

# MSC

## SERIES THREE-PHASE INDUCTION MOTORS

- Frame size H63~355
- Power 0.120~315KW
- Synchronous speed 3000; 1500; 1000; 750RPM
- Voltage 230/400V ; 400/690V
- Frequency 50Hz、60Hz
- Protection class IP54; IP55
- Insulation class F
- Ambi.temperature -15~+40°C
- Altitude above sea level ≤1000m

- See Table 1 for the mounting arrangements and respective frame numbers
- See Table 2 for the bearings
- See Table 5-6 for the technical data
- See Table 11-14 for the types and mounting dimensions



## MOUNTING ARRANGEMENTS

The Commonly used mounting arrangements and the corresponding frame numbers are shown in table 1

Table 1

Frame No.	Basic			Variations									
	B3	B5	B35	Based on B5		Based on B3					Based on B35		
				V1	V3	V5	V6	B6	B7	B8	V15	V36	
H63~160	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
H180~225	✓	✓	✓	✓	—	—	—	—	—	—	—	—	—
H250~355	✓	—	✓	✓	—	—	—	—	—	—	—	—	—

## BEARINGS

Table 2

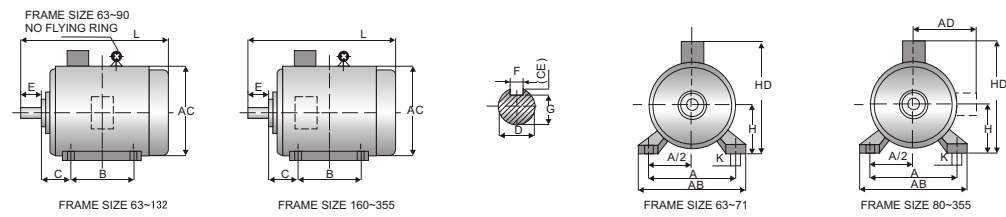
Frame No.	Driving End				Non-driving End			
	2P		4,6,8P		2P	4,6,8P	2P	4,6,8P
	Y	Y <sub>2</sub>	Y	Y <sub>2</sub>	Y	Y	Y <sub>2</sub>	Y <sub>2</sub>
63	6201				6201			
71	6202				6202			
80	6204				6204			
90	6205				6205			
100	6206				6206			
112	6206				6206			
132	6208				6208			
160	6309	6209	6309		6309		6209	
180	6311	6211	6311		6311		6211	
200	6312	6212	6312		6312		6212	
225	6313	6312	6313		6313		6312	
250	6314	6313	6314		6314		6313	
280	6314		6317		6314	6317	6314	
315	6317		N319		6317	6319	6317	6319
355	6319		N322		6319	6322	6319	6322

Model	Rated output (KW)	At full load				Locked current	Locked torque	Max torque	Net weight (kg)	Noise level dB(A)	
		Speed (r/min)	Current (A)	Eff. (%)	Power factor (cos φ)					I	II
Synchronous Speed 3000r/min 50Hz											
63M1	0.18	2730	0.5	65	0.80	5.5	2.2	5	61	63	
63M2	0.25	2800	0.7	68	0.81						
71M1	0.37	2760	1.0	70	6.1		7.8	64	66		
71M2	0.55	2800	1.4	73							
80M1	0.75	2830	1.8	75	0.83		16	67	69		
80M2	1.1		2.5	77							
90S	1.5	2840	3.3	79	0.84	7	22	72	74		
90L	2.2		4.6	81							
100L	3	2860	6.0	83	0.87		33	76	78		
112M	4	2880	7.7	85	0.88						
132S1	5.5	2900	10.5	86	0.88		64	80	82		
132S2	7.5		14.1	87							
160M1	11	2930	20.3	88	0.89	7.5	117	86	88		
160M2	15		27.3	89							
160L	18.5		33	90			147	89	91		
180M	22	2940	39.2	90			180	89	91		
200L1	30	2950	52.8	91.2	0.90		240	92	94		
200L2	37		64.5	92							
225M	45	2970	78.2	92.3	0.91		309	93	95		
250M	55		95.4	92.5							
280S	75		129.3	93			403	94	96		
280M	90		152.2	93.8			544	94	96		
315S	110	2980	185.6	94	0.91		620	94	96		
315M	132		221.6	94.5							
315L1	160		265.4	94.6		7.1	1080	96	98		
315L2	200		331.0	94.8			1160	99	101		
355M	250		411.6	95.3			1190	99	101		
355L	315		517.0	95.6		1.6	1760	103	105		
							1850	103	105		
Synchronous Speed 1500r/min 50Hz											
63M1	0.12	1320	0.4	57	0.72	4.4	2.1	5.2	52	57	
63M2	0.18		0.6	60	0.73						
71M1	0.25	1350	0.8	65	0.74	5.2		7	55	60	
71M2	0.37	1340	1.1	67	0.75						
80M1	0.55	1390	1.5	71	0.76	6	2.4	17	58	63	
80M2	0.75		2.0	73	0.77						
90S	1.1	1390	2.8	75	0.77	6		22	61	66	
90L	1.5		3.5	78	0.79						
100L1	2.2	1410	4.9	80	0.81	2.3		34	64	69	
100L2	3		6.5	82	0.82						
112M	4	1440	8.4	84	0.83	7		43	65	70	
132S	5.5	1440	11.3	85	0.84						
132M	7.5		14.8	87	0.84	2.3		81	71	76	
160M	11	1460	21.5	88	0.85						
160L	15		30.1	89	0.85	7.5		144	75	80	
180M	18.5	1470	34.3	90.5	0.86						
180L	22		40.6	91	0.86	2.2		190	76	80	
200L	30	1470	54.7	92	0.87						
225S	37	1480	66.4	92.5	0.87	7.2		270	79	83	
225M	45		80.5	92.8							
250M	55		98.1	93	0.87	2.2		320	83	86	
280S	75	1480	132.7	93.8	0.88						
280M	90		158.5	94.2	0.88	6.9	2.1	320	86	89	
315S	110	1490	191.0	94.5	0.89						
315M	132		228.4	94.8	0.89	2.2		427	83	86	
315L1	160	1490	273.4	94.9	0.90						
315L2	200		334.4	95	0.90	2.2		562	86	89	
355M	250	1490	420.7	95.3	0.91						
355L	315		528.4	95.6	0.91			667	86	89	
								1000	93	96	
								1100	93	96	
								1160	97	100	
								1270	101	104	
								1700	101	104	
								1850	101	104	

Model	Rated output (KW)	At full load				Locked current	Locked torque	Max torque	Net weight (kg)	Noise level dB(A)	
		Speed (r/min)	Current (A)	Eff. (%)	Power factor (cos φ)					I	II
Synchronous Speed 1000r/min 50Hz											
71M1	0.18	870	0.7	56	0.66	4.00	1.90	2.00	7	52	59
71M2	0.25	870	0.9	59	0.68						
80M1	0.37	890	1.3	62	0.70	4.70			17	54	61
80M2	0.55		1.7	65	0.72						
90S	0.75	910	2.2	69	0.73	5.50	2.00		19	57	64
90L	1.1		3.0	72	0.75						
100L	1.5	920	3.8	76	0.75				23	61	68
112M	2.2	940	5.3	79	0.76						
132S	3	960	7.0	81	0.76	6.50	2.10		25	65	72
132M1	4		9.3	82	0.77						
132M2	5.5		12.3	84	0.77				27	69	76
160M	7.5	16.4	86	0.78							
160L	11	970	23.3	87.5	0.78	2.00			29	73	80
180L	15		30.0	89.0	0.81						
200L1	18.5		36.6	90.0	0.83	2.10			31	76	82
200L2	22	42.5	90.0	0.84							
225M	30	980	56.3	91.5	0.84	7.00	2.00		33	78	84
250M	37		67.5	92	0.86						
280S	45		81.7	92.5	0.86	2.10			35	80	85
280M	55	99.5	92.8	0.87							
315S	75	990	134.6	93.5	0.86	2.00			37	85	90
315M	90		161.1	93.8	0.87						
315L1	110		196.1	94.0	0.87	6.70	1.90		39	89	96
315L2	132	232.5	94.2	0.88							
355M1	160		227.7	94.5	0.88				41	92	96
355M2	200	346.4	94.7	0.89							
355L	250		432.1	94.9	0.89				43	92	96
									45	95	100
									47	95	100
									49	95	100
									51	95	100
									53	95	100
									55	95	100
									57	95	100
									59	95	100
									61	95	100
									63	95	100
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									69	95	100
									71	95	100
									73	95	100
									75	95	100
									77	95	100
									79	95	100
									81	95	100
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									101	95	100
									103	95	100
									105	95	100
									107	95	100
									109	95	100
									111	95	100
									113	95	100
									115	95	100
									117	95	100
									119	95	100
									121	95	100
									123	95	100
									125	95	100

**Y2 SERIES MOUNTING DIMENSIONS**

IMB3

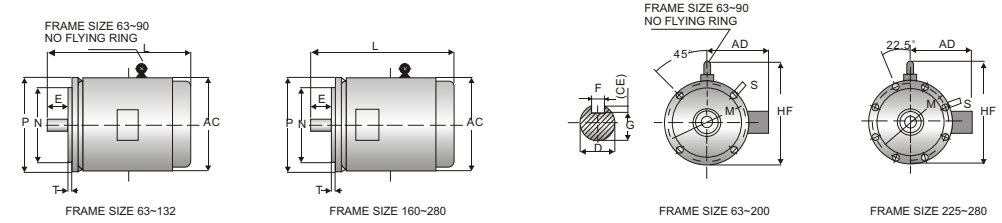


**Table 11**

Frame No.	Poles	Mounting Dimensions & Tolerance											Frame Dimensions				
		A	A/2	B	C	D	E	F	G <sup>1)</sup>	H	K <sup>2)</sup>	AB	AC	AD	HD	L	
63M	2,4	100	50	80	40	11	+0.008 -0.003	23	±0.26	4	8.5	63	135	130	70	180	230
71M	2,4,6	112	56	90	45	14	0 -0.030	30	±0.26	5	11	71	150	145	80	195	255
80M	2,4,6,8	125	62.5	100	50	±1.5	19	40	±0.31	6	15.5	80	165	175	145	220	295
90S		140	70	100	56	24	+0.009 -0.004	50	±0.31	8	20	90	180	195	155	250	345
90L		125	56	100	56	24	+0.009 -0.004	50	±0.31	8	20	90	180	195	155	250	345
100L		160	80	140	63	28	60	8	0 -0.036	24	100	100	205	215	180	270	385
112M		190	95	140	70	±2.0	28	60	±0.37	8	112	0 -0.5	230	240	190	300	400
132S		216	108	140	89	±2.0	38	80	±0.37	10	132	0 -0.20	270	275	210	345	470
132M		178	89	140	89	38	80	10	33	132	270	275	210	345	510		
160M		254	127	210	108	±3.0	42	+0.018 +0.002	12	37	160	+0.430 0	320	330	255	420	615
160L		254	127	210	108	42	+0.018 +0.002	12	37	160	320	330	255	420	670		
180M		279	139.5	241	121	±3.0	48	110	±0.43	14	180	355	380	280	455	700	
180L	279	139.5	241	121	48	110	±0.43	14	180	355	380	280	455	740			
200L	318	159	305	133	55	16	49	200	395	420	305	505	770				
225S	4,8	356	178	311	149	60	140	±0.50	18	0 -0.043	53	225	435	470	335	560	815
225M	2	356	178	311	149	55	110	±0.43	16	49	225	435	470	335	560	820	
225M	4,6,8	356	178	311	149	60	110	±0.43	16	49	225	435	470	335	560	845	
250M	2	406	203	349	168	65	18	0 -0.20	250	0 -1.0	58	490	510	370	615	910	
250M	4,6,8	406	203	349	168	65	18	0 -0.20	250	0 -1.0	58	490	510	370	615	910	
280S	2	457	228.5	368	190	75	20	0 -0.052	67.5	280	550	580	410	680	985		
280S	4,6,8	457	228.5	368	190	75	20	0 -0.052	67.5	280	550	580	410	680	985		
280M	2	457	228.5	368	190	65	18	0 -0.043	58	280	550	580	410	680	1035		
280M	4,6,8	457	228.5	368	190	75	20	0 -0.052	67.5	280	550	580	410	680	1035		
315S	2	508	254	457	216	±4.0	65	+0.030 +0.011	18	0 -0.043	58	315	635	645	530	845	1185
315S	4,6,8,10	508	254	457	216	±4.0	80	±0.50	22	0 -0.052	71	315	635	645	530	845	1215
315M	2	508	254	457	216	±4.0	65	±0.50	18	0 -0.043	58	315	635	645	530	845	1295
315M	4,6,8,10	508	254	457	216	±4.0	80	±0.50	22	0 -0.052	71	315	635	645	530	845	1325
315L	2	508	254	457	216	±4.0	65	±0.50	18	0 -0.043	58	315	635	645	530	845	1295
315L	4,6,8,10	508	254	457	216	±4.0	80	±0.50	22	0 -0.052	71	315	635	645	530	845	1325
355M	2	610	305	560	254	±4.0	75	±0.50	20	67.5	355	730	710	655	1010	1500	
355M	4,6,8,10	610	305	560	254	±4.0	95	+0.035 +0.013	170	0 -0.052	86	355	730	710	655	1010	1530
355L	2	610	305	560	254	±4.0	75	+0.030 +0.011	140	67.5	355	730	710	655	1010	1500	
355L	4,6,8,10	610	305	560	254	±4.0	95	+0.035 +0.013	170	0 -0.052	86	355	730	710	655	1010	1530

**Y2 SERIES MOUNTING DIMENSIONS**

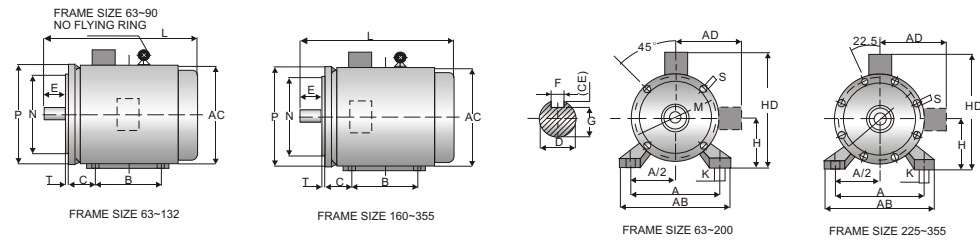
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**Table 12**

Frame No.	Poles	Mounting Dimensions & Tolerance											Frame Dimensions					
		D	E	F	G <sup>1)</sup>	M	N	P <sup>3)</sup>	R <sup>4)</sup>	S	T	Holes No.	AC	AD	HF	L		
63M	2,4	11	+0.008 -0.003	23	±0.26	4	8.5	0 -0.10	11	115	95	+0.013 -0.009	140	130	70	130	230	
63M	2,4,6	14	+0.008 -0.003	30	±0.26	5	11	0 -0.10	11	130	110	+0.013 -0.009	160	145	80	145	255	
80M	2,4,6,8	19	40	6	15.5	±1.5	19	40	±0.31	175	145	220	295					
90L		24	+0.009 -0.004	50	±0.31	8	20	165	130	200	195	155	195	320				
90L		125	56	100	56	24	+0.009 -0.004	50	±0.31	8	20	90	180	195	155	250	345	
112M		190	95	140	70	±2.0	28	60	±0.37	8	112	0 -0.036	24	215	180	250	385	
132M		216	108	140	89	±2.0	38	80	±0.37	10	132	0 -0.20	33	270	275	210	345	470
132M		178	89	140	89	38	80	10	33	132	270	275	210	345	510			
160L		254	127	210	108	±3.0	42	+0.018 +0.002	12	37	160	+0.430 0	320	330	255	420	615	
160L		254	127	210	108	42	+0.018 +0.002	12	37	160	320	330	255	420	670			
180L		279	139.5	241	121	±3.0	48	110	±0.43	14	180	355	380	280	455	700		
180L		279	139.5	241	121	48	110	±0.43	14	180	355	380	280	455	740			
225S	4,8	60	140	±0.50	18	0 -0.043	53	225	435	470	335	560	815					
225M	2	55	110	±0.43	16	49	225	435	470	335	560	820						
225M	4,6,8	60	110	±0.43	16	49	225	435	470	335	560	845						
250M	2	65	18	0 -0.20	250	0 -1.0	58	490	510	370	615	910						
250M	4,6,8	65	18	0 -0.20	250	0 -1.0	58	490	510	370	615	910						
280S	2	75	20	0 -0.052	67.5	280	550	580	410	680	985							
280S	4,6,8	75	20	0 -0.052	67.5	280	550	580	410	680	985							
280M	2	65	18	0 -0.043	58	280	550	580	410	680	1035							
280M	4,6,8	75	20	0 -0.052	67.5	280	550	580	410	680	1035							
315S	2	65	18	0 -0.043	58	315	635	645	530	845	1185							
315S	4,6,8,10	80	22	0 -0.052	71	315	635	645	530	845	1215							
315M	2	65	18	0 -0.043	58	315	635	645	530	845	1295							
315M	4,6,8,10	80	22	0 -0.052	71	315	635	645	530	845	1325							
315L	2	65	18	0 -0.043	58	315	635	645	530	845	1295							
315L	4,6,8,10	80	22	0 -0.052	71	315	635	645	530	845	1325							
355M	2	75	20	67.5	355	730	710	655	1010	1500								
355M	4,6,8,10	95	+0.035 +0.013	170	0 -0.052	86	355	730	710	655	1010	1530						
355L	2	75	+0.030 +0.011	140	67.5	355	730	710	655	1010	1500							
355L	4,6,8,10	95	+0.035 +0.013	170	0 -0.052	86	355	730	710	655	1010	1530						

**Y2 SERIES MOUNTING DIMENSIONS**

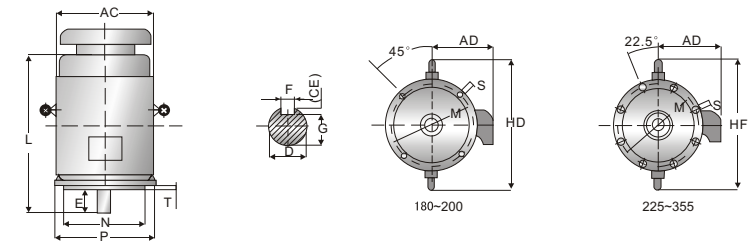


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**Table 13**

Frame No.	Poles	Mounting Dimensions & Tolerance																	Frame Dimensions									
		A	A/2	B	C	D	E	F	G <sup>1)</sup>	H	K <sup>2)</sup>	M	N	P <sup>3)</sup>	R <sup>4)</sup>	S	T	Holes No.	AB	AC	AD	HD	L					
63M	2,4	100	50	80	40	11	+0.008 -0.003	23	+0.260	4	0	8.5	63	7	115	95	+0.013 -0.009	140	10	+0.360	3	0	-0.10	135	130	70	180	230
71M	2,4,6	112	56	90	45	14	±1.5	30	5	0	-0.030	11	0	-0.10	71	0	130	110	160	±1.5	10	0	0	150	145	80	195	255
80M		125	63	100	50	19		40	6	16		80	10				165	175	145	220	295			165	175	145	220	295
90S		140	70	100	56	24		50	±0.310	20		90	12		165	130	+0.014 -0.011	200	12		3.5			180	195	155	250	320
90L		140	70	125		24		50	±0.310	20		90	12		165	130	+0.014 -0.011	200	12		3.5			180	195	155	250	320
100L		160	80	140	63	28		60	0	-0.036	24	100	0		215	180		250	±0.430	15	4		4	205	215	180	270	385
112M		190	95	140	70	28		60	±0.370	24	112	0	-0.5	0	+0.430			250	±2.0	15	4		4	230	240	190	300	400
132S	2,4,6,8	216	108	140	89	38		80	10	33	132			12	265	230		300	±2.0	15	4		4	270	275	210	345	470
132M		216	108	178		38		80	10	33	132			12	265	230		300	±2.0	15	4		4	270	275	210	345	510
160M		254	127	210	108	42		+0.018 +0.002	12	37	160			15	300	250	+0.016 -0.013	350	±3.0		0	-0.12		320	330	255	420	615
160L		254	127	254		42		+0.018 +0.002	12	37	160			15	300	250	+0.016 -0.013	350	±3.0		0	-0.12		320	330	255	420	670
180M		279	140	241	121	48		110	+0.430	14	43	180		15	300	250		350	±3.0		0	-0.12		355	380	280	455	700
180L		279	140	279		48		110	+0.430	14	43	180		15	300	250		350	±3.0		0	-0.12		355	380	280	455	740
200L		318	159	305	133	55		16	49	200			19	350	300	±0.016	400	±3.0		0	-0.12		395	420	305	505	770	
225S	4,8	356	178	286		60		140	+0.500	18	53	225		19	400	350	±0.018	450	±3.0		0	-0.12		435	470	335	560	815
225M	2	356	178	311		55		110	+0.430	16	53	225		19	400	350	±0.018	450	±3.0		0	-0.12		435	470	335	560	820
225M	4,6,8	356	178	311		55		110	+0.430	16	53	225		19	400	350	±0.018	450	±3.0		0	-0.12		435	470	335	560	845
250M	2	406	203	349	168	60		18		49	250		0	-1.0				500	±3.0		0	-0.12		490	510	370	615	910
250M	4,6,8	406	203	349	168	60		18		49	250		0	-1.0				500	±3.0		0	-0.12		490	510	370	615	910
280S	2	457	229	368	190	65		140		58	280		0	-0.20				550	±3.0		0	-0.20		550	580	410	680	985
280S	4,6,8	457	229	368	190	65		140		58	280		0	-0.20				550	±3.0		0	-0.20		550	580	410	680	985
280M	2	457	229	419		65		+0.030 +0.011	18	0	-0.043	58		19	5			550	±3.0		+0.520	0		550	580	410	680	1035
280M	4,6,8,10	457	229	419		65		+0.030 +0.011	18	0	-0.043	58		19	5			550	±3.0		+0.520	0		550	580	410	680	1035
315S	2	508	254	406	±4.0	65		18	0	-0.043	58		8					600	±3.0		±4.0			635	645	530	845	1185
315S	4,6,8,10	508	254	406	±4.0	65		18	0	-0.043	58		8					600	±3.0		±4.0			635	645	530	845	1215
315M	2	508	254	457	216	65		140	18	0	-0.043	58		19	5			600	±3.0		±4.0			635	645	530	845	1295
315M	4,6,8,10	508	254	457	216	65		140	18	0	-0.043	58		19	5			600	±3.0		±4.0			635	645	530	845	1325
315L	2	508	254	508		65		140	18	0	-0.043	58		19	5			600	±3.0		±4.0			635	645	530	845	1295
315L	4,6,8,10	508	254	508		65		140	18	0	-0.043	58		19	5			600	±3.0		±4.0			635	645	530	845	1325
355M	2	610	305	560		75		140	20	68	355		6	0	-0.15			740	±3.0		0	-0.15		730	710	655	1010	1500
355M	4,6,8,10	610	305	560		75		+0.035 +0.013	170	25	0	-0.052	86		6	0	-0.15	740	±3.0		0	-0.15		730	710	655	1010	1530
355L	2	610	305	630		75		+0.030 +0.011	140	20	68	355		6	0	-0.15		740	±3.0		0	-0.15		730	710	655	1010	1500
355L	4,6,8,10	610	305	630		75		+0.030 +0.011	140	20	68	355		6	0	-0.15		740	±3.0		0	-0.15		730	710	655	1010	1530

**Y2 SERIES MOUNTING DIMENSIONS**



IMV1

**Table 14**

Frame No.	Poles	Mounting Dimensions & tolerance													Frame Dimensions			
		D	E	F	G <sup>1)</sup>	M	N	P <sup>3)</sup>	R <sup>4)</sup>	S	T	Holes No.	AC	AD	HF	L		
180M		48	+0.018	14	42.5	300	250	+0.016 -0.013	350	±3.0	0	-0.120	4	380	280	500	760	
180L	2,4,6,8	48	+0.022	14	42.5	300	250	+0.016 -0.013	350	±3.0	0	-0.120	4	380	280	500	800	
200L		55		16	49	350	300	±0.016	400				420	305	550	840		
225S	4,8	60		18	53	400	350	±0.018	450				470	335	610	905		
225M	2	55		16	49	400	350	±0.018	450				470	335	610	910		
225M	4,6,8	60		18	53	400	350	±0.018	450				470	335	610	935		
250M	2			18	53					19	5		510	370	650	1015		
250M	4,6,8			18	53					19	5		510	370	650	1015		
280S	2			20	67.5	500	450	±0.020	550				580	410	720	1110		
280S	4,6,8			20	67.5	500	450	±0.020	550				580	410	720	1110		
280M	2			20	67.5					±4.0	0	+0.520	8			1150		
280M	4,6,8			20	67.5					±4.0	0	+0.520	8			1150		
315S	2			22	71						0					1280		
315S	4,6,8,10			22	71						0					1510		
315M	2			22	71	600	550	±0.022	660				645	530	900	1310		
315M	4,6,8,10			22	71	600	550	±0.022	660				645	530	900	1430		
315L	2			22	71						0					1310		
315L	4,6,8,10			22	71						0					1430		
355M	2			25	86											1640		
355M	4,6,8,10			25	86											1670		
355L	2			25	86											1640		
355L	4,6,8,10			25	86											1670		

The note for: 1)G=D-GE. The limit of deviation in GE is (+0.10/0) for frame No. up to 80, the rest is (+0.20/0).

2)The position tolerance for hole K is based on the axis of shaft extension.

3)Dimension P is the maximum limit value.

4)R is the distance from the matching surface of flange to the shoulder of shaft extension.