

# marstair

## fact sheet #3

# Greener refrigerants for the MRC+ range



MRC+ AND MRC+ LT REFRIGERATION CONDENSING UNITS CAN ALSO OPERATE WITH THE LOWER GLOBAL WARMING POTENTIAL REFRIGERANTS R407A, R407F, R448A AND R449A.

These new refrigerants offer similar capacities to R404A and potential improved system efficiencies of up to 10% depending on operating conditions.

In addition to the system efficiency improvements these new refrigerants have a much lower global warming potential level as can be seen from the table below. This marks the MRC+ products as an alternative for the environmentally aware client, and for the installing engineer the simplicity of application of these refrigerants make the MRC+ an attractive low cost solution to the issues raised by the refrigerant quota in the new F-GAS regulations.

Small adjustments to the fully modifiable head pressure control can ensure maximum efficiencies when using these new refrigerants. The evaporator and thermal expansion valves should also be checked for suitability and adjusted for optimum performance. Full performance figures for the MRC+ range with these new refrigerants are shown overleaf.

### REFRIGERANT GLOBAL WARMING POTENTIAL COMPARISON



GWP TABLE	
R404A	3922
R407A	2107
R407F	1825
R448A	1387
R449A	1397

# MRC+ Technical Information

## MRC+ (Based on R407A)

MODEL	Ambient Temp	ELECTRICAL SUPPLY		HP	EVAPORATING TEMPERATURE °C													
					-15		-10		-5		0		5		7		10	
		1Ph	3Ph		R407A COOLING CAPACITY AND POWER INPUT kW													
					Cap.	Power	Cap.	Power	Cap.	Power	Cap.	Power	Cap.	Power	Cap.	Power	Cap.	Power
MRC+ 15	27			1/2	0.90	0.58	1.20	0.64	1.55	0.71	1.90	0.77	2.37	0.83	2.39	0.86	2.45	0.88
	30	*			0.84	0.58	1.14	0.64	1.47	0.71	1.81	0.78	2.25	0.85	2.28	0.87	2.32	0.91
	32	*			0.81	0.58	1.09	0.64	1.42	0.72	1.74	0.83	2.19	0.86	2.19	0.89	2.24	0.92
	35	*			0.74	0.59	1.03	0.64	1.34	0.73	1.65	0.81	2.05	0.89	2.07	0.91	2.10	0.95
MRC+ 20	27			5/8	1.17	0.74	1.56	0.82	2.01	0.91	2.47	1.00	3.07	1.08	3.11	1.11	3.18	1.15
	30	*			1.10	0.74	1.47	0.83	1.91	0.92	2.35	1.01	2.92	1.10	2.96	1.13	3.01	1.18
	32	*			1.05	0.74	1.42	0.83	1.84	0.92	2.26	1.07	2.84	1.12	2.85	1.15	2.91	1.20
	35	*			0.96	0.74	1.34	0.84	1.73	0.94	2.14	1.05	2.66	1.15	2.68	1.19	2.72	1.24
MRC+ 30	27			1 3/8	1.74	0.94	2.23	1.04	2.78	1.15	3.32	1.26	4.03	1.36	4.07	1.43	4.40	1.50
	30	*	*		1.64	0.94	2.11	1.05	2.64	1.16	3.16	1.28	3.83	1.39	3.87	1.46	4.16	1.55
	32	*	*		1.57	0.95	2.03	1.06	2.53	1.17	3.03	1.35	3.74	1.41	3.72	1.49	4.02	1.58
	35	*	*		1.44	0.95	1.91	1.07	2.39	1.20	2.87	1.33	3.50	1.45	3.50	1.54	3.75	1.64
MRC+ 40	27			1 1/2	2.52	1.40	3.18	1.50	3.93	1.64	4.67	1.80	5.46	1.99	5.75	2.08	6.25	2.21
	30	*	*		2.39	1.42	3.03	1.53	3.74	1.68	4.64	1.85	5.18	2.05	5.46	2.14	5.90	2.29
	32	*	*		2.31	1.43	2.92	1.56	3.60	1.70	4.28	1.97	5.04	2.10	5.25	2.19	5.68	2.34
	35	*	*		2.12	1.44	2.76	1.58	3.41	1.75	4.04	1.94	4.69	2.16	4.91	2.26	5.28	2.42
MRC+ 45	27			1 1/2	2.48	1.02	3.01	1.05	3.62	1.10	4.22	1.18	4.87	1.29	5.11	1.37	5.52	1.47
	30	*			2.39	1.09	2.90	1.13	3.49	1.18	4.08	1.25	4.69	1.37	4.92	1.45	5.29	1.57
	32	*			2.33	1.14	2.89	1.17	3.39	1.22	3.95	1.36	4.61	1.42	4.78	1.52	5.31	1.64
	35	*			2.19	1.22	2.72	1.26	3.25	1.31	3.79	1.39	4.36	1.53	4.55	1.62	4.89	1.75
MRC+ 50	27			2	3.31	1.50	4.05	1.54	4.89	1.59	5.73	1.67	6.64	1.78	6.98	1.83	7.57	1.88
	30	*	*		3.20	1.60	3.90	1.65	4.72	1.70	5.54	1.78	6.39	1.89	6.73	1.93	7.26	2.02
	32	*	*		3.12	1.67	3.89	1.72	4.58	1.76	5.37	1.93	6.29	1.96	6.54	2.02	7.29	2.10
	35	*	*		2.92	1.79	3.66	1.84	4.39	1.89	5.15	1.98	5.94	2.10	6.23	2.14	6.71	2.24
MRC+ 60	27			2 1/2	3.89	1.66	4.75	1.71	5.74	1.77	6.72	1.86	7.80	1.98	8.19	2.03	8.89	2.09
	30	*	*		3.75	1.78	4.58	1.83	5.55	1.89	6.51	1.98	7.50	2.10	7.90	2.15	8.52	2.25
	32	*	*		3.66	1.86	4.56	1.91	5.38	1.96	6.30	2.15	7.38	2.18	7.68	2.25	8.56	2.34
	35	*	*		3.43	1.99	4.29	2.05	5.16	2.11	6.05	2.21	6.97	2.34	7.31	2.40	7.88	2.50
MRC+ 80	27			3	4.63	1.90	5.65	1.96	6.84	2.02	8.00	2.13	9.28	2.27	9.75	2.33	10.58	2.41
	30	*	*		4.47	2.04	5.45	2.10	6.60	2.17	7.75	2.28	8.93	2.42	9.41	2.48	10.14	2.59
	32	*	*		4.35	2.14	5.43	2.20	6.40	2.26	7.50	2.48	8.78	2.52	9.14	2.60	10.18	2.70
	35	*	*		4.08	2.30	5.11	2.37	6.14	2.44	7.20	2.55	8.30	2.71	8.70	2.77	9.37	2.90
MRC+ 90	27			3 1/2	5.40	2.19	6.60	2.26	7.98	2.34	9.35	2.46	10.84	2.63	11.39	2.70	12.35	2.79
	30	*	*		5.21	2.37	6.37	2.43	7.71	2.51	9.04	2.64	10.43	2.80	10.98	2.88	11.84	3.00
	32	*	*		5.08	2.48	6.34	2.55	7.47	2.62	8.76	2.88	10.25	2.93	10.67	3.02	11.89	3.14
	35	*	*		4.77	2.67	5.96	2.75	7.17	2.83	8.40	2.96	9.69	3.15	10.16	3.23	10.94	3.37
MRC+ 100	27			4	6.19	2.89	7.71	2.97	9.14	3.08	10.71	3.24	12.41	3.45	13.05	3.54	14.15	3.65
	30	*	*		5.97	3.09	7.29	3.17	8.83	3.27	10.36	3.43	11.95	3.64	12.58	3.73	13.57	3.89
	32	*	*		5.82	3.21	7.02	3.25	8.56	3.39	10.03	3.72	11.75	3.78	12.22	3.88	13.62	4.04
	35	*	*		5.46	3.43	6.83	3.53	8.21	3.63	9.63	3.80	11.10	4.03	11.63	4.12	12.54	4.30
MRC+ 130	27			4 2/5	7.09	3.30	8.84	3.39	10.47	3.51	12.27	3.69	14.22	3.92	14.95	4.03	16.21	4.15
	30	*	*		6.84	3.53	8.36	3.62	10.11	3.74	11.87	3.91	13.69	4.15	14.42	4.25	15.54	4.43
	32	*	*		6.67	3.67	8.05	3.71	9.81	3.87	11.50	4.24	13.46	4.31	14.00	4.43	15.61	4.60
	35	*	*		6.25	3.92	7.83	4.04	9.41	4.15	11.03	4.33	12.72	4.60	13.33	4.70	14.36	4.91
MRC+ 150	27			5	7.74	3.34	9.64	3.44	11.43	3.56	13.38	3.74	15.51	3.97	16.30	4.08	17.68	4.20
	30	*	*		7.46	3.57	9.11	3.67	11.03	3.78	12.95	3.96	14.93	4.20	15.72	4.30	16.95	4.49
	32	*	*		7.28	3.71	8.78	3.76	10.70	3.92	12.54	4.29	14.68	4.36	15.28	4.48	17.02	4.66
	35	*	*		6.82	3.97	8.54	4.09	10.26	4.20	12.03	4.39	13.87	4.66	14.54	4.76	15.67	4.97
MRC+ 165	27			6	9.23	3.89	11.50	4.00	13.63	4.14	15.96	4.35	18.51	4.63	19.45	4.76	21.09	4.90
	30	*	*		8.90	4.16	10.87	4.28	13.16	4.41	15.44	4.62	17.81	4.91	18.76	5.03	20.22	5.25
	32	*	*		8.68	4.33	10.47	4.38	12.76	4.58	14.96	5.02	17.51	5.10	18.22	5.24	20.31	5.45
	35	*	*		8.14	4.64	10.19	4.78	12.24	4.91	14.35	5.13	16.55	5.45	17.34	5.57	18.69	5.82
MRC+ 180	27			7 1/2	10.20	4.27	12.71	4.39	15.06	4.55	17.64	4.78	20.45	5.09	21.50	5.23	23.31	5.39
	30	*	*		9.84	4.57	12.02	4.70	14.55	4.85	17.07	5.08	19.68	5.39	20.73	5.53	22.35	5.77
	32	*	*		9.60	4.76	11.57	4.82	14.10	5.04	16.53	5.52	19.35	5.61	20.14	5.77	22.44	6.00
	35	*	*		8.99	5.11	11.26	5.26	13.53	5.40	15.86	5.65	18.29	6.00	19.17	6.14	20.66	6.41

System duties should take into account evaporator performance when comparing refrigerants.

# MRC<sup>+</sup> Technical Information

## MRC<sup>+</sup> (Based on R407F)

MODEL	Ambient Temp	ELECTRICAL SUPPLY		HP	EVAPORATING TEMPERATURE °C														
					-15		-10		-5		0		5		7		10		
		1Ph	3Ph		R407F COOLING CAPACITY AND POWER INPUT kW														
					Cap.	Power	Cap.	Power	Cap.	Power	Cap.	Power	Cap.	Power	Cap.	Power	Cap.	Power	
MRC+ 15	27			1/2	0.88	0.64	1.19	0.70	1.54	0.77	1.93	0.82	2.37	0.90	2.42	0.92	2.49	0.95	
	30	*			0.83	0.65	1.12	0.70	1.46	0.78	1.81	0.85	2.26	0.92	2.30	0.94	2.37	0.98	
	32				0.79	0.65	1.07	0.70	1.40	0.78	1.74	0.86	2.21	0.93	2.22	0.96	2.29	1.00	
	35				0.74	0.64	1.01	0.70	1.32	0.80	1.64	0.88	2.05	0.96	2.08	0.98	2.14	1.03	
MRC+ 20	27			5/8	1.15	0.82	1.54	0.90	2.00	0.99	2.50	1.06	3.08	1.17	3.14	1.20	3.23	1.24	
	30	*			1.07	0.82	1.45	0.91	1.89	1.00	2.34	1.10	2.93	1.19	2.99	1.22	3.07	1.27	
	32				1.03	0.83	1.39	0.92	1.81	1.01	2.26	1.12	2.87	1.21	2.88	1.25	2.97	1.30	
	35				0.96	0.82	1.31	0.92	1.71	1.03	2.13	1.14	2.66	1.25	2.70	1.29	2.77	1.35	
MRC+ 30	27			1 3/8	1.72	1.05	2.20	1.15	2.75	1.26	3.36	1.34	4.05	1.47	4.11	1.54	4.47	1.62	
	30	*	*		1.61	1.06	2.08	1.16	2.61	1.28	3.15	1.40	3.84	1.51	3.91	1.58	4.24	1.67	
	32				1.54	1.06	1.99	1.17	2.50	1.29	3.03	1.42	3.76	1.53	3.76	1.62	4.09	1.71	
	35				1.44	1.06	1.87	1.18	2.36	1.31	2.85	1.45	3.50	1.57	3.53	1.67	3.82	1.79	
MRC+ 40	27			1 1/2	2.49	1.58	3.14	1.68	3.89	1.80	4.72	1.92	5.48	2.16	5.81	2.25	6.34	2.39	
	30	*	*		2.34	1.60	2.98	1.71	3.71	1.85	4.62	2.03	5.20	2.24	5.52	2.33	6.01	2.49	
	32				2.25	1.61	2.87	1.73	3.56	1.88	4.28	2.06	5.08	2.29	5.30	2.39	5.79	2.55	
	35				2.12	1.61	2.70	1.75	3.35	1.92	4.02	2.12	4.69	2.36	4.96	2.46	5.38	2.64	
MRC+ 45	27			1 1/2	2.44	1.15	2.97	1.17	3.58	1.21	4.27	1.25	4.89	1.39	5.16	1.48	5.60	1.58	
	30	*			2.35	1.23	2.86	1.25	3.46	1.29	4.06	1.37	4.71	1.49	4.97	1.57	5.39	1.70	
	32				2.28	1.28	2.84	1.30	3.35	1.35	3.95	1.42	4.65	1.55	4.83	1.65	5.42	1.78	
	35				2.19	1.37	2.66	1.39	3.20	1.44	3.77	1.52	4.36	1.66	4.59	1.76	4.97	1.91	
MRC+ 50	27			2	3.26	1.69	4.00	1.72	4.85	1.76	5.80	1.79	6.67	1.93	7.05	1.98	7.69	2.04	
	30	*	*		3.13	1.81	3.84	1.84	4.68	1.87	5.52	1.95	6.42	2.06	6.80	2.10	7.40	2.19	
	32				3.04	1.89	3.82	1.91	4.53	1.95	5.37	2.02	6.33	2.13	6.61	2.19	7.43	2.28	
	35				2.92	2.01	3.58	2.03	4.32	2.08	5.13	2.16	5.94	2.29	6.28	2.33	6.83	2.45	
MRC+ 60	27			2 1/2	3.83	1.88	4.70	1.90	5.69	1.95	6.81	1.99	7.82	2.14	8.27	2.20	9.02	2.26	
	30	*	*		3.68	2.02	4.51	2.04	5.49	2.08	6.48	2.17	7.53	2.29	7.98	2.34	8.68	2.44	
	32				3.57	2.10	4.48	2.13	5.31	2.17	6.30	2.25	7.43	2.38	7.76	2.44	8.72	2.55	
	35				3.43	2.24	4.20	2.27	5.08	2.32	6.02	2.41	6.98	2.55	7.37	2.61	8.01	2.73	
MRC+ 80	27			3	4.56	2.15	5.59	2.19	6.77	2.24	8.10	2.28	9.31	2.47	9.85	2.53	10.74	2.61	
	30	*	*		4.38	2.32	5.37	2.35	6.54	2.40	7.71	2.50	8.96	2.64	9.50	2.70	10.33	2.81	
	32				4.25	2.42	5.33	2.45	6.32	2.50	7.50	2.60	8.85	2.75	9.23	2.82	10.38	2.94	
	35				4.08	2.59	5.00	2.62	6.04	2.69	7.16	2.79	8.30	2.96	8.77	3.02	9.54	3.17	
MRC+ 90	27			3 1/2	5.32	2.49	6.53	2.53	7.91	2.58	9.46	2.64	10.87	2.86	11.50	2.93	12.54	3.02	
	30	*	*		5.11	2.69	6.27	2.72	7.63	2.78	9.01	2.90	10.47	3.06	11.10	3.13	12.06	3.27	
	32				4.96	2.81	6.23	2.85	7.38	2.91	8.76	3.02	10.33	3.20	10.78	3.28	12.12	3.43	
	35				4.76	3.01	5.84	3.05	7.05	3.13	8.36	3.25	9.69	3.44	10.24	3.52	11.13	3.69	
MRC+ 100	27			4	6.10	3.29	7.63	3.33	9.06	3.41	10.83	3.47	12.46	3.75	13.17	3.84	14.36	3.95	
	30	*	*		5.85	3.52	7.18	3.56	8.74	3.63	10.32	3.77	11.99	3.98	12.71	4.06	13.82	4.23	
	32				5.69	3.64	6.90	3.63	8.46	3.76	10.03	3.91	11.83	4.12	12.35	4.23	13.89	4.41	
	35				5.46	3.87	6.69	3.92	8.08	4.01	9.58	4.16	11.11	4.40	11.73	4.50	12.75	4.71	
MRC+ 130	27			4 2/5	6.99	3.73	8.74	3.78	10.38	3.87	12.41	3.95	14.27	4.26	15.09	4.36	16.45	4.49	
	30		*		6.70	4.00	8.23	4.04	10.02	4.13	11.82	4.29	13.74	4.53	14.56	4.62	15.83	4.81	
	32				6.51	4.15	7.90	4.13	9.69	4.28	11.50	4.45	13.56	4.69	14.15	4.81	15.91	5.01	
	35				6.25	4.40	7.66	4.46	9.26	4.57	10.98	4.74	12.72	5.01	13.44	5.12	14.61	5.36	
MRC+ 150	27			5	7.62	3.78	9.53	3.83	11.32	3.92	13.54	4.00	15.57	4.31	16.46	4.41	17.95	4.55	
	30	*	*		7.31	4.05	8.98	4.09	10.93	4.18	12.89	4.34	14.98	4.58	15.88	4.68	17.27	4.87	
	32				7.10	4.20	8.62	4.18	10.57	4.34	12.54	4.50	14.79	4.75	15.43	4.88	17.35	5.08	
	35				6.82	4.46	8.35	4.52	10.10	4.63	11.97	4.80	13.88	5.08	14.66	5.19	15.94	5.43	
MRC+ 165	27			6	9.09	4.41	11.37	4.47	13.50	4.57	16.15	4.66	18.57	5.03	19.64	5.15	21.41	5.31	
	30		*		8.72	4.73	10.71	4.78	13.03	4.88	15.38	5.07	17.87	5.36	18.95	5.47	20.60	5.70	
	32				8.48	4.91	10.28	4.89	12.61	5.07	14.96	5.26	17.64	5.56	18.41	5.70	20.70	5.94	
	35				8.13	5.22	9.97	5.29	12.05	5.41	14.28	5.62	16.55	5.95	17.49	6.08	19.01	6.37	
MRC+ 180	27			7 1/2	10.05	4.84	12.57	4.91	14.92	5.03	17.85	5.12	20.53	5.53	21.71	5.66	23.66	5.84	
	30		*		9.64	5.20	11.83	5.26	14.41	5.37	17.00	5.58	19.75	5.89	20.94	6.01	22.77	6.27	
	32				9.37	5.40	11.36	5.37	13.93	5.58	16.53	5.79	19.50	6.12	20.35	6.28	22.88	6.54	
	35				8.99	5.74	11.02	5.82	13.31	5.96	15.79	6.19	18.30	6.55	19.33	6.69	21.01	7.01	

System duties should take into account evaporator performance when comparing refrigerants.

# MRC+ Technical Information

## MRC+ (Based on R448A - R449A)

MODEL	Ambient Temp	ELECTRICAL SUPPLY		HP	EVAPORATING TEMPERATURE °C													
					-15		-10		-5		0		5		7		10	
		1Ph	3Ph		R448A - R449A COOLING CAPACITY AND POWER INPUT KW													
		Cap.	Power	Cap.	Power	Cap.	Power	Cap.	Power	Cap.	Power	Cap.	Power	Cap.	Power	Cap.	Power	
MRC+ 15	27	*		1/2	0.83	0.59	1.10	0.67	1.41	0.73	1.74	0.79	2.17	0.86	2.21	0.87	2.28	0.91
	30				0.77	0.60	1.04	0.67	1.35	0.73	1.66	0.81	2.08	0.87	2.12	0.89	2.18	0.92
	32				0.74	0.60	1.00	0.67	1.29	0.74	1.60	0.80	2.01	0.87	2.05	0.90	2.10	0.94
	35				0.71	0.60	0.95	0.67	1.24	0.75	1.54	0.82	1.92	0.89	1.95	0.92	2.00	0.96
MRC+ 20	27	*		5/8	1.08	0.77	1.42	0.85	1.83	0.93	2.26	1.03	2.81	1.12	2.87	1.14	2.95	1.19
	30				1.01	0.77	1.34	0.86	1.75	0.94	2.16	1.04	2.69	1.13	2.74	1.16	2.81	1.20
	32				0.97	0.77	1.30	0.86	1.68	0.95	2.08	1.05	2.61	1.14	2.66	1.17	2.73	1.22
	35				0.92	0.78	1.23	0.86	1.60	0.96	1.99	1.07	2.49	1.17	2.54	1.20	2.60	1.25
MRC+ 30	27	*	*	1 3/8	1.61	0.98	2.04	1.09	2.52	1.19	3.04	1.30	3.69	1.40	3.77	1.47	4.08	1.55
	30				1.51	0.99	1.92	1.10	2.40	1.20	2.89	1.32	3.54	1.43	3.59	1.49	3.89	1.58
	32				1.45	0.99	1.86	1.09	2.32	1.20	2.80	1.33	3.43	1.44	3.48	1.52	3.77	1.61
	35				1.38	1.00	1.76	1.10	2.20	1.23	2.67	1.36	3.27	1.47	3.31	1.56	3.59	1.66
MRC+ 40	27	*	*	1 1/2	2.33	1.48	2.90	1.59	3.56	1.70	4.27	1.87	5.00	2.06	5.33	2.14	5.80	2.29
	30				2.21	1.50	2.76	1.61	3.41	1.74	4.25	1.91	4.78	2.11	5.07	2.20	5.52	2.34
	32				2.13	1.51	2.68	1.61	3.29	1.76	3.95	1.94	4.62	2.15	4.90	2.23	5.34	2.39
	35				2.02	1.52	2.54	1.64	3.14	1.80	3.76	1.98	4.38	2.20	4.66	2.30	5.05	2.44
MRC+ 45	27	*		1 1/2	2.28	1.07	2.74	1.10	3.27	1.14	3.86	1.21	4.47	1.33	4.72	1.41	5.12	1.52
	30				2.21	1.16	2.64	1.17	3.18	1.22	3.73	1.28	4.33	1.41	4.56	1.48	4.95	1.60
	32				2.15	1.20	2.65	1.21	3.10	1.26	3.65	1.34	4.23	1.45	4.47	1.55	4.99	1.67
	35				2.09	1.29	2.50	1.31	2.99	1.35	3.52	1.42	4.08	1.55	4.31	1.64	4.67	1.77
MRC+ 50	27	*	*	2	3.05	1.58	3.69	1.62	4.44	1.66	5.24	1.73	6.09	1.84	6.46	1.88	7.02	1.95
	30				2.95	1.70	3.56	1.72	4.30	1.76	5.07	1.84	5.90	1.94	6.25	1.98	6.80	2.06
	32				2.87	1.77	3.56	1.79	4.19	1.82	4.96	1.90	5.76	2.00	6.11	2.05	6.85	2.14
	35				2.78	1.90	3.36	1.91	4.05	1.95	4.79	2.02	5.56	2.14	5.90	2.18	6.41	2.26
MRC+ 60	27	*	*	2 1/2	3.59	1.76	4.33	1.80	5.20	1.84	6.15	1.92	7.14	2.04	7.59	2.09	8.25	2.16
	30				3.46	1.89	4.19	1.92	5.05	1.95	5.95	2.04	6.92	2.16	7.33	2.21	7.97	2.29
	32				3.37	1.97	4.18	1.99	4.92	2.03	5.82	2.11	6.76	2.23	7.18	2.29	8.04	2.39
	35				3.27	2.12	3.95	2.13	4.74	2.18	5.62	2.25	6.53	2.38	6.91	2.43	7.52	2.53
MRC+ 80	27	*	*	3	4.27	2.02	5.16	2.07	6.19	2.11	7.32	2.21	8.50	2.36	9.03	2.41	9.82	2.49
	30				4.12	2.18	4.98	2.21	6.01	2.26	7.09	2.35	8.24	2.49	8.73	2.55	9.49	2.65
	32				4.01	2.27	4.97	2.30	5.86	2.35	6.93	2.44	8.05	2.58	8.54	2.65	9.57	2.76
	35				3.89	2.45	4.70	2.47	5.65	2.51	6.69	2.61	7.77	2.76	8.24	2.81	8.96	2.93
MRC+ 90	27	*	*	3 1/2	5.07	2.36	6.16	2.41	7.42	2.46	8.79	2.55	10.19	2.70	10.79	2.75	11.77	2.83
	30				4.90	2.53	5.95	2.58	7.18	2.65	8.50	2.73	9.86	2.87	10.44	2.93	11.36	3.03
	32				4.79	2.65	5.94	2.69	7.01	2.76	8.30	2.84	9.63	2.99	10.23	3.06	11.43	3.17
	35				4.63	2.86	5.62	2.91	6.76	2.96	8.01	3.06	9.27	3.21	9.82	3.27	10.65	3.37
MRC+ 100	27	*	*	4	5.78	3.12	7.14	3.16	8.43	3.23	10.03	3.37	11.66	3.54	12.38	3.62	13.55	3.71
	30				5.60	3.31	6.76	3.37	8.16	3.42	9.68	3.55	11.28	3.72	11.97	3.80	13.06	3.93
	32				5.46	3.43	6.53	3.42	7.96	3.54	9.45	3.66	11.02	3.84	11.68	3.93	13.13	4.06
	35				5.29	3.66	6.38	3.72	7.68	3.77	9.11	3.89	10.60	4.08	11.29	4.15	12.29	4.30
MRC+ 130	27		*	4 2/5	6.98	3.54	8.63	3.58	10.10	3.65	11.88	3.79	13.82	4.01	14.67	4.10	15.98	4.23
	30				6.74	3.79	8.15	3.82	9.78	3.89	11.47	4.02	13.32	4.24	14.14	4.32	15.39	4.49
	32				6.57	3.94	7.84	3.92	9.54	4.03	11.19	4.17	13.03	4.38	13.82	4.49	15.49	4.65
	35				6.30	4.23	7.64	4.26	9.17	4.32	10.77	4.45	12.54	4.68	13.29	4.76	14.49	4.95
MRC+ 150	27	*	*	5	7.61	3.59	9.40	3.62	11.02	3.69	12.96	3.84	15.07	4.05	16.01	4.15	17.42	4.27
	30				7.35	3.83	8.89	3.87	10.67	3.93	12.51	4.07	14.53	4.30	15.42	4.38	16.78	4.55
	32				7.16	3.98	8.56	3.96	10.41	4.09	12.21	4.23	14.20	4.44	15.08	4.55	16.90	4.71
	35				6.87	4.27	8.34	4.32	10.00	4.38	11.75	4.51	13.67	4.74	14.49	4.83	15.81	5.02
MRC+ 165	27		*	6	9.02	4.13	11.12	4.19	13.09	4.28	15.43	4.46	17.93	4.73	19.02	4.83	20.81	4.99
	30				8.70	4.42	10.54	4.49	12.64	4.57	14.92	4.74	17.32	5.00	18.40	5.08	20.08	5.32
	32				8.49	4.60	10.18	4.58	12.33	4.74	14.54	4.93	16.96	5.18	17.95	5.32	20.23	5.52
	35				8.13	4.94	9.90	5.00	11.90	5.08	14.06	5.25	16.29	5.54	17.34	5.64	18.89	5.88
MRC+ 180	27		*	7 1/2	9.96	4.63	12.28	4.69	14.38	4.78	16.93	4.94	19.64	5.25	20.91	5.37	22.92	5.55
	30				9.57	4.93	11.57	5.01	13.87	5.08	16.38	5.27	19.02	5.57	20.27	5.67	22.02	5.90
	32				9.33	5.13	11.16	5.10	13.54	5.27	16.00	5.46	18.64	5.74	19.77	5.89	22.16	6.12
	35				8.93	5.48	10.88	5.55	13.05	5.63	15.43	5.81	17.97	6.12	19.13	6.23	21.44	6.50

System duties should take into account evaporator performance when comparing refrigerants.

# MRC<sup>+</sup> LT Technical Information

## MRC<sup>+</sup> LT (Based on R407A)

MODEL	Ambient Temp	ELECTRICAL SUPPLY		HP	EVAPORATING TEMPERATURE °C									
					-40		-35		-30		-25		-20	
		1Ph	3Ph		Cap.	Power	Cap.	Power	Cap.	Power	Cap.	Power	Cap.	Power
MRC <sup>+</sup> 40	27	*		1 1/2	0.56	0.78	0.81	0.82	1.13	0.93	1.51	1.00	1.96	1.16
	32				0.49	0.76	0.74	0.84	1.00	0.96	1.42	1.05	1.87	1.16
MRC <sup>+</sup> 50	27	*	*	2	0.77	1.03	1.13	1.20	1.54	1.38	2.08	1.52	2.64	1.78
	32				0.61	1.02	1.05	1.23	1.41	1.43	1.98	1.61	2.58	1.80
MRC <sup>+</sup> 60	27	*	*	2 1/2	1.04	1.18	1.54	1.48	2.11	1.71	2.83	1.90	3.65	2.24
	32				0.85	1.27	1.37	1.52	1.94	1.76	2.69	2.00	3.47	2.27
MRC <sup>+</sup> 80	27		*	4	1.75	1.70	2.20	1.75	2.76	1.80	3.40	1.90	4.10	2.00
	32				1.60	1.95	2.10	2.00	2.55	2.05	3.20	2.10	3.90	2.20
MRC <sup>+</sup> 90	27		*	5	2.36	2.32	2.97	2.45	3.64	2.71	4.44	2.83	5.29	3.19
	32				2.16	2.60	2.83	2.75	3.44	2.98	4.25	3.18	5.09	3.47
MRC <sup>+</sup> 100	27		*	6	2.70	2.77	3.41	3.00	4.21	3.20	4.80	3.30	6.06	3.69
	32				2.39	3.24	3.26	3.40	4.04	3.53	4.96	3.80	5.94	4.05

## MRC<sup>+</sup> LT (Based on R407F)

MODEL	Ambient Temp	ELECTRICAL SUPPLY		HP	EVAPORATING TEMPERATURE °C									
					-40		-35		-30		-25		-20	
		1Ph	3Ph		Cap.	Power	Cap.	Power	Cap.	Power	Cap.	Power	Cap.	Power
MRC <sup>+</sup> 40	27	*		1 1/2	0.58	0.82	0.84	0.86	1.17	1.01	1.57	1.05	2.08	1.22
	32				0.51	0.78	0.76	0.87	1.05	1.00	1.46	1.10	1.96	1.22
MRC <sup>+</sup> 50	27	*	*	2	0.80	1.09	1.18	1.27	1.60	1.49	2.17	1.59	2.81	1.86
	32				0.64	1.05	1.08	1.26	1.48	1.50	2.04	1.69	2.70	1.88
MRC <sup>+</sup> 60	27	*	*	2 1/2	1.07	1.25	1.61	1.56	2.20	1.85	2.95	2.00	3.88	2.35
	32				0.89	1.31	1.40	1.56	2.04	1.85	2.77	2.09	3.63	2.37
MRC <sup>+</sup> 80	27		*	4	1.81	1.80	2.30	1.85	2.87	1.95	3.55	2.00	4.36	2.10
	32				1.68	2.00	2.14	2.05	2.68	2.15	3.30	2.20	4.08	2.30
MRC <sup>+</sup> 90	27		*	5	2.39	2.40	3.05	2.60	3.78	3.00	4.71	3.20	5.74	3.45
	32				2.22	2.75	2.90	2.90	3.60	3.30	4.43	3.60	5.39	3.90
MRC <sup>+</sup> 100	27		*	6	2.83	3.00	3.60	3.15	4.49	3.75	5.52	4.05	6.80	4.25
	32				2.64	3.60	3.44	3.70	4.22	4.20	5.18	4.55	6.28	4.85

## MRC<sup>+</sup> LT (Based on R448A - R449A)

MODEL	Ambient Temp	ELECTRICAL SUPPLY		HP	EVAPORATING TEMPERATURE °C									
					-40		-35		-30		-25		-20	
		1Ph	3Ph		Cap.	Power	Cap.	Power	Cap.	Power	Cap.	Power	Cap.	Power
MRC <sup>+</sup> 50	27	*	*	2	-	-	1.12	1.15	1.57	1.35	2.10	1.56	2.71	1.77
	32				-	-	0.96	1.12	1.39	1.34	1.89	1.56	2.46	1.79
MRC <sup>+</sup> 60	27	*	*	2 1/2	-	-	1.39	1.38	1.99	1.63	2.69	1.96	3.54	2.39
	32				-	-	1.20	1.36	1.75	1.62	2.42	1.90	3.23	2.21
MRC <sup>+</sup> 80	27		*	4	1.87	2.08	2.38	2.11	3.03	2.13	3.75	2.29	4.59	2.30
	32				1.76	2.34	2.23	2.36	2.79	2.38	3.46	2.48	4.22	2.62
MRC <sup>+</sup> 90	27		*	5	2.53	2.85	3.22	2.87	3.99	3.21	4.90	3.42	5.93	3.70
	32				2.38	3.13	3.01	3.14	3.77	3.48	4.58	3.77	5.51	4.15
MRC <sup>+</sup> 100	27		*	6	2.89	3.44	3.70	3.53	4.61	3.80	5.29	4.01	5.49	4.26
	32				2.64	3.94	3.58	3.92	4.42	4.14	5.36	4.52	5.18	4.87

System duties should take into account evaporator performance when comparing refrigerants.



FM 00671

EMS 91502

TEV Ltd, Marstair Division, Armytage Road, Brighouse, West Yorkshire, HD6 1QF, England.

Tel: +44 (0) 1484 405666 Fax: +44 (0) 870 606 4850 E: sales@marstair.com

[www.marstair.com](http://www.marstair.com)

A division of TEV Limited

Part No: 06617706-02

For full design information, reference should be made to the technical manual.  
We reserve the right to alter designs and specifications at any time without notification.  
To view our Terms and Conditions visit [www.tevlimited.com/terms.html](http://www.tevlimited.com/terms.html)

Process/Material Cooling • Close Control • Refrigeration