

**Varvel®**

# ***Servo Worm Reducers***

***For Small Metric/NEMA  
Servo and Step Motors***

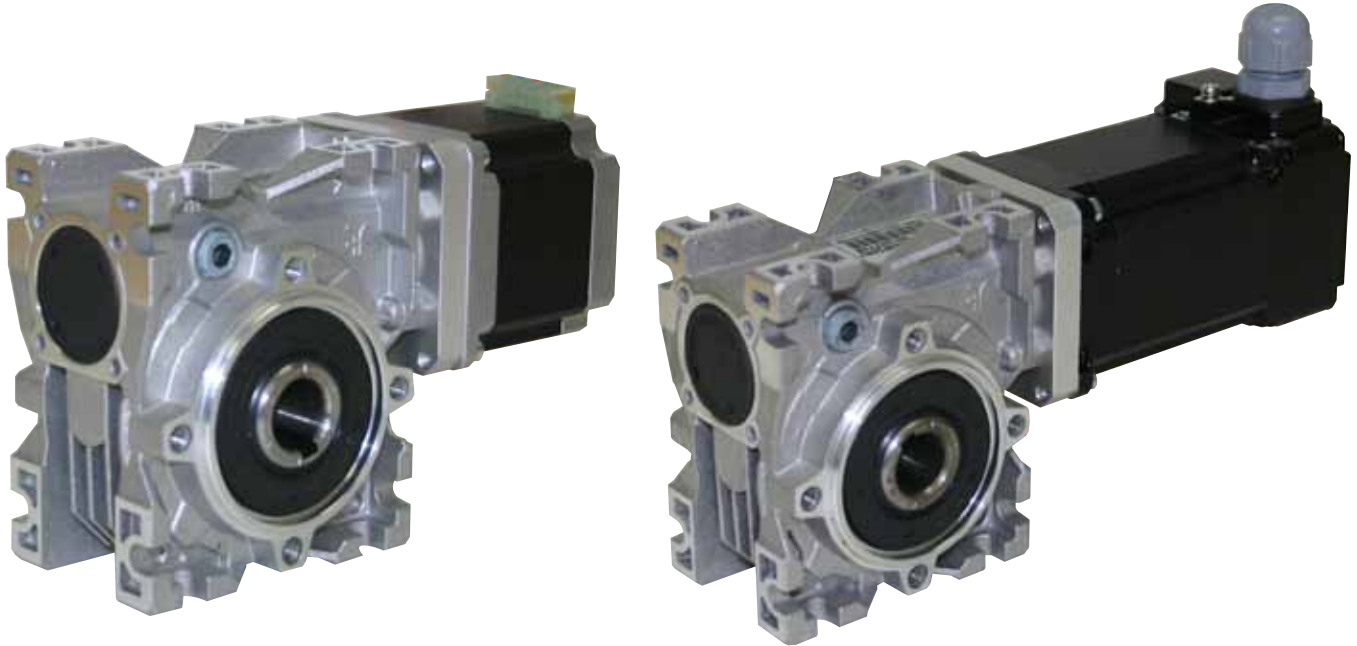
# **DIEQUA** Corporation



***www.diequa.com***  
***630-980-1133***

# **The Varvel® Servo Worm Reducers**

## **Delivering Value in Motion Control Applications**



### **Program Benefits:**

- Compact right angle gearhead saves space
- Flexible NEMA 23 and 34 motor interface
- Elastomer coupling eliminates alignment problems
- Hardened & ground worm provides smooth motion
- Bronze wheel cast on shaft for high strength
- Modular attachments for mounting versatility
- Aluminum diecast housing for light weight

### **Specifications:**

- Worm series torque capacity from 8 to 684 Nm
- Inch or Metric output shafts
- Hollow output standard, insert shafts optional
- 12 standard single stage ratios 7:1 to 100:1
- Higher 2 stage ratios available
- 5 additional sizes for larger servos
- 2D and 3D drawings available online

### **The Coupling Is The Thing!**

- Eliminates fretting corrosion common to quill mount
- Provides a near-zero backlash motor-to-reducer connection
- Reduces efficiency losses due to motor mounting misalignment
- Eliminates key/keyway wear in dynamic applications
- One gearbox for multiple motor frame sizes
- Two bearing input support isolates motor bearings
- Motor heat transfer is minimized, increasing seal life.



### **Flexible Integration with Multiple Motor Manufacturers**

Advanced Micro Control  
Aerotech Inc.  
Anaheim Automation  
Animatics

Applied Motion Products  
Automation Direct  
B&R Automation  
Baldor

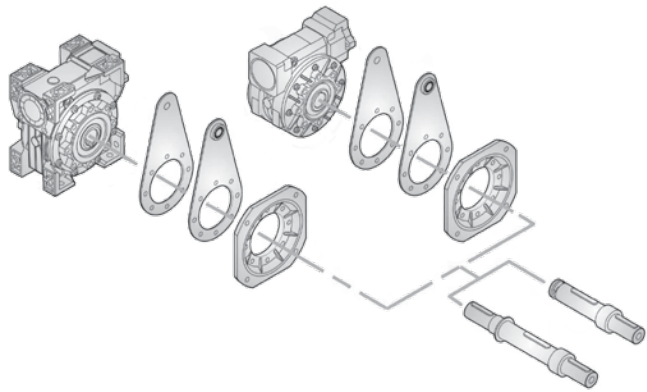
Cool Muscle  
ElectroCraft  
Galil Motion Systems  
Intelligent Motion Systems

JVL  
Numatics  
Parker Hannifin  
Sanyo Denki

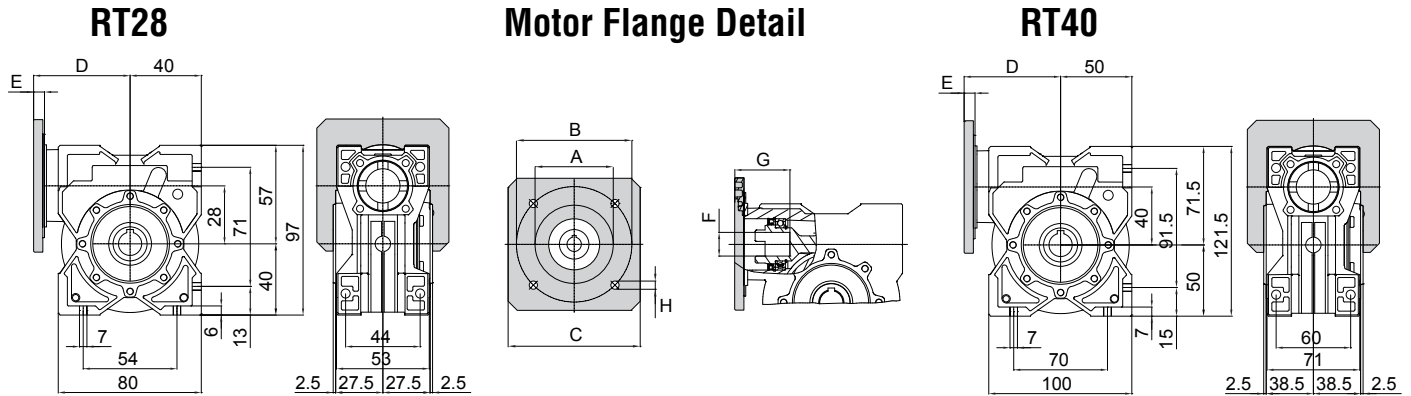
# Applications:

- Packaging, Case and Carton Erecting
- Material Handling and Position Conveying
- Sortation, Palletizing and Stacking
- Inspection Positioning and Identification
- Feed and Cut to Length
- Part and Pallet Transfer

# Program Flexibility:



# Dimensions:



Motor Size	A (Pilot)	B (Bolt Circle)	C	D	E	F	G	H
NEMA 23	Ø 38.1	Ø 66.61	56 x 56	*	*	14.1	*	M4
NEMA 34	Ø 73.05	Ø 98.4	87 x 87	*	*	14.1	*	M6
40 MM	Ø 30.0	Ø 46.0	40 x 40	*	*	14.1	*	M4
60 MM	Ø 50.0	Ø 70.0	60 x 60	*	*	14.1	*	M5

\* Based on motor dimensions

# Specifications:

Ratio	RT28					RT40				
	Nominal Output Torque	Max. Accel. Output Torque	J <sub>1</sub> (kgcm <sup>2</sup> )	Backlash (arcmin)	η%	Nominal Output Torque	Max. Accel. Output Torque	J <sub>1</sub> (kgcm <sup>2</sup> )	Backlash (arcmin)	η%
5	---	---	---	---	---	45	50	0.25	<20	87
7	19	24	0.06	<20	84	44	54	0.22	<20	85
10	19	24	0.05	<20	81	48	59	0.20	<20	83
15	19	24	0.05	<20	77	47	58	0.18	<20	78
20	22	27	0.05	<20	74	45	56	0.18	<20	75
28	21	26	0.05	<20	66	47	59	0.18	<20	68
40	24	29	0.05	<20	62	42	51	0.18	<20	61
49	22	24	0.05	<20	57	50	62	0.18	<20	58
56	17	18	0.05	<20	51	50	56	0.18	<20	56
70	12	13	0.05	<20	45	38	41	0.18	<20	52
80	11	12	0.05	<20	45	31	34	0.18	<20	50
100	8	9	0.05	<20	45	23	25	0.18	<20	46

J<sub>1</sub> = Inertia in arc minutes

η% = Running efficiency

## Varvel® delivers a truly unique solution!

Standard worm reducers have several issues that negatively affect their performance. Typical quill inputs add backlash, allow fretting corrosion, and risk key wear in cyclic applications.

The Varvel worm eliminates these issues with a coupling input design configured for small stepper and servo motor applications. With a compression clamp motor shaft connection, flexible element to compensate for misalignment and compact motor adapters, outstanding motion control and design versatility is assured.



# Other Servo Gearhead Products

## ServoFoxy



Precision Planetary & Bevel Gearheads

## Planetdrive



Economy Inline Planetary Gearheads

## Dynabox



Right Angle Precision & Economy Gearheads

## WATT Drive



Helical Gearing Servo Gearheads

## The DieQua Advantage

DieQua Corporation has been a manufacturer and supplier of precision motion control components for over 30 years. We offer the widest range of servo gearhead and speed reducing solutions available from a single source. Featuring right angle and inline designs with multiple backlash precision levels, the largest number of ratios, and several mounting and output options, we have the drive that meets your needs.

### Engineering Support

DieQua Corporation has several decades of combined experience specifying power transmission and motion control components. This assures the proper selection of components and systems for your unique requirements.



### Assembly

DieQua Corporation has a team of factory trained technicians that assemble the majority of the drives we provide. This allows prompt delivery of your production requirements or service repairs.



### Warehousing

DieQua Corporation maintains an extensive inventory of common speed reducer and motor components for quick delivery of small orders, prototypes and spare parts.



### Manufacturing

DieQua Corporation's manufacturing capabilities allow production of many of the components used in the drives we provide. Mounting components and design modifications are also available from our full service machine shop.



**DIEQUA**  
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