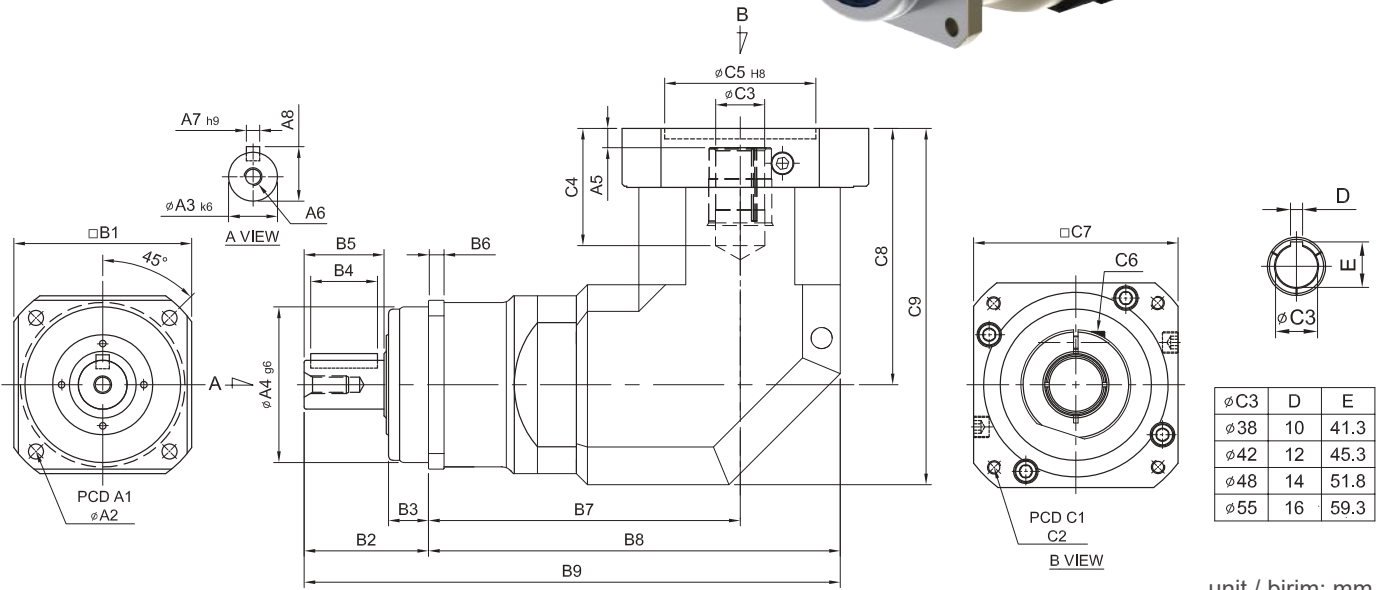
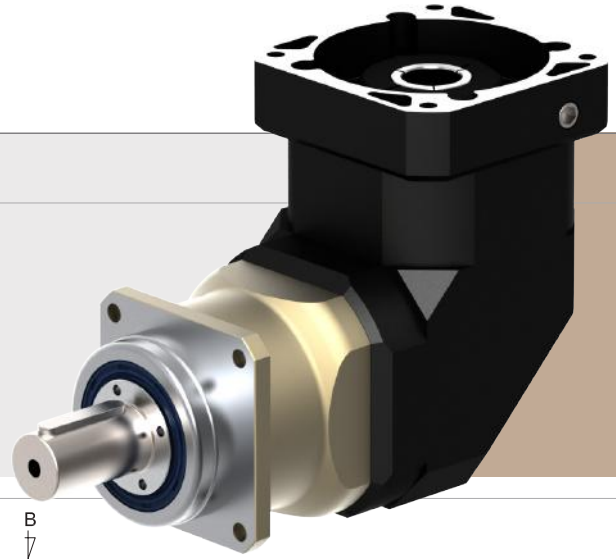


SERVOBOX

MODEL : SFL

1-Stage / Kademe

RATIO / ÇEVİRİM : 3, 4, 5, 6, 7, 8, 9, 10,
12, 14, 16, 18, 20



unit / birim: mm

Model Code	62	75	100	142	180
A1	68	85	120	165	215
A2	5.5	6.8	9	11	13
A3	16	22	32	40	55
A4	60	70	90	130	160
A5	6	9	10	10	12.5 · 14.5
A6	M5 x P0.8	M8 x P1.25	M10 x P1.5	M12 x P1.75	M14 x P2.0
A7	5	6	10	12	16
A8	18	24.5	35	43	59
B1	62	76	106	142	180
B2	48	56	88	112	112
B3	18	18	27	27	26
B4	20	32	50	70	70
B5	28	36	58	82	82
B6	6	7	10	12	15
B7	97	142.9	162	191	254.1
B8	128	187.9	222	262	344.1
B9	176	243.9	310	374	456.1
C1	70 · 75 · 90	90 · 110 · 115 · 145	115 · 145 · 165	145 · 165 · 200	200 · 215 · 265
C2	M4 · M5 · M6	M5 · M6 · M8	M6 · M8 · M10	M8 · M10 · M12	M10 · M12 · M16
C3	14 · 19	19 · 22 · 24	24 · 28 · 32	28 · 32 · 35	38 · 42 · 48 · 55
C4	33.5 · 41.5	53 · 67.5	67 · 77	85	117 · 119
C5	50 · 60 · 70	70 · 80 · 95 · 110	95 · 110 · 130	110 · 130 · 180	114.3 · 180 · 230
C6	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5
C7	64 · 70 · 80	92 · 110 · 130	122 · 130 · 150	146 · 150 · 190	182 · 200 · 250
C8	77 · 85	115.3	141	165.7	235 · 237
C9	108 · 116	160.3	201	236.7	325 · 327



Model No.		Unit/Birim	Ratio Çevrim	62	75	100	142	180
Nominal output torque / Nominal Çıkış Torku	T_{2N}	Nm	3	59	165	216	625	1,206
			4	51	146	208	555	1,069
			5	48	155	333	618	1,189
			6	45	150	315	583	1,118
			7	45	142	309	573	1,108
			8	44	141	305	553	1,070
			9	44	140	293	551	1,060
			10	43	138	291	549	1,059
			12	45	150	315	583	1,118
			14	45	142	309	573	1,108
			16	44	141	305	553	1,070
			18	44	140	293	551	1,060
20	43	138	291	549	1,059			
Max. Acceleration Torque / Max. İvmelenme Torku	T_{2B}	Nm	3 ~ 20	1.8 Times of Rated Output Torque / 1,8 x Nominal Çıkış Torku				
Max. Output Torque / Max. Çıkış Torku	T_{2NOT}	Nm	3 ~ 20	3 Times of Rated Output Torque / 3 x Nominal Çıkış Torku				
Rated Input Speed / Nominal Giriş Devri	n_{1N}	rpm	3 ~ 20	3,000	3,000	3,000	3,000	3,000
Max. Input Speed / Max. Giriş Devri	n_{1B}	rpm	3 ~ 20	6,000	6,000	6,000	5,000	4,000
Backlash Ps / Min. Boşluk Oranı		arcmin	3 ~ 20	-	≤ 2	≤ 2	≤ 2	≤ 2
Backlash P0 / Düşük Boşluk Oranı		arcmin	3 ~ 20	≤ 4	≤ 4	≤ 4	≤ 4	≤ 4
Backlash P1 / Azaltılmış Boşluk Oranı		arcmin	3 ~ 20	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6
Backlash P2 / Standart Boşluk Oranı		arcmin	3 ~ 20	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8
Torsional Rigidity / Burulma Direnci		Nm/arcmin	3 ~ 20	8	15	27	60	150
Max. Radial Force / Max. Radyal Yük	F_{2rB}	N	3 ~ 20	2,240	4,150	8,760	12,750	17,860
Max. Axial Force / Max. Aksiyel Yük	F_{2aB}	N	3 ~ 20	1,920	3,780	7,500	10,840	15,180
Service Life / Hizmet Ömrü	L_H	hr	3 ~ 20	S5 Döngüsel Çalışma: >30,000 (S1 Sürekli Çalışma: >15,000 saat) S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs)				
Efficiency / Verim	η	%	3 ~ 20	≥ 95				
Operating Temperature / Çalışma Sıcaklığı		°C	3 ~ 20	- 25° C ~ + 90° C				
Lubrication / Yağlama			3 ~ 20	Synthetic Grease / Sentetik Gres				
Protection Class / Koruma Sınıfı			3 ~ 20	IP65				
Mounting Position / Montaj Pozisyonu			3 ~ 20	Any / Her Yönde				
Noise Level / Ses Seviyesi		dB	3 ~ 20	≤ 63	≤ 65	≤ 68	≤ 70	≤ 72
Weight / Ağırlık ±3%		Kg	3 ~ 20	2.7	7.5	10.9	25.6	57.9

■ Mass Moments of Inertia / Atalet Ağırlık Momenti (kg.cm²)

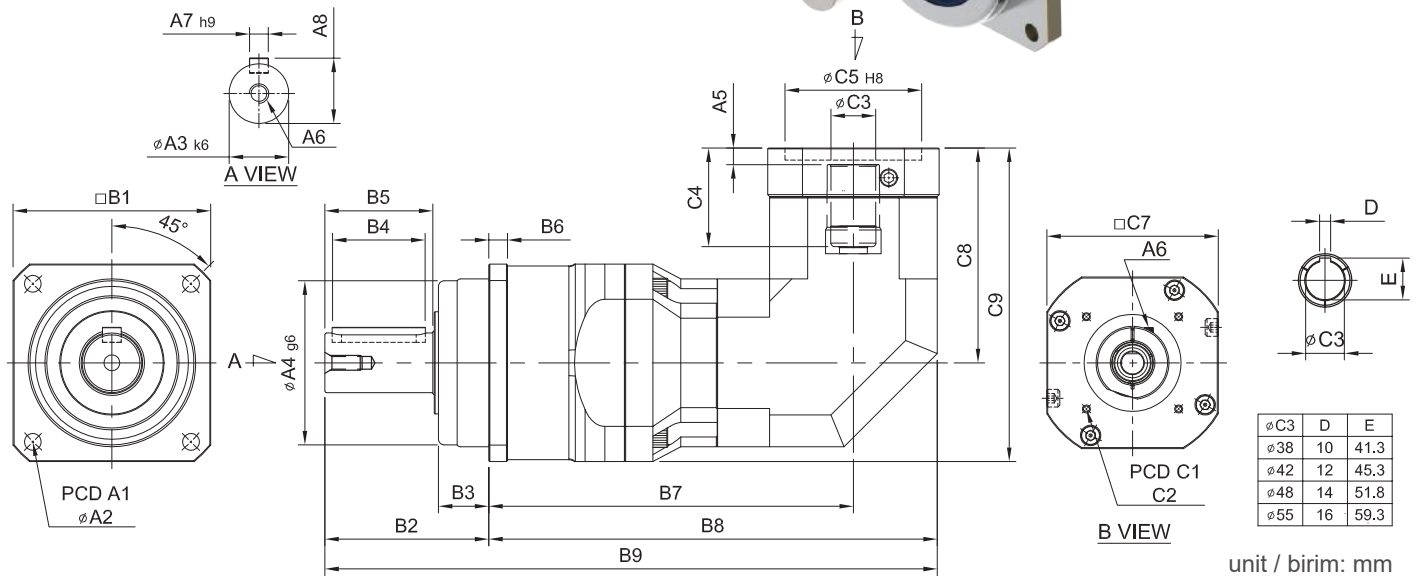
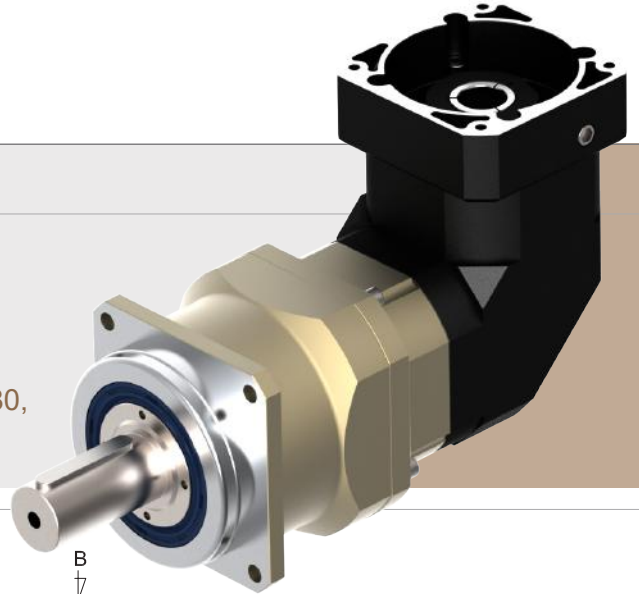
Ratio / Çevrim	62	75	100	142	180
3	0.30	2.11	6.42	18.36	57.65
4	0.28	2.02	5.61	18.02	56.17
5	0.26	2.01	5.42	17.21	55.05
6	0.24	2.00	5.33	16.50	53.44
7	0.24	1.97	5.09	15.85	51.10
8	0.24	1.94	5.06	14.94	49.03
9	0.24	1.94	5.04	14.61	48.08
10	0.24	1.94	5.02	14.02	41.33
12	0.22	1.94	4.98	13.86	41.12
14	0.22	1.94	4.95	13.53	40.50
16	0.21	1.92	4.91	13.03	40.11
18	0.21	1.91	4.87	12.57	39.73
20	0.20	1.88	4.75	12.11	38.65

SERVOBOX

MODEL : SFL

2-Stage / Kademe

RATIO / ÇEVİRİM : 15, 20, 25, 30, 35, 40, 50, 60, 70, 80,
90, 100, 120, 140, 160, 180, 200



Model Code	62	75	100	142	180
A					
A1	68	85	120	165	215
A2	5.5	6.8	9	11	13
A3	16	22	32	40	55
A4	60	70	90	130	160
A5	6	6	9	10	10
A6	M5 x P0.8	M8 x P1.25	M10 x P1.5	M12 x P1.75	M14 x P2.0
A7	5	6	10	12	16
A8	18	24.5	35	43	59
B					
B1	62	76	106	142	180
B2	48	56	88	112	112
B3	18	18	27	27	26
B4	20	32	50	70	70
B5	28	36	58	82	82
B6	6	7	10	12	15
B7	123	148.3	195.6	240	280
B8	145	179.3	240.6	300	351
B9	193	235.3	328.6	412	463
C					
C1	46 · 60 · 63	70 · 75 · 90	90 · 110 · 115 · 145	115 · 145 · 165	145 · 165 · 200
C2	M3 · M4 · M5	M4 · M5 · M6	M5 · M6 · M8 · M10	M6 · M8 · M10	M8 · M10 · M12
C3	8 · 9 · 11	14 · 19	19 · 22 · 24	24 · 28 · 32	28 · 32 · 35
C4	27	33.5 · 41.5	53	67	85
C5	30 · 40 · 50	50 · 60 · 70	70 · 80 · 95 · 110	95 · 110 · 130	110 · 130 · 180
C6	M4 x P0.7	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5
C7	46 · 55	64 · 70 · 80	92 · 110 · 130	122 · 130 · 150	146 · 150 · 190
C8	61	77 · 85	115.3	141	165.7
C9	92	117 · 125	168.3	212	255.7



Model No.		Unit/Birim	Ratio Çevrim	62	75	100	142	180
Nominal output torque / Nominal Çıkış Torku	T_{2N}	Nm	15	59	142	298	625	1,206
			20	51	126	267	555	1,069
			25	48	158	296	618	1,189
			30	45	130	278	583	1,118
			35	45	128	275	573	1,108
			40	43	123	265	553	1,070
			50	48	138	296	618	1,189
			60	45	130	277	583	1,118
			70	45	128	275	573	1,108
			80	43	123	265	553	1,070
			90	44	125	247	516	993
			100	43	121	262	549	1,059
			120	45	130	277	583	1,118
			140	45	128	275	573	1,108
			160	43	123	265	553	1,070
			180	44	125	247	516	993
200	43	121	262	549	1,059			
Max. Acceleration Torque / Max.İvmelenme Torku	T_{2B}	Nm	15 ~ 200	1.8 Times of Rated Output Torque / 1,8 x Nominal Çıkış Torku				
Max. Output Torque / Max.Çıkış Torku	T_{2NOT}	Nm	15 ~ 200	3 Times of Rated Output Torque / 3 x Nominal Çıkış Torku				
Rated Input Speed / Nominal Giriş Devri	n_{1N}	rpm	15 ~ 200	3,000	3,000	3,000	3,000	3,000
Max. Input Speed / Max.Giriş Devri	n_{1B}	rpm	15 ~ 200	6,000	6,000	5,000	5,000	4,000
Backlash Ps / Min.Boşluk Oranı		arcmin	15 ~ 200	-	-	≤ 4	≤ 4	≤ 4
Backlash P0 / Düşük Boşluk Oranı		arcmin	15 ~ 200	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7
Backlash P1 / Azaltılmış Boşluk Oranı		arcmin	15 ~ 200	≤ 9	≤ 9	≤ 9	≤ 9	≤ 9
Backlash P2 / Standart Boşluk Oranı		arcmin	15 ~ 200	≤ 12	≤ 12	≤ 12	≤ 12	≤ 12
Torsional Rigidity / Burulma Direnci		Nm/arcmin	15 ~ 200	8	15	27	60	150
Max. Radial Force / Max. Radyal Yük	F_{2rB}	N	15 ~ 200	2,240	4,150	8,760	12,750	17,860
Max. Axial Force / Max. Aksiyel Yük	F_{2aB}	N	15 ~ 200	1,920	3,780	7,500	10,840	15,180
Service Life / Hizmet Ömrü	L_H	hr	15 ~ 200	S5 Döngüsel Çalışma: >30,000 (S1 Sürekli Çalışma: >15,000 saat) S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs)				
Efficiency / Verim	η	%	15 ~ 200	≥ 92				
Operating Temperature / Çalışma Sıcaklığı		°C	15 ~ 200	- 25° C ~ + 90° C				
Lubrication / Yağlama			15 ~ 200	Synthetic Grease / Sentetik Gres				
Protection Class / Koruma Sınıfı			15 ~ 200	IP65				
Mounting Position / Montaj Pozisyonu			15 ~ 200	Any / Her Yönde				
Noise Level / Ses Seviyesi		dB	15 ~ 200	≤ 63	≤ 65	≤ 68	≤ 70	≤ 72
Weight / Ağırlık ±3%		Kg	15 ~ 200	11.38				

■ Mass Moments of Inertia / Atalet ğırlık Momenti (kg.cm²)

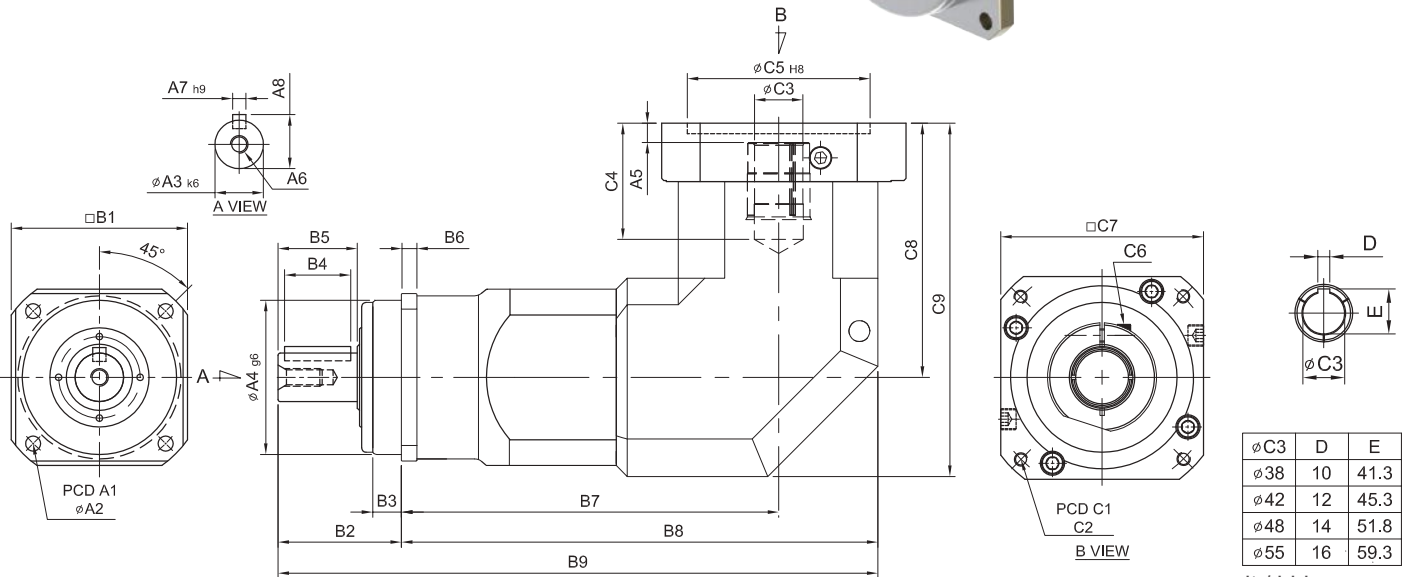
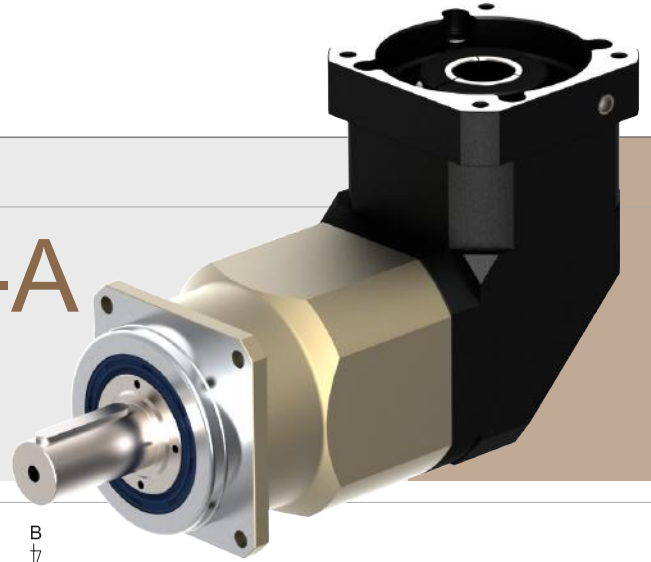
Ratio / Çevrim	62	75	100	142	180
15	0.09	0.34	2.20	6.85	26.2
20	0.09	0.34	2.20	6.85	26.2
25	0.09	0.34	2.20	6.85	23.1
30	0.09	0.34	2.20	6.85	23.1
35	0.09	0.34	2.20	6.85	23.1
40	0.09	0.34	2.20	6.85	23.1
50	0.09	0.34	2.20	6.85	23.1
60	0.09	0.34	2.20	6.85	23.1
70	0.09	0.34	2.20	6.85	23.1
80	0.09	0.34	2.20	6.85	23.1
90	0.09	0.34	2.20	6.85	23.1
100	0.09	0.34	2.20	6.85	23.1
120	0.03	0.30	1.86	6.20	21.2
140	0.03	0.30	1.86	6.20	21.2
160	0.03	0.30	1.86	6.20	21.2
180	0.03	0.30	1.86	6.20	21.2
200	0.03	0.30	1.86	6.20	21.2

SERVOBOX

MODEL : SFL-A

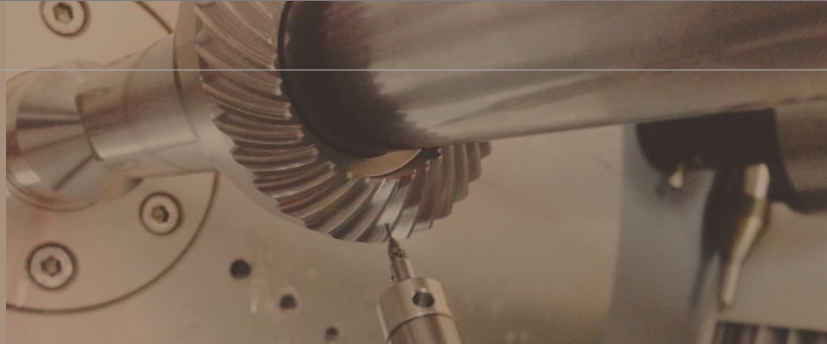
2-Stage / Kademe

RATIO / KADEME : 15, 20, 25, 30, 35, 40, 50,
60, 70, 80, 100, 140, 200



unit / birim: mm

Model Code	62A	75A	100A	142A	180A
A1	68	85	120	165	215
A2	5.5	6.8	9	11	13
A3	16	22	32	40	55
A4	60	70	90	130	160
A5	6	9	10	10	12.5 · 14.5
A6	M5 x P0.8	M8 x P1.25	M10 x P1.5	M12 x P1.75	M14 x P2.0
A7	5	6	10	12	16
A8	18	24.5	35	43	59
B1	62	76	106	142	180
B2	48	56	88	112	112
B3	18	18	27	27	26
B4	20	32	50	70	70
B5	28	36	58	82	82
B6	6	7	10	12	15
B7	130.8	173.9	206	258	335.1
B8	161.8	218.9	266	329	425.1
B9	209.8	274.9	354	441	537.1
C1	70 · 75 · 90	90 · 110 · 115 · 145	115 · 145 · 165	145 · 165 · 200	200 · 215 · 265
C2	M4 · M5 · M6	M5 · M6 · M8	M6 · M8 · M10	M8 · M10 · M12	M10 · M12 · M16
C3	14 · 19	19 · 22 · 24	24 · 28 · 32	28 · 32 · 35	38 · 42 · 48 · 55
C4	33.5 · 41.5	53 · 67.5	67 · 77	85	117 · 119
C5	50 · 60 · 70	70 · 80 · 95 · 110	95 · 110 · 130	110 · 130 · 180	114.3 · 180 · 230
C6	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5
C7	64 · 70 · 80	92 · 110 · 130	122 · 130 · 150	146 · 150 · 190	182 · 200 · 250
C8	77 · 85	115.3	141	165.7	235 · 237
C9	108 · 116	160.3	201	236.7	325 · 327



Model No.		Unit/Birim	Ratio Çevrim	62A	75A	100A	142A	180A
Nominal output torque / Nominal Çıkış Torku	T_{2N}	Nm	15	59	165	216	625	1,206
			20	51	146	208	555	1,069
			25	48	155	333	618	1,189
			30	45	150	315	583	1,118
			35	45	142	309	573	1,108
			40	51	122	208	555	1,069
			50	48	155	333	618	1,189
			60	45	150	315	583	1,118
			70	45	142	309	573	1,108
			80	51	146	208	555	1,069
			100	48	155	333	618	1,189
			140	45	142	309	573	1,108
200	43	138	291	549	1,059			
Max. Acceleration Torque / Max. İvmelenme Torku	T_{2B}	Nm	15 ~ 200	1.8 Times of Rated Output Torque / 1,8 x Nominal Çıkış Torku				
Max. Output Torque / Max. Çıkış Torku	T_{2NOT}	Nm	15 ~ 200	3 Times of Rated Output Torque / 3 x Nominal Çıkış Torku				
Rated Input Speed / Nominal Giriş Devri	n_{1N}	rpm	15 ~ 200	3,000	3,000	3,000	3,000	3,000
Max. Input Speed / Max. Giriş Devri	n_{1B}	rpm	15 ~ 200	6,000	6,000	5,000	5,000	4,000
Backlash P _s / Min. Boşluk Oranı		arcmin	15 ~ 200	-	≤ 4	≤ 4	≤ 4	≤ 4
Backlash P ₀ / Düşük Boşluk Oranı		arcmin	15 ~ 200	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7
Backlash P ₁ / Azaltılmış Boşluk Oranı		arcmin	15 ~ 200	≤ 9	≤ 9	≤ 9	≤ 9	≤ 9
Backlash P ₂ / Standart Boşluk Oranı		arcmin	15 ~ 200	≤ 12	≤ 12	≤ 12	≤ 12	≤ 12
Torsional Rigidity / Burulma Direnci		Nm/arcmin	15 ~ 200	8	15	27	60	150
Max. Radial Force / Max. Radyal Yük	F_{2rB}	N	15 ~ 200	2,240	4,150	8,760	12,750	17,860
Max. Axial Force / Max. Aksiyel Yük	F_{2aB}	N	15 ~ 200	1,920	3,780	7,500	10,840	15,180
Service Life / Hizmet Ömrü	L_H	hr	15 ~ 200	S5 Döngüsel Çalışma: >30,000 (S1 Sürekli Çalışma: >15,000 saat) S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs)				
Efficiency / Verim	η	%	15 ~ 200	≥ 92				
Operating Temperature / Çalışma Sıcaklığı		°C	15 ~ 200	- 25° C ~ + 90° C				
Lubrication / Yağlama			15 ~ 200	Synthetic Grease / Sentetik Gres				
Protection Class / Koruma Sınıfı			15 ~ 200	IP65				
Mounting Position / Montaj Pozisyonu			15 ~ 200	Any / Her Yönde				
Noise Level / Ses Seviyesi		dB	15 ~ 200	≤ 63	≤ 65	≤ 68	≤ 70	≤ 72
Weight / Ağırlık ±3%		Kg	15 ~ 200	3.5	11.1	16.8	29.9	66.1

■ Mass Moments of Inertia / Atalet Ağırlık Momenti (kg.cm²)

Ratio / Çevrim	62A	75A	100A	142A	180A
15	0.15	0.60	3.21	9.18	28.82
20	0.14	0.51	2.80	7.51	23.56
25	0.13	0.45	2.71	7.40	23.24
30	0.12	0.43	2.66	7.32	22.91
35	0.12	0.42	2.54	7.15	22.40
40	0.14	0.51	2.80	7.51	23.56
50	0.13	0.45	2.71	7.40	23.24
60	0.12	0.43	2.66	7.32	22.91
70	0.12	0.42	2.54	7.15	22.40
80	0.14	0.51	2.80	7.51	23.56
100	0.13	0.45	2.71	7.40	23.24
140	0.12	0.42	2.54	7.15	22.40
200	0.11	0.41	2.48	7.02	22.14