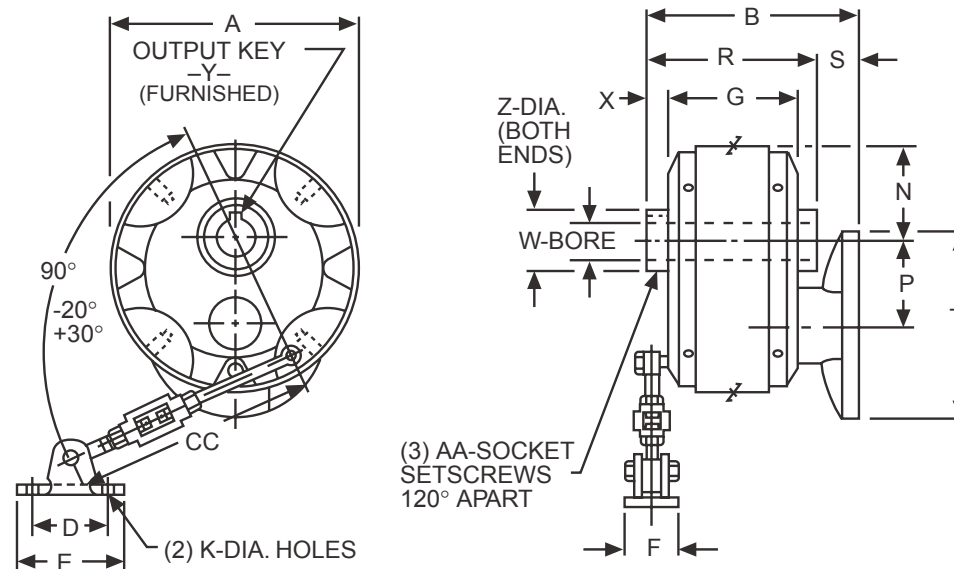


200 Series Flanged Reducer Dimensions

F200 Series; F221-247 Sizes
Hollow Shaft

For ordering information See Page 235.



ALL DIMENSIONS IN INCHES

Size	A	B			D	E	F	G	K	N	P	R	S		
		NEMA Mounting											NEMA Mounting		
		56C 140TC	180TC	210TC									56C 140TC	180TC	210TC
221	6.19	6.13	-	-	2.25	3.31	1.06	3.31	.41	2.19	2.12	4.31	1.81	-	-
226	7.50	6.69	-	-	2.25	3.31	1.06	4.06	.41	2.81	2.60	5.19	1.50	-	-
231	8.88	7.19	8.06	-	2.63	3.69	1.06	4.75	.41	3.44	3.11	5.88	1.31	2.19	-
239	11.19	7.94	9.06	9.06	2.63	3.69	1.06	5.44	.41	4.03	3.89	6.69	1.25	2.38	2.38
247	12.88	-	9.56	10.31	3.00	4.31	1.31	5.94	.94	4.88	4.67	7.31	-	2.25	3.00

Size	T			W +.001 -.000	Output			Z	AA	CC	Optional Reaction Rod Kit	
	NEMA Mounting				X	Y					Item Catalog #	Code
	56C 140TC	180TC	210TC			Sq.	LGTH.					
221	6.56	-	-	1.0000	.50	1/4 x 7/32	1-3/8	1.3750	10-32	18-12	X221-76K	24188
226	6.56	-	-	1.2500	.56	1/4 x 7/32	1-1/2	1.7702	1/4-28	30-24	X226-76K	24190
231	6.56	9.25	-	1.4375	.56	3/8 x 5/16	1-3/4	2.1638	1/4-28	30-24	X231-76K	24192
239	6.56	9.25	10.13	1.9375	.63	1/2 x 3/8	2	2.5575	5/16-24	30-24	X239-76K	24194
247	-	9.25	10.13	2.1875	.69	1/2 x 3/8	2-1/4	2.9512	3/8-24	30-24	X247-76K	24196

Refer to Page 250 for Shaft Kit and for Reaction Rod Kit.
Note: For external reference surfaces, refer to page 249.



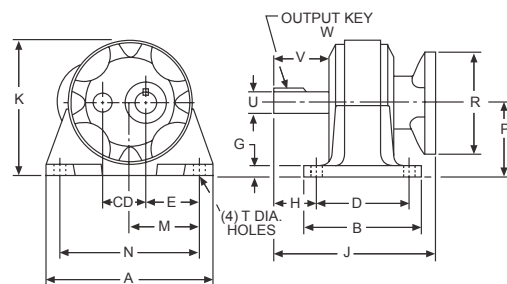
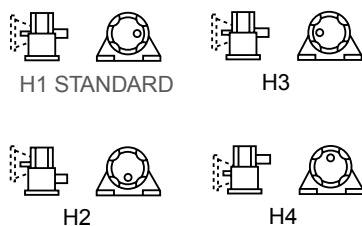
200 Series Flanged Reducer Dimensions

F200 Series; Horizontal Base Projecting Shaft

Parallel Shafts

For ordering information See Page 235.

ASSEMBLY TYPES*



NEMA Mounting	Input	
	Bore +.0015 -.0000	Keyway
56C	.625	3/16 x 3/32
140TC	.875	3/16 x 3/32
180TC	1.125	1/4 x 1/8
210TC	1.375	5/16 x 5/32

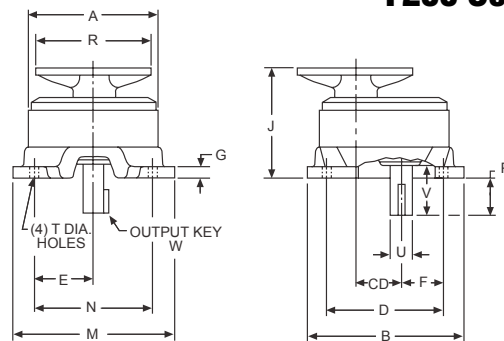
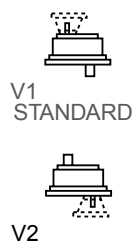
Size	C.D.	A	B	D	E	G	H	J				K	M	N
								NEMA Mounting						
								56C	140TC	180TC	210TC			
221	2.12	8.75	6.00	4.75	2.72	.50	2.16	8.50	—	—	—	6.84	3.63	7.25
226	2.60	11.00	7.38	5.75	3.56	.63	2.59	9.56	9.56	—	—	8.38	4.50	9.00
231	3.11	12.50	8.50	6.75	4.13	.75	2.72	10.34	10.84	11.22	—	9.88	5.13	10.25
239	3.89	15.50	9.75	7.75	4.94	.88	3.38	—	11.84	12.97	12.97	12.34	6.50	13.00
247	4.67	17.50	10.75	8.50	5.94	1.00	3.81	—	13.97	13.53	14.72	14.19	7.50	15.00

Size	P	R				T Holes	Low Speed Shaft				Approx. Weight (Lbs.)	Optional	
		NEMA Mounting					U +.000 -.001	V	W-Key			Base Kit No. (Ref. Pg 249)	Output Shaft Kit (Ref. Pg 248)
		56C	140TC	180TC	210TC				Sq.	LENGTH			
221	3.75	6.56	—	—	—	13/32	1.0000	2.25	1/4	1-1/4	28	X221-11HK	X221-3PK
226	4.62	6.56	6.56	—	—	15/32	1.2500	2.75	1/4	1-5/8	43	X226-11HK	X226-3PK
231	5.44	6.56	6.56	9.25	—	17/32	1.3750	3.00	5/16	1-3/4	69	X231-11HK	X231-3PK
239	6.75	—	6.96	9.25	10.13	19/32	1.8750	3.75	1/2	2	124	X239-11HK	X239-3PK
247	7.75	—	9.25	10.13	10.13	21/32	2.1250	4.25	1/2	2-1/2	166	X247-11HK	X247-3PK

F200 Series; Vertical Base Projecting Shaft

Parallel Shafts

ASSEMBLY TYPES*



NEMA Mounting	Input	
	Bore +.0015 -.0000	Keyway
56C	.625	3/16 x 3/32
140TC	.875	3/16 x 3/32
180TC	1.125	1/4 x 1/8
210TC	1.375	5/16 x 5/32

ALL DIMENSIONS IN INCHES

Size	C.D.	A	B	D	E	F	G	J				M	N
								NEMA Mounting					
								56C	140TC	180TC	210TC		
221	2.12	6.19	8.00	5.75	2.88	1.97	.50	6.53	—	—	—	8.25	5.75
226	2.60	7.50	9.63	7.00	3.50	2.56	.63	7.13	7.13	—	—	9.88	7.00
231	3.11	8.88	11.00	8.25	4.13	3.13	.75	7.69	8.19	8.88	—	11.25	8.25
239	3.89	11.19	13.63	10.25	5.13	3.56	.88	—	8.75	9.88	9.88	13.88	10.25
247	4.67	12.88	15.50	11.75	5.88	4.31	1.00	—	—	10.31	9.88	16.00	11.75

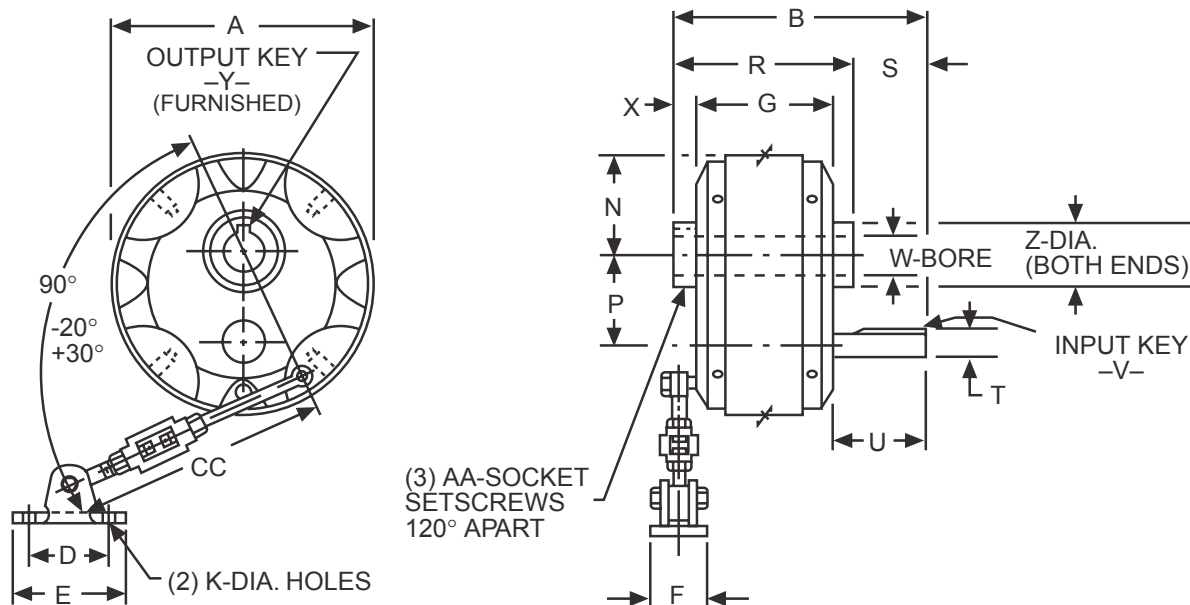
Size	P	R				T Holes	Low Speed Shaft				Approx. Weight (Lbs.)	Optional	
		NEMA Mounting					U +.000 -.001	V	W-Key			Base Kit No. (Ref. Pg 249)	Output Shaft Kit (Ref. Pg 248)
		56C	140TC	180TC	210TC				Sq.	LENGTH			
221	1.97	6.56	—	—	—	13/32	1.0000	2.25	1/4	1-1/4	28	X221-11VK	X221-3PK
226	2.44	6.56	6.56	—	—	15/32	1.2500	2.75	1/4	1-5/8	43	X226-11VK	X226-3PK
231	2.66	6.56	6.56	9.25	—	17/32	1.3750	3.00	5/16	1-3/4	69	X231-11VK	X231-3PK
239	3.09	—	6.96	9.25	10.13	19/32	1.8750	3.75	1/2	2	124	X239-11VK	X239-3PK
247	3.66	—	9.25	10.13	10.13	21/32	2.1250	4.25	1/2	2-1/2	166	X247-11VK	X247-3PK

*Assemblies define output (slow speed) shaft projection with respect to input (high speed) shaft and mounting surface, viewed from end of output shaft. Input may be rotated clockwise or counterclockwise. Input and Output shafts of Single reduction (S) units rotate in opposite directions, Double reduction (D) units in the same direction.

200 Series Non-Flanged Reducer Dimensions

200 Series; 221-247 Sizes
Hollow Shaft

For ordering information See Page 235.



ALL DIMENSIONS IN INCHES

Size	A	B	D	E	F	G	K	N	P	R	S
221	6.19	5.88	2.25	3.31	1.06	3.31	.41	2.19	2.12	4.31	1.50
226	7.50	7.50	2.25	3.31	1.06	4.06	.41	2.19	2.60	5.18	2.31
231	8.88	8.37	2.62	3.69	1.06	4.75	.41	3.44	3.11	5.88	2.50
239	11.19	10.25	2.62	3.69	1.06	5.44	.41	4.03	3.89	6.69	3.56
247	12.88	10.88	3.00	4.31	1.31	5.94	.41	4.88	4.67	7.31	3.56

Size	High Speed Shaft				Low Speed Shaft				Z	AA	CC Max-Min	Optional* Reaction Rod Kit	
	T +.000 -.001	U	V		W +.001 -.000	X	Y					Catalog Number	Item Code
			Sq.	Lgth.			Size	Lgth.					
221	.5000	2.00	1/8	7/8	1.0000	.50	1/4 x 7/32	1-3/8	1.3750	#10-32	18-12	X221-76K	24188
226	.6250	2.88	3/16	1	1.2500	.56	1/4 x 7/32	1-1/2	1.7702	1/4-28	30-24	X226-76K	24190
231	.9375	3.06	1/4	1-1/4	1.4375	.56	3/8 x 5/16	1-3/4	2.1638	1/4-28	30-24	X231-76K	24192
239	1.3750	4.19	5/16	2-7/16	1.9375	.62	1/2 x 3/8	2	2.5575	5/16-24	30-24	X239-76K	24194
247	1.5675	4.25	3/8	2-1/4	2.1875	.69	1/2 x 3/8	2-1/4	2.9512	3/8-24	30-24	X247-76K	24196

* See page 250 for dimensions



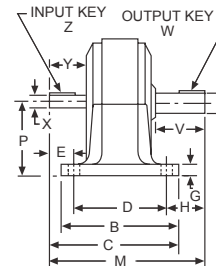
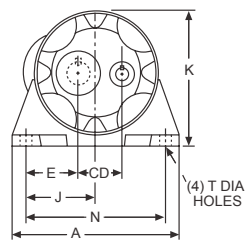
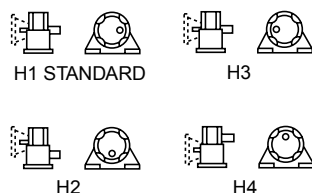
200 Series Non-Flanged Reducer Dimensions

200 Series; Horizontal Base Projecting Shaft

For ordering information See Page 235.

Parallel Shafts

ASSEMBLY TYPES*



ALL DIMENSIONS IN INCHES

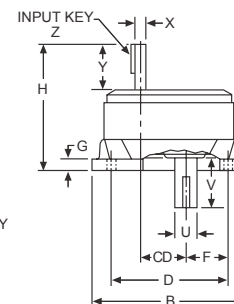
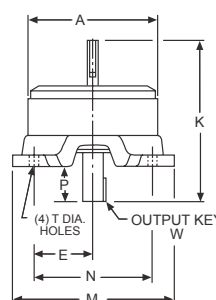
Size	C.D.	A	B	C	D	E	G	H	J	K	M	N	P
221	2.12	8.75	6.00	6.72	4.75	2.72	.50	2.16	3.63	6.84	8.25	7.25	3.75
226	2.60	11.00	7.38	8.59	5.75	3.56	.63	2.59	4.50	8.38	10.38	9.00	4.62
231	3.11	12.50	8.50	9.69	6.75	4.13	.75	2.72	5.13	9.88	11.53	10.25	5.44
239	3.89	15.50	9.75	11.78	7.75	4.94	.88	3.38	6.50	12.34	14.16	13.00	6.75
247	4.67	17.50	10.75	12.59	8.50	5.94	1.00	3.81	7.50	14.19	15.28	15.00	7.75

Size	C.D.	T Holes	Low Speed Shaft				High Speed Shaft				Approx. Weight (Lbs.)	Optional	
			U +.000 -.001	V	W-Key		X +.000 -.001	Y	Z-Key			Base Kit No. (Ref. page 251)	Output Shaft Kit No. (Ref. page 250)
					Sq.	Lgth.			Sq.	Lgth.			
221	2.12	13/32	1.0000	2.25	1/4	1-1/4	.5000	2.06	1/8	7/8	22	X221-11HK	X221-3PK
226	2.60	15/32	1.2500	2.75	1/4	1-1/4	.6250	2.88	3/16	1	39	X226-11HK	X226-3PK
231	3.11	17/32	1.3750	3.00	5/16	1-3/4	.9375	3.06	1/4	1-1/4	60	X231-11HK	X231-3PK
239	3.89	19/32	1.8750	3.75	1/2	2	1.3750	4.19	5/16	2-7/16	104	X239-11HK	X239-3PK
247	4.67	21/32	2.1250	4.25	1/2	2-1/2	1.5625	4.25	3/8	2-1/4	148	X247-11HK	X247-3PK

200 Series; Vertical Base Projecting Shaft

Parallel Shafts

ASSEMBLY TYPES*



ALL DIMENSIONS IN INCHES

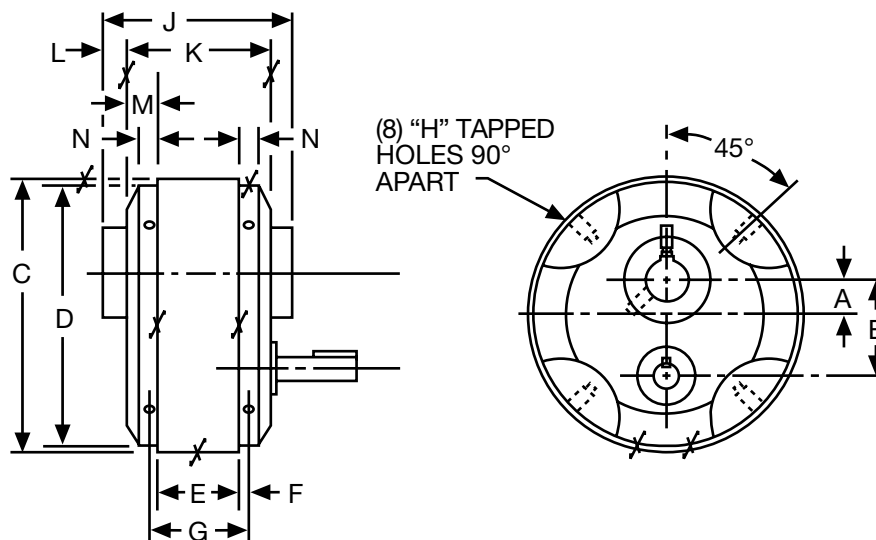
Size	C.D.	A	B	D	E	F	G	H	K	M	N	P
221	2.12	6.19	8.00	5.75	2.88	1.97	.50	6.28	8.25	8.25	5.75	1.97
226	2.60	7.50	9.63	7.00	3.50	2.56	.63	7.94	10.38	9.88	7.00	2.44
231	3.11	8.88	11.00	8.25	4.13	3.13	.75	8.88	11.53	11.25	8.25	2.66
239	3.89	11.19	13.63	10.25	5.13	3.56	.88	11.06	14.16	13.88	10.25	3.09
247	4.67	12.88	15.50	11.75	5.88	4.31	1.00	11.63	15.28	16.00	11.75	3.66

Size	C.D.	T Holes	Low Speed Shaft				High Speed Shaft				Approx. Weight (Lbs.)	Optional	
			U +.000 -.001	V	W-Key		X +.000 -.001	Y	Z-Key			Base Kit No. (Ref. page 251)	Output Shaft Kit No. (Ref. page 250)
					Sq.	Lgth.			Sq.	Lgth.			
221	2.12	13/32	1.0000	2.25	1/4	1-1/4	.5000	2.06	1/8	7/8	22	X221-11VK	X221-3PK
226	2.60	15/32	1.2500	2.75	1/4	1-1/4	.6250	2.88	3/16	1	39	X226-11VK	X226-3PK
231	3.11	17/32	1.3750	3.00	5/16	1-3/4	.9375	3.06	1/4	1-1/4	60	X231-11VK	X231-3PK
239	3.89	19/32	1.8750	3.75	1/2	2	1.3750	4.19	5/16	2-7/16	104	X239-11VK	X239-3PK
247	4.67	21/32	2.1250	4.25	1/2	2-1/2	1.5625	4.25	3/8	2-1/4	148	X247-11VK	X247-3PK

* Assemblies define output (slow speed) shaft projection with respect to input (high speed) shaft and mounting surface, viewed from end of output shaft. Input may be rotated clockwise or counterclockwise.
 • Input and Output shafts of Single reduction (S) units rotate in opposite directions, Double reduction (D) units in the same direction.

200 Series Optimount® Dimensions

200 Series; 221-247 Sizes
External Reference Surfaces



ALL DIMENSIONS IN INCHES

Size	A ±.005	B +.002 -.000	C* +.000 -.010	D* +.000 -.003	E* +.000 -.004	F	G	H		J	K	L	M	N
								Size	Depth					
221	.904	2.123	6.193	5.998	2.000	.19	2.38	1/4-20	9/16	4.31	3.31	.50	.66	.44
226	.936	2.595	7.495	7.248	2.062	.38	2.81	5/16-18	5/8	5.19	4.06	.56	1.00	.69
231	1.000	3.114	8.870	8.624	2.625	.34	3.31	3/8-16	3/4	5.88	4.75	.56	1.06	.69
239	1.560	3.893	11.182	10.936	3.312	.34	4.00	3/8-16	3/4	6.69	5.44	.62	1.06	.69
247	1.560	4.671	12.870	12.624	3.687	.38	4.44	7/16-14	7/8	7.31	5.94	.69	1.12	.75

*Tolerance on Dimensions Apply Only to Housing before Painting.

