

Copeland Stream digital with Compressor Electronics for continuous capacity modulation

Stream digital series 4 and 6 cylinder compressors provide an alternative means of continuous modulation to inverter. Digital modulation is the most simple and precise method of capacity control and helps to contain applied costs associated with modulation.

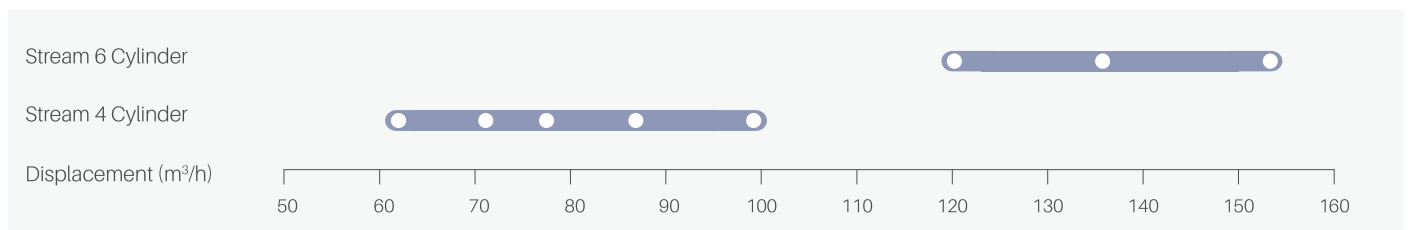
Digital technology is based on controlling a high-cycle solenoid valve fitted on one of the cylinder heads based on cycle time. The valve actuates a piston that controls the flow of gas into the suction area of the Stream valve plate. The compressor always runs at constant speed which resolves the challenges related to oil return, mechanical and electrical stress on the system.

All compressors are equipped with Copeland compressor electronics technology (p.92) and offer the possibility to diagnose system-related problems faster or even before they occur.



Copeland Stream digital compressor

Stream digital line-up

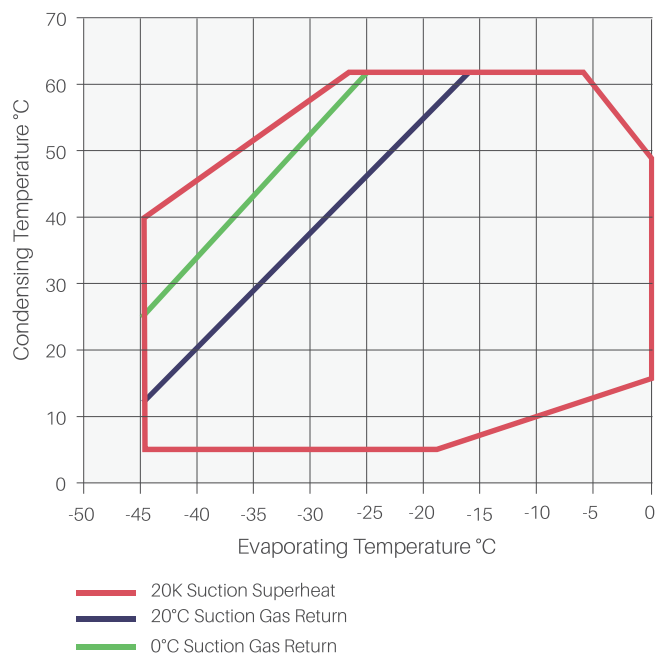


Features and benefits

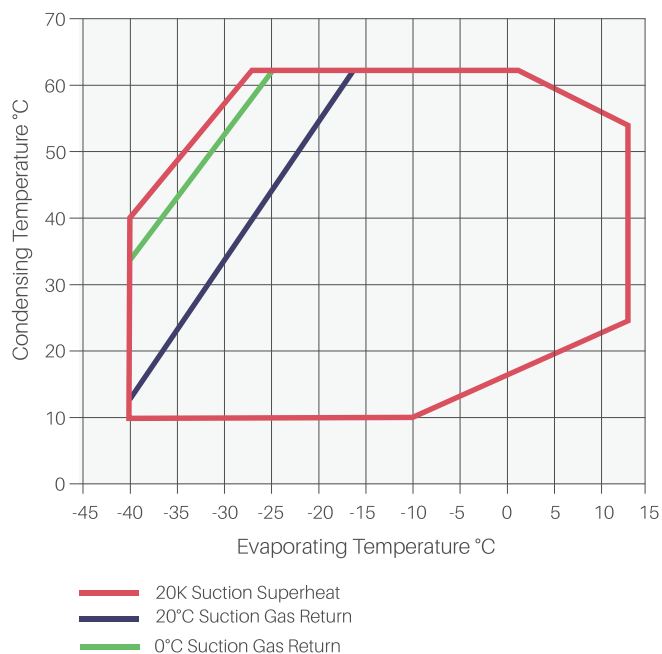
- Range of 16 models from 62 to 153 m³/h
- Multi-refrigerant compressor, compatible with R407A/F/C, R448A/ R449A, R404A, R134a, R450A and R513A
- Continuous modulation from 50–100% (4-cylinder) and 33–100% (6-cylinder) ensuring a perfect match of capacity and power to refrigeration load
- Economical and reliable alternative to frequency inverters
- Precise suction pressure control with associated energy savings and stable evaporating temperatures
- Quick and easy integration into refrigeration equipment, similar to any other standard compressor
- Possibility to easily retrofit existing installations with digital cylinder head kit
- No vibrations or mechanical stress on system piping and compressor parts
- Reduced compressor cycling for longer contactor and compressor life
- Copeland compressor electronics module providing advanced protection, diagnostics and preventive maintenance

Operating envelope R448A/R449A

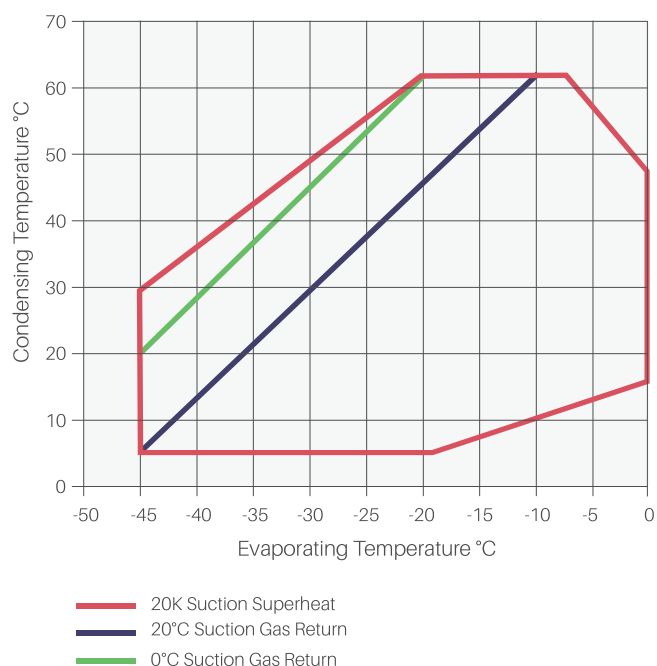
With 4 cylinder small motor - 100% modulation



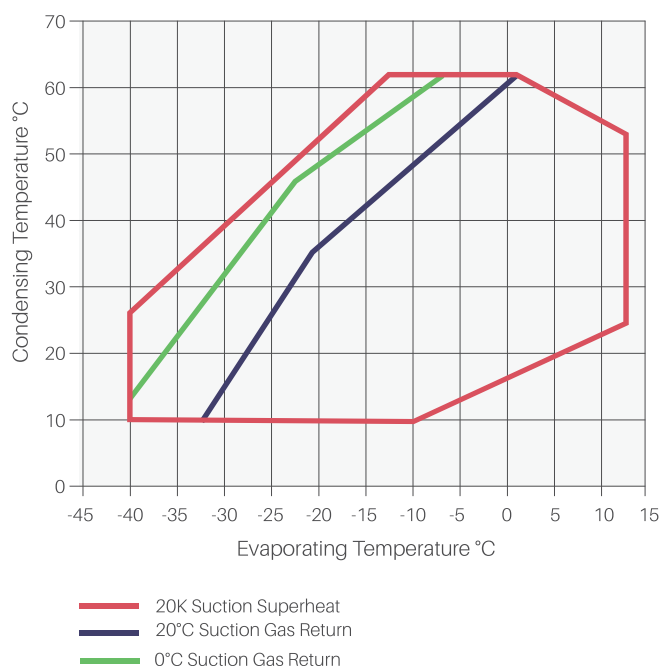
With 6 cylinder large motor - 100% modulation



With 4 cylinder small motor - 50% modulation



With 6 cylinder large motor - 33% modulation



All other refrigerant envelopes are available as 'Dynamic Envelopes' and can be accessed through [Copeland Select Software](#).

Technical overview

Models	Nominal hp	Displacement (m³/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 - dB(A) ***
						3 Ph**	3 Ph**	3 Ph**	
4MFD-13	13	61.7	3.3	638/501/452	183	AWM	30.8	105	70
4MAD-22	22	61.7	3.3	638/501/452	183	AWM	36.3	175	75
4MLD-15	15	71.4	3.3	638/501/452	186	AWM	35.4	156	71
4MHD-25	25	71.4	3.3	657/501/452	193	AWM	41.6	199	75
4MMD-20	17	78.2	3.3	657/501/452	188	AWM	39.0	175	71
4MID-30	27	78.2	3.3	657/501/452	194	AWM	46.6	221	75
4MTD-22	22	87.7	3.3	657/501/452	189	AWM	44.5	175	73
4MJD-33	33	87.7	3.3	657/501/452	196	AWM	52.9	221	74
4MUD-25	25	99.4	3.3	657/501/452	192	AWM	51.9	199	72
4MKD-35	32	99.4	3.3	688/501/452	202	AWM	61.1	255	74
6MMD-30	27	120.5	3.3	695/547/450	221	AWM	59.7	255	78
6MID-40	35	120.5	3.3	695/547/450	225	AWM	71.4	304	78
6MTD-35	32	135.0	3.3	725/547/450	227	AWM	67.3	255	77
6MJD-45	40	135.0	3.3	725/547/450	229	AWM	81.5	304	79
6MUD-40	40	153.0	3.3	757/547/450	231	AWM	75.8	304	78
6MKD-50	50	153.0	3.3	773/547/450	236	AWM	92.9	393	80

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

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

Capacity data

Condensing Temperature: 40°C															
R407A	Cooling Capacity (kW)							R407A	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
4MFD-13				18.3*	30.9	37.9		4MFD-13				9.7*	11.8	12.7	
4MAD-22					32.2	39.9	59.3	4MAD-22					11.7	12.6	14.0
4MLD-15				22.7*	37.7	46.1		4MLD-15				11.4*	13.8	14.9	
4MHD-25					37.4	46.2	68.5	4MHD-25					13.7	14.6	15.9
4MMD-20				24.9*	41.2	50.5		4MMD-20				12.7*	15.3	16.5	
4MID-30				21.6*	37.4	46.2	68.5	4MID-30				11.4*	13.7	14.6	15.9
4MTD-22				26.5*	44.2	54.2		4MTD-22				14.5*	17.5	18.9	
4MJD-33					41.7	51.4	75.7	4MJD-33					15.1	16.1	17.8
4MUD-25				30.1*	50.4	61.8		4MUD-25				16.2*	19.9	21.6	
4MKD-35					52.1	64.1	94.2	4MKD-35					19.5	20.9	23.4
6MMD-30			20.9*	39.3	61.3	75.0		6MMD-30			14.9*	19.4	23.6	25.5	
6MID-40				40.4	63.6	78.3	115.5	6MID-40				19.3	23.3	25.0	27.6
6MTD-35			24.8*	45.3	70.3	86.0		6MTD-35			16.8*	21.9	26.9	29.1	
6MJD-45				45.0	70.7	87.0	128.0	6MJD-45				21.5	26.1	28.0	31.0
6MUD-40				50.4	78.7	96.7		6MUD-40				24.4	30.1	32.8	
6MKD-50				50.1	78.6	96.6	142.0	6MKD-50				24.4	29.8	32.3	36.4

Conditions: Suction Gas Return 20°C, Subcooling 0K, 100% Loaded
* Conditions: Suction Superheat 10K, Subcooling 0K

Condensing Temperature: 40°C															
R407F	Cooling Capacity (kW)							R407F	Power Input (kW)						
	Evaporating Temperature (°C)								Evaporating Temperature (°C)						
Model	-45	-35	-30	-20	-10	-5	+5	Models	-45	-35	-30	-20	-10	-5	+5
4MAD-22				20.5*	34.4	42.6	63.1	4MAD-22				10.2*	12.4	13.2	14.4
4MFD-13				19.5*	32.2	39.5		4MFD-13				10.2*	12.4	13.3	
4MHD-25				23.9*	40.0	49.4	73.1	4MHD-25				11.9*	14.4	15.4	16.8
4MLD-15				23.9*	39.4	48.4		4MLD-15				12.0*	14.6	15.7	
4MID-30				26.6*	44.0	54.2	79.9	4MID-30				13.1*	15.8	17.0	18.6
4MMD-20				26.3*	43.0	52.9		4MMD-20				13.3*	16.0	17.2	
4MJD-33				29.8*	49.0	60.3	88.9	4MJD-33				14.8*	17.8	19.2	21.1
4MTD-22				29.5*	48.0	58.9		4MTD-22				15.1*	18.3	19.7	
4MKD-35				33.3*	54.8	67.6	100.0	4MKD-35				16.8*	20.4	22.0	24.4
4MUD-25				32.9*	54.0	66.3		4MUD-25				17.1*	21.0	22.8	
6MID-40				40.7*	67.2	82.6	121.5	6MID-40				20.2*	24.4	26.2	28.9
6MMD-30				40.2*	65.4	79.9		6MMD-30				20.4*	24.8	26.7	
6MJD-45				45.3*	74.5	91.6	135.0	6MJD-45				22.9*	27.6	29.7	32.8
6MTD-35				45.3*	73.3	89.5		6MTD-35				23.1*	28.0	30.3	
6MKD-50				50.7*	83.7	103.0	151.5	6MKD-50				25.8*	31.3	33.7	37.5
6MUD-40				47.9*	81.9	100.5		6MUD-40				25.9*	31.7	34.4	

Conditions: Suction Gas Return 20°C, Subcooling 0K, 100% Loaded
* Conditions: Suction Superheat 10K, Subcooling 0K
Preliminary Data

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
4MAD-22		8.1*	11.7*	23.4	35.6	43.1	61.3	4MAD-22		7.3*	8.6*	11.0	13.0	13.7	14.7
4MFD-13		8.3*	11.5*	22.6	34.5	41.8		4MFD-13		7.4*	8.7*	11.0	13.1	13.9	
4MHD-25		9.6*	13.7*	27.2	41.7	50.7	72.9	4MHD-25		8.6*	10.1*	13.0	15.4	16.3	17.5
4MLD-15		10.6*	14.5*	27.6	41.6	50.2		4MLD-15		9.0*	10.5*	13.3	15.8	16.7	
4MID-30		11.4*	16.2*	30.9	46.3	55.7	78.7	4MID-30		9.8*	11.5*	14.5	17.0	18.0	19.5
4MMD-20		12.2*	16.4*	30.6	45.6	54.8		4MMD-20		10.1*	11.6*	14.6	17.1	18.2	
4MJD-33		12.9*	17.8*	34.2	51.9	62.7	89.5	4MJD-33		10.9*	12.6*	16.1	19.0	20.2	21.8
4MTD-22		13.7*	18.4*	34.3	51.5	62.1		4MTD-22		11.5*	13.2*	16.6	19.5	20.7	
4MKD-35		14.5*	20.0*	38.4	58.3	70.6	101.0	4MKD-35		12.6*	14.6*	18.5	22.0	23.5	25.7
4MUD-25		14.9*	20.1*	38.1	57.5	69.5		4MUD-25		12.9*	14.9*	18.8	22.3	23.7	
6MID-40		17.3*	28.6°	46.2	70.1	84.9	121.5	6MID-40		15.2*	17.6°	22.2	26.1	27.7	30.1
6MMD-30		18.2*	29.0°	46.0	69.5	84.3		6MMD-30		15.7*	18.1°	22.5	26.3	27.8	
6MJD-45		19.2*	32.0°	51.9	78.7	95.1	135.0	6MJD-45		16.8*	19.6°	24.9	29.5	31.4	33.9
6MTD-35		20.5*	32.7°	52.0	78.5	94.9		6MTD-35		17.5*	20.1°	25.3	29.7	31.5	
6MKD-50		21.4*	36.0°	58.1	87.7	106.0	150.5	6MKD-50		19.4*	22.5°	28.3	33.5	35.9	39.9
6MUD-40		22.6*	36.5°	58.1	88.1	107.0		6MUD-40		19.7*	22.7°	28.5	33.6	35.8	

Conditions: Suction Gas Return 20°C, Subcooling 0K, 100% Loaded
* Conditions: Suction Superheat 10K, Subcooling 0K
° Additional Cooling Required

Condensing Temperature: 40°C															
R134a	Cooling Capacity (kW)							R134a	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
4MAD-22		4.0*	6.2*	11.8*	20.0*	25.4*	39.7	4MAD-22		3.7*	4.4*	5.9*	7.3*	7.9*	8.7
4MFD-13				12.1	20.2	25.4	38.5	4MFD-13				5.8	7.2	7.8	8.7
4MHD-25		4.4*	6.9*	13.5*	23.1*	29.3*	45.9	4MHD-25		4.7*	5.4*	7.1*	8.7*	9.4*	10.4
4MLD-15				14.8	24.2	30.2	45.5	4MLD-15				6.9	8.5	9.3	10.4
4MID-30		5.2*	8.0*	15.1*	25.4*	32.2*	50.2	4MID-30		4.9*	5.8*	7.6*	9.4*	10.3*	11.4
4MMD-20				16.5	26.7	33.3	49.8	4MMD-20				7.7	9.4	10.2	11.4
4MJD-33		6.0*	9.1*	17.0*	28.5*	35.9*	55.9	4MJD-33		5.6*	6.6*	8.7*	10.7*	11.5*	12.8
4MTD-22				18.9	30.3	37.7	56.7	4MTD-22				8.7	10.8	11.7	13.1
4MKD-35		7.0*	10.4*	19.1*	31.9*	40.3*	62.7	4MKD-35		7.1*	7.7*	9.7*	12.2*	13.3*	14.9
4MUD-25				20.5	33.5	41.9	63.2	4MUD-25				9.8	12.2	13.3	15.1
6MID-40				22.2*	37.6*	47.8*	75.3	6MID-40				12.0*	14.6*	15.8*	17.8
6MMD-30				24.9	40.3	50.2	75.3	6MMD-30				11.7	14.6	15.8	17.7
6MJD-45				25.6*	42.7*	54.0*	84.5	6MJD-45				13.0*	16.2*	17.8*	20.3
6MTD-35				28.2	45.5	56.5	84.4	6MTD-35				13.3	16.5	17.9	20.0
6MKD-50				26.2*	45.7*	58.6*	93.4	6MKD-50				15.2*	18.8*	20.5*	23.3
6MUD-40				31.2	50.1	62.3	93.6	6MUD-40				14.6	18.4	20.1	23.0

Conditions: Suction Gas Return 20°C, Subcooling 0K, 100% Loaded
* Conditions: Suction Superheat 10K, Subcooling 0K

Capacity data

Condensing Temperature: 40°C															
R448A / R449A	Cooling Capacity (kW)							R448A / R449A	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
4MAD-22		7.7*	11.1*	21.0	34.0	42.2	62.9	4MAD-22		6.2*	7.4*	9.8	11.8	12.6	13.7
4MFD-13	3.7*	8.1*	10.9*	19.4	30.1	36.9		4MFD-13	4.5*	6.3*	7.4*	9.8	12.2	13.1	
4MLD-15	4.2*	10.3*	14.2*	24.9	38.3	46.6		4MLD-15	5.2*	7.6*	8.9*	11.6	14.2	15.4	
4MHD-25		9.3*	13.3*	24.5	38.7	47.6	69.6	4MHD-25		7.6*	8.9*	11.6	14.1	15.1	16.7
4MMD-20	4.9*	11.6*	15.8*	27.5	42.0	51.0		4MMD-20	5.8*	8.5*	9.9*	12.9	15.6	16.9	
4MID-30		10.6*	15.3*	27.8	43.6	53.5	77.8	4MID-30		8.2*	9.8*	13.0	15.6	16.7	18.2
4MJD-33		11.9*	16.8*	30.6	48.2	59.2	86.7	4MJD-33		9.2*	11.0*	14.5	17.6	18.9	20.6
4MTD-22	5.8*	13.3*	17.9*	31.0	47.2	57.2		4MTD-22	6.6*	9.7*	11.3*	14.6	17.8	19.2	
4MKD-35		13.6*	19.0*	34.4	54.3	66.8	97.9	4MKD-35		10.7*	12.7*	16.7	20.4	22.0	24.4
4MUD-25	6.4*	14.2*	19.2*	33.9	52.7	64.4		4MUD-25	7.4*	10.8*	12.7*	16.6	20.5	22.4	
6MID-40		16.9*	23.7*	42.4	65.9	80.6	116.5	6MID-40		13.0*	15.3*	19.6	23.5	25.2	28.0
6MMD-30	6.5*	17.4*	23.8*	41.4	62.6	75.5		6MMD-30	8.8*	13.1*	15.4*	19.9	23.9	25.6	
6MTD-35	7.4*	19.5*	26.6*	46.0	69.3	83.5		6MTD-35	9.7*	14.6*	17.2*	22.2	26.9	29.0	
6MJD-45		19.3*	26.9*	47.6	73.7	90.1	131.0	6MJD-45		14.3*	17.0*	22.2	26.9	28.8	31.7
6MKD-50		20.8*	29.1*	52.2	81.4	99.8	145.5	6MKD-50		16.4*	19.2*	25.0	30.3	32.7	36.7
6MUD-40	8.2*	21.9*	30.2*	52.9	81.0	98.4		6MUD-40	10.9*	16.3*	19.1*	24.6	29.8	32.1	

Conditions: Suction Gas Return 20°C / Subcooling 0K, 100% Loaded
*Conditions: Suction Superheat 10K, Subcooling 0K
Preliminary Data