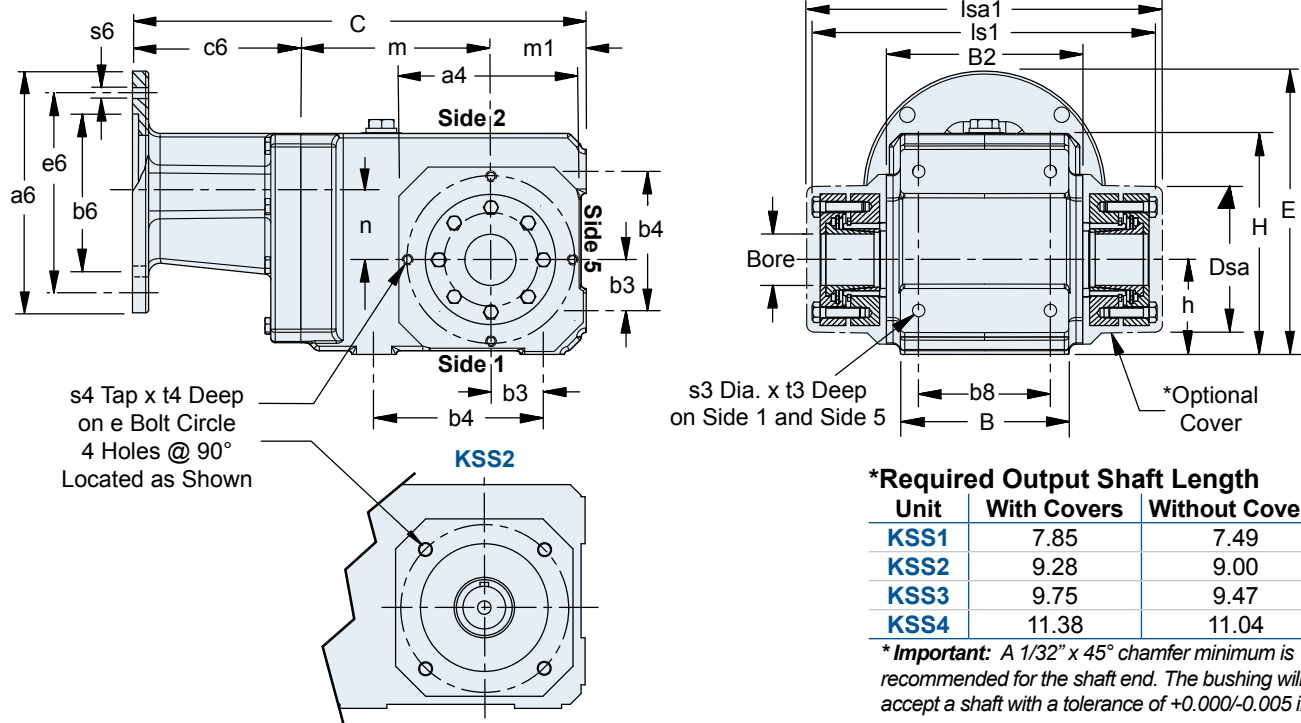


KSS Series: RIGHT ANGLE Solid Shaft / Hollow Output

“W” Double Bushing Output with “G” Tapped Holes around Output Housing



***Required Output Shaft Length**

Unit	With Covers	Without Covers
KSS1	7.85	7.49
KSS2	9.28	9.00
KSS3	9.75	9.47
KSS4	11.38	11.04

** Important: A 1/32" x 45° chamfer minimum is recommended for the shaft end. The bushing will accept a shaft with a tolerance of +0.000/-0.005 in.*

Table 1 KSS Series – “W” Double Wobble-Free Bushing Output with “G” Tapped Holes Housing – Dimensions (in)

Base Module	a4	B2	b3	b4	b8	Dsa	e	H	h	Is1	Isa1	m1	s3	s4	t3	t4
KSS1	4.53	4.17	1.18	3.54	2.76	3.07	3.54	4.96	2.36	7.64	7.80	2.36	M8x1.25	M8x1.25	0.51	0.51
KSS2	4.57	5.28	1.38	4.53	3.54	3.92	4.53	5.94	2.56	8.90	9.36	2.56	M10x1.50	M8x1.25	0.63	0.51
KSS3	5.20	5.75	1.38	5.12	4.13	3.78	4.53	6.56	2.95	9.41	9.95	2.95	M10x1.50	M8x1.25	0.63	0.55
KSS4	5.99	6.81	1.97	6.10	4.72	4.33	5.12	7.89	3.54	11.06	11.60	3.54	M12x1.75	M10x1.5	0.75	0.63

Table 2 KSS Series – “WG” Style Motor Adapter Dimensions (in)

Base Module	NEMA												Wt. lbs.
	C-Face	a6	B	b6	C	c6	E	e6	m	n	s6		
KSS102WG_MS1R050	56C	6.50	3.54	4.500	10.55	3.81	7.03	5.87	4.38	1.42	0.41	29	
KSS202WG_MS2R050	56C	6.50	4.41	4.500	12.20	4.53	7.62	5.87	5.11	1.81	0.41	40	
KSS202WG_MS2R140	143/145TC	6.50	4.41	4.500	12.20	4.53	7.62	5.87	5.11	1.81	0.41	40	
KSS203WG_MS2R050	56C	6.50	4.53	4.500	13.07	3.31	6.64	5.87	7.20	0.83	0.41	53	
KSS302WG_MS3R050	56C	6.50	4.53	4.500	13.23	4.37	8.29	5.87	5.91	2.09	0.41	55	
KSS302WG_MS3R140	143/145TC	6.50	5.51	4.500	13.23	4.37	8.29	5.87	5.91	2.09	0.41	55	
KSS302WG_MS3R180	182/184TC	9.00	5.51	4.500	14.57	6.59	10.91	7.25	5.03	2.07	0.55	67	
KSS303WG_MS3R050	56C	6.50	5.51	4.500	15.22	4.00	6.83	5.87	8.27	0.63	0.41	55	
KSS303WG_MS3R140	143/145TC	6.50	5.51	4.500	15.22	4.00	6.83	5.87	8.27	0.63	0.41	55	
KSS402WG_MS4R050	56C	6.50	5.71	4.500	14.76	4.53	9.96	5.87	6.69	2.36	0.41	84	
KSS402WG_MS4R140	143/145TC	6.50	5.71	4.500	14.76	4.53	9.96	5.87	6.69	2.36	0.41	84	
KSS402WG_MS4R180	182/184TC	9.00	5.71	4.500	15.79	5.55	10.91	7.25	5.03	2.07	0.55	89	
KSS403WG_MS4R050	56C	6.50	5.71	4.500	16.46	3.86	8.39	5.87	9.06	0.98	0.41	94	
KSS403WG_MS4R140	143/145TC	6.50	5.71	4.500	16.46	3.86	8.39	5.87	9.06	0.98	0.41	94	

Table 3 “WFBSS” Double Side Bushings Stock Bore Sizes

Base Module	Inches						Metric – mm			
	1	1-3/16	1-1/4	1-3/8	1-7/16	1-1/2	25	30	35	40
KSS1	WFBSS1-100	—	—	—	—	—	WFBSS1-25	—	—	—
KSS2	WFBSS2-100	WFBSS2-103	WFBSS2-104	WFBSS2-106	WFBSS2-107	WFBSS2-108	—	WFBSS2-30	WFBSS2-35	—
KSS3	WFBSS3-100	WFBSS3-103	WFBSS3-104	WFBSS3-106	WFBSS3-107	WFBSS3-108	—	WFBSS3-30	WFBSS3-35	—
KSS4	—	WFBSS4-103	WFBSS4-104	WFBSS4-106	WFBSS4-107	WFBSS4-108	—	—	—	WFBSS4-40

Dimensional Data

IP69K
STAINLESS STEEL



“W” Double Bushing Output with “GD” Torque Arm Refer to page 24 for all other dimensions

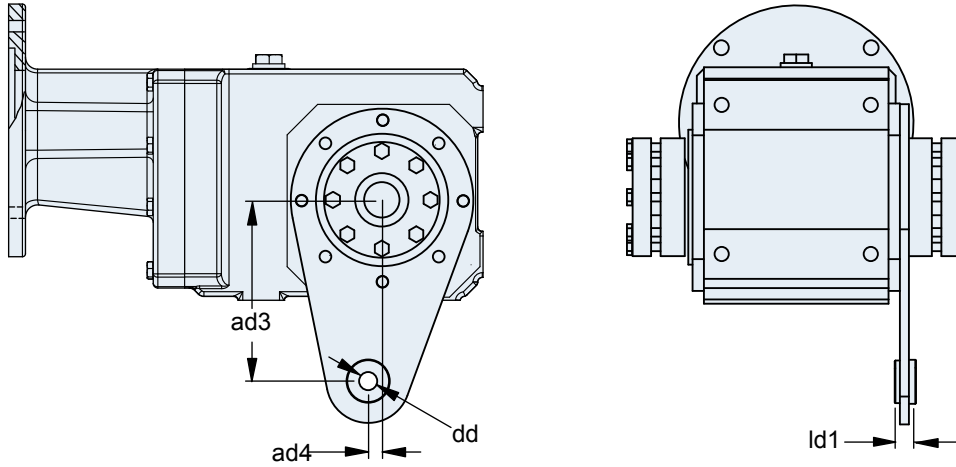


Table 4 “GD” Torque Arm

Base Module	Kit Number	mm			
		ad3	ad4	dd	ld1
KSS1	CS213227	130	10	13	15
KSS2	CS129573	130	10	13	15
KSS3	CS129573	130	10	13	15
KSS4	CS139679	130	10	13	15

Note: a bushing output plastic cover cannot be used on the Torque Arm side of speed reducer. A plastic cover can only be used on the side opposite the torque arm.

KSS

RIGHT ANGLE Solid Shaft / Hollow Output

KSS Series: RIGHT ANGLE Solid Shaft / Hollow Output

“A” Hollow Bore Output with “G” Tapped Holes around Output Housing

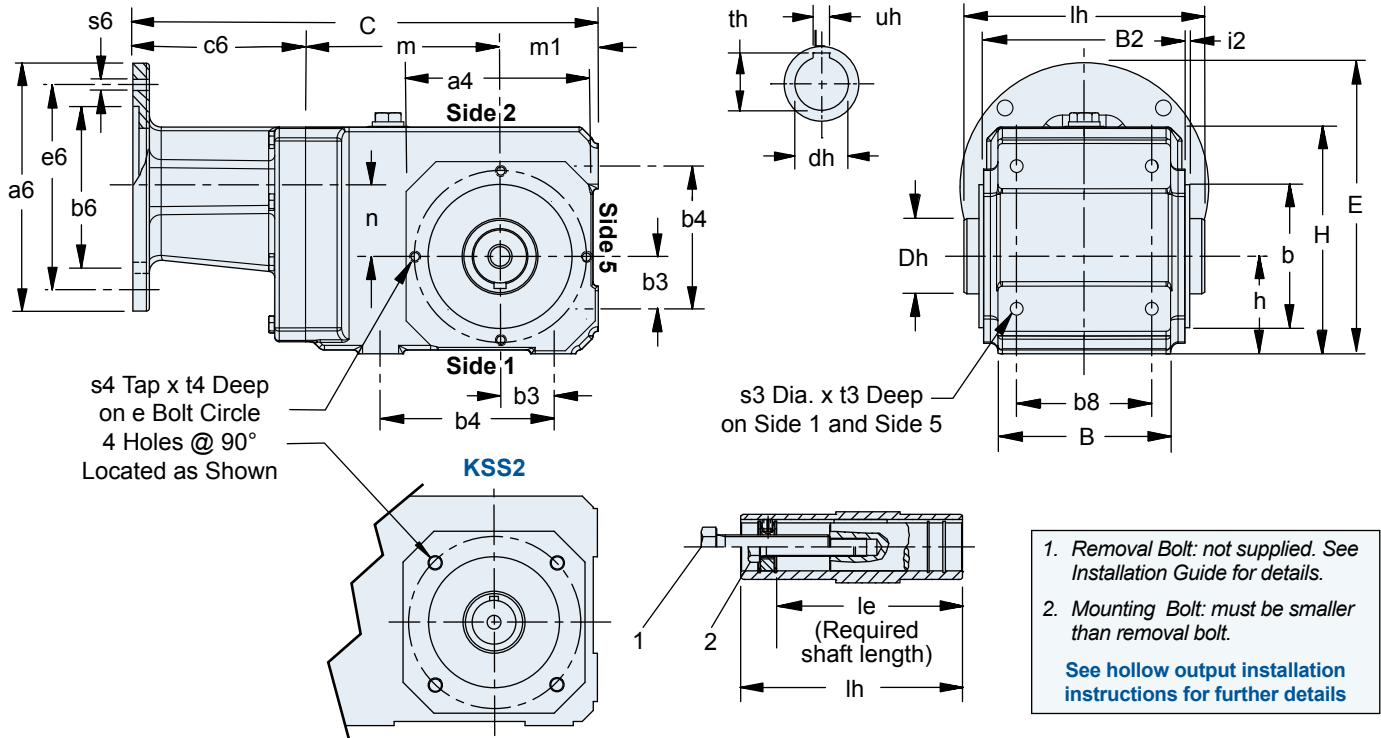


Table 1 KSS Series – “A” Hollow Output with “G” Tapped Holes Housing – Dimensions (in)

Base Module	a4	b	B2	b4	b8	e	H	h	i2	lh	m1	s3	s4	t3	t4
KSS1	4.53	2.95	4.17	3.54	2.76	3.54	4.96	2.36	0.12	4.72	2.36	M8x1.25	M8x1.25	0.51	0.51
KSS2	4.57	3.74	5.28	4.53	3.54	4.53	5.94	2.56	0.12	5.83	2.56	M10x1.50	M8x1.25	0.63	0.51
KSS3	5.20	3.74	5.75	5.12	4.13	4.53	6.56	2.95	0.12	6.30	2.95	M10x1.50	M8x1.25	0.63	0.55
KSS4	5.99	4.33	6.81	6.10	4.72	5.12	7.89	3.54	0.14	7.40	3.54	M12x1.75	M10x1.5	0.75	0.63

Table 2 KSS Series – “AG” Style Motor Adapter Dimensions (in)

Base Module	NEMA C-Face	a6	B	b3	b6	C	c6	E	e6	m	n	s6	Wt. lbs.
KSS102AG_MS1R050	56C	6.50	3.54	1.18	4.500	10.55	3.81	7.03	5.87	4.37	1.42	0.41	29
KSS202AG_MS2R050	56C	6.50	4.41	1.38	4.500	12.20	4.53	7.62	5.87	5.12	1.81	0.41	40
KSS202AG_MS2R140	143/145TC	6.50	4.41	1.38	4.500	12.20	4.53	7.62	5.87	5.12	1.81	0.41	40
KSS203AG_MS2R050	56C	6.50	4.53	1.54	4.500	13.07	3.31	6.64	5.87	7.20	0.83	0.41	53
KSS302AG_MS3R050	56C	6.50			4.500	13.23	4.37	8.29	5.87	5.91	2.09	0.41	55
KSS302AG_MS3R140	143/145TC	6.50	5.51	1.38	4.500	13.23	4.37	8.29	5.87	5.91	2.09	0.41	55
KSS302AG_MS3R180	182/184TC	9.00			8.500	14.57	6.59	9.52	7.25	5.02	2.07	0.55	67
KSS303AG_MS3R050	56C	6.50			4.500	15.22	4.00	6.83	5.87	8.27	0.63	0.41	55
KSS303AG_MS3R140	143/145TC	6.50	5.51	1.38	4.500	15.22	4.00	6.83	5.87	8.27	0.63	0.41	55
KSS402AG_MS4R050	56C	6.50			4.500	14.76	4.53	9.66	5.87			0.41	84
KSS402AG_MS4R140	143/145TC	6.50	5.71	1.97	4.500	14.76	4.53	9.66	5.87	6.69	2.36	0.41	84
KSS402AG_MS4R180	182/184TC	9.00			8.500	15.79	5.55	10.91	7.25			0.55	89
KSS403AG_MS4R050	56C	6.50			4.500	16.46	3.86	8.39	5.87	9.06	0.98	0.41	94
KSS403AG_MS4R140	143/145TC	6.50	5.71	1.97	4.500	16.46	3.86	8.39	5.87	9.06	0.98	0.41	94

Table 3 “A” Hollow Bore Output — Standard Sizes (see page 14 for other available output options)

Base Module	Inches					
	Dh	dh	le	th	uh	Removal Bolt 1
KSS1	1.57	1	3.86	1.11	1/4	1/2 – 13
KSS2	1.97	1-1/4	4.78	1.37	1/4	1/2 – 13
KSS3	1.97	1-3/8	4.92	1.52	5/16	5/8 – 11
KSS4	2.17	1-1/2	6.18	1.67	3/8	3/4 – 10



Dimensional Data

“A” Hollow Bore Output with “GD” Torque Arm

Refer to page 26 for all other dimensions

KSS

RIGHT ANGLE Solid Shaft / Hollow Output

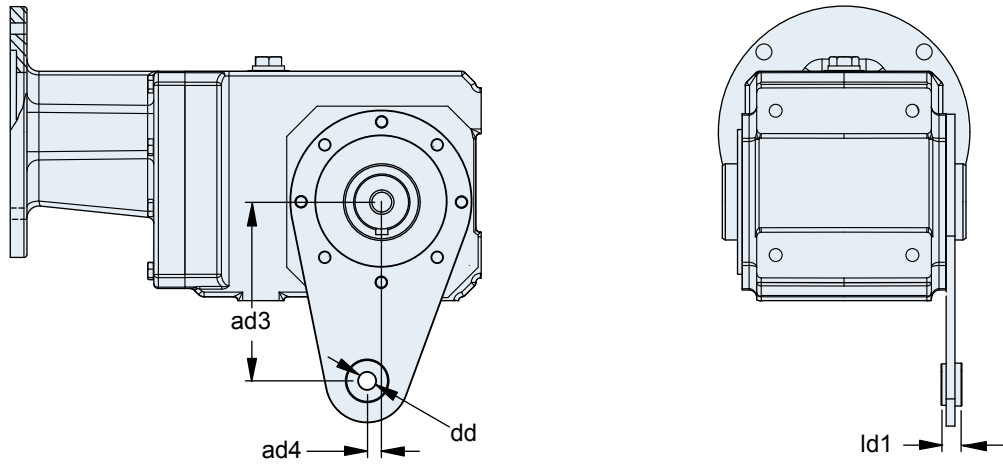


Table 4 “GD” Torque Arm

Base Module	Kit Number	mm			
		ad3	ad4	dd	ld1
KSS1	CS213227	130	10	13	15
KSS2	CS129573	130	10	13	15
KSS3	CS129573	130	10	13	15
KSS4	CS139679	130	10	13	15

“A” Hollow Bore Output with “F” Round Flange Housing

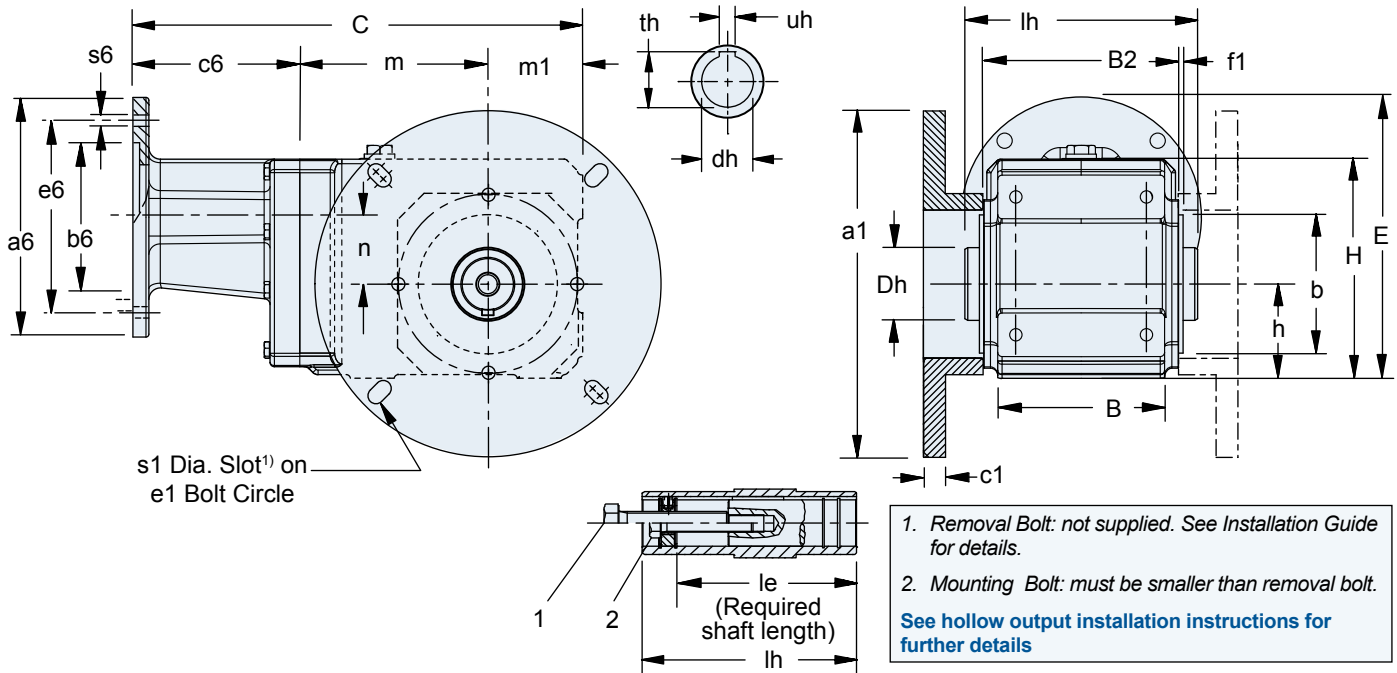


Table 1 KSS Series – “A” Hollow Output with “F” Round Flange Housing – Dimensions (in)

Base Module	a1	b	B2	c1	e1		f1	H	h	lh	m1	s1 ¹⁾
					Min.	Max. ¹⁾						
KSS1	6.75	2.95	4.17	0.55	5.87	—	0.12	4.96	2.36	4.72	2.36	0.33
KSS2	8.74	3.74	5.28	0.55	7.48	8.00	0.12	5.94	2.56	5.28	2.56	0.41
KSS3	8.74	3.74	5.75	0.55	7.48	8.00	0.12	6.56	2.95	6.30	2.95	0.41
KSS4	9.84	4.33	6.81	0.55	8.46	—	0.14	7.89	3.54	7.40	3.54	0.53

1) KSS1 & KSS4 mounting bolt hole is not a slot.

Table 2 KSS Series –“AF” Style Motor Adapter Dimensions (in)

Base Module	NEMA C-Face	a6	B	b6	C	c6	E	e6	m	n	s6	Wt. lbs.
KSS102AF_MS1R050	56C	6.50	3.54	4.500	10.09	3.81	7.03	5.87	4.38	1.42	0.41	29
KSS202AF_MS2R050	56C	6.50	4.41	4.500	12.20	4.53	7.62	5.87	5.11	1.81	0.41	40
KSS202AF_MS2R140	143/145TC											
KSS203AF_MS2R050	56C	6.50	4.53	4.500	13.07	3.31	6.64	5.87	7.20	1.81	0.41	53
KSS302AF_MS3R050	56C	6.50	5.51	4.500	13.23	4.37	8.29	5.87	5.91	2.09	0.41	55
KSS302AF_MS3R140	143/145TC											
KSS302AF_MS3R180	182/184TC	9.00		8.500	14.57	6.59	9.52	7.25	5.03	2.07	0.55	67
KSS303AF_MS3R050	56C	6.50	5.51	4.500	15.22	4.00	6.83	5.87	8.27	0.63	0.41	55
KSS303AF_MS3R140	143/145TC											
KSS402AF_MS4R050	56C	6.50	5.71	4.500	14.76	4.53	9.96	5.87	6.69	2.36	0.41	84
KSS402AF_MS4R140	143/145TC											
KSS402AF_MS4R180	182/184TC	9.00		8.500	15.79	5.55	10.91	7.25			0.55	89
KSS403AF_MS4R050	56C	6.50	5.71	4.500	16.46	3.86	8.39	5.87	9.06	0.98	0.41	94
KSS403AF_MS4R140	143/145TC											

Table 3 “A” Hollow Bore Output — Standard Sizes (see page 14 for other available output options)

Base Module	Inches						Removal Bolt 1
	Dh	dh	le	th	uh		
KSS1	1.57	1	3.86	1.11	1/4		1/2 – 13
KSS2	1.97	1-1/4	4.78	1.37	1/4		1/2 – 13
KSS3	1.97	1-3/8	4.92	1.52	5/16		5/8 – 11
KSS4	2.17	1-1/2	6.18	1.67	3/8		3/4 – 10



Dimensional Data

“V” Solid Shaft Output with “F” Round Flange Housing

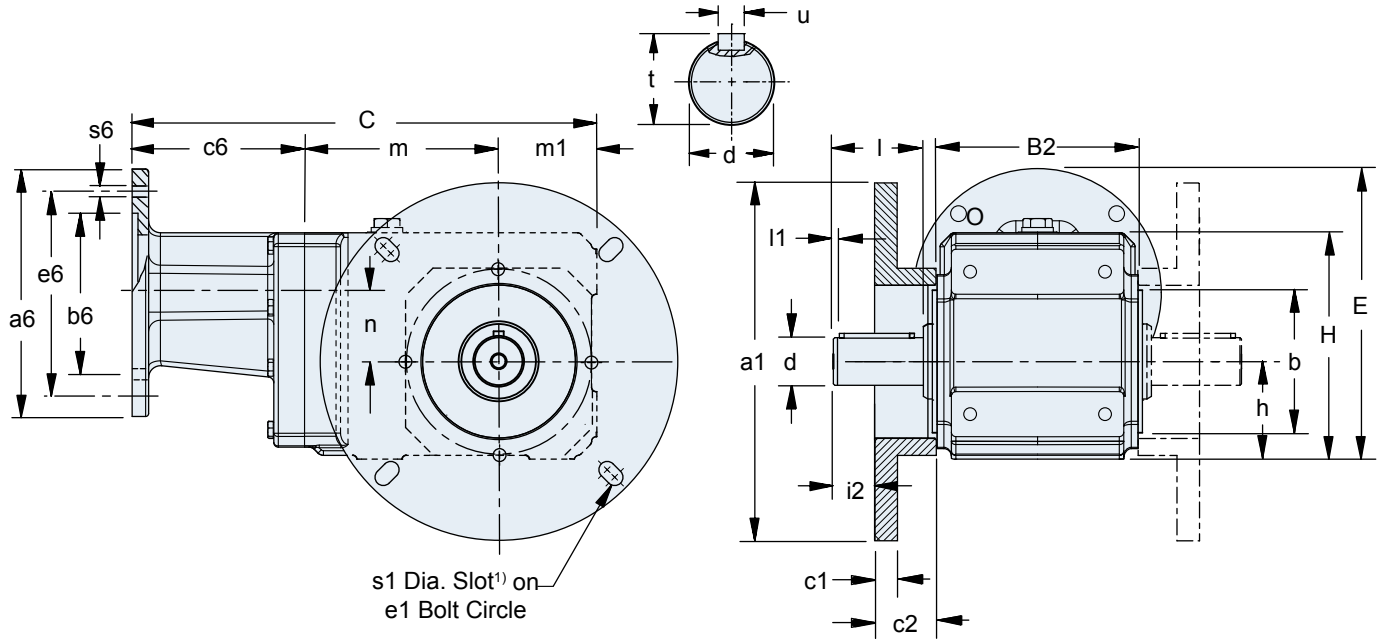


Table 1 KSS Series – “V” Solid Shaft Output with “F” Round Flange Housing Dimensions (in)

Base Module	a1	b	B2	c1	e1		H	h	i2	l	l1	m1	s1 ¹⁾
					Min.	Max. ¹⁾							
KSS1	6.75	2.95	4.17	0.55	5.87	—	4.96	2.36	0.94	1.97	0.16	2.36	0.33
KSS2	8.74	3.74	5.28	0.55	7.48	8.00	5.94	2.56	1.21	2.36	0.16	2.56	0.41
KSS3	8.74	3.74	5.75	0.55	7.48	8.00	6.56	2.95	1.21	2.36	0.16	2.95	0.41
KSS4	9.84	4.33	6.81	0.55	8.46	—	7.89	3.54	1.63	2.76	0.16	3.54	0.53

1) KSS1 & KSS4 mounting bolt hole is not a slot.

Table 2 KSS Series – “VF” Style Motor Adapter Dimensions (in)

Base Module	NEMA C-Face	a6	b6	C	c2	c6	E	e6	m	n	s6	Wt. lbs.
KSS102VF_MS1R050	56C	6.50	4.500	10.55	1.50	3.81	7.03	5.87	4.38	1.42	0.41	29
KSS202VF_MS2R050	56C	6.50	4.500	12.20	1.50	4.53	7.62	5.87	5.11	1.81	0.41	40
KSS202VF_MS2R140	143/145TC	6.50	4.500	12.20	1.50	4.53	7.62	5.87	5.11	1.81	0.41	40
KSS203VF_MS2R050	56C	6.50	4.500	13.07	1.50	3.31	6.64	5.87	7.20	0.83	0.41	53
KSS302VF_MS3R050	56C	6.50	4.500	13.23	1.50	4.37	8.29	5.87	5.91	2.09	0.41	55
KSS302VF_MS3R140	143/145TC	6.50	4.500	13.23	1.50	4.37	8.29	5.87	5.91	2.09	0.41	55
KSS302VF_MS3R180	182/184TC	9.00	8.500	14.57	1.50	6.59	9.52	7.25	5.03	2.07	0.55	67
KSS303VF_MS3R050	56C	6.50	4.500	15.22	1.50	4.00	6.83	5.87	8.27	0.63	0.41	55
KSS303VF_MS3R140	143/145TC	6.50	4.500	15.22	1.50	4.00	6.83	5.87	8.27	0.63	0.41	55
KSS402VF_MS4R050	56C	6.50	4.500	14.76	1.50	4.53	9.96	5.87	6.69	2.36	0.41	84
KSS402VF_MS4R140	143/145TC	6.50	4.500	14.76	1.50	4.53	9.96	5.87	6.69	2.36	0.41	84
KSS402VF_MS4R180	182/184TC	9.00	8.500	15.79	1.50	5.55	10.91	7.25	5.03	2.07	0.55	89
KSS403VF_MS4R050	56C	6.50	4.500	16.46	1.50	3.86	8.39	5.87	9.06	0.98	0.41	94
KSS403VF_MS4R140	143/145TC	6.50	4.500	16.46	1.50	3.86	8.39	5.87	9.06	0.98	0.41	94

Table 3 “V” Solid Shaft Output — Standard Sizes

Base Module	Inches		
	d	t	u— Key
KSS1	1	1.11	1/4 x 1/4 x 1-9/16
KSS2	1-1/4	1.36	1/4 x 1/4 x 1-15/16
KSS3	1-1/4	1.36	1/4 x 1/4 x 1-15/16
KSS4	1-3/8	1.51	5/16 x 5/16 x 2-5/16

“V” Solid Shaft Output with “G” Tapped Holes around Output Housing

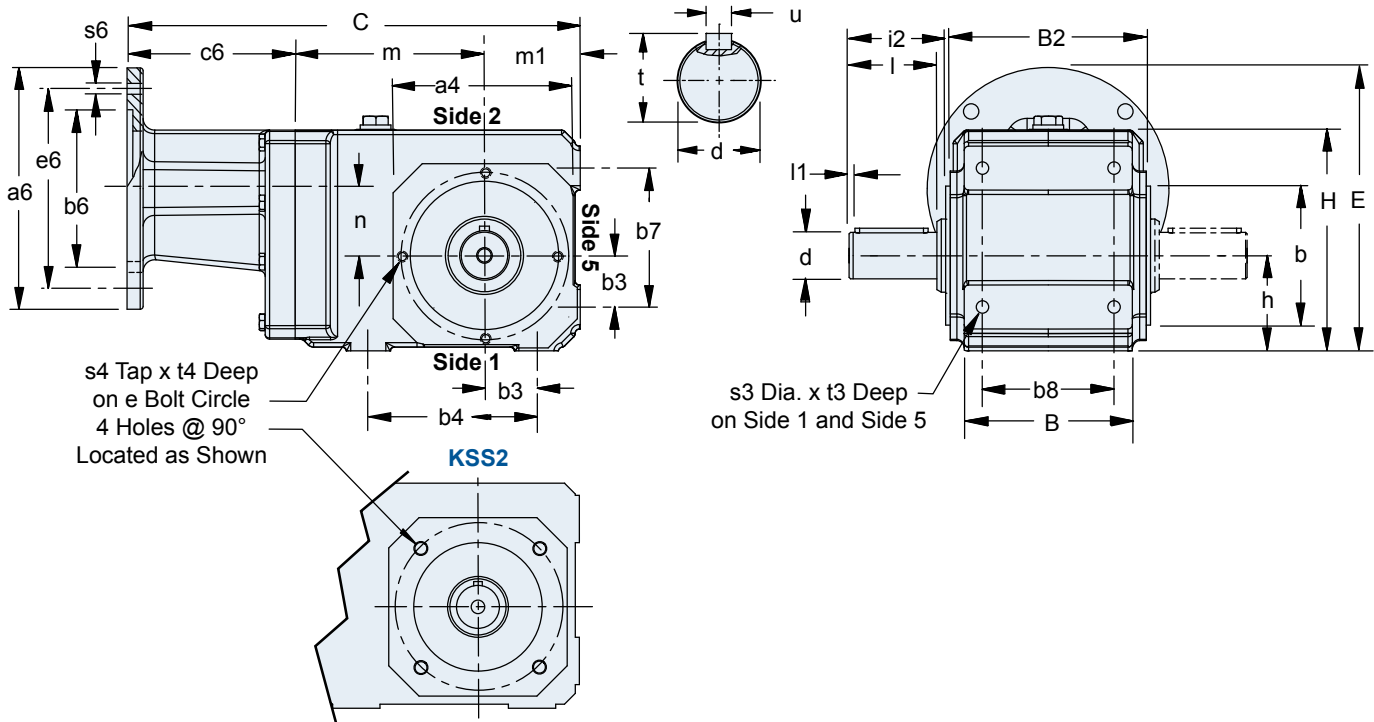


Table 1 KSS Series – “V” Solid Shaft Output with “G” Tapped Holes Housing – Dimensions (in)

Base Module	a4	b	B2	b3	b4	b7	b8	e	H	h	i2	l	l1	m1	s3	s4	t3	t4
KSS1	4.53	2.95	4.17	1.18	3.54	2.95	2.76	3.54	4.96	2.36	2.32	1.97	0.16	2.36	M8x1.25	M8x1.25	0.51	0.51
KSS2	4.57	3.74	5.28	1.38	4.53	3.74	3.54	4.53	5.94	2.56	2.60	2.36	0.16	2.56	M10x1.50	M8x1.25	0.63	0.51
KSS3	5.20	3.74	5.75	1.38	5.12	4.13	4.13	4.53	6.56	2.95	2.60	2.36	0.16	2.95	M10x1.50	M8x1.25	0.63	0.55
KSS4	5.99	4.33	6.81	1.97	6.10	5.00	4.72	5.12	7.89	3.54	3.39	2.76	0.16	3.54	M12x1.75	M10x1.5	0.75	0.63

Table 2 KSS Series – “VG” Style Motor Adapter Dimensions (in)

Base Module	NEMA C-Face	a6	B	b6	C	c6	E	e6	m	n	s6	Wt. lbs.
KSS102VG_MS1R050	56C	6.50	3.54	4.500	10.55	3.81	7.03	5.87	4.38	1.42	0.41	29
KSS202VG_MS2R050	56C	6.50	4.41	4.500	12.20	4.53	7.62	5.87	5.11	1.81	0.41	40
KSS202VG_MS2R140	143/145TC	6.50	4.41	4.500	12.20	4.53	7.62	5.87	5.11	1.81	0.41	40
KSS203VG_MS2R050	56C	6.50	4.53	4.500	13.07	3.31	6.64	5.87	7.20	0.83	0.41	53
KSS302VG_MS3R050	56C	6.50	5.51	4.500	13.23	4.37	8.29	5.87	5.91	2.09	0.41	55
KSS302VG_MS3R140	143/145TC	6.50	5.51	4.500	13.23	4.37	8.29	5.87	5.91	2.09	0.41	55
KSS302VG_MS3R180	182/184TC	9.00	5.51	8.500	14.57	6.59	9.52	7.25	5.03	2.07	0.55	67
KSS303VG_MS3R050	56C	6.50	5.51	4.500	15.22	4.00	6.83	5.87	8.27	0.63	0.41	55
KSS303VG_MS3R140	143/145TC	6.50	5.51	4.500	15.22	4.00	6.83	5.87	8.27	0.63	0.41	55
KSS402VG_MS4R050	56C	6.50	5.71	4.500	14.76	4.53	9.96	5.87	6.69	2.36	0.41	84
KSS402VG_MS4R140	143/145TC	6.50	5.71	4.500	14.76	4.53	9.96	5.87	6.69	2.36	0.41	84
KSS402VG_MS4R180	182/184TC	9.00	5.71	8.500	15.79	5.55	10.91	7.25	5.03	2.07	0.55	89
KSS403VG_MS4R050	56C	6.50	5.71	4.500	16.46	3.86	8.39	5.87	9.06	0.98	0.41	94
KSS403VG_MS4R140	143/145TC	6.50	5.71	4.500	16.46	3.86	8.39	5.87	9.06	0.98	0.41	94

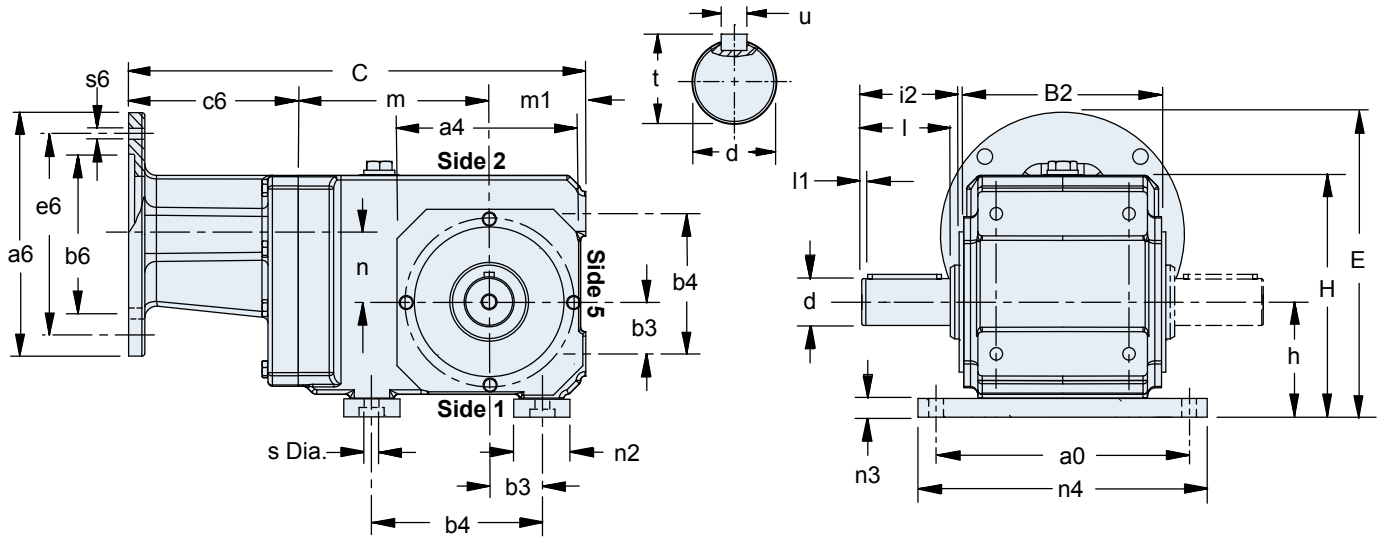
Table 3 “V” Solid Shaft Output — Standard Sizes
Inches

Base Module	d	t	u— Key
KSS1	1	1.11	1/4 x 1/4 x 1-9/16
KSS2	1-1/4	1.36	1/4 x 1/4 x 1-15/16
KSS3	1-1/4	1.36	1/4 x 1/4 x 1-15/16
KSS4	1-3/8	1.51	5/16 x 5/16 x 2-5/16



Dimensional Data

“V” Solid Shaft Output with “NG” Foot Mount Housing



KSS

RIGHT ANGLE Solid Shaft / Hollow Output

Table 1 KSS Series – “V” Solid Shaft Output with “NG” Foot Mount – Dimensions (in)

Base Module	a0	a4	B2	b3	b4	e	H	h	i2	l	I1	m1	n2	n3	n4	s
KSS1	4.53	4.53	4.17	1.18	3.54	3.54	5.46	2.36	2.32	1.97	0.16	2.36	1.50	0.50	5.51	0.33
KSS2	6.73	4.57	5.28	1.38	4.53	4.53	6.44	3.07	2.60	2.36	0.16	2.56	1.50	0.50	7.72	0.39
KSS3	6.73	5.20	5.75	1.38	5.12	4.53	7.06	3.44	2.60	2.36	0.16	2.95	1.50	0.50	7.72	0.39
KSS4	7.87	5.99	6.81	1.97	6.10	5.12	8.64	3.54	3.39	2.76	0.16	3.54	1.50	0.75	9.06	0.55

Table 2 KSS Series – “VNG” Style Motor Adapter Dimensions (in)

Base Module	NEMA C-Face	a4	a6	b6	C	c6	E	e6	m	n	s6	Wt. lbs.
KSS102VNG_MS1R050	56C	4.53	6.50	4.500	10.55	3.81	7.53	5.87	4.38	1.42	0.41	29
KSS202VNG_MS2R050	56C	4.57	6.50	4.500	12.20	4.53	8.12	5.87	5.11	1.81	0.41	40
KSS202VNG_MS2R140	143/145TC											
KSS203VNG_MS2R050	56C	4.57	6.50	4.500	13.07	3.31	7.14	5.87	7.20	0.83	0.41	53
KSS302VNG_MS3R050	56C		6.50	4.500	13.23	4.37	8.79	5.87	5.91	2.09	0.41	55
KSS302VNG_MS3R140	143/145TC	5.20	6.50	4.500	13.23	4.37	8.79	5.87	5.91	2.09	0.41	55
KSS302VNG_MS3R180	182/184TC		9.00	8.500	14.57	6.59	10.02	7.25	5.03	2.07	0.55	67
KSS303VNG_MS3R050	56C		6.50	4.500	15.22	4.00	7.33	5.87	8.27	0.63	0.41	55
KSS303VNG_MS3R140	143/145TC	5.20	6.50	4.500	15.22	4.00	7.33	5.87	8.27	0.63	0.41	55
KSS402VNG_MS4R050	56C		6.50	4.500	14.76	4.53	10.41	5.87			0.41	84
KSS402VNG_MS4R140	143/145TC	5.99	6.50	4.500	14.76	4.53	10.41	5.87	6.69	2.36	0.41	84
KSS402VNG_MS4R180	182/184TC		9.00	8.500	15.79	5.55	11.66	7.25			0.55	89
KSS403VNG_MS4R050	56C		6.50	4.500	16.46	3.86	9.14	5.87	9.06	0.98	0.41	94
KSS403VNG_MS4R140	143/145TC	5.99	6.50	4.500	16.46	3.86	9.14	5.87	9.06	0.98	0.41	94

Table 3 “V” Solid Shaft Output — Standard Sizes

Base Module	Inches		
	d	t	u– Key
KSS1	1	1.11	1/4 x 1/4 x 1-9/16
KSS2	1-1/4	1.36	1/4 x 1/4 x 1-15/16
KSS3	1-1/4	1.36	1/4 x 1/4 x 1-15/16
KSS4	1-3/8	1.51	5/16 x 5/16 x 2-5/16