APEX DYNAMICS

Leverancier van spelingsarme reductoren

AERS series

Overview

- Special design for continuous (S1) or cyclic (S5) duty operation
- Stainless steel housing and motor adapter flange
- Stainless steel output shaft with key
- Standard with Food Grade lubrication
- Helical gear design
- Nominal torques:
    - T_{2N} : 9 Nm – 2000 Nm
- Ratios
    - 1-stage : 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 14 / 20
    - 2-stage : 15 / 20 / 25 / 30 / 35 / 40 / 45 / 50 / 60 / 70 / 80 / 90 / 100 / 120 / 140 / 160 / 180 / 200
    - * Only the AER050S, 2-stage offers 15 and 20 option.
- Low backlash
    - 1-stage : ≤ 10 arcmin
    - 2-stage : ≤ 14 arcmin
- High efficiency
    - 1-stage : ≥ 95%
    - 2-stage : ≥ 92%
- Easy mount
- Low noise
- Compact structure
- Sizes available: AER050S / AER070S / AER090S / AER120S /AER155S

Specifications

Model No.		Stage	Ratio[1]	AER050S	AER070S	AER090S	AER120S	AER155S
Nominal Output Torque T_{2N}	Nm	1	3	9	36	90	195	342
			4	12	48	120	260	520
			5	15	60	150	325	650
			6	18	55	150	310	600
			7	19	50	140	300	550
			8	17	45	120	260	500
			9	14	40	100	230	450
			10	14	40	100	230	450
			14	-	42	140	300	550
			20	-	40	100	230	450
		2	15	14	-	-	-	-
			20	14	-	-	-	-
			25	15	60	150	325	650
			30	20	55	150	310	600
			35	19	50	140	300	550
			40	17	45	120	260	500
			45	14	40	100	230	450
			50	14	60	100	230	650
			60	20	55	150	310	600
			70	19	50	140	300	550
			80	17	45	120	260	500
			90	14	40	100	230	450
			100	14	40	100	230	450
			120	-	-	150	310	600
			140	-	-	140	300	550
			160	-	-	120	260	550
			180	-	-	100	230	450
			200	-	-	100	230	450
Max. Torque T_{2N}	Nm	1,2	3~200	60% of Emmergency Torque T_{2NOT}				
Emergency Stop Torque T_{2NOT}	Nm	1,2	3~200	3 times of nominal output torque T_{2N}				
No Load Torque[2]	Nm	1	3~20	0,33	0,44	0,77	1,98	2,53
		2	25~200	0,17	0,17	0,28	0,55	1,43
Nominal Input Speed N_{1N}	rpm	1,2	3~200	5,000	5,000	4,000	4,000	3,000
Max. Input Speed N_{1B}	rpm	1,2	3~200	10,000	10,000	8,000	8,000	6,000
Backlash	arcmin	1	3~20	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
		2	25~200	≤ 14	≤ 14	≤ 14	≤ 14	≤ 14
Torsional Rigidity	Nm/ arcmin	1,2	3~200	3	7	14	25	50
Max. Radial Load F_{2rB}[3]	N	1,2	3~200	702	1,377	2,985	6,100	8,460
Max. Axial Load F_{2a1B}[4]	N	1,2	3~200	350	630	1,300	2,400	4,000
Max. Axial Load F_{2a2B}[4]	N	1,2	3~200	390	765	1,625	3,350	4,700
Service Life[4]	hr	1,2	3~200	20,000				
Efficiency	%	1	3~20	≥95 %				
		2	25~200	≥92 %				
Weight	kg	1	3~20	1.0	2.1	5.8	11.2	22.4
		2	25~200	1.3	2.0	4.6	11.1	21.8
Operating Temperature	ºC	1,2	3~200	-10ºC~+90ºC				
Lubrication		1,2	3~200	synthetic gear grease (NYOGEL 792D)				
Degree of Gearbox Protection		1,2	3~200	IP65				
Mounting Position		1,2	3~200	all directions				
Noise Level[5] (n_1=3000 rpm,No Load)	dB(A)	1,2	3~200	≤ 61	≤ 63	≤ 65	≤ 68	≤ 70

1. Ratio ($i=n_{in} / n_{out}$)
2. Measured at ratio 10 of 100, 20°C environmental temperature and 3000 rpm input speed
3. Applied to the output shaft center @ 100 rpm
4. S1 service life 10,000 hrs.
5. These values are measured by gearbox with ratio 10:1 (1-stage) or 100:1 (2-stage) at 3.000 rpm no loading
By less smaller than 10, the noise value would be 3~5 dB higher.

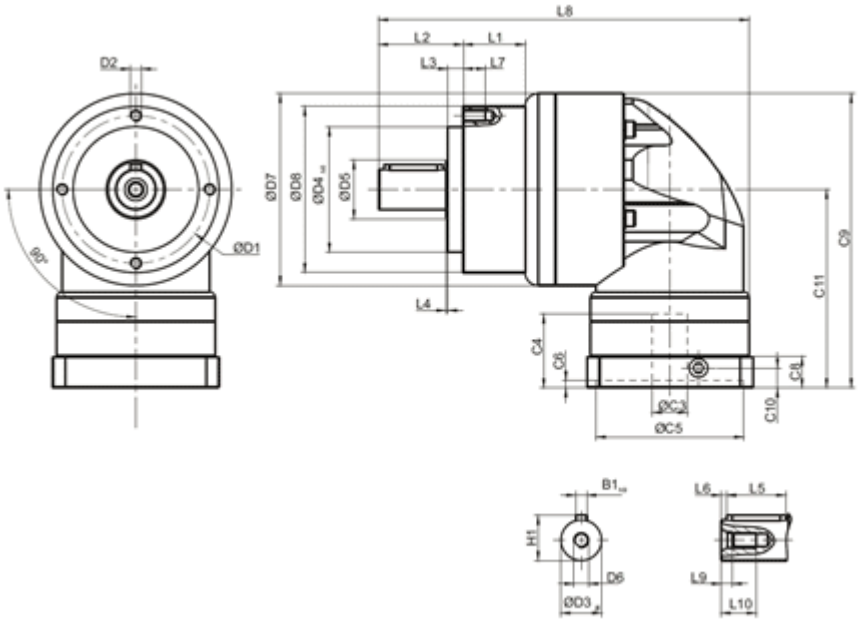
Inertia

Model No.		Stage	Ratio[1]	AER050S	AER070S	AER090S	AER120S	AER155S
Massa Moment of inertia J_1	kg*cm^2	1	3~10	0.09	0.35	2.25	6.84	23.4
			14	-	0.07	1.87	6.25	21.8
			20	-	0.07	1.87	6.25	21.8
		2	15	0.09	-	-	-	-
			20	0.09	-	-	-	-
			25~100	0.09	0.09	0.35	2.25	6.84
			120~200	-	-	0.31	1.87	6.25

1. Ratio ($i=n_{in} / n_{out}$)

Sizes

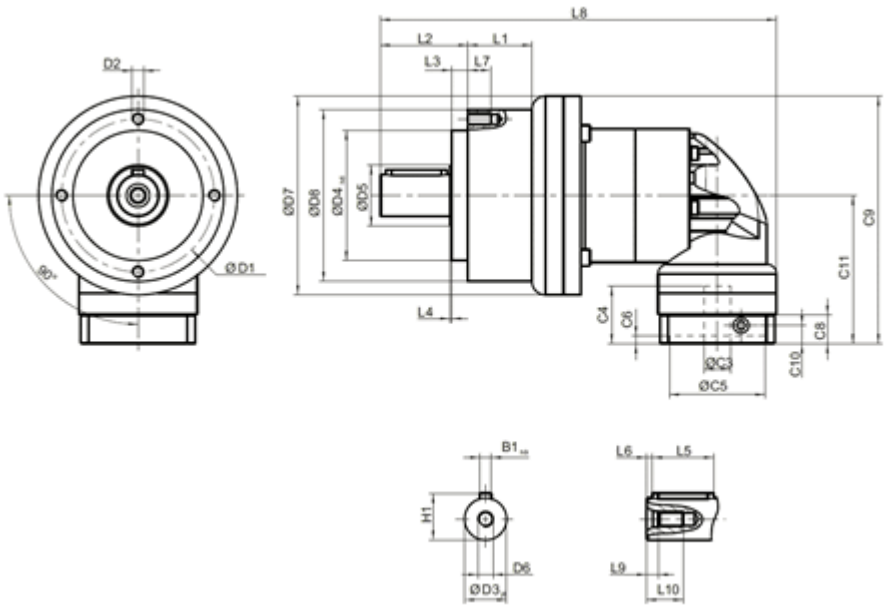
AERS series 1-stage, ratio i = 3~20



	AER050S	AER070S	AER090S	AER120S	AER155S
D1	44	62	80	108	140
D2	M4 X 0.7P	M5 X 0.8P	M6 X 1P	M8 X 1.25P	M10 X 1.5P
D3 $_{j6}$	12	16	22	32	40
D4 $_{h6}$	35	52	68	90	120
D5	22	22	30	40	75
D6	M4 X 0.7P	M5 X 0.8P	M8 X 1.25P	M12 X 1.75P	M16 X 2P
D7	53	70	104	130	162
D8	50	70	90	120	155
L1	--	--	33.5	38	50
L2	24.5	36	46	70	97
L3	4	6.5	8.5	17.5	15
L4	1	1	1	1.5	3
L5	14	25	32	40	63
L6	2	2	3	5	5
L7	8	10	12	16	20
L8	115.5	148,5	201	252	324.5
L9	4.5	4.8	7.2	10	12
L10	10	12.5	19	28	36
C3 [3]	≤11	≤14 / ≤16	≤19 / ≤24	≤32	≤38
B1 $_{h9}$	4	5	6	10	12
H1	14	18	24.5	35	43

1. C1~C10 are motor specific dimensions.
2. AER050S ratio 5:1 and 10:1 offers C3 ≤ 12mm option; AER070S ratio 5:1 and 10:1 offers C3 ≤ 16mm option; AER090S ratio 5:1 and 10:1 offers C3 ≤ 24mm option

AERS series 2-stage, ratio i = 25 ~ 200



	AER050	AER070	AER090	AER120	AER155
D1	44	62	80	108	140
D2	M4 X 0.7P	M5 X 0.8P	M6 X 1P	M8 X 1.25P	M10 X 1.5P
D3 $_{j6}$	12	16	22	32	40
D4 $_{h6}$	35	52	68	90	120
D5	22	22	30	40	75
D6	M4 X 0.7P	M5 X 0.8P	M8 X 1.25P	M12 X 1.75P	M16 X 2P
D7	53	70	104	130	162
D8	50	70	90	120	155
L1	--	--	33.5	38	50
L2	24.5	36	46	70	97
L3	4	6.5	8.5	17.5	15
L4	1	1	1	1.5	3
L5	14	25	32	40	63
L6	2	2	3	5	5
L7	8	10	12	16	20
L8	142.5	167.5	210	283	358
L9	4.5	4.8	7.2	10	12
L10	10	12.5	19	28	36
C1 [4]	46	46	70	100	130
C2 [4]	M4 X 0.7P	M4 X 0.7P	M5 X 0.8P	M6 X 1P	M8 X 1.25P
C3 [4]	≤11	≤11 / ≤12	≤14 / ≤15.875 / ≤16	≤19 / ≤24	≤32
C4 [4]	30	30	34	40	50
C5 [4] $_{G6}$	30	30	50	80	110
C6 [4]	3.5	3.5	8	4	5
C7 [4]	48	48	60	90	115
C8 [4]	19.5	19.5	19	17	19.5
C9 [4]	100.5	109	133.5	172.5	215
C10 [4]	13.25	13.25	13.5	10.75	13
C11 [4]	74	74	81.5	107.5	134
B1 $_{h9}$	4	5	6	10	12

H1	14	18	24.5	35	43

1. C1~C10 are motor specific dimensions.
2. AER050S ratio 5:1 and 10:1 offers C3 ≤ 12mm option; AER070S ratio 5:1 and 10:1 offers C3 ≤ 12mm option; AER090S ratio 5:1 and 10:1 offers C3 ≤ 15,875mm en ? 16mm optie; AER120S offers C3 ≤ 24mm option