Performance table/Technical data

DYNA GEAR

DynaGear

Size		D55	D75	D90	D115	D130	D140	D160	D190
Ratio	**i**	**3/4/5/6/8/10**							
Output torque									
Nominal torque	T_{2N} [Nm]	35	70	140	260	430	720	1100	1440
Maximum acceleration ④	T_{2B} [Nm]	53	105	210	390	645	1080	1650	2160
Emergency stop torque ③	T_{2Not} [Nm]	70	140	280	520	860	1440	2200	2880
Maximum input speed	n_{1max} [min^{-1}]	8000	8000	7000	6000	5000	5000	4500	4500
Nominal input speed i = 3/4/5	n_{1N} [min^{-1}]	2100	1800	1500	1150	1000	700	600	550
Nominal input speed i = 6/8/10	n_{1N} [min^{-1}]	3200	2700	2200	1800	1500	1200	1100	1000
Standard backlash ①	j_t [arcmin]	< 5	< 5	< 4	< 4	< 4	< 4	< 4	< 4
Reduced backlash ①	j_t [arcmin]	< 3	< 3	< 2	< 2	< 2	< 2	< 2	< 2
Backlash stiffness at the output ⑤	C_{t21} [Nm/arcmin]	2.1	4.2	10.5	23.4	39.6	61.8	90.0	126.0
Radial force ②	F_{2Rmax} [N]	3300	4900	7200	10000	12600	15000	18000	22500
Axial force ②	F_{2Amax} [N]	1650	2450	3600	5000	6300	7500	9000	11250
Efficiency rating at full load	η [%]	> 96	> 96	> 96	> 96	> 96	> 96	> 96	> 96
Noise level (n_1=3000 min^{-1})	L_{pA} [dB(A)]	< 66	< 66	< 68	< 68	< 70	< 70	< 72	< 72
Weight approx.	m [kg]	3.5	5.5	9.5	15.5	23.5	32.5	46.5	60

Size		D55	D75	D90	D115	D130	D140	D160	D190
Ratio	**i**	**12/15**							
Output torque									
Nominal torque	T_{2N} [Nm]	25	50	95	180	300	510	815	1020
Maximum acceleration ④	T_{2B} [Nm]	38	75	143	270	450	765	1223	1530
Emergency stop torque ③	T_{2Not} [Nm]	50	100	190	360	600	1020	1630	2040
Maximum input speed	n_{1max} [min^{-1}]	8000	8000	7000	6000	5000	5000	4500	4500
Nominal input speed	n_{1N} [min^{-1}]	3900	3300	2800	2300	2000	1600	1350	1300
Standard backlash ①	j_t [arcmin	< 5	< 5	< 4	< 4	< 4	< 4	< 4	< 4
Reduced backlash ①	j_t [arcmin]	< 3	< 3	< 2	< 2	< 2	< 2	< 2	< 2
Backlash stiffness at the output	C_{t21} [Nm/arcmin]	2.1	4.2	10.5	23.4	39.6	61.8	90.0	126.0
Radial force ②	F_{2Rmax} [N]	3300	4900	7200	10000	12600	15000	18000	22500
Axial force ②	F_{2Amax} [N]	1650	2450	3600	5000	6300	7500	9000	11250
Effecieny rating at full load	η [%]	> 93	> 93	> 93	> 93	> 93	> 93	> 93	> 93
Noise level (n_1=3000 min^{-1})	L_{pA} [dB(A)]	≥ 66	≥ 66	≥ 68	≥ 68	≥ 70	≥ 70	≥ 72	≥ 72
Weight approx	m [kg]	3.5	5.5	9.5	15.5	23.5	32.5	46.5	60

Size		D55HR	D75HR	D90HR	D115HR	D130HR	D140HR	D160HR	D190HR
Ratio	**i ⑥**	**18/24/30/40/50/60/80/100**							
Output torque									
Nominal torque	T_{2N} [Nm]	35	70	140	260	430	720	1100	1440
Maximum acceleration ④	T_{2B} [Nm]	53	105	210	390	645	1080	1650	2160
Emergency stop torque ③	T_{2Not} [Nm]	70	140	280	520	860	1440	2200	2880
Maximum input speed	n_{1max} [min^{-1}]	6000	6000	6000	6000	5000	5000	4500	4500
Nominal input speed	n_{1N} [min^{-1}]	3500	3000	3000	2500	2500	2500	2500	2500
Standard backlash ①	j_t [arcmin]	< 7	< 7	< 6	< 6	< 6	< 6	< 6	< 6
Reduced backlash ①	j_t [arcmin]	< 5	< 5	< 3	< 3	< 3	< 3	< 3	< 3
Backlash stiffness at the output	C_{t21} [Nm/arcmin]	2.1	4.1	10.2	22.8	37.8	60.1	86.5	119.2
Radial force ②	F_{2Rmax} [N]	3300	4900	7200	10000	12600	15000	18000	22500
Axial force ②	F_{2Amax} [N]	1650	2450	3600	5000	6300	7500	9000	11250
Effecieny rating at full load	η [%]	> 92	> 92	> 92	> 92	> 92	> 92	> 92	> 92
Noise level (n_1=3000 min^{-1})	L_{pA} [dB(A)]	< 66	< 66	< 68	< 68	< 70	< 70	< 72	< 72
Weight approx	m [kg]	4.0	6.5	12.5	19.5	27	36	49	61.5

Service life (SL) [h]: > 30.000 based operation mode S5
Lubrication: Lubricated for life, closed system
Mounting positions: Any
Operation temperature: -10 °C to 100 °C
Paint: Primary coated RAL 9005 – black
Ex-protection / type of protection: Ex II 2 D / G T4 / IP 64

① At the output, at 2 % load
② Resulting force centre of output shaft at output speed 400 min^{-1}
③ Max 1000 times during the service life of the gearbox
④ At max 1000 cycles per hour, please consider reducing factor in other cases
⑤ At nominal torque (DynaGearHR with coupling)
⑥ Ratios 120:1 and 150:1 on request

Performance table/Technical data

DYNA GEAR

Mass moment of inertia I_1

related to input [kgcm²]

DynaGear ①

Ratio i	Size							
	D55	D75	D90	D115	D130	D140	D160	D190
3:1	0.39	0.98	2.42	7.12	14.03	26.96	52.32	91.47
4:1	0.30	0.73	1.77	5.09	9.17	17.44	32.78	62.43
5:1	0.23	0.58	1.41	4.00	7.12	13.53	24.76	44.29
6:1	0.22	0.52	1.41	3.65	6.76	12.25	22.49	39.55
8:1	0.17	0.43	1.12	2.85	5.09	8.95	15.67	27.07
10:1	0.15	0.38	1.00	2.46	4.27	7.38	12.47	21.43
12:1	0.14	0.36	0.88	2.25	3.81	6.47	10.67	18.14
15:1	0.13	0.34	0.81	2.07	3.45	5.76	9.23	15.53

① Values without coupling

DynaGear HR

Ratio i	Size							
	D55HR	D75HR	D90HR	D115HR	D130HR	D140HR	D160HR	D190HR
16:1	0.40	1.19	1.25	5.12	5.37	8.74	9.70	11.55
18:1	0.46	1.38	1.41	6.64	6.73	12.57	12.85	13.33
24:1	0.39	1.15	1.18	4.90	4.99	7.99	8.27	8.75
30:1	0.37	1.06	1.09	4.15	4.24	6.58	6.86	7.34
32:1	0.38	1.15	1.16	4.84	4.88	7.79	7.89	8.07
40:1	0.36	1.06	1.07	4.09	4.13	6.38	6.48	6.66
50:1	0.36	1.05	1.06	4.07	4.09	6.31	6.36	6.45
60:1	0.35	0.94	0.97	3.20	3.29	4.14	4.42	4.90
80:1	0.34	0.94	0.95	3.14	3.18	3.94	4.04	4.22
100:1	0.34	0.93	0.94	3.12	3.14	3.87	3.92	4.01