

# Firing Rate Motors and Linkages

## M9484D, E, F; M9494D, F Modutrol® IV Motors



**Reversing, proportional motors used to drive burner firing rate valves, dampers or auxiliary equipment. Replaces M941A, C, D motors.**

- Designed for flame safeguard applications in commercial/industrial oil or gas burner system.
- Vibration resistant electronic drive circuit.
- Regulated by three-wire proportional controller.
- Stroke is field-adjustable to 90 or 160 degrees.

**Frequency:** 50 Hz; 60 Hz

**Stroke:** Adjustable; 90 to 160 degrees, Symmetrical

**Power Consumption:** 15 W

**Input Signal:** 135 ohm

**Shaft Dimensions:** double-ended, 3/8 in. square (double-ended, 9.5 mm square)

**Deadweight Load on Shaft:** Either End – 200 lb (300 lb combined power and auxiliary shafts); 90.8 kg (136 kg combined power and auxiliary shafts)

**Approximate, Dimensions:** 6.45 in high x 5.5 in wide x 7.3 in deep (164 mm high x 140 mm wide x 185 mm deep)

**Ambient Temperature Range:** -40°F to +150°F (-40°C to +66°C)

**Approvals, Underwriters Laboratories Inc.:** Listed: File No. E4436, Guide No. XAPX for USA and Canada

**Supply Voltage:** 24 Vac

**Accessories:**

**Q100B1006/U** – Linkage to connect Modutrol motor to V51E Butterfly Valve. Includes 10 3/4 inch Linkage Rod.

Material Number	Torque Rating (lb-in.)	Torque Rating (Nm)	Additional Torque Ratings (lb-in.)	Additional Torque Ratings (Nm)	Internal Auxiliary Switch	Auxiliary Switch Setting	Auxiliary Switch Ratings	Switch Ratings	Timing	Factory Stroke Setting
M9484D1010/U	150 lb-in.	17 Nm	Breakaway – 300 lb-in.	Breakaway – 34.0 Nm				At 120 Vac – 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact; At 240 Vac – 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact	90 degree stroke – 30 seconds, 160 degree stroke – 60 seconds	160 degrees
M9484E1009/U	75 lb-in.	8.5 Nm	Breakaway – 150 lb-in.	Breakaway – 17.0 Nm	1	11 degrees	120 Vac – 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact; At 240 Vac – 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact		90 degree stroke – 15 seconds, 160 degree stroke – 30 seconds	90 degrees
M9484E1017/U	150 lb-in.	17 Nm	Breakaway – 300 lb-in.	Breakaway – 34.0 Nm	1	1 degree	120 Vac – 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact; At 240 Vac – 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact		90 degree stroke – 30 seconds, 160 degree stroke – 60 seconds	90 degrees
M9484E1033/U	150 lb-in.	17 Nm	Breakaway – 300 lb-in.	Breakaway – 34.0 Nm	1	7 degrees	120 Vac – 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact; At 240 Vac – 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact		90 degree stroke – 30 seconds, 160 degree stroke – 60 seconds	90 degrees
M9484F1007/U	150 lb-in.	17 Nm	Breakaway – 300 lb-in.	Breakaway – 34.0 Nm	2	7 and 80 degrees	120 Vac – 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact; At 240 Vac – 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact		90 degree stroke – 30 seconds, 160 degree stroke – 60 seconds	90 degrees
M9484F1023/U	75 lb-in.	8.5 Nm	Breakaway – 150 lb-in.	Breakaway – 17.0 Nm	2			At 120 Vac – 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact; At 240 Vac – 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact	90 degree stroke – 15 seconds, 160 degree stroke – 30 seconds	90 degrees

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Material Number	Torque Rating (lb-in.)	Torque Rating (Nm)	Additional Torque Ratings (lb-in.)	Additional Torque Ratings (Nm)	Internal Auxiliary Switch	Auxiliary Switch Setting	Auxiliary Switch Ratings	Switch Ratings	Timing	Factory Stroke Setting
M9484F1031/U	150 lb-in.	17 Nm	Breakaway – 300 lb-in.	Breakaway – 34.0 Nm	2	7 and 80 degrees	120 Vac – 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact; At 240 Vac – 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact		90 degree stroke – 30 seconds, 160 degree stroke – 60 seconds	90 degrees
M9484F1049/U	150 lb-in.	17 Nm	Breakaway – 300 lb-in.	Breakaway – 34.0 Nm	2	35 and 120 degrees	120 Vac – 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact; At 240 Vac – 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact		90 degree stroke – 30 seconds, 160 degree stroke – 60 seconds	160 degrees
M9484F1057/U	150 lb-in.	17 Nm	Breakaway – 300 lb-in.	Breakaway – 34.0 Nm	2			At 120 Vac – 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact; At 240 Vac – 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact	90 degree stroke – 30 seconds, 160 degree stroke – 53 seconds	
M9494D1000/U	300 lb-in.	34 Nm	Breakaway – 600 lb-in.	Breakaway – 68.0 Nm				At 120 Vac – 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact; At 240 Vac – 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact	90 degree stroke – 60 seconds, 160 degree stroke – 120 seconds	90 degrees
M9494F1003/U	300 lb-in.	34 Nm	Breakaway – 600 lb-in.	Breakaway – 68.0 Nm	2			At 120 Vac – 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact; At 240 Vac – 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact	90 degree stroke – 60 seconds, 160 degree stroke – 107 seconds	90 degrees

## Q100 Butterfly Valve Linkages



Connects V51E valve to M9484 and M9494 Modutrol IV Motors with adapter plate.

- Fits all sizes of V51E Valves. Mounts easily.

Material Number	Linkage Type	Used with Actuator	Includes	Used With
Q100B1006/U	Butterfly Gas Valve	Modutrol Motor	10 3/4 in. Linkage Rod	all sizes V51E Gas Valve