

ADS series

Overview



- Special design for continuous (S1) or cyclic (S5) duty operation
- Stainless steel housing, aluminum black anodized motor adapter flange
- Stainless steel input and output shaft, flange ISO 9409
- Helical gear technology
- Nominal Torques:
 - T_{2N} : 14 Nm – 2000 Nm
- Ratios
 - 1-stage : 4 / 5 / 7 / 10
 - 2-stage: 16 / 21 / 31 / 61 / 91
- Low Backlash
 - 1-stage : ≤ 1 arcmin / ≤ 3 arcmin / ≤ 5 arcmin
 - 2-stage : ≤ 3 arcmin / ≤ 5 arcmin / ≤ 7 arcmin
- High Efficiency
 - 1-stage : $\geq 97\%$
 - 2-stage : $\geq 94\%$
- Easy mount
- Low noise
- Compact structure
- Size available: ADS047 / ADS064 / ADS090 / ADS110 / ADS140 / ADS200 / ADS255

Specifications

Model No.	Stage	Ratio ¹	ADS047	ADS064	ADS090	ADS110	ADS140	ADS200	ADS255	
	1	4	19	48	130	270	560	1,100	1,700	
		5	22	60	160	330	650	1,200	2,000	
		7	19	50	140	300	550	1,100	1,800	
		10	14	40	100	230	450	900	1,500	
Nominal Output Torque T_{2N} Nm										
	2	16	19	48	130	270	560	1,100	1,700	
		21	22	60	160	330	650	1,200	2,000	
		31	19	50	140	300	550	1,100	1,800	
		61	19	50	140	300	550	1,100	1,800	
		91	14	40	100	230	450	900	1,500	
Emergency Stop Torque T_{2NOT-3}	Nm	1,2	4~91	3 times of nominal output torque T_{2N}						
Nominal Input Speed N_{1N} rpm										
		1,2	4~91	5,000	5,000	4,000	4,000	3,000	3,000	2,000
Max. Input Speed N_{1B} rpm										
		1,2	4~91	10,000	10,000	8,000	7,500	4,500	4,500	3,800
Micro Backlash P0 arcmin										
		1	4~10	-	-	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1
		2	16~91	-	-	-	≤ 3	≤ 3	≤ 3	≤ 3
Reduced Backlash P1 arcmin										
		1	4~10	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3
		2	16~91	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
Standard Backlash P2 arcmin										
		1	4~10	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
		2	16~91	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7
Torsional Rigidity Nm/arcmin										
		1,2	4~91	3	7	14	25	50	145	225
Max. Bending moment F_{2kB-2} Nm										
		1,2	4~91	42.5	125	235	430	1,300	3,064	5,900
Max. axial load F_{2a-2} N										
		1,2	4~91	1,080	2,110	2,310	4,800	6,200	5,450	10,600
Input Max. Radial Load F_{2rB-2} N										
		1	4~10	165	395	1,300	1,525	2,800	4,500	12,500
		2	16~91	165	395	395	1,300	1,525	2,800	4,500
Input Max. Axial Load F_{2rA-2} N										
		1	4~10	580	1,000	1,100	980	2,700	4,700	8,000
		2	16~91	580	580	1,000	1,100	980	2,700	4,700
Service Life hr										
		1,2	4~91	30,000 *						
Efficiency %										
		1	4~10	≥ 97 %						
		2	16~91	≥ 94 %						
Weight kg										
		1	4~10	0.8	1.4	3.4	6.7	13.5	35.0	63.8
		2	16~91	1.1	1.6	4.0	7.3	16.6	36.4	74.7
Operating Temperature °C										
		1,2	4~91	-10°C ~+ 90°C						
Lubrication										
		1,2	4~91	synthetic gear grease (NYOGEL 792D)						
Degree of Gearbox Protection										
		1,2	4~91	IP65						

Mounting Position		1,2	4~91	all directions						
Noise Level ($n_1=3000$ rpm, No Load)	dB(A)	1,2	4~91	≤ 56	≤ 58	≤ 60	≤ 63	≤ 65	≤ 67	≤ 70

1. Ratio ($i=N$ in / N out)
 2. Applied to the output flange @ 100 rpm
 3. Maximum Acceleration Torque $T_{2B} = 60\%$ van T_{2NOT}
- * S1 service life 15,000 hrs.

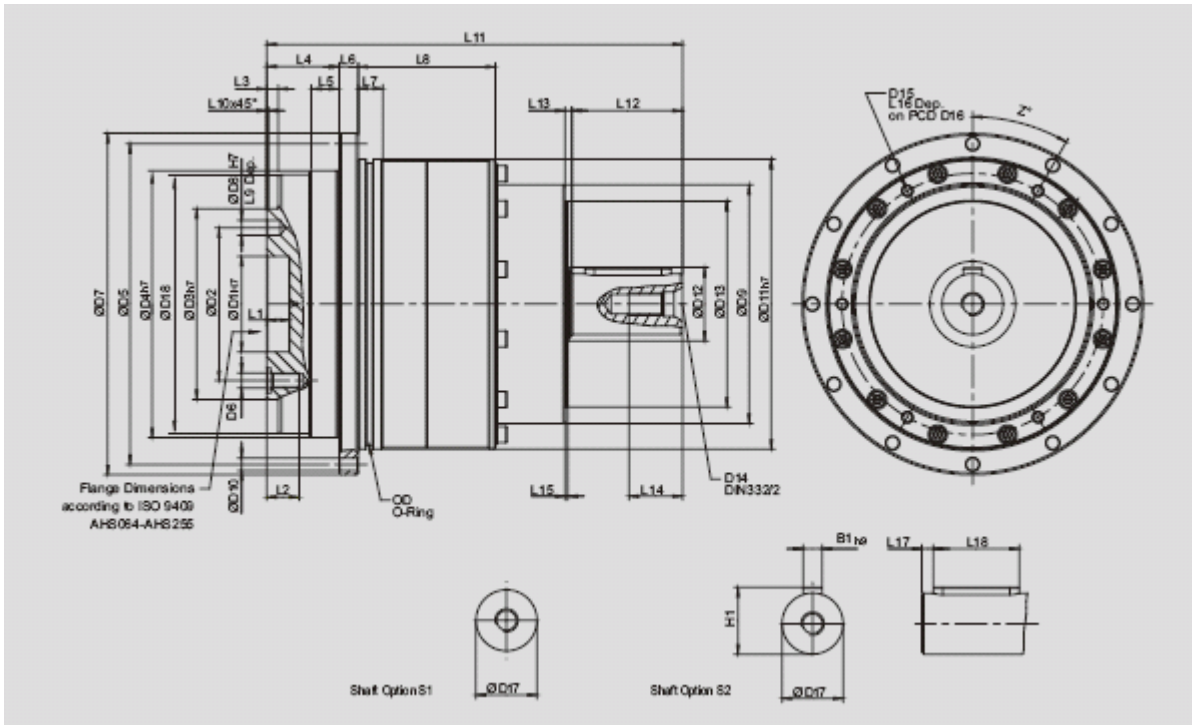
Inertia

Model No.	Stage	Ratio	ADS047	ADS064	ADS090	ADS110	ADS140	ADS200	ADS255
Mass Moment of inertia J_x	1	4	0.06	0.21	0.87	3.65	10.27	43.05	102.68
		5	0.06	0.21	0.83	3.53	10.17	41.76	99.12
		7	0.06	0.21	0.82	3.47	9.99	41.15	97.41
		10	0.06	0.21	0.81	3.45	9.93	40.97	97.03
		16	0.06	0.06	0.21	0.83	3.53	10.17	41.76
		21	0.06	0.06	0.21	0.83	3.53	10.17	41.76
	2	31	0.06	0.06	0.21	0.83	3.53	10.17	41.76
		61	0.06	0.06	0.21	0.81	3.45	9.93	40.97
		91	0.06	0.06	0.21	0.81	3.45	9.93	40.97

kg*cm²

Sizes

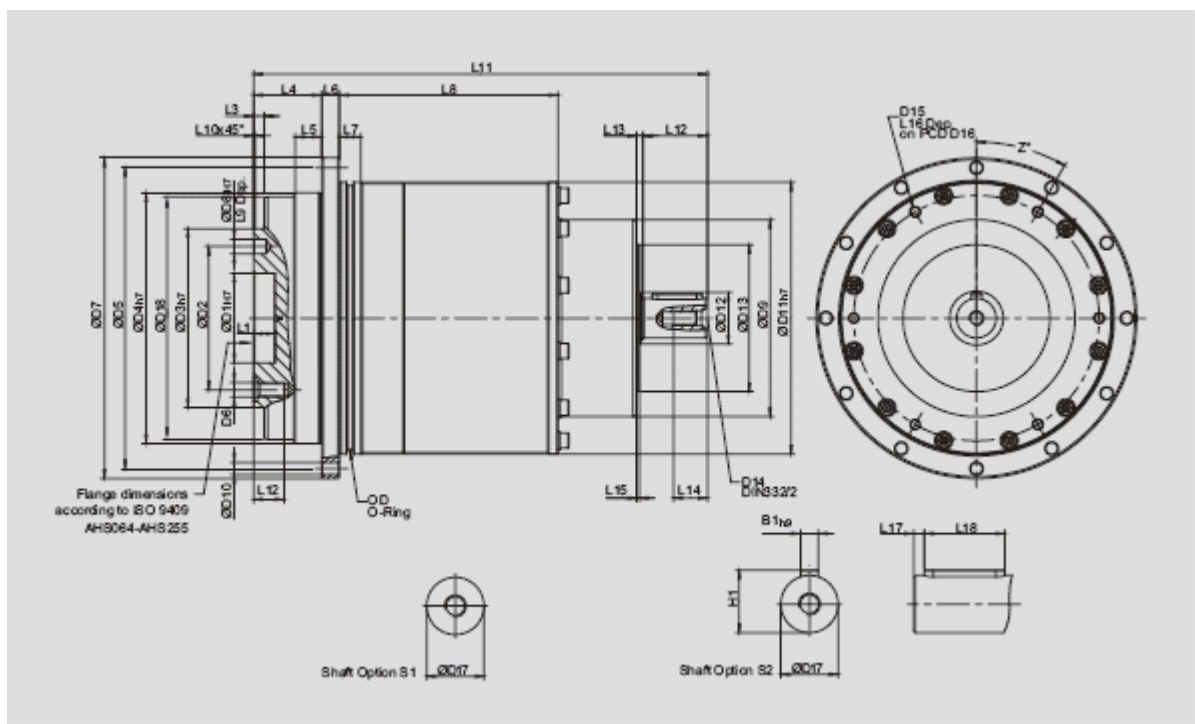
ADS series 1-stage, ratio $i = 4\sim 10$



	ADS047	ADS064	ADS090	ADS110	ADS140	ADS200	ADS255
D1 _{H7}	12	20	31.5	40	50	80	100
D2	20	31.5	50	63	80	125	140
D3 _{H7}	28	40	63	80	100	160	180
D4 _{H7}	47	64	90	110	140	200	255
D5	67	79	109	135	168	233	280
D6	4 X M3 X 0.5P	7 X M5 X 0.8P	7 X M6 X 1P	11 X M6 X 1P	11 X M8 X 1.25P	11 X M10 X 1.5P	12 X M16 X 2P
D7	72	86	118	145	179	247	300
D8 _{H7}	3	5	6	6	8	10	12
D9	43	55	78	100	125	175	210
D10	8 X 3.4	8 X 4.5	8 X 5.5	8 X 5.5	12 X 6.6	12 X 9	16 X 13.5
D11 _{H7}	60	70	95	120	152	212	255
D12	31	22	22	30	40	75	95
D13	37	50	62	82	108	145	172
D14	M4 x 0.7P	M4 x 0.7P	M5 x 0.8P	M8 x 1.25P	M12 x 1.75P	M16 x 2P	M20 x 2.5P
D15	M3 x 0.5P	M3 x 0.5P	M4 x 0.7P	M5 x 0.8P	M6 x 1P	M8 x 1.25P	M8 x 1.25P
D16	51.5	61.5	84	107	137	193	235
D17 _{k6}	11	14	16	22	32	40	55
D18	46.2	63.2	89.2	109.2	139.2	199.2	254.2
L1	4	8	12	12	12	16	20
L2	6.5	8	13.5	13.5	17	22.5	30.5
L3	3	3	6	6	6	8	12
L4	19.5	19.5	30	29	38	50	66
L5	7	7	10	10	14.6	15	20
L6	4	4	7	8	10	12	18
L7	5	7.7	8	10	12	15	20
L8	32.5	43.5	47	62	72	89.5	112
L9	4	6	7	7	7	10	10
L10	0.5	0.5	1	1	1	1	1
L11	89.5	110.5	138.5	170	218	296	372.5
L12	18	22	28	36	58	82	115

L13	2.5	2.5	3.5	3.5	3.5	4.5	4.5
L14	10	10	12.5	19	28	36	42
L15	1.5	1.5	1.5	1.5	1.5	1.5	1.5
L16	5.5	5.5	7	9	11	14	14
L17	2	2	3	3	6	6	7
L18	14	18	22	28	45	70	90
B1 _{h9}	4	5	5	6	10	12	16
H1	12.5	16	18	24.5	35	43	59
OD	56 X 2	66 X 2	90 X 3	110 X 3	145 X 3	200 X 5	238 X 5
V	4	4	4	4	6	6	6
Z	45	45	45	45	30	30	30

ADS series 2-stage, ratio i= 16~91

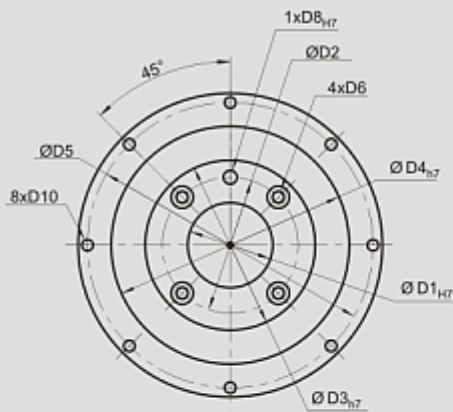


	ADS047	ADS064	ADS090	ADS110	ADS140	ADS200	ADS255
D1 _{H7}	12	20	31.5	40	50	80	100
D2	20	31.5	50	63	80	125	140
D3 _{H7}	28	40	63	80	100	160	180
D4 _{H7}	47	64	90	110	140	200	255
D5	67	79	109	135	168	233	280
D6	4 X M3 X 0.5P	7 X M5 X 0.8P	7 X M6 X 1P	11 X M6 X 1P	11 X M8 X 1.25P	11 X M10 X 1.5P	12 X M16 X 2P
D7	72	86	118	145	179	247	300
D8 _{H7}	3	5	6	6	8	10	12
D9	43	48	68	86	110	132	182
D10	8 X 3.4	8 X 4.5	8 X 5.5	8 X 5.5	12 X 6.6	12 X 9	16 X 13.5
D11 _{H7}	60	70	95	120	152	212	255
D12	22	22	22	22	30	40	75
D13	37	37	50	62	82	108	145
D14	M4 x 0.7P	M4 x 0.7P	M4 x 0.7P	M5 x 0.8P	M8 x 1.25P	M12 x 1.75P	M16 x 2P
D15	M3 x 0.5P	M3 x 0.5P	M4 x 0.7P	M5 x 0.8P	M6 x 1P	M8 x 1.25P	M10 x 1.5P
D16	51.5	61.5	84	107	137	193	235
D17 _{k6}	11	11	14	16	22	32	40

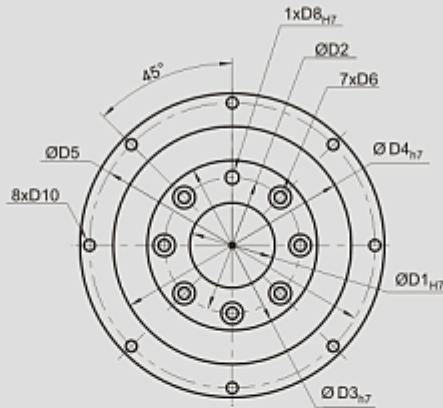
D18	46.2	63.2	89.2	109.2	139.2	199.12	254.2
L1	4	8	12	12	12	16	20
L2	6.5	8	13.5	13.5	17	22.5	30.5
L3	3	3	6	6	6	8	12
L4	19.5	19.5	30	29	38	50	66
L5	7	7	10	10	14.6	15	20
L6	4	4	7	8	10	12	18
L7	5	7.7	8	10	12	15	20
L8	62.5	63.5	67	82	122	79.5	177
L9	4	6	7	7	7	10	10
L10	0.5	0.5	1	1	1	1	1
L11	119.5	125.5	158.5	188	253.5	314.5	419.5
L12	18	18	22	28	36	58	82
L13	2.5	2.5	2.5	3.5	3.5	3.5	4.5
L14	10	10	10	12.5	19	28	36
L15	1.5	1.5	1.5	1.5	1.5	1.5	1.5
L16	5.5	5.5	7	9	11	14	18
L17	2	2	2	3	3	6	6
L18	14	14	18	22	28	45	70
B1 _{h9}	4	4	5	5	6	10	12
H1	12.5	12.5	16	18	24.5	35	43
OD	56 X 2	66 X 2	90 X 3	110 X 3	145 X 3	200 X 5	238 X 5
V	4	4	4	4	6	6	6
Z	45	45	45	45	30	30	30

Dimensions Output Flange(ISO 9409)
ADS series

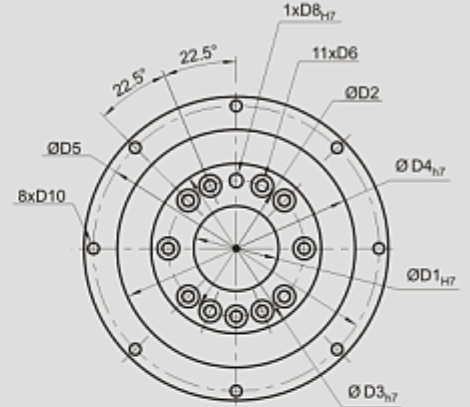
**AD 047
ADR 047
ADS 047**



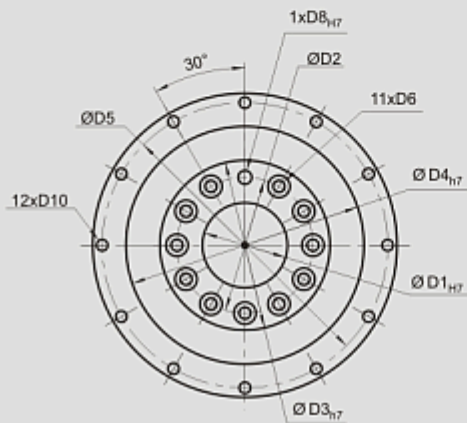
**AD 064 / AD 090
ADR 064 / ADR 090
ADS 064 / ADS 090**



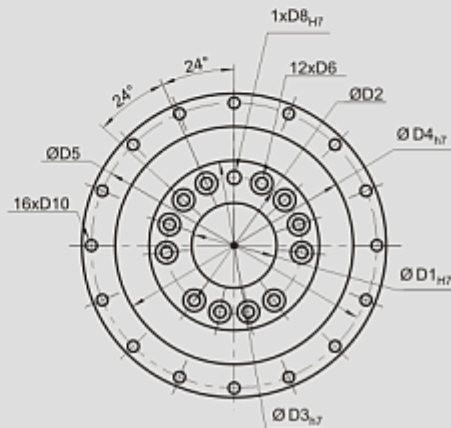
**AD 110
ADR 110
ADS 110**



**AD 140 / AD 200
ADR 140 / ADR 200
ADS 140 / ADS 200**



**AD 255
ADR 255
ADS 255**



	AD047	AD064	AD090	AD110	AD140	AD200	AD255
Dimension	ADR047	ADR064	ADR090	ADR110	ADR140	ADR200	ADR255
	ADS047	ADS064	ADS090	ADS110	ADS140	ADS200	ADS255
D1_{H7}	12	20	31.5	40	50	80	100
D2	20	31.5	50	63	80	125	140
D3_{H7}	28	40	63	80	100	160	180
D4_{H7}	47	64	90	110	140	200	255
D5	67	79	109	135	168	233	280
D6	M3 x 0.5P	M5 x 0.8P	M6 x 1P	M6 x 1P	M8 x 1.25P	M10 x 1.5P	M16 x 2P
D8_{H7}	3	5	6	6	8	10	12
D10	3.4	4.5	5.5	5.5	6.6	9	13.5