

B&R planetary gearboxes – Performance that is out of this world

Flexibility and modularity

B&R's innovative and efficient planetary gearboxes are designed to meet every possible requirement – from the ultimate flexibility and modularity offered by B&R's standard series to the minimal backlash and high torsional rigidity characteristics of B&R's premium series. A low-cost yet powerful solution is also available with B&R's economy gearbox series.

Highlights

- Flexible building block principle for standard gearboxes
- Low backlash and high torsional rigidity with premium gearboxes
- Direct gearbox mounting
- Maintenance-free



Gearboxes with output shaft

- High precision
- Eco, standard, premium, i=3,...,512



Gearboxes with output flange

- High stiffness
- Standard, premium, i=3,...,64



Angular gearboxes

- Flexible design, hollow shaft
- Standard, premium, i=4,...,100



Direct gearbox mounting

- High performance density
- Eco, standard

Integrated automation
Global presence
Solid partnership



ETHERNET POWERLINK open SAFETY

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Planetary gearboxes
System overview

PERFECTION IN AUTOMATION
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Economy series



Degree of protection		IP54			
Size		40	60	80	120
Nominal output torque ¹⁾ [Nm]		5 to 15	15 to 33	38 to 97	95 to 195
Maximum output torque ¹⁾ [Nm]		8 to 24	24 to 53	61 to 155	152 to 312
Backlash [arcmin]	1 stage	≤ 7 to ≤ 15	≤ 7 to ≤ 15	≤ 7 to ≤ 15	≤ 7 to ≤ 15
	2 stage	≤ 9 to ≤ 19	≤ 9 to ≤ 19	≤ 9 to ≤ 19	≤ 9 to ≤ 19
	3 stage	-	-	-	-
Ratios	1 stage	5, 10	5, 10	5, 10	5, 10
	2 stage	25	25	25	25
	3 stage	-	-	-	-
Maximum radial load for 20.000 ¹⁾²⁾ [h]		200 to 1750	200 to 1750	200 to 1750	200 to 1750
Maximum axial load for 20.000 ¹⁾ [h]		200 to 2500	200 to 2500	200 to 2500	200 to 2500
Shaft options	smooth shaft	-	-	-	-
	keyway [DIN 6885 T1]	X	X	X	X
	spline shaft [DIN 5480]	-	-	-	-

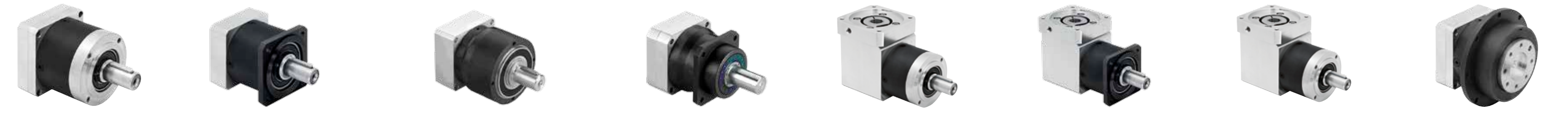
8GP30					
Degree of protection		IP54			
Size		40	60	80	120
Nominal output torque ¹⁾ [Nm]		5 to 15	15 to 33	38 to 97	95 to 195
Maximum output torque ¹⁾ [Nm]		8 to 24	24 to 53	61 to 155	152 to 312
Backlash [arcmin]	1 stage	≤ 7 to ≤ 15	≤ 7 to ≤ 15	≤ 7 to ≤ 15	≤ 7 to ≤ 15
	2 stage	≤ 9 to ≤ 19	≤ 9 to ≤ 19	≤ 9 to ≤ 19	≤ 9 to ≤ 19
	3 stage	-	-	-	-
Ratios	1 stage	5, 10	5, 10	5, 10	5, 10
	2 stage	25	25	25	25
	3 stage	-	-	-	-
Maximum radial load for 20.000 ¹⁾²⁾ [h]		200 to 1750	200 to 1750	200 to 1750	200 to 1750
Maximum axial load for 20.000 ¹⁾ [h]		200 to 2500	200 to 2500	200 to 2500	200 to 2500
Shaft options	smooth shaft	-	-	-	-
	keyway [DIN 6885 T1]	X	X	X	X
	spline shaft [DIN 5480]	-	-	-	-

¹⁾ These values refer to a speed of the output shaft of n2 = 100 rpm on duty cycle KA = 1 and S1-mode for electrical machines and T = 30° C; depends on the motor shaft diameter. ²⁾ Half way along the output shaft

Premium series



Standard series



		8GP60					8GA60				8GA75				8GF60				
Degree of protection		IP65					IP65				IP65				IP65				
Size		70	90	115	142	190	70	90	115	142	70	90	115	142	64	90	110	140	200
Nominal output torque ¹⁾ [Nm]		27 to 77	60 to 150	125 to 300	305 to 1000	630 to 1800	22 to 77	40 to 150	75 to 300	160 to 800	22 to 45	40 to 70	75 to 140	160 to 320	27 to 77	60 to 150	125 to 300	305 to 1000	630 to 1300
Maximum output torque ¹⁾ [Nm]		43 to 123	96 to 240	200 to 480	488 to 1600	1008 to 2880	35 to 123	64 to 240	120 to 480	256 to 1280	35 to 75	64 to 112	120 to 224	256 to 512	43 to 123	96 to 240	200 to 480	488 to 1600	1008 to 2880
Backlash [arcmin]	1 stage	≤ 3 (≤ 1)					≤ 5				≤ 5				≤ 3 (≤ 1)				
	2 stage	≤ 5 (≤ 1)					≤ 7				-				≤ 5 (≤ 1)				
	3 stage	-					-				-				-				
Ratios	1 stage	3, 4, 5, 8, 10					3, 4, 5, 8, 10				4, 5, 8, 10				4, 5, 8, 10				
	2 stage	12, 15, 16, 20, 25, 32, 40, 64, 100					9, 12, 15, 16, 20, 25, 32, 40, 64, 100				-				16, 20, 25, 32, 40, 50, 64, 100				
	3 stage	-					-				-				-				
Maximum radial load for 20,000 ¹⁾²⁾ [h]		3200 to 18,000					3200 to 12,500				2700 to 10,000				2400 to 33,000				
Maximum axial load for 20,000 ¹⁾ [h]		4400 to 21,000					4400 to 15,000				4300 to 14,500				4300 to 25,000				
Shaft options	smooth shaft	X					X				-				-				
	keyway (DIN 6885 T1)	X					X				-				-				
	spline shaft (DIN 5480)	X					X				-				-				
	hollow shaft	-					-				X				-				

1) These values refer to a speed of the output shaft of n2 = 100 rpm on duty cycle KA = 1 and S1-mode for electrical machines and T = 30° C; depends on the motor shaft diameter. 2) Half way along the output shaft

		8GP40				8GP45			8GP50					8GP55			8GA40				8GA45			8GA50				8GF40		
Degree of protection		IP54				IP54			IP54					IP65			IP54				IP54			IP54				IP54		
Size		40	60	80	120	67	89	121	50	70	90	120	155	60	80	120	40	60	80	120	89	121	50	70	90	121	64	90	110	
Nominal output torque ¹⁾ [Nm]		5 to 20	15 to 44	38 to 130	95 to 260	15 to 44	38 to 130	95 to 260	5 to 15	15 to 33	38 to 97	95 to 195	210 to 460	15 to 44	38 to 130	95 to 260	4,5 to 20	14 to 44	38 to 130	80 to 260	38 to 130	80 to 260	4,5 to 15	14 to 33	38 to 97	80 to 195	15 to 44	38 to 130	95 to 260	
Maximum output torque ¹⁾ [Nm]		8 to 32	24 to 70	61 to 208	152 to 416	24 to 70	61 to 208	152 to 416	8 to 24	24 to 53	61 to 155	152 to 312	336 to 736	24 to 70	61 to 208	152 to 416	7 to 32	22 to 70	61 to 208	128 to 416	61 to 208	128 to 416	7 to 24	22 to 53	61 to 155	128 to 312	24 to 70	61 to 208	152 to 416	
Backlash [arcmin]	1 stage	≤ 6 to ≤ 15				≤ 7 to ≤ 10			≤ 8 to ≤ 15					≤ 7 to ≤ 10			≤ 11 to ≤ 21				≤ 11 to ≤ 16			≤ 11 to ≤ 21				≤ 7 to ≤ 18		
	2 stage	≤ 9 to ≤ 19				≤ 9 to ≤ 12			≤ 12 to ≤ 19					≤ 9 to ≤ 12			≤ 13 to ≤ 25				≤ 13 to ≤ 18			≤ 13 to ≤ 25				≤ 9 to ≤ 12		
	3 stage	≤ 11 to ≤ 22				≤ 11 to ≤ 15			-					-			≤ 15 to ≤ 28				≤ 15 to ≤ 21			-				-		
Ratios	1 stage	3, 4, 5, 8, 10				3, 4, 5, 8, 10			3, 4, 5, 7, 8, 10					4, 5, 10			3, 4, 5, 8, 10				3, 4, 5, 8, 10			3, 4, 5, 7, 8, 10				3, 4, 5, 8, 10		
	2 stage	9, 12, 15, 16, 20, 25, 32, 40, 64, 100				9, 12, 15, 16, 20, 25, 32, 40, 64, 100			9, 12, 15, 16, 20, 25, 32, 40, 64, 100					16, 20, 25, 40, 50, 100			9, 12, 15, 16, 20, 25, 32, 40, 64, 100				9, 12, 15, 16, 20, 25, 32, 40, 64, 100			9, 12, 15, 16, 20, 25, 32, 40, 64, 100				9, 12, 15, 16, 20, 25, 32, 40, 64, 100		
	3 stage	60, 80, 120, 160, 200, 256, 320, 512				60, 80, 120, 160, 200, 256, 320, 512			-					-			60, 80, 120, 160, 200, 256, 320, 512				60, 80, 120, 160, 200, 256, 320, 512			-				-		
Maximum radial load for 20,000 ¹⁾²⁾ [h]		200 to 1750				900 to 2950			800 to 5200					3200 to 6000			200 to 1750				2050 to 2950			800 to 2500				550 to 2400		
Maximum axial load for 20,000 ¹⁾ [h]		200 to 2500				1000 to 2500			1000 to 7000					4400 to 8000			200 to 2500				2500			1000 to 4000				1200 to 3300		
Shaft options	smooth shaft	X				X			X					X			X				X			X				-		
	keyway (DIN 6885 T1)	X				X			X					X			X				X			X				-		

1) These values refer to a speed of the output shaft of n2 = 100 rpm on duty cycle KA = 1 and S1-mode for electrical machines and T = 30° C; depends on the motor shaft diameter. 2) Half way along the output shaft