

GTB SERIES

Globoidal (Roller Gear) Servo Positioner | Table of Contents



Features:

Destaco’s **CAMCO GTB Series** are lightweight, compact, high-accuracy programmable servo positioners.

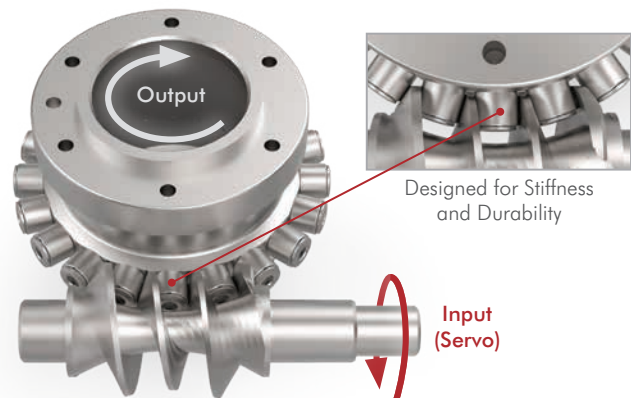
The exceptional low profile high-torque output design supports the demands of high inertia load applications.

Available in four sizes, the GTB series units are lubricated for life and can be mounted in either horizontal or vertical orientations. The GTB Series feature the largest utility through hole diameter available for its size, making it ideal for space constrained machine applications.

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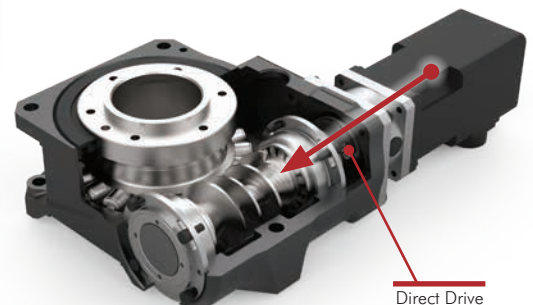
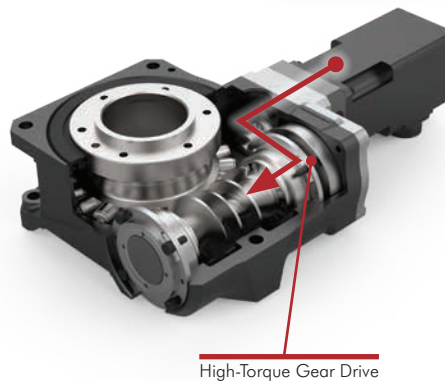
Zero Backlash Roller Gear Cam Mechanism

Innovative roller gear design provides exceptionally smooth motion performance. The globoidal cam and output turret with integrated rollers are a preloaded system that delivers zero backlash for superior accuracy, stiffness and long term durability.



Flexible Drive Options

Each GTB model can be ordered in two different drive options. The high-torque gear drive option is used for applications with large inertia requirements while maintaining a small motor size. The direct drive option provides zero backlash, high precision operation. Both options interface with an array of servo motor suppliers.



Orientation Independent Mounting

GTB Series units can be mounted in any orientation for easy installation and machine standardization.

Install units in any configuration:

- Flat horizontal table mounting
- Vertical mounting
- Trunnion Mounting
- Inverted (upside down) mounting



GTB SERIES

Globoidal (Roller Gear) Servo Positioner | How To Order

GTB Series: How To Order

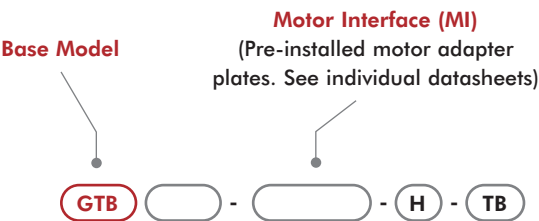
Globoidal (Roller Gear) Servo Positioner Base Unit

GTB Series units can be interfaced with wide variety of servo motor manufacturers. Use the MI code tables to identify the supported motors for each GTB unit. The MI code specifies the motor adapter plate that provides direct easy motor mounting to the GTB servo positioner.

The -H option for independent mounting orientation comes standard with every GTB series unit. The -T option for precision dial plate locating dowel hole and -B option for precision mounting dowel holes are also provided as standard.



GTB Series without motor installed



Size	Supported Gear Ratios
40	45:1
	15:1
63	60:1
	20:1
80	60:1
	20:1
100	60:1
	20:1

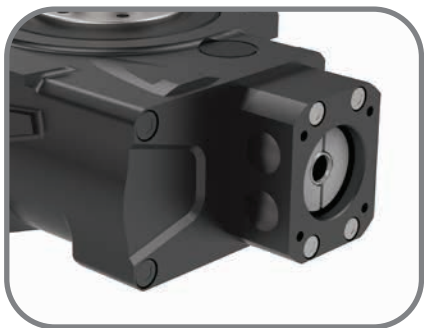
Standard Features

- H** Orientation independent mounting. Supports vertical, horizontal, trunnion applications
- T** Single output flange surface dowel hole for precision dial plate locating
- B** Precision placement housing dowel holes, 2 on top of unit, 2 on bottom of unit

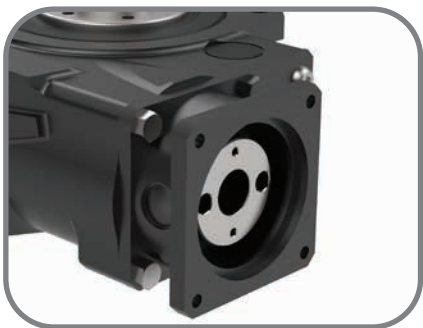
Easily Integrates with a Variety of Servo Motor Manufacturers

Allen Bradley	Mitsubishi
AMK	Panasonic
Mitsubishi	Sanyo
FANUC	SEW
Keyence	Siemens
KUKA	Yaskawa

Units are available in two different gear ratios based on Direct or Geared motor coupling. Contact Sales to determine what motors are supported for precision direct drive applications and geared drive high torque configurations.



Gear Drive:
High Inertia Applications
45:1 GTB40
60:1 GTB63, GTB80, GTB100



Direct Drive:
Zero Backlash Precision Applications
15:1 GTB40
20:1 GTB63, GTB80, GTB100

GTB Series: How to Order configured System (Allen Bradley only)

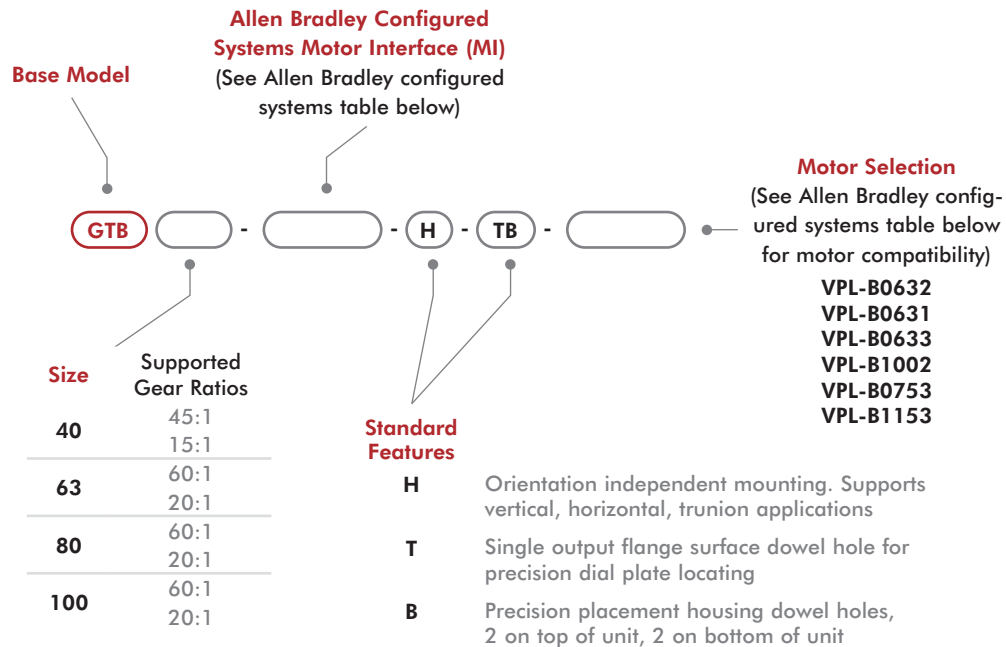
Servo Positioner Configured Systems

GTB Series units can be interfaced with wide variety of servo motor manufacturers. Use the MI code table to identify the supported motors for each GTB unit.

GTB series are also offered as a configured system when selecting Allen Bradley servo motors. The Allen Bradley servo motor will be installed to the GTB unit and shipped as a complete assembly. The GTB series and motor combinations are a matched pair that supports a variety of servo positioning rotary table applications. To use one of the configured systems you must verify the application requirements are within the operating parameters of the GTB unit and motor combination.



GTB Series with
Allen Bradley Motor Installed*



Allen Bradley Configured Systems

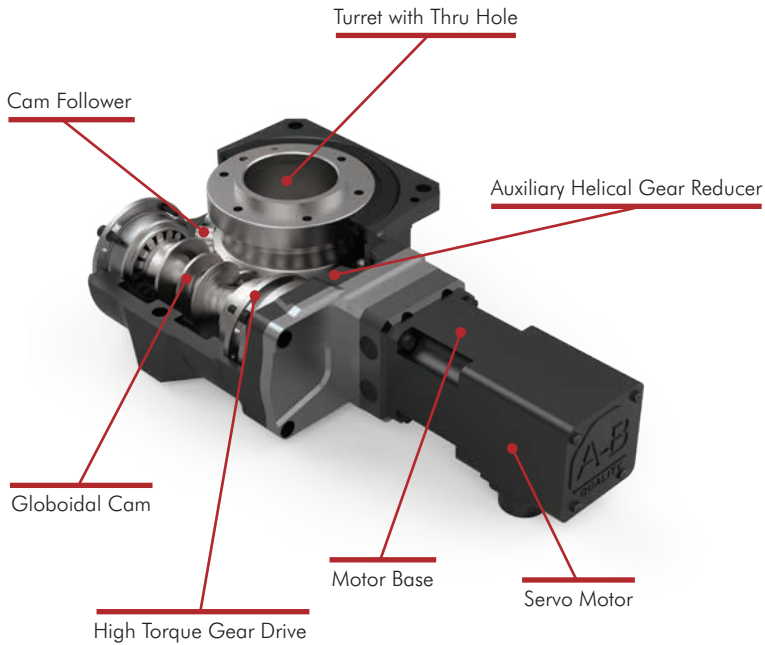
Size	Base Part #	Allen Bradley MI Code #	Motor Coupling	Gear Ratio	Motor Vendor	Allen Bradley Motor Part #	Motor Frame mm [in]	Flange size mm [in]	Shaft Ø mm [in]
40	GTB40	FDG20	Direct	15:1	Allen Bradley	VPL-B0632	60 [2.36]	63 [2.48]	9 [0.35]
	GTB40	FGC20	Geared	45:1		VPL-B0631			
63	GTB63	GDP20	Direct	20:1		VPL-B0633			
	GTB63	GGC22	Geared	60:1		VPL-B0632			
80	GTB80	HDP20	Direct	20:1		VPL-B1002	100 [3.94]	100 [3.94]	16 [0.63]
	GTB80	HGD24	Geared	60:1		VPL-B0753	80 [3.15]	75 [2.95]	11 [0.43]
100	GTB100	JDG20	Direct	20:1		VPL-B1153	100 [3.94]	115 [4.53]	19 [0.75]
	GTB100	JGE27	Geared	60:1					

* = Servo Positioner units are assembled, tested and shipped with the above recommended motor for best performance.

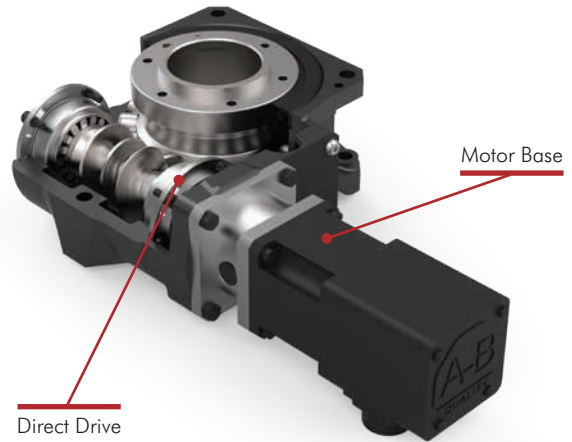
GTB SERIES

Globoidal (Roller Gear) Servo Positioner | Specifications

High Torque Gear Drive:
High Inertia Application



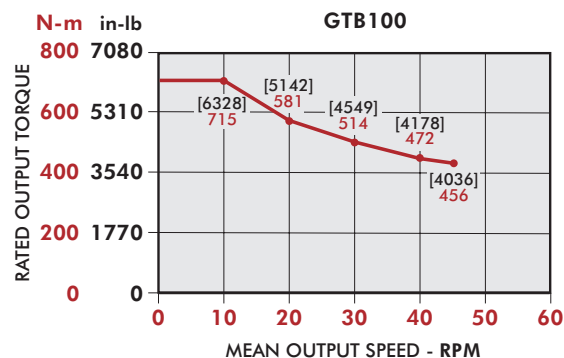
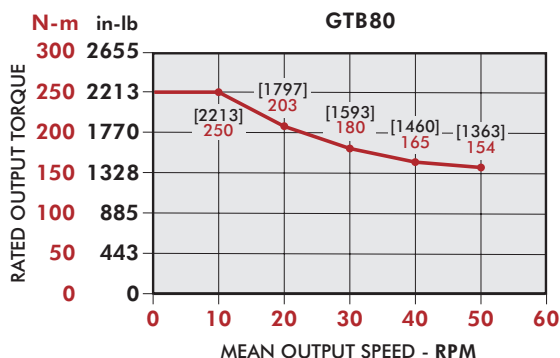
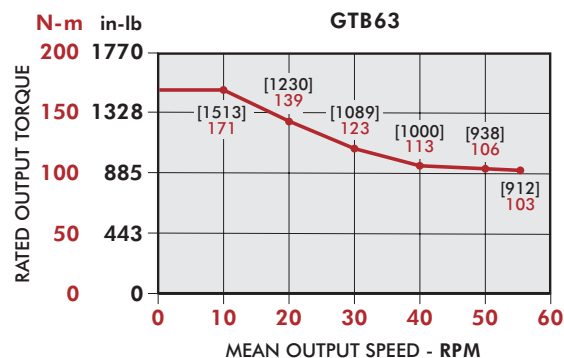
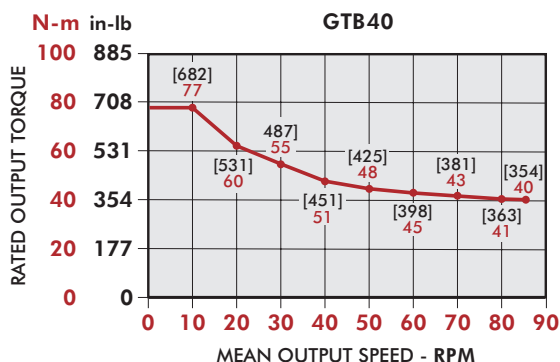
Direct Drive:
Zero Backlash Precision Applications



NOTE:

Motor brake must be applied for applications with gravity torque acting on output table (trunnion mounting) in the case of power loss. Follow the instruction manual for fitting and installing motor. Improper handling can cause damage or product malfunction.

General Specifications	Symbol	Units	GTB40		GTB63		GTB80		GTB100	
Motor Coupling			Direct	Geared	Direct	Geared	Direct	Geared	Direct	Geared
Constant lead ratio			15:1	45:1	20:1	60:1	20:1	60:1	20:1	60:1
Center distance		mm [in]	40 [1.57]		63 [2.48]		80 [3.15]		100 [3.94]	
Through hole diameter	Ø	mm [in]	25 [0.98]		50 [1.97]		75 [2.95]		85 [3.35]	
Accuracy		arc-sec	90 ± 45		60 ± 30		40 ± 20		40 ± 20	
Repeatability		arc-sec	20 ± 10		14 ± 7		10 ± 5		10 ± 5	
Allowable static torque	T _s	N-m [in-lb]	176 [1558]		411 [3637]		600 [5310]		1341 [11868]	
Max start / stop torque	T _U	N-m [in-lb]	94 [832]		210 [1859]		307 [2717]		880 [7789]	
Allow. mean output speed	N _m	rpm	86		55		50		45	
Allow. ultimate output speed	N _U	rpm	100		70		60		50	
Allow. axial cap. on output	P _a	N [lbs]	1100 [247]		1850 [416]		3632 [816]		4100 [922]	
Allow. radial cap. on output	P _r	N [lbs]	740 [166]		1500 [337]		3100 [697]		3420 [769]	
Allow. moment cap. on output	P _{moment}	N-m [in-lb]	40 [354]		85 [752]		226 [2000]		313 [2770]	
Inertia moment on input axis	J	[lb-ft ²] x 10 ⁻⁴ kg-m ² x 10 ⁻⁴	[6.24] 0.263	[4.03] 0.17	[20.67] 0.871	[9.49] 0.4	[76.27] 3.214	[36.07] 1.52	[246.55] 10.39	[96.82] 4.08
Backlash		arc-sec	0	25	0	15	0	15	0	10
Average efficiency		%	90	80	90	80	90	80	90	80
Lubrication (Maint. Free)			Grease		Grease		Grease		Grease	
Weight		[lbm] kg	[7.28] 3.3	[7.72] 3.5	[13.01] 5.9	[13.67] 6.2	[28.44] 12.9	[31.09] 14.1	[53.58] 24.3	[55.57] 25.2

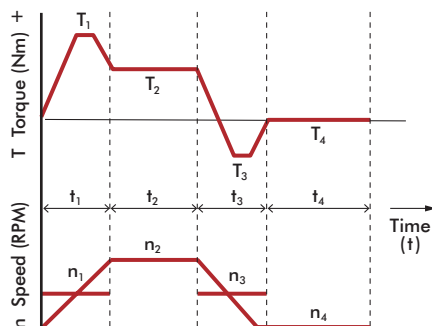


Sizing GTB Series for an Application (Contact Destaco for sizing application support)

1. Load diagram

Check motion profile and resultant inertia torque.
(Add working torque if applied).

Start and stop speed can be simplified to average speed within a segment.



2. Check key conditions

$$\text{Mean torque } T_{mean} = \frac{\frac{10}{3} \sqrt{\frac{n_1 \cdot t_1 \cdot |T_1| \cdot \frac{10}{3} + n_2 \cdot t_2 \cdot |T_2| \cdot \frac{10}{3} + \dots + n_n \cdot t_n \cdot |T_n| \cdot \frac{10}{3}}{n_1 \cdot t_1 + n_2 \cdot t_2 + \dots + n_n \cdot t_n}} \quad (\text{N-m})$$

$$\text{Mean output speed } n_{mean} = \frac{n_1 \cdot t_1 + n_2 \cdot t_2 + \dots + n_n \cdot t_n}{t_1 + t_2 + \dots + t_n} \quad (\text{rpm})$$

$$\text{Max output speed } n_{max} \quad (\text{rpm})$$

3. Pre-selection

Choose a size that meets these criteria.

- $T_{mean} < \text{Maximum rated output torque (N-m)}$
- $n_{mean} < \text{Allowable mean output speed Nm (rpm)}$
- $n_{max} < \text{Allowable ultimate output speed Nu (rpm)}$

4. Check specifications

- Start/stop torque** $T_1 < \text{Maximum rated output torque (N-m)}$
 $T_3 < \text{Maximum rated output torque (N-m)}$
- Operation condition factor** Smooth without any impact or sudden load $f = 1.0$
Normal, but occasional emergency stop $f = 1.5$
Operation with frequent impact or sudden load $f = 3.0$

$$\text{Estimated lifetime } L_h = 12000 \left(\frac{T_{op}}{f \cdot T_{mean}} \right)^{\frac{10}{3}} \quad (\text{hours})$$

5. Selection complete

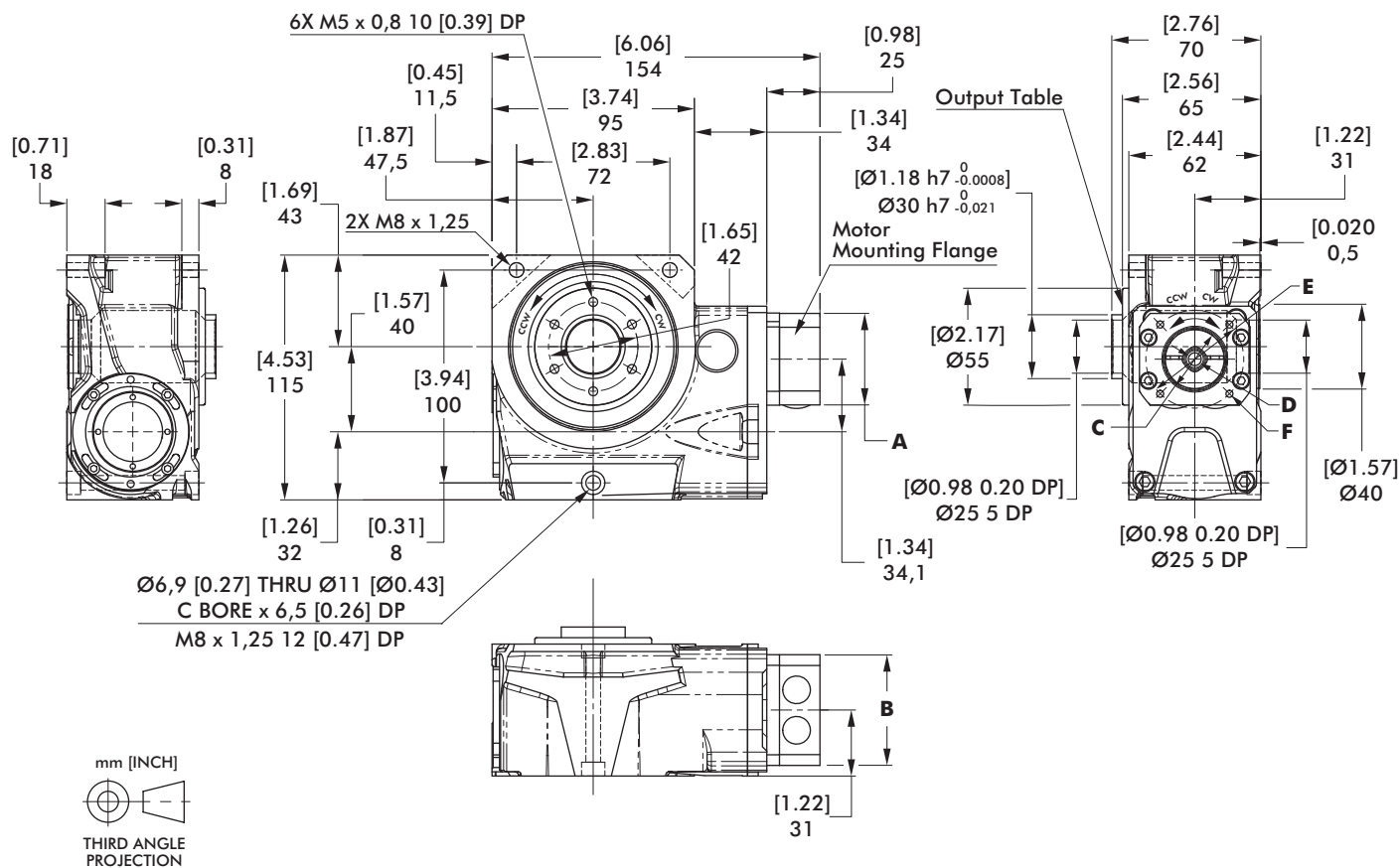
If above values don't satisfy requirements, go back to step 2 and 3 to re-select size.

GTB40 SERIES

Globoidal (Roller Gear) Servo Positioner | Dimensions

GTB40-FG (Motor Frame Size □ = 38 [1.50], 40 [1.57])

Gear Drive: High Inertia Applications: Ratio 45:1



Input/Output Rotation: CW/CCW

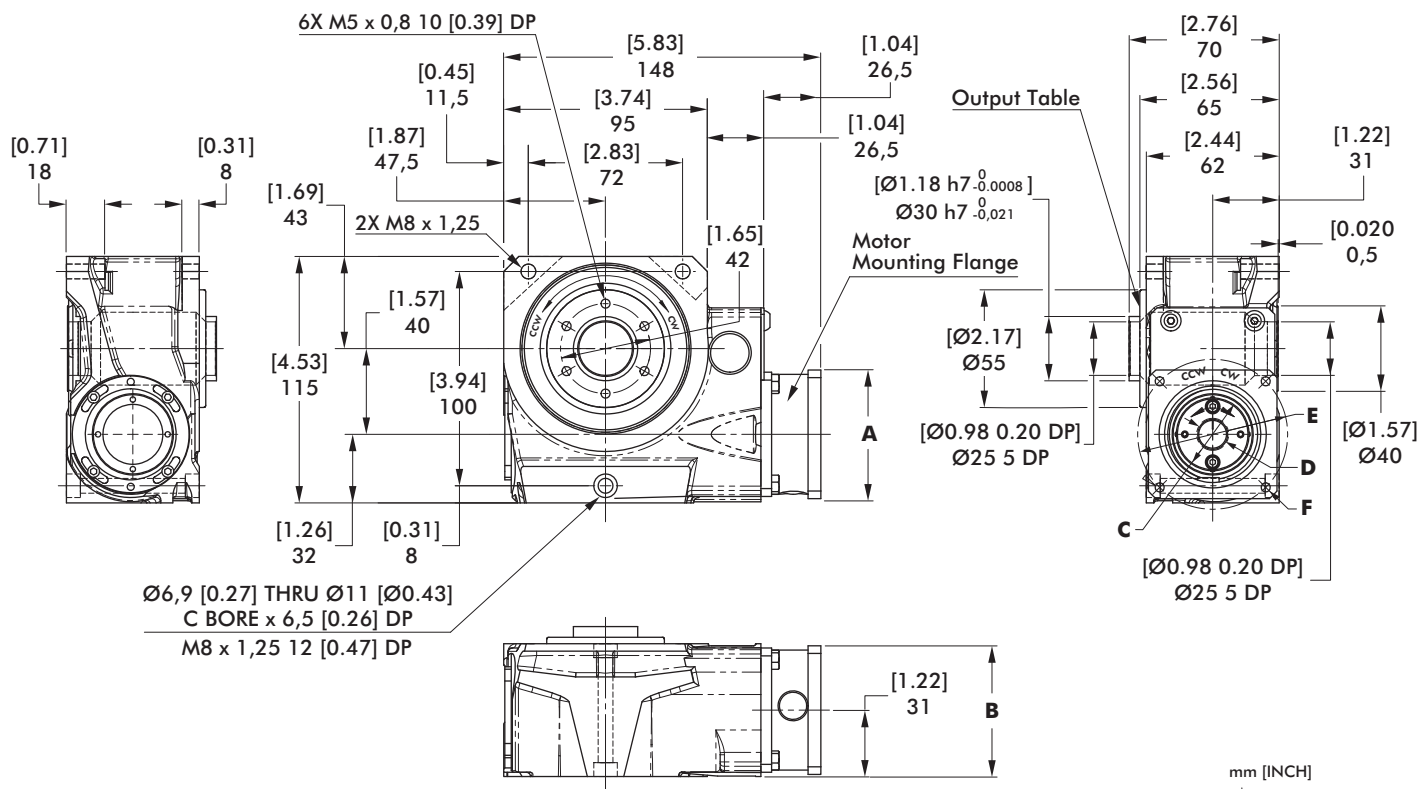
MI CODE	A Width mm [in]	B Height mm [in]	C Pilot Ø x Depth mm [in]	D Shaft Ø mm [in]	E Fixing Holes PCD mm [in]	F Fixing Holes Qty x Size mm [in]
FGA20	43 [1.69]	52 [2.05]	Ø30 [1.18] x 4 [0.16]	8 [0.31]	46 [1.81]	4X M4 x 11,5 [0.45] DEEP
FGB20					45 [1.77]	4X M3 x 8,5 [0.33] DEEP
FGC20	55 [2.17]	55 [2.17]	Ø40 [1.57] x 3 [0.12]	9 [0.35]	63 [2.48]	4X M5 X 14 [0.55] DEEP
FGD20						4X M4 X 11,5 [0.45] DEEP

GTB40 SERIES

Globoidal (Roller Gear) Servo Positioner | Dimensions

GTB40-FD (Motor Frame Size □ = 60 [2.37])

Direct Drive: Zero Backlash Precision Applications: Ratio 15:1



Input/Output Rotation: CW/CCW

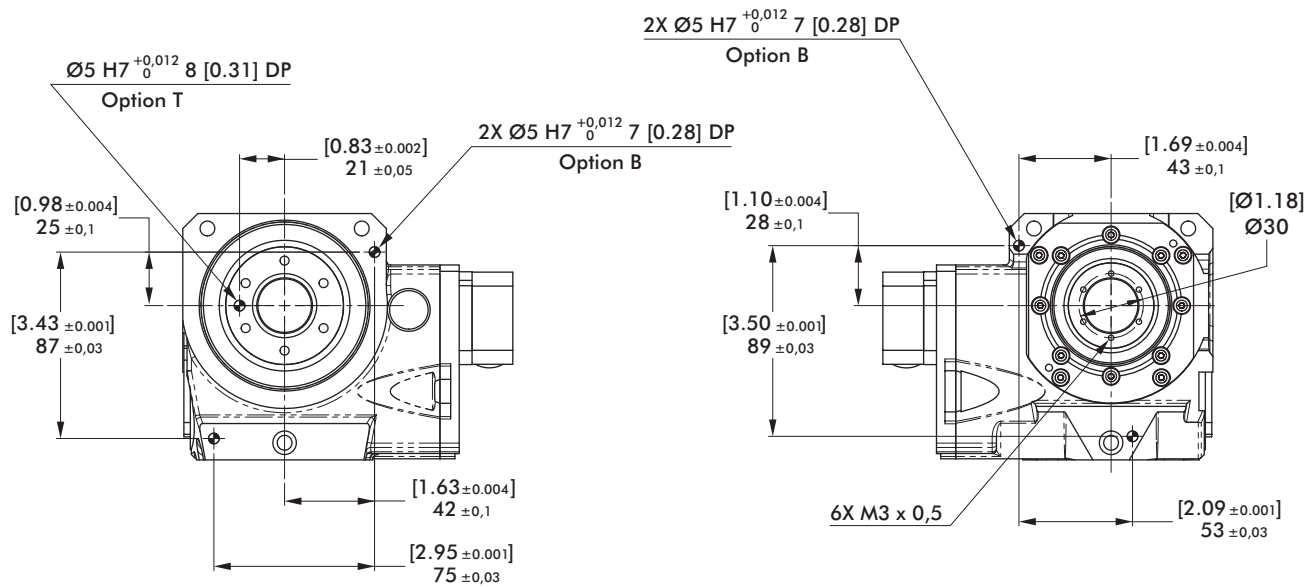
MI CODE	A Width mm [in]	B Height mm [in]	C Pilot Ø x Depth mm [in]	D Shaft Ø mm [in]	E Fixing Holes PCD mm [in]	F Fixing Holes Qty x Size mm [in]
FDA20	60 [2.36]	60 [2.36]	Ø50 [1.97] x 4 [0.16]	Ø14 [0.55]	Ø70 [2.76]	4X M5 THRU
FDB20				Ø11 [0.43]		4X M4 THRU
FDC20				Ø14 [0.55]		
FDD20				Ø9 [0.35]		
FDE20				Ø12 [0.47]		4X M5 THRU
FDF20				Ø9 [0.35]	Ø63 [2.48]	
FDG20	55 [2.17]	55 [2.17]	Ø40 [1.57] x 4 [0.16]	Ø11 [0.43]	Ø75 [2.95]	
FDH20	70 [2.76]	70 [2.76]	Ø60 [2.36] x 2,5 [0.10]	Ø9 [0.35]	Ø63 [2.48]	4X M4 THRU
FDJ20	55 [2.17]	55 [2.17]	Ø80 [3.15] x 4 [0.16]	Ø16 [0.63]	Ø100 [3.94]	4X M6 THRU

GTB40 SERIES

Globoidal (Roller Gear) Servo Positioner | Dimensions

GTB40 Option Specifications

Dowel Hole Option -B, Housing -T: Output Table

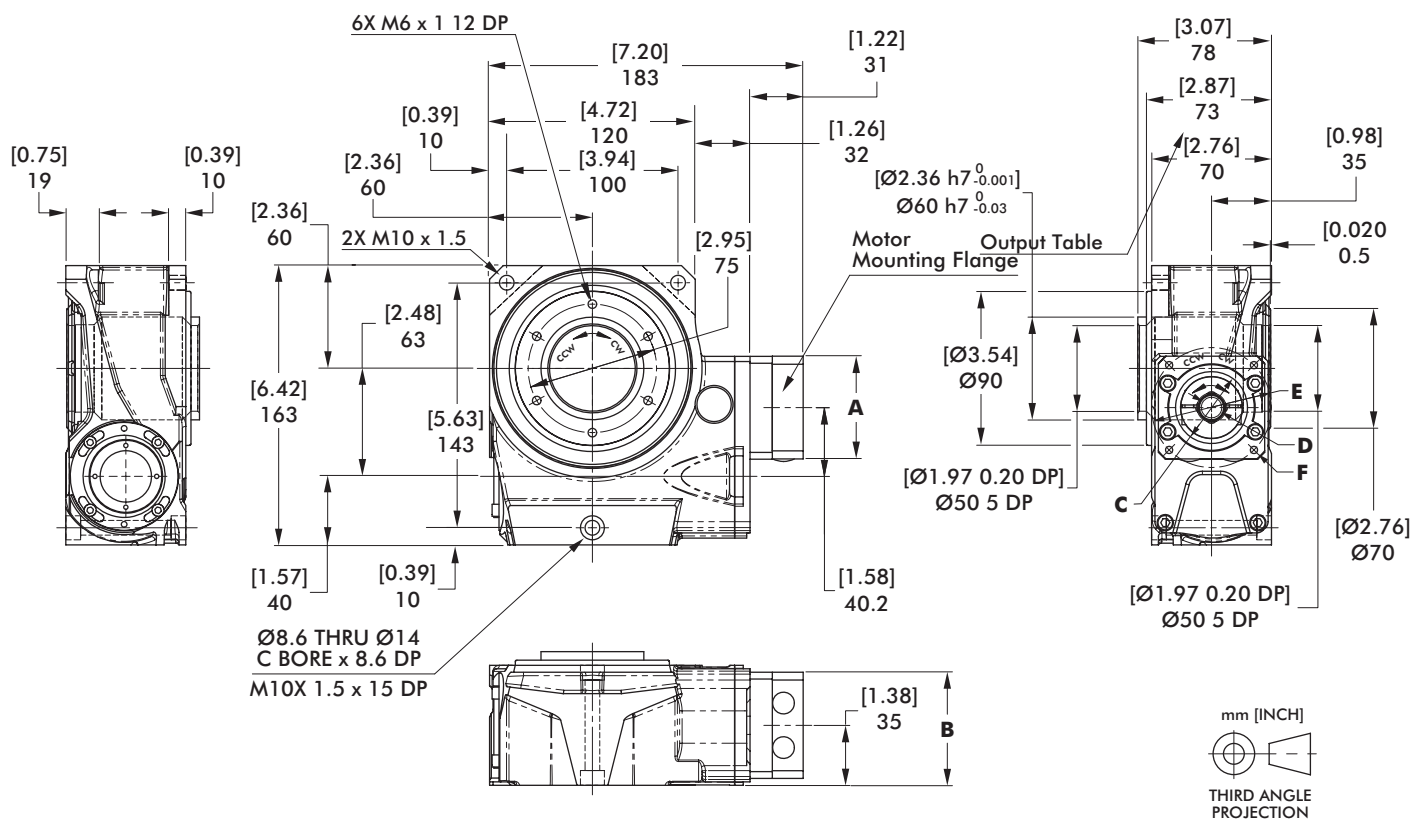


GTB63 SERIES

Globoidal (Roller Gear) Servo Positioner | Dimensions

GTB-63-GG (Motor Frame Size □ = 60 [2.37])

Gear Drive: High Inertia applications: Ratio 60:1



Input/Output Rotation: CW/CCW

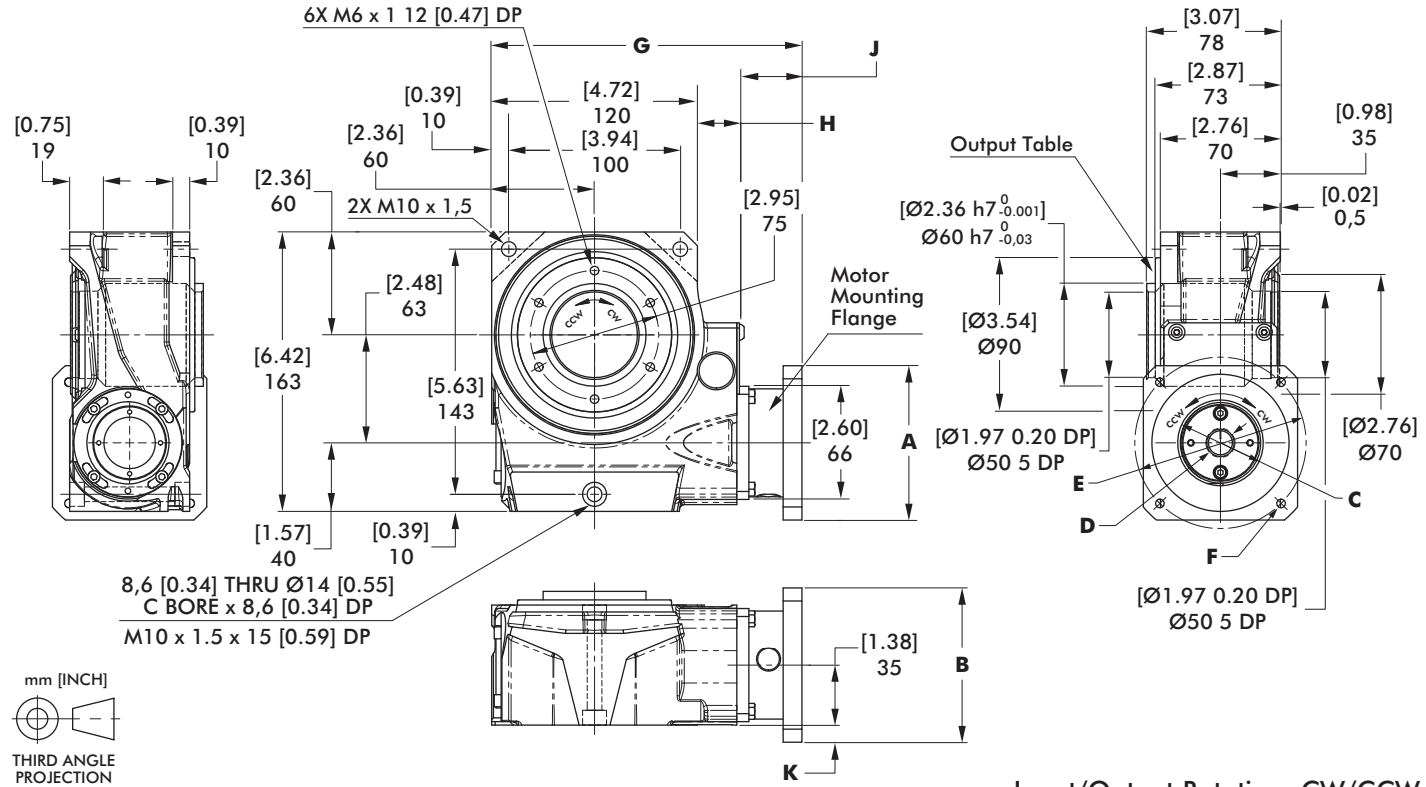
MI CODE	A Width mm [in]	B Height mm [in]	C Pilot Ø x Depth mm [in]	D Shaft Ø mm [in]	E Fixing Holes PCD mm [in]	F Fixing Holes Qty x Size mm [in]
GGA20	60 [2.36]	62 [2.44]	Ø50 [1.97] x 5 [0.20]	Ø14 [0.55]	Ø70 [2.76]	4X M5 x 14 [0.55] Deep
GGA22				Ø9 [0.35]		
GGB20				Ø14 [0.55]		
GGB21				Ø11 [0.43]		
GGC22				Ø9 [0.35]	Ø63 [2.48]	
GGD23	70 [2.76]	70 [2.76]	Ø50 [1.97] x 5 [0.20]	Ø12 [0.47]	Ø70 [2.76]	4X M5 x 14 [0.55] Deep
GGE24			Ø60 [2.36] x 5 [0.20]	Ø11 [0.43]	Ø75 [2.95]	
GGF22			Ø40 [1.57] x 3 [0.12]	Ø9 [0.35]	Ø63 [2.48]	
GGG20			Ø60 [2.36] x 5 [0.20]	Ø14 [0.55]	Ø75 [2.95]	

GTB63 SERIES

Globoidal (Roller Gear) Servo Positioner | Dimensions

GTB63-GD (Motor Frame Size □ = 60 [2.36], 80 [3.15], 86 [3.39], 90 [3.54])

Direct Drive: Ratio 20:1



Input/Output Rotation: CW/CCW

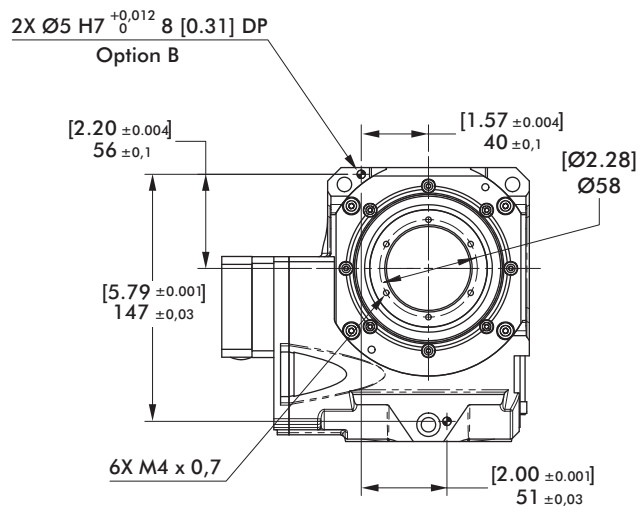
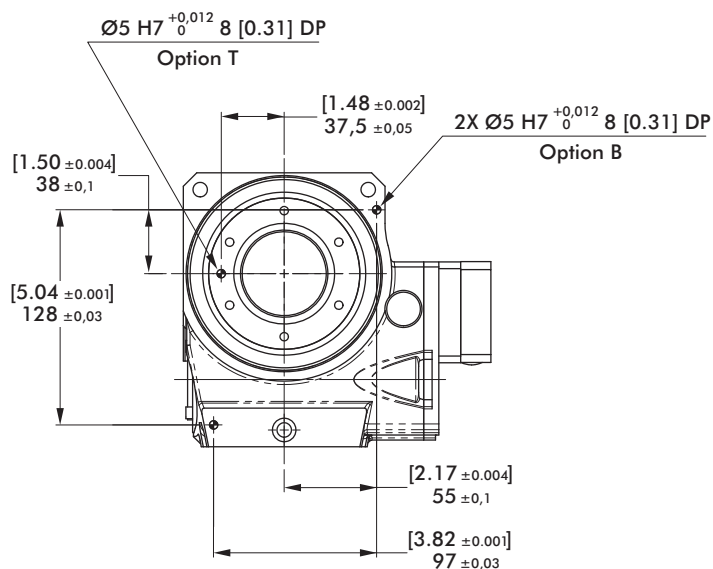
MI CODE	A Width mm [in]	B Height mm [in]	C Pilot Ø x Depth mm [in]	D Shaft Ø mm [in]	E Fixing Holes PCD mm [in]	F Fixing Holes Qty x Size mm [in]
GDA20	60 [2.36]	60 [2.36]	Ø50 [1.97] x 4 [0.16]	Ø14 [0.55]	Ø70 [2.76]	4X M5 THRU
GDB20	80 [3.15]	80 [3.15]	Ø70 [2.76] x 4 [0.16]	Ø19 [0.75]	Ø90 [3.54]	4X M6 THRU
GDC20				Ø14 [0.55]		
GDD20	90 [3.54]	90 [3.54]	Ø80 [3.15] x 6 [0.24]	Ø16 [0.63]	Ø100 [3.94]	4X M6 THRU
GDE20						
GDF20	60 [2.36]	60 [2.36]	Ø50 [1.97] x 4 [0.16]	Ø14 [0.55]	Ø70 [2.76]	4X M4 THRU
GDG20				Ø19 [0.75]		4X M5 THRU
GDH20	80 [3.15]	80 [3.15]	Ø70 [2.76] x 4 [0.16]	Ø14 [0.55]	Ø90 [3.54]	
GDJ20				Ø16 [0.63]		4X M6 THRU
GDK20	90 [3.54]	90 [3.54]	Ø80 [3.15] x 6 [0.24]	Ø10 [0.39]	Ø100 [3.94]	
GDL20	60 [2.36]	60 [2.36]	Ø50 [1.97] x 4 [0.16]	Ø12 [0.47]	Ø70 [2.76]	4X M5 THRU
GDM20	80 [3.15]	80 [3.15]	Ø70 [2.76] x 4 [0.16]	Ø16 [0.63]	Ø90 [3.54]	4X M6 THRU
GDN20	72 [2.83]	72 [2.83]	Ø60 [2.36] x 4 [0.16]	Ø14 [0.55]	Ø75 [2.95]	
GDP20	55 [2.17]	55 [2.17]	Ø40 [1.57] x 5 [0.20]	Ø9 [0.35]	Ø63 [2.48]	4X M5 THRU
GDQ20						
GDR20	70 [2.76]	70 [2.76]	Ø60 [2.36] x 4 [0.16]	Ø11 [0.43]	Ø75 [2.95]	



Frame Size	G	H	J	K
60	178 [7.01]	24,5 [0.96]	33,5 [1.32]	--
80	180 [7.09]		35,5 [1.40]	5 [0.20]
86	181 [7.13]		36,5 [1.44]	10 [0.39]
90				

GTB63 Option Specifications

Dowel Hole Option -B, Housing -T: Output Table

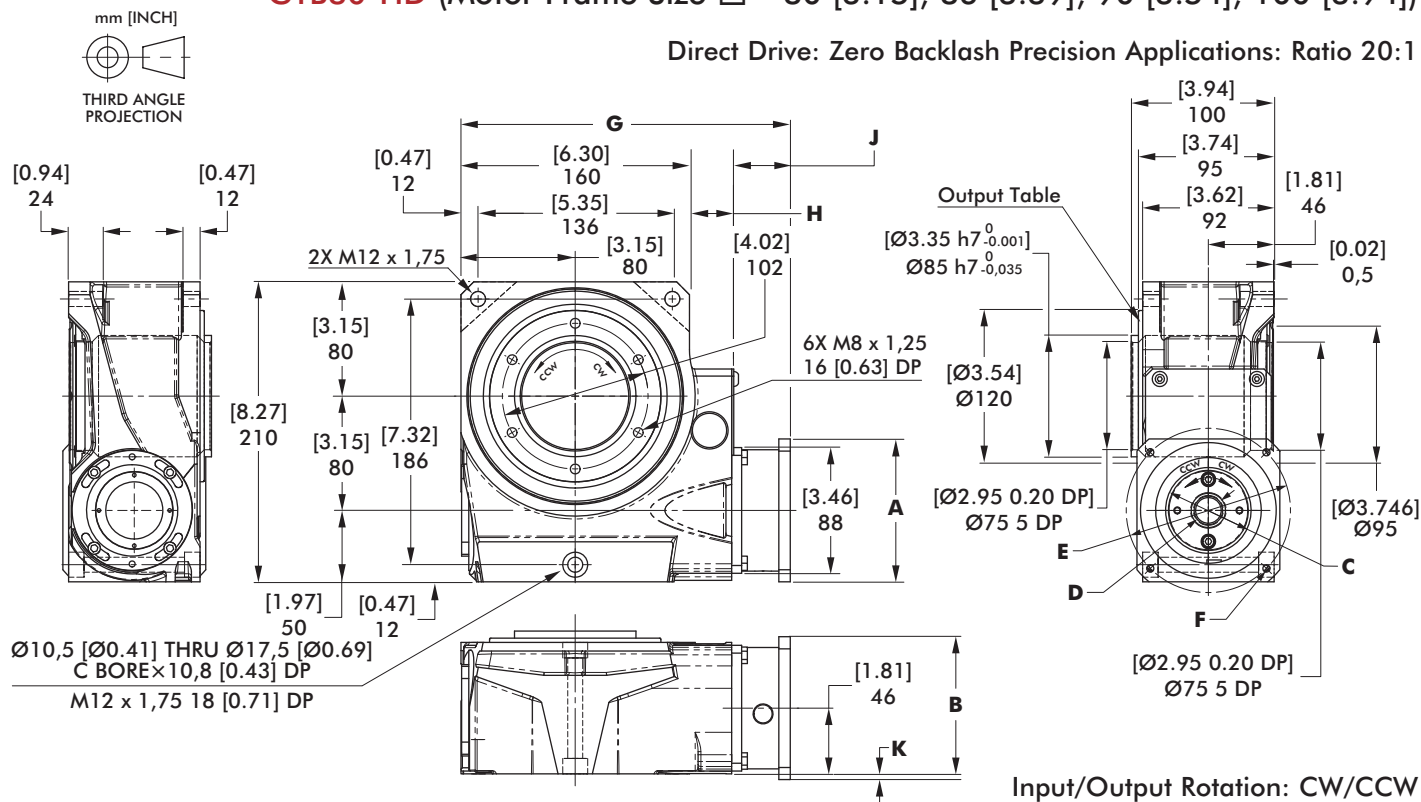


GTB80 SERIES

Globoidal (Roller Gear) Servo Positioner | Dimensions

GTB80-HD (Motor Frame Size □ = 80 [3.15], 86 [3.39], 90 [3.54], 100 [3.94])

Direct Drive: Zero Backlash Precision Applications: Ratio 20:1



MI CODE	A Width mm [in]	B Height mm [in]	C Pilot Ø x Depth mm [in]	D Shaft Ø mm [in]	E Fixing Holes PCD mm [in]	F Fixing Holes Qty x Size mm [in]	
HDA20	80 [3.15]	80 [3.15]	Ø70 [2.76] x 4,5 [0.18]	Ø19 [0.75]	Ø90 [3.54]	4X M6 THRU	
HDB20	90 [3.54]	90 [3.54]	Ø80 [3.15] x 5,5 [0.22]	Ø14 [0.55]	Ø100 [3.94]		
HDC20				Ø16 [0.63]			
HDD20	100 [3.94]	100 [3.94]	Ø95 [3.74] x 3,5 [0.14]	Ø24 [0.94]	Ø115 [4.53]	4X M8 THRU	
HDE20	80 [3.15]	80 [3.15]	Ø70 [2.76] x 4,5 [0.18]	Ø19 [0.75]	Ø90 [3.54]		4X M5 THRU
HDF20	100 [3.94]	100 [3.94]	Ø95 [3.74] x 3,5 [0.14]		Ø115 [4.53]		4X M8 THRU
HDG20				Ø95 [3.74] x 7,5 [0.30]			
HDH20	80 [3.15]	80 [3.15]	Ø70 [2.76] x 4,5 [0.18]	Ø16 [0.63]	Ø90 [3.54]	4X M6 THRU	
HDJ20	90 [3.54]	90 [3.54]	Ø80 [3.15] x 5,5 [0.22]		Ø100 [3.94]		
HDK20	100 [3.94]	100 [3.94]	Ø95 [3.74] x 3,5 [0.14]	Ø22 [0.87]	Ø115 [4.53]	4X M8 THRU	
HDL20	90 [3.54]	90 [3.54]	Ø80 [3.15] x 5,5 [0.22]	Ø10 [0.39]	Ø100 [3.94]	4X M6 THRU	
HDM20	100 [3.94]	100 [3.94]	Ø95 [3.74] x 7,5 [0.30]	Ø22 [0.87]	Ø115 [4.53]	4X M8 THRU	
HDN20	96 [3.78]	96 [3.78]	Ø80 [3.15] x 4 [0.16]	Ø19 [0.75]	Ø100 [3.94]	4X M6 THRU	
HDP20	90 [3.54]	90 [3.54]	Ø80 [3.15] x 3,5 [0.14]	Ø16 [0.63]		4X M3 THRU	
HDQ20	100 [3.94]	100 [3.94]	Ø95 [3.74] x 3,5 [0.14]	Ø19 [0.75]		Ø115 [4.53]	4X M8 THRU
HDR20	90 [3.54]	90 [3.54]	Ø80 [3.15] x 3,5 [0.14]	Ø14 [0.55]	Ø100 [3.94]	4X M6 THRU	
HDS20							
HDT20	114 [4.49]	114 [4.49]	Ø110 [4.33] x 4 [0.16]	Ø24 [0.94]	Ø130 [5.12]	4X M8 THRU	



60



86/90



100

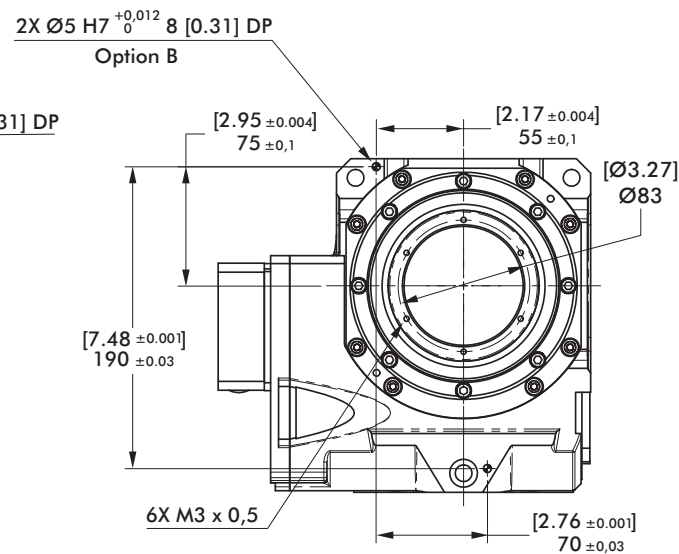
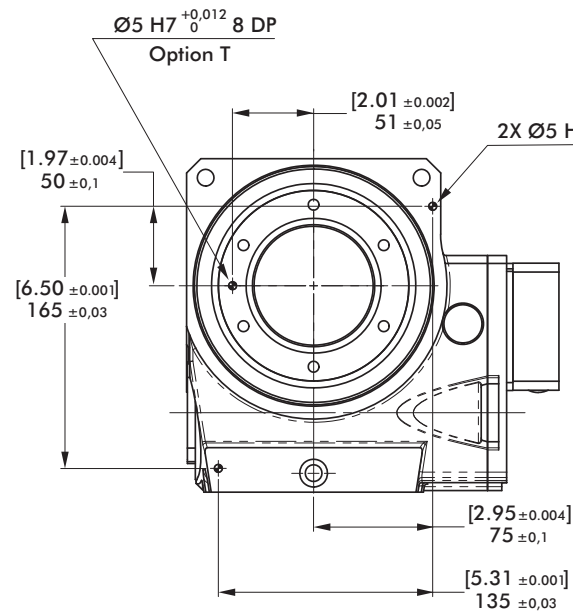
Frame Size	G	H	J	K
80	226,5 [8.92]	31 [1.22]	35,5 [1.40]	--
86	230,5 [9.07]		39,5 [1.56]	
90				
100				4 [0.16]

GTB80 SERIES

Globoidal (Roller Gear) Servo Positioner | Dimensions

GTB80 Option Specifications

Dowel Hole Option -B, Housing -T: Output Table

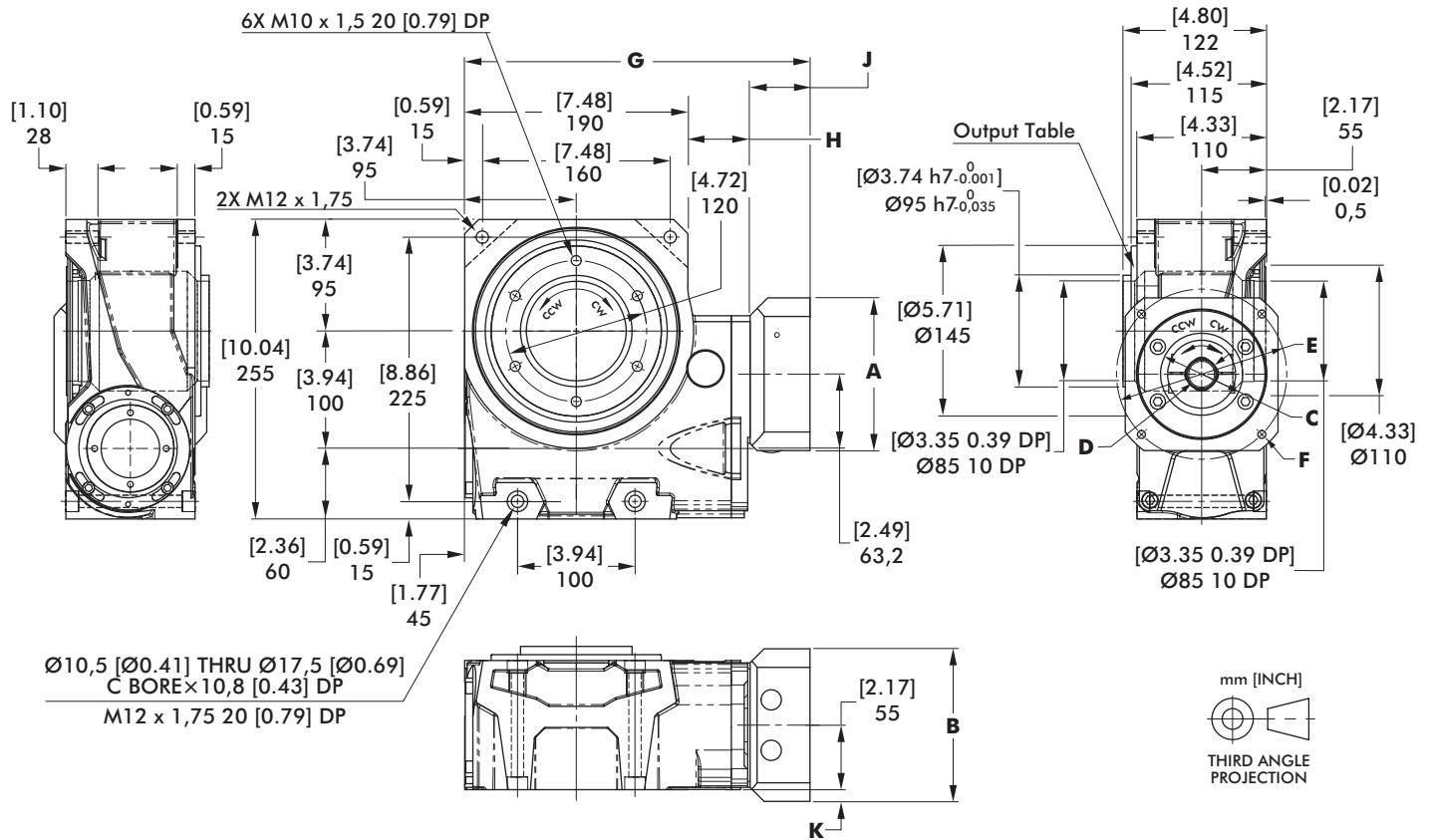


GTB100 SERIES

Globoidal (Roller Gear) Servo Positioner | Dimensions

GTB100-JG (Motor Frame Size □ = 90 [3.54], 100 [3.94], 130 [5.12])

Gear Drive: High Inertia applications: Ratio 60:1



Input/Output Rotation: CW/CCW

MI CODE	A Width mm [in]	B Height mm [in]	C Pilot Ø x Depth mm [in]	D Shaft Ø mm [in]	E Fixing Holes PCD mm [in]	F Fixing Holes Qty x Size mm [in]
JGA20				Ø24 [0.94]		
JGA21	130 [5.12]	130 [5.12]	Ø110 [4.33] x 7 [0.28]	Ø19 [0.75]	Ø145 [5.71]	4X M8 x 22,5 [0.89] Deep
JGA22				Ø22 [0.87]		
JGB23				Ø14 [0.55]		
JGB24	90 [3.54]	90 [3.54]	Ø80 [3.15] x 9,5 [0.37]	Ø16 [0.63]	Ø100 [3.94]	4X M6 x 17 [0.67] Deep
JGB25				Ø10 [0.39]		
JGC20	100 [3.94]	100 [3.94]	Ø95 [3.74] x 5,5 [0.22]	Ø24 [0.94]	Ø115 [4.53]	
JGD26	90 [3.54]	90 [3.54]	Ø80 [3.15] x 9,5 [0.37]	Ø16 [0.63]	Ø100 [3.94]	
JGE22				Ø22 [0.87]		
JGE27	100 [3.94]	100 [3.94]	Ø95 [3.74] x 7,5 [0.30]	Ø19 [0.75]	Ø115 [4.53]	4X M8 x 22,5 [0.89] Deep
JGF27	96 [3.78]	96 [3.78]	Ø80 [3.15] x 5 [0.20]		Ø100 [3.94]	4X M6 x 17 [0.67] Deep
JGG20	114 [4.49]	114 [4.49]	Ø110 [4.33] x 3,5 [0.14]	Ø24 [0.94]	Ø130 [5.12]	4X M8 x 22,5 [0.89] Deep



Frame Size	G	H	J	K
90	280 [11.02]	51 [2.01]	39 [1.54]	--
100	281 [11.06]	53 [2.09]	38 [1.50]	
130	280 [11.02]		51 [2.01]	10 [0.39]

PGM SERIES

Parallel Gear Servo Positioner | Table of Contents



Features:

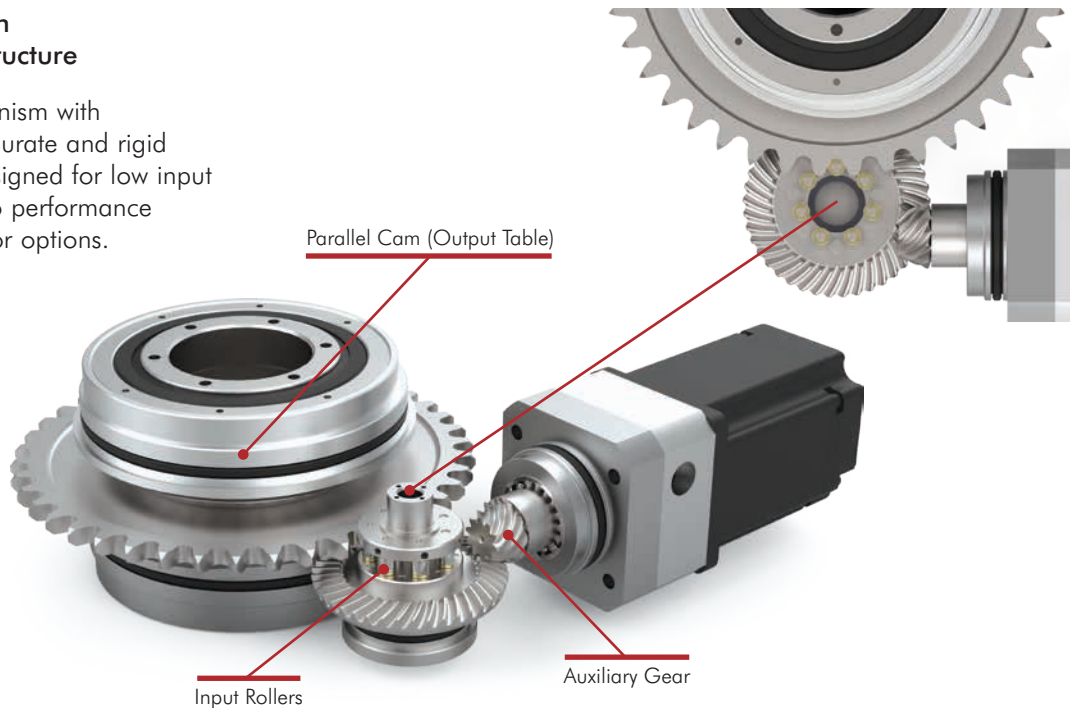
Destaco’s **CAMCO PGM Parallel Gear Reducers** is a precision servo reducer with parallel cam mechanism.

Light, accurate, and high cost performance offers easy to use character for wide range of applications. It features a pre-loaded precision parallel cam, low input inertia, through-hole design, integrated sealed tapered bearings, high performance grease and several motor options with integrated motor clamp system for easy fitting.

Table of Contents	IN-SRV-#
Features & Benefits	20
How to Order	21
Specifications	22
PGM40	23

Precision Servo Reducer with Pre-loaded Parallel Cam Structure

The PGM parallel cam mechanism with pre-loaded structure offers accurate and rigid indexing performance. It is designed for low input inertia and offers greater servo performance through a wide variety of motor options.



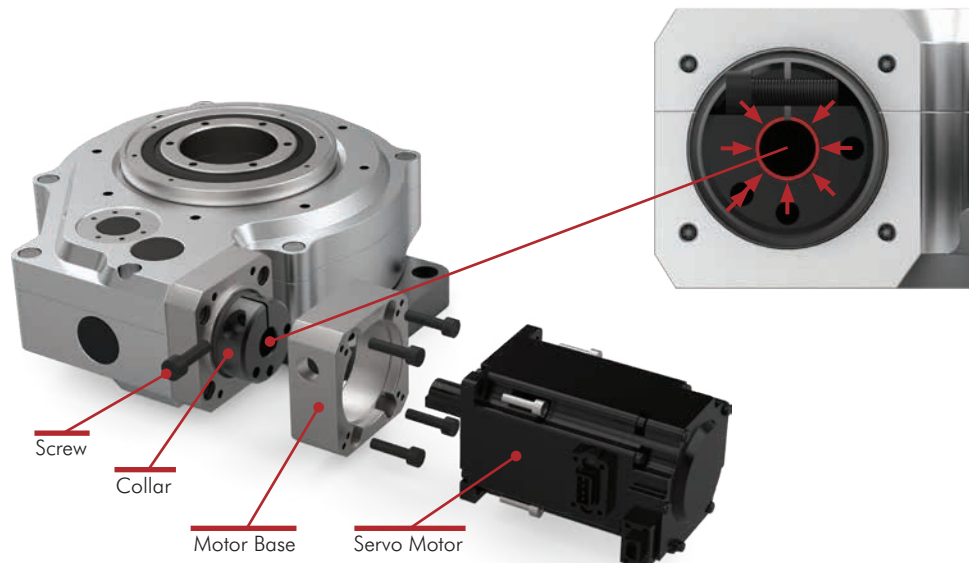
Thru-hole Design

Large central opening through the center of the output shaft structure is suitable for wiring and piping.



Integrated Motor Clamp System

The PGM offers a wide-variety of motor options that easily attach through the use of an integrated motor clamp.



PGM SERIES

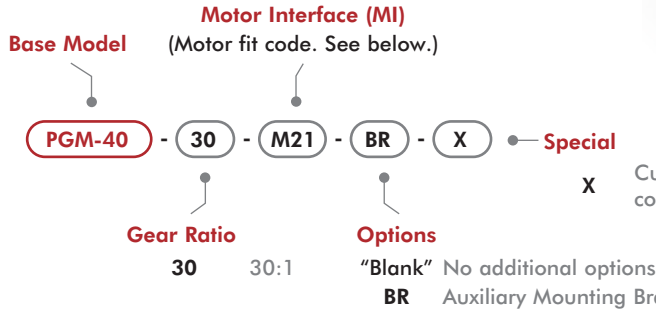
Parallel Gear Servo Positioner | How To Order

Parallel Gear Reducer Base Unit

PGM Series units can be interfaced with wide variety of servo motor manufacturers. Use the MI code tables to identify the supported motors for the PGM unit. Motors are ordered separately using the tables below.



PGM40 with Auxiliary Mounting Bracket. Motor not shown.



Make / Series	Model	mm [in]	kW [HP]	MI
Panasonic	A5 MSMD04	50 [1.97]	0,4 [0.54]	M21
	A5 MSME04	50 [1.97]	0,4 [0.54]	M21
	A5 MHMD04	50 [1.97]	0,4 [0.54]	M21
	A6 MSMF04	50 [1.97]	0,4 [0.54]	M21
	A6 MHMF04	50 [1.97]	0,4 [0.54]	M21

Easily Integrates with a Variety of Servo Motor Manufacturers

ABB Allen Bradley
FANUC Keyence
Mitsubishi Panasonic
Sanyo Yaskawa

Make / Series	Model	mm [in]	kW [HP]	MI
ABB	ESM06X-201-302	50 [1.97]	0.2 [0.27]	M22
	ESM06X-401-302	50 [1.97]	0.4 [0.54]	M22
FANUC	β βiS1/6000	50 [1.97]	0.5 [0.67]	M22
	SV SV-M020	50 [1.97]	0.2 [0.27]	M22
Keyence	SV SV-M040	50 [1.97]	0.4 [0.54]	M22
	SV2 SV2-M020	50 [1.97]	0.2 [0.27]	M22
	SV2 SV2-M040	50 [1.97]	0.4 [0.54]	M22
Mitsubishi	J3 HF-KP23	50 [1.97]	0.2 [0.27]	M22
	J3 HF-KP43	50 [1.97]	0.4 [0.54]	M22
	J3 HF-MP23	50 [1.97]	0.2 [0.27]	M22
	J3 HF-MP43	50 [1.97]	0.4 [0.54]	M22
	J4 HG-KR23	50 [1.97]	0.2 [0.27]	M22
	J4 HG-KR43	50 [1.97]	0.4 [0.54]	M22
	J4 HG-MR23	50 [1.97]	0.2 [0.27]	M22
	J4 HG-MR43	50 [1.97]	0.4 [0.54]	M22
Sanyo	R2 R2AA06020F	50 [1.97]	0.2 [0.27]	M22
	R2 R2AA06040F	50 [1.97]	0.4 [0.54]	M22
	R2 R2AA06040H	50 [1.97]	0.4 [0.54]	M22
Yaskawa	Σ5 SGMAV-02A	50 [1.97]	0.2 [0.27]	M22
	Σ5 SGMAV-04A	50 [1.97]	0.4 [0.54]	M22
	Σ5 SGMAV-06A	50 [1.97]	0.55 [0.74]	M22
	Σ5 SGMJV-02A	50 [1.97]	0.2 [0.27]	M22
	Σ5 SGMJV-04A	50 [1.97]	0.4 [0.54]	M22
	Σ5 SGMJV-06A	50 [1.97]	0.6 [0.80]	M22
	Σ7 SGM7J-02A	50 [1.97]	0.2 [0.27]	M22
	Σ7 SGM7J-04A	50 [1.97]	0.4 [0.54]	M22
	Σ7 SGM7J-06A	50 [1.97]	0.6 [0.80]	M22
	Σ7 SGM7A-02A	50 [1.97]	0.2 [0.27]	M22
	Σ7 SGM7A-04A	50 [1.97]	0.4 [0.54]	M22
	Σ7 SGM7A-06A	50 [1.97]	0.6 [0.80]	M22

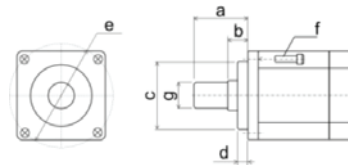
□ = Motor Frame Size

Make / Series	Model	mm [in]	kW [HP]	MI
Allen Bradley	VPL VPL-A0632F	55 [2.17]	0,39 [0.52]	M23
	VPL VPL-B0632F	55 [2.17]	0,37 [0.50]	M23
	VPL VPL-B0632T	55 [2.17]	0,54 [0.72]	M23

Make / Series	Model	mm [in]	kW [HP]	MI
Allen Bradley	VPL VPL-A0752C	70 [2.76]	0,49 [0.66]	M24
	VPL VPL-A0752E	70 [2.76]	0,66 [0.89]	M24
	VPL VPL-B0752E	70 [2.76]	0,67 [0.90]	M24
	VPL VPL-B0752F	70 [2.76]	0,8 [1.07]	M24
	VPL VPL-B0752M	70 [2.76]	0,81 [1.09]	M24

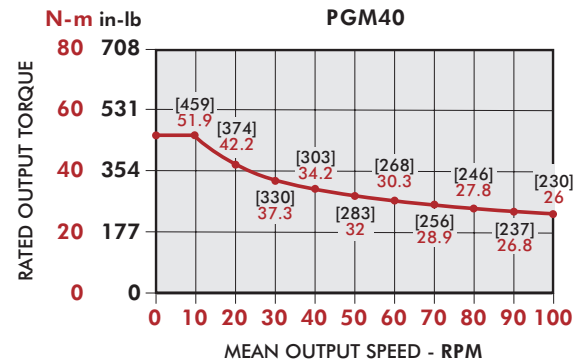
Motor Interface (MI) [in] mm

MI	a	b	c	d	e	f
M21	[0.91-1.22]	[≤0.16]	[1.97]	[≤0.20]	[2.76]	M4
M22	23-31	≤4	50	≤5	70	
M23	[0.79]	[0.07]	[1.57]	[0.08]	[2.48]	M5
	20		40		63	
M24	[0.91]	1,7	[2.36]	2.1	[2.95]	
	23		60		75	



Note: Follow the instruction manual for motor fitting and installing. Improper handling can cause damages and malfunction.

General Specifications	Symbol	Units	PGM40
Axis distance		mm [in]	101 [3.98]
Output hollow dia.		mm [in]	50 [1.97]
Gear ratio	i		30
Max start / stop torque	T _U	N-m [in-lb]	63,9 [566]
Allowable mean output speed	N _m	rpm	100
Allowable ultimate output speed	N _U	rpm	150
Inertia moment on input axis	J	[lb-ft ²] x 10 ⁻⁴ kg.m ² x 10 ⁻⁴	[10.63] 0,448
Accuracy		sec	60
Allowable axial Load on output	P _a	N [lbs]	1415 [318]
Allowable radial Load on output	P _r	N [lbs]	2172 [488]
Allowable moment Load on output	P _{mean}	N-m [in-lb]	102 [903]
Lubrication (Maintenance Free)			Grease
Weight		kg [lbs]	6,7 [14.77]



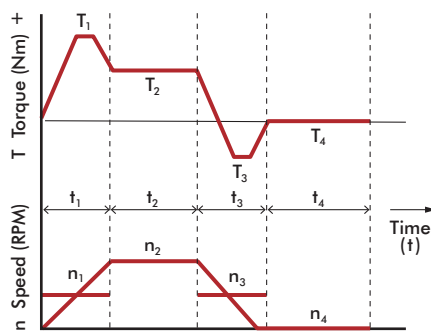
Sizing PGM Series for an Application

(Contact Destaco for sizing application support)

1. Load diagram

Check motion profile and resultant inertia torque.
(Add working torque if applied).

Start and stop speed can be simplified to average speed within a segment.



2. Check key conditions

$$\text{Mean torque } T_{\text{mean}} = \sqrt{\frac{\frac{10}{3} \left(n_1 \cdot t_1 \cdot |T_1| \frac{10}{3} + n_2 \cdot t_2 \cdot |T_2| \frac{10}{3} + \dots + n_n \cdot t_n \cdot |T_n| \frac{10}{3} \right)}{n_1 \cdot t_1 + n_2 \cdot t_2 + \dots + n_n \cdot t_n}} \quad (\text{N-m})$$

$$\text{Mean output speed } n_{\text{mean}} = \frac{n_1 \cdot t_1 + n_2 \cdot t_2 + \dots + n_n \cdot t_n}{t_1 + t_2 + \dots + t_n} \quad (\text{rpm})$$

$$\text{Max output speed } n_{\text{max}} \quad (\text{rpm})$$

3. Pre-selection

Choose a size that meets these criteria.

- $T_{\text{mean}} < \text{Maximum rated output torque (N-m)}$
- $n_{\text{mean}} < \text{Allowable mean output speed } N_m \text{ (rpm)}$
- $n_{\text{max}} < \text{Allowable ultimate output speed } N_u \text{ (rpm)}$

4. Check specifications

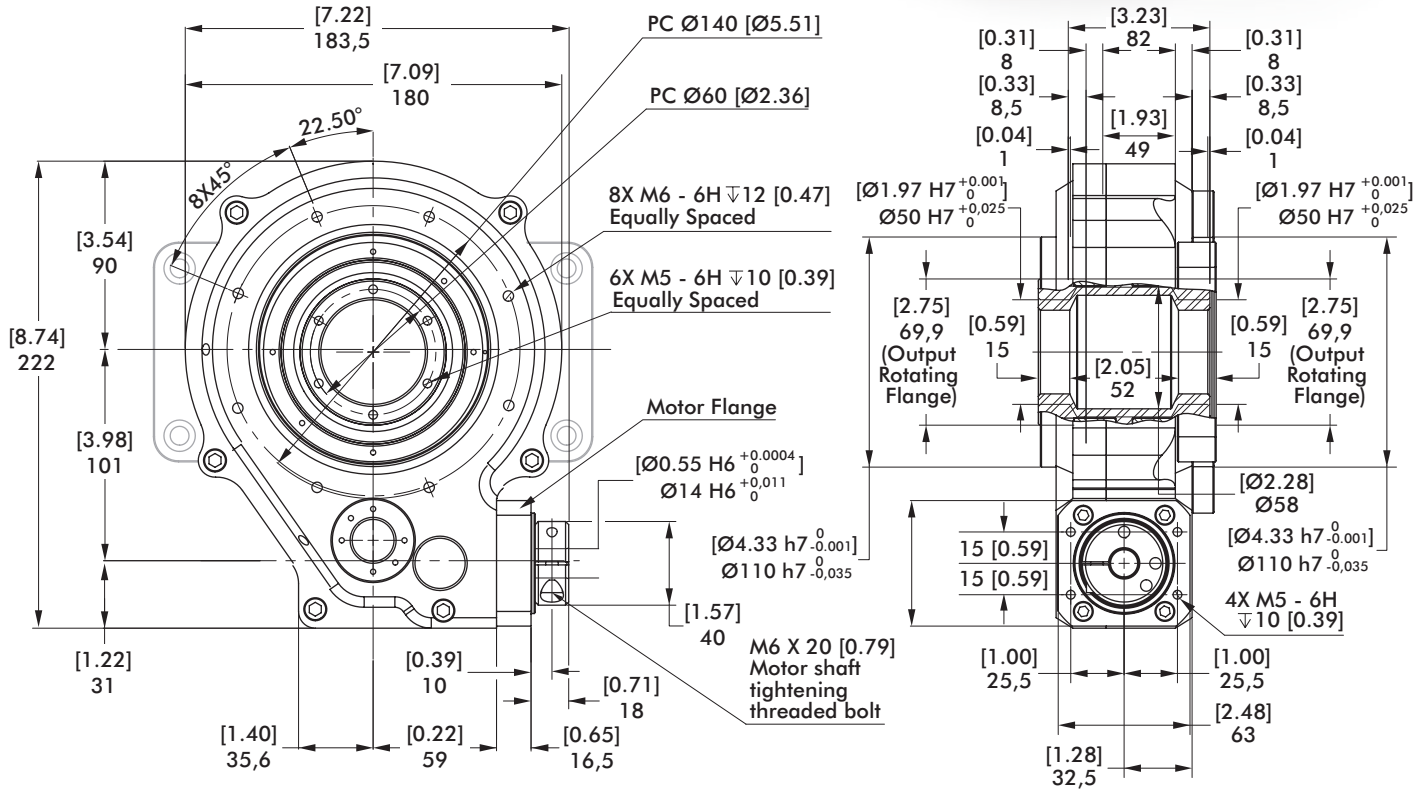
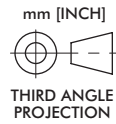
- Start/stop torque** $T_1 < \text{Maximum rated output torque (N-m)}$
 $T_3 < \text{Maximum rated output torque (N-m)}$
- Operation condition factor**
 - Smooth without any impact or sudden load $f = 1.0$
 - Normal, but occasional emergency stop $f = 1.5$
 - Operation with frequent impact or sudden load $f = 3.0$
- Estimated lifetime** $L_h = 12000 \left(\frac{T_{\text{op}}}{f \cdot T_{\text{mean}}} \right)^{\frac{10}{3}} \text{ (hours)}$

5. Selection complete

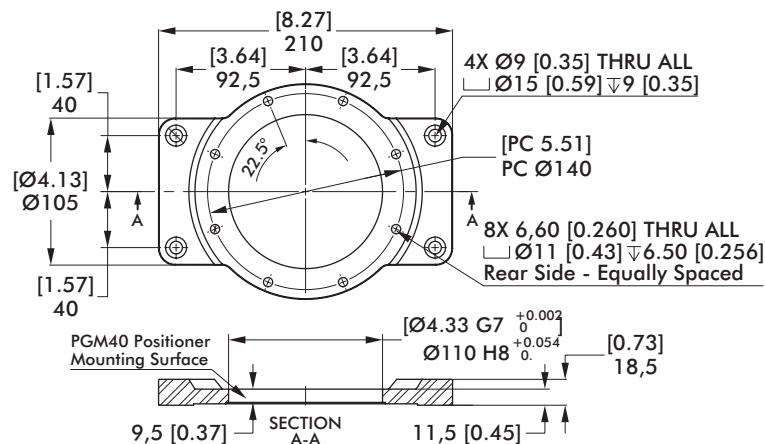
If above values don't satisfy requirements, go back to step 2 and 3 to re-select size.

PGM40

Parallel Gear Servo Positioner | Dimensions



Optional Fixture Bracket

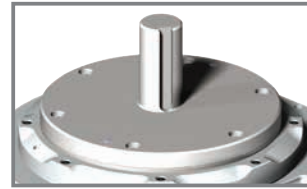


RSD SERIES

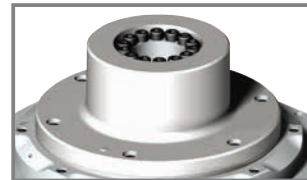
Rotary Servo Drive | Product Overview



Flange output



Shaft output



Internal shrink disk output



Shrink disk output

Smarter Indexing

The **CAMCO RSD Rotary Servo Drive** is a zero-backlash, cam-actuated drive compatible with industry-standard servo motors for precise control, efficiency and flexibility.

Universal mounting

Maintenance-free operation

Large output bearing for greater overturning moment capacity

Large thru-hole for accessory lines (electric, pneumatic, etc.)

IP-65 rating

Class 100 rated with Med-Redi preparation

Features

Designed to accept a variety of servo motors

Preloaded system

- Zero backlash
- High accuracy
- Smooth motion
- Quiet operation
- High speed

Indexing flexibility

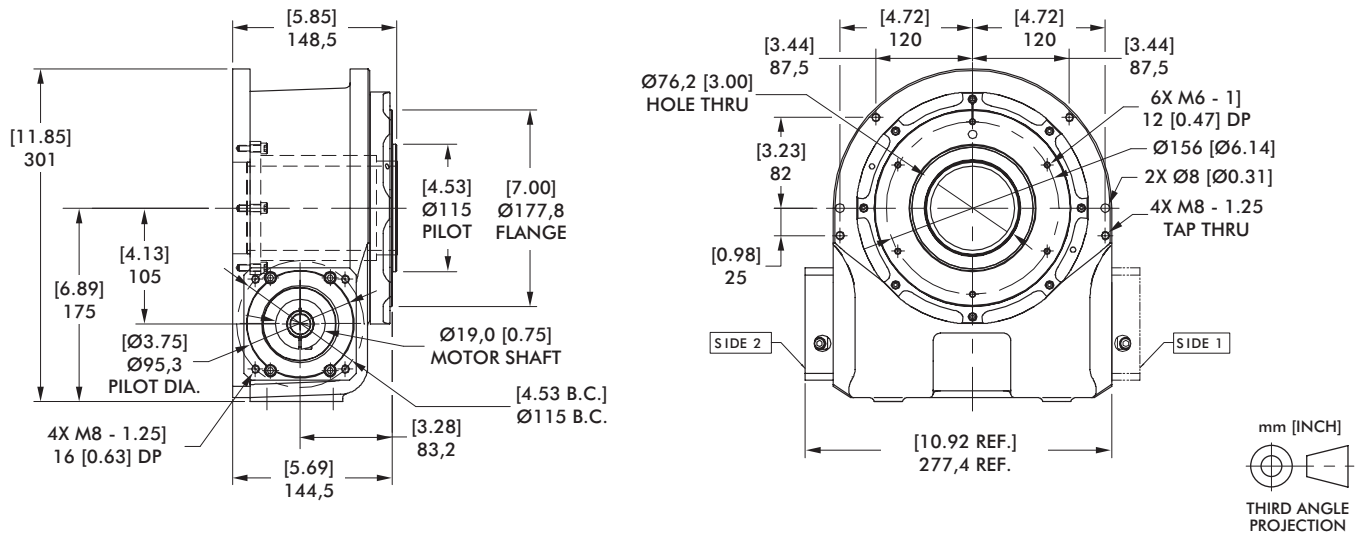
- Run different parts on the same indexer
- Variable indexing: reversing, sorting, vary distance with each index

4:1 to 18:1 ratios in a single stage

115RSD SERIES

Rotary Servo Drive | Dimensions

Flange Output



* Also available with 40 mm [1.57 in] bore.

Specifications	Units	Standard Ratios			Other Available Ratios					
Single Reduction Ratio	-	8:1	16:1	4:1	5:1	6:1	9:1	12:1	15:1	18:1
Maximum Torque Capacity	[in-lb] N-m	[3540] 400	[3755] 424	[2950] 333	[3195] 361	[3355] 379	[3595] 406	[3695] 418	[3740] 423	[3770] 426
Maximum Inertia on Output Dial	[lb-ft ²] kg-m ²	[1622] 68	[6488] 273	[406] 17	[634] 27	[912] 38	[2053] 87	[3649] 154	[5702] 240	[8211] 346
Unit Output Inertia Reflected at Input Shaft	[lb-ft ²] kg-m ²	[0.44] 0,05	[0.33] 0,04	[0.94] 0,11	[0.73] 0,08	[0.55] 0,06	[0.40] 0,05	[0.43] 0,05	[0.34] 0,04	[0.31] 0,03
Stiffness	in-lb/arcmin N-m/arcmin	[169] 19,1	[179] 20,2	[141] 15,9	[153] 17,3	[160] 18,1	[172] 19,4	[177] 20	[179] 20,2	[180] 20,3
Input Torque of Unit Only	N-m [in-lb]	2,26 [20]								
Maximum Axial Load	kN [lbf]	10 [2270]								
Maximum Radial Load	kN [lbf]	4 [910]								
Maximum Offset Load (Overturning Moment)	N-m [in-lb]	359 [3180]								
Output Face Flatness	TIR mm [in]	0,05 [0.002]								
Axial Run-Out	mm [in]	0,04 [0.0015]								
Accuracy	arc seconds	±30								
Repeatability	arc seconds	±7								
Torsional Backlash	arc seconds	0								
Operating Temperature Range	C° [F°]	60 [140] Minimum								