.0		D2SC-55X	1.9*	3.2	3.9	5.2	6.3	6.8	
D2SC-65X			5.6	9.4	14.6	17.8	25.6	D2SC-65X			4.2	5.3	6.3	6.7	7.3
D2SK-65X	1.2*	4.9	6.7	11.3	17.5	21.4		D2SK-65X	2.6*	4.0	4.7	6.2	7.5	8.2	
D3SA-75X			6.3	10.9	17.2	21.2	30.9	D3SA-75X			4.2	5.6	7.0	7.5	8.3
D3SC-100X			8.0	13.5	20.9	25.4	36.6	D3SC-100X			5.3	6.9	8.4	9.1	10.0
D3SC-75X	1.6*	5.5	7.5	12.9	20.3	24.9		D3SC-75X	2.8*	4.3	5.2	6.9	8.6	9.4	
D3SS-100X	2.7*	8.2	10.8	17.6	26.8	32.5		D3SS-100X	4.4*	6.2	7.2	9.5	11.9	12.9	
D3SS-150X			11.4	18.6	28.3	34.4	49.2	D3SS-150X			7.6	9.8	11.8	12.7	14.3
D4SA-200X			11.3	19.3	30.4	37.2	54.0	D4SA-200X			7.5	10.0	12.1	13.1	14.4
D4SF-100X	3.0*	8.9	11.9	19.6	30.1	36.6		D4SF-100X	4.4*	6.8	8.0	10.5	12.7	13.6	
D4SH-250X			14.6	24.7	38.7	47.4	68.6	D4SH-250X			9.8	12.9	15.7	16.9	18.8
D4SL-150X	3.8*	11.9	15.9	26.1	40.0	48.6		D4SL-150X	5.6*	8.6	10.2	13.3	16.3	17.6	
D4SJ-300X			17.7	30.5	47.1	57.2	81.2	D4SJ-300X			11.2	15.1	18.5	19.9	22.0
D4ST-200X	5.2*	14.5	19.2	31.3	47.7	57.8		D4ST-200X	6.7*	10.2	12.0	15.8	19.5	21.3	
D6SA-300X			17.2	29.3	46.3	57.1	83.8	D6SA-300X			11.3	15.0	18.3	19.8	21.9
D6SF-200X	4.4*	13.5	18.3	30.3	46.1	55.5		D6SF-200X	6.1*	9.6	11.5	15.3	18.7	20.2	
D6SJ-400X			26.4	44.9	69.4	84.4	121.0	D6SJ-400X			16.6	22.3	27.8	30.2	34.3
D6ST-300X	6.6*	21.3	28.5	46.8	71.2	85.9		D6ST-300X	10.0*	15.5	18.3	23.9	29.3	31.8	
D6ST-320X	6.6*	21.3	28.5	46.8	71.2	85.9		D6ST-320X	10.0*	15.5	18.3	23.9	29.3	31.8	
D6SU-400X	9.4*	26.6	35.0	56.2	84.4	101.5		D6SU-400X	12.4*	18.7	22.0	28.8	35.5	38.6	
D6SK-500X			30.7	52.1	80.9	98.6	142.5	D6SK-500X			19.9	26.5	32.9	35.8	40.0
D8SH-370X	7.9*	24.6	32.9	53.8	81.2	97.6		D8SH-370X	11.2*	17.6	20.9	27.6	33.7	36.3	
D8SH-500X			33.7	55.6	85.9	105.0	150.5	D8SH-500X			23.0	29.1	34.6	36.9	40.1
D8SJ-450X	8.4*	28.7	38.8	64.7	99.5	121.0		D8SJ-450X	13.4*	20.6	24.4	32.0	39.1	42.2	
D8SJ-600X			38.9	64.7	99.6	121.5	174.5	D8SJ-600X			24.3	31.8	38.9	42.1	47.2

Suction Gas Return 20°C / Subcooling 0K

\*Suction Superheat 10K / Subcooling 0K

High Discharge Temp - Additional cooling required

Condensing Temperature 40°C															
R407C	Cooling Capacity (kW)							R407C	Power Input (kW)						
	Evaporating Temperature (°C)								Evaporating Temperature (°C)						
Model	-30	-20	-10	-5	5	10	15	Model	-30	-20	-10	-5	5	10	15
D4SA-200X		15.7*	27.1	33.7	50.6	61.2	73.3	D4SA-200X		7.9*	9.8	10.7	12.0	12.4	12.5
D4SH-250X		19.1*	33.5	41.9	63.3	76.6	92.0	D4SH-250X		9.8*	12.4	13.5	15.3	15.9	16.3
D4SJ-300X		22.8*	40.5	50.5	75.3	90.4	107.5	D4SJ-300X		11.8*	15.3	16.8	18.9	19.6	19.9
D6SA-300X		20.1*	37.3	47.2	72.3	87.9	106.0	D6SA-300X		11.9*	14.7	15.9	18.0	18.7	19.2
D6SJ-400X		34.3*	59.9	74.7	112.0	135.0	162.0	D6SJ-400X		17.6*	22.5	24.7	28.2	29.3	29.8
D6SK-500X		38.6*	70.8	89.1	135.0	163.0	195.5	D6SK-500X		21.1*	26.7	29.2	33.2	34.7	35.7
D8SJ-600X		48.8*	86.4	107.5	160.5	193.0	230.0	D8SJ-600X		25.2*	32.7	35.8	40.5	41.8	42.3
D8SK-700X		53.8*	98.2	124.0	189.0	229.0	276.0	D8SK-700X		29.7*	38.1	41.9	47.7	49.5	50.2

Suction Gas Return 20°C / Subcooling 0K

\*Suction Superheat 10K / Subcooling 0K

## Capacity Data

Condensing Temperature 40°C															
R134a	Cooling Capacity (kW)							R134a	Power Input (kW)						
	Evaporating Temperature (°C)								Evaporating Temperature (°C)						
Model	-30	-20	-10	-5	5	10	15	Model	-30	-20	-10	-5	5	10	15
D2SA-45X		4.2	7.0	8.9	13.7	16.8		D2SA-45X		2.5	3.0	3.3	3.6	3.7	
D2SC-55X		5.2	8.5	10.7	16.2	19.7		D2SC-55X		2.9	3.6	4.0	4.5	4.6	
D2SK-65X		5.7	9.5	12.0	18.3	22.2		D2SK-65X		3.3	4.2	4.5	5.1	5.4	
D3SC-75X		6.9	11.3	14.3	22.0	27.0		D3SC-75X		3.8	4.8	5.4	6.4	6.9	
D3SS-100X		9.0	14.9	18.7	28.8	35.3		D3SS-100X		5.0	6.4	7.1	8.3	8.8	
D4SA-100X		11.3	18.6	23.1	34.4	41.3		D4SA-100X		5.2	6.6	7.3	8.4	8.8	
D4SF-100X		10.3	17.7	22.4	34.4	41.9		D4SF-100X		5.4	6.9	7.6	8.7	9.1	
D4SH-150X		12.2	21.5	27.4	42.3	51.5		D4SH-150X		6.3	8.2	9.0	10.3	10.5	
D4SL-150X		13.6	23.0	29.0	44.1	53.6		D4SL-150X		6.8	8.7	9.6	11.2	11.8	
D4SJ-200X		17.0	28.0	34.9	52.1	62.6		D4SJ-200X		8.2	10.7	11.9	14.1	15.0	
D4ST-200X		16.5	27.7	34.8	52.9	64.2		D4ST-200X		8.1	10.5	11.6	13.6	14.3	
D6SF-200X		16.1	27.2	34.4	52.6	63.8		D6SF-200X		7.9	10.2	11.3	13.2	13.9	
D6SH-200X		20.5	33.2	41.4	62.0	74.9		D6SH-200X		10.5	13.1	14.5	16.9	17.9	
D6SJ-300X		23.9	39.6	49.7	75.3	91.3		D6SJ-300X		12.2	15.6	17.3	20.4	21.6	
D6ST-300X		24.0	41.1	52.1	79.8	97.1		D6ST-300X		12.4	15.9	17.6	20.4	21.4	
D6ST-320X		24.2	41.3	52.2	79.9	97.2		D6ST-320X		12.3	15.9	17.6	20.5	21.7	
D6SU-400X		29.9	49.6	62.1	93.9	113.5		D6SU-400X		15.2	19.2	21.1	24.5	25.9	
D6SK-400X		27.0	45.5	57.4	88.0	107.0		D6SK-400X		13.7	18.2	20.3	23.6	24.7	
D8SH-370X		28.8	47.9	60.1	90.9	110.0		D8SH-370X		14.8	18.7	20.6	23.8	25.1	
D8SH-400X		27.7	46.7	58.8	89.7	109.0		D8SH-400X		14.0	18.2	20.0	22.8	23.7	
D8SJ-500X		31.9	54.0	68.1	104.0	126.5		D8SJ-500X		17.6	22.1	24.3	28.1	29.6	
D8SJ-450X		33.4	57.4	72.7	111.5	135.5		D8SJ-450X		16.8	21.5	23.7	27.3	28.5	
D8SK-600X		36.1	62.4	79.9	123.0	148.0		D8SK-600X		18.9	24.7	27.6	32.4	33.9	

Suction Gas Return 20°C / Subcooling 0K

## Capacity Data

Condensing Temperature 40°C															
R22	Cooling Capacity (kW)							R22	Power Input (kW)						
	Evaporating Temperature (°C)								Evaporating Temperature (°C)						
Model	-45	-35	-30	-20	-10	-5	5	Model	-45	-35	-30	-20	-10	-5	5
D2SA-45X		2.4*	3.5*	6.9	10.9	13.4		D2SA-45X		2.4*	2.9*	3.8	4.6	4.9	
D2SA-45X Air	1.1*	3.3	4.5	7.4	11.5	14.0		D2SA-45X Air	1.7*	2.5	3.0	3.8	4.6	4.9	
D2SA-55X				6.6	10.9	13.6	20.4	D2SA-55X				3.8	4.5	4.7	5.2
D2SC-55X		2.4*	4.0*	8.4	13.7	16.9		D2SC-55X		2.9*	3.5*	4.6	5.5	5.9	
D2SC-55X Air	1.3*	4.0	5.4					D2SC-55X Air	2.1*	3.1	3.6				
D2SC-65X				9.4	14.6	17.8	25.6	D2SC-65X				5.3	6.3	6.7	7.3
D2SK-65X		3.6*	5.4*	10.3	16.1	19.8		D2SK-65X		3.7*	4.3*	5.5	6.6	7.1	
D3SA-75X				9.5	15.5	19.3	29.0	D3SA-75X				5.1	6.1	6.6	7.2
D3SC-100X				11.7	18.6	23.0	34.4	D3SC-100X				6.3	7.4	7.9	8.6
D3SC-750-DTC	2.0	4.9	6.8	12.0	19.4	23.9		D3SC-750-DTC	2.6	3.9	4.6	6.0	7.5	8.2	
D3SS-150X				16.4	25.6	31.4	46.0	D3SS-150X				8.6	10.3	11.1	12.3
D3SS-1000-DTC	2.6	6.7	9.4	16.3	25.7	31.5		D3SS-1000-DTC	3.5	5.6	6.6	8.6	10.7	11.9	
D4SF-100X			9.2*	16.8*	27.0*	33.3*		D4SF-100X			7.0*	9.0*	10.8*	11.5*	
D4SA-200X				18.0*	29.2	36.0	52.7	D4SA-200X				9.0*	10.7	11.4	12.4
D4SH-250X				22.6*	37.2	45.9	67.2	D4SH-250X				11.3*	13.6	14.6	16.0
D4SL-150X			13.0*	22.4*	35.8	44.0		D4SL-150X			9.1*	11.8*	14.2	15.4	
D4SL-1500-DTC	4.5	9.7	13.3	22.7	35.8	44.0		D4SL-1500-DTC	5.3	7.8	9.1	11.8	14.2	15.4	
D4SJ-300X				25.7*	43.5	53.9	79.6	D4SJ-300X				13.1*	16.1	17.4	19.5
D4ST-200X			15.0*	26.1*	42.0	51.6		D4ST-200X			10.4*	13.5*	16.5	18.0	
D4ST-2000-DTC	5.2	11.2	15.3	26.4	41.9	51.6		D4ST-2000-DTC	6.1	8.9	10.4	13.5	16.5	18.0	
D6SA-300X				24.6*	41.9	52.0	76.8	D6SA-300X				13.4*	16.2	17.3	19.0
D6SF-200X			13.8*	24.8*	39.7*	48.9*		D6SF-200X			10.5*	13.8*	16.6*	17.7*	
D6ST-3200-DTC	7.3	16.1	22.1	38.0	60.0	73.6		D6ST-3200-DTC	9.0	13.4	15.7	20.5	25.8	28.5	
D6SJ-400X				37.2*	63.2	78.3	115.5	D6SJ-400X				20.2*	24.5	26.4	29.3
D6SU-4000-DTC	9.7	21.2	28.9	49.5	77.9	95.5		D6SU-4000-DTC	11.6	16.9	19.7	25.1	30.3	32.7	
D6SK-500X				45.8*	76.2	94.1	139.0	D6SK-500X				23.1*	28.4	30.7	34.3
D8SH-370X			27.1*	46.7*	72.3*	87.6*		D8SH-370X			18.9*	24.5*	29.2*	31.0*	
D8SJ-450X			31.6*	55.1*	87*	107*		D8SJ-450X			21.4*	28.3*	34.4*	36.9*	
D8SJ-600X				53.8*	92.0	114.0	168.5	D8SJ-600X				28.9*	35.0	37.6	41.6
D8SK-700X				62.8*	103.5	127.5	191.0	D8SK-700X				33.8*	41.1	44.3	49.2

Suction Gas Return 20°C / Subcooling 0K

\*Suction Superheat 10K / Subcooling 0K

High Discharge Temp - Additional cooling required