

- Universal horizontal mounting
- Helical primary gear and hardened steel spur gearing on subsequent stages
- Capacitors/accessories: Page 36
- Controls: page 26
- Reference dimensions: page 38

Variable Speed—Pacesetter Inverter Duty AC Geardmotors

Fixed Speed Rating					Variable Speed (SOA) Ratings ¹						Product Type	(230V) Model Number
Speed (rpm)	Torque (lb-in.)	Motor HP	A	Gear Ratio	Speed Range (rpm)	Frequency Range (Hz)	Torque Type	Torque @ 10 Hz (lb-in.)	Torque @ 60 Hz (lb-in.)	Torque @ 90 Hz (lb-in.)		
9	40	1/25	0.38	180	1.2-11.65	10-90	constant	40	40	40	30R2BEPP-D4	2210
19	40	1/25	0.38	90	2.5-23			40	40	40	30R2BEPP-D4	2212
28	40	1/25	0.38	60	3.7-35			40	40	40	30R2BEPP-D3	2214
142	19	1/17	0.48	12	19-175			19	19	19	30R4BEPP-D3	2216
283	7.4	1/17	0.48	6	22-359			7.4	7.4	7.4	30R4BEPP-D3	2218



Type 30R-D Inverter Duty

Fixed Speed—AC Geardmotors

Speed (rpm)	Rated Torque (lb-in.)	Motor HP	V	Hz	Ph	Amps	Gear Ratio	Radial Load (lbs.)	Capacitor (µF/VAC)	Product Type	Model Number
3.8	40	1/50	115	60	1	0.33	450	65	4.0/250	30R1BECEI-D5	5463
9.4	40	1/50				0.33	180		4.0/250	30R1BECEI-D4	5462
19	40	1/50				0.33	90		4.0/250	30R1BECEI-D4	5461
28	40	1/30				0.45	60		5.0/250	30R2BECEI-D3	5474
57	27	1/30				0.45	30		5.0/250	30R2BECEI-D3	5473
94	16	1/30				0.45	18		5.0/250	30R2BECEI-D3	5472
140	11	1/30				0.45	12		5.0/250	30R2BECEI-D3	5471
285	5	1/30				0.45	6		5.0/250	30R2BECEI-D3	5470



Type 30R-D

Permanent Magnet DC Geardmotors

Speed (rpm)	Rated Torque (lb-in.)	Rated Current (Amps)		Peak Torque (lb-in.)	Motor HP	Gear Ratio	Radial Load (lbs.)	Product Type ²	Accy Shaft	No Accy Shaft	Accy Shaft	No Accy Shaft
		24V	130V						24V	130V		
5.6	40	1.8	0.30	55	1/29	450	24A2BEPM-D5	4999	4799	4499	0199	
8.3	40	1.8	0.30	55	1/29	300	24A2BEPM-D5	4998	4798	4498	0198	
14	40	1.8	0.30	55	1/29	180	24A2BEPM-D4	4997	4797	4497	0197	
28	40	1.8	0.30	55	1/29	90	24A2BEPM-D4	4996	4796	4496	0196	
42	40	2.6	0.48	55	1/17	60	24A4BEPM-D3	—	4690	—	0190	
42	36	1.8	0.30	55	1/29	60	24A2BEPM-D3	4995	4795	4495	0195	
83	29	2.6	0.48	33	1/17	30	24A4BEPM-D3	—	—	—	0189	
83	18	1.8	0.30	33	1/29	30	24A2BEPM-D3	4994	4794	4494	0194	
139	17	2.6	0.48	20	1/17	18	24A4BEPM-D3	—	—	—	0188	
139	11	1.8	0.30	20	1/29	18	24A2BEPM-D3	4993	4793	4493	0193	
208	12	2.6	0.48	13	1/17	12	24A4BEPM-D3	—	—	—	0187	
208	7.1	1.8	0.30	13	1/29	12	24A2BEPM-D3	4992	4792	4492	0192	
417	5.4	2.6	0.48	6.2	1/17	6	24A4BEPM-D3	—	—	—	0186	
417	3.3	1.8	0.30	6.2	1/29	6	24A2BEPM-D3	4991	4791	4491	0191	



Type 24A-D

Brushless DC Geardmotors

Speed (rpm)	Rated Torque (lb-in.)	Rated Current (A)		Peak Torque (lb-in.)	Motor HP	Gear Ratio	Radial Load (lbs.)	Product Type	Accy Shaft	No Accy Shaft	Accy Shaft	No Accy Shaft	
		24V	130V						24V	130V			
14	40	3.3	0.53	55	1/16	180	60	22B2BEEL-D4	3636	3536	3433	3333	
28	40			55				90	22B2BEEL-D4	3635	3535	3431	3331
42	40			55				60	22B2BEEL-D3	3634	3534	3430	3330
83	29			33				30	22B2BEEL-D3	3629	3529	3429	3329
139	17	20	18	22B2BEEL-D3	3628	3528	3428	3328					
208	12	13	12	22B2BEEL-D3	3627	3527	3427	3327					
417	5.8	6.2	6	22B2BEEL-D3	3626	3526	3426	3326					



Type 22B-D

INTEGRAmotor BLDC Geardmotors

Motor Output				Control Input			Product Type	Model Number	
Speed Range (rpm)		Torque (lb-in.)	Gear Ratio	HP	Volts (VDC)	Continuous Amps		Type SR Analog Interface	Type FV Digital Interface ³
0.7-8	0.3-8	40	300	1/16	24	3.3	22B2BEEL/**-D5	3837	3737
1-14	0.4-14	40	180				22B2BEEL/**-D4	3836	3736
2-28	0.8-28	40	90				22B2BEEL/**-D4	3835	3735
3-42	1.3-42	40	60				22B2BEEL/**-D3	3834	3734
7-83	2.5-83	29	30				22B2BEEL/**-D3	3829	3729
11-139	4.2-139	17	18				22B2BEEL/**-D3	3828	3728
17-208	6.3-208	12	12				22B2BEEL/**-D3	3827	3727
33-417	13-417	5.8	6				22B2BEEL/**-D3	3826	3726



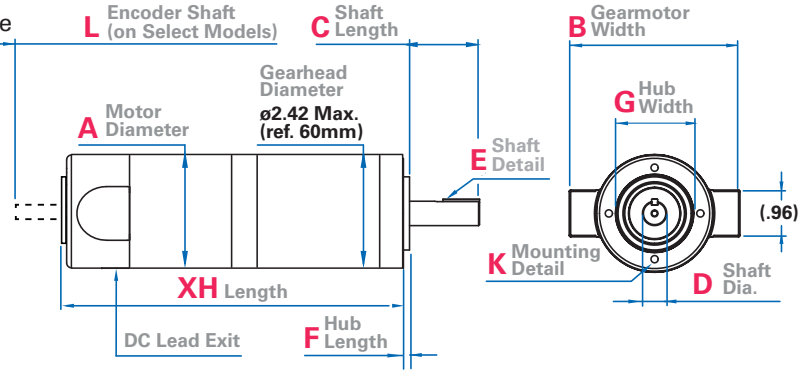
Type 22B/SR-D and 22B/FV-D INTEGRAmotor

¹ SOA: Contact the factory for detailed speed/torque information (Safe Operating Area). See page 21; ² The fifth character of the product type changes from "B" to "F" for accessory ready models; ³ Type FV INTEGRAmotors require a PWM signal from a motion controller or PLC to operate; ** INTEGRAmotor can be ordered with either analog

Reference Drawings and Dimensions

60P Planetary Gearmotor Dimensions

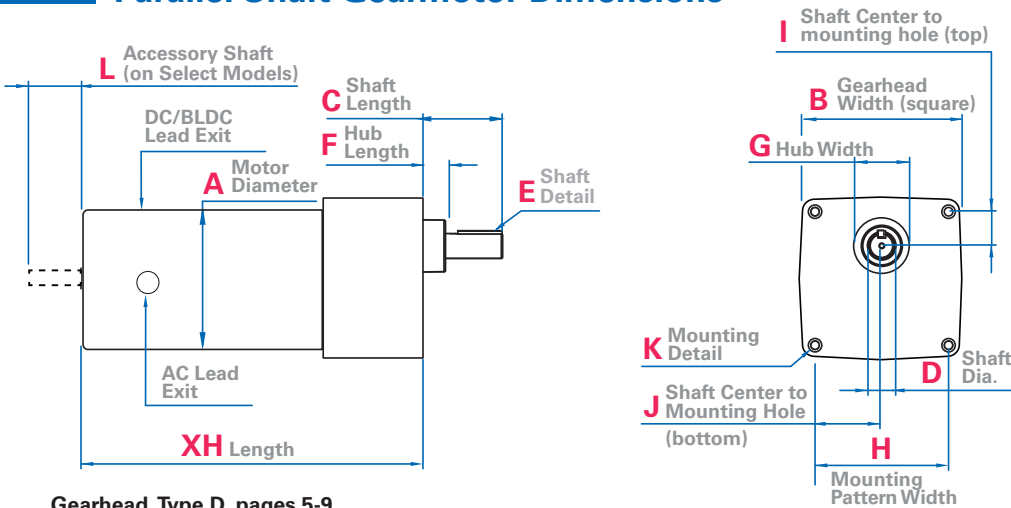
Dimensions (in inches unless otherwise noted) are for reference only.



Gearhead Type 60P, page 4

	Product Type	Wt. (lbs.)	XH Length Max.	A Diameter	B Width	C Shaft Length	D Shaft Diameter	E Shaft Detail	F Hub Length	G Hub Width	H Mounting Pattern Width	K Mounting Detail	L Encoder Shaft	Cord/Lead Length (in.)
24A-60P	24A4-60P1	4.5	7.083	2.42	3.57 Max.	1.56	.500 tapped end hole	Key	.125	1.5	90° on a ø2.000 BC	[4] #10-32 UNF-2B	No	24 Ref.
	24A4-60P2	5.0	7.693											
	24A4-60P3	5.5	8.303											
24A-60P Metric	24A4-60P1	2.0 kg	180 mm	61.5 mm	91 mm Max.	35 mm	14 mm h6	Key	3mm	40 mm h7	90° on a ø52 mm BC	[4] M5x0.8-6h	No	610 mm
	24A4-60P2	2.3 kg	195 mm											
	24A4-60P3	2.5 kg	211 mm											
22B-60P	22B4-60P1	5.1	7.04	2.39	2.39	1.56	.500 tapped end hole	Key	.118	1.5	90° on a ø2.000 BC	[4] #10-32 UNF-2B	Optional	24 Ref.
	22B4-60P2	5.7	7.65											
	22B4-60P3	6.2	8.26											
22B-60P Metric	22B4-60P1	2.3 kg	179 mm	60.71 mm	60.71 mm Max.	35 mm	14 mm h6	Key	3mm	40 mm h7	90° on a ø52 mm BC	[4] M5x0.8-6h	Optional	610 mm
	22B4-60P2	2.6 kg	194 mm											
	22B4-60P3	2.8 kg	210 mm											

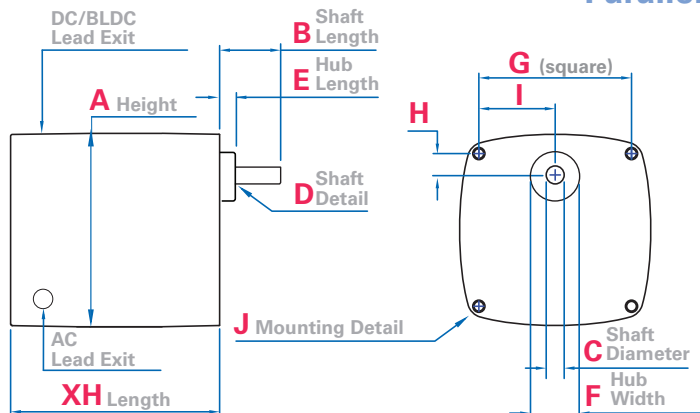
D Parallel Shaft Gearmotor Dimensions



Gearhead Type D, pages 5-9

	Product Type	Wt. (lbs.)	XH Length	A Diameter (Height)	B Width	C Shaft Length	D Shaft Diameter	E Shaft Detail	F Hub Length	G Hub Width	H Mounting Pattern Width	I Shaft Center to Mounting Hole (top)	J Shaft Center to Mounting Hole (bottom)	K Mounting Detail	L Acc'y Shaft	Cord/Lead Length (in.)
Type D Gearmotor																
24A-D	24A2-D	4.0	5.887	2.42	3.42	1.56	.500	Flat	.554	1.125	2.652	.582	1.326	[4]10-32 UNF-2B x .38 deep on a 3.75 B.C.	Yes	24
	24A4-D	4.5	6.637												Yes	24
22B-D	22B2-D	3.75	5.522	2.378											Yes	12 or 24
22B-D INTEGRA	22B2-D	5.4	6.631	2.93											No	None

Only the first four characters of the product type are relevant to dimensions.

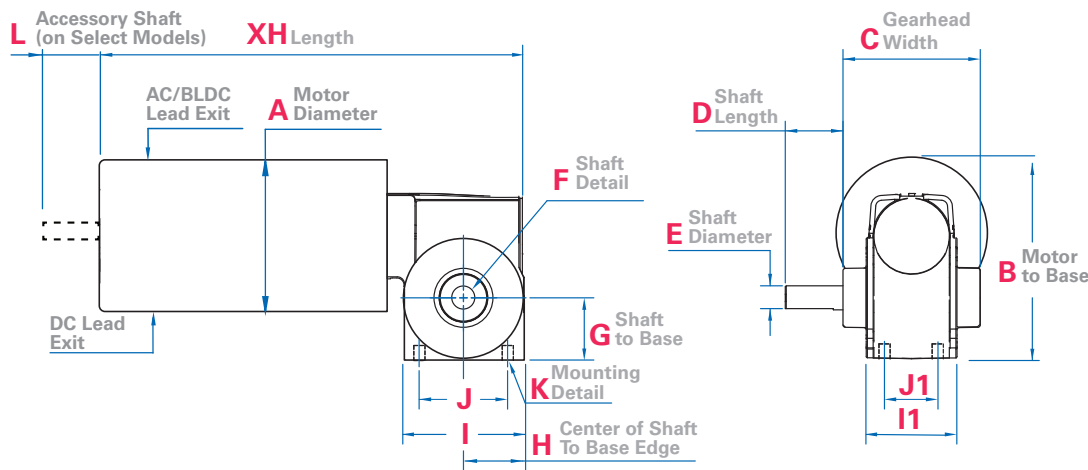


Gearhead Type 30R-D, K-2A/T, pages 5, 12

	Product Type	Wt. (lbs.)	XH Length (square)	A Height (square)	B Shaft Length	C Shaft Diameter	D Shaft Detail	E Hub Length	F Hub Width	G Mounting Pattern Width	H Shaft Center to Mounting Hole	I Shaft Center to Mounting Hole	J Mounting Detail	Lead/Cord Length (in.)
Type K-2 Gearmotor														
K-2T	22	2.2	2.539	2.38	1.00	.250	Flat	.255	.52	1.900	.356	.950	[2]8-32 UNC-2A	12
	23	2.4	2.664											
	24	2.7	3.023											
K-2A	23	2.3	2.507	2.38	1.00	.250	Flat	.255	.52	1.900	.356	.950	[2]8-32 UNC-2A	12
	24	2.6	2.866											
Type 30R-D Gearmotor														
30R-D	30R1	5.8	5.242	3.45	1.56	.500	Flat	.554	1.125	2.652	.582	1.326	[4]10-32 UNF-2B x .38 deep Max.	12
	30R2	6.3	5.492											
	30R4	7.5	6.000											

Right Angle Gearmotor Dimensions **3N | 3F**

Dimensions (in inches) are for reference only. For CAD drawings and specs, visit bodine-electric.com.



Gearhead Type 3N/3F, pages 13-14 (Mounts from Gearhead)

	Weight (lbs.)	XH Length	A Dia-meter	B Motor to Base	C Gearhead Width	D Shaft Length	E Shaft Diameter	F Shaft Detail	G Shaft to Base	H Center of Shaft to Base	I Base Length	I1 Base Width	J Mounting Hole Length	J1 Mounting Hole Width	K Mounting Detail	L Acc'y Shaft	Cord/Lead Length (in.)
30R4-3N	7.5	7.192	3.34	4.30	2.871	1.00	.500	Flat	1.28	1.28	2.56	2.111	2.00	1.188	[4]1/4 -20 UNF-2B x .50 deep	No	12
34R4-3F	9.3	8.61	4.02	4.37												No	12
24A4-3F	5.3	7.422	2.42	3.57												Yes	24
22B4-3N	5.4	7.677	2.378	3.80												No	12 or 24
22B4-3N INTEGRA	5.4	8.79	2.93	3.82												No	None

Only the first four characters of the product type are relevant to dimensions