

ASSEMBLIES

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GEARBOXES - WORM WHEEL & HELICAL GEARS

SPEED REDUCER TECHNICAL DATA SHAFT SIZE 1/8", 3/16" AND 1/4"

Materials

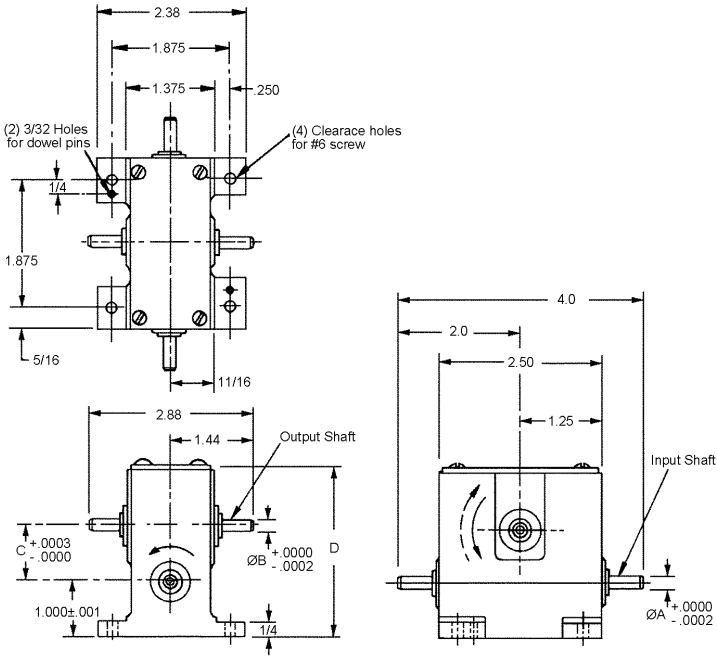
Housing	Cast Aluminum (Anodized)	Bearings	Stainless Steel or Bronze
Worm Wheel	Bronze	Shafts	Stainless Steel
Worm	Stainless Steel	Lubrication	MIL. Spec. Oil and Grease
Helical Gear	Aluminum	Housing Cover	Aluminum
Helical Pinion	Stainless Steel	All other parts	Stainless Steel

Backlash

Ball Bearing Unit 20 Minutes Max.
Bronze Bearing Unit 30 Minutes Max.

Maximum Speed

2000 RPM



Worm and Wheel units can only be driven from input shaft and will only operate as a Speed Reducer.
Helical Gear units can be driven from input shaft as a Speed Reducer or from output shaft as a Speed Increaser.
Other ratios available on request.
Anti-Backlash unit available on request.



WORM & WORM WHEEL GEARS

SHAFT SIZE 1/8", 3/16" AND 1/4"

SHAFT SIZE				TYPE			
ØA= 1/8 ØB= 1/8				BALL BEARING OR BRONZE BEARING			

BALL BEARINGS UNITS	BRONZE BEARINGS UNITS	PITCH	SHAFT SIZE		NOMINAL RATIO	C CENTER	D HEIGHT	MAXIMUM OUTPUT TORQUE (OZ.-IN.)
STOCK NO.	STOCK NO.		ØA	ØB				
WX64B2-1	WX64P2-1	64 WORM & WHEEL	.1247	.1247	15:1	.7191	2-11/32	112
WX64B2-2	WX64P2-2				20:1	.8753	2-5/8	160
WX64B2-3	WX64P2-3				25:1	1.0315	2-31/32	192
WX64B2-4	WX64P2-4				30:1	1.1878	3-1/4	240
WX64B2-5	WX64P2-5				30:1	.7190	2-11/32	144
WX64B2-6	WX64P2-6				40:1	.8753	2-5/8	192
WX64B2-7	WX64P2-7				50:1	1.0315	2-31/32	240
WX64B2-8	WX64P2-8				60:1	1.1878	3-1/4	288
WX64B2-9	WX64P2-9				60:1	.7190	2-11/32	144
WX64B2-10	WX64P2-10				80:1	.8753	2-5/8	192
WX64B2-11	WX64P2-11				100:1	1.0315	2-31/32	240
WX64B2-12	WX64P2-12				120:1	1.1873	3-1/4	288

SHAFT SIZE				TYPE			
ØA= 3/16 ØB= 3/16				BALL BEARING OR BRONZE BEARING			

BALL BEARINGS UNITS	BRONZE BEARINGS UNITS	PITCH	SHAFT SIZE		NOMINAL RATIO	C CENTER	D HEIGHT	MAXIMUM OUTPUT TORQUE (OZ.-IN.)
STOCK NO.	STOCK NO.		ØA	ØB				
WX64B3-1	WX64P3-1	64 WORM & WHEEL	.1872	.1872	15:1	.7190	2-11/32	112
WX64B3-2	WX64P3-2				20:1	.8753	2-5/8	160
WX64B3-3	WX64P3-3				25:1	1.0315	2-31/32	192
WX64B3-4	WX64P3-4				30:1	1.1878	3-1/4	240
WX64B3-5	WX64P3-5				30:1	.7190	2-11/32	144
WX64B3-6	WX64P3-6				40:1	.8753	2-5/8	192
WX64B3-7	WX64P3-7				50:1	1.0315	2-31/32	240
WX64B3-8	WX64P3-8				60:1	1.1878	3-1/4	288
WX64B3-9	WX64P3-9				60:1	.7190	2-11/32	144
WX64B3-10	WX64P3-10				80:1	.8753	2-5/8	192
WX64B3-11	WX64P3-11				100:1	1.0315	2-31/32	240
WX64B3-12	WX64P3-12				120:1	1.1878	3-1/4	288

SHAFT SIZE				TYPE			
ØA= 1/4 ØB= 1/4				BALL BEARING OR BRONZE BEARING			

BALL BEARINGS UNITS	BRONZE BEARINGS UNITS	PITCH	SHAFT SIZE		NOMINAL RATIO	C CENTER	D HEIGHT	MAXIMUM OUTPUT TORQUE (OZ.-IN.)
STOCK NO.	STOCK NO.		ØA	ØB				
WX64B4-1	WX64P4-1	64 WORM & WHEEL	.2497	.2497	15:1	.7190	2-11/32	112
WX64B4-2	WX64P4-2				20:1	.8753	2-5/8	160
WX64B4-3	WX64P4-3				25:1	1.0315	2-31/32	192
WX64B4-4	WX64P4-4				30:1	1.1878	3-1/4	240
WX64B4-5	WX64P4-5				30:1	.7190	2-11/32	144
WX64B4-6	WX64P4-6				40:1	.8753	2-5/8	192
WX64B4-7	WX64P4-7				50:1	1.0315	2-31/32	240
WX64B4-8	WX64P4-8				60:1	1.1878	3-1/4	288
WX64B4-9	WX64P4-9				60:1	.7190	2-11/32	144
WX64B4-10	WX64P4-10				80:1	.8753	2-5/8	192
WX64B4-11	WX64P4-11				100:1	1.0315	2-31/32	240
WX64B4-12	WX64P4-12				120:1	1.1878	3-1/4	288

WORM & WORM WHEEL GEARS

SHAFT SIZE 1/8", 3/16" AND 1/4"

SHAFT SIZE	TYPE
ØA= 1/8 ØB= 1/8	BALL BEARING OR BRONZE BEARING

BALL BEARINGS UNITS	BRONZE BEARINGS UNITS	PITCH	SHAFT SIZE		NOMINAL RATIO	C CENTER	D HEIGHT	MAXIMUM OUTPUT TORQUE (OZ.-IN.)
STOCK NO.	STOCK NO.		ØA	ØB				
WX48B2-1	WX48P2-1	48 WORM & WHEEL	.1247	.1247	12.5:1	.6878	2-11/32	144
WX48B2-2	WX48P2-2				15:1	.7920	2-35/64	176
WX48B2-3	WX48P2-3				20:1	1.0003	2-31/32	240
WX48B2-4	WX48P2-4				22.5:1	1.1045	3-11/64	272
WX48B2-5	WX48P2-5				25:1	.6878	2-11/32	176
WX48B2-6	WX48P2-6				30:1	.7920	2-35/64	208
WX48B2-7	WX48P2-7				40:1	1.0003	2-31/32	288
WX48B2-8	WX48P2-8				45:1	1.1045	3-11/64	320
WX48B2-9	WX48P2-9				50:1	.6878	2-11/32	176
WX48B2-10	WX48P2-10				60:1	.7920	2-35/64	208
WX48B2-11	WX48P2-11				80:1	1.0003	2-31/32	288
WX48B2-12	WX48P2-12				90:1	1.1045	3-11/64	320

SHAFT SIZE	TYPE
ØA= 3/16 ØB= 3/16	BALL BEARING OR BRONZE BEARING

BALL BEARINGS UNITS	BRONZE BEARINGS UNITS	PITCH	SHAFT SIZE		NOMINAL RATIO	C CENTER	D HEIGHT	MAXIMUM OUTPUT TORQUE (OZ.-IN.)
STOCK NO.	STOCK NO.		ØA	ØB				
WX48B3-1	WX48P3-1	48 WORM & WHEEL	.1872	.1872	12.5:1	.6878	2-11/32	144
WX48B3-2	WX48P3-2				15:1	.7920	2-35/64	176
WX48B3-3	WX48P3-3				20:1	1.0003	2-31/32	240
WX48B3-4	WX48P3-4				22.5:1	1.1045	3-11/64	272
WX48B3-5	WX48P3-5				25:1	.6878	2-11/32	176
WX48B3-6	WX48P3-6				30:1	.7920	2-35/64	208
WX48B3-7	WX48P3-7				40:1	1.0003	2-31/32	288
WX48B3-8	WX48P3-8				45:1	1.1045	3-11/64	320
WX48B3-9	WX48P3-9				50:1	.6878	2-11/32	176
WX48B3-10	WX48P3-10				60:1	.7920	2-35/64	208
WX48B3-11	WX48P3-11				80:1	1.0003	2-31/32	288
WX48B3-12	WX48P3-12				90:1	1.1045	3-11/64	320

SHAFT SIZE	TYPE
ØA= 1/4 ØB= 1/4	BALL BEARING OR BRONZE BEARING

BALL BEARINGS UNITS	BRONZE BEARINGS UNITS	PITCH	SHAFT SIZE		NOMINAL RATIO	C CENTER	D HEIGHT	MAXIMUM OUTPUT TORQUE (OZ.-IN.)
STOCK NO.	STOCK NO.		ØA	ØB				
WX48B43-1	WX48P43-1	48 WORM & WHEEL	.1872	.2497	12.5:1	.6878	2-11/32	144
WX48B43-2	WX48P43-2				15:1	.7920	2-35/64	176
WX48B43-3	WX48P43-3				20:1	1.0003	2-31/32	240
WX48B43-4	WX48P43-4				22.5:1	1.1045	3-11/64	272
WX48B43-5	WX48P43-5				25:1	.6878	2-11/32	176
WX48B43-6	WX48P43-6				30:1	.7920	2-35/64	208
WX48B43-7	WX48P43-7				40:1	1.0003	2-31/32	288
WX48B43-8	WX48P43-8				45:1	1.1040	3-11/64	320
WX48B43-9	WX48P43-9				50:1	.6878	2-11/32	176
WX48B43-10	WX48P43-10				60:1	.7920	2-35/64	208
WX48B43-11	WX48P43-11				80:1	1.0003	2-31/32	288
WX48B43-12	WX48P43-12				90:1	1.1045	3-11/64	320

HELICAL GEARS

SHAFT SIZE 1/8", 3/16" AND 1/4"

SHAFT SIZE					TYPE			
ØA= 1/8 ØB= 1/8					BALL BEARING OR BRONZE BEARING			

BALL BEARINGS UNITS	BRONZE BEARINGS UNITS	PITCH	SHAFT SIZE		NOMINAL RATIO	C CENTER	D HEIGHT	MAXIMUM OUTPUT TORQUE (OZ.-IN.)
STOCK NO.	STOCK NO.		ØA	ØB				
HX64B2-1 HX64B2-2 HX64B2-3 HX64B2-4	HX64P2-1 HX64P2-2 HX64P2-3 HX64P2-4	64 HELICAL	.1247	.1247	1:1	.4422	1-25/32	49
					2:1	.6632	2-15/64	
					3:1	.8841	2-43/64	
					4:1	1.1051	3-7/64	

SHAFT SIZE					TYPE			
ØA= 3/16 ØB= 3/16					BALL BEARING OR BRONZE BEARING			

BALL BEARINGS UNITS	BRONZE BEARINGS UNITS	PITCH	SHAFT SIZE		NOMINAL RATIO	C CENTER	D HEIGHT	MAXIMUM OUTPUT TORQUE (OZ.-IN.)
STOCK NO.	STOCK NO.		ØA	ØB				
HX64B3-1 HX64B3-2 HX64B3-3 HX64B3-4	HX64P3-1 HX64P3-2 HX64P3-3 HX64P3-4	64 HELICAL	.1872	.1872	1:1	.4422	1-25/32	73
					2:1	.6632	2-15/16	
					3:1	.8841	2-43/64	
					4:1	1.1051	3-7/64	

SHAFT SIZE					TYPE			
ØA= 3/16 ØB= 3/16					BALL BEARING OR BRONZE BEARING			

BALL BEARINGS UNITS	BRONZE BEARINGS UNITS	PITCH	SHAFT SIZE		NOMINAL RATIO	C CENTER	D HEIGHT	MAXIMUM OUTPUT TORQUE (OZ.-IN.)
STOCK NO.	STOCK NO.		ØA	ØB				
HX48B3-1 HX48B3-2 HX48B3-3	HX48P3-1 HX48P3-2 HX48P3-3	48 HELICAL	.1872	.1872	1:1	.5895	2-1/64	73
					2:1	.8841	2-19/32	
					3:1	1.1787	3-3/16	

SHAFT SIZE					TYPE			
ØA= 1/4 ØB= 1/4					BALL BEARING OR BRONZE BEARING			

BALL BEARINGS UNITS	BRONZE BEARINGS UNITS	PITCH	SHAFT SIZE		NOMINAL RATIO	C CENTER	D HEIGHT	MAXIMUM OUTPUT TORQUE (OZ.-IN.)
STOCK NO.	STOCK NO.		ØA	ØB				
HX48B4-1 HX48B4-2 HX48B4-3	HX48P4-1 HX48P4-2 HX48P4-3	48 HELICAL	.2497	.2497	1:1	.5895	2-1/64	130
					2:1	.8841	2-19/32	
					3:1	1.1787	3-3/16	

MITER GEARBOXES

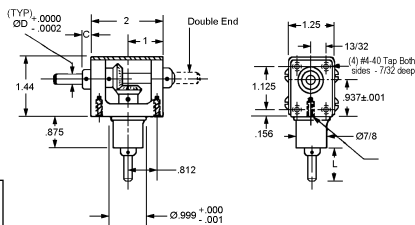
SHAFT SIZE 1/8", 3/16" AND 1/4"

SHAFT SIZE	RATIOS	TYPE
1/8"	1:1	BALL BEARING OR BRONZE BEARING

MATERIAL:

Housing
Shafts and Hardware
Bearings
Gears
Lubrication

Aluminum
Stainless Steel
Stainless Steel or Bronze
Stainless Steel and Aluminum
MIL. Spec. Oil and Grease



Consult Berg's Engineering Department for higher torque units.

ABEC 7 BALL BEARING	OIL-LESS BRONZE BEARING UNIT				SHAFT END STYLE	R.P.M. (MAX.)	TORQUE (MAX.)
STOCK NO.	STOCK NO.	ØD	C	L			
MX-1 MX-1-D	MX-1B MX-1B-D	.1247	.187	.71	SINGLE DOUBLE	1000	200 OZ.IN.

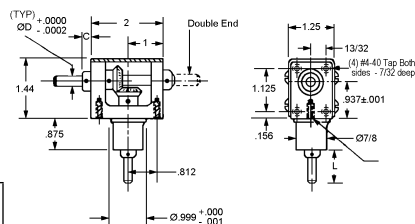


SHAFT SIZE	RATIOS	TYPE
3/16"	1:1	BALL BEARING OR BRONZE BEARING

MATERIAL:

Housing
Shafts and Hardware
Bearings
Gears
Lubrication

Aluminum
Stainless Steel
Stainless Steel or Bronze
Stainless Steel and Aluminum
MIL. Spec. Oil and Grease



Consult Berg's Engineering Department for higher torque units.

ABEC 7 BALL BEARING	OIL-LESS BRONZE BEARING UNIT				SHAFT END STYLE	R.P.M. (MAX.)	TORQUE (MAX.)
STOCK NO.	STOCK NO.	ØD	C	L			
MX-2 MX-2-D	MX-2B MX-2B-D	.1872	.220	.87	SINGLE DOUBLE	2000	300 OZ.IN.

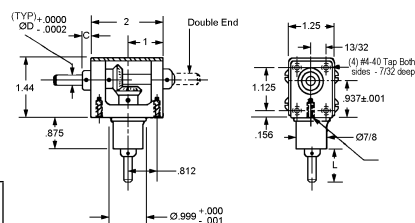


SHAFT SIZE	RATIOS	TYPE
1/4"	1:1	BALL BEARING OR BRONZE BEARING

MATERIAL:

Housing
Shafts and Hardware
Bearings
Gears
Lubrication

Aluminum
Stainless Steel
Stainless Steel or Bronze
Stainless Steel and Aluminum
MIL. Spec. Oil and Grease



Consult Berg's Engineering Department for higher torque units.

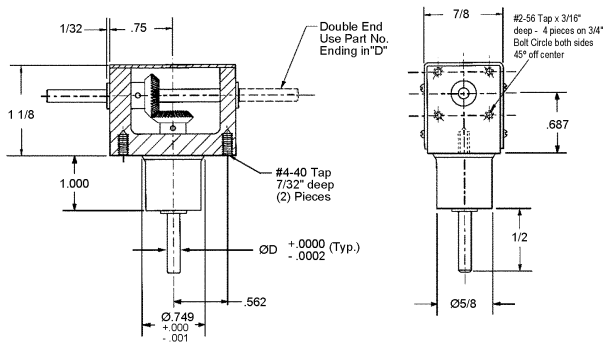
ABEC 7 BALL BEARING	OIL-LESS BRONZE BEARING UNIT				SHAFT END STYLE	R.P.M. (MAX.)	TORQUE (MAX.)
STOCK NO.	STOCK NO.	ØD	C	L			
MX-3 MX-3-D	MX-3B MX-3B-D	.2497	.250	1.03	SINGLE DOUBLE	2500	500 OZ.IN.



MINIATURE MITER GEARBOXES

SHAFT SIZE 1/8"

SHAFT SIZE	RATIOS	TYPE
1/8"	1:1	BALL BEARING OR BRONZE BEARING



MATERIAL:

Housing	Aluminum
Shafts and Hardware	Stainless Steel
Bearings	Stainless Steel or Bronze
Gears	Stainless Steel and Aluminum
Lubrication	MIL. Spec. Oil and Grease

ABEC 7 BALL BEARING	OIL-LESS BRONZE BEARING UNIT				
STOCK NO.	STOCK NO.	ØD	SHAFT END STYLE	R.P.M. (MAX.)	TORQUE (MAX.)
MX-4	MX-4B	.1247	SINGLE	1000	100
MX-4-D	MX-4B-D	.1247	DOUBLE		OZ. IN.

Consult Berg's Engineering Department for higher torque units.
Anti-Backlash units available on request.



BEVEL GEARBOXES

SHAFT SIZE 1/8", 3/16" AND 1/4"

SHAFT SIZE		RATIOS								TYPE		
1/8"		FROM 1:1 TO 1:3								BALL BEARING OR BRONZE BEARING		

ABEC 7 BALL BEARING		OIL-LESS BRONZE BEARING UNIT		NOMINAL RATIO	ØD	B	C	E	F	G	H	A	RPM (MAX.)	STATIC TORQUE (MAX.)
STOCK NO.	STOCK NO.													
MX-5	MX-5B	1:1												
MX-6	MX-6B	1:2												
MX-7	MX-7B	1:3	.1247	2-3/4	1-7/8	1-5/8	1-7/8	13/16	1-7/16	1-11/16	1-15/16	1.000	1000	60 OZ. IN.

- Maximum backlash 10 minutes
- Units can be driven in either direction from any shaft

MATERIAL: Housing
Shafts and Hardware
Bearings
Gears
Lubrication

Aluminum
Stainless Steel
Stainless Steel or Bronze
Stainless Steel and Aluminum
MIL. Spec. Oil and Grease

SHAFT SIZE		RATIOS								TYPE		
3/16"		FROM 1:1 TO 1:3								BALL BEARING OR BRONZE BEARING		

ABEC 7 BALL BEARING		OIL-LESS BRONZE BEARING UNIT		NOMINAL RATIO	ØD	B	C	E	F	G	H	A	RPM (MAX.)	STATIC TORQUE (MAX.)
STOCK NO.	STOCK NO.													
MX-8	MX-8B	1:1												
MX-9	MX-9B	1:2												
MX-10	MX-10B	1:3	.1872	2-3/4	1-7/8	1-5/8	1-7/8	13/16	1-7/16	1-11/16	1-15/16	1.000	2000	80 OZ. IN.

- Maximum backlash 10 minutes
- Units can be driven in either direction from any shaft

MATERIAL: Housing
Shafts and Hardware
Bearings
Gears
Lubrication

Aluminum
Stainless Steel
Stainless Steel or Bronze
Stainless Steel and Aluminum
MIL. Spec. Oil and Grease

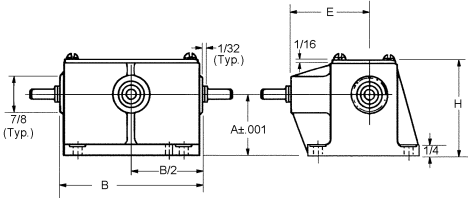
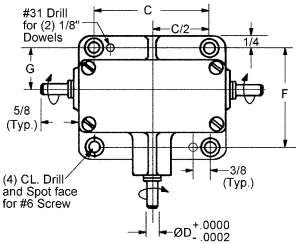
SHAFT SIZE		RATIOS								TYPE		
1/4"		FROM 1:1 TO 1:3								BALL BEARING OR BRONZE BEARING		

ABEC 7 BALL BEARING		OIL-LESS BRONZE BEARING UNIT		NOMINAL RATIO	ØD	B	C	E	F	G	H	A	RPM (MAX.)	STATIC TORQUE (MAX.)
STOCK NO.	STOCK NO.													
MX-11	MX-11B	1:1												
MX-12	MX-12B	1:2												
MX-13	MX-13B	1:3	.2498	3-1/2	2-5/8	2	2-1/4	15/16	2	2-5/16	2-9/16	1.500	2500	100 OZ. IN.

- Maximum backlash 10 minutes
- Units can be driven in either direction from any shaft

MATERIAL: Housing
Shafts and Hardware
Bearings
Gears
Lubrication

Aluminum
Stainless Steel
Stainless Steel or Bronze
Stainless Steel and Aluminum
MIL. Spec. Oil and Grease



SERVO GEARBOXES

SHAFT SIZE 1/8"

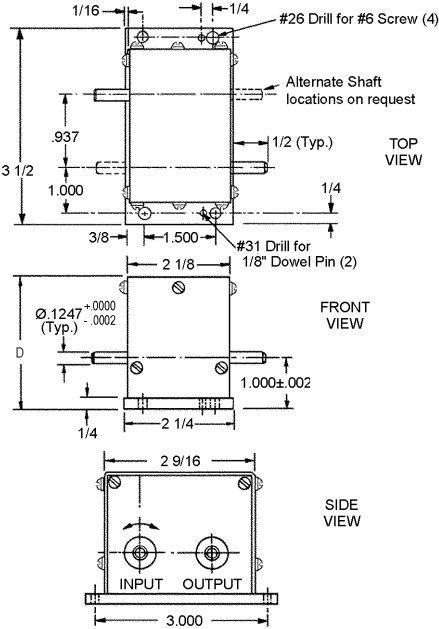
SHAFT SIZE	RATIOS	TYPE
1/8"	2:1 TO 625:1	BALL BEARING OR BRONZE BEARING



Special units available on request.
Anti-Backlash gear - Output End
Slip Clutch included - Input End
Contact Berg's Engineering Department for recommendations for use as a Speed Increaser.

• See instructions below to order alternate shaft locations.

ABEC 7 BALL BEARINGS UNITS	BRONZE BEARINGS UNITS			
STOCK NO.	STOCK NO.	NOMINAL RATIO	D HEIGHT	DIRECTION ROTATION
SX-B2-1	SX-P2-1	2:1	2-1/2	SAME
SX-B2-2	SX-P2-2	3:1		
SX-B2-3	SX-P2-3	4:1		
SX-B2-4	SX-P2-4	5:1		
SX-B2-5	SX-P2-5	6:1		
SX-B2-6	SX-P2-6	7:1		
SX-B2-7	SX-P2-7	8:1		
SX-B2-8	SX-P2-8	9:1		
SX-B2-9	SX-P2-9	10:1		
SX-B2-10	SX-P2-10	12:1		
SX-B2-11	SX-P2-11	15:1		
SX-B2-12	SX-P2-12	16:1		
SX-B2-13	SX-P2-13	20:1		
SX-B2-14	SX-P2-14	25:1		
SX-B2-15	SX-P2-15	30:1	2-5/8	OPPOSITE
SX-B2-16	SX-P2-16	32:1		
SX-B2-17	SX-P2-17	36:1		
SX-B2-18	SX-P2-18	40:1		
SX-B2-19	SX-P2-19	45:1		
SX-B2-20	SX-P2-20	48:1		
SX-B2-21	SX-P2-21	50:1		
SX-B2-22	SX-P2-22	60:1		
SX-B2-23	SX-P2-23	64:1		
SX-B2-24	SX-P2-24	75:1		
SX-B2-25	SX-P2-25	80:1		
SX-B2-26	SX-P2-26	100:1		
SX-B2-27	SX-P2-27	125:1		
SX-B2-28	SX-P2-28	72:1	3-5/16	SAME
SX-B2-29	SX-P2-29	90:1		
SX-B2-30	SX-P2-30	96:1		
SX-B2-31	SX-P2-31	128:1		
SX-B2-32	SX-P2-32	150:1		
SX-B2-33	SX-P2-33	180:1		
SX-B2-34	SX-P2-34	200:1		
SX-B2-35	SX-P2-35	250:1		
SX-B2-36	SX-P2-36	256:1		
SX-B2-37	SX-P2-37	300:1		
SX-B2-38	SX-P2-38	375:1		
SX-B2-39	SX-P2-39	400:1		
SX-B2-40	SX-P2-40	500:1		
SX-B2-41	SX-P2-41	625:1		



Alternate Shaft Locations

Add **Style Letter** to complete stock number, if different from that shown.

Style:

- O = Opposite of as shown
- R = In and Out on R.H. side only
- L = In and Out on L.H. side only
- A = In and Out on all sides

Send drawing if other than listed above.

Backlash

At Output Shaft

- Ball Bearing - 15 Minutes Max.
- Bronze Bearing - 30 Minutes Max.

Materials

Housing and Cover	Aluminum Anodized
Gears	Stainless Steel and Aluminum
Shafts and Hardware	Stainless Steel
Bearings	Stainless Steel or Bronze
Lubrication	MIL. Spec. Oil and Grease

Maximum Speed

5000 RPM

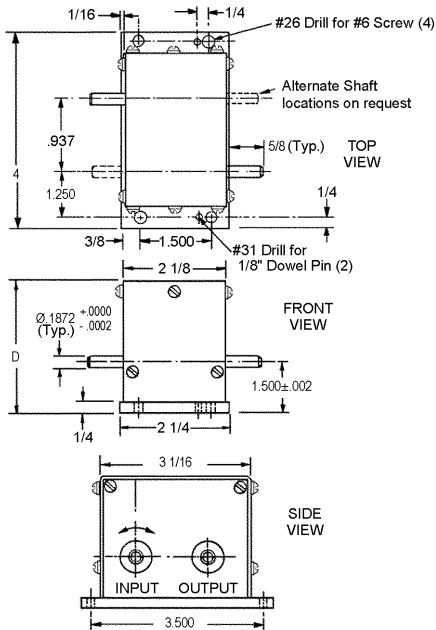
Maximum Output Torque

300 Oz. In.

SERVO GEARBOXES

SHAFT SIZE 3/16"

SHAFT SIZE	RATIOS	TYPE
3/16"	2:1 TO 625:1	BALL BEARING OR BRONZE BEARING



Alternate Shaft Locations

Add **Style Letter** to complete stock number, if different from that shown.

Style:

- O = Opposite of as shown
- R = In and Out on R.H. side only
- L = In and Out on L.H. side only
- A = In and Out on all sides

Send drawing if other than listed above.

Backlash

At Output Shaft

- Ball Bearing - 15 Minutes Max.
- Bronze Bearing - 30 Minutes Max.

Special units available on request.

Anti-Backlash gear - Output End

Slip Clutch included - Input End

Contact Berg's Engineering Department for recommendations for use as a Speed Increaser.

- See instructions below to order alternate shaft locations.

ABEC 7 BALL BEARINGS UNITS	BRONZE BEARINGS UNITS			
STOCK NO.	STOCK NO.	NOMINAL RATIO	D HEIGHT	DIRECTION ROTATION
SX-B3-1	SX-P3-1	2:1	3-3/8	SAME
SX-B3-2	SX-P3-2	3:1		
SX-B3-3	SX-P3-3	4:1		
SX-B3-4	SX-P3-4	5:1		
SX-B3-5	SX-P3-5	6:1		
SX-B3-6	SX-P3-6	7:1		
SX-B3-7	SX-P3-7	8:1		
SX-B3-8	SX-P3-8	9:1		
SX-B3-9	SX-P3-9	10:1		
SX-B3-10	SX-P3-10	12:1		
SX-B3-11	SX-P3-11	15:1		
SX-B3-12	SX-P3-12	16:1		
SX-B3-13	SX-P3-13	20:1		
SX-B3-14	SX-P3-14	25:1		
SX-B3-15	SX-P3-15	30:1	3-3/8	OPPOSITE
SX-B3-16	SX-P3-16	32:1		
SX-B3-17	SX-P3-17	36:1		
SX-B3-18	SX-P3-18	40:1		
SX-B3-19	SX-P3-19	45:1		
SX-B3-20	SX-P3-20	48:1		
SX-B3-21	SX-P3-21	50:1		
SX-B3-22	SX-P3-22	60:1		
SX-B3-23	SX-P3-23	64:1		
SX-B3-24	SX-P3-24	75:1		
SX-B3-25	SX-P3-25	80:1		
SX-B3-26	SX-P3-26	100:1		
SX-B3-27	SX-P3-27	125:1		
SX-B3-28	SX-P3-28	72:1	4-9/32	SAME
SX-B3-29	SX-P3-29	90:1		
SX-B3-30	SX-P3-30	96:1		
SX-B3-31	SX-P3-31	128:1		
SX-B3-32	SX-P3-32	150:1		
SX-B3-33	SX-P3-33	180:1		
SX-B3-34	SX-P3-34	200:1		
SX-B3-35	SX-P3-35	250:1		
SX-B3-36	SX-P3-36	256:1		
SX-B3-37	SX-P3-37	300:1		
SX-B3-38	SX-P3-38	375:1		
SX-B3-39	SX-P3-39	400:1		
SX-B3-40	SX-P3-40	500:1		
SX-B3-41	SX-P3-41	625:1		

Materials

Housing and Cover	Aluminum Anodized
Gears	Stainless Steel and Aluminum
Shafts and Hardware	Stainless Steel
Bearings	Stainless Steel or Bronze
Lubrication	MIL. Spec. Oil and Grease

Maximum Speed

5000 RPM

Maximum Output Torque

400 Oz. In.

SERVO GEARBOXES

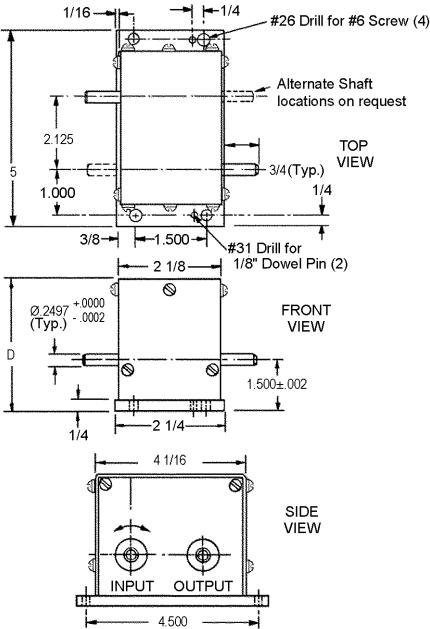
SHAFT SIZE 1/4"

SHAFT SIZE	RATIOS	TYPE
1/4"	2:1 TO 625:1	BALL BEARING OR BRONZE BEARING



Special units available on request.
Anti-Backlash gear - Output End
Slip Clutch included - Input End
Contact Berg's Engineering Department for recommendations for use as a Speed Increaser.

• See instructions below to order alternate shaft locations.



Alternate Shaft Locations

Add **Style Letter** to complete stock number, if different from that shown.

Style:

- O = Opposite of as shown
- R = In and Out on R.H. side only
- L = In and Out on L.H. side only
- A = In and Out on all sides

Send drawing if other than listed above.

Backlash

At Output Shaft

- Ball Bearing - 15 Minutes Max.
- Bronze Bearing - 30 Minutes Max.

ABEC 7 BALL BEARINGS UNITS	BRONZE BEARINGS UNITS			
STOCK NO.	STOCK NO.	NOMINAL RATIO	D HEIGHT	DIRECTION ROTATION
SX-B4-1	SX-P4-1	2:1	3-9/32	SAME
SX-B4-2	SX-P4-2	3:1		
SX-B4-3	SX-P4-3	4:1		
SX-B4-4	SX-P4-4	5:1		
SX-B4-5	SX-P4-5	6:1		
SX-B4-6	SX-P4-6	7:1		
SX-B4-7	SX-P4-7	8:1		
SX-B4-8	SX-P4-8	9:1		
SX-B4-9	SX-P4-9	10:1		
SX-B4-10	SX-P4-10	12:1		
SX-B4-11	SX-P4-11	15:1		
SX-B4-12	SX-P4-12	16:1		
SX-B4-13	SX-P4-13	20:1		
SX-B4-14	SX-P4-14	25:1		
SX-B4-15	SX-P4-15	30:1	3-13/16	OPPOSITE
SX-B4-16	SX-P4-16	32:1		
SX-B4-17	SX-P4-17	36:1		
SX-B4-18	SX-P4-18	40:1		
SX-B4-19	SX-P4-19	45:1		
SX-B4-20	SX-P4-20	48:1		
SX-B4-21	SX-P4-21	50:1		
SX-B4-22	SX-P4-22	60:1		
SX-B4-23	SX-P4-23	64:1		
SX-B4-24	SX-P4-24	75:1		
SX-B4-25	SX-P4-25	80:1		
SX-B4-26	SX-P4-26	100:1		
SX-B4-27	SX-P4-27	125:1		
SX-B4-28	SX-P4-28	72:1	4-13/16	SAME
SX-B4-29	SX-P4-29	90:1		
SX-B4-30	SX-P4-30	96:1		
SX-B4-31	SX-P4-31	128:1		
SX-B4-32	SX-P4-32	150:1		
SX-B4-33	SX-P4-33	180:1		
SX-B4-34	SX-P4-34	200:1		
SX-B4-35	SX-P4-35	250:1		
SX-B4-36	SX-P4-36	256:1		
SX-B4-37	SX-P4-37	300:1		
SX-B4-38	SX-P4-38	375:1		
SX-B4-39	SX-P4-39	400:1		
SX-B4-40	SX-P4-40	500:1		
SX-B4-41	SX-P4-41	625:1		

Materials

Housing and Cover	Aluminum Anodized
Gears	Stainless Steel and Aluminum
Shafts and Hardware	Stainless Steel
Bearings	Stainless Steel or Bronze
Lubrication	MIL. Spec. Oil and Grease

Maximum Speed

5000 RPM

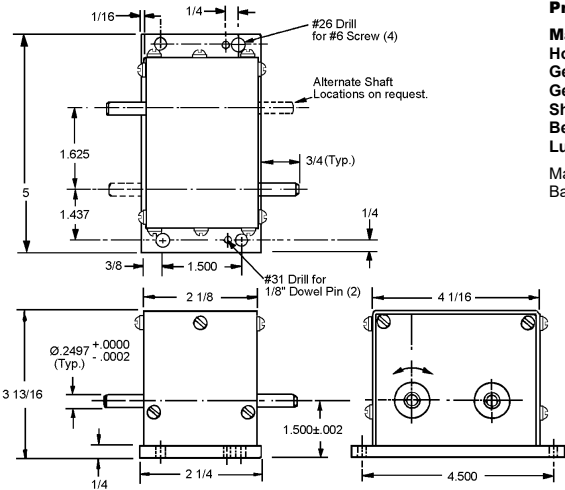
Maximum Output Torque

600 Oz. In.

INTERMITTENT MOTION ASSEMBLIES

SHAFT SIZE 1/4"

SHAFT	PITCH GEARS	TYPE
1/4"	48	BALL BEARING



Precision Geneva Mechanism

Materials:
Housing and Cover - Anodized Aluminum
Geneva - Stainless Steel
Gears - Stainless Steel and Aluminum
Shafts and Hardware - Stainless Steel
Bearings - Stainless Steel - ABEC 7
Lubrication - MIL Spec. Oil and Grease
Max. Input Speed - 300 RPM
Backlash at Output Shaft - 30 Minutes Max.

PRECISION BALL BEARING UNIT	ROTATION OF OUTPUT SHAFT PER EACH 360° REV. OF INPUT
STOCK NUMBER	
GX-1	90 DEGREES
GX-2	60 DEGREES
GX-3	45 DEGREES
GX-4	30 DEGREES
GX-5	22.5 DEGREES
GX-6	10 DEGREES

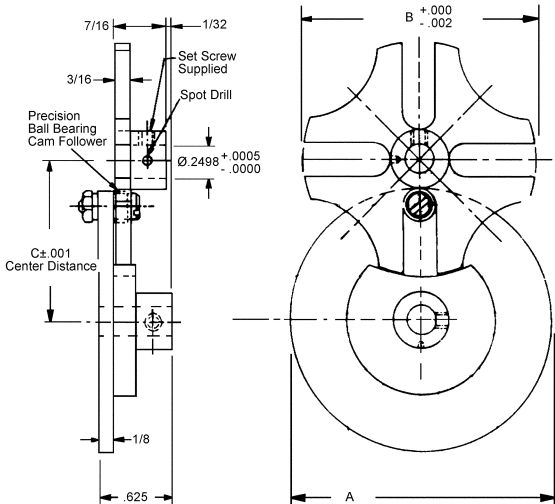
PRECISION BALL BEARING UNIT	ROTATION OF OUTPUT SHAFT PER EACH 360° REV. OF INPUT
STOCK NUMBER	
GX-7	90 DEGREES
GX-8	60 DEGREES
GX-9	45 DEGREES
GX-10	30 DEGREES
GX-11	22.5 DEGREES
GX-12	10 DEGREES



GENEVA MECHANISMS

SHAFT SIZE 1/4"

SHAFT	POINTS	MATERIAL
1/4"	4, 5, 6 AND 8	STAINLESS STEEL



4 POINT DRIVE ILLUSTRATED

STOCK NO.	NO. ROLLERS ON DRIVER	RELATIVE ROTATION DRIVER TO DRIVEN		POINTS ON DRIVEN	MAX. TORQUE (IN OZ.)	MAX OPER ORQUE (IN OZ.)	A	B	C
GM-1	ONE	360°	90°	4	71	35	2-1/4	1.971	1.3824
GM-1A	TWO	180°							
GM-2	ONE	360°	72°	5	110	55	2-1/4	2.470	1.5187
GM-2A	TWO	180°							
GM-3	ONE	360°	60°	6	175	87	2-1/2	3.468	1.9970
GM-3A	TWO	180°							
GM-4	ONE	360°	45°	8	240	120	2	4.083	2.2056
GM-4A	TWO	180°							

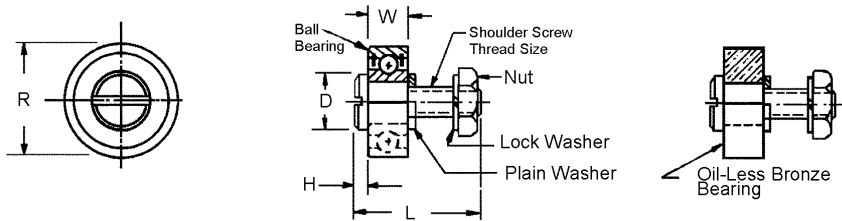
STOCK NO.	DESCRIPTION
JE-1-PH	REPLACEMENT CAM FOLLOWER

5/16" Bore available, call for price, to order, add an "L" to end of Stock Number.



CAM FOLLOWERS

TYPE	MATERIAL	ABEC
BALL BEARING OR BRONZE BEARING	303 STAINLESS STEEL	5



STOCK NO.	R	W	L	D	H	SCREW THREAD	BEARING
JE-1	.2500	.109	.484	3/16	1/8	#4-40	BALL BEARING
JE-2	.3125	.140	.578	7/32	1/8	#4-40	
JE-3	.3750	.156	.593	1/4	1/8	#4-40	
JE-4	.5000	.196	.727	5/16	5/32	#8-32	
JE-5	.6250	.196	.852	3/8	5/32	#10-32	
JE-6	.2500	.140	.484	5/32	3/32	#1-64	
JE-7	.3125	.140	.484	3/16	3/32	#2-56	
JE-1-PH*	.2500	.109	.484	3/16	1/8	#4-40	
JE-B-1	.2500	.093	.483	3/16	1/8	#4-40	BRONZE BEARING
JE-B-3	.3750	.140	.593	1/4	1/8	#4-40	
JE-B-4	.5000	.180	.727	5/16	5/32	#8-32	
JE-B-5	.6250	.180	.852	3/8	5/32	#10-32	

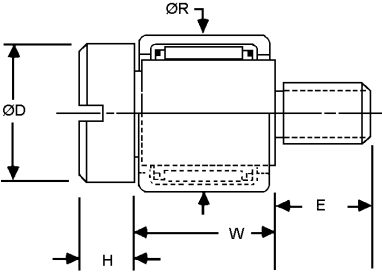


* Hardened shoulder screw, material is 416 Stainless Steel.

ROLLER BEARING CAM FOLLOWERS

TYPE

HEAVY DUTY



STOCK NO.	ØR	W	ØD	H	E	SCREW THREAD
JE-R-1	.2500	.250	7/32	1/8	5/32	#4-40
JE-R-2	.3438	.250	5/16	5/32	3/16	#8-32
JE-R-3	.3438	.375	5/16	5/32	3/16	#8-32
JE-R-4	.4375	.250	3/8	3/16	1/4	#10-32
JE-R-5	.5000	.312	7/16	7/32	7/16	#1/4-20
JE-R-6	.5625	.312	1/2	1/4	1/2	#5/16-18
JE-R-7	.5625	.625	1/2	1/4	1/2	#5/16-18
JE-R-8	.6875	.750	5/8	5/16	5/8	#3/8-16

Materials:

Screw - 416 Stainless Steel

Roller Cup - Case Hardened Steel

Needle Bearings - 52100 Hardened Steel

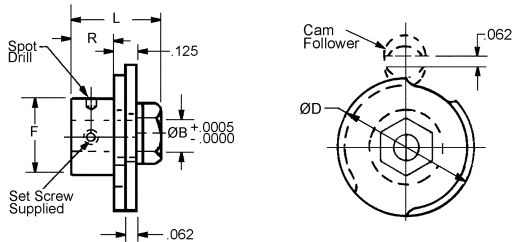
Bearing Cage - Low Carbon Steel

See the Bearings Section of this book for Bearings Specifications.

- High Load
- Low Profile
- Low Friction

ADJUSTABLE CAM ASSEMBLIES

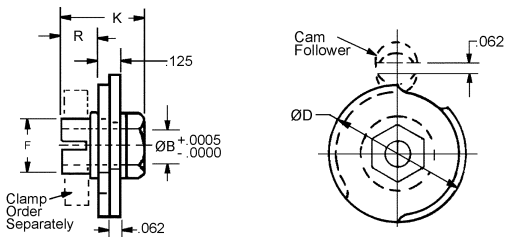
BORE SIZES	TYPE	MATERIAL
1/8" TO 1/2"	PIN HUB	303 STAINLESS STEEL



Cam plates are adjustable from 0° to 180°. Order Cam Follower Separately.

STOCK NO.	B	D	F	L	R
JD-1-P	.1248	11/16	5/16	.61	1/4
JD-2-P	.1873		3/8		
JD-3-P	.2498		1/2		
JD-4-P	.1248	1-1/4	5/16	.61	1/4
JD-5-P	.1873		3/8		
JD-6-P	.2498		1/2		
JD-7-P	.3123	2	1-1/4	1.50	1/2
JD-8-P	.3748		1-1/4		
JD-9-P	.4998		1-1/4		

BORE SIZES	TYPE	MATERIAL
1/8" TO 1/2"	CLAMP STYLE	303 STAINLESS STEEL

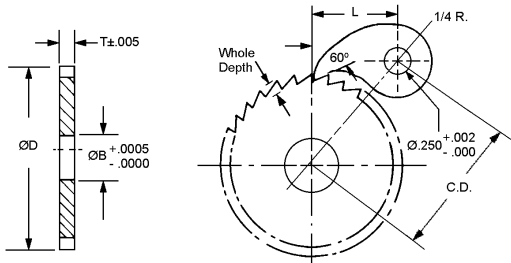


Cam plates are adjustable from 0° to 180°. Order Cam Follower Separately.

STOCK NO.	B	D	F	K	R
CA-1C	.1248	11/16	.188	.61	1/4
CA-2C	.1873		.250		
CA-3C	.2498		.312		
CA-4C	.1248	1-1/4	.188	.61	1/4
CA-5C	.1873		.250		
CA-6C	.2498		.312		
CA-7C	.3123	2	.375	1.25	1/2
CA-8C	.3748		.437		
CA-9C	.4998		.562		

RATCHETS & PAWLS

PITCH	STYLE	MATERIAL
16 to 48	RIGHT HAND OPERATION	STAINLESS STEEL



17-4 PH STAINLESS STEEL HARDENED RC 32-38			416 STAINLESS STEEL
STOCK PAWLS			MOUNTING SHOULDER SCREW (Order Separately)
STOCK NO.	T THICKNESS	L LENGTH	
RP-2 RP-375	.245 .370	3/4 1-5/16	

- For Shoulder Screw Dimensions - See Index
- Ratchets Material - 303 Stainless Steel
- Last number in Stock No. indicate the total number of teeth. Special ratchets and pawls made to order, contact us.

RATCHET STOCK NO.	DIAMETRAL PITCH	OUTSIDE DIA.	BORE	T	C.D. +.06 -.00	WHOLE DEPTH
R16S20-20 R16S20-24 R16S20-32 R16S20-48 R16S20-56 R16S20-64	16 (.1963 CIRC. PITCH)	1.250 1.500 2.000 3.000 3.500 4.000	.6871	.375	1.53 1.60 1.75 2.10 2.30 2.50	.120
R24S6-24 R24S6-30 R24S6-36 R24S6-48 R24S6-72	24 (.1309 CIRC. PITCH)	1.000 1.250 1.500 2.000 3.000	.3748	.250	1.11 1.18 1.26 1.45 1.86	.070
R32S3-24 R32S3-32 R32S3-40 R32S3-48 R32S3-64 R32S3-96	32 (.0932 CIRC. PITCH)	.750 1.000 1.250 1.500 2.000 3.000	.3748	.125	1.04 1.11 1.18 1.26 1.45 1.86	.060
R48S3-36 R48S3-48 R48S3-60 R48S3-72 R48S3-96 R48S3-144	48 (.0654 CIRC. PITCH)	.750 1.000 1.250 1.500 2.000 3.000	.3748	.125	1.05 1.12 1.20 1.28 1.47 1.88	.035



This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.