

FR-A800-R2R (Roll to Roll)

FR-A800 Plus Program

FR-A800 Plus takes the outstanding performance and functionality of the regular FR-A800 VFD and combines it with special firmware to make a drive dedicated to specific industry sectors. For main specifications please refer to the standard FR-A800 section. Note that FR-A800 Plus is not currently available as a 600V version.

FR-A800R2R Roll-to-Roll version of FR-A800 for wind/unwind and tension control applications includes:

- **Diameter Calculation Capability** – Detects initial roll diameter and calculates diameter change during operation
- **Dedicated PI Control System** – Ensures smooth tension control
- **Process Compensation** – Adjusts for load inertia during speed changes
- **Break Detection** – Detects a breakage in material between rolls
- **Taper Function** – Allows a gradual change in tension to avoid wrinkling or stretching of films as the load diameter changes
- **SND Rating** – An extra duty rating which allows higher operating current than ND rating while still allowing 150% motor current overload for 60 seconds (short time overload is removed)

Part Number System

The basic part numbering system is the same as for the standard drives but includes a suffix at the end.

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① Max Load Capacity

Symbol	Voltage Class
820	240V Class
840	480V Class
842	480V Class

*Inverter stage only. Use in conjunction with FR-CC2.

② Capacity

Symbol
See FR-A800 section for available capacities.

③ Control

Symbol	Control
N6CRN	Class Crane Control
60CRN	Class Crane Control
U6CRN	Class Crane Control*
N6R2R	Class Roll-toRoll Control
60R2R	Class Roll-toRoll Control
U6R2R	Class Roll-toRoll Control*

FR-A800-R2R

In roll to roll applications, control is necessary for machining of elongated products such as paper, film, and thread. Processing types include printing, slitting, coating, and twisting. High productivity can be achieved by stable tension control. The FR-A800-

200V

Model Number	AMPS For Duty					Horsepower For Duty (NEC)					Frame Size	Weight (lbs)	Cooling Method	Protective Rating
	SLD	LD	SND	ND	HD	SLD	LD	SND	ND	HD				
A820-00046-1-N6R2R	4.6	4.2	4.2	3	1.5	1	1	1	0.75	0.25	A	5.5	Self-Cooling	NEMA 1, UL Type-1, Plenum Rated (IP20)
A820-00077-1-N6R2R	7.7	7	7	5	3	2	2	2	1	0.5	B	5.9		
A820-00105-1-N6R2R	10.5	9.6	9.6	8	5	3	3	3	2	1	C	8.8	Forced-Air Cooling	
A820-00167-1-N6R2R	16.7	15.2	15.2	11	8	5	5	5	3	2		8.8		
A820-00250-1-N6R2R	25	23	23	17.5	11	7.5	7.5	7.5	5	3		8.8		
A820-00340-1-N6R2R	34	31	31	24	17.5	10	10	10	7.5	5	D	16.7		
A820-00490-1-N6R2R	49	45	36	33	24	20	15	15	10	7.5	E	20.5		
A820-00630-1-N6R2R	63	58	58	46	33	20	20	20	15	10		37.4		
A820-00770-1-N6R2R	77	70.5	70.5	61	46	25	25	25	20	15	F	37.4		
A820-00930-1-N6R2R	93	85	85	76	61	30	30	30	25	20		37.4		
A820-01250-1-N6R2R	125	114	102	90	76	40	40	30	30	25	G	48.4		
A820-01540-1-60R2R	154	140	126	115	90	60	50	40	40	30		92.4		
A820-01870-1-60R2R	187	170	170	145	115	60	60	50	50	40	H	92.4		
A820-02330-1-60R2R	233	212	190	175	145	75	75	60	60	50		118.8		
A820-03160-1-60R2R	316	288	259	215	175	125	100	75	75	60	K	162.8		
A820-03800-1-U6R2R	380	346	346	288	215	150	125	100	100	75		162.8		
A820-04750-1-U6R2R	475	432	388	346	288	150	150	125	125	100	L	162.8	(IP00)	

400V

Model Number	AMPS For Duty					Horsepower For Duty (NEC)					Frame Size	Weight (lbs)	Cooling Method	Protective Rating
	SLD	LD	SND	ND	HD	SLD	LD	SND	ND	HD				
A840-00023-1-N6R2R	2.3	2.1	2.1	1.5	0.8	1	1	1	0.5	0.25	C	7.7	Self-Cooling	NEMA 1, UL Type-1, Plenum Rated (IP20)
A840-00038-1-N6R2R	3.8	3.5	3.5	2.5	1.5	2	2	2	1	0.5		7.7		
A840-00052-1-N6R2R	5.2	4.8	4.8	4	2.5	3	3	3	2	1		7.7		
A840-00083-1-N6R2R	8.3	7.6	7.6	6	4	5	5	5	3	2		8.8		
A840-00126-1-N6R2R	12.6	11.5	11.5	9	6	7.5	7.5	7.5	5	3	D	8.8		
A840-00170-1-N6R2R	17	16	16	12	9	10	10	10	7.5	5		16.7		
A840-00250-1-N6R2R	25	23	23	17	12	15	15	15	10	7.5	E	20.5		
A840-00310-1-N6R2R	31	29	29	23	17	20	20	20	15	10		20.5		
A840-00380-1-N6R2R	38	35	35	31	23	25	25	25	20	15	F	37.4		
A840-00470-1-N6R2R	47	43	43	38	31	30	30	30	25	20		37.4		
A840-00620-1-N6R2R	62	57	57	44	38	40	40	40	30	25	G	50.6		
A840-00770-1-60R2R	77	70	70	57	44	60	50	50	40	30		90.2		
A840-00930-1-60R2R	93	85	85	71	57	60	60	60	50	40	H	90.2		
A840-01160-1-60R2R	116	106	106	86	71	75	75	75	60	50		94.6		
A840-01800-1-60R2R	180	144	129	110	86	150	100	75	75	60	J	114.4		
A840-02160-1-U6R2R	216	180	180	144	110	150	150	150	100	75		121		
A840-02600-1-U6R2R	260	216	194	180	144	200	150	150	150	100	L	156.2		
A840-03250-1-U6R2R	325	260	260	216	180	250	200	200	150	150		171.6		
A840-03610-1-U6R2R	361	325	325	260	216	300	250	250	200	150	M	257.4		
A840-04320-1-U6R2R	432	361	361	325	260	350	300	300	250	200		257.4		
A840-04810-1-U6R2R	481	432	432	361	325	400	350	350	300	250	N	365.2		
A840-05470-1-U6R2R	547	481	481	432	361	450	400	400	350	300		365.2		
A840-06100-1-U6R2R	610	547	547	481	432	500	450	450	400	350	N	365.2		
A840-06830-1-U6R2R	683	610	610	547	481	550	500	500	450	400		365.2		

Overload Current Rating *	SLD	110% 60 s, 120% 3 s (inverse-time characteristics) at surrounding air temperature of 40°C
	LD	120% 60 s, 150% 3 s (inverse-time characteristics) at surrounding air temperature of 50°C
	SND	150% 60 s (inverse-time characteristics) at surrounding air temperature of 50°C
	ND	150% 60 s, 200% 3 s (inverse-time characteristics) at surrounding air temperature of 50°C
	HD	200% 60 s, 250% 3 s (inverse-time characteristics) at surrounding air temperature of 50°C

* The % value of the overload current rating indicated is the ratio of the overload current to the inverter's rated output current. For repeated duty, allow time for the inverter and motor to return to or below the temperatures under 100% load.