

# WGE

## Right-Angle 1:1 Bevel Gearhead

Torque Rating, IP Class, Efficiency, Backlash, Permissible Shaft Loads, Input Speeds, Noise Level



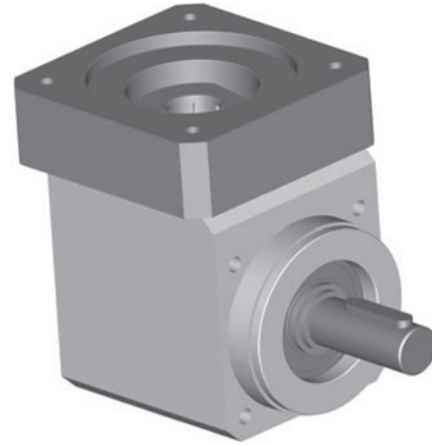
### FOR APPLICATIONS REQUIRING RIGHT-ANGLE POWER FLOW

NEUGART WGE gearheads are ideal for applications where the servo motor does not need a torque boost, speed reduction, or reflected inertia reduction, but require a space-saving right-angle power flow.

All WGE units feature a high-efficiency 1:1 ratio case-hardened bevel gears set.

Torque ratings - up to 12 Nm (106 in. lbs.)

Flexible mounting to a wide variety of servo motors



#### Design life • Emergency peak torque • IP class • Efficiency • Backlash •

	WGE 40	WGE 60	WGE 80
<b>Torque Rating</b> <sup>(1)</sup> Nm (lbin)	2 (17.7)	4 (35.4)	12 (106.2)
Design Life (L10 Life)	20000 hrs		
Emergency Stop / Peak torque	150% of the continuous duty-rated torque. The gearbox will withstand this torque only a very limited time (about 500 to 1000 times during the life of the gearbox). <b>-Torques at this magnitude should not be part of the standard operating cycle!</b>		
IP protection class	IP 54 / 55		
Full load efficiency %	96 %		
Rotational Backlash <sup>(2)</sup> (arc.min)	<23	<24	<19

<sup>(1)</sup> Listed torque rating based on continuous duty, uniform loading, 20000 hrs. L10 life at 1000 rpm mean output speed & negligible radial loading.

<sup>(2)</sup> Rotational backlash in angular minutes measured at the output shaft.

#### Output Shaft Radial and Axial Loads • Input Speeds • Noise Level •

	WGE 40	WGE 60	WGE 80
Output shaft radial load <sup>(1)</sup> ( at 10000 hrs L10 and 1000 rpm )	N (lb) 100 (22)	250 (56)	400 (102)
Output shaft axial load ( at 10000 hrs L10 and 1000 rpm )	N (lb) 100 (22)	300(67)	600(134)
Max. Input Speed	rpm 14000	11000	7000
Continuous / Average Input Speed	rpm	any rpm as long as the gearbox temperature does not exceed +90 °C (194 °F)	
Noise level <sup>(2)</sup>	dB(A) 65	65	68

<sup>(1)</sup> Radial load at shaft midpoint.

(Detailed bearing life calculation utility is available at [www.neugartusa.com](http://www.neugartusa.com) or contact Neugart USA with the application data.)

<sup>(2)</sup> Sound pressure level measured at 3000 rpm, no load, 1m distance from the gearbox.



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Stiffness, Weight, Max. Recommended Motor Weight, Operating Temperature, Lubrication, Mounting Positions



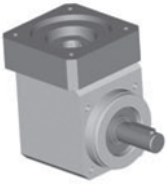
Torsional (Rotational) Stiffness • Gearhead Weight • Recommended Maximum Unsupported Motor Weight • Operating Temperatures • Lubrication • Mounting Positions •				
		WGE 40	WGE 60	WGE 80
Torsional (Rotational) Stiffness <sup>(1)</sup>	Nm/arc.min ( lbin /arc.min )	0.3 (2.65)	0.75 (6.6)	2.1 (18.6)
Gearhead Weight	kg (lb)	0.4 (0.882)	1 (2.205)	3.2 (7.05)
Max. Unsupported Motor Weight	kg (lb)	2 (4.4)	3.5 (7.7)	9 (19.8)
Operating Temperature <sup>(3)</sup>	°C (°F)	Minimum		
		Maximum		
Lubrication		Lubricated for life with semi-fluid synthetic grease Kluberplex BEM 34-132* (Kluber Lubrication LP, - www.kluber.com)		
Mounting positions		Any mounting position permissible without change of lubrication		

(1) Measured at the output shaft  
 (2) Motor support recommended if motor weight exceeds the given value  
 (3) Measured at the middle of the gearbox main body

### - Ordering (Type) Code -

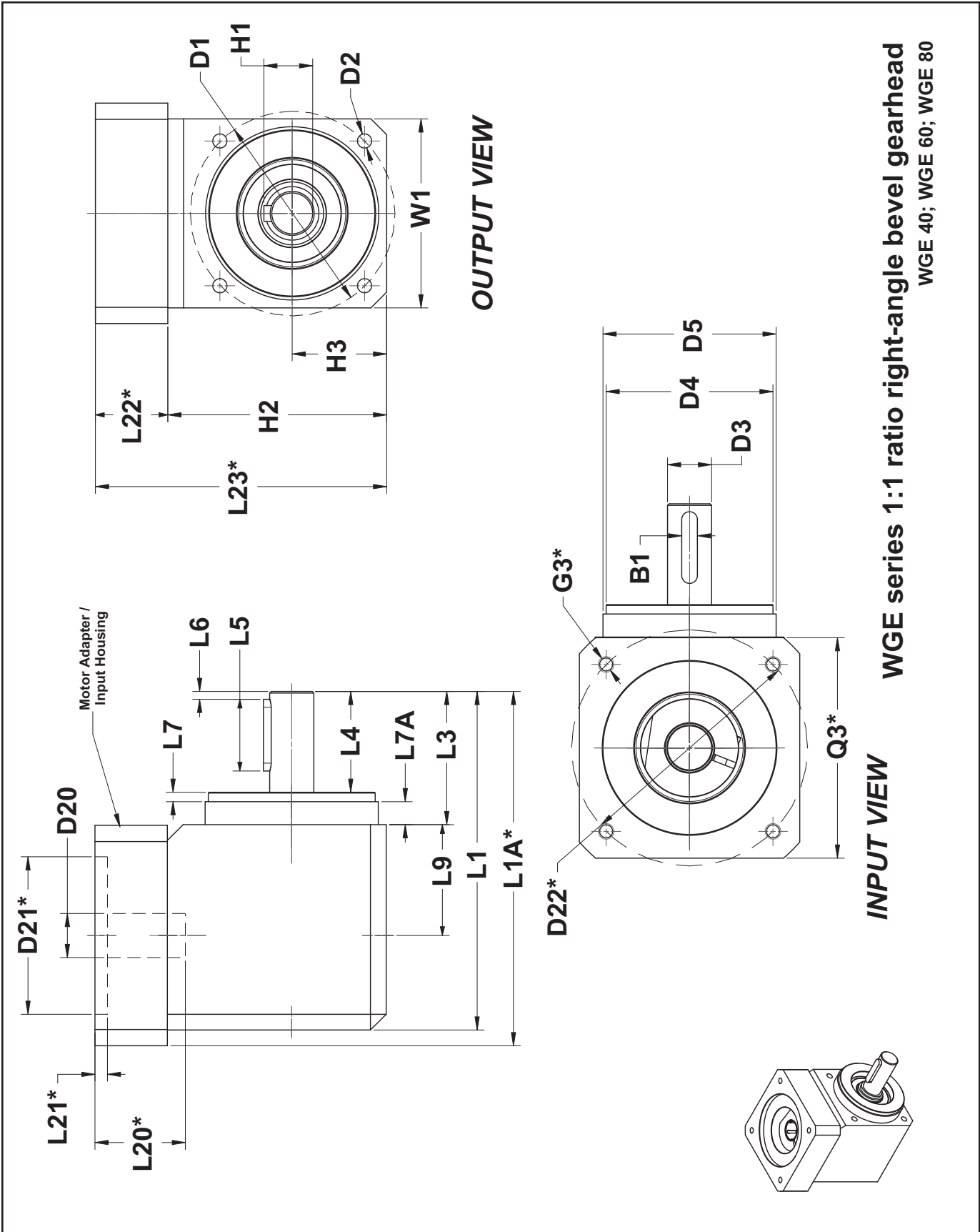
## WGE 80 - / MOTOR - OP8

Gearbox Type - WGE Size:	MOTOR description Manufacturer, Type and Size or	Requested Options
40	Motor shaft diameter/ Motor shaft length/ Pilot diameter/ Bolt circle diameter/ Bolt hole diameter	OP8 -Custom shaft OP12 -ATEX explosion proof certificate LS -Food-grade grease EP -Epoxy paint
60		
80		



# WGE

Right-Angle 1:1 Bevel Gearhead  
Standard Configuration





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## Right-Angle 1:1 Bevel Gearhead Standard Configuration



Dimensions	mm (in)	Tol. / #	WGE 40	WGE 60	WGE 80
<b>D1</b> Output bolt circle			44 (1.732)	65 (2.559)	90 (3.543)
<b>D2</b> Output hole thread size - M x depth		4	M4 x 6	M5 x 8	M6 x 10
<b>D3</b> Shaft diameter		h7	10 (0.393)	14 (0.551)	20 (0.787)
<b>D4</b> Output pilot diameter (Minor)		h7	35.5 (1.397)	53 (2.086)	71 (2.795)
<b>D5</b> Output pilot diameter (Major)		h7	37 (1.456)	55 (2.165)	73 (2.874)
<b>L1</b> Overall length			76.6 (3.016)	107.5 (4.232)	133 (5.236)
<b>L5</b> Key length			18 (0.708)	25 (0.984)	28 (1.102)
<b>L6</b> Key location from shaft end			2.5 (0.098)	2.5 (0.098)	4 (0.157)
<b>L3</b> Shaft length to pilot face			31.6 (1.244)	42.3 (1.665)	49 (1.929)
<b>L4</b> Shaft length to output face			23.8 (0.937)	32 (1.260)	36.5 (1.437)
<b>L7A</b> Output pilot length (Major)			5.6 (0.220)	7.3 (0.287)	9 (0.354)
<b>L7</b> Output pilot length (Minor)			2.2 (0.086)	3 (0.118)	3.5 (0.1377)
<b>L9</b> Width from center line to front face			25 (0.984)	35 (1.377)	44 (1.732)
<b>H1</b> Shaft + key height			11.2 (0.44)	16 (0.629)	22.5 (0.885)
<b>H2</b> Right-angle housing height			49 (1.929)	69.5 (2.736)	88.3 (3.476)
<b>H3</b> Height - Output center line			20 (0.787)	30 (1.181)	40 (1.575)
<b>W1</b> Housing width			40 (1.575)	60 (2.362)	80 (3.150)
<b>B1</b> Key width			3 (0.118)	5 (0.197)	6 (0.236)
<b>D20</b> Maximum input bore (motor shaft) diameter			8 (0.315)	14 (0.551)	19 (0.748)
<b>Available standard bushings</b> <sup>(1)</sup> <sup>(1)</sup> For motor shaft <b>smaller than D20</b> , a precision standard bushing is supplied.	<b>mm</b>		4; 5; 6; 6.35	6; 6.35; 7; 8; 9; 9.525; 10; 11; 12; 12.7	9.525; 10; 11; 12; 12.7; 14; 15.875; 16;
	<b>Inch</b>		.157; .196; .236; .250	.236; .250; .276; .315; .354; .375; .394; .433; .472; .500;	.375; .394; .433; .472; .500; .551; .625; .630;
<b>Motor-dependent dimensions:</b> <b>D21*, D22*, L1A*, L20*, L21*, L22*, L23*, G3*, Q3*</b>	<b>Adapter / Input housing dimensions and unit overall length depend on motor output geometry. A motor-specific adapter / Input housing is supplied with every gearhead.</b>				
<b>L22* - dimension calculation</b>  L22* Tolerance: +5 / - 0.0 (+ 0.196 / - 0.0)	Determine L22* calc = motor shaft length + Δ L , if L22* calc ≤ L22* minimum → L22* = L22* minimum + Tolerance if L22* calc > L22* minimum → L22* = L22* calc + Tolerance				
Δ L			6 (0.236)	7 (0.276)	8.8 (0.346)
<b>L22* minimum</b>			19 (0.748)	16 (0.63)	21.2 (0.835)