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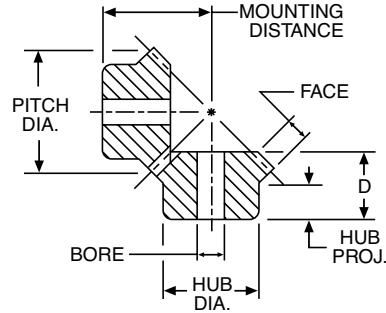
# Miter Gears

## 48 through 20 Diametral Pitch (Nylon, Brass, Stainless Steel & Steel – Unhardened)

1:1 Ratio 20° Pressure Angle



All gears have “Coniflex”® tooth form, except as noted.



### REFERENCE PAGES

Alterations — 322  
Lubrication — 322  
Materials — 323

### STANDARD TOLERANCES\*

DIMENSION		TOLERANCE
BORE	All	±.0005

\*Brass and Steel only.

ALL DIMENSIONS IN INCHES  
ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Face	Bore	MD *	D	Hub		Catalog Number	Item Code	Catalog Number	Item Code	Catalog Number	Item Code	Catalog Number	Item Code
						Dia.	Proj.								
<b>48 DIAMETRAL PITCH</b>															
						<b>MOLDED NYLON</b>				<b>BRASS</b>		<b>STAINLESS STEEL</b>		<b>STEEL UNHARDENED</b>	
15	.312	.07	.125	.312	.215	.25	.13	GP4815†‡	54096	G460Y†	12126	GSS460Y†	49984	—	—
18	.375	.08	.125	.406	.286	.33	.19	GP4818Y†	54097	—	—	—	—	—	—
						.31	.16	—	—	G461Y†	12128	GSS461Y†	49985	L94Y†	12140
24	.500	.08	.1875	.531	.375	.38	.25	GP4824Y†	54098	—	—	—	—	—	—
<b>32 DIAMETRAL PITCH</b>															
16	.500	.12	.1875	.500	.349	.41	.19	GP3216Y†	54099	G462Y†	12114	GSS462Y†	49986	L97Y†	12146
24	.750	.14	.1875	.688	.406	.50	.19	GP3224Y†	54100	—	—	—	—	—	—
					.427	.50	.25	—	—	G463Y†	12116	GSS463Y†	49987	L95Y†	12142
<b>30 DIAMETRAL PITCH</b>															
15	.500	.12	.1875	.500	.349	.41	.19	—	—	—	—	—	—	L93Y	12138
<b>24 DIAMETRAL PITCH</b>															
24	1.000	.20	.250	.906	.567	.62	.19	GP2424Y†	54101	—	—	—	—	—	—
						.28		—	—	G464Y	12100	—	—	L96Y	12144
30	1.250	.23	.250	1.031	.590	.62	.31	GP2430Y†	54102	G465Y	12102	—	—	—	—
36	1.500	.23	.3125	1.188	.620	.69	.31	GP2436Y†	54103	G466Y	12104	—	—	—	—
<b>20 DIAMETRAL PITCH</b>															
12	.600	.13	.250	.672	.489	.50	.31	—	—	—	—	—	—	L98Y	12148

\*Mounting Distance (MD) must not be made less than dimension shown, see Page 316.

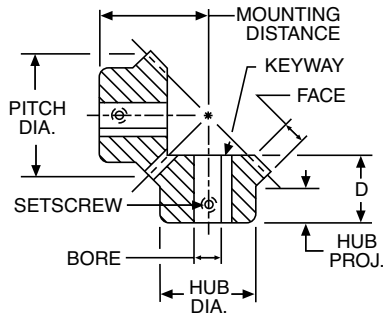
†Not “Coniflex” tooth form. Can be furnished with “Coniflex” tooth on special order.

‡Acetal.

## 16 through 10 Diametral Pitch (Nylon & Steel – Unhardened & Hardened)

1:1 Ratio 20° Pressure Angle

All gears have “Coniflex”® tooth form, except as noted.  
All hardened steel gears have teeth only hardened, except as noted, and are equipped with standard keyways and setscrews.



### STANDARD TOLERANCES\*

DIMENSION		TOLERANCE
BORE	All	±.0005

\*Steel only.

### REFERENCE PAGES

Alterations — 322  
Horsepower Ratings — 80, 81  
Lubrication — 322  
Materials — 323  
Selection Procedure — 79

ALL DIMENSIONS IN INCHES  
ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Face	Bore	MD *	D	Hub		Catalog Number	Item Code	Catalog Number	Item Code	Catalog Number	Item Code
						Dia.	Proj.						
<b>16 DIAMETRAL PITCH</b>													
						<b>MOLDED NYLON</b>			<b>STEEL UNHARDENED</b>		<b>STEEL HARDENED</b>		
12	.750	.16	.3125	.812	.583	.62	.38	—	—	L99Y	12150	—	—
16	1.000	.23	.375	1.062	.755	.75	.44	GP1616Y†	54104	L110Y	12174	HLK110Y**	12326
20	1.250	.28	.4375	1.250	.849	1.00	.50	—	—	L111Y	12176	—	—
24	1.500	.32	.500	1.375	.880	1.00	.50	—	—	L112Y	12156	—	—
32	2.000	.39	.500	1.562	.875	1.25	.38	GP1632Y‡	54105	—	—	—	—
<b>14 DIAMETRAL PITCH</b>													
14	1.000	.20	.375 .4375	1.062	.739	.88	.50	—	—	L124Y L100Y	12202 12152	—	—
<b>12 DIAMETRAL PITCH</b>													
15	1.250	.29	.375 .4375 .500	1.250	.864	1.00	.50	—	—	L125Y L126Y L101Y	12204 12206 12154	—	—
18	1.500	.33	.500 .625	1.500	1.021	1.25	.63	—	—	L127Y L102Y	12208 12158	HLK102Y	12330
21	1.750	.40	.500 .5625 .625 .750	1.750	1.192	1.38	.69	—	—	L119Y L120Y L121Y L133Y	12190 12192 12194 12218	HLK121Y	12334
24	2.000	.44	.500	1.875	1.224	1.31	.69	—	—	L113Y	12178	—	—
30	2.500	.55	.625	2.312	1.489	1.62	.84	—	—	L114Y	12180	HLK114Y	12332
<b>10 DIAMETRAL PITCH</b>													
20	2.000	.45	.500 .625 .750	2.000	1.364	1.62	.81	—	—	L128Y L129Y L103Y	12210 12212 12160	HLK129Y HLK103Y	12348 12344
25	2.500	.56	.750 .875 1.000	2.438	1.630	2.00	.94	—	—	L130Y L104Y L131Y	12214 12162 12216	HLK130Y HLK104Y HLK131Y	12350 12346 12352

\*Mounting Distance (MD) must not be made less than dimension shown, see Page 316.

†Not “Coniflex” tooth form.

\*\*Hardened all over.

‡Nylon (Mineral Filled).

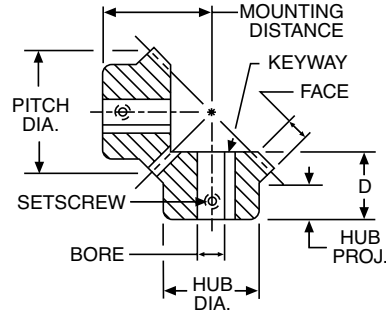
# Miter Gears

## 8 through 4 Diametral Pitch (Steel – Unhardened, Hardened & Cast Iron)

1:1 Ratio 20° Pressure Angle



All gears have “Coniflex”<sup>®</sup> tooth form, except as noted. All hardened steel gears have teeth only hardened, except as noted, and are equipped with standard keyways and setscrews. All unhardened steel gears have no keyway and no setscrew.



### REFERENCE PAGES

- Alterations — 322
- Horsepower Ratings — 80, 81
- Lubrication — 322
- Materials — 323
- Selection Procedure — 79

### STANDARD TOLERANCES

DIMENSION		TOLERANCE
BORE	All	±.0005

ALL DIMENSIONS IN INCHES  
ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Face	Bore	MD *	D	Hub		Catalog Number	Item Code	Catalog Number	Item Code	Catalog Number	Item Code
						Dia.	Proj.						
<b>8 DIAMETRAL PITCH</b>													
						<b>STEEL UNHARDENED</b>				<b>STEEL HARDENED</b>		<b>CAST IRON</b>	
24	3.000	.66	.750	2.562	1.583	1.75	.81	L115Y	12182	HLK115Y	12366	—	—
		.68	1.000 1.250	2.750	1.786	2.50	1.00	L105Y-A L116Y	12164 12184	HLK105YA HLK116Y	12362 12368	—	—
28	3.500	.77	1.000 1.1875 1.250	3.250	2.099	2.50	1.25	L117Y L132Y L106Y	12186 12196 12166	HLK117Y HLK132Y HLK106Y	12370 12374 12364	—	—
		.77	.875	2.875	1.724	2.00	.88	—	—	—	—	OA828Y-1	12418
32	4.000	.85	1.000	3.625	2.286	3.00	1.13	L123Y	12200	HLK123Y	12372	—	—
		.85	.875	3.438	2.098	2.25	1.12	—	—	—	—	OA832Y-1	12420
<b>6 DIAMETRAL PITCH</b>													
24	4.000	.87	1.250 1.500	3.625	2.317	3.00	1.31	L118Y L107Y	12188 12168	HLK118Y HLK107Y	12386 12384	OA624Y†	12412
27	4.500	.96	1.250 1.500	4.125	2.630	3.25	1.50	L134Y L135Y	12220 12222	—	—	—	—
30	5.000	1.16	1.000	4.250	2.640	2.50	1.38	—	—	—	—	OA630Y-1	12414
36	6.000	1.28	1.125	4.625	2.605	2.88	1.19	—	—	—	—	OA636Y-1	12416
<b>5 DIAMETRAL PITCH</b>													
25	5.000	1.12	1.375 1.500 1.750	4.625	3.005	3.50	1.75	L122Y L136Y L108Y	12198 12224 12170	HLK122Y — HLK108Y	12398 — 12396	— OA525Y	— 12408
<b>4 DIAMETRAL PITCH</b>													
24	6.000	1.35	1.500 1.750	5.500	3.567	4.00	1.94	L137Y L109Y	12226 12172	— HLK109Y	— 12404	— OA424Y**	— 12406
28	7.000	1.43	2.000	6.000	3.630	5.00	1.94	L138Y	12228	—	—	—	—

\*Mounting Distance (MD) must not be made less than dimension shown, see Page 316.

†Hub Dia. — 2.750"

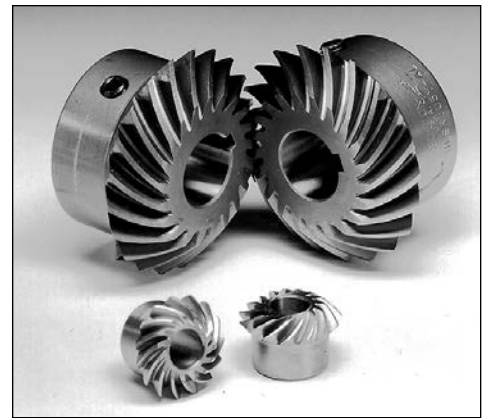
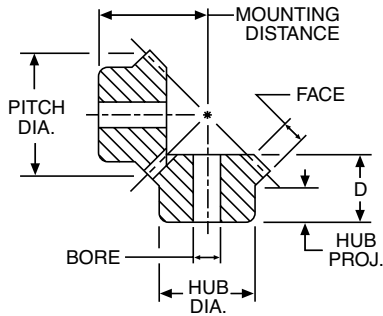
\*\*Hub Proj. — 2.000"

# Spiral Miter Gears

## 18 through 5 Diametral Pitch (Steel – Unhardened & Hardened)

1:1 Ratio 20° Pressure Angle – 35° Spiral Angle

All hardened steel gears have teeth only hardened, except as noted, and are equipped with standard keyways and set-screws.



### STANDARD TOLERANCES

DIMENSION		TOLERANCE
BORE	All	±.0005

### REFERENCE PAGES

Alterations – 322  
 Horsepower Ratings – 83  
 Lubrication – 322  
 Materials – 323  
 Selection Procedure – 79

ALL DIMENSIONS IN INCHES  
 ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Face	Bore	MD *	D	Hub		Catalog Number	Item Code	Catalog Number	Item Code
						Dia.	Proj.				
<b>18 DIAMETRAL PITCH</b>											
						<b>STEEL UNHARDENED</b>			<b>STEEL HARDENED</b>		
18	1.000	.22	.375	1.062	.739	.75	.44	LSA110Y-R LSA110Y-L	12310 12312	HLSK110Y-R† HLSK110Y-L†	12322 12324
<b>12 DIAMETRAL PITCH</b>											
15	1.250	.30	.500	1.250	.864	1.00	.50	LSA101Y-R LSA101Y-L	12282 12284	HLSK101Y-R† HLSK101Y-L†	12336 12338
18	1.500	.34	.625	1.500	1.021	1.25	.56	LSA102Y-R LSA102Y-L	12286 12288	HLSK102Y-R HLSK102Y-L	12340 12342
<b>10 DIAMETRAL PITCH</b>											
20	2.000	.47	.750	2.000	1.364	1.62	.78	LSA103Y-R LSA103Y-L	12290 12292	HLSK103Y-R HLSK103Y-L	12354 12356
25	2.500	.58	.875	2.438	1.630	2.00	.91	LSA104Y-R LSA104Y-L	12294 12296	HLSK104Y-R HLSK104Y-L	12358 12360
<b>8 DIAMETRAL PITCH</b>											
28	3.500	.78	1.1875	3.250	2.099	2.50	1.25	LSA106Y-R LSA106Y-L	12302 12304	HLSK106Y-R HLSK106Y-L	12376 12378
<b>7 DIAMETRAL PITCH</b>											
21	3.000	.69	1.000	2.750	1.786	2.50	.88	LSA105YA-R LSA105YA-L	12298 12300	HLSK105YA-R HLSK105YA-L	12380 12382
<b>6 DIAMETRAL PITCH</b>											
24	4.000	.89	1.250	3.625	2.317	3.00	1.31	LSA118Y-R LSA118Y-L	12314 12316	HLSK118Y-R HLSK118Y-L	12392 12394
			1.500					LSA107Y-R LSA107Y-L	12306 12308	HLSK107Y-R HLSK107Y-L	12388 12390
<b>5 DIAMETRAL PITCH</b>											
25	5.000	1.15	1.375	4.625	3.005	3.50	1.75	LSA122Y-R LSA122Y-L	12318 12320	HLSK122Y-R HLSK122Y-L	12400 12402

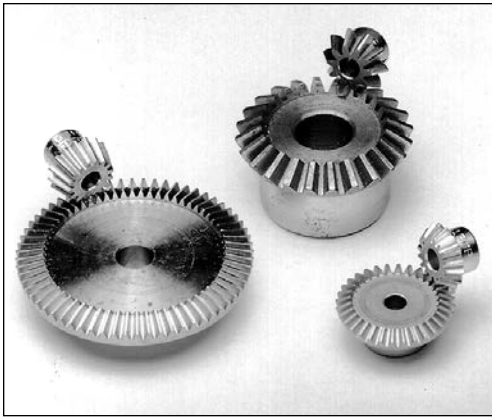
\*Mounting Distance (MD) must not be made less than dimension shown, see Page 316.

†Hardened all over.

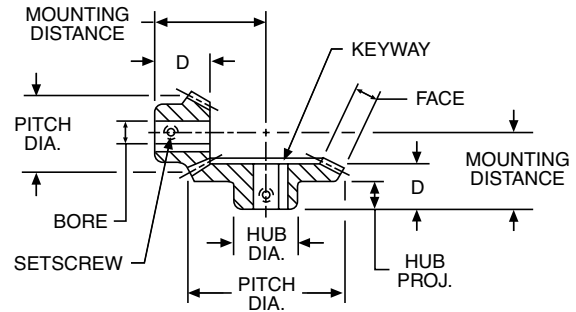
# Bevel Gears

## 48 through 20 Diametral Pitch (Brass, Stainless Steel & Steel – Hardened & Unhardened)

20° Pressure Angle



All gears have “Coniflex”® tooth form, except as noted. All hardened steel gears have teeth only hardened and are equipped with standard keyways and setscrews, except as noted.



### REFERENCE PAGES

Alterations — 322  
Lubrication — 322  
Materials — 323

### STANDARD TOLERANCES

DIMENSION	TOLERANCE
BORE	All ±.0005

ALL DIMENSIONS IN INCHES  
ORDER BY CATALOG NUMBER OR ITEM CODE

Ratio	No. of Teeth	Pitch Dia.	Face	Bore	MD *	D	Hub		Catalog Number	Item Code	Catalog Number	Item Code
							Dia.	Proj.				
<b>48 DIAMETRAL PITCH</b>												
									<b>BRASS</b>		<b>STAINLESS STEEL</b>	
2:1	36	.750	.12	.1875	.438	.257	.44	.19	G479Y-G†	12136	GSS479Y-G†	49991
	18	.375		.125	.594	.335	.28	.19	G479Y-P†	12134	GSS479Y-P†	49990
3:1	36	.750	.09	.1875	.375	.257	.44	.19	G478Y-G†	12132	GSS478Y-G†	49989
	12	.250		.125	.562	.285	.22	.17	G478Y-P†	12130	GSS478Y-P†	49988
<b>32 DIAMETRAL PITCH</b>												
2:1	32	1.000	.14	.1875	.594	.382	.56	.25	G481Y-G†	12120	GSS481Y-G†	49993
	16	.500		.719	.365	.38	.17	G481Y-P†	12118	GSS481Y-P†	49992	
4:1	64	2.000	.24	.3125	.688	.445	1.00	.31	G486Y-G†	12108	GSS486Y-G†	49995
	16	.500		.1875	1.250	.500	.38	.22	G486Y-P†	12106	GSS486Y-P†	49994
<b>24 DIAMETRAL PITCH</b>												
2:1	36	1.500	.24	.250	.781	.460	.88	.31	G485Y-G	12124	—	—
	18	.750		.1875	1.062	.540	.56	.25	G485Y-P	12122	—	—
	48	2.000	.26	.3125	.938	.507	1.12	.31	G487Y-G	12112	—	—
	24	1.000		.250	1.375	.630	.69	.28	G487Y-P	12110	—	—
<b>20 DIAMETRAL PITCH</b>												
									<b>STEEL UNHARDENED</b>		<b>STEEL HARDENED</b>	
2:1	20	1.000	.18	.375	.688	.460	.75	.31	L147Y-G	12234	—	—
	10	.500		.1875	.750	.425	.41	.25	L147Y-P	12236	—	—
	20	1.000	.18	.375	.688	.460	.75	.31	—	—	HL147Y-G‡	11854
	10	.500		.1875	.750	.425	.41	.25	—	—	HL147Y-P‡	11856

\*Mounting Distance (MD) must not be made less than dimension shown, see Page 316.

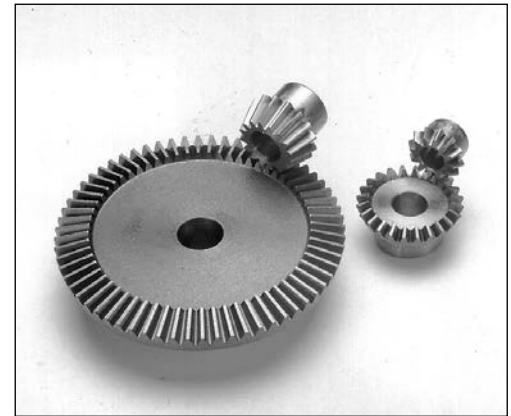
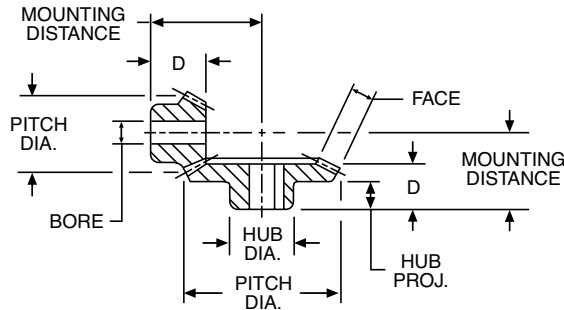
†Not “Coniflex” tooth form. Can be furnished with “Coniflex” tooth on special order.

‡These gears have No. 47 (.0785) drilled hole in hub. No keyway or setscrew.

## 16 through 12 Diametral Pitch (Steel – Unhardened, Hardened & Cast Iron)

20° Pressure Angle

All gears have “Coniflex”<sup>®</sup> tooth form.  
All Hardened steel gears have teeth only hardened and are equipped with standard keyways and setscrews, except as noted.



### STANDARD TOLERANCES

DIMENSION		TOLERANCE
BORE	All	±.0005

### REFERENCE PAGES

Alterations — 322  
Horsepower Ratings — 82  
Lubrication — 322  
Materials — 323  
Selection Procedure — 79

ALL DIMENSIONS IN INCHES  
ORDER BY CATALOG NUMBER OR ITEM CODE

Ratio	No. of Teeth	Pitch Dia.	Face	Bore	MD *	D	Hub		Catalog Number	Item Code	Catalog Number	Item Code	Catalog Number	Item Code
							Dia.	Proj.						
<b>16 DIAMETRAL PITCH</b>														
							<b>STEEL UNHARDENED</b>		<b>STEEL HARDENED</b>		<b>CAST IRON GEARS STEEL PINIONS</b>			
1-1/2:1	24	1.500	.26	.500	1.188	.760	1.12	.56	L146Y-G	12230	—	—	—	—
	16	1.000	.26	.375	1.250	.740	.81	.44	L146Y-P	12232	—	—	—	—
2:1	24	1.500	.20	.500	1.188	.750	1.12	.56	—	—	HL146Y-G	11850	—	—
	16	1.000	.19	.375	1.250	.740	.81	.44	—	—	HL146Y-P	11852	—	—
	32	2.000	.36	.500	1.188	.775	1.12	.50	L148Y-G	12238	HL148Y-G	11858	—	—
	16	1.000	.36	.375	1.500	.845	.81	.44	L148Y-P	12240	HL148Y-P‡	11860	—	—
3:1	48	3.000	.42	.625	1.312	.882	1.50	.56	—	—	—	—	PA3316Y-G	12484
	16	1.000	.42	.4375	2.000	.920	.88	.47	—	—	—	—	PA3316Y-P	12486
4:1	64	4.000	.49	.625	1.375	.898	2.25	.56	—	—	—	—	PA4416Y-G	12492
	16	1.000	.49	.500	2.500	.990	.81	.47	—	—	—	—	PA4416Y-P	12494
6:1	96	6.000	.62	.625	1.688	1.257	1.75	.88	—	—	—	—	PA6616Y-G	12516
	16	1.000	.62	.500	3.750	1.375	.94	.72	—	—	—	—	PA6616Y-P	12518
<b>14 DIAMETRAL PITCH</b>														
2:1	28	2.000	.36	.500	1.375	.945	1.62	.66	L150Y-G	12246	HL150Y-G	11866	—	—
	14	1.000	.35	.375	1.625	.965	.81	.56	—	—	HL150Y-P	11868	—	—
<b>12 DIAMETRAL PITCH</b>														
1-1/2:1	27	2.250	.42	.500	1.750	1.135	1.50	.78	L151Y-G	12250	—	—	—	—
	18	1.500	.41	.500	1.875	1.130	1.25	.66	—	—	HL151Y-G	11870	—	—
2:1	36	3.000	.54	.625	1.875	1.275	2.12	.88	L151Y-P	12254	HL151Y-P	11872	—	—
	18	1.500	.54	.500	2.375	1.385	1.31	.81	L152BY-G	12260	—	—	—	—
	36	3.000	.54	1.000	1.875	1.275	2.12	.88	L152BY-P	12262	—	—	—	—
	18	1.500	.53	.625	2.375	1.375	1.31	.81	L152Y-G	12256	HL152Y-G	11874	—	—
				.750					L152Y-P	12258	HL152Y-P	11876	—	—

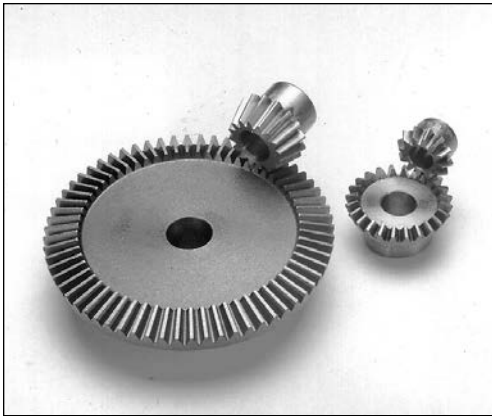
\*Mounting Distance (MD) must not be made less than dimension shown, see Page 316.

‡These gears have No. 47 (.0785) drilled hole in hub. No keyway or setscrew.

# Bevel Gears

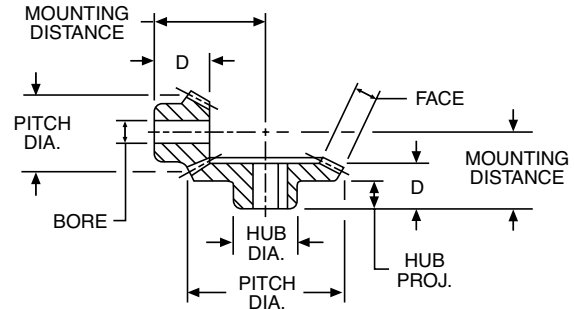
## 12 and 10 Diametral Pitch (Steel – Unhardened, Hardened & Cast Iron)

20° Pressure Angle



All gears have “Coniflex”® tooth form.

All Hardened steel gears have teeth only hardened and are equipped with standard keyways and setscrews.



### REFERENCE PAGES

- Alterations — 322
- Horsepower Ratings — 82
- Lubrication — 322
- Materials — 323
- Selection Procedure — 79

### STANDARD TOLERANCES

DIMENSION		TOLERANCE
BORE	All	±.0005

ALL DIMENSIONS IN INCHES  
ORDER BY CATALOG NUMBER OR ITEM CODE

Ratio	No. of Teeth	Pitch Dia.	Face	Bore	MD *	D	Hub		Catalog Number	Item Code	Catalog Number	Item Code	Catalog Number	Item Code	
							Dia.	Proj.							
<b>12 DIAMETRAL PITCH</b>															
										<b>STEEL UNHARDENED</b>		<b>STEEL HARDENED</b>		<b>CAST IRON GEARS STEEL PINIONS</b>	
2:1	36	3.000	.47	.625	1.500	.882	1.44	.50	—	—	—	—	PA3212Y-G	12480	
	18	1.500		.500	2.250	1.205	1.25	.69	—	—	—	—	PA3212Y-P	12482	
	48	4.000	.59	.625	2.000	1.180	1.63	.75	—	—	—	—	PA4212Y-G	12488	
	24	2.000		.500	2.875	1.440	1.50	.75	—	—	—	—	PA4212Y-P	12490	
3:1	54	4.500	.60	.625	1.750	1.063	1.75	.75	—	—	—	—	PA45312Y-G	12532	
	18	1.500		.500	3.000	1.350	1.25	.69	—	—	—	—	PA45312Y-P	12534	
4:1	72	6.000	.61	.750	2.000	1.320	2.00	.95	—	—	—	—	PA6412Y-G	12508	
	18	1.500		.500	3.750	1.365	1.25	.72	—	—	—	—	—	PA6412Y-P	12510
6:1	72	6.000	.74	.750	1.750	1.320	2.00	.95	—	—	—	—	PA6612Y-G	12512	
	12	1.000		.500	3.750	1.495	.94	.72	—	—	—	—	—	PA6612Y-P	12514
<b>10 DIAMETRAL PITCH</b>															
1 1/2:1	30	3.000	.58	.750	2.250	1.445	2.50	1.00	L153Y-G	12264	—	—	—	—	
				1.000						—	—	HL153Y-G	11878	—	—
2:1	20	2.000	.72	.750	2.500	1.525	1.75	.91	L153Y-P	12266	—	—	—	—	
				.875	2.500	1.695	3.00	1.19	L155Y-G	12268	—	—	—	—	
	40	4.000	.72	.750	3.125	1.805	1.75	1.06	L155Y-P	12270	—	—	—	—	
	20	2.000		1.250	2.500	1.695	3.00	1.19	—	—	HL155Y-G	11882	—	—	
			.875	3.125	1.805	1.75	1.06	—	—	HL155Y-P	11884	—	—	—	
	50	5.000	.71	.750	2.625	1.600	2.00	1.00	—	—	—	—	—	—	
25	2.500	3.375		1.555	2.00	2.00	.75	—	—	—	—	—	PA5210Y-G	12496	
3:1	60	6.000	.79	1.000	2.750	1.865	3.00	1.38	L157Y-G	12274	—	—	—	—	
	20	2.000		.875	4.375	2.155	1.75	1.31	L157Y-P	12276	—	—	—	—	
	60	6.000	.79	.875	2.750	1.913	3.00	1.38	—	—	—	—	—	PA6310Y-G	12500
	20	2.000		.750	4.375	2.155	1.75	1.31	—	—	—	—	—	PA6310Y-P	12502
4:1	60	6.000	.73	.875	2.250	1.632	2.50	1.13	—	—	—	—	—	PA6410Y-G	12504
	15	1.500		.625	3.875	1.610	1.44	.84	—	—	—	—	—	PA6410Y-P	12506
6:1	90	9.000	.86	1.000	2.500	1.820	2.75	1.31	—	—	—	—	—	PA9610Y-G	12524
	15	1.500		.625	5.500	1.870	1.44	.97	—	—	—	—	—	PA9610Y-P	12526

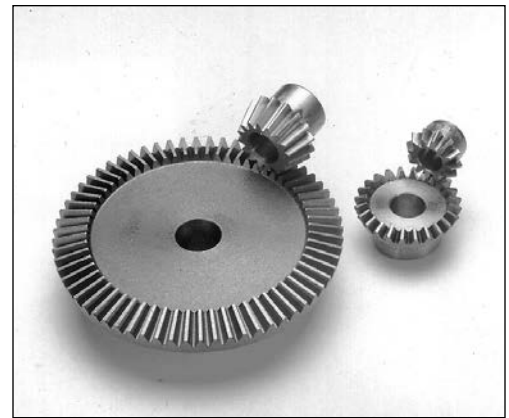
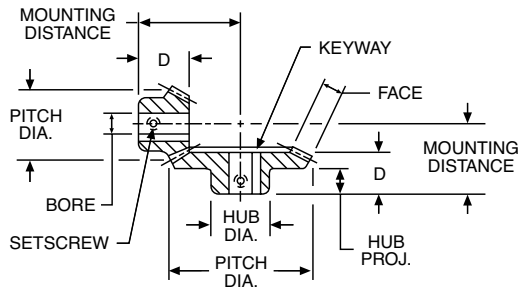
\*Mounting Distance (MD) must not be made less than dimension shown, see Page 316.

## 8 through 4 Diametral Pitch (Steel – Unhardened, Hardened & Cast Iron)

20° Pressure Angle

All gears have “Coniflex”® tooth form.

All Hardened steel gears have teeth only hardened and are equipped with standard keyways and setscrews.



### STANDARD TOLERANCES

DIMENSION		TOLERANCE
BORE	All	±.0005

### REFERENCE PAGES

- Alterations — 322
- Horsepower Ratings — 82
- Lubrication — 322
- Materials — 323
- Selection Procedure — 79

ALL DIMENSIONS IN INCHES  
ORDER BY CATALOG NUMBER OR ITEM CODE

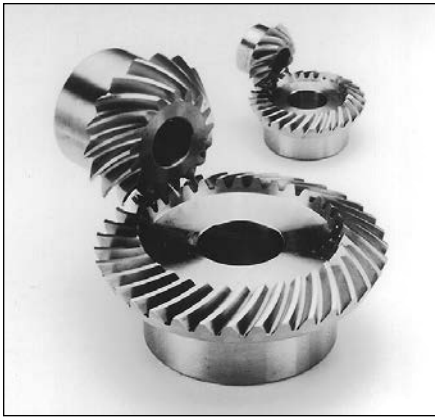
Ratio	No. of Teeth	Pitch Dia.	Face	Bore	MD *	D	Hub		Catalog Number	Item Code	Catalog Number	Item Code	Catalog Number	Item Code	
							Dia.	Proj.							
<b>8 DIAMETRAL PITCH</b>															
							<b>STEEL UNHARDENED</b>		<b>STEEL HARDENED</b>		<b>CAST IRON GEARS STEEL PINIONS</b>				
2:1	40	5.000	.83	1.000 1.500	2.875	1.850	3.00	1.25	L156Y-G —	12252 —	— HL156Y-G	— 11886	— —	— —	
	20	2.500	.83	1.000 .875	4.000 2.875	2.290	2.12	1.41	L156Y-P —	12272 —	HL156Y-P —	11888 —	— —	— —	
3:1	48	6.000	.84	.875 .750	2.375 4.250	1.632 2.085	2.75	1.00 1.19	— —	— —	— —	— —	— —	PA528Y-G PA528Y-P	12424 12426
	16	2.000	.84	.875 .750	2.375 4.250	1.632 2.085	2.75	1.00 1.19	— —	— —	— —	— —	— —	PA638Y-G PA638Y-P	12436 12438
4:1	64	8.000	.85	1.000 .875	2.750 5.250	1.882 2.105	2.75	1.25 1.22	— —	— —	— —	— —	— —	PA848Y-G PA848Y-P	12452 12454
	16	2.000	.85	1.000 .875	2.750 5.250	1.882 2.105	2.75	1.25 1.22	— —	— —	— —	— —	— —	PA948Y-G PA948Y-P	12460 12462
4:1	72	9.000	1.23	1.125 .875	3.250 5.750	2.320 2.470	3.00	1.69 1.22	— —	— —	— —	— —	— —	— —	
	18	2.250	1.23	1.125 .875	3.250 5.750	2.320 2.470	3.00	1.69 1.22	— —	— —	— —	— —	— —	— —	
<b>6 DIAMETRAL PITCH</b>															
2:1	36	6.000	1.07	1.125	3.500	2.260	3.25	1.50	L158Y-G	12278	—	—	—	—	
	18	3.000	1.06	1.125	4.750	2.765	2.50	1.59	L158Y-P	12280	—	—	—	—	
	36	6.000	1.07	1.750	3.500	2.260	3.25	1.50	—	—	HL158Y-G	11890	—	—	
	18	3.000	1.06	1.125	4.750	2.765	2.50	1.59	—	—	HL158Y-P	11892	—	—	
	36	6.000	1.07	1.125	3.500	2.260	3.25	1.50	—	—	—	—	—	PA626Y-G	12432
	18	3.000	1.07	1.000	4.750	2.765	2.50	1.59	—	—	—	—	—	PA626Y-P	12434
3:1	42	7.000	1.06	1.125	3.750	2.305	3.50	1.50	—	—	—	—	—	PA726Y-G	12440
	21	3.500	1.06	1.000	5.000	2.515	2.50	1.25	—	—	—	—	—	PA726Y-P	12442
4:1	48	8.000	1.18	1.125	3.438	1.898	3.25	1.00	—	—	—	—	—	PA826Y-G	12448
	24	4.000	1.18	1.000	5.438	2.560	2.62	1.25	—	—	—	—	—	PA826Y-P	12450
3:1	45	7.500	1.08	1.125 .875	3.000 5.250	2.132 2.575	3.25	1.25 1.44	— —	— —	— —	— —	— —	PA7536Y-G PA7536Y-P	12520 12522
	15	2.500	1.08	1.125 .875	3.000 5.250	2.132 2.575	3.25	1.25 1.44	— —	— —	— —	— —	— —	— —	
<b>5 DIAMETRAL PITCH</b>															
2:1	30	6.000	1.05	1.125	3.500	2.257	3.25	1.38	—	—	—	—	—	PA625Y-G	12428
	15	3.000	1.05	1.000	4.375	2.390	2.62	1.28	—	—	—	—	—	PA625Y-P	12430
3:1	45	9.000	1.32	1.250	3.750	2.507	3.75	1.69	—	—	—	—	—	PA935Y-G	12456
	15	3.000	1.32	1.000	5.875	2.685	2.62	1.31	—	—	—	—	—	PA935Y-P	12458
<b>4 DIAMETRAL PITCH</b>															
2:1	32	8.000	1.40	1.125	4.250	2.695	3.75	1.56	—	—	—	—	—	PA824Y-G	12444
	16	4.000	1.40	1.125	6.000	3.350	3.25	1.81	—	—	—	—	—	PA824Y-P	12446

\*Mounting Distance (MD) must not be made less than dimension shown, see Page 316.

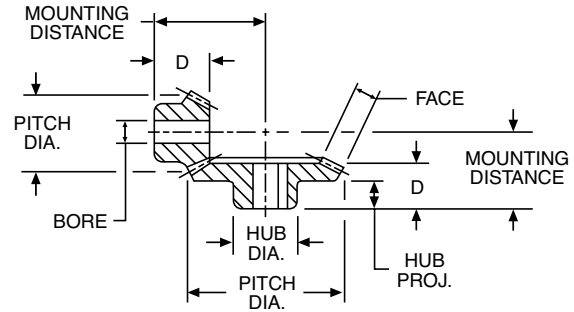
# Spiral Bevel Gears

## 30 through 8 Diametral Pitch (Steel – Unhardened & Hardened)

20° Pressure Angle – 35° Spiral Angle



All Hardened steel gears have teeth only hardened and are equipped with standard keyways and setscrews, except as noted. All pinions are left hand.



### REFERENCE PAGES

- Alterations — 322
- Horsepower Ratings — 83
- Lubrication — 322
- Materials — 323
- Selection Procedure — 79

### STANDARD TOLERANCES

DIMENSION		TOLERANCE
BORE	All	±.0005

ALL DIMENSIONS IN INCHES  
ORDER BY CATALOG NUMBER OR ITEM CODE

Ratio	No. of Teeth	Pitch Dia.	Face	Bore	MD *	D	Hub		Catalog Number	Item Code	Catalog Number	Item Code
							Dia.	Proj.				
<b>30 DIAMETRAL PITCH</b>												
<b>STEEL UNHARDENED</b>										<b>STEEL HARDENED</b>		
2:1	26	.87	.14	.250	.688	.480	.75	.38	SS302-G	11938	—	—
	13	.43		.1875	.750	.453	.38	.30	SS302-P	11940	—	—
2:1	26	.87	.14	.375	.688	.480	.75	.38	—	—	SH302-G	11914
	13	.43		.1875	.750	.453	.38	.30	—	—	SH302-P†	11916
<b>19 DIAMETRAL PITCH</b>												
2:1	26	1.37	.25	.500	1.000	.730	1.12	.42	SS192-G	11934	—	—
	13	.68		.3125	1.062	.623	.62	.33	SS192-P	11936	—	—
2:1	26	1.37	.25	.625	1.000	.730	1.12	.42	—	—	SH192-G	11910
	13	.68		.3125	1.062	.623	.62	.33	—	—	SH192-P†	11912
<b>14 DIAMETRAL PITCH</b>												
2:1	26	1.86	.31	.625	1.188	.760	1.38	.50	SS142-G	11926	—	—
	13	.93		.4375	1.250	.625	.81	.30	SS142-P	11928	—	—
	26	1.86	.31	.750	1.188	.760	1.38	.50	—	—	SH142-G	11902
	13	.93		.4375	1.250	.625	.81	.30	—	—	SH142-P	11904
	32	2.29	.38	.750	1.375	.855	1.62	.56	SS142-1G	11930	—	—
	16	1.14		.500	1.625	.848	1.00	.45	SS142-1P	11932	—	—
32	2.29	.38	.875	1.375	.855	1.62	.56	—	—	SH142-1G	11906	
16	1.14		.500	1.625	.848	1.00	.45	—	—	SH142-1P	11908	
<b>10 DIAMETRAL PITCH</b>												
2:1	34	3.40	.57	1.000	1.875	1.135	2.00	.75	SS102-G	11922	—	—
	17	1.70		.625	2.375	1.219	1.50	.63	SS102-P	11924	—	—
2:1	34	3.40	.57	1.1875	1.875	1.135	2.00	.75	—	—	SH102-G	11898
	17	1.70		.625	2.375	1.219	1.50	.63	—	—	SH102-P	11900
<b>8 DIAMETRAL PITCH</b>												
2:1	34	4.250	.71	1.250	2.500	1.575	2.88	1.06	SS82-G	11918	—	—
	17	2.125		.750	3.125	1.677	1.88	.94	SS82-P	11920	—	—
	34	4.250	.71	1.500	2.500	1.575	2.88	1.06	—	—	SH82-G	11894
	17	2.125		.750	3.125	1.677	1.88	.94	—	—	SH82-P	11896

\*Mounting Distance (MD) must not be made less than dimension shown, see Page 316.

†No keyway or setscrew.

Boston stock miter and bevel gears are designed for transmission of power and/or motion between intersecting shafts at a right angle (90°). Miter gears are a special type of bevel gear designed to operate as pairs being identical in number of teeth and pitch (1 to 1 ratio only). Other Boston stock bevel gear sets are available with ratios from 1-1/2:1 to 6:1.

All Boston standard stock bevels and miters are manufactured with a 20° pressure angle. These bevel gears are made in accordance with AGMA specifications for a long and short addendum system for gears and pinions, which serves to reduce the amount of pinion tooth undercut and to nearly equalize the strength and durability of the gear and pinion. Boston straight tooth bevel and miter gears have generated teeth with “Coniflex”® tooth form, unless otherwise specified.



## INTERCHANGE

Stock miter and bevel gears having identical diametral pitch, number of teeth and mounting distance (and spiral angle for spiral bevels) are interchangeable.

## SPIRAL VS. STRAIGHT TOOTH

Boston standard stock straight bevel gears can be used for all applications requiring transmission of power and motion between intersecting shafts. Boston standard stock spiral bevel gears have an overlapping tooth action which results in a smoother gear action, lower noise, and higher load capacity than a straight bevel of equal size.

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## Selection Procedure

Approximate horsepower ratings for selected sizes (number of teeth) at various operating speeds (RPM) are given for Boston standard stock Bevel and Miter gears.

For straight tooth Miter gears, refer to Pages 80, 81.

For straight tooth Bevel gears, refer to Page 82.

For spiral tooth Miter gears, refer to Page 83.

For spiral tooth Bevel gears, refer to Page 83.

All ratings are based on normal operating conditions, that is: properly mounted and lubricated, carrying a smooth load for not more than 10 hours (Service Factor = 1.0). Refer to Table 1 for service factors in other service conditions.

1. Determine service factor.
  - a. Using Application Classification Chart I, pages 331-332 determine service factor or
  - b. With knowledge of operating conditions and load classification, select service factor from Table 1.

2. Determine Design Horsepower.

**Design HP = Application Load x Service Factor (Table 1)**

3. Select a gear set with horsepower capacity equal to (or greater than) design horsepower determined in Step 2.

TABLE 1

Service Factor	Operating Conditions
.8	Uniform — not more than 15 minutes in 2 hours.
1.0	Moderate Shock — not more than 15 minutes in 2 hours. Uniform — not more than 10 hours per day.
1.25	Moderate Shock — not more than 10 hours per day. Uniform — more than 10 hours per day.
1.50	Heavy Shock — not more than 15 minutes in 2 hours. Moderate Shock — more than 10 hours per day.
1.75	Heavy Shock — not more than 10 hours per day.
2.0	Heavy Shock — more than 10 hours per day.

Heavy shock loads and/or severe wear conditions may require the use of higher service factors. Consultation with factory is recommended in these applications.

# Miter Gears

## Steel & Iron – Straight Tooth (1:1 Ratio)

L-Series – Unhardened Steel

HLK Series – Hardened Steel (Teeth only)

OA Series – Cast Iron

### APPROXIMATE HP & TORQUE\* RATINGS FOR CLASS I SERVICE (Service Factor = 1.0)

Catalog Number	Pitch	50 RPM		100 RPM		200 RPM		300 RPM		600 RPM		900 RPM		1200 RPM		1800 RPM	
		HP	Torque	HP	Torque	HP	Torque	HP	Torque	HP	Torque	HP	Torque	HP	Torque	HP	Torque
L110Y L111Y	16	.02	24.7	.03	18.5	.06	18.5	.09	18.5	.15	15.4	.21	14.4	.26	13.4	.33	11.3
		.03	37.1	.05	30.9	.10	30.9	.13	26.8	.24	24.7	.32	22.0	.38	19.6	.48	16.5
L101Y L125Y L126Y	12	.03	37.1	.06	37.1	.12	37.1	.17	35.0	.29	29.9	.40	27.5	.47	24.2	.59	20.2
HLK110Y L112Y	16	.04	49.4	.06	37.1	.12	37.1	.18	37.1	.30	30.9	.42	28.8	.52	26.8	.66	22.6
		.07	43.2	.14	43.2	.20	41.2	.30	30.9	.44	30.2	.52	26.8	.64	22.0		
L102Y L127Y	12	.05	61.8	.09	55.6	.18	55.6	.25	51.5	.42	43.2	.56	38.4	.66	34.0	.81	27.8
L119Y L120Y L121Y L133Y	12	.07	86.5	.14	86.5	.25	77.2	.35	72.1	.60	61.8	.77	52.8	.90	46.3	1.1	37.7
HLK101Y L113Y HLK102Y	12	.06	74.1	.12	74.1	.24	74.1	.34	70.0	.58	59.7	.96	65.9	1.1	56.6	1.3	44.6
		.09	111	.17	105	.33	102	.45	92.6	.75	77.2	.96	65.9	1.1	56.6	1.3	44.6
		.10	124	.18	111	.36	111	.50	103	.84	86.5	1.1	75.5	1.3	66.9	1.6	54.9
L103Y L128Y L129Y	10	.11	136	.20	124	.37	114	.52	107	.87	89.6	1.1	75.5	1.3	66.9	1.5	51.5
L114Y HLK121Y	12	.15	185	.29	179	.52	161	.71	146	1.1	113	1.4	96.1	1.6	82.4	1.9	65.2
		.14	173	.28	173	.50	154	.70	144	1.2	124	1.5	103	1.8	92.6	2.2	75.5
L130Y L104Y L131Y	10	.18	222	.33	204	.61	188	.83	171	1.3	134	1.6	110	1.7	87.5	2.2	75.5
HLK103Y HLK129Y	10	.20	247	.40	247	.74	229	1.0	206	1.7	175	2.2	151	2.6	134	3.1	106
OA828Y-1	8	.28	346	.53	327	.93	287	1.2	247	1.9	196	2.3	158	—	—	—	—
L105Y-A L115Y L116Y	8	.30	371	.56	346	1.0	309	1.4	288	2.1	216	2.6	178	3.0	154	3.4	116
HLK114Y	12	.29	358	.58	358	1.0	309	1.4	288	2.3	237	2.8	192	3.2	165	3.9	133
OA832Y-1	8	.37	457	.68	420	1.2	371	1.6	329	2.4	247	2.8	192	—	—	—	—
HLK104Y HLK130Y HLK131Y	10	.33	408	.66	408	1.2	371	1.7	350	2.6	268	3.3	226	3.8	196	4.5	154

Ratings are based on strength calculation. Basic Static Strength Rating, or for hand operation of above gears is approximately 3 times the 100 RPM rating.

NOTE: Ratings to right of heavy line are not recommended, as pitch line velocity exceeds 1000 feet per minute. Use for interpolation purposes only.

\*Torque (Lb. Ins.) Output Rating

HP (Input)

## Steel & Iron – Straight Tooth (1:1 Ratio)

L-Series – Unhardened Steel

HLK Series – Hardened Steel (Teeth only)

OA Series – Cast Iron

### APPROXIMATE HP & TORQUE\* RATINGS FOR CLASS I SERVICE (Service Factor = 1.0)

Catalog Number	Pitch	50 RPM		100 RPM		200 RPM		300 RPM		600 RPM		900 RPM		1200 RPM		1800 RPM	
		HP	Torque	HP	Torque	HP	Torque	HP	Torque	HP	Torque	HP	Torque	HP	Torque	HP	Torque
L106Y L117Y L132Y	8	.42	519	.79	488	1.4	432	1.9	391	2.8	288	3.4	233	3.8	196	—	—
OA624Y	6	.46	568	.87	537	1.5	463	2.0	412	3.0	309	3.5	240	—	—	—	—
L123Y	8	.55	679	1.0	618	1.8	556	2.4	494	3.5	360	4.2	288	4.6	237	—	—
HLK105YA HLK115Y HLK116Y	8	.55	679	1.1	679	2.0	618	2.7	556	4.3	443	5.3	364	5.9	304	6.9	237
L107Y L118Y	6	.69	852	1.3	803	2.2	679	3.0	618	4.5	463	5.3	364	5.8	299	—	—
OA630Y-1	6	.82	1013	1.5	926	2.5	772	3.2	659	4.7	484	—	—	—	—	—	—
OA525Y	5	.90	1112	1.6	988	2.7	834	3.5	721	5.1	525	—	—	—	—	—	—
L134Y L135Y	6	.90	1112	1.6	988	2.8	865	3.7	762	5.4	556	6.4	439	7.0	360	—	—
HLK106Y HLK117Y HLK132Y	8	.80	988	1.6	988	2.8	865	3.7	762	5.7	587	6.8	467	7.6	391	—	—
OA636Y-1	6	1.1	1359	1.9	1174	3.2	988	4.1	844	5.8	597	—	—	—	—	—	—
HLK123Y	8	1.0	1235	2.0	1235	3.6	1112	4.7	968	7.0	721	8.4	576	9.2	474	—	—
L108Y L122Y L136Y	5	1.3	1606	2.4	1482	4.1	1266	5.3	1091	7.6	782	9.0	618	—	—	—	—
HLK107Y HLK118Y	6	1.3	1606	2.6	1606	4.5	1390	6.0	1235	8.0	824	11.0	755	12.0	618	—	—
OA424Y	4	1.6	1976	2.8	1729	4.6	1421	5.9	1215	8.2	844	—	—	—	—	—	—
OA540Y-1	5	2.0	2471	3.5	2162	5.6	1729	7.0	1441	—	—	—	—	—	—	—	—
L109Y L137Y	4	2.3	2841	4.2	2594	7.0	2162	8.7	1791	12.4	1276	14.3	981	—	—	—	—
L138Y	4	3.0	3706	5.3	3274	8.6	2656	10.8	2224	14.6	1503	16.6	1139	—	—	—	—
HLK108Y HLK122Y	5	2.4	2965	4.9	3026	8.2	2532	10.0	2059	15.0	1544	18.0	1235	—	—	—	—
HLK109Y	4	4.2	5188	8.3	5126	14.0	4324	17.0	3500	25.0	2574	28.0	1922	—	—	—	—

Ratings are based on strength calculation. Basic Static Strength Rating, or for hand operation of above gears is approximately 3 times the 100 RPM rating.

NOTE: Ratings to right of heavy line are not recommended, as pitch line velocity exceeds 1000 feet per minute. Use for interpolation purposes only.

\*Torque (Lb. Ins.) Output Rating

HP (Input)

# Bevel Gears

## Steel & Iron – Straight Tooth

L-Series/PA Series Pinions – Unhardened Steel

PA Series – Cast Iron

HL Series – Hardened Steel (Teeth Only)

### APPROXIMATE HP & TORQUE\* RATINGS FOR CLASS I SERVICE (Service Factor = 1.0)

Catalog Number	Pitch	Ratio	50 RPM†		100 RPM		200 RPM		300 RPM		600 RPM		900 RPM		1200 RPM		1800 RPM	
			HP	Torque	HP	Torque	HP	Torque	HP	Torque	HP	Torque	HP	Torque	HP	Torque	HP	Torque
L146Y	16	1-1/2:1	.03	55.6	.06	55.6	.11	51.0	.16	49.4	.29	44.8	.40	41.2	.48	37.1	.62	31.9
HL146Y	16		.04	74.1	.08	74.1	.16	74.1	.23	71.0	.41	63.3	.55	56.6	.67	51.7	.86	44.3
L151Y	12		.10	185	.20	185	.37	171	.53	164	.91	141	1.19	122	1.41	109	1.74	89.6
HL151Y	12		.14	259	.27	250	.52	241	.73	225	1.26	195	1.65	170	1.96	151	2.41	124
L153Y	10		.24	445	.45	417	.84	389	1.17	361	1.93	298	2.47	254	2.88	222	3.44	177
HL153Y	10		.33	611	.63	584	1.16	537	1.62	500	2.68	414	3.44	354	4.00	309	4.77	245
L148Y	16	2:1	.02	49.4	.03	37.1	.06	37.1	.09	37.1	.17	35.0	.23	31.6	.28	28.8	.37	25.4
HL148Y	16		.02	49.4	.04	49.4	.09	55.6	.12	49.4	.23	47.4	.32	43.9	.39	40.1	.52	35.7
L149Y	16		.04	98.8	.09	111	.17	105	.24	98.8	.43	88.5	.58	79.6	.71	73.1	.91	62.5
L150Y	14		.05	124	.09	111	.18	111	.26	107	.47	96.8	.64	87.8	.77	79.3	.99	67.9
HL150Y	14		.07	173	.13	161	.25	154	.36	148	.65	134	.88	121	1.07	110	1.38	94.7
HL149Y	16		.06	148	.12	148	.23	142	.33	136	.60	124	.81	111	.99	102	1.27	87.2
PA3212Y	12	2:1	.04	99	.09	111	.16	99	.23	95	.40	82	.52	71	.62	64	.76	52.2
PA4212Y	12		.08	198	.16	198	.29	179	.41	169	.68	140	.87	119	1.00	103	1.20	82.4
L152Y	12		.14	346	.27	334	.50	309	.72	296	1.23	253	1.62	222	1.92	198	2.36	162
PA5210Y	10		.15	371	.28	346	.51	315	.70	288	1.10	226	1.40	192	1.60	165	—	—
HL152Y	12		.19	469	.37	457	.70	432	.99	408	1.71	352	2.24	307	2.66	274	3.27	224
L155Y	10		.30	741	.58	716	1.08	667	1.51	622	2.50	515	3.20	439	3.73	384	4.45	305
PA528Y	8	2:1	.20	494	.38	469	.70	432	.96	395	1.50	309	1.90	261	2.20	226	—	—
L156Y	8		.54	1334	1.03	1272	1.88	1161	2.59	1066	4.16	856	5.21	715	5.96	614	6.97	478
HL155Y	10		.42	1038	.81	1001	1.50	926	2.10	865	3.48	716	4.45	611	5.18	533	6.18	424
PA626Y	6		.40	988	.75	926	1.30	803	1.80	741	2.90	597	3.50	480	4.00	412	—	—
PA625Y	5		.43	1062	.82	1013	1.50	926	2.00	824	3.10	638	3.80	522	4.30	443	—	—
PA726Y	6		.48	1186	.89	1099	1.60	988	2.10	865	3.90	803	—	—	—	—	—	—
L158Y	6	2:1	1.07	2644	2.02	2495	3.62	2236	4.92	2026	7.67	1579	9.43	1294	10.65	1096	12.24	840
PA826Y	6		.63	1556	1.20	1482	2.00	1235	2.70	1112	4.00	824	4.80	659	—	—	—	—
HL156Y	8		.76	1878	1.44	1779	2.62	1618	3.60	1482	5.78	1190	7.24	994	8.28	852	9.68	664
PA824Y	4		.98	2421	1.80	2224	3.20	1976	4.20	1729	7.30	1503	7.50	1029	—	—	—	—
HL158Y	6		1.49	3681	2.80	3459	5.02	3101	6.83	2812	10.65	2193	13.10	1798	14.79	1522	17.00	1167
PA3316Y	16		3:1	.05	185	.11	204	.20	185	.30	185	.53	164	.72	148	.88	136	1.12
PA45312Y	12	.16		593	.31	574	.59	547	.84	519	1.44	445	1.89	389	2.24	346	2.75	283
PA6310Y	10	.34		1260	.66	1223	1.21	1121	1.70	1050	2.81	868	3.60	741	4.18	645	5.00	515
PA638Y	8	.43		1594	.82	1519	1.52	1408	2.12	1309	3.51	1084	4.49	924	5.22	806	6.24	642
L157Y	10	.34		1260	.66	1223	1.21	1121	1.70	1050	2.81	868	3.60	741	4.18	645	5.00	515
PA7536Y	6	.88		3261	1.66	3076	3.03	2807	4.17	2576	6.69	2066	8.38	1725	9.59	1481	11.21	1154
PA935Y	5	1.53	5670	2.88	5336	5.16	4781	7.01	4330	10.93	3375	13.44	2767	15.19	2346	17.45	1796	
PA4416Y	16	4:1	.06	296	.12	296	.24	296	.34	280	.61	251	.83	228	1.02	210	1.30	4178
PA6412Y	12		.17	840	.32	791	.61	754	.86	708	1.48	609	1.94	533	2.31	476	2.83	388
PA6410Y	10		.22	1087	.42	1038	.80	988	1.13	931	1.95	803	2.56	703	3.04	626	3.74	513
PA848Y	8		.43	2125	.83	2051	1.54	1902	2.15	1771	3.56	1466	4.56	1252	5.30	1091	6.33	869
PA948Y	8		.75	3706	1.43	3533	2.62	3236	3.64	2998	5.92	2438	7.50	2059	8.65	1781	10.21	1401
PA6616Y	16		6:1	.09	667	.17	630	.33	611	.48	593	.86	531	1.17	482	1.42	439	1.82
PA6612Y	12	.12		889	.23	852	.44	815	.63	778	1.13	698	1.54	634	1.88	581	2.40	494

Ratings are based on strength calculation. Basic Static Strength Rating, or for hand operation of above gears is approximately 3 times the 100 RPM rating.

\*Torque (Lb. Ins.) Output Rating

HP (Input)

†RPM of Pinion

# Steel Spiral Miter & Bevel Gears

## Steel Spiral Miter Gears (1:1 Ratio)

LSA Series – Unhardened Steel

HLSK Series – Hardened Steel (Teeth Only)

### APPROXIMATE HP & TORQUE\* RATINGS FOR CLASS I SERVICE (Service Factor = 1.0)

Catalog Number	Pitch	50 RPM		100 RPM		200 RPM		300 RPM		600 RPM		900 RPM		1200 RPM		1800 RPM	
		HP	Torque	HP	Torque	HP	Torque	HP	Torque	HP	Torque	HP	Torque	HP	Torque	HP	Torque
LSA110Y	18	.01	12.4	.02	12.4	.04	12.4	.07	14.4	.14	14.4	.20	13.7	.25	12.9	.35	12.0
LSA101Y	12	.02	24.7	.04	24.7	.08	24.7	.13	26.8	.25	25.7	.35	24.0	.45	23.2	.62	21.3
LSA102Y	12	.03	37.1	.07	43.2	.13	40.1	.20	41.2	.38	39.1	.54	37.1	.63	32.4	.95	32.6
HLSK110Y	18	.03	37.1	.07	43.2	.14	43.2	.21	43.2	.42	43.2	.59	40.5	.76	39.1	1.0	34.3
HLSK101Y	12	.06	74.1	.13	80.3	.26	80.3	.39	80.3	.75	77.2	1.0	68.6	1.3	66.9	1.8	61.8
LSA103Y	10	.07	86.5	.15	92.6	.30	92.6	.44	90.6	.80	82.4	1.1	75.5	1.4	72.1	2.0	68.6
HLSK102Y	12	.10	124	.21	130	.41	127	.61	126	1.0	103	1.6	110	2.0	103	2.8	96.1
LSA104Y	10	.15	185	.30	185	.57	176	.83	171	1.5	154	2.0	137	2.6	134	3.6	124
LSA105YA	7	.22	272	.44	272	.84	259	1.2	247	2.2	226	3.0	206	3.8	196	5.1	175
HLSK103Y	10	.23	284	.46	284	.89	275	1.3	268	2.4	247	3.4	233	4.3	221	5.9	202
LSA106Y	8	.34	420	.69	426	1.3	401	1.8	371	3.3	340	4.5	309	5.7	293	7.8	268
LSA107Y	6	.46	568	.90	556	1.7	525	2.4	494	4.3	443	5.9	405	7.4	381	10.0	343
LSA118Y	6	.46	568	.90	556	1.7	525	2.4	494	4.3	443	5.9	405	7.4	381	10.0	343
HLSK104Y	10	.45	556	.90	556	1.7	525	2.5	515	4.5	463	6.1	419	7.9	407	11.1	381
HLSK105YA	7	.67	828	1.3	803	2.5	772	3.6	741	6.5	669	9.0	618	11.0	566	15.0	515
LSA122Y	5	.83	1025	1.6	988	3.0	926	4.3	885	7.5	772	10.0	686	12.0	618	17.0	583
HLSK106Y	8	1.0	1235	2.0	1235	3.9	1204	5.6	1153	10.0	1029	13.0	892	17.0	875	23.0	789
HLSK107Y	6	1.3	1606	2.7	1668	5.1	1575	7.3	1503	13.0	1338	17.0	1167	22.0	1132	33.0	1132
HLSK118Y	6	1.3	1606	2.7	1668	5.1	1575	7.3	1503	13.0	1338	17.0	1167	22.0	1132	33.0	1132
HLSK122Y	5	2.4	2965	4.9	3026	9.1	2810	13.1	2697	23.01	2378	30.0	2059	38.0	1956	51.0	1750

## Steel Spiral Bevel Gears\*\* (2:1 Ratio)

SS-Series – Unhardened Steel

SH Series – Hardened Steel (Teeth Only)

### APPROXIMATE HP & TORQUE\* RATINGS FOR CLASS I SERVICE (Service Factor = 1.0)

Catalog Number	Pitch	50 RPM†		100 RPM†		200 RPM†		300 RPM†		600 RPM†		900 RPM†		1200 RPM†		1800 RPM†	
		HP	Torque	HP	Torque	HP	Torque	HP	Torque	HP	Torque	HP	Torque	HP	Torque	HP	Torque
SS302	30	.002	4.9	.004	4.9	.008	4.9	.013	5.4	.025	5.1	.037	5.1	.05	5.1	.07	4.8
SH302	30	.005	12.4	.01	12.4	.02	12.4	.03	12.4	.06	12.4	.09	12.4	.12	12.4	.18	12.4
SS192	19	.01	24.7	.02	24.7	.04	24.7	.06	24.7	.12	24.7	.18	24.7	.24	24.7	.35	24.0
SS142	14	.02	49.4	.05	61.8	.09	55.6	.14	57.6	.26	53.5	.39	53.5	.51	52.5	.76	52.2
SH192	19	.03	74.1	.05	61.8	.10	61.8	.16	65.9	.31	63.8	.46	63.1	.60	61.8	.88	60.4
SS142-1	14	.04	98.8	.08	98.8	.16	98.8	.23	94.7	.45	92.6	.67	92.0	.88	90.6	1.3	89.2
SH142	14	.06	148	.12	148	.23	142	.34	140	.66	136	.98	135	1.3	134	1.9	130
SH142-1	14	.10	247	.20	247	.39	241	.58	239	1.1	226	1.7	233	2.2	226	3.2	220
SS102	10	.14	346	.27	334	.52	321	.78	321	1.5	309	2.2	302	2.9	299	4.3	295
SS82	8	.26	642	.50	618	.99	611	1.5	618	2.8	576	4.2	576	5.5	566	8.0	549
SH102	10	.34	840	.67	828	1.3	803	2.0	824	3.8	782	5.6	769	7.3	751	10.7	734
SH82	8	.64	1581	1.3	1606	2.5	1544	3.7	1524	7.1	1462	10.5	1441	13.7	1410	20.0	1373

Ratings are based on strength calculation. Basic Static Strength Rating, or for hand operation of above gears is approximately 3 times the 100 RPM rating.

\*Torque (Lb. Ins.) Output Rating

HP (Input)

Note: Ratings to right of heavy line are not recommended, as pitch line velocity exceeds 1000 feet per minute. Use for interpolation purposes only.

\*\*Ratings reflect Gear and Pinion sets.

†Pinion RPM

