

# AquaTRUE™

## True Planetary™ Gearheads

Ready for Immediate Delivery	
Precision	13 arc-minutes
Frame Sizes	60mm, 80mm, 120mm and 160mm
Torque Capacity	up to 876 Nm
Ratio Availability	3:1 thru 10:1
Radial load capacity	up to 3730 N
Mounting System	RediMount™

① Silicone Gasket to seal motor-gearhead interface

② Round and Square Motor Mounts

③ 1pc Housing - No External Seams

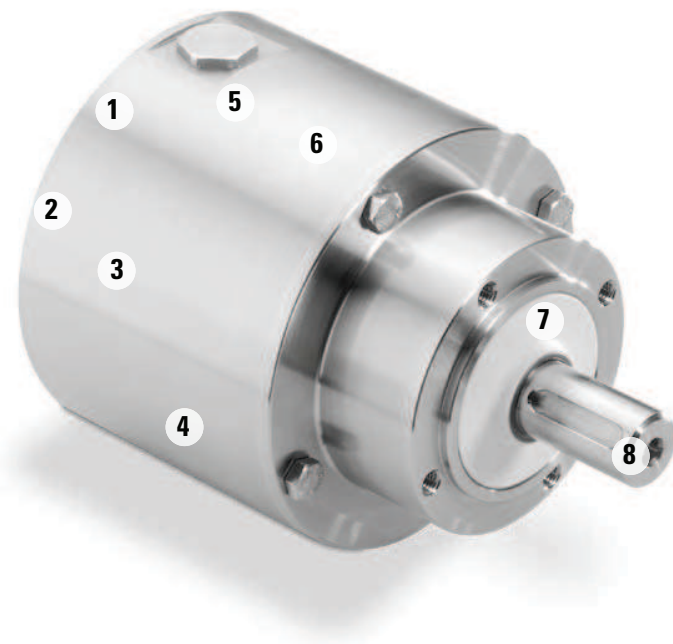
④ Permanent Product Label  
(Laser Etched)

⑤ Tested for IP66, IP67 and IP69K Protection  
Throughout

⑥ 300 Series Stainless Steel Housing

⑦ Non-Contact Labyrinth Seal for  
Minimal wear and Maximum Protection

⑧ Stainless Steel Output Shaft



## AquaTRUE™

A revolutionary, corrosion resistant and watertight gearhead for the most demanding applications.

### Introduction

Micron's new AquaTRUE gearhead combines the high performance and torque capacity of Micron's True Planetary gearheads with features specifically designed to meet the strict requirements of applications such as food and beverage handling, packaging and dispensing. The AquaTRUE's IP66/IP67 and IP69K protection is able to handle caustic cleaning chemicals as well as high pressure washdown. Until now, manufacturers have been unable to use gearheads in many applications involving harsh environments because there was not a product available that met those needs. The AquaTRUE is engineered to be placed anywhere in the application's design, regardless of environmental factors. This eliminates the cost of additional components such as enclosers, shielding or mechanical transmissions.

The gearhead's 304 stainless steel housing eliminates the concern for rust or any type of corrosion. The AquaTRUE has a laser etched permanent product label and a smooth, round external housing that is designed without any external seams or corners for bacteria to collect. This makes the AquaTRUE very easy to clean and a perfect fit in any washdown environment.

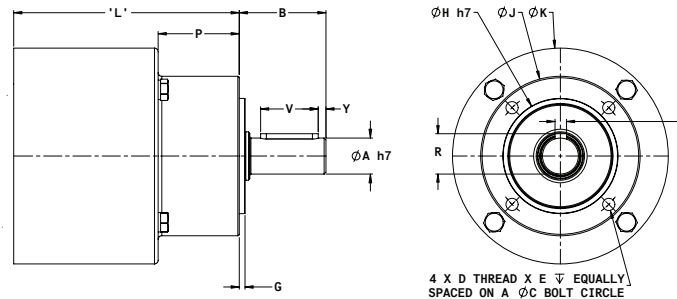
- Frame Sizes: 60mm, 80mm, 120mm, 160mm
- Precision: 13 arc-min max
- Torque Capacity: up to 876 Nm
- Ratio Availability: 3:1 to 10:1 (single stage)

### Features and Benefits

- Round Housing
- No External Seams
- 300 Series Stainless Steel
- IP66/IP67 and IP69K Protection on both the input and output
- NSF/ANSI 169 Certification
- No corners or areas for bacteria to collect
- No areas of ingress
- Corrosion Resistance
- Can handle high pressure washdown



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\* 'L' Dimension will change depending on motor being used.  
Note: Mounting adapters available for both round and square motors.

## Dimensions

Part Number	A Output Shaft Diameter mm [in]	B Output Shaft Length mm [in]	Y Shaft End Distance mm [in]	V Keyway Length mm [in]	R Keyway Height mm [in]	I Key Width mm [in]	H Pilot Diameter mm [in]	J Body Diameter mm [in]
AQT060	14 [0.55]	38 [1.51]	2.5 [0.10]	25 [0.98]	16 [0.63]	5 [0.20]	43 [1.69]	60 [2.36]
AQT080	20 [0.79]	42.4 [1.67]	4.0 [0.16]	28 [1.10]	22.5 [0.89]	6 [0.24]	60 [2.36]	80 [3.15]
AQT120	25 [0.98]	59.5 [2.34]	5 [0.20]	40 [1.57]	28 [1.10]	8 [0.31]	80 [3.15]	110.5 [4.36]
AQT160	40 [1.57]	90.5 [3.57]	8.0 [0.32]	65 [2.55]	43 [1.69]	12 [0.47]	105 [4.13]	140 [5.50]

## Dimensions

Part Number	G Pilot Length mm [in]	D Output Housing Thread	Q Thread Depth mm [in]	K Input Body Diameter mm [in]	* L Standard Length mm [in]	C Bolt Circle mm [in]	P Output Body Length mm [in]
AQT060	6.9 [0.27]	M5x0.8-6H	12 [0.47]	92 [3.62]	91.6 [3.61]	52 [2.05]	38.5 [1.51]
AQT080	6.3 [0.25]	M6x1.0-6H	16 [0.63]	114.5 [4.51]	125.7 [4.95]	70 [2.76]	31.8 [1.25]
AQT120	7.3 [0.29]	M10x1.5-6H	22 [0.87]	150 [5.9]	149 [5.87]	95 [3.74]	56.9 [2.24]
AQT160	8.3 [0.33]	M12x1.75-6H	36 [1.42]	188.7 [7.43]	196.6 [7.74]	122.4 [4.82]	76.6 [3.02]

## Specifications

Part Number	Stages	Backlash (arc-min)	Efficiency	Weight		Ratio Availability
				kg	[lbs]	
AQT060	1	13	93%	2.4	5.4	3:1, 4:1, 5:1, 7:1, 10:1
AQT080	1	13	93%	5.7	12.7	3:1, 4:1, 5:1, 7:1, 8:1, 10:1
AQT120	1	13	93%	12.0	26.5	3:1, 4:1, 5:1, 7:1, 10:1
AQT160	1	13	93%	24.8	53.8	3:1, 4:1, 5:1, 7:1, 10:1

$T_r$  = Rated output torque at rated speed for specific hours of life.  
 $T_{peak}$  = Allowable momentary peak torque for emergency stop or heavy shock loading.  
 $J$  = Mass moment of inertia reflected to the input shaft (including pinion assembly).  
 Specifications subject to change without notice.

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### Performance Specifications

Part Number	Ratio	20,000 Hour Life				T Peak Nm [in-lb]	J kg-cm <sup>2</sup> [in-lb sec <sup>2</sup> *10 <sup>-4</sup> ]	Torsional Stiffness Nm/arc-min [in-lb/ arc-min]	
		Tr (1000 rpm) Nm [in-lb]	Tr (2000 rpm) Nm [in-lb]	Tr (3000 rpm) Nm [in-lb]	Tr (4000 rpm) Nm [in-lb]				
AQT060	AQT060-003	3:1	16 [139]	13 [112]	12 [102]	11 [93]	55 [483]	0.57 [5.1]	1.4 [12.6]
	AQT060-004	4:1	20 [177]	17 [149]	15 [130]	14 [121]	46 [409]	0.48 [4.0]	1.4 [12.1]
	AQT060-005	5:1	18 [158]	15 [130]	13 [112]	12 [102]	48 [427]	0.41 [3.6]	1.3 [11.8]
	AQT060-007	7:1	17 [149]	14 [121]	12 [102]	11 [93]	43 [381]	0.37 [3.2]	1.2 [11.0]
	AQT060-010	10:1	16 [139]	15 [130]	14 [121]	13 [112]	47 [418]	0.35 [3.1]	1.1 [10.1]
AQT080	AQT080-003	3:1	59 [520]	48 [427]	43 [381]	39 [344]	165 [1459]	2.4 [21.5]	5.8 [51.7]
	AQT080-004	4:1	70 [623]	58 [511]	53 [465]	48 [427]	165 [1459]	1.9 [17.1]	5.7 [50.5]
	AQT080-005	5:1	65 [576]	53 [465]	47 [418]	43 [381]	165 [1459]	1.7 [14.9]	5.5 [49.1]
	AQT080-007	7:1	63 [558]	50 [446]	45 [400]	40 [353]	165 [1459]	1.5 [13.0]	4.9 [43.0]
	AQT080-008	8:1	62 [549]	49 [434]	45 [398]	42 [372]	165 [1460]	1.4 [12.6]	4.6 [41.0]
AQT120	AQT120-003	3:1	90 [799]	74 [650]	65 [576]	59 [520]	298 [2639]	9.0 [80]	12.1 [107]
	AQT120-004	4:1	107 [948]	89 [790]	79 [697]	74 [650]	298 [2639]	7.3 [65]	11.7 [103]
	AQT120-005	5:1	99 [873]	81 [716]	71 [632]	65 [576]	298 [2639]	6.5 [57]	11.3 [100]
	AQT120-007	7:1	97 [855]	79 [697]	68 [604]	63 [558]	298 [2639]	5.7 [51]	10.6 [94]
	AQT120-010	10:1	87 [771]	79 [697]	74 [650]	69 [613]	298 [2639]	5.4 [48]	9.8 [87]
AQT160	AQT160-003	3:1	317 [2806]	257 [2277]	228 [2016]	209 [1849]	876 [7750]	37 [327]	42.4 [375]
	AQT160-004	4:1	371 [3280]	305 [2695]	272 [2407]	251 [2221]	876 [7750]	27 [239]	39.7 [351]
	AQT160-005	5:1	350 [3094]	284 [2509]	251 [2221]	230 [2035]	876 [7750]	22 [195]	37.6 [333]
	AQT160-007	7:1	344 [3048]	278 [2463]	246 [2174]	225 [1989]	876 [7750]	19 [168]	34.6 [306]
	AQT160-010	10:1	222 [1961]	198 [1756]	185 [1635]	175 [1552]	876 [7750]	17 [150]	31.2 [276]

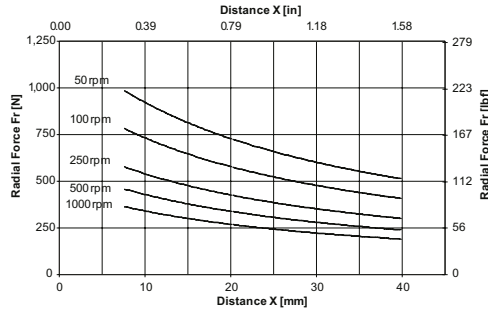
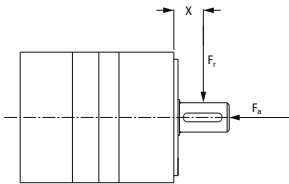
T<sub>r</sub> = Rated output torque at rated speed for specific hours of life.  
T<sub>peak</sub> = Allowable momentary peak torque for emergency stop or heavy shock loading.  
J = Mass moment of inertia reflected to the input shaft (including pinion assembly).  
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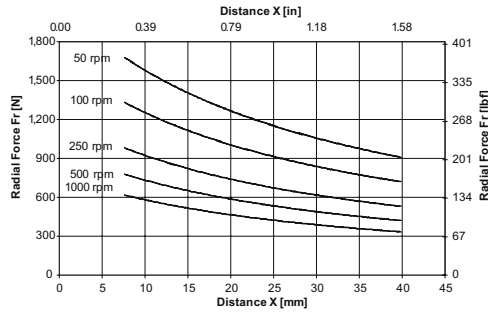
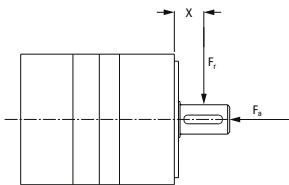
### Radial and Axial Load Ratings

#### AQT060



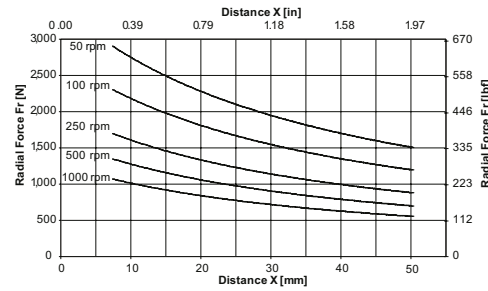
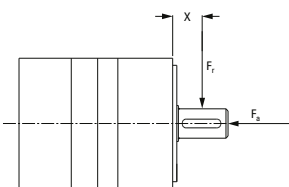
Speed rpm	Axial Load, $F_a$ N [lb <sub>f</sub> ]
50	2542 [571]
100	2017 [454]
250	1486 [334]
500	1180 [265]
1000	936 [211]

#### AQT080



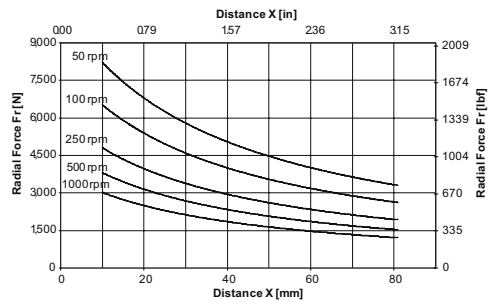
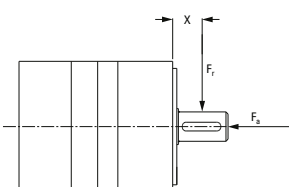
Speed rpm	Axial Load, $F_a$ N [lb <sub>f</sub> ]
50	3780 [850]
100	3000 [675]
250	2211 [497]
500	1755 [394]
1000	1393 [313]

#### AQT120



Speed rpm	Axial Load, $F_a$ N [lb <sub>f</sub> ]
50	6894 [1550]
100	5471 [1230]
250	4034 [907]
500	3203 [720]
1000	2540 [571]

#### AQT160

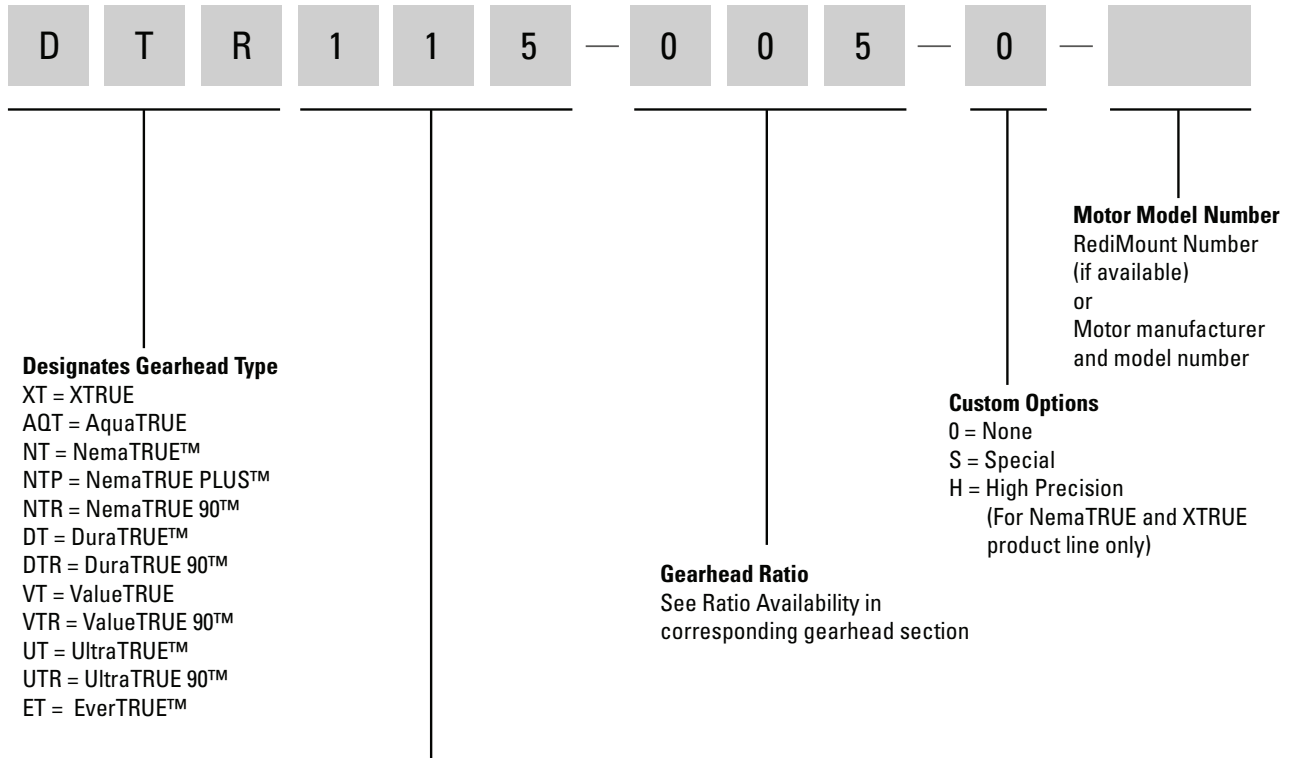


Speed rpm	Axial Load, $F_a$ N [lb <sub>f</sub> ]
50	14,122 [3175]
100	11,209 [2520]
250	8260 [1857]
500	6556 [1474]
1000	5204 [1170]

These graphs display the allowable radial load at a given distance (X) from the mounting surface based on an L<sub>10</sub> life of 20,000 hours for the mean output speed.

# Gearhead Ordering Information

Visit [www.micronmotioneering.com](http://www.micronmotioneering.com) to get your complete RediMount part number using your motor manufacturer and model number information.



GEARHEAD SIZE					
<b>XTRUE™</b> <b>AquaTRUE™</b>	<b>NemaTRUE™</b> <b>NemaTRUE PLUS™</b> <b>NemaTRUE 90™</b>	<b>DuraTRUE™</b> <b>DuraTRUE 90™</b> <b>DuraTRUE™ (Hollow Shaft)</b> <b>DuraTRUE™ (Dual Shaft)</b>	<b>UltraTRUE™</b> <b>UltraTRUE 90™</b>	<b>EverTRUE™</b>	<b>ValueTRUE™</b> <b>ValueTRUE 90™</b>
40 = 40mm	17 = Size 17	60 = Size 60	006 = Size 60	10 = Size 10	006 = Size 60
60 = 60mm	23 = Size 23	90 = Size 90	075 = Size 75	14 = Size 14	075 = Size 75
80 = 80mm	34 = Size 34	115 = Size 115	090 = Size 90	18 = Size 18	090 = Size 90
120 = 120mm	42 = Size 42	142 = Size 142	010 = Size 10		010 = Size 10
160 = 160mm	60 = Size 60		115 = Size 115		115 = Size 115
	90 = Size 90		014 = Size 14		014 = Size 14
	115 = Size 115		018 = Size 18		018 = Size 18
			022 = Size 22 (UltraTRUE™ only)		022 = Size 22