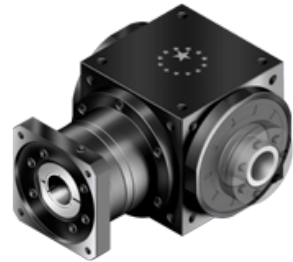


ATB-FC series

Overview



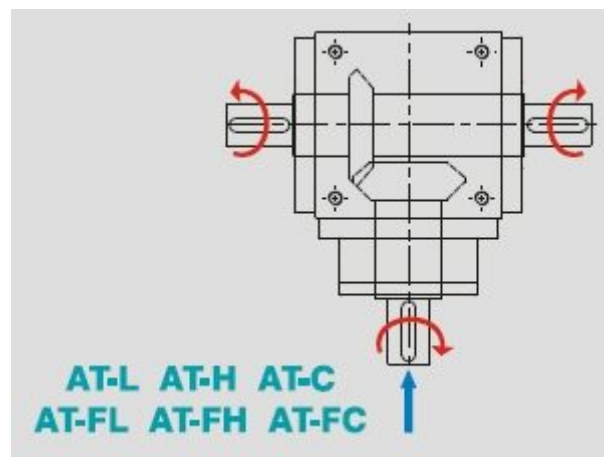
- Spiral bevel gearbox with output hollow shaft thru without keyway. Both ends with shrink disc power lock. Input with motor adapter.
- Steel housing, black oxidized, aluminum black anodized motor adapter plate
- Steel hollow output shaft with two shrinks discs (are included)
- Spiral bevel gears, planetary part with spur gears
- Nominal torques:
 - T_{2N} : 12 Nm – 3.200 Nm
- Ratios
 - 1-stage : 1 / 1,5 / 2 / 3 / 4 / 5
 - 2-stage : 7 / 10 / 15 / 20 / 25 / 35 / 50
 - 3-stage : 75 / 100 / 125 / 150 / 200 / 250 / 350 / 500
- Low backlash
 - 1-stage : ≤ 6 arcmin
 - 2-stage : ≤ 8 arcmin
 - 3-stage : ≤ 10 arcmin
- high efficiency
 - 1-stage: $\geq 98\%$
 - 2-stage : $\geq 94\%$
 - 3-stage : $\geq 94\%$
- Easy mount
- Low Noise
- Compact structure
- Sizes available: ATB065FC / ATB075FC / ATB090FC / ATB110FC / ATB140FC / ATB170FC / ATB210FC / ATB240FC / ATB280FC

Specifications

Model No.		Stage Ratio ¹	ATB065ATB075ATB090ATB110ATB140ATB170ATB210ATB240ATB280									
			FC	FC	FC	FC	FC	FC	FC	FC	FC	
Nominal Output Torque T _{2N}	Nm	1	1	25	45	78	150	360	585	1,300	2,150	3,200
			1.5	25	45	78	150	360	585	1,300	2,150	3,200
			2	24	42	68	150	330	544	1,220	2,010	3,050
			3	18	33	54	120	270	450	1,020	1,650	2,850
			4	13	28	48	100	224	376	860	1,410	2,300
			5	12	25	40	85	196	320	740	1,210	2,000
		2	7	12	12	33	91	91	91	195	358	358
			10	24	28	68	150	208	208	430	846	846
			15	18	33	54	120	270	312	645	1,269	1,269
			20	13	28	48	100	224	376	860	1,410	1,629
			25	12	25	40	85	196	320	740	1,210	2,000
			35	12	25	40	85	196	320	740	1,210	1,790
		3	50	12	25	40	85	196	320	740	1,210	1,465
			75	-	-	-	120	210	312	585	1,269	1,269
			100	-	-	-	100	224	376	780	1,410	1,692
			125	-	-	-	85	196	320	740	1,210	2,000
			150	-	-	-	120	135	312	390	975	975
			200	-	-	-	100	180	376	520	1,300	1,300
			250	-	-	-	85	196	320	650	1,210	1,625
			350	-	-	-	85	196	320	740	1,210	1,790
			500	-	-	-	85	196	320	740	1,210	1,465
Max Acceleration Torque T _{2B}	Nm	1,2,3	1~500	1.5 times Nominal Output Torque T _{2N}								
Max. Acceleration Input Speed n _{1B}	rpm	1	1~5	7,500	6,500	5,500	4,500	3,500	3,000	2,200	2,000	1,700
		2	7~50	8,000	8,000	6,000	6,000	6,000	6,000	4,800	3,600	3,600
		3	75~500	-	-	-	8,000	8,000	6,000	6,000	6,000	6,000
Backlash*	arcmin	1	1~5	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6
		2	7~50	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8
		3	75~500	-	-	-	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
Max. Radial Load F _{2rB} ² Output d2	N	1,2,3	1~500	900	1,100	1,700	2,700	4,800	6,600	11,500	16,000	18,000
Max. Axial Load F _{2aB} ³ Output d2	N	1,2,3	1~500	450	550	850	1,350	2,400	3,300	5,750	8,500	9,000
Service Life	hr	1	1~5	20,000*								
Efficiency	%	1	1~5	≥ 98 %								
		2,3	7~500	≥ 94 %								
Weight	kg	1	1~5	2.9	4.4	7.2	11.8	20.4	35.0	66.5	96.0	151.7
		2	7~50	3.3	4.9	8.2	14.1	24.1	37.4	71.2	107.2	164.4
		3	75~500	-	-	-	13.7	23.5	37.5	70.5	105.0	162.2
Operating Temp	°C	1,2,3	1~500	-10°C~-+90°C								
Lubrication		1,2,3	1~500	Synthetic lubrication, ISO VG 150								
Noise Level (n ₁ =1500 rpm, No Load)	dB(A)	1,2,3	1~500	≤71	≤72	≤76	≤77	≤78	≤79	≤81	≤83	≤84

1. Ratio (i=N in / N out)
2. Apply to the output shaft center @ 100 rpm
- * S1 service life 10,000 hrs.
- * Backlash is measured at 2% Nominal Output Torque T_{2N}

Rotation Direction

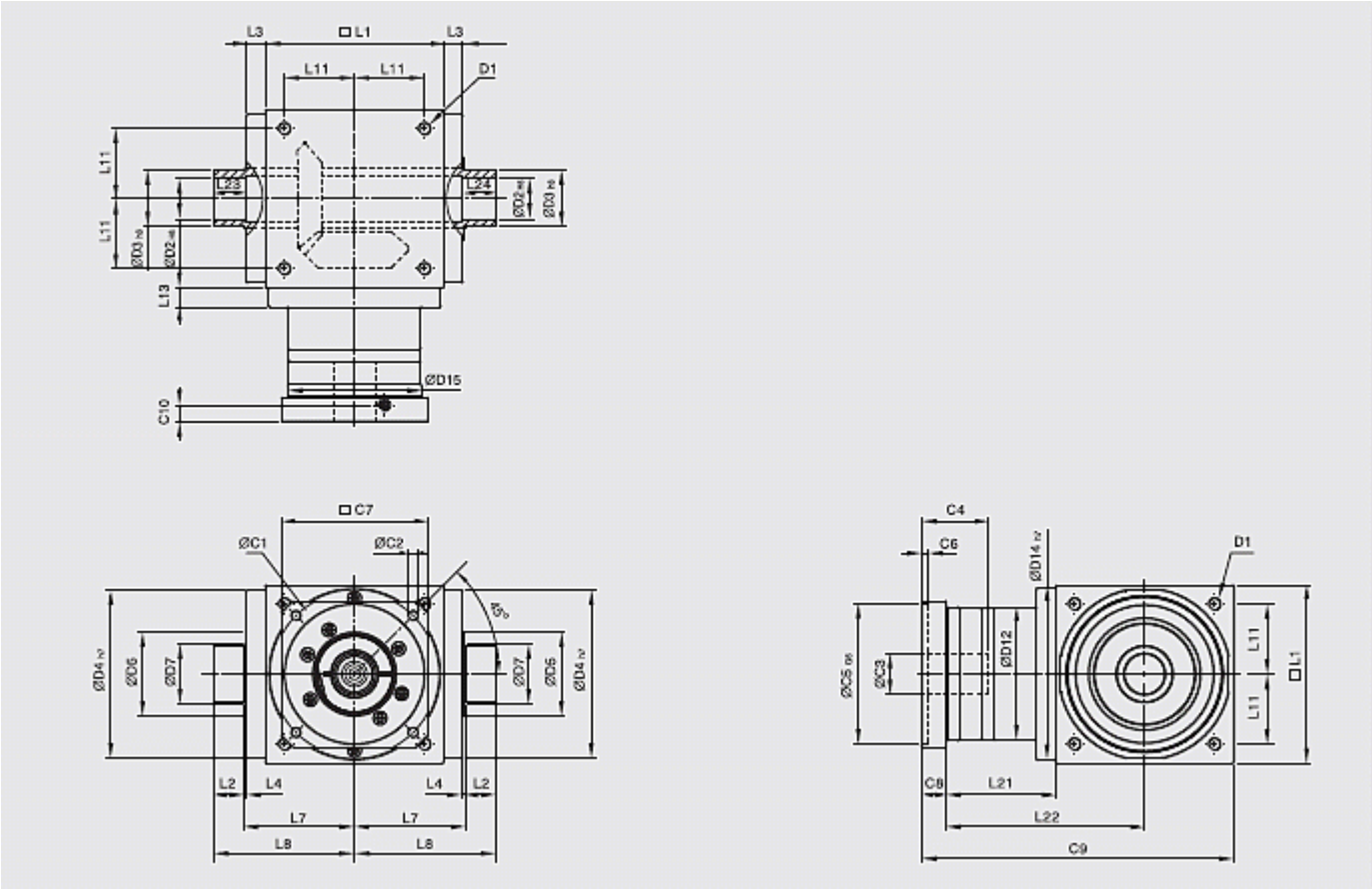


Inertia

Model No.		Stage	Ratio ¹	ATB 065FC	ATB 075FC	ATB 090FC	ATB 110FC	ATB 140FC	ATB 170FC	ATB 210FC	ATB 240FC	ATB 280FC
Mass Moment of inertia J ₁	kg*cm ²	1	1	0.51	1.30	3.14	7.62	23.54	59.09	195.96	365.38	787.63
			1.5	0.46	1.15	2.80	6.65	19.34	49.38	156.02	279.62	584.28
			2	0.44	1.10	2.68	6.23	17.72	45.44	140.80	245.78	500.26
			3	0.43	1.09	2.64	6.08	17.16	44.11	135.51	233.75	471.56
			4	0.43	1.08	2.63	6.05	17.03	43.79	134.14	230.77	464.76
			5	0.43	1.08	2.63	6.04	16.99	43.69	133.71	229.71	462.08
		2	7	0.15	0.15	0.50	2.79	2.79	2.79	9.91	29.26	29.26
			10	0.15	0.15	0.50	2.80	2.80	2.80	9.96	29.43	29.43
			15	0.15	0.15	0.50	2.80	2.80	2.80	9.96	29.43	29.43
			20	0.15	0.15	0.50	2.80	2.80	2.80	9.96	29.43	29.43
			25	0.15	0.15	0.50	2.80	2.80	2.80	9.96	29.43	29.43
			35	0.15	0.15	0.50	2.79	2.79	2.79	9.91	29.26	29.26
		3	50	0.15	0.15	0.50	2.79	2.79	2.79	9.89	29.20	29.20
			75	-	-	-	2.80	2.80	2.80	9.96	29.43	29.43
			100	-	-	-	2.80	2.80	2.80	9.96	29.43	29.43
			125	-	-	-	2.80	2.80	2.80	9.96	29.43	29.43
			150	-	-	-	2.79	2.79	2.79	9.89	29.20	29.20
			200	-	-	-	2.79	2.79	2.79	9.89	29.20	29.20
			250	-	-	-	2.79	2.79	2.79	9.89	29.20	29.20
			350	-	-	-	2.79	2.79	2.79	9.89	29.20	29.20
			500	-	-	-	2.79	2.79	2.79	9.89	29.20	29.20

Sizes

ATB-FC series 1-stage, ratio i = 1 ~ 5

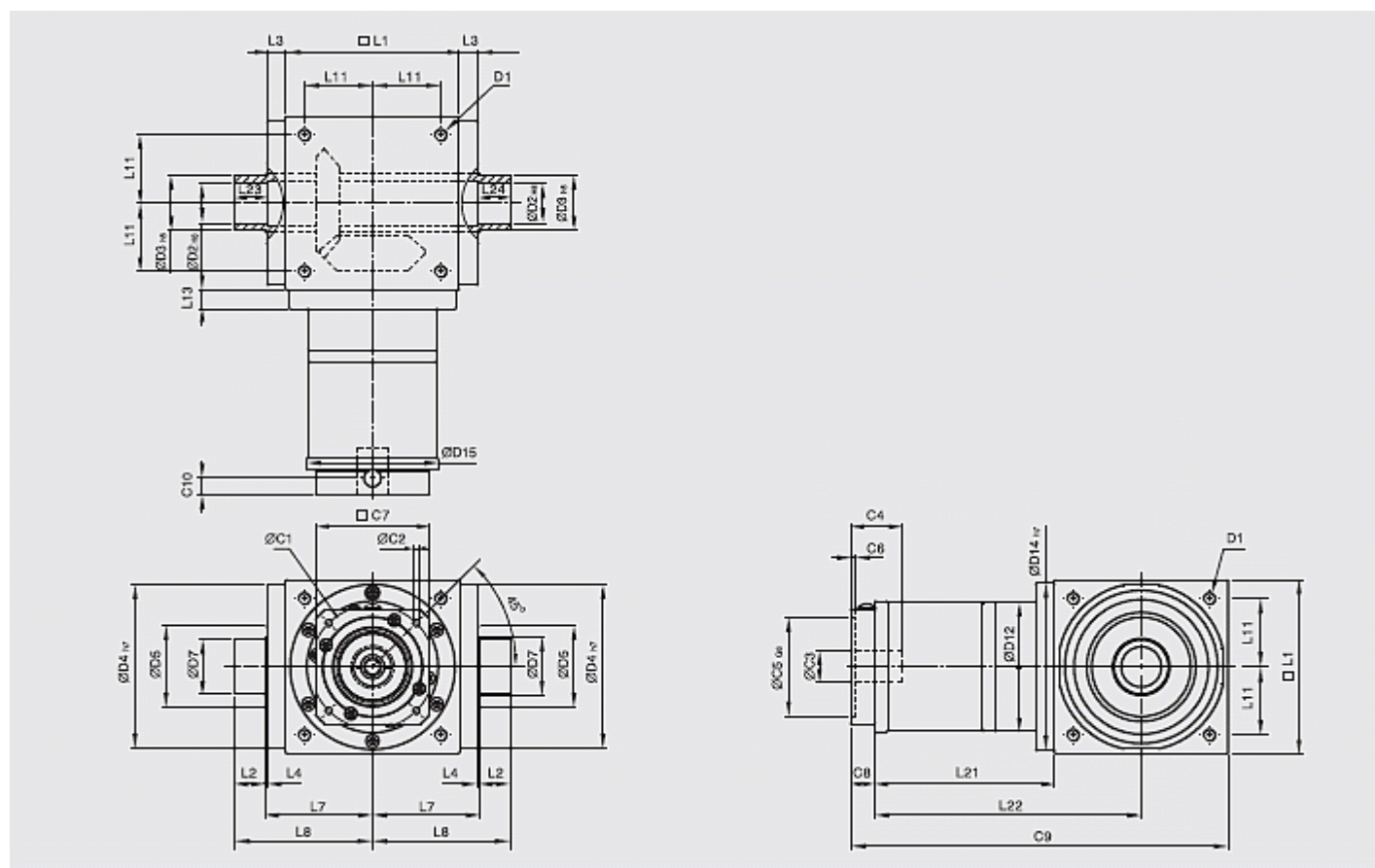


	ATB065FC	ATB075FC	ATB090FC	ATB110FC	ATB140FC	ATB170FC	ATB210FC	ATB240FC	ATB280FC
D1	M4	M6	M6	M8	M10	M12	M16	M16	M16
D2 _{H6}	13	14	18	22	32	40	50	55	60
D3 _{H8}	16	16	22	25	44	50	62	68	75
D4 _{H7}	63	73	88	108	135	165	205	235	275
D5	31	35	43	53	68	83	104	124	144
D7	21	22	28	33	47	55	75	85	110
D12	62	72	86	106	104	128	160	180	200
D14 _{H7}	63	73	88	108	135	165	205	235	275
D15	62.9	72.9	87	107	105	130	158	178	198
L1	65	75	90	110	140	170	210	240	280
L2	14	14	18	18	24	26	29	29	30.5
L3	13	14.5	15	15	15	15	20	25	25
L4	2	2	2	2	2	2	2	2	2
L7	47.5	54	62	72	87	102	127	147	167
L8	61.5	68	80	90	111	128	156	176	197.5
L11	27	30	36	44	55	67	85	95	110
L13	13	15	15	15	15	15	20	25	25
L21	49	60.5	63	69.5	85.5	95	130	144.5	135
L22	81.5	98	108	124.5	155.5	180	235	264.5	275
L23	15	15	20	20	26	28	31	31	32.5
L24	15	15	20	20	26	28	31	31	32.5
C1 ¹²	46	70	100	100	130	165	215	215	235
C2 ¹²	M4	M5	M6	M6	M8	M10	M12	M12	M12
C3 ¹²	≤11 ≤12	≤14 ≤15.875 ≤16	≤19	≤24	≤32	≤38	≤42	≤48	≤55

C4 ¹²	30	34	40	40	50	60	85	85	116
C5 ¹² _{G6}	30	50	80	80	110	130	180	180	200
C6 ¹²	3.5	8	4	4	5	6	6	6	6
C7 ¹²	42	60	90	90	115	142	190	190	220
C8 ¹²	19.5	19	17	17	19.5	22.5	29	29	63
C9 ¹²	133.5	154.5	170	196.5	245	287.5	369	413.5	478
C10 ¹²	13.25	13.5	10.75	10.75	13	15	20.75	20.75	53.5

12. C1~C10 are motor specific dimensions (metric std shown).

ATB-FC series 2-stage, ratio i = 7 ~ 50

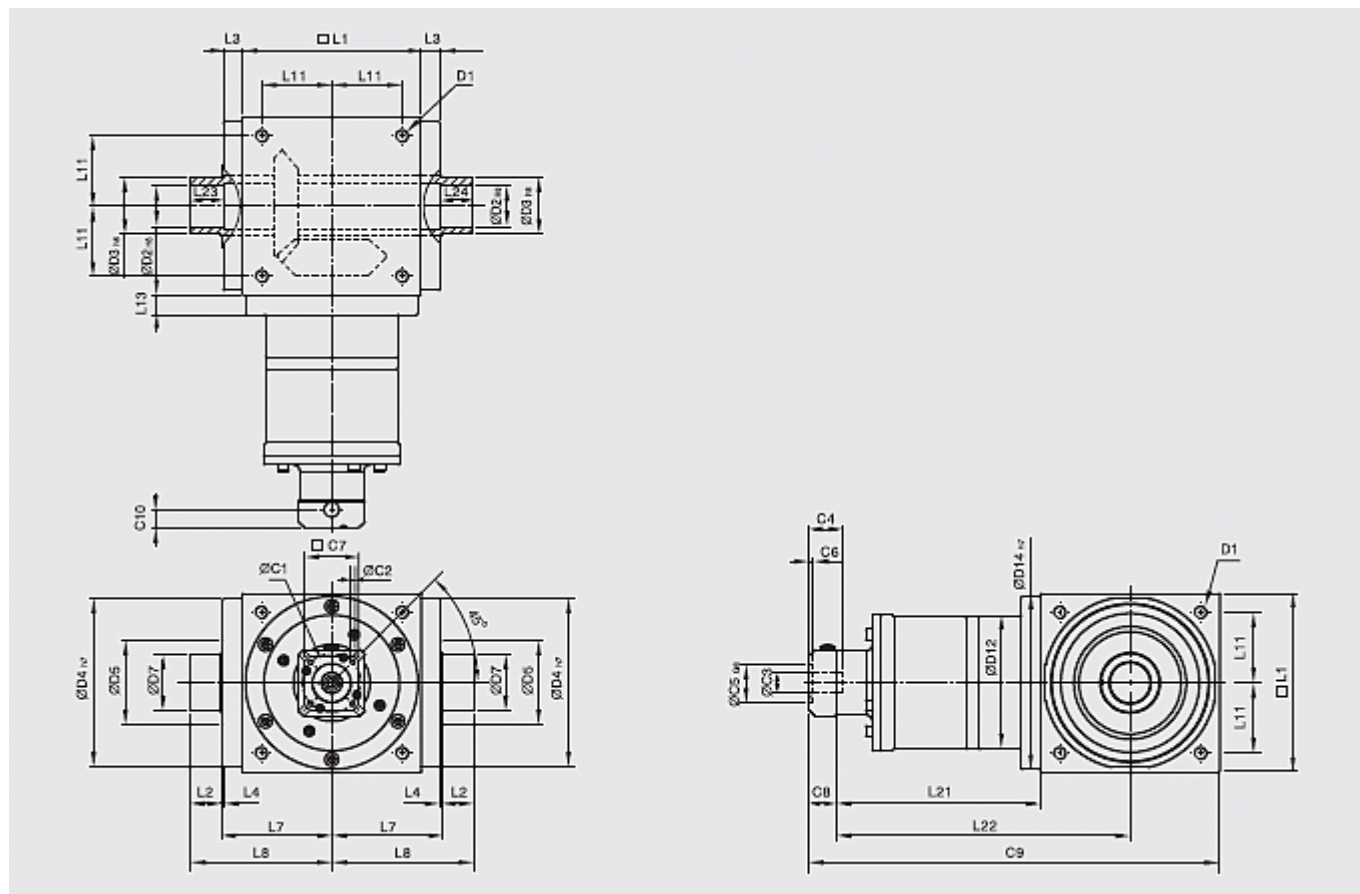


	ATB065FC	ATB075FC	ATB090FC	ATB110FC	ATB140FC	ATB170FC	ATB210FC	ATB240FC	ATB280FC
D1	M4	M6	M6	M8	M10	M12	M16	M16	M16
D2 _{H6}	13	14	18	22	32	40	50	55	60
D3 _{H8}	16	16	22	25	44	50	62	68	75
D4 _{H7}	63	73	88	108	135	165	205	235	275
D5	31	35	43	53	68	83	104	124	144
D7	21	22	28	33	47	55	75	85	110
D12	62	72	86	106	104	128	160	180	200
D14 _{H7}	63	73	88	108	135	165	205	235	275
D15	62.9	72.9	87	107	106	127	158	178	198
L1	65	75	90	110	140	170	210	240	280
L2	14	14	18	18	24	26	29	29	30.5
L3	13	14.5	15	15	15	15	20	25	25
L4	2	2	2	2	2	2	2	2	2
L7	47.5	54	62	72	87	102	127	147	167

L8	61.5	68	80	90	111	128	156	176	197.5
L11	27	30	36	44	55	67	85	95	110
L13	13	15	15	15	15	15	20	25	25
L21	75	84.5	99	122	144.5	157.5	206.5	239	248
L22	107.5	122	144	177	214.5	242.5	311.5	359	388
L23	15	15	20	20	26	28	31	31	32.5
L24	15	15	20	20	26	28	31	31	32.5
C1 ¹³	46	46	70	100	100	100	130	165	165
C2 ¹³	M4	M4	M5	M6	M6	M6	M8	M10	M10
C3 ¹³	≤12	≤12	≤16	≤24	≤24	≤24	≤32	≤38	≤38
C4 ¹³	30	30	34	40	40	40	50	60	60
C5 ¹³ _{G6}	30	30	50	80	80	80	110	130	130
C6 ¹³	3.5	3.5	8	4	4	4	5	6	6
C7 ¹³	42	42	60	92	92	92	115	142	142
C8 ¹³	21.5	21.5	21.5	20	20	20	24	31	31
C9 ¹³	161.5	181	210.5	252	304.5	347.5	440.5	510	559
C10 ¹³	14.5	14.5	15.5	13	13	13	16	21	21

13. C1~C10 are motor specific dimensions (metric std shown).

ATB-FC series 3-stage, ratio i = 75 ~ 500

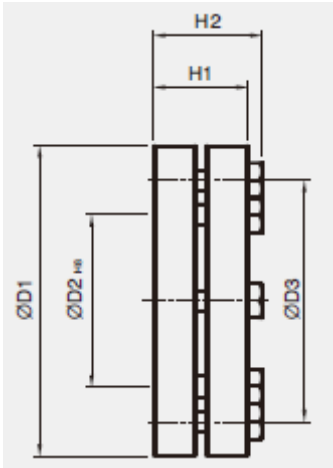


	ATB110FC	ATB140FC	ATB170FC	ATB210FC	ATB240FC	ATB280FC
D1	M8	M10	M12	M16	M16	M16
D2 _{H6}	22	32	40	50	55	60
D3 _{H8}	25	44	50	62	68	75
D4 _{H7}	108	135	165	205	235	275

D5	53	68	83	104	124	144
D7	33	47	55	75	85	110
D12	106	104	128	160	180	200
D14 _{h7}	108	135	165	205	235	275
D15	107	106	127	158	178	198
L1	110	140	170	210	240	280
L2	18	24	26	29	29	30.5
L3	15	15	15	20	25	25
L4	2	2	2	2	2	2
L7	72	87	102	127	147	167
L8	90	111	128	156	176	197.5
L11	44	55	67	85	95	110
L13	15	15	15	20	25	25
L21	136.5	159.5	183.5	226	269	278
L22	191.5	229.5	268.5	331	389	418
L23	20	26	28	31	31	32.5
L24	20	26	28	31	31	32.5
C1 ¹⁴	46	46	70	70	100	100
C2 ¹⁴	M4	M4	M5	M5	M6	M6
C3 ¹⁴	≤12	≤12	≤16	≤16	≤24	≤24
C4 ¹⁴	30	30	34	34	40	40
C5 ¹⁴ _{G6}	30	30	50	50	80	80
C6 ¹⁴	3.5	3.5	8	8	4	4
C7 ¹⁴	42	42	60	60	92	92
C8 ¹⁴	21.5	21.5	21.5	21.5	20	20
C9 ¹⁴	268	321	375	457.5	529	578
C10 ¹⁴	14.5	14.5	15.5	15.5	13	13

14. C1~C10 are motor specific dimensions (metric std shown).

Shrink disc



C / FC Serie	D1	D2	D3	H1	H2
SSD-d16xdw14	41	16	26	15	18,5
SSD-d22xdw18	50	22	36	19,5	23
SSD-d25xdw22	50	25	38	19,5	23
SSD-d44xdw32	80	44	61	25,5	29,5
SSD-d50xdw40	90	50	70	27,5	31,5
SSD-d62xdw50	110	62	86	30,5	34,5

SSD-d68xdw55	115	68	86	30,5	34,5
SSD-d75xdw60	138	75	100	32,5	38