

# GEARMOTORS FOR HAZARDOUS LOCATIONS



**Class I / Division 2**  
AC Inverter-Duty



**Class I / Division 2**  
Brushless DC



**Class I / Division 1**  
AC and BLDC, IP-66

**BODINE  
ELECTRIC  
COMPANY**

[bodine-electric.com](http://bodine-electric.com)

## ▼ ABOUT BODINE

Bodine Electric Company offers over 1,400 standard stock products, and thousands of custom designed fractional horsepower (FHP) gearmotors, motors and motion controls (fixed and variable speed AC, brushless DC, and permanent magnet DC). Bodine gearmotors and motors are designed for demanding industrial and commercial applications such as medical devices, scientific and laboratory equipment, labeling equipment, pumping equipment, printing presses, packaging equipment, and factory automation. Bodine Electric is headquartered in Northfield, Illinois (20 miles north of Chicago) with manufacturing and assembly operations in Peosta, Iowa, U.S.A. Bodine's quality management system is certified to ISO 9001.



## ▼ WHAT ARE HAZARDOUS LOCATIONS?

Electrical equipment used in places such as gas pipelines, aircraft hangars, refineries, or industrial coating and mixing facilities must contain special wiring and components. The National Electrical Code (NEC) breaks down areas such as these that may contain explosive concentrations of dust or vapors into classes and divisions. Bodine now offers gearmotors and motors that meet both Class I, Division 2, (Groups A, B, C and D) or the more stringent Class I, Division 1 (Groups C and D) standards.

Our **Class I, Division 2** gearmotors meet NEC standards for use in environments where flammable gases or vapors may accidentally be spilled or leak into the operating area. Class I, Division 2, brushless DC products are available with our 34B-WX gearmotors or as a part of our 34B/SR-WX INTEGRAMOTORS™ (with built-in speed control). Fixed and variable speed AC products are available with our larger type FX gearhead.

Our **Class I, Division 1** gearmotors are engineered to be used in environments where ignitable concentrations of flammable gases, vapors or liquids are likely to exist under normal operating conditions. Three-phase AC and brushless DC (EC) gearmotors and motors are available with optional CID1 terminal box.



Type 34B6XBBL-FX BLDC or  
Type 34R6BXPP-FX Inverter-Duty Gearmotors



# SPECIFICATIONS



Type 34B/SR-WX  
Brushless DC INTEGRAMotor



Type 34R-FX AC  
Gearmotor  
Fixed and Variable Speed

## Class I, Division 2 Gearmotors (Groups A, B, C and D; Temperature Code T3C)

### Type 34R4-FX, AC Variable Speed, Inverter-Duty Gearmotors (IP-44)

Fixed Speed Rating					Variable Speed (SOA Ratings <sup>1</sup> )						Product Type	Model Number
Speed (rpm)	Torque (lb-in)	Power (HP)	Rated Current (Amps)	Gear Ratio	Speed Range (rpm)	Frequency Range (Hz)	Torque Type	Torque (lb-in)				
								@10 Hz	@60 Hz	@90 Hz		
<b>230/460 VAC, Three-Phase, Non-Synchronous, TENV</b>												
5.7	350	1/6	1.0 / 0.53	300	0.4-7.3	10-90	Constant	350	350	350	34R4BFPP-FX4	3259
9.4	350	1/6	1.0 / 0.53	180	0.7-12	10-90	Constant	350	350	350	34R4BFPP-FX4	3258
14	350	1/6	1.0 / 0.53	120	1.0-18	10-90	Constant	350	350	350	34R4BFPP-FX4	3257
28	321	1/6	1.0 / 0.53	60	2.0-36	10-90	Variable	257	350	350	34R4BFPP-FX3	3256
43	214	1/6	1.0 / 0.53	40	3.0-55	10-90	Variable	171	265	265	34R4BFPP-FX3	3255
57	160	1/6	1.0 / 0.53	30	4.0-73	10-90	Variable	128	255	221	34R4BFPP-FX3	3254
85	107	1/6	1.0 / 0.53	20	6.0-110	10-90	Variable	86	170	147	34R4BFPP-FX3	3253
113	80	1/6	1.0 / 0.53	15	8.0-145	10-90	Variable	64	127	111	34R4BFPP-FX2	3252
170	53	1/6	1.0 / 0.53	10	12-218	10-90	Variable	43	85	74	34R4BFPP-FX2	3251
340	28	1/6	1.0 / 0.53	5	24-436	10-90	Variable	22	44	38	34R4BFPP-FX1	3250

1. SOA: Contact the factory for detailed safe operating area (SOA) performance data; These gearmotors are supplied with a factory-installed large terminal box and terminal block.

### Type 34R6-FX, AC Fixed Speed, PSC Gearmotors (IP-44)

Speed (rpm)	Rated Torque (lb-in)	Power (HP)	Voltage (VAC)	Frequency (Hz)	Phase	Current (Amps)	Gear Ratio	Radial Load (Lbs)	Product Type	Model Number
<b>Permanent Split Capacitor, Non-synchronous 3-Wire-Reversible (TEFC) Capacitor is pre-installed</b>										
5.7	350	1/7	115	60	1	1.6	300:1	274	34R6BFCl-FX4	3249
9	350	1/7	115	60	1	1.6	180:1	274	34R6BFCl-FX4	3248
14	350	1/7	115	60	1	1.6	120:1	274	34R6BFCl-FX4	3247
28	273	1/7	115	60	1	1.6	60:1	300	34R6BFCl-FX3	3246
43	182	1/7	115	60	1	1.6	40:1	300	34R6BFCl-FX3	3245
57	137	1/7	115	60	1	1.6	30:1	300	34R6BFCl-FX3	3244
85	91	1/7	115	60	1	1.6	20:1	300	34R6BFCl-FX3	3243
113	68	1/7	115	60	1	1.6	15:1	300	34R6BFCl-FX2	3242
170	46	1/7	115	60	1	1.6	10:1	300	34R6BFCl-FX2	3241
340	24	1/7	115	60	1	1.6	5:1	62	34R6BFCl-FX1	3240

These gearmotors are supplied with a factory-installed large terminal box, terminal block, and PSC models with pre-wired run capacitor (27.5 µF/250 VAC).

### Type 34B/SR-WX Brushless DC INTEGRAMotor Gearmotors (IP-44)

Speed (rpm)	Rated Torque (lb-in)	Power (HP)		Control Input Continuous Amps		Gear Ratio	Radial Load (lbs)	Product Type	Model Number	
		12 VDC	24 VDC	12 VDC	24 VDC				12 VDC	24 VDC
8	205	1/5	1/4	19.0	11.0	312:1	130	34B4BEBl/SR-WX4	3293	3893
15	200	1/5	1/4	19.0	11.0	172:1	130	34B4BEBl/SR-WX4	3292	3892
26	185	1/5	1/4	19.0	11.0	98:1	140	34B4BEBl/SR-WX4	3290	3890
38	190	1/5	1/4	19.0	11.0	66:1	140	34B4BEBl/SR-WX3	3288	3888
46	185	1/5	1/4	19.0	11.0	55:1	130	34B4BEBl/SR-WX3	3287	3887
57	157	1/5	1/4	19.0	11.0	44:1	130	34B4BEBl/SR-WX3	3286	3886
84	106	1/5	1/4	19.0	11.0	30:1	160	34B4BEBl/SR-WX3	3285	3885
123	77	1/5	1/4	19.0	11.0	20:1	60	34B4BEBl/SR-WX2	3284	3884
181	46	1/5	1/4	19.0	11.0	14:1	65	34B4BEBl/SR-WX2	3283	3883
266	31	1/5	1/4	19.0	11.0	9:1	80	34B4BEBl/SR-WX2	3282	3882
455	18	1/5	1/4	19.0	11.0	6:1	90	34B4BEBl/SR-WX2	3280	3880
658	9	1/5	1/4	19.0	11.0	4:1	65	34B4BEBl/SR-WX2	3279	3879



Type 34R-FX  
AC Inverter-Duty Gearmotor



Type 34B-FX  
Brushless DC Gearmotor



Type 34R and  
Type 34B Motors

**Class I, Division 1 Gearmotors, Explosion-Proof (Groups C and D; Temperature Codes T3C and T4A)**

**Type 34R-FX AC Variable Speed Gearmotors (230VAC or 460VAC, TENV, IP-66, Inverter-duty, 3-phase, 60 Hz models)**

Fixed Speed Rating						Variable Speed (SOA Ratings <sup>1</sup> )						Product Type	Model Number	
Speed (rpm)	Rated Torque (lb-in)	Power (HP)	Rated Current (Amps)		Gear Ratio	Speed Range (rpm)	Frequency Range (Hz)	Torque Type	Torque (lb-in)				230V	460V
			230V	460V					@10 Hz	@60 Hz	@90 Hz			
<b>230VAC or 460VAC, TENV, IP-66</b>														
5.3	350	1/4	0.98	0.49	300:1	0.7-7.9	10-90	Constant	350	350	350	34R6BXPP-FX4	3229	3274
8.9	350	1/4	0.98	0.49	180:1	1.2-13	10-90	Constant	350	350	350	34R6BXPP-FX4	3228	3273
13	350	1/4	0.98	0.49	120:1	1.8-20	10-90	Constant	350	350	350	34R6BXPP-FX4	3227	3272
27	350	1/4	0.98	0.49	60:1	3.6-40	10-90	Variable	350	350	321	34R6BXPP-FX3	3226	3271
40	265	1/4	0.98	0.49	40:1	5.4-59	10-90	Variable	257	265	214	34R6BXPP-FX3	3225	3270
53	267	1/4	0.98	0.49	30:1	7.1-79	10-90	Variable	192	267	160	34R6BXPP-FX3	3224	3269
80	178	1/4	0.98	0.49	20:1	11-119	10-90	Variable	128	178	107	34R6BXPP-FX3	3223	3268
107	133	1/4	0.98	0.49	15:1	14-158	10-90	Variable	96	133	80	34R6BXPP-FX2	3222	3267
160	89	1/4	0.98	0.49	10:1	21-237	10-90	Variable	64	89	53	34R6BXPP-FX2	3221	3266
320	46	1/4	0.98	0.49	5:1	43-474	10-90	Variable	33	46	28	34R6BXPP-FX1	3220	3265

**Type 34B-FX Brushless DC Gearmotors (8-Pole, 120° commutation)**

Speed (rpm)		Torque (lb-in)		Power (HP)		Rated Current (Amps)		Gear Ratio	Radial Load (lbs)	Product Type	Model Number	
12V	24V	12V	24V	12V	24V	12V	24V				12V	24V
<b>12V or 24 VDC, TENV, IP-66</b>												
7.3	9.3	350	350	0.47 <sup>2</sup>	0.66 <sup>2</sup>	38	25	300:1	274	34B6BXBL-FX4	3209	3219
12	16	350	350	0.47	0.66	38	25	180:1	274	34B6BXBL-FX4	3208	3218
18	23	350	350	0.47	0.66	38	25	120:1	274	34B6BXBL-FX4	3207	3217
37	47	350	350	0.47	0.66	38	25	60:1	274	34B6BXBL-FX3	3206	3216
55	70	265	265	0.47	0.66	38	25	40:1	291	34B6BXBL-FX3	3205	3215
73	93	270	270	0.47	0.66	38	25	30:1	300	34B6BXBL-FX3	3204	3214
110	140	240	240	0.47	0.66	38	25	20:1	300	34B6BXBL-FX3	3203	3213
147	187	181	186	0.47	0.66	38	25	15:1	300	34B6BXBL-FX2	3202	3212
220	280	121	124	0.47	0.66	38	25	10:1	300	34B6BXBL-FX2	3201	3211
440	560	58	58	0.47	0.66	38	25	5:1	56	34B6BXBL-FX1	3200	3210

**Class I, Division 1 Motors Explosion-Proof (Groups C and D; Temperature Codes T3C and T4A) IP-66**

**Type 34R AC Motor (115VAC and 230VAC, PSC Models also available, 42 Watts, 33 oz-in, TENV)**

Fixed Speed Rating					Variable Speed (SOA Ratings <sup>1</sup> )						Product Type	Model Number	
Speed (rpm)	Torque (oz-in)	Power (HP)	Rated Current (Amps)		Speed Range (rpm)	Frequency Range (Hz)	Torque Type	Torque (oz-in)				230VAC	460VAC
			230VAC	460VAC				@10 Hz	@60 Hz	@90 Hz			
<b>230 VAC Inverter-duty ,TENV, IP-66</b>													
1600	158	1/4	0.98	0.49	214-3259	10-120	variable	114	158	55	34R6BXPP	3263	3264

**Type 34B Brushless DC Motor (Special order 130 VDC or 260 VDC models, 4- or 8-pole also available) IP-66**

Speed (rpm)		Rated Torque (oz-in)		Power (HP)			Rated Current (Amps)		Radial Load (lbs)	Product Type	Model Number	
12V	24V	12V	24V	12V (8-pole)	24V (8-pole)	260 VDC	12V	24V			12V	24V
2200	2800	215	237	0.47	0.66	0.5	38	25	42	34B6BXBL	3261	3262

1. SOA: Contact the factory for detailed safe operating area (SOA) performance data; 2. 34B-FX Power: 0.47HP = 351 Watts, and 0.66HP = 492 Watts

**Optional Accessories for Class I, Division 1 Gearmotors and Motors**



Model 0931  
Base Mount Kit

## ▼ CUSTOM GEARMOTOR SOLUTIONS

Our engineering team can work with you to design a motion control system that precisely meets your needs. From custom cables, connectors, and windings, to special motor shafts, external modifications, brackets, and conduit boxes, almost every component of a Bodine gearmotor, motor or control can be modified. We also offer an extensive array of pre-designed options.

Bodine offers various built-to-order options for our hazardous locations CI/D1 or CI/D2 motors and gearmotors. For example, we can factory-install conduit boxes to our CI/D1 gearmotors that meet hazardous-location safety standards.





INDUSTRIES



Oil & Gas/ Chemical Injection Pumps



Paint Spray Booths / Industrial Painting



Food Processing (except for powders and flour)



Process and Chemical Industry





Bodine  
Manufacturing  
Plant, Iowa

## GEARMOTORS FOR APPLICATIONS WHERE GOOD ENOUGH IS SIMPLY NOT GOOD ENOUGH

When you choose a Bodine gearmotor, motor or control you get more than just the nameplate ratings. You get peace of mind. Whether you are designing a new machine or simply upgrading existing machinery, you can count on our team to make sure you have a motion control solution that will be reliable, efficient, and trouble-free for years to come. We design our rugged, high-performance gearmotors for equipment where downtime is not an option.

Bodine offers over 1,400 standard/stock products with gear ratios from 4:1 to 3600:1, torque to 1,535 lb-in (173 Nm) and horsepower up to  $\frac{3}{4}$  hp (560W), all available from our centrally-located manufacturing facility in Peosta, Iowa. If none of our stock products fit your needs, let our engineers help you create a custom solution that precisely matches your design specifications.

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