



Quality Management System Approval

APPROVALS
ISO 9002
EN 29002
ANSI/ASQC Q92



Carrier is participating in the Eurovent Certification Programme. Products are as listed in the Eurovent Directory of Certified Products.

38YCX

Nominal cooling capacity 6.7-16.7 kW

Nominal heating capacity 6.7-17.3 kW

38YCX split-system heat pump outdoor sections are designed to give quiet, reliable heating during the winter or cooling during the summer. As reversible air to air heat pumps they recover heat for indoor comfort from outdoor air during the heating season and reverse automatically to remove indoor heat and excess humidity during the cooling season.

Features

- Heat pump compressor - Designed specifically for heat pump duty and energy efficiency, the compressor is hermetically sealed to assure long life and dependable performance. Internal spring and external rubber isolators ensure quiet operation. The compressor is rated for continuous operation down to -34°C in the heating mode, and to 12.8°C in the cooling mode. A discharge-line muffler prevents transmission of refrigerant gas pulsations to the indoor or outdoor coils or to the interconnecting pipework.
- Units are offered in 230-1-50 (sizes 024 and 036) and 400-3-50 (sizes 036-060) power supplies.
- Comprehensive protection - An accumulator prevents liquid refrigerant from reaching the compressor; a low pressure switch stops the compressor if refrigerant charge is lost; a crankcase heater on units with reciprocating compressor and on all three-phase units keeps the compressor oil warm and free of refrigerant. An internal relief valve gives high pressure protection.

- Defrost control with three field-selectable time periods of 30, 50 and 90 minutes and temperature sensors protects against frost build-up on the outdoor coil.
- Protective cabinet - Steel, with a heavy-duty galvanized coating is then coated with a layer of zinc phosphate and a further coat of modified polyester powder which is baked-on. Thus the unit has a tough protective cabinet with an attractive durable finish that will last for many years. Even the cabinet-securing screws are coated for equally long-lasting rust-resistance and appearance.
- Unit design - Totally enclosed, ball bearing fan motors for greater reliability under rain and snow conditions.
- Quiet efficiency - Fans discharge vertically carrying any sound up and away from neighbours wherever the unit is installed.
- High-efficiency coil - The large, wraparound coil uses copper tube and enhanced aluminium fins and is designed for optimum heat transfer during heating and cooling.
- External service valves - Brass, front seating service valves for sweat connections. Each valve has service ports for speedy installation and servicing.

Accessories

- Time delay relay
- Isolation relay
- Winter start control
- Indoor coil freeze thermostat

- Compressor start assistance (sizes 024 and 036)
- Outdoor thermostat
- Secondary outdoor thermostat
- Thermostatic Expansion Valve
- Isolation relay
- Interface control (Optimizer II)
- Filter drier
- Liquid solenoid valve
- Heat pump risers
- Support feet
- Low ambient controller
- Motormaster control

Physical data

38YCX		024	036	048	060
Nominal cooling capacity*	kW	6.7	10.3	13.6	16.7
Nominal heating capacity*	kW	6.7	10.5	13.8	17.3
Operating weight	kg	65.9	100.9	102.0	118.6
Refrigerant		R-22			
Control		Piston			
Charge	kg	2.19	3.59	3.29	4.88
Compressor		Reciprocating		Scroll	
Outdoor fan		Propeller type, direct drive			
Air discharge		Vertical			
Air quantity	l/s	1214	1541	1541	1541
Outdoor coil		Copper tube, aluminium plate fin			
Face area	m ²	1.15	2.08	1.73	1.73
Connections, ID		Sweat			
Vapour	in	5/8	3/4	7/8	7/8
Liquid	in	3/8	3/8	3/8	3/8
Refrigerant connections					
Vapour	in	5/8	3/4	1-1/8	1-1/8
Liquid	in	3/8	3/8	3/8	3/8

* Combination ratings based on:
 Cooling - 35°C outdoor air entering temperature, 19°C indoor air wet bulb temperature, 27°C indoor air dry bulb temperature and nominal air flow.
 Heating - 8°C dry bulb/6°C wet bulb outdoor air entering temperature, 21°C indoor air dry bulb temperature and nominal air flow.

Combination ratings

Outdoor unit 38YCX	Indoor unit FB4ASX	Nominal air flow l/s	Cooling capacity kW	Heating capacity kW
024	024	380	6.7	6.7
	030	380	6.9	6.7
036	036	550	10.3	10.5
	042	550	10.4	10.8
048	048	750	13.6	13.8
	060	750	13.9	13.8
060	060	900	16.7	17.3
	070	900	17.0	17.3

Ratings are net values reflecting the effects of circulating fan heat. Supplemental electric heat is not included.

Ratings are based on:
 Cooling - 27°C db/19°C wb indoor air entering temperature and 35°C db outdoor air entering temperature.
 Heating - 21°C db indoor air entering temperature and 8°C db/6°C wb outdoor air entering temperature.

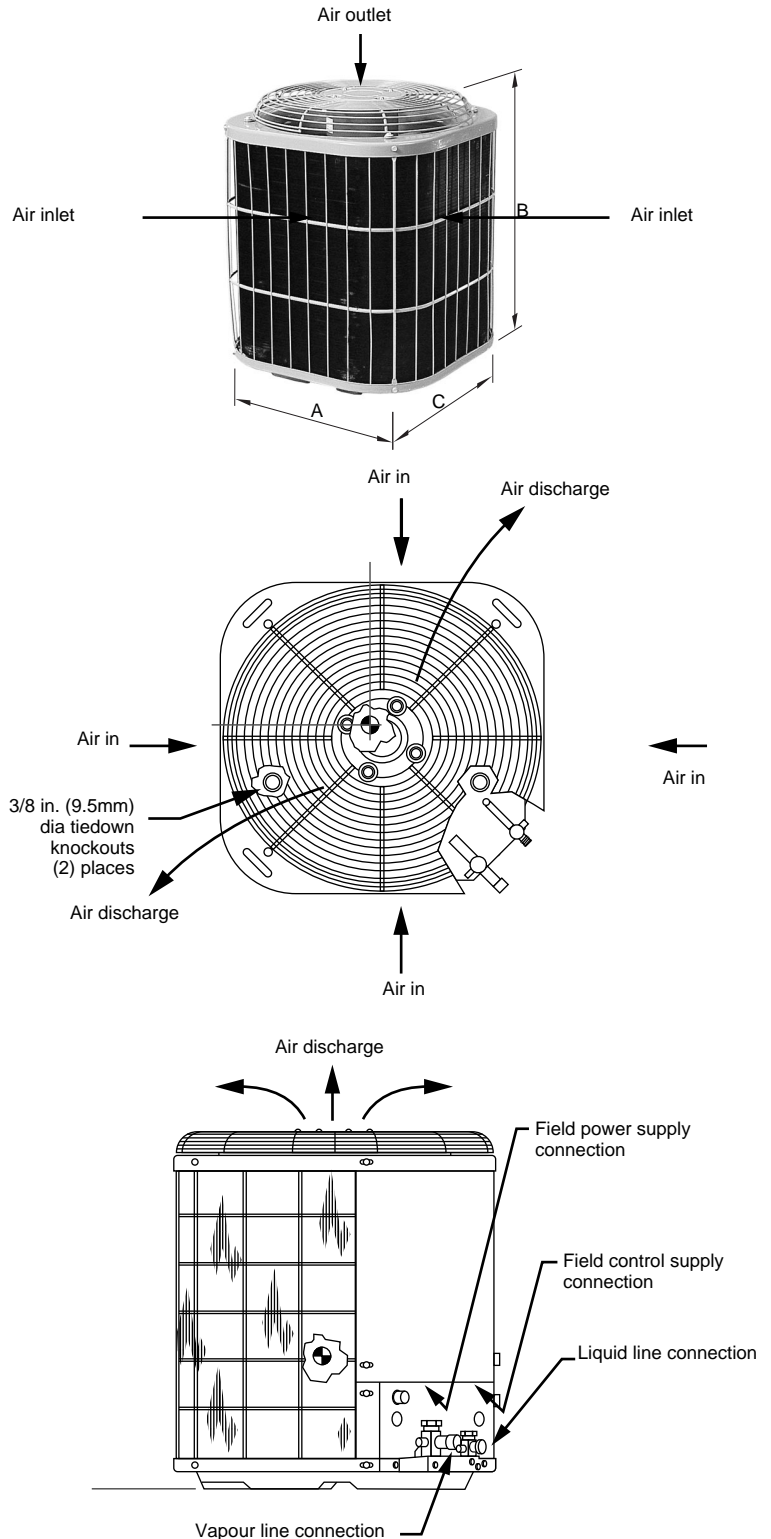
Dimensions/clearances

38YCX	A	B	C
024	572	862	572
036	762	1014	762
048	762	862	762
060	762	862	762

All dimensions are given in mm.

Notes:

1. Allow 762 mm clearance to service side of unit, 1220 mm above unit, 153 mm on one side, 305 mm on remaining side, and 610 mm between units for proper air flow.
2. Minimum outdoor operating ambient temperature in cooling mode is 13°C, maximum temperature is 52°C. Maximum outdoor operating ambient temperature in the heating mode is 19°C.



Cooling capacities

Air flow l/s	Ewb °C	Outdoor coil entering air temperature °C																				
		28			32			36			40			44			48			52		
		CAP	kW	SHC	CAP	kW	SHC	CAP	kW	SHC	CAP	kW	SHC	CAP	kW	SHC	CAP	kW	SHC	CAP	kW	SHC
38YCX 024 (linked with FB4ASX 024)																						
340	22	7.83	2.56	3.94	7.50	2.68	3.81	7.17	2.80	3.69	6.84	2.91	3.57	6.50	3.02	3.44	6.16	3.13	3.32	5.81	3.23	3.20
	20	7.32	2.49	4.64	7.01	2.61	4.51	6.70	2.72	4.39	6.38	2.83	4.26	6.06	2.93	4.14	5.73	3.03	4.01	5.40	3.13	3.88
	18	6.84	2.43	5.33	6.55	2.54	5.20	6.25	2.65	5.06	5.96	2.75	4.93	5.66	2.85	4.79	5.36	2.95	4.64	5.05	3.05	4.48
	16	6.46	2.38	5.89	6.19	2.49	5.74	5.93	2.59	5.58	5.66	2.70	5.42	5.39	2.80	5.25	5.12	2.90	5.06	4.84	2.99	4.84
	14	6.25	2.35	6.22	6.03	2.46	6.00	5.80	2.57	5.79	5.57	2.68	5.56	5.34	2.79	5.33	5.09	2.89	5.09	4.84	2.99	4.84
380	22	7.96	2.61	4.09	7.62	2.73	3.96	7.28	2.85	3.84	6.93	2.96	3.71	6.58	3.07	3.59	6.23	3.18	3.47	5.88	3.28	3.35
	20	7.45	2.54	4.86	7.12	2.66	4.74	6.80	2.77	4.61	6.47	2.88	4.48	6.14	2.99	4.35	5.80	3.09	4.23	5.47	3.18	4.10
	18	6.97	2.48	5.62	6.67	2.59	5.48	6.36	2.70	5.34	6.06	2.81	5.20	5.76	2.91	5.04	5.46	3.01	4.86	5.17	3.11	4.67
	16	6.61	2.43	6.20	6.34	2.54	6.03	6.06	2.65	5.87	5.79	2.76	5.69	5.52	2.86	5.49	5.26	2.96	5.26	5.00	3.07	5.00
	14	6.47	2.41	6.45	6.23	2.53	6.22	6.00	2.64	5.99	5.76	2.75	5.75	5.51	2.86	5.51	5.26	2.96	5.26	5.00	3.07	5.00
420	22	8.06	2.66	4.23	7.72	2.78	4.11	7.37	2.89	3.98	7.01	3.01	3.86	6.65	3.12	3.73	6.29	3.23	3.61	5.93	3.33	3.49
	20	7.55	2.59	5.08	7.22	2.70	4.95	6.88	2.82	4.82	6.54	2.93	4.70	6.21	3.03	4.57	5.87	3.13	4.44	5.52	3.23	4.31
	18	7.08	2.53	5.89	6.77	2.64	5.75	6.46	2.75	5.60	6.16	2.86	5.43	5.86	2.96	5.24	5.56	3.07	5.05	5.26	3.17	4.84
	16	6.74	2.48	6.48	6.46	2.59	6.30	6.18	2.70	6.11	5.91	2.81	5.90	5.65	2.92	5.65	5.39	3.03	5.39	5.12	3.13	5.12
	14	6.65	2.47	6.64	6.41	2.59	6.40	6.16	2.70	6.15	5.91	2.81	5.91	5.65	2.92	5.65	5.39	3.03	5.39	5.13	3.13	5.13
38YCX 036 (linked with FB4ASX 036)																						
500	22	11.9	3.60	6.04	11.4	3.77	5.86	10.9	3.94	5.68	10.4	4.11	5.50	9.92	4.27	5.32	9.42	4.42	5.14	8.90	4.58	4.96
	20	11.1	3.51	7.14	10.6	3.67	6.95	10.2	3.83	6.77	9.69	3.99	6.58	9.21	4.14	6.40	8.73	4.29	6.21	8.25	4.43	6.03
	18	10.3	3.42	8.21	9.91	3.58	8.01	9.48	3.74	7.81	9.04	3.89	7.61	8.60	4.04	7.40	8.17	4.18	7.16	7.73	4.32	6.90
	16	9.78	3.36	9.05	9.39	3.51	8.82	8.99	3.67	8.58	8.60	3.82	8.34	8.21	3.96	8.07	7.82	4.11	7.77	7.43	4.26	7.43
	14	9.51	3.32	9.47	9.18	3.48	9.15	8.85	3.64	8.83	8.51	3.80	8.49	8.16	3.95	8.15	7.80	4.11	7.70	7.43	4.26	7.43
560	22	12.1	3.68	6.29	11.6	3.85	6.11	11.1	4.02	5.93	10.6	4.18	5.75	10.1	4.35	5.56	9.53	4.50	5.38	8.99	4.65	5.20
	20	11.3	3.58	7.51	10.8	3.75	7.32	10.3	3.91	7.13	9.83	4.07	6.94	9.33	4.22	6.75	8.84	4.37	6.56	8.34	4.51	6.37
	18	10.5	3.49	8.67	10.1	3.65	8.47	9.65	3.81	8.25	9.21	3.97	8.03	8.77	4.12	7.77	8.33	4.27	7.49	7.90	4.42	7.20
	16	10.0	3.43	9.53	9.61	3.59	9.28	9.21	3.75	9.02	8.81	3.90	8.74	8.43	4.06	8.40	8.04	4.21	8.04	7.66	4.36	7.66
	14	9.84	3.41	9.82	9.49	3.58	9.47	9.14	3.74	9.13	8.78	3.90	8.77	8.42	4.06	8.41	8.04	4.21	8.04	7.66	4.36	7.66
640	22	12.3	3.77	6.61	11.8	3.94	6.43	11.3	4.11	6.24	10.7	4.28	6.06	10.2	4.44	5.87	9.65	4.60	5.69	9.10	4.75	5.50
	20	11.5	3.67	7.98	11.0	3.84	7.78	10.5	4.00	7.59	9.98	4.16	7.40	9.47	4.32	7.20	8.96	4.47	7.01	8.45	4.61	6.81
	18	10.8	3.59	9.24	10.3	3.75	9.00	9.85	3.91	8.75	9.41	4.07	8.46	8.98	4.23	8.16	8.53	4.38	7.86	8.08	4.53	7.56
	16	10.3	3.53	10.1	9.87	3.69	9.79	9.47	3.86	9.47	9.09	4.02	9.09	8.70	4.18	8.70	8.31	4.34	8.31	7.91	4.49	7.91
	14	10.2	3.52	10.2	9.84	3.69	9.84	9.47	3.86	9.47	9.09	4.02	9.09	8.70	4.18	8.70	8.31	4.34	8.31	7.92	4.49	7.92
38YCX 048 (linked with FB4ASX 048)																						
650	22	15.4	4.50	7.87	14.9	4.79	7.69	14.4	5.09	7.51	13.9	5.41	7.32	13.3	5.75	7.13	12.8	6.11	6.94	12.3	6.48	6.75
	20	14.5	4.41	9.38	14.0	4.69	9.19	13.5	4.98	9.00	13.0	5.29	8.81	12.5	5.63	8.62	12.0	5.97	8.42	11.5	6.33	8.23
	18	13.6	4.32	10.8	13.2	4.59	10.7	12.7	4.88	10.5	12.3	5.18	10.3	11.8	5.51	10.1	11.3	5.84	9.82	10.8	6.19	9.56
	16	12.9	4.25	12.0	12.5	4.52	11.8	12.1	4.80	11.5	11.7	5.11	11.3	11.3	5.43	11.0	10.9	5.75	10.7	10.4	6.09	10.4
	14	12.6	4.21	12.6	12.3	4.49	12.3	12.0	4.78	11.9	11.6	5.09	11.6	11.2	5.41	11.2	10.8	5.75	10.8	10.4	6.09	10.4
750	22	15.6	4.60	8.26	15.1	4.89	8.08	14.6	5.19	7.89	14.1	5.51	7.71	13.5	5.86	7.51	13.0	6.22	7.32	12.4	6.59	7.13
	20	14.7	4.51	9.96	14.2	4.79	9.78	13.7	5.08	9.59	13.2	5.39	9.39	12.7	5.73	9.19	12.2	6.08	9.00	11.7	6.44	8.80
	18	13.9	4.42	11.6	13.4	4.69	11.4	13.0	4.98	11.2	12.5	5.29	10.9	12.0	5.62	10.7	11.6	5.97	10.4	11.1	6.32	10.1
	16	13.3	4.35	12.8	12.9	4.63	12.5	12.5	4.92	12.2	12.0	5.22	12.0	11.6	5.56	11.6	11.2	5.90	11.2	10.8	6.25	10.8
	14	13.1	4.34	13.1	12.8	4.62	12.7	12.4	4.91	12.4	12.0	5.22	12.0	11.6	5.56	11.6	11.2	5.90	11.2	10.8	6.25	10.8
850	22	15.8	4.70	8.64	15.3	4.99	8.45	14.8	5.29	8.27	14.2	5.61	8.08	13.7	5.95	7.89	13.1	6.31	7.69	12.5	6.69	7.50
	20	14.9	4.60	10.5	14.4	4.88	10.3	13.9	5.18	10.2	13.4	5.49	9.96	12.9	5.83	9.75	12.3	6.18	9.55	11.8	6.54	9.35
	18	14.1	4.51	12.3	13.6	4.79	12.0	13.2	5.08	11.8	12.7	5.40	11.5	12.3	5.74	11.1	11.8	6.09	10.8	11.3	6.45	10.5
	16	13.6	4.45	13.4	13.2	4.73	13.1	12.8	5.03	12.8	12.4	5.34	12.4	11.9	5.68	11.9	11.5	6.04	11.5	11.1	6.40	11.1
	14	13.5	4.45	13.5	13.1	4.73	13.1	12.8	5.03	12.8	12.4	5.34	12.4	11.9	5.68	11.9	11.5	6.04	11.5	11.1	6.40	11.1
38YCX 060 (linked with FB4ASX 060)																						
850	22	19.1	5.49	9.97	18.5	5.88	9.74	17.9	6.30	9.52	17.2	6.76	9.28	16.5	7.25	9.05	15.8	7.78	8.80	15.1	8.33	8.55
	20	18.0	5.35	12.0	17.4	5.73	11.7	16.8	6.15	11.5	16.2	6.60	11.3	15.5	7.09	11.0	14.9	7.60	10.8	14.2	8.15	10.5
	18	16.9	5.22	13.9	16.4	5.60	13.7	15.8	6.02	13.4	15.2	6.46	13.2	14.7	6.95	12.9	14.1	7.47	12.5	13.5	8.01	12.1
	16	16.1	5.13	15.4	15.6	5.51	15.1	15.2	5.93	14.8	14.6	6.37	14.4	14.1	6.86	14.0	13.6	7.38	13.6	13.0	7.93	13.0
	14	15.9	5.10	15.9	15.5	5.49	15.4	15.0	5.91	15.0	14.6	6.36	14.6	14.1	6.86	14.1	13.6	7.38	13.6	13.1	7.93	13.1
900	22	19.2	5.55	10.2	18.6	5.94	9.94	17.9	6.36	9.71	17.3	6.82	9.48	16.6	7.31	9.25	15.9	7.84	9.00	15.2	8.39	8.76
	20	18.1	5.41	12.3	17.5	5.79	12.0	16.9	6.21	11.8	16.2	6.66	11.6	15.6	7.15	11.3	14.9	7.66	11.1	14.3	8.21	10.8
	18																					

Heating capacities

Edb °C	Air flow l/s	Outdoor coil air entering temperature °C															
		-16		-8		0		4		8		12		16		18	
		CAP	kW	CAP	kW	CAP	kW	CAP	kW	CAP	kW	CAP	kW	CAP	kW	CAP	kW
38YCX 024 (linked with FB4ASX 024)																	
12	380	3.44	1.41	4.51	1.65	5.73	1.91	6.42	2.06	7.15	2.22	7.98	2.42	8.88	2.64	9.82	2.88
15	380	3.33	1.43	4.39	1.68	5.60	1.95	6.28	2.11	6.99	2.28	7.82	2.48	8.70	2.70	9.63	2.95
18	380	3.21	1.45	4.27	1.71	5.46	1.99	6.13	2.15	6.84	2.33	7.65	2.54	8.52	2.77	9.43	3.01
21	380	3.10	1.47	4.16	1.74	5.33	2.03	5.98	2.20	6.69	2.38	7.49	2.59	8.34	2.83	9.23	3.08
24	380	2.98	1.48	4.04	1.76	5.19	2.07	5.84	2.25	6.53	2.43	7.32	2.65	8.15	2.89	9.03	3.14
38YCX 036 (linked with FB4ASX 036)																	
12	560	5.49	2.26	7.13	2.52	9.00	2.80	10.1	2.97	11.2	3.14	12.5	3.36	13.9	3.60	15.3	3.87
15	560	5.30	2.28	6.94	2.57	8.78	2.86	9.84	3.04	11.0	3.22	12.2	3.44	13.6	3.69	15.0	3.96
18	560	5.11	2.31	6.75	2.61	8.57	2.93	9.60	3.11	10.7	3.30	12.0	3.52	13.3	3.78	14.7	4.05
21	560	4.91	2.34	6.56	2.66	8.35	2.99	9.37	3.18	10.5	3.38	11.7	3.61	13.0	3.86	14.3	4.14
24	560	4.70	2.37	6.36	2.70	8.14	3.05	9.13	3.24	10.2	3.45	11.4	3.69	12.7	3.95	14.0	4.23
38YCX 048 (linked with FB4ASX 048)																	
12	750	6.48	3.08	8.49	3.27	11.0	3.49	12.4	3.60	13.9	3.72	15.9	3.89	18.1	4.08	20.4	4.30
15	750	6.43	3.23	8.42	3.42	10.9	3.64	12.3	3.77	13.8	3.89	15.8	4.07	17.9	4.27	20.1	4.49
18	750	6.37	3.37	8.36	3.57	10.8	3.80	12.2	3.93	13.7	4.07	15.6	4.25	17.7	4.46	19.9	4.69
21	750	6.31	3.51	8.30	3.71	10.7	3.96	12.1	4.09	13.6	4.25	15.5	4.44	17.5	4.65	19.6	4.88
24	750	6.27	3.66	8.25	3.87	10.6	4.12	12.0	4.27	13.5	4.43	15.3	4.63	17.3	4.85	19.4	5.09
38YCX 060 (linked with FB4ASX 060)																	
12	900	9.50	3.53	11.7	3.73	14.3	4.00	15.8	4.17	17.4	4.36	19.4	4.64	21.8	4.97	24.3	5.33
15	900	9.46	3.75	11.7	3.97	14.3	4.25	15.7	4.43	17.3	4.63	19.3	4.91	21.5	5.24	23.9	5.61
18	900	9.43	3.97	11.6	4.20	14.2	4.50	15.6	4.69	17.3	4.90	19.2	5.18	21.3	5.52	23.6	5.89
21	900	9.39	4.19	11.6	4.44	14.1	4.76	15.6	4.95	17.2	5.17	19.0	5.46	21.0	5.79	23.2	6.17
24	900	9.34	4.42	11.5	4.69	14.1	5.02	15.5	5.21	17.0	5.44	18.9	5.74	20.9	6.09	23.0	6.48

Note:

The kW values include the compressor, outdoor fan motor and indoor blower motor. The kW from supplementary heaters should be added to these values to obtain total system kW.

Edb - Entering air dry bulb temperature °C

CAP - Total heating capacity kW

kW - Power input

Electrical data

38YCX	Power supply V-ph-Hz	Operating range, V		Compressor		Fan	MCA	MOCP
		Min.	Max.	RLA	LRA	FLA		
024	230-1-50	207	253	11.5	68.0	0.65	15.0	25
036	230-1-50	207	253	16.5	94.0	1.60	22.2	35
	400-3-50	360	440	6.4	42.0	0.70	8.7	15
048	400-3-50	360	440	8.0	63.0	0.70	10.6	15
060	400-3-50	360	440	9.0	74.0	0.70	11.9	20

Legend:

FLA - Full load amps

LRA - Locked rotor amps

MCA - Minimum circuit amps

MOCP - Maximum overcurrent protection (A)

RLA - Rated load amps



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Manufacturer reserves the right to change any product specifications without notice.

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