



**MICRON**

## **AquaTRUE™ True Planetary Gearheads**

**The first gearhead on the market that is corrosion resistant and watertight for any application**

** THOMSON®**

*Linear Motion. Optimized.™*

## Introduction

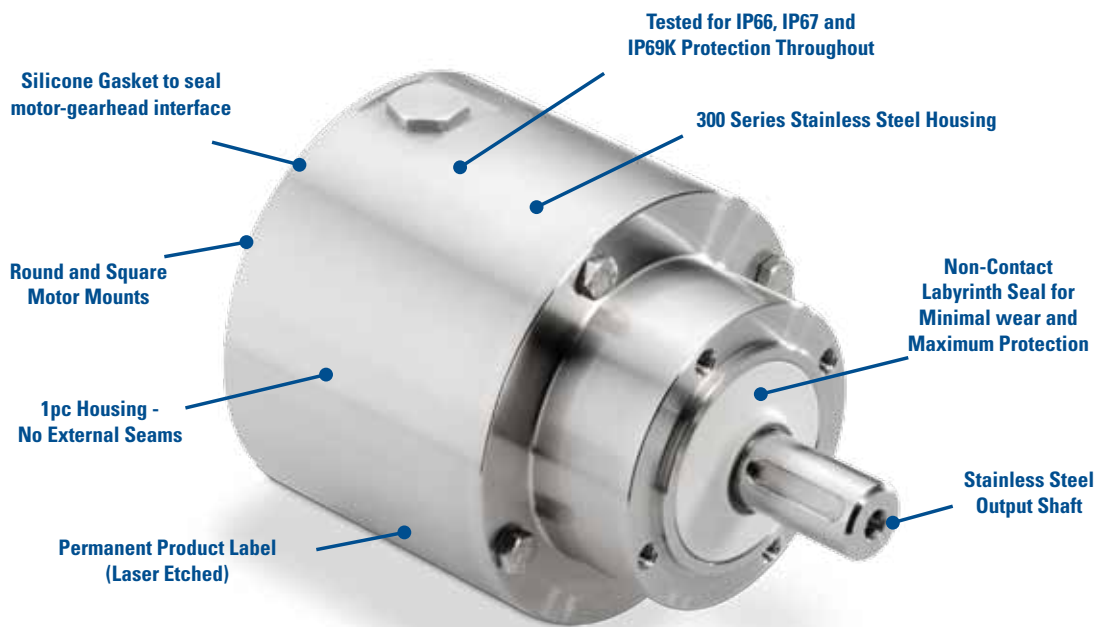
Micron's new AquaTRUE gearhead combines the high performance and torque capacity of Micron's True Planetary gearheads with features specifically designed to meet the strict requirements of applications such as food and beverage handling, packaging and dispensing. The AquaTRUE's IP66/IP67 and IP69K protection 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

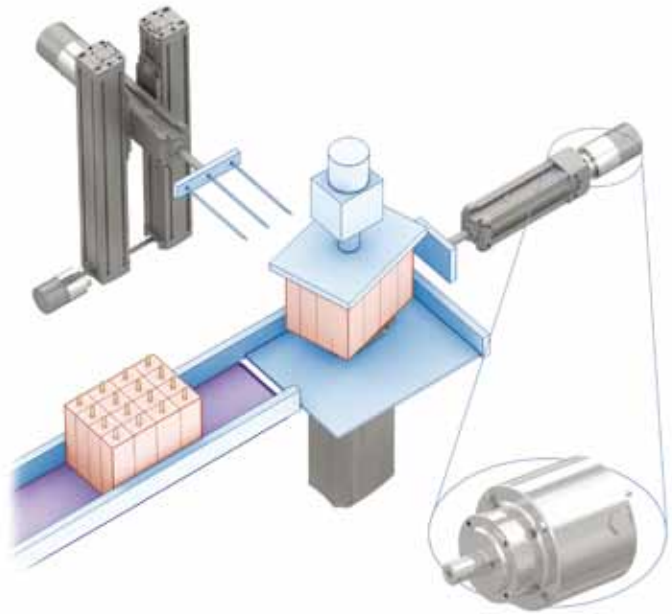
- Round Housing
- No External Seams
- 300 Series Stainless Steel
- IP66/IP67 and IP69K Protection on both the input and output
- NSF/ANSI 169 Certification
- No corners or areas for bacteria to collect
- No areas of ingress
- Corrosion Resistance
- Can handle high pressure washdown



# Applications

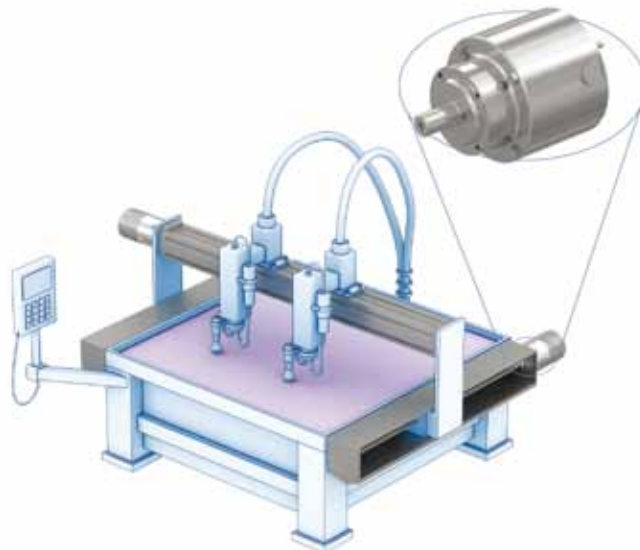
## Food Handling

The AquaTRUE is the first gearhead on the market that comes standard with NSF/ANSI 169 certification. Its complete stainless steel construction make it a perfect fit for food handling applications. FDA approved grease is used on all sizes of the AquaTRUE. The output housing is round, completely stainless steel, has no external seams and has a laser-etched permanent product label. The product has no areas for bacteria to collect and can be easily cleaned during machine wash down.



## Water Jet Cutting

The AquaTRUE can be used in more than just food and beverage applications. It also is a perfect fit in applications that require sealing from high pressure water or other chemicals such as water jet cutting. The high pressure water streams associated with water jet cutting make the sealing of the mechanical components critical. The IP66, IP67 and IP69K protection that is standard with the AquaTRUE product line means it is completely sealed from high pressure water or corrosive chemicals. Since all of the external components are stainless steel there is no concern for rust or corrosion.

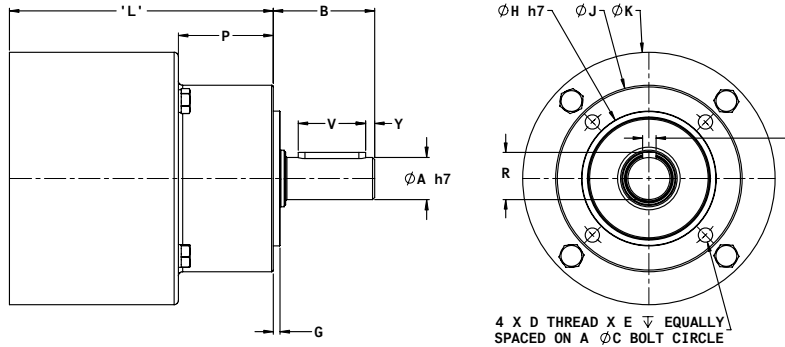


## Other applications

- Food Packaging
- Beverage Dispensing
- Medical Hygienic Equipment
- Pharmaceutical
- Washdown Applications
- Meat Slicing

# AquaTRUE

## True Planetary Gearheads



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

Part Number	'A' Output Shaft Diameter mm [in]	'B' Output Shaft Length mm [in]	'Y' Shaft End Distance mm [in]	'V' Key Length mm [in]	'R' Key Height mm [in]	'I' Key Width mm [in]	'H' Pilot Diameter mm [in]	'J' Output 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]

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	6.6 [0.26]	M5x0.8-6H	12 [0.47]	92 [3.62]	91.6 [3.61]	52 [2.05]	38.5 [1.51]
AQT080	6.6 [0.26]	M6x1.0-6H	16 [0.63]	114.5 [4.51]	125.7 [4.95]	70 [2.76]	31.8 [1.25]
AQT120	7.6 [0.30]	M10x1.5-6H	22 [0.87]	150 [5.9]	151 [5.95]	95 [3.74]	58.9 [2.32]
AQT160	8.6 [0.34]	M12x1.75-6H	36 [1.42]	188.7 [7.43]	196.6 [7.74]	122.4 [4.82]	76.6 [3.02]

$T_r$  = 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.

## AquaTRUE True Planetary Gearheads 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

Part Number	Ratio	20,000 Hour Life								T Peak		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)		Tr (2000 rpm)		Tr (3000 rpm)		Tr (4000 rpm)							
		Nm	(in-lb)	Nm	(in-lb)	Nm	(in-lb)	Nm	(in-lb)	Nm	(in-lb)				
<b>AQT060</b>															
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
<b>AQT080</b>															
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
AQT080-010	10:1	54	474	48	427	45	400	43	381	165	1459	1.4	12.3	4.9	43.2
<b>AQT120</b>															
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
<b>AQT160</b>															
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

$T_r$  = Rated output torque at rated speed for specific hours of life.

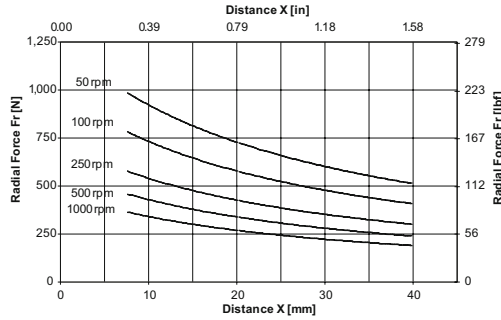
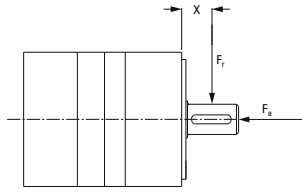
$T_{peak}$  = Allowable momentary peak torque for emergency stop or heavy shock loading.

J = Mass moment of inertia reflected to the input shaft (including pinion assembly).

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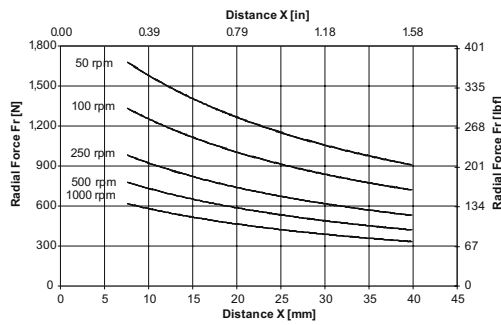
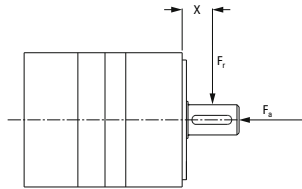
# Radial and Axial Load Ratings

## AQT060



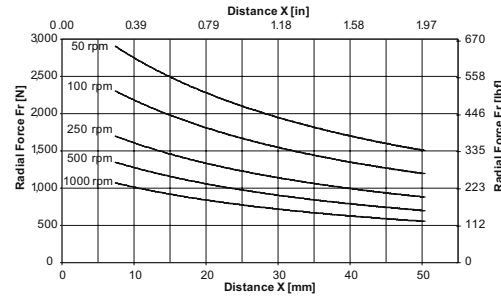
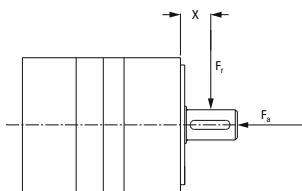
Speed rpm	Axial Load, $F_a$ N [lbf]
50	2542 [571]
100	2017 [454]
250	1486 [334]
500	1180 [265]
1000	936 [211]

## AQT080



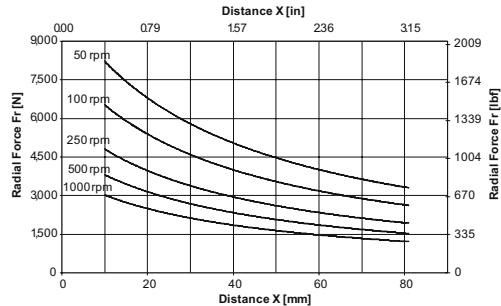
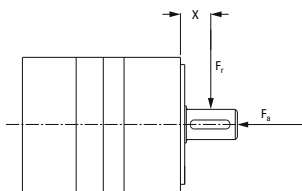
Speed rpm	Axial Load, $F_a$ N [lbf]
50	3780 [850]
100	3000 [675]
250	2211 [497]
500	1755 [394]
1000	1393 [313]

## AQT120



Speed rpm	Axial Load, $F_a$ N [lbf]
50	6894 [1550]
100	5471 [1230]
250	4034 [907]
500	3203 [720]
1000	2540 [571]

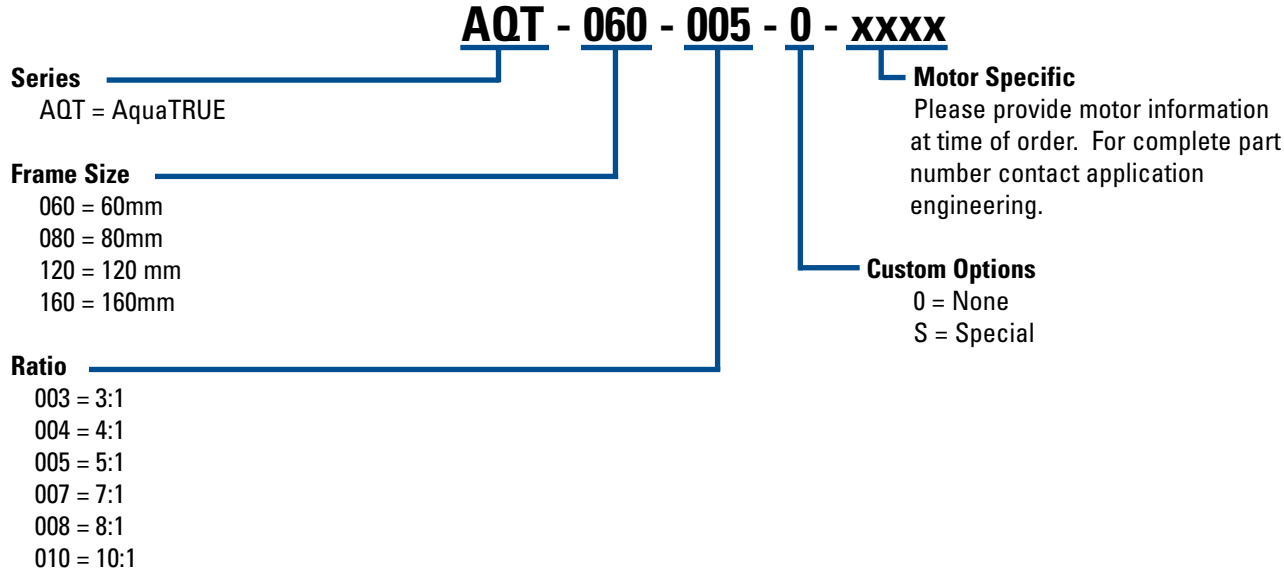
## AQT160



Speed rpm	Axial Load, $F_a$ N [lbf]
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  $L_{10}$  life of 20,000 hours for the mean output speed.

# Ordering Guide



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