Specifications

Input/Output Ratings

Requirements: Each 1336 PLUS II Drive has constant and variable torque capabilities.
Note: Drive ratings are at nominal values. Refer to Derating Guidelines on **Pages 56-60.**

Cat. No.	Constant Torque Input kVA	Constant Torque Input Amps	Constant Torque Output kVA	Constant Torque Output Amps	Variable Torque Input kVA	Variable Torque Input Amps	Variable Torque Output kVA	Variable Torque Output Amps	Variable Torque Input kVA	Variable Torque Input Amps	Variable Torque Output kVA	Variable Torque Output Amps
	200-240V Drives				**240V Drives**							
AQF05	1.1	2.8	0.9	2.3	1.1	2.8	0.9	2.3				
AQF07	1.4	3.5	1.2	3.0	1.4	3.5	1.2	3.0				
AQF10	2.2	5.4	1.8	4.5	2.2	5.4	1.8	4.5				
AQF15	2.9	7.3	2.4	6.0	2.9	7.3	2.4	6.0				
AQF20	3.9	9.7	3.2	8.0	3.9	9.7	3.2	8.0				
AQF30	5.7	14.3	4.8	12	5.7	14.3	4.8	12				
AQF50	8.5	21.3	7.2	18	8.5	21.3	7.2	18				
AQF75	9.0	22.6	8.8	22	9.0	22.6	8.8	22				
A007	10-12	28	8.8	22	10	23	8.8	22				
A010	12-14	35	14	34	14	35	14	34				
A015	17-20	49	19	48	20	49	19	48				
A020	22-26	63	26	65	26	63	26	65				
A025	26-31	75	31	77	31	75	31	77				
A030	27-33	79	32	80	33	79	32	80				
A040	41-49	119	48	120	49	119	48	120				
A050	52-62	149	60	150	62	149	60	150				
A060	62-74	178	72	180	74	178	72	180				
A075	82-99	238	96	240	99	238	96	240				
A100	100-120	289	116	291	120	289	116	291				
A125	112-134	322	129	325	134	322	129	325				
	380-480V Drives				**480V Drives**				**400V Drives**			
BRF05	0.9-1.0	1.3	0.9	1.1	1.1	1.4	1.0	1.2	0.9	1.4	1.0	1.33
BRF07	1.3-1.6	2.0	1.3	1.6	1.7	2.1	1.4	1.7	1.4	2.1	1.4	1.89
BRF10	1.7-2.1	2.6	1.7	2.1	2.2	2.8	1.8	2.3	1.8	2.8	1.8	2.55
BRF15	2.2-2.6	3.3	2.2	2.8	2.8	3.5	2.4	3.0	2.3	3.5	2.4	3.33
BRF20	3.0-3.7	4.6	3.0	3.8	3.8	4.8	3.2	4.0	3.2	4.8	3.2	4.44
BRF30	4.2-5.1	6.4	4.2	5.3	5.7	7.2	4.8	6.0	4.7	7.2	4.8	6.66
BRF50	6.6-8.0	10.0	6.7	8.4	8.5	10.7	7.2	9.0	7.0	10.7	7.2	9.99
BRF75	8.9-11.3	13.6	10.6	13.3	13	15.7	12.3	15.4	10.3	15.7	12.3	19.43
BRF100	10.8-13.6	16.4	12.8	16.1	18.6	22.4	17.5	22	14.7	22.4	17.5	22.00
BRF150	16.1-20.4	24.5	19.1	24	20.4	24.5	19.1	24	16.1	24.5	19.1	24.00
BRF200	18-23	28	22	27	23	28	22	27	18	28	22	27.75
B015	16-21	25	19	24.2	23	28	22	27	18	28	22	29.97
B020	21-26	32	25	31	29	35	27	34	23	35	27	37.74
B025	26-33	40	31	39	36	43	33	42	28	43	33	46.62
B030	30-38	46	36	45	41	49	38	48	32	49	38	53.28
BX040	40-50	61	47	59	50	61	47	59	40	61	47	66.60
B040	38-48	58	48	60	52	63	52	65	41	63	52	72.15
B050	48-60	73	60	75	62	75	61	77	49	75	61	83.25
BX060[1]	62	75	61	77	62	75	61	77	62	75	61	85.47
B060	54-68	82	68	85	77	93	76	96	61	93	76	106.56
B075	69-87	105	84	106	99	119	96	120	78	119	98	133.20
B100	90-114	137	110	138	124	149	120	150	98	149	120	166.50
B125	113-143	172	138	173	148	178	143	180	117	178	143	199.80
BX150	148	178	143	180	148	178	143	180	148	178	143	199.80
B150	130-164	197	159	199	198	238	191	240	157	238	191	266.40
B200	172-217	261	210	263	241	290	233	292	191	290	233	324.12
B250	212-268	322	259	325	268	322	259	325	212	322	259	360.75
BP/BPR250	212-268	322	259	325	297	357	287	360	235	357	287	399.60
BX250	212-268	322	259	325	297	357	287	360	228	357	279	399.60
B300	235-297	357	287	360	350	421	339	425	261	397	319	471.75
BP/BPR300	235-297	357	287	360	350	421	339	425	277	421	339	471.75
B350	277-350	421	339	425	392	471	378	475	294	446	359	527.25
BP/BPR350	277-350	421	339	425	392	471	378	475	310	471	378	527.25
B400	310-392	471	387	475	433	521	418	525	326	496	398	582.75
BP/BPR400	310-392	471	378	475	438	527	424	532	347	527	424	532.05
B450	343-433	521	418	525	486	585	470	590	372	565	454	654.90
BP/BPR450	347-438	527	424	532	438	527	424	532	347	527	424	532.00
B500	385-486	585	470	590	552	664	534	670	437	664	534	743.70
B600	437-552	664	534	670	552	664	534	670	437	664	534	743.70

[1] *480 Volts Only.*

User Supplied Enclosures

Cat No.	Base Derate Amps [1]	Derate Curve [2, 3]	Heat Dissipation Drive Watts [2, 3, 4]	Heatsink Watts [2]	Total Watts [2]
200-240V DRIVES					
AQF05	2.3	Figure A	13 (9)	15 (11)	28 (20)
AQF07	3.0	Figure A	15 (11)	21 (15)	36 (26)
AQF10	4.5	Figure A	17 (12)	32 (23)	49 (35)
AQF15	6.0	Figure A	21 (15)	42 (30)	63 (46)
AQF20	8.0	Figure A	25 (18)	56 (40)	81 (59)
AQF30	12	Figure A	33 (24)	72 (52)	105 (76)
AQF50	18	Figure A	42 (30)	116 (84)	158 (114)
AQF75	22	Figure A	58	186	244
A007	27	No Derate	156	486	642
A010	34	Figure B	200	721	921
A015	48	Figure D	205	819	1024
A020	65	No Derate	210	933	1143
A025	77	No Derate	215	1110	1325
A030	80	No Derate	220	1110	1330
A040	120	Figure G	361	1708	2069
A050	150	Figure H	426	1944	2370
A060	180	Figure J	522	2664	3186
A075	240	Figure L	606	2769	3375
A100	291	Figure M	755	3700	4455
A125	325	Figure N	902	4100	5002
380-480V DRIVES					
BRF05	1.2	Figure A	12	9	21
BRF07	1.7	Figure A	13	15	28
BRF10	2.3	Figure A	15	20	35
BRF15	3.0	Figure A	16 (12)	27 (21)	43 (33)
BRF20	4.0	Figure A	19 (15)	36 (28)	55 (43)
BRF30	6.0	Figure A	23 (18)	54 (42)	77 (60)
BRF50	9.0	Figure A	29 (23)	84 (65)	113 (88)
BRF75	15.4	Figure A	58	186	244
BRF100	22.0	Figure A	68	232	300
BRF150	24.0	Figure A	88	332	420
BRF200	27.0	Figure A	96	356	452
B015	27	No Derate	117	486	603
B020	34	Figure B	140	628	768
B025	42	Figure C	141	720	861
B030	48	Figure D	141	820	961
BX040	59	Figure E	175	933	1108
B040	65	Figure E	175	933	1108
B050	77	Figure F	193	1110	1303
BX060	77	Figure F	193	1110	1303
B060	96	No Derate	361	1708	2069
B075	120	Figure G	361	1708	2069
B100	150	Figure H	426	1944	2370
B125	180	Figure J	522	2664	3186
BX150	180	Figure J	606	2769	3375
B150	240	Figure L	606	2769	3375
B200	292	Figure M	755	3700	4455
B250	325	Figure N	902	4100	5002
BP/BPR250 [6]	322	Figure O	491	4658	5149
BX250	360	No Derate	902	4100	5002
B300 [5]	425	No Derate	1005	4805	5810
BP/BPR300 [6]	357	Figure P	619	5342	5961
B350 [5]	475	No Derate	1055	5455	6510
BP/BPR350 [6]	421	Figure Q	733	6039	6772
B400 [5]	525	No Derate	1295	6175	7470
BP/BPR400 [6]	471	Figure R	793	6329	7122
B450 [5]	590	No Derate	1335	6875	8210
BPBPR450 [6]	527	Figure S	931	7000	7931
B500 [5]	670	Figure T	1395	7525	8920
B600 [5]	670	Figure T	1485	8767	10252
500-600V DRIVES					
CWF10	2.4	Figure U	25	29	54
CWF20	4.8	Figure U	29	57	86
CWF30	7.2	Figure U	32	87	119
CWF50	9.6	Figure U	35	117	152
CWF75	10	Figure U	38	148	186
CWF100	12	Figure U	41	177	218
CWF150	19	Figure U	52	286	338
CWF200	24	Figure U	60	358	418
C025	30	No Derate	141	492	633
C030	35	No Derate	141	526	667
C040	45	No Derate	175	678	853
C050	57	No Derate	193	899	1092
C060	62	No Derate	193	981	1174
C075	85	Figure G	361	1533	1894
C100	109	Figure I	426	1978	2404
C125	138	Figure K	522	2162	2683
C150	168	Figure V	606	2315	2921
C200	252	Figure W	755	3065	3820
C250	284	Figure X	890	3625	4515
CX300	300	Figure Y	940	3990	4930
C300 [5]	300	Figure AB & AC	926	5015	5941
C350 [5]	350	Figure AB & AC	1000	5935	6935
CP/CPR350	350	Figure Z	580	6125	6705
C400 [5]	400	Figure AB & AC	1430	7120	8550
CP/CPR400	400	Figure AA	711	7000	7711
C450 [5]	450	Figure AB & AC	1465	8020	9485
C500 [5]	500	Figure AB & AC	1500	8925	10425
C600 [5]	600	Figure AB & AC	1610	10767	12377

(parenthesis) in table indicates Series C drive ratings.

[1] Base Derate Amps are based on nominal voltage (240, 480 or 600V). If input voltage exceeds Drive Rating, Drive Output must be derated. **Refer to Figure AE.**

[2] Rating is at 4 kHz (2 kHz for 224-448 kW/300-600 HP, 500-600V). If Carrier frequencies above 4 kHz are selected, drive rating must be derated. **Refer to Figure A-AC.**

[3] Drive Ambient Temperature Rating is 40° C. If ambient exceeds 40° C, the drive must be derated. **Refer to Figure A-AC.**

[4] Drive Rating is based on altitudes of 1,000 m (3,000 ft) or less. If installed at higher altitude, drive must be derated. **Refer to Figure AD.**

[5] **Important:** Two (2) 725 CFM fans are required if an open type drive is mounted in a user supplied enclosure.

[6] **Important:** 1336F-BPRxxx drives require two (2) fans capable of producing greater than 450 CFM, if an open type drive is mounted in a user supplied enclosure.

Derating Guidelines

Drive ratings can be affected by a number of factors. If more than one factor exists, derating percentages must be multiplied. For example, if a 14 Amp drive (B007) is installed at a 2,000 m (6,600 ft.) altitude **and** has a 2% high input line voltage, the actual amp rating will be:

14 X 94% **Altitude Derate** X 96% **High Line Derate** = 12.6 Amps.

Ambient Temperature/Carrier Frequency

Standard Rating for Enclosed Drive in 40° C Ambient & Open Drive in 50° C Ambient.
Derating Factor for Enclosed Drive in Ambient between 41° C & 50° C.

Figure A

1336F-AQF05-AQF75 and BRF05-BRF200

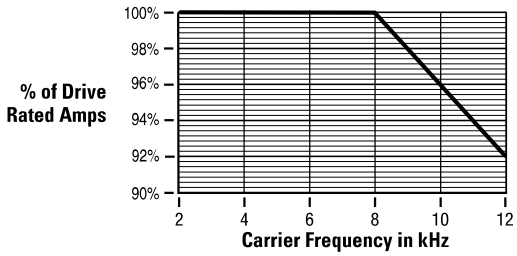


Figure B

1336F-A010 and B020

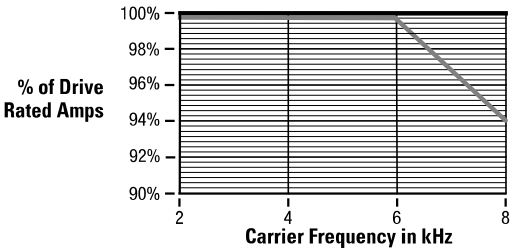


Figure C

1336F-B025

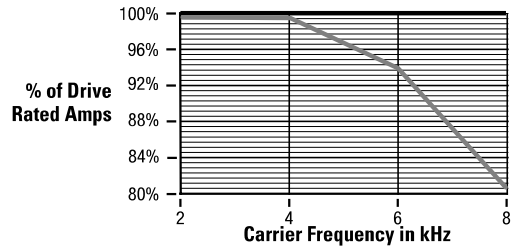


Figure D

1336F-A015 and B030

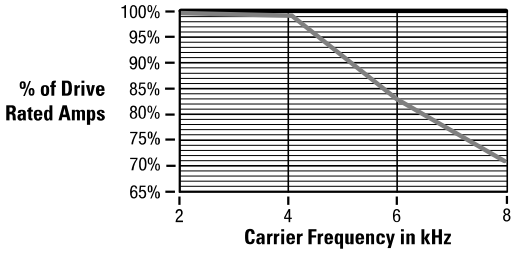
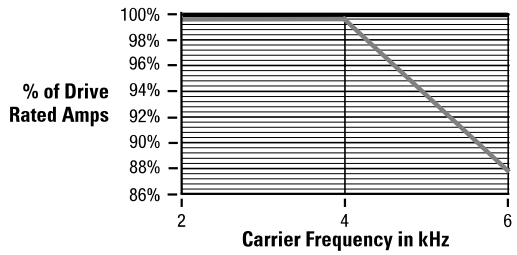


Figure E

1336F-B040 and BX040



Constant/Variable Torque Drives and Enclosures

200-240V

Drive Rating [1] Constant Torque				Open IP00	NEMA Type 1 IP20	NEMA Type 4 IP65	NEMA Type 12 IP54
Amps	kW	CT HP	VT HP [2]	No Enclosure	General Purpose	Resist Water, Dust	Industrial Use
2.3	0.37	0.5	0.5	AQF05 – AN	AQF05 – AA	AQF05 – AF	AQF05 – AJ
3.0	0.56	0.75	0.75	AQF07 – AN	AQF07 – AA	AQF07 – AF	AQF07 – AJ
4.5	0.75	1	1	AQF10 – AN	AQF10 – AA	AQF10 – AF	AQF10 – AJ
6.0	1.2	1.5	1.5	AQF15 – AN	AQF15 – AA	AQF15 – AF	AQF15 – AJ
8.0	1.5	2	2	AQF20 – AN	AQF20 – AA	AQF20 – AF	AQF20 – AJ
12	2.2	3	3	AQF30 – AN	AQF30 – AA	AQF30 – AF	AQF30 – AJ
18	4.0	5	5	AQF50 – AN	AQF50 – AA	AQF50 – AF	AQF50 – AJ
22	5.5	7.5	7.5	AQF75 – AN	AQF75 – AA	AQF75 – AF	AQF75 – AJ
22	5.5	7.5	7.5	A007 – AN	A007 – AA	A007 – AF	A007 – AJ
34	7.5	10	10	A010 – AN	A010 – AA	A010 – AF	A010 – AJ
48	11	15	15	A015 – AN	A015 – AA	A015 – AF	A015 – AJ
65	15	20	20	A020 – AN	A020 – AA	A020 – AF	A020 – AJ
77	18.5	25	25	A025 – AN	A025 – AA	A025 – AF	A025 – AJ
80	22	30	30	A030 – AN	A030 – AA	A030 – AF	A030 – AJ
120	30	40	40	A040 – AN	A040 – AA	3	3
150	37	50	50	A050 – AN	A050 – AA	3	3
180	45	60	60	A060 – AN	A060 – AA	3	3
240	56	75	75	A075 – AN	A075 – AA [9]	3	3
291	75	100	100	A100 – AN	A100 – AA [9]	3	3
325	93	125	125	A125 – AN	A125 – AA [9]	3	3

380-480V

Drive Rating [1] Constant Torque		Variable Torque		Drive Rating [1] Constant Torque		Variable Torque		Open IP00	NEMA Type 1 IP20	NEMA Type 1 IP20	NEMA Type 4 IIP65	NEMA Type 12 IP54
Amps	HP	Amps	HP [2]	Amps	kW	Amps	kW	No Enclosure	General Purpose	CE/C-tick Conformance	Resist Water, Dust	Industrial Use
1.1	0.5	1.2	0.5	1.1	0.37	1.2	0.37	BRF05 – AN	BRF05 – AA	BRF05 – AE	BRF05 – AF	BRF05 – AJ
1.6	0.75	1.7	0.75	1.6	0.56	1.7	0.56	BRF07 – AN	BRF07 – AA	BRF07 – AE	BRF07 – AF	BRF07 – AJ
2.1	1	2.3	1	2.1	0.75	2.3	0.75	BRF10 – AN	BRF10 – AA	BRF10 – AE	BRF10 – AF	BRF10 – AJ
2.8	1.5	3.0	1.5	2.8	1.2	3.0	1.2	BRF15 – AN	BRF15 – AA	BRF15 – AE	BRF15 – AF	BRF15 – AJ
3.8	2	4.0	2	3.8	1.5	4.0	1.5	BRF20 – AN	BRF20 – AA	BRF20 – AE	BRF20 – AF	BRF20 – AJ
5.3	3	6.0	3	5.3	2.2	6.0	2.2	BRF30 – AN	BRF30 – AA	BRF30 – AE	BRF30 – AF	BRF30 – AJ
8.4	5	9.0	5	8.4	3.7	9.0	3.7	BRF50 – AN	BRF50 – AA	BRF50 – AE	BRF50 – AF	BRF50 – AJ
13.3	7.5	15.4	10	13.3	5.5	15.4	7.5	BRF75 – AN	BRF75 – AA	BRF75 – AE	BRF75 – AF	BRF75 – AJ
16.1	10	22.0	15	16.1	7.5	22.0	11	BRF100 – AN	BRF100 – AA	BRF100 – AE	BRF100 – AF	BRF100 – AJ
24.0	15	24.0	15	24.0	11	24.0	11	BRF150 – AN	BRF150 – AA	BRF150 – AE	BRF150 – AF	BRF150 – AJ
27.0	20	27.0	20	27.0	15	27.0	15	BRF200 – AN	BRF200 – AA	BRF200 – AE	BRF200 – AF	BRF200 – AJ
24.2	15	27	20	24.2	11	27	15	B015 – AN	B015 – AA	B015 – AE	B015 – AF	B015 – AJ
31	20	34	25	31	15	34	18.5	B020 – AN	B020 – AA	B020 – AE	B020 – AF	B020 – AJ
39	25	42	30	39	18.5	42	22	B025 – AN	B025 – AA	B025 – AE	B025 – AF	B025 – AJ
45	30	48	30	45	22	48	22	B030 – AN	B030 – AA	B030 – AE	B030 – AF	B030 – AJ
59	40	59	40	59	30	59	30	BX040 – AN	BX040 – AA	BX040 – AE	BX040 – AF	BX040 – AJ
60	40	65	50	60	30	65	37	B040 – AN	B040 – AA	B040 – AE	B040 – AF	B040 – AJ
75	50	75	60	75	37	75	45	B050 – AN	B050 – AA	B050 – AE	B050 – AF	B050 – AJ
77	60	77	60	77	45	77	45	BX060 – AN [4]	BX060 – AA [4]	BX060 – AE [4]	BX060 – AF [4]	BX060 – AJ [4]
85	60	96	75	85	45	96	56	B060 – AN	B060 – AA	B060 – AE	3	3
106	75	120	100	106	56	120	75	B075 – AN	B075 – AA	B075 – AE	3	3
138	100	150	125	138	75	150	93	B100 – AN	B100 – AA	B100 – AE	3	3
173	125	180	150	173	93	180	112	B125 – AN	B125 – AA	B125 – AE	3	3
180	150	180	150	180	112	180	112	BX150 – AN	BX150 – AA	BX150 – AE	3	3
199	150	240	200	199	112	240	149	B150 – AN	B150 – AA [9]	B150 – AE [9]	3	3
263	200	292	250	263	149	292	187	B200 – AN	B200 – AA [9]	B200 – AE [9]	3	3
325	250	325	250	325	187	325	187	B250 – AN	B250 – AA [9]	B250 – AE [9]	3	3
325	250	360	300	325	187	360	224	BP250 – AN [7] BPR250 – AN [7]	BP250 – AA [7, 9] –	– BPR250A – AE [7, 8 9]	3	3
325	250	360	300	325	187	360	224	BX250 – AN	BX250A – AA [9]	BX250A – AE [8, 9]	3	3
360	300	425	350	360	224	425	261	B300 – AN	B300A – AA [9]	B300A – AE [8, 9]	3	3
360	300	425	350	360	224	425	261	BP300 – AN [7] BPR300 – AN [7]	BP300 – AA [7, 9] –	– BPR300A – AE [7, 8, 9]	3	3
425	350	475	400	425	261	475	298	B350 – AN	B350A – AA [9]	B350A – AE [8, 9]	3	3
425	350	475	400	425	261	475	298	BP350 – AN [7] BPR350 – AN [7]	BP350 – AA [7, 9] –	– BPR350A – AE [7, 8, 9]	3	3
475	400	525	450	475	298	525	336	B400 – AN	B400A – AA [9]	B400A – AE [8, 9]	3	3
475	400	532	450	475	298	532	336	BP400 – AN [7] BPR400 – AN [7]	BP400 – AA [7, 9] –	– BPR400A – AE [7, 8, 9]	3	3
525	450	590	500	525	336	590	373	B450 – AN	B450A – AA [9]	B450A – AE [8, 9]	3	3
532	450	532	450	532	336	532	336	BP450 – AN [7] BPR450 – AN [7]	BP450 – AA [7, 9] –	– BPR450A – AE [7, 8, 9]	3	3
590	500	670	600	590	373	670	448	B500 – AN	B500A – AA [9]	B500A – AE [8, 9]	3	3
670	600	670	600	670	448	670	448	B600 – AN	B600A – AA [9]	B600A – AE [8, 9]	3	3

See page 65 for footnotes.