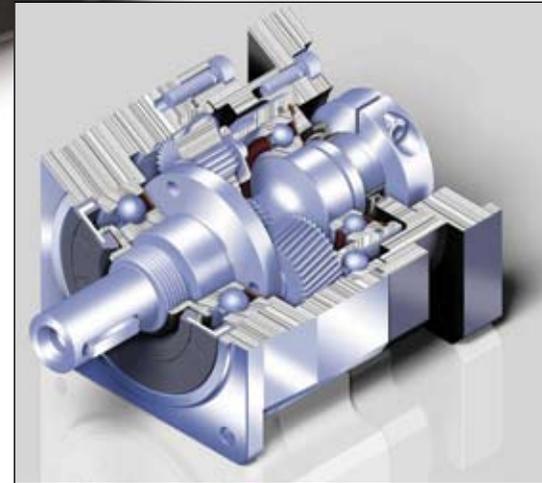
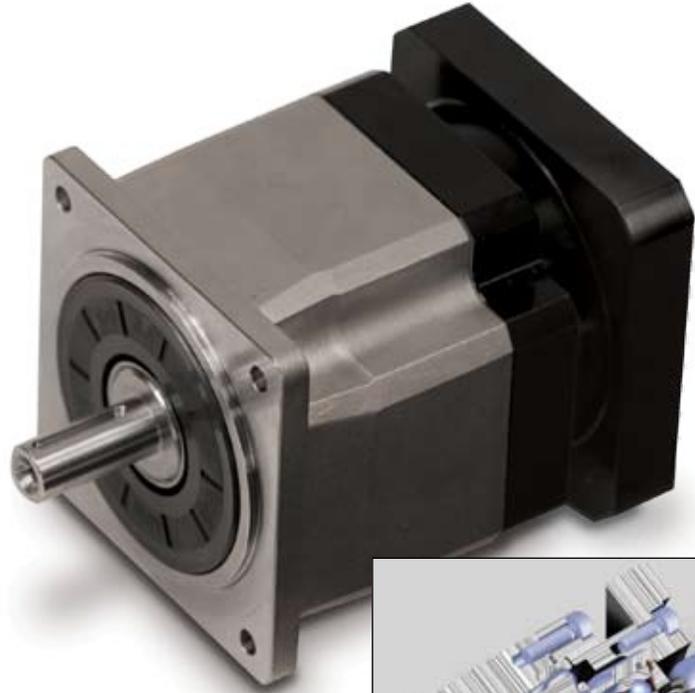


Planetary Gearboxes

FROM APEX DYNAMICS

Planetary gearboxes are designed for applications requiring reduction for inertia matching or higher torque at lower speeds. Tolomatic, in partnership with Apex Dynamics, offers high precision, high speed, single stage, true planetary gearboxes. Gear ratios of 5:1 and 10:1 are available and compatible with our 23 and 34 frame **M|R|V** brushless servo and **M|R|S** stepper motors.



FEATURES:

- **TRUE HELICAL GEAR DESIGN**
Precision helical gearing increases tooth-to-tooth contact ratio by over 33% vs spur gearing. The helix angle produces smooth and quiet operation with decreased backlash.
- *Lubricated with Nyogel 792D synthetic grease and sealed to IP65 standards prevents leakage; maintenance free.*
- *A high setting gear performance is achieved by using HeliTopo technology that eases off the tooth profile and crowns the lead of each tooth. This optimizes the gear mesh alignment and overlap to achieve maximum tooth surface contact.*

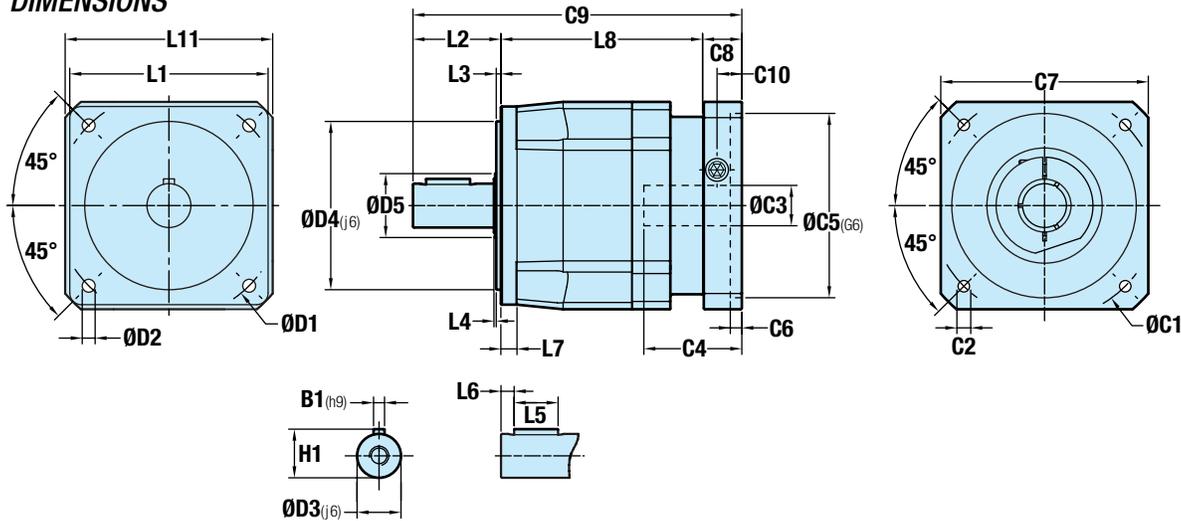
SPECIFICATIONS:

Order Code			GHV205 & GHS205		GHV210 & GHS210		GHV305 & GHS305		GHV310 & GHS310	
Frame Size [Apex Model]			23 [AN023]		23 [AN023]		34 [AN034B]		34 [AN034B]	
Ratio			5:1		10:1		5:1		10:1	
Nominal Output Torque	lb.in.	Nm	531	60	354	40	1416	160	885	100
Maximum Output Torque	lb.in.	Nm	1593	180	1062	120	4248	480	2655	300
Nominal Input Speed	RPM		5,000				4,000			
Maximum Input Speed	RPM		10,000				8,000			
Backlash	arc min.		≤5							
Torsional Rigidity	lb.in./arc min.	Nm/arc min.	23.0	2.6	23.0	2.6	84.1	9.5	84.1	9.5
Service Life	hr.		20,000							
Efficiency	%		≥97							
Weight	lb.	kg	2.67	1.21	2.67	1.21	7.52	3.41	7.52	3.41
Operating Temperature	°F		+14 to +194		+14 to +194		+14 to +194		+14 to +194	
	°C		-10 to +90		-10 to +90		-10 to +90		-10 to +90	
Lubrication	synthetic gear grease (NYOGEL 792D)									
Gearbox Protection	IP65									
Mounting Position	all directions									
Mass Moments of Inertia	lb.·in ²	kg·cm ²	0.044	0.130	0.044	0.130	0.161	0.470	0.150	0.44

Electric Linear Motion Products

Planetary Gearbox

DIMENSIONS



Dimension		GHV2	GHV3
		[AN023]	[AN034B]
D1	in.	2.625	3.875
	mm	66.68	98.43
D2	in.	0.22	0.22
	mm	5.6	5.6
D3	in.	0.50	0.50
	(f6) mm	12.7	12.7
D4	in.	1.500	2.875
	(f6) mm	38.10	73.03
D5	in.	0.87	1.18
	mm	22.0	30.0
L1	in.	2.36	3.39
	mm	60.0	86.0
L2	in.	1.25	1.25
	mm	31.8	31.8
L3	in.	0.08	0.08
	mm	2.0	2.0

Dimension		GHV2	GHV3
		[AN023]	[AN034B]
L4	in.	0.04	0.04
	mm	1.0	1.0
L5	in.	0.75	0.75
	mm	19.05	19.05
L6	in.	0.15	0.22
	mm	3.8	5.6
L7	in.	0.24	0.28
	mm	6.0	7.1
L8	in.	2.54	3.44
	mm	64.5	87.5
L11	in.	2.36	3.54
	mm	60.0	90.0
B1	in.	0.125	0.125
	(h9) mm	3.18	3.18
H1	in.	0.556	0.556
	mm	14.125	14.125

Tolomatic motor specific dimensions.

Dimension		GHV2	GHV2	GHV3	GHV3
		[AN023]	[AN023]	[AN034B]	[AN034B]
C1	in.	2.625	2.625	3.875	3.875
	mm	66.68	66.68	98.43	98.43
C2	in.	M4 x 0.7	M4 x 0.7	M5 x 0.8	M5 x 0.8
	mm				
C3	in.	0.5	0.25	0.5	0.5*
	mm	12.7	6.35	12.7	12.7*
C4	in.	1.57	1.57	1.57	1.57
	mm	40	40	40	40
C5	in.	1.502	1.502	2.877	2.877
	(G6) mm	38.15	38.15	73.08	73.08
C6	in.	0.15	0.15	0.15	0.15
	mm	3.7	3.7	3.7	3.7
C7	in.	2.283	2.283	3.346	3.346
	mm	58	58	85	85
C8	in.	0.98	0.98	0.67	0.67
	mm	25	25	17	17
C9	in.	4.776	4.776	5.366	5.366
	mm	121.3	121.3	136.3	136.3
C10	in.	0.768	0.51	0.423	0.423
	mm	19.5	13	10.75	10.75

*C3 = 0.63" (16.0mm) when using Tolomatic motor MRS30

ORDERING

GH S 3 05

PLANETARY GEARBOX	
GH	for planetary gearbox
MOTOR	
V	for servo motor
S	for stepper motor

MOTOR SIZE	
2	for 23-frame motor
3	for 34-frame motor
RATIO	
05	for 5:1 ratio planetary gearbox
10	for 10:1 ratio planetary gearbox

Planetary gearboxes are primarily sold as part of a complete assembly including actuator and motor. Tolomatic will install and test the completed actuator, planetary gearbox, and motor assembly before shipping.

Call Tolomatic if you wish to install a planetary gearbox on an existing actuator.

Contact Tolomatic for other ratios and motor mounting options.

⚠ Tolomatic assumes no responsibility that a planetary gearbox will fit or perform with your motor or actuator if sold separately.



Toll-Free: **1-800-328-2174**
U.S. AND CANADA

Visit www.tolomatic.com for the most up-to-date technical information

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