

# R1000

## REGENERATIVE BRAKING UNIT



### 240 V POWER RANGE

- 5 - 150 HP

### 480 V POWER RANGE

- 5 - 500 HP

### AMBIENT OPERATING TEMPERATURE

- -10°C to 50°C  
(Open Type IP00)

### CERTIFICATION

- UL, cUL, RoHS, CSA B44.1

### STANDARD I/O

- (8) Digital Inputs
- (3) Analog Inputs
- (4) Relay Outputs
- (2) Analog Outputs

### COMMUNICATION OPTIONS

- Modbus RTU (Standard)
- Single/Dual Port EtherNet/IP
- Single/Dual Port Modbus TCP/IP
- DeviceNet
- EtherCAT
- MECHATROLINK-II
- PROFINET

### MECHANICAL OPTIONS

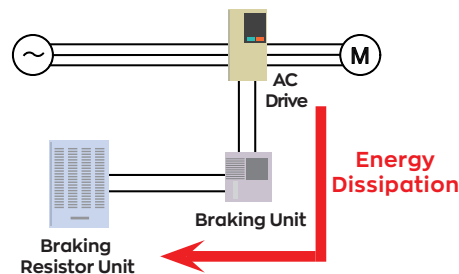
- External Heatsink Kit

Looking for a smart and efficient alternative to dynamic braking? The R1000 Regenerative Braking Unit is your answer.

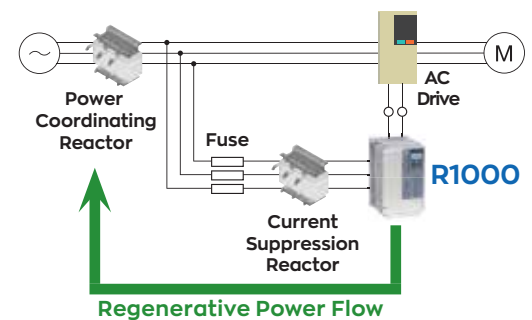
Unlike dynamic braking, which dissipates all braking energy in the form of heat, the R1000 avoids wasted energy by delivering it back to your power source for use by other loads.

Since the R1000 only transfers power during regeneration (not motoring), it is very economical for regenerative applications, and return on investment is often less than 1 year. Not only does this save energy and money, but it also eliminates the need to safely locate braking resistors.

### DYNAMIC BRAKING (Wasted Energy)



### REGENERATIVE BRAKING (Recovered Energy)



### HIGHLIGHTS

- Compatible with all conventional drives having full power access to DC bus
- Rated for 100% power, 25% duty cycle (60 s max. on time), or 80% continuous
- Overload capability of 150% for 30 s
- 0.9 power factor at full load
- Overcurrent and overheat protection

### TYPICAL APPLICATIONS

#### Stopping

- Elevators/Escalators
- Centrifuges
- Saws
- Large Fans
- Machine Tool Spindles

#### Eccentric

- Presses
- Dryers
- Vibratory Equipment

#### Continuous Regeneration

- Winders
- Downhill Conveyors
- Dynamometers

# R1000 CAPACITIES AND DIMENSIONS

## CAPACITIES AND DIMENSIONS

Each regenerative unit system requires an R1000 regeneration unit, reactor, and fuses. The following is a single kit number that includes all applicable components

Rated Input Voltage	Regenerative Kit Number	System Capacity				R1000 Regen Unit Dimensions <sup>*2</sup>		
		Max. Applicable Motor Capacity (HP) <sup>*1</sup>	Maximum Continuous <sup>*1</sup>			Height (in.)	Width (in.)	Depth (in.)
			Output Power (HP/kW)	Output DC Current (DC Amps)	Input DC Current (AC Amps)			
240 VAC	R1000-240-5HP	5	5 (3.5)	14	10	11.8	5.5	6.6
	R1000-240-7.5HP	7.5	7 (5)	20	15	11.8	5.5	6.6
	R1000-240-10HP	10	9 (7)	27	20	11.8	5.5	6.6
	R1000-240-15HP	15	13 (10)	41	30	13.4	7.1	7.4
	R1000-240-20HP	20	19 (14)	55	41	13.4	7.1	7.4
	R1000-240-25HP	25	23 (17)	68	50	15.8	8.7	7.8
	R1000-240-30HP	30	27 (20)	81	60	15.8	8.7	7.8
	R1000-240-40HP	40	38 (28)	112	83	15.8	8.7	7.8
	R1000-240-50HP	50	47 (35)	138	102	17.7	10.8	10.2
	R1000-240-75HP	75	71 (53)	207	153	21.7	12.8	11.1
	R1000-240-100HP	100	98 (73)	282	209	27.8	17.7	13
R1000-240-150HP	150	141 (105)	413	306	31.5	19.7	13.8	
480 VAC	R1000-480-5HP	5	5 (3.5)	7	5	11.8	5.5	6.6
	R1000-480-7.5HP	7.5	7 (5)	11	8	11.8	5.5	6.6
	R1000-480-10HP	10	9 (7)	15	11	11.8	5.5	6.6
	R1000-480-15HP	15	13 (10)	22	16	13.4	7.1	7.4
	R1000-480-20HP	20	19 (14)	30	22	13.4	7.1	7.4
	R1000-480-25HP	25	23 (17)	36	27	15.8	8.7	7.8
	R1000-480-30HP	30	27 (20)	43	32	15.8	8.7	7.8
	R1000-480-40HP	40	38 (28)	58	43	15.8	8.7	7.8
	R1000-480-50HP	50	47 (35)	73	54	17.7	10.8	10.2
	R1000-480-60HP	60	58 (43)	89	66	17.7	10.8	10.2
	R1000-480-75HP	75	71 (53)	109	81	21.7	12.8	11.1
	R1000-480-100HP	100	98 (73)	149	110	21.7	12.8	11.1
	R1000-480-150HP	150	141 (105)	217	161	27.8	17.7	13
	R1000-480-250HP	250	201 (150)	320	237	27.8	17.7	13
	R1000-480-350HP	350	282 (210)	440	326	31.5	19.7	13.8
R1000-480-500HP	500	402 (300)	629	466	31.5	19.7	13.8	

\*1 Recommended load is stated to account for typically efficiencies of connected loads (e.g. drives and motors). Maximum continuous values can be used if specific load device efficiencies are considered. Rated output capacity is based on standard duty ratings (100% for 60 s, 25% duty cycle).

\*2 Dimensions shown are only for R1000 regenerative unit. Contact Yaskawa for dimensions of other components included in the kit number.

IT'S PERSONAL