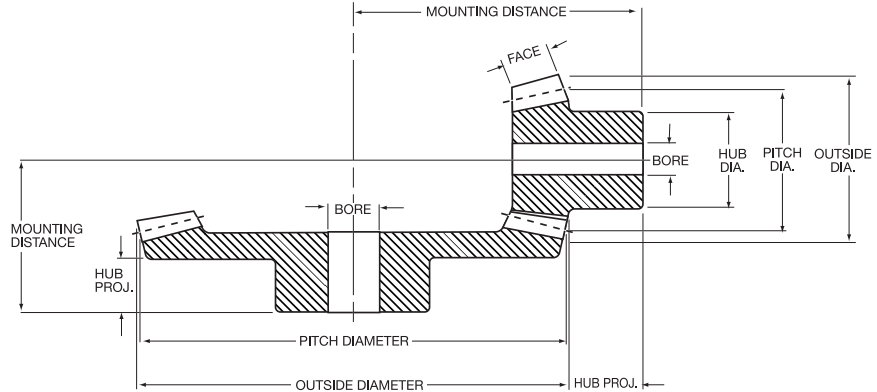


Bevel Gears

20° Pressure Angle



Bevel Gears are used as right angle drives where high efficiency is required. They are carried in stock as 1:1 to 6:1 ratios. Bevel Gears are cut with the long and short addendum system and 20 degree pressure angle to compensate for tooth undercut in gears and pinions having low numbers of teeth. Most all of *Martin* Bevel Gears are cut with the Coniflex tooth form to allow

for a slight misalignment at assembly and during operation. Gears should be mounted at the correct distance from the core of apex center with thrust bearings being used in back of hubs to absorb the backward thrust created in this type of gearing.

Cast Iron Gears With Steel Pinions

Number Teeth	Catalog Number	Diameter		Face (Inches)	Bore (Inches)		Mounting (Inches)	Hub (Inches)		Wt. Lbs. (App.)
		Pitch	Outside		Diameter	Length		Diameter	Proj. (App.)	

3 Pitch

30	B330-2	10.00	10.19	1.87	1¼	3 ⁹ / ₃₂	5½	5	2	32.8
15	B315-2	5.00	5.80	1.87	1½	4 ¹ / ₂	7¼	3¾	1 ¹ / ₁₆	13.4

4 Pitch

32	B432-2	8.00	8.10	1.40	1½	2 ¹ / ₁₆	4¼	3¾	1 ¹ / ₁₆	14.7
16	B416-2	4.00	4.60	1.40	1½	3 ¹ / ₃₂	6	3¼	1 ¹ / ₁₆	7.5
42	B442-3	10.50	10.59	1.42	1½	2 ¹ / ₁₆	4	3¾	1½	20.5
14	B414-3	3.50	4.17	1.42	1½	3 ⁷ / ₆₄	7¼	3¼	1 ¹ / ₁₆	6.8
56	B456-4	14.00	14.07	1.69	1½	2 ⁷ / ₆₄	4¼	4¼	1 ¹ / ₁₆	37.8
14	B414-4	3.50	4.20	1.69	1½	3 ³ / ₆₄	9	3¼	1 ¹ / ₁₆	7.6

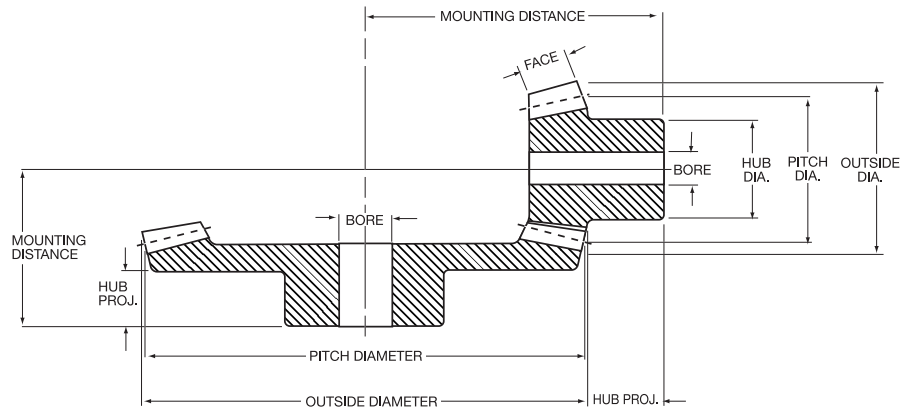
5 Pitch

30	B530-2	6.00	6.12	1.04	1½	2¼	3½	3¼	1¾	8.6
15	B515-2	3.00	3.48	1.04	1	2 ⁵ / ₆₄	4¾	2½	1 ¹ / ₃₂	3.1
45	B545-3	9.00	9.07	1.31	1½	2½	3¾	3¾	1 ¹ / ₁₆	14.6
15	B515-3	3.00	3.54	1.31	1	2 ¹ / ₁₆	5½	2½	1 ¹ / ₁₆	3.6
60	B560-4	12.00	12.05	1.70	1½	2¾	3¾	4	1 ¹ / ₁₆	23.2
15	B515-4	3.00	3.56	1.70	1	3 ³ / ₆₄	7½	3	1½	5.0

6 Pitch

36	BS636-2	6.00	6.10	1.06	1½	2¼	3½	3¼	1½	7.5
18	B618-2	3.00	3.42	1.06	1	2 ⁹ / ₆₄	4¾	2½	1¾	3.3
42	B642-2	7.00	7.10	1.05	1½	2 ⁷ / ₆₄	3¾	3½	1½	9.5
21	B621-2	3.50	3.90	1.05	1	2 ²³ / ₆₄	5	2½	1¼	3.8
45	B645-3	7.50	7.56	1.07	1½	2½	3	3¼	1¼	8.9
15	B615-3	2.50	2.94	1.07	¾	2 ¹ / ₁₆	5¼	2½	1 ¹ / ₁₆	2.2
48	B648-2	8.00	8.10	1.17	1½	1 ⁵ / ₆₄	3 ⁷ / ₁₆	3¼	1	11.6
24	B624-2	4.00	4.40	1.17	1	2 ²⁵ / ₆₄	5 ¹ / ₁₆	2½	1¼	4.9
60	B660-4	10.00	10.04	1.21	1½	2¼	3¾	3¾	1¾	14.3
15	B615-4	2.50	2.97	1.21	1	2 ²¹ / ₃₂	6¾	2½	1¾	3.2

Steel Bevel Gears may be furnished with hardened teeth at slight additional cost.



Cast Iron Gears With Steel Pinions

Number Teeth	Catalog Number	Diameter		Face (Inches)	Bore (Inches)		Mounting (Inches)	Hub (Inches)		Wt. Lbs. (App.)
		Pitch	Outside		Diameter	Length		Diameter	Proj. (App.)	

8 Pitch

40	BS840-2	5.00	5.07	0.82	1	1 ²⁹ / ₃₂	2 ⁷ / ₈	3	1 ¹ / ₄	4.9
20	B820-2	2.50	2.80	0.82	⁷ / ₈	2 ⁵ / ₃₂	4	2 ¹ / ₂	1 ¹⁹ / ₃₂	1.9
48	B848-3	6.05	6.20	0.84	⁷ / ₈	1 ¹ / ₂	2 ³ / ₄	2 ³ / ₄	1	4.5
16	B816-3	2.00	2.33	0.84	³ / ₄	2 ⁵ / ₄	4 ¹ / ₄	1 ¹ / ₄	1 ¹ / ₁₆	1.2
64	B864-4	8.00	8.03	0.84	1	1 ¹ / ₂	2 ³ / ₄	2 ³ / ₄	1 ¹ / ₄	9.0
16	B816-4	2.00	2.35	0.84	⁷ / ₈	2 ⁵ / ₃₂	5 ¹ / ₄	1 ¹ / ₂	1 ¹ / ₃₂	1.3
72	B872-4	9.00	9.03	1.22	1 ¹ / ₂	2 ⁵ / ₁₆	3 ¹ / ₄	3	1 ¹¹ / ₁₆	12.2
18	B818-4	2.25	2.60	1.22	⁷ / ₈	2 ¹⁹ / ₃₂	5 ¹ / ₄	2 ¹ / ₂	1 ¹ / ₃₂	1.9

10 Pitch

60	B1060-3	6.00	6.04	0.78	⁷ / ₈	1 ²⁹ / ₃₂	2 ³ / ₄	3	1 ¹ / ₈	5.1
20	B1020-3	2.00	2.27	0.78	³ / ₄	2 ⁵ / ₃₂	4 ³ / ₈	1 ³ / ₄	1 ¹ / ₁₆	1.3
60	B1060-4	6.00	6.03	0.72	⁷ / ₈	1 ¹ / ₂	2 ¹ / ₄	2 ¹ / ₂	1 ¹ / ₈	4.5
15	B1015-4	1.50	1.78	0.72	⁵ / ₈	1 ³⁹ / ₆₄	3 ³ / ₈	1 ¹ / ₁₆	²⁷ / ₃₂	0.6
90	B1090-6	9.00	9.03	0.86	1	1 ¹⁹ / ₁₆	2 ¹ / ₂	2 ³ / ₄	1 ¹ / ₁₆	9.7
15	B1015-6	1.50	1.79	0.86	⁵ / ₈	1 ⁵⁵ / ₆₄	5 ¹ / ₂	1 ¹ / ₁₆	³ / ₃₂	0.7

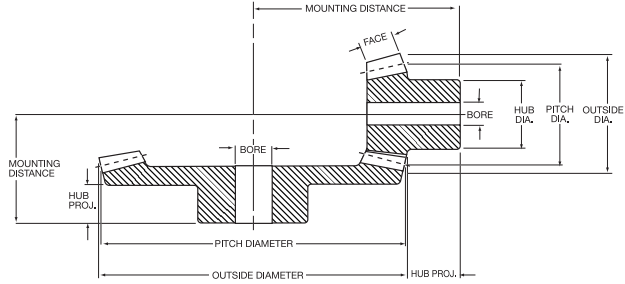
12 Pitch

36	B1236-2	3.00	3.05	0.46	⁵ / ₈	⁷ / ₈	1 ¹ / ₂	1 ¹ / ₁₆	¹ / ₂	0.8
18	B1218-2	1.50	1.70	0.46	¹ / ₂	1 ¹⁹ / ₆₄	2 ¹ / ₄	1 ¹ / ₄	1 ¹ / ₁₆	0.5
72	B1272-4	6.00	6.02	0.60	³ / ₄	1 ¹ / ₁₆	2	2	⁶ / ₆₄	2.6
18	B1218-4	1.50	1.73	0.60	¹ / ₂	1 ²⁹ / ₆₄	3 ³ / ₄	1 ¹ / ₄	²⁹ / ₃₂	0.4
72	B1272-6	6.00	6.02	0.74	³ / ₄	1 ¹ / ₁₆	1 ¹ / ₄	2	⁶ / ₆₄	2.6
12	B1212-6	1.00	1.24	0.74	¹ / ₂	1 ³¹ / ₆₄	3 ³ / ₄	1 ⁵ / ₁₆	²⁹ / ₃₂	0.4

Steel Bevel Gears may be furnished with hardened teeth at slight additional cost.

Bevel Gears

20° Pressure Angle



Steel Gears With Steel Pinions

Number Teeth	Catalog Number	Diameter		Face (Inches)	Bore (Inches)		Mounting (Inches)	Hub (Inches)		Wt. Lbs. (App.)
		Pitch	Outside		Diameter	Length		Diameter	Proj. (App.)	

6 Pitch

36	BS636-2	6.00	6.10	1.06	1 1/8	2 1/4	3 1/2	3 3/4	1 1/2	8.70
18	BS618-2	3.00	3.42	1.06	1 1/8	2 5/64	4 3/4	2 1/2	1 1 3/32	3.20

8 Pitch

40	BS840-2	5.00	5.07	0.82	1	1 7/32	2 7/8	3	1 1/4	4.90
20	BS820-2	2.50	2.80	0.82	1	2 3/32	4	2 1/2	1 1 3/32	1.80

10 Pitch

30	BS1030-15	3.00	3.08	0.57	3/4	1 1/16	2 1/4	2 1/2	1	2.00
20	BS1020-15	2.00	2.21	0.57	3/4	1 3/64	2 1/2	1 3/4	2 3/32	0.80
40	BS1040-2	4.00	4.06	0.71	7/8	1 1 1/16	2 1/2	3	1 1/16	3.70
20	BS1020-2	2.00	2.24	0.71	3/4	1 5/64	3 1/8	1 3/4	1 1/16	1.00
50	BS1050-2	5.00	5.06	0.70	3/4	1 1 3/32	2 5/8	2	1	4.00
25	B1025-2	2.50	2.74	0.70	3/4	1 3/64	3 3/8	2	3/4	1.50
60	BS1060-3	6.00	6.04	0.78	1	1 5 3/64	2 3/4	3	1 3/8	6.00
20	BS1020-3	2.00	2.27	0.78	3/4	2 3/32	4 3/8	1 3/4	1 1/16	0.90

12 Pitch

27	BS1227-15	2.25	2.32	0.41	1/2	1 1/8	1 1/4	1 1/2	2 3/32	0.60
18	BS1218-15	1.50	1.67	0.41	1/2	1 1/8	1 1/4	1 1/4	2 1/32	0.30
36	BS1236-2	3.00	3.05	0.53	1	1 1 3/64	1 3/8	2 1/8	7/8	1.30
18	BS1218-2	1.50	1.70	0.53	3/4	1 1/8	2 1/8	1 1/16	1 1/16	0.30
36	BS1236-2A	3.00	3.05	0.53	3/4	1 1 3/64	1 3/8	2 1/8	7/8	1.40
18	BS1218-2A	1.50	1.70	0.53	1/2	1 1/8	2 1/8	1 1/16	1 1/16	0.40
48	BS1248-2	4.00	4.05	0.59	3/4	1 1 3/64	2	1 3/8	3/4	1.60
24	B1224-2	2.00	2.20	0.59	1/2	1 1/8	2 1/8	1 1/2	3/4	0.80
54	BS1254-3	4.50	4.53	0.60	3/4	1 1/8	1 3/4	1 3/4	3/4	1.90
18	B1218-3	1.50	1.72	0.60	1/2	1 1 3/32	3	1 1/4	1 1/16	0.40

14 Pitch

28	BS1428-2	2.00	2.04	0.35	1/2	1 1/16	1 3/8	1 3/8	2 1/32	0.50
14	BS1414-2	1.00	1.17	0.35	1/2	3 3/32	1 3/8	1 1/16	9/16	0.10

16 Pitch

24	BS1624-2	1.50	1.54	0.19	1/2	5/8	1	1	7/16	0.15
12	BS1612-2	0.75	0.91	0.19	3/8	3 7/64	1 1/8	2 1/32	1 1/32	0.08
24	BS1624-15	1.50	1.55	0.25	1/2	3/4	1 3/16	1 1/8	9/16	0.40
16	BS1616-15	1.00	1.13	0.25	3/8	4 7/64	1 1/4	1 3/16	7/16	0.09
32	BS1632-2	2.00	2.04	0.35	1/2	4 9/64	1 3/8	1 1/8	1/2	0.30
16	BS1616-2	1.00	1.15	0.35	3/8	2 1/32	1 1/2	1 3/16	7/16	0.04
48	BS1648-3	3.00	3.02	0.42	5/8	7/8	1 3/16	1 1/2	9/16	0.74
16	B1616-3	1.00	1.17	0.42	7/16	5 9/64	2	7/8	1 1/32	0.13
64	BS1664-4	4.00	4.02	0.48	5/8	5 7/64	1 3/8	2 1/4	9/16	1.70
16	B1616-4	1.00	1.17	0.48	1/2	6 3/64	2 1/2	1 3/16	1 1/32	0.12

Steel Bevel Gears may be furnished with hardened teeth at slight additional cost.



Bevel Gears Horsepower Ratings

Cast Iron

Catalog Number	Revolutions per Minute							
	50	100	200	300	600	900	1200	1800
B330-2	2.50	4.50	7.7	10.0	15.3			
B315-2	2.50	4.50	7.7	10.0	15.3			
B432-2	1.33	2.30	4.0	5.3	8.0	9.5		
B416-2	1.33	2.30	4.0	5.3	8.0	9.5		
B442-3	1.10	2.00	3.7	5.0	7.5	9.0		
B414-3	1.10	2.00	3.7	5.0	7.5	9.0		
B456-4	1.40	2.50	4.4	6.0	9.0	10.9		
B414-4	1.40	2.50	4.4	6.0	9.0	10.9		
B530-2	0.50	1.00	1.9	2.5	3.9	4.8	5.5	
B515-2	0.50	1.00	1.9	2.5	3.9	4.8	5.5	
B545-3	0.70	1.40	2.4	3.3	5.2	6.4	7.2	
B515-3	0.70	1.40	2.4	3.3	5.2	6.4	7.2	
B560-4	1.00	1.80	3.3	4.4	6.9	8.4	9.5	
B515-4	1.00	1.80	3.3	4.4	6.9	8.4	9.5	
B636-2	0.50	1.00	1.7	2.3	3.7	4.4	5.0	
B618-2	0.50	1.00	1.7	2.3	3.7	4.4	5.0	
B642-2	0.60	1.10	2.0	2.7	4.0	5.0		
B621-2	0.60	1.10	2.0	2.7	4.0	5.0		
B645-3	0.40	0.80	1.4	2.0	3.2	3.9	4.6	
B615-3	0.40	0.80	1.4	2.0	3.2	3.9	4.6	
B648-2	0.80	1.50	2.5	3.4	5.1	6.1		
B624-2	0.80	1.50	2.5	3.4	5.1	6.1		
B660-4	0.50	0.90	1.7	2.3	3.7	4.6	5.2	
B615-4	0.50	0.90	1.7	2.3	3.7	4.6	5.2	
B840-2	0.40	0.70	1.3	1.8	2.9	3.7	4.2	
B820-2	0.40	0.70	1.3	1.8	2.9	3.7	4.2	
B848-3	0.20	0.40	0.7	1.0	1.7	2.2	2.5	2.9
B816-3	0.20	0.40	0.7	1.0	1.7	2.2	2.5	2.9
B864-4	0.20	0.40	0.7	1.0	1.7	2.2	2.5	
B816-4	0.20	0.40	0.7	1.0	1.7	2.2	2.5	
B872-4	0.40	0.70	1.2	1.8	2.8	3.6	4.2	
B818-4	0.40	0.70	1.2	1.8	2.8	3.6	4.2	
B1060-3	0.17	0.30	0.6	0.8	1.3	1.7	1.9	2.3
B1020-3	0.17	0.30	0.6	0.8	1.3	1.7	1.9	2.3
B1060-4	0.10	0.20	0.4	0.5	0.9	1.2	1.4	1.8
B1015-4	0.10	0.20	0.4	0.5	0.9	1.2	1.4	1.8
B1090-6	0.14	0.25	0.5	0.7	1.2	1.7	1.9	2.3
B1015-6	0.14	0.25	0.5	0.7	1.2	1.7	1.9	2.3
B1236-2	0.05	0.11	0.2	0.3	0.5	0.6	0.8	1.0
B1218-2	0.05	0.11	0.2	0.3	0.5	0.6	0.8	1.0
B1254-3	0.07	0.15	0.3	0.4	0.7	0.9	1.0	1.3
B1218-3	0.07	0.15	0.3	0.4	0.7	0.9	1.0	1.3
B1272-4	0.07	0.15	0.3	0.4	0.7	0.9	1.1	1.4
B1218-4	0.07	0.15	0.3	0.4	0.7	0.9	1.1	1.4
B1272-6	0.06	0.11	0.2	0.3	0.6	0.8	1.0	1.2
B1212-6	0.06	0.11	0.2	0.3	0.6	0.8	1.0	1.2

Steel

Catalog Number	Revolutions per Minute							
	50	100	200	300	600	900	1200	1800
BS636-2	0.9	1.70	3.00	4.10	6.40	8.00	9.00	
BS618-2	0.9	1.70	3.00	4.10	6.40	8.00	9.00	
BS840-2	0.5	0.90	1.50	2.10	3.50	4.40	5.00	
BS820-2	0.5	0.90	1.50	2.10	3.50	4.40	5.00	
BS1030-15	0.2	0.40	0.70	1.00	1.70	2.10	2.30	2.9
BS1020-15	0.2	0.40	0.70	1.00	1.70	2.10	2.30	2.9
BS1040-2	0.25	0.50	0.90	1.30	2.10	2.70	3.00	3.7
BS1020-2	0.25	0.50	0.90	1.30	2.10	2.70	3.00	3.7
BS1050-2	0.33	0.64	1.20	1.60	2.50	3.20	3.70	
B 1025-2	0.33	0.64	1.20	1.60	2.50	3.20	3.70	
BS1060-3	0.3	0.50	1.00	1.40	2.40	3.00	3.50	4.3
BS1020-3	0.3	0.50	1.00	1.40	2.40	3.00	3.50	4.3
BS1227-15	0.09	0.17	0.33	0.50	0.80	1.00	1.20	1.6
BS1218-15	0.09	0.17	0.33	0.50	0.80	1.00	1.20	1.6
BS1236-2	0.12	0.25	0.40	0.60	1.00	1.40	1.70	2.0
BS1218-2	0.12	0.25	0.40	0.60	1.00	1.40	1.70	2.0
BS1236-2A	0.12	0.25	0.40	0.60	1.00	1.40	1.70	2.0
BS1218-2A	0.12	0.25	0.40	0.60	1.00	1.40	1.70	2.0
BS1248-2	0.18	0.37	0.70	0.90	1.60	2.00	2.30	2.8
B1224-2	0.18	0.37	0.70	0.90	1.60	2.00	2.30	2.8
BS1254-3	0.14	0.28	0.50	0.70	1.20	1.60	1.90	2.3
B1218-3	0.14	0.28	0.50	0.70	1.20	1.60	1.90	2.3
BS1428-2	0.05	0.08	0.16	0.20	0.40	0.54	0.70	0.8
BS1414-2	0.05	0.08	0.16	0.20	0.40	0.54	0.70	0.8
BS1624-2	0.02	0.03	0.05	0.08	0.14	0.20	0.25	0.3
BS1612-2	0.02	0.03	0.05	0.08	0.14	0.20	0.25	0.3
BS1624-15	0.03	0.05	0.09	0.14	0.25	0.33	0.40	0.5
BS1612-15	0.03	0.05	0.09	0.14	0.25	0.33	0.40	0.5
BS1632-2	0.03	0.08	0.14	0.20	0.37	0.50	0.60	0.8
BS1616-2	0.03	0.08	0.14	0.20	0.37	0.50	0.60	0.8
BS1648-3	0.05	0.09	0.17	0.25	0.50	0.60	0.80	1.0
BS1616-3	0.05	0.09	0.17	0.25	0.50	0.60	0.80	1.0
BS1664-4	0.05	0.10	0.20	0.33	0.50	0.70	0.90	1.1
BS1616-4	0.05	0.10	0.20	0.33	0.50	0.70	0.90	1.1