



OMNI GEAR®

Catalog

WHEEL DRIVE UNIT



VE

series

22 OCT 2018 REV. A





Ve002 Wheel Drive Double Reduction

Ve002 Wheel Drive Double Reduction						
Max. Continuous torque ¹⁾		1,106 in-lbf		125 Nm		
Max. intermittent torque		2,212 in-lbf		250 Nm		
Max. input speed		4,000 RPM				
Approximate weight		38 lbs		17 kg		
Approximate oil capacity		8.6 fl oz		0.25 L		
Feature Chart						
Feature	Description				Code	Sample
GEAR RATIO	35.01				35	Ve00235
	47.74				48	
	-				-	
	-				-	
MOTOR MOUNTING	Motor Pilot	Motor Mount	Spindle Pilot	Spindle Mount		Ve00235XH
	ø5.71"	4×M5×0.8 ONø 6.14" B.C.	ø5.98"	6×M8×1.25 ON ø6.7"B.C.	XH	
MOTOR COUPLING	Teeth		Pitch			Ve00235XHG1
	13T		32/64		G1	
	13T(GEAR)		1		G2	
HUB	Wheel Pilot Dia.	Flange Thk.	Bolt Pattern			Ve00235XHG1H1
	1.97"	0.47"	3-M8×1.25 ON ø 2.75"B.C.		H1	
STUDS	Size & Pitch		Stud Length ³⁾			Ve00235XHG1H1NS
	No Stud		--	--	NS	
	-		--	-	--	
MOTOR RATING	DC		-		DC	Ve00235XHG1H1NS-DC
	-		-		-	
	-		-		-	

¹⁾ Continuous unit rating is dependent on life requirements, duty cycle and ambient surroundings affecting heat dissipation. Customer testing for specific applications is strongly recommended.

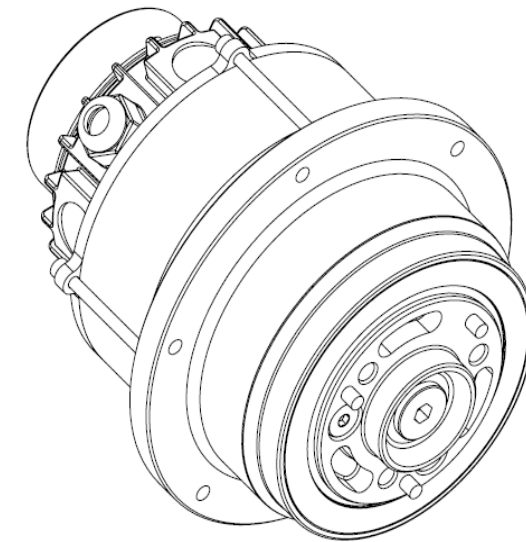
²⁾ O-rings for motor/brake port interface not included

³⁾ Length under stud head to end of thread equals usable stud length plus housing flange thickness

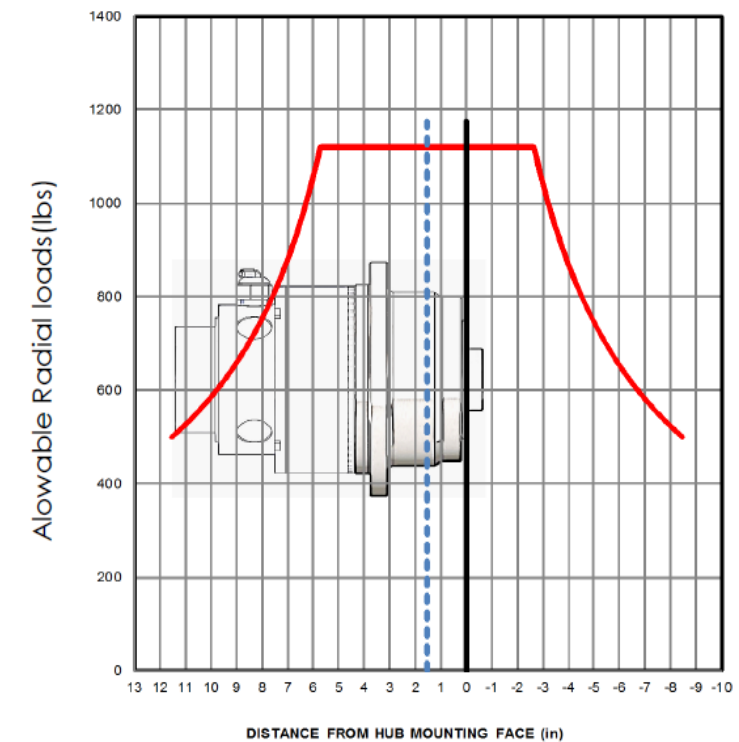
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Example Bearing Life Curve for
Ve002: 3,000 hrs @ 100 rpm

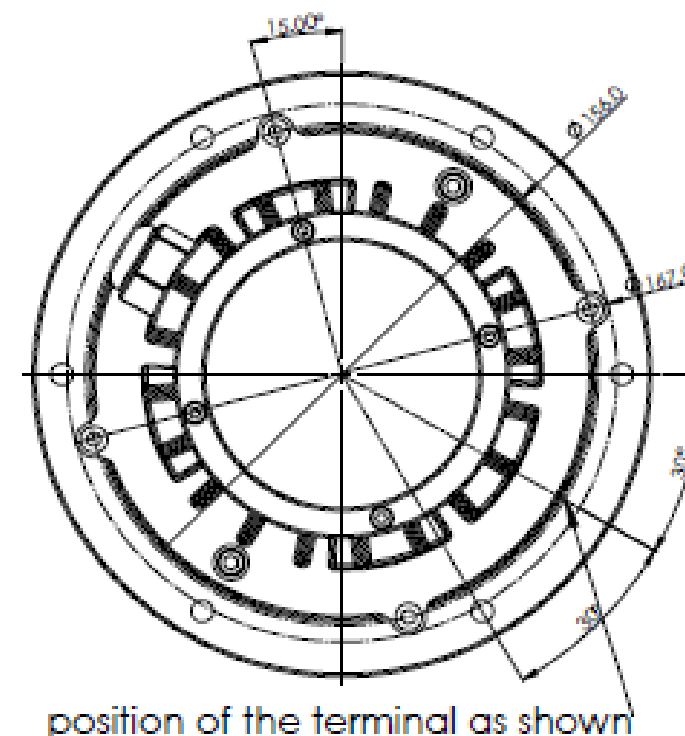


Note: These bearing curves are supplied for design purposes only relating to radial load. They illustrate the importance of maintaining load properly over the bearing center.

North & South America
(Houston Texas USA)
3620 W 11th Houston,
Texas 77008
Phone: +1 713-635-6331
www.omnigear.com
Email: sales@omnigear.com

Europe, Africa, Middle East
(Bologna Italy)
Via Giuseppe Dozza, 40/42
40069 Zola Predosa (Bologna)
Phone: +39 051-758517
www.gbtransmission.it
Email: info@gbgearboxes.it

Asia & Oceania
(Shanghai, China)
2455 BaoAn Highway, JiaDing,
Shanghai 201801
Phone: +86 21-6915-3123
www.omnigear.cn
Email: sales@pacmacitd.com

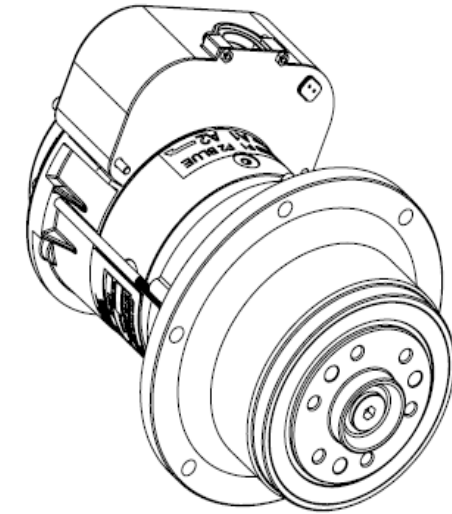


position of the terminal as shown

Asia & Oceania
(Shanghai, China)
2455 BaoAn Highway, JiaDing,
a) Shanghai 201801
Phone: +86 21-6915-3123
www.omnigear.cn
Email: sales@pacmac ltd.com



Ve005 Wheel Drive Double Reduction



Ve005 Wheel Drive Double Reduction						
Max. Continuous torque ¹⁾	2,212 in-lbf		250 Nm			
Max. intermittent torque	4,425 in-lbf		500 Nm			
Max. input speed	5,000 RPM					
Approximate weight	55 lbs		25 kg			
Approximate oil capacity	8.6 fl oz		0.25 L			
Feature Chart						
Feature	Description				Code	Sample
GEAR RATIO	52.31				52	Ve00552
	-				-	
	-				-	
	-				-	
	-				-	
SAE INPUT ²⁾	Motor Pilot	Motor Mount	Spindle Pilot	Spindle Mount		Ve00552CG
	ø5.478"	4×M6×1.0 ON ø5.875B.C.	ø7.1"	6×0.41 ON ø7.87" B.C.	CG	
MOTOR COUPLING	Teeth		Pitch			Ve00552CGG1
	13T (GEAR)		1		G1	
HUB	Wheel Pilot Dia.	Flange Thk.	Bolt Pattern			Ve00552CGG1H1
	ø1.97"	0.47"	6×M10X1.5 ON ø3.15"		H1	
STUDS	Size & Pitch		Stud Length ³⁾			Ve00552CGG1H1NS
	No Stud		--	--	NS	
	-		--	-	--	
MOTOR RATING	DC		-		DC	Ve00552CGG1H1NS-DC
	-		-		-	

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²⁾ O-rings for motor/brake port interface not included

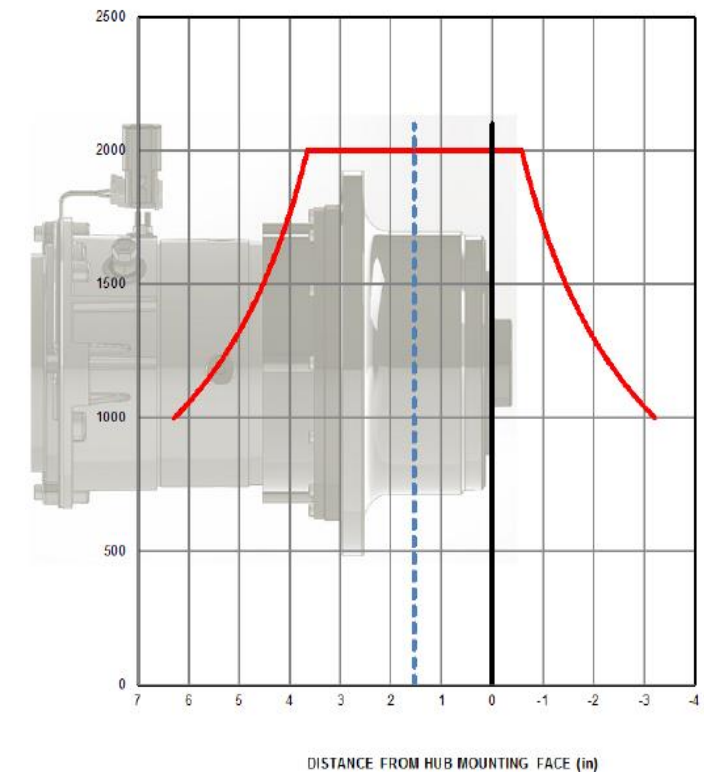
³⁾ Length under stud head to end of thread equals usable stud length plus housing flange thickness

¹⁾ Continuous unit rating is dependent on life requirements, duty cycle and ambient surroundings affecting heat dissipation. Customer testing for specific applications is strongly recommended.

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Example Bearing Life Curve for
Ve005: 3,000 hrs @ 100 rpm



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North & South America
(Houston Texas USA)
3620 W 11th Houston,
Texas 77008
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www.omnigear.com
Email: sales@omnigear.com

Europe, Africa, Middle East
(Bologna Italy)
Via Giuseppe Dozza, 40/42
40069 Zola Predosa (Bologna)
Phone: +39 051-758517
www.gbtransmission.it
Email: info@gbgearboxes.it

Asia & Oceania
(Shanghai, China)
2455 BaoAn Highway, JiaDing,
Shanghai 201801
Phone: +86 21-6915-3123
www.omnigear.cn
Email: sales@pacmacitd.com





Ve009 Wheel Drive Double Reduction

Ve009 Wheel Drive Double Reduction						
Max. Continuous torque ¹⁾	3,982 in-lbf		450 Nm			
Max. intermittent torque	7,965 in-lbf		900 Nm			
Max. input speed	5,000 RPM					
Approximate weight	57 lbs		26 kg			
Approximate oil capacity	13.79 fl oz		0.4 L			
Feature Chart						
Feature	Description				Code	Sample
GEAR RATIO	57.11				57	Ve00957
	-				-	
	-				-	
	-				-	
	-				-	
SAE INPUT ²⁾	Motor Pilot	Motor Mount	Spindle Pilot	Spindle Mount		Ve00957HL
	ø5.31"	4-M6×1.0 ON ø6.50"B.C.	ø7.32"	10x0.393" ON ø8.31"B.C.	HL	
MOTOR COUPLING	Teeth		Pitch			Ve00957HLG3
	13T (GEAR)		1.0809		G3	
HUB	Wheel Pilot Dia.	Flange Thk.	Bolt Pattern			Ve00957HLG3H1
	ø1.97"	0.47"	6×M10X1.5 ON ø3.15"		H1	
STUDS	Size & Pitch		Stud Length ³⁾			Ve00957HLG3H1NS
	No Stud		--	--	NS	
	-		--	-	--	
MOTOR RATING	DC		DC		DC	Ve00957HLG3H1NS-DC
	-		-		-	
	-		-		-	

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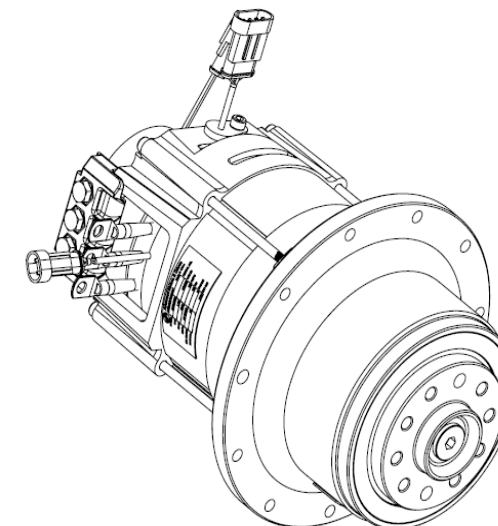
²⁾ O-rings for motor/brake port interface not included

³⁾ Length under stud head to end of thread equals usable stud length plus housing flange thickness

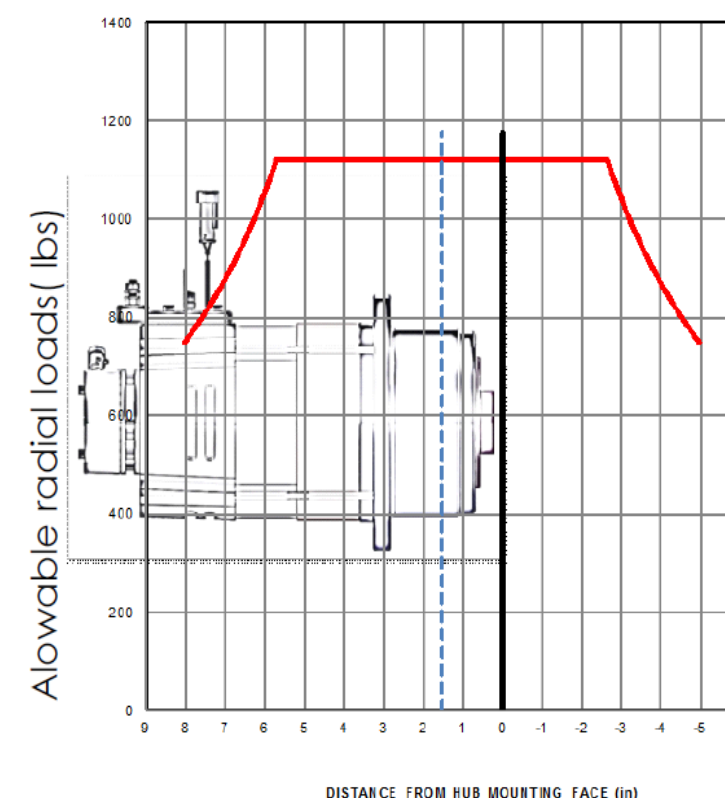
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Example Bearing Life Curve for
Ve009: 3,000 hrs @ 100 rpm



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North & South America
(Houston Texas USA)
3620 W 11th Houston,
Texas 77008
Phone: +1 713-635-6331
www.omnigear.com
Email: sales@omnigear.com

Europe, Africa, Middle East
(Bologna Italy)
Via Giuseppe Dozza, 40/42
40069 Zola Predosa (Bologna)
Phone: +39 051-758517
www.gbtransmission.it
Email: info@gbgearboxes.it

Asia & Oceania
(Shanghai, China)
2455 BaoAn Highway, JiaDing,
Shanghai 201801
Phone: +86 21-6915-3123
www.omnigear.cn
Email: sales@pacmacltd.com



**Europe, Africa, Middle East
(Bologna Italy)**
Via Giuseppe Dozza, 40/42
40069 Zola Predosa (Bologna)
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Email: info@gbgearboxes.it

Asia & Oceania
(Shanghai, China)
2455 BaoAn Highway, JiaDing,
a) Shanghai 201801
Phone: +86 21-6915-3123
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VE01/01S Wheel Drive Double Reduction

Ve01 Wheel Drive Double Reduction						
Max. Continuous torque ¹⁾		4,425 in-lbf		500 Nm		
Max. intermittent torque		8,850 in-lbf		1,000 Nm		
Max. input speed		1,106 RPM				
Approximate weight		77 lbs		35 kg		
Approximate oil capacity		10 fl oz		0.3 L		
Feature Chart						
Feature	Description				Code	Sample
GEAR RATIO	21.26				21	WD0151
	30.68				31	
	45.13				45	
	50.62				51	
MOTOR MOUNTING	Motor Pilot	Motor Mount	Spindle Pilot	Spindle Mount		WD0151RA
	Ø5.60"	2×M6×1.00N Ø5.88" B.C.	Ø6.75"	6×3/8"-16UNC ON Ø 7.50 B.C."	RA	
MOTOR COUPLING	Teeth		Pitch			WD0151RAS3
	13T		32/64		S3	
HUB	Wheel Pilot Dia.	Flange Thk.	Bolt Pattern			WD0151RAS3H2
	Ø7.24"	0.787"	5×M12×1.5 ON Ø 8.50 B.C."		H2	
STUDS	Size & Pitch		Stud Length ³⁾			WD0151RAS3H2NS
	No Stud		--	--	NS	
	-		--	-	--	
MOTOR RATING	DC		-		DC	WD0151RAS3H2NS-DC
	DC1		-		DC1	
	DC2		-		DC2	

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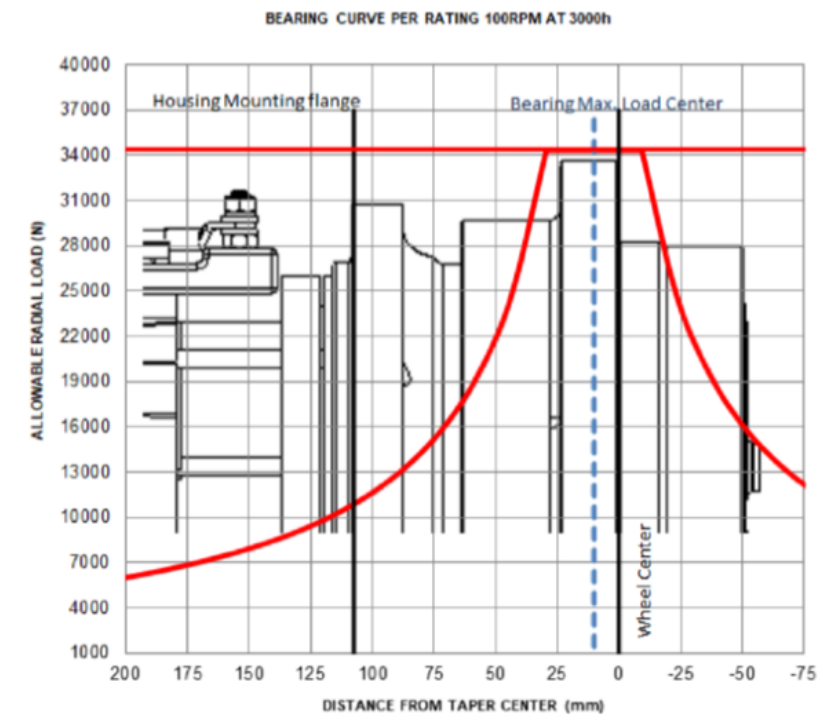
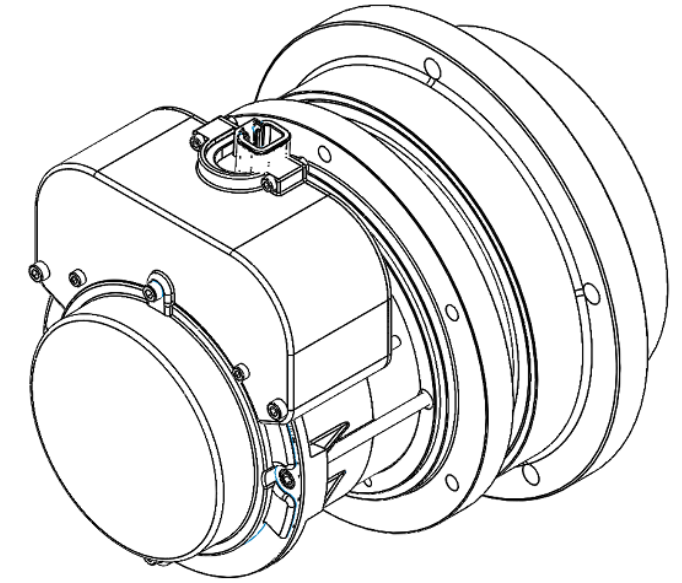
²⁾ O-rings for motor/brake port interface not included

³⁾ Length under stud head to end of thread equals usable stud length plus housing flange thickness

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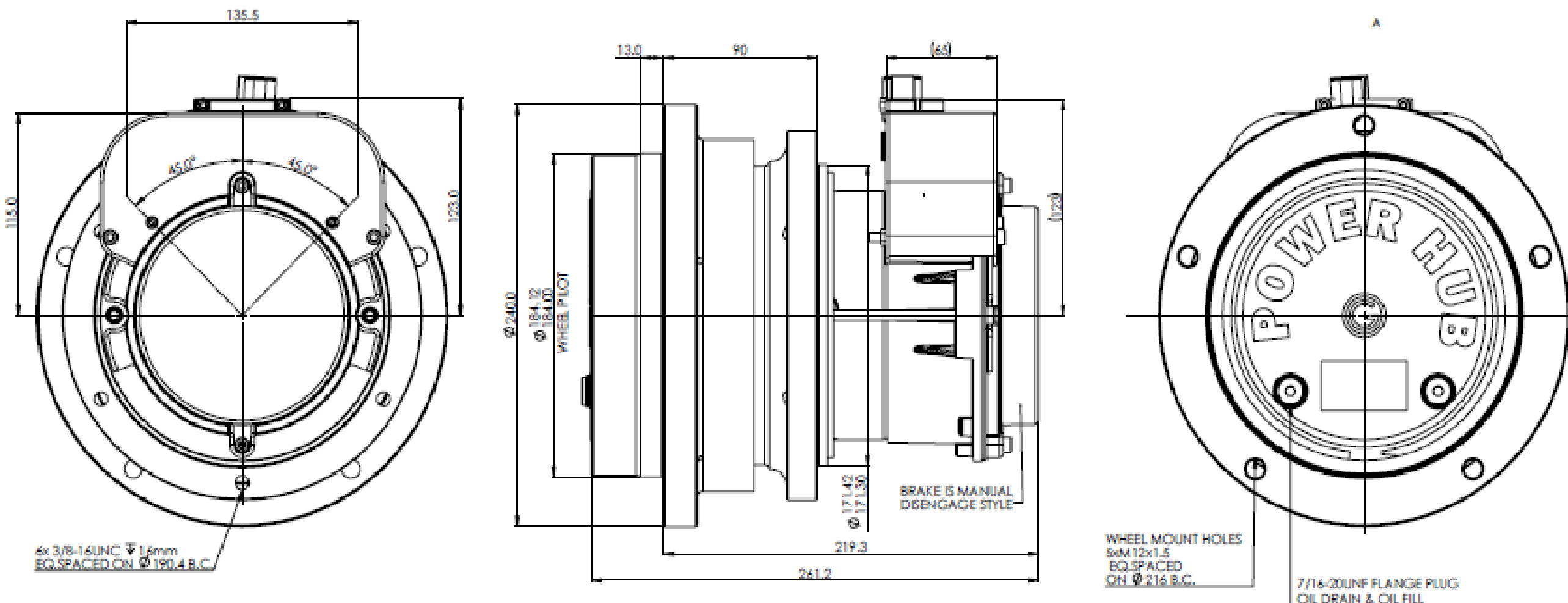
North & South America
(Houston Texas USA)
3620 W 11th Houston,
Texas 77008
Phone: +1 713-635-6331
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Europe, Africa, Middle East
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Asia & Oceania
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(Houston Texas USA)
3620 W 11th Houston,
Texas 77008
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Europe, Africa, Middle East
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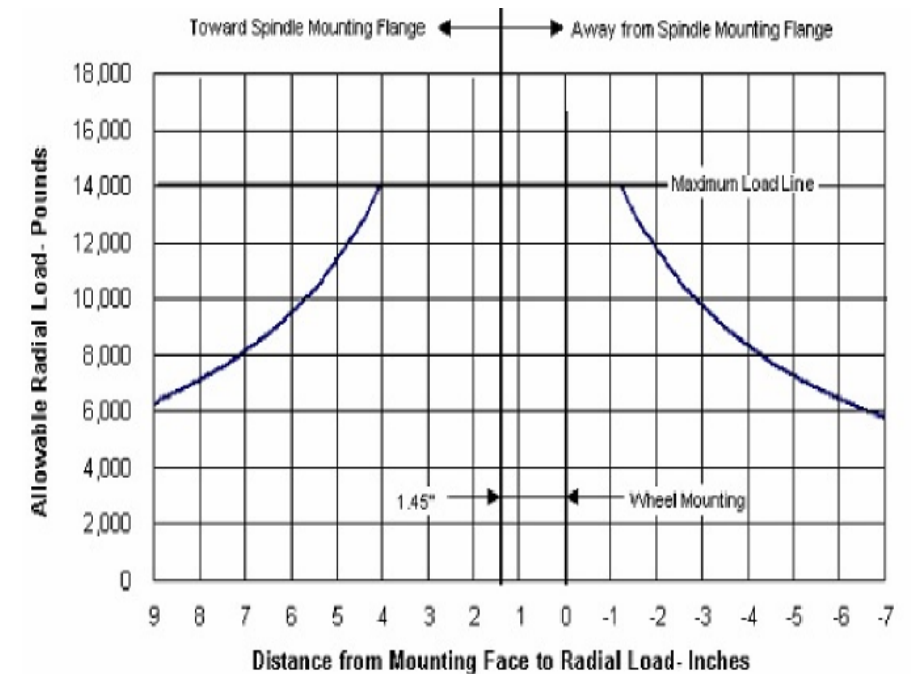
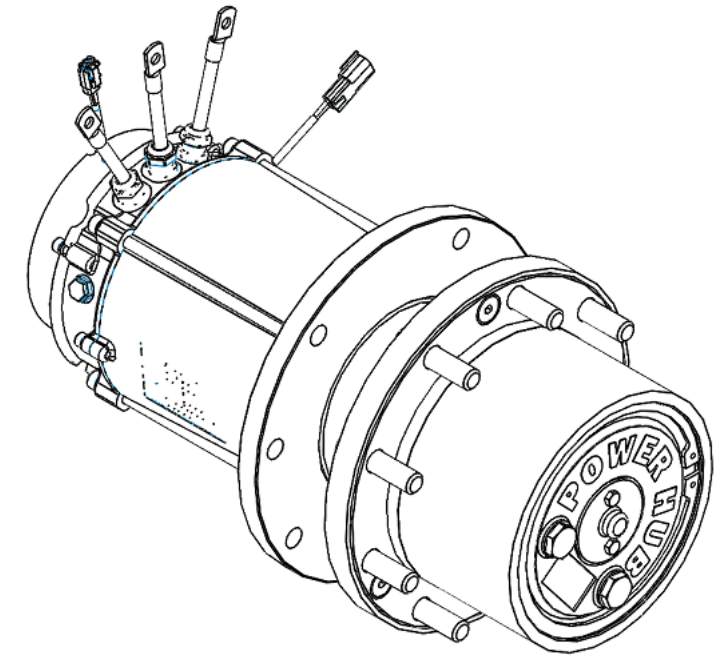
VE07 Wheel Drive Double Reduction

VE07 Wheel Drive Double Reduction						
Max. Continuous torque ¹⁾		30,975 in-lbf		3,500 Nm		
Max. intermittent torque		61,950 in-lbf		7,000 Nm		
Max. input speed		5,000 RPM				
Approximate weight		100 lbs		45.5 kg		
Approximate oil capacity		23 fl oz		0.68 L		
Feature Chart						
Feature	Description				Code	Sample
GEAR RATIO	18.78				19	VE0758
	24.92				25	
	35.92				36	
	47.60				48	
	57.49				58	
	64.08				64	
MOTOR MOUNTING	Motor Pilot	Motor Mount	Spindle Pilot	Spindle Mount		VE0758KD
	Ø6.51	4x M8X1.25 Ø7.36" B.C.	Ø8.27"	6x M16X2.0 Ø8.25" B.C.	KD	
	-	-	-	-	-	
MOTOR COUPLING	Teeth		Pitch			VE0758KD13
	15T		16/32		15	
	13T		16/32		13	
HUB	Wheel Pilot Dia.	Flange Thk.	Bolt Pattern			VE0758KD13H2
	7.885"	0.906"	9X Ø.681 on Ø9.5" B.C.		H1	
	7.885"	0.906"	9X Ø.71 on Ø9.5" B.C.		H2	
STUDS	Size & Pitch		Stud Length ³⁾			VE0758KD13H2EA
	No Stud		--		NS	
	1/2"-20 UNF-2A		2.23"(56.6)	2.43"(61.7)	AA / AJ	
	9/16"-18UNF-2A		2.23"(56.6)	2.43"(61.7)	BA / BJ	
	5/8"-11 UNC-2A		2.23"(56.6)	2.43"(61.7)	CA / CJ	
	M16X1.5-6g		2.23"(56.6)	2.43"(61.7)	EA / EJ	
ELECTRIC BRAKE	in-lbf		Nm			VE0758KD13H2EA-E70
	620		70		E70	
	-		-		-	
	-		-		-	

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²⁾ O-rings for motor/brake port interface not included

³⁾ Length under stud head to end of thread equals usable stud length plus housing flange thickness



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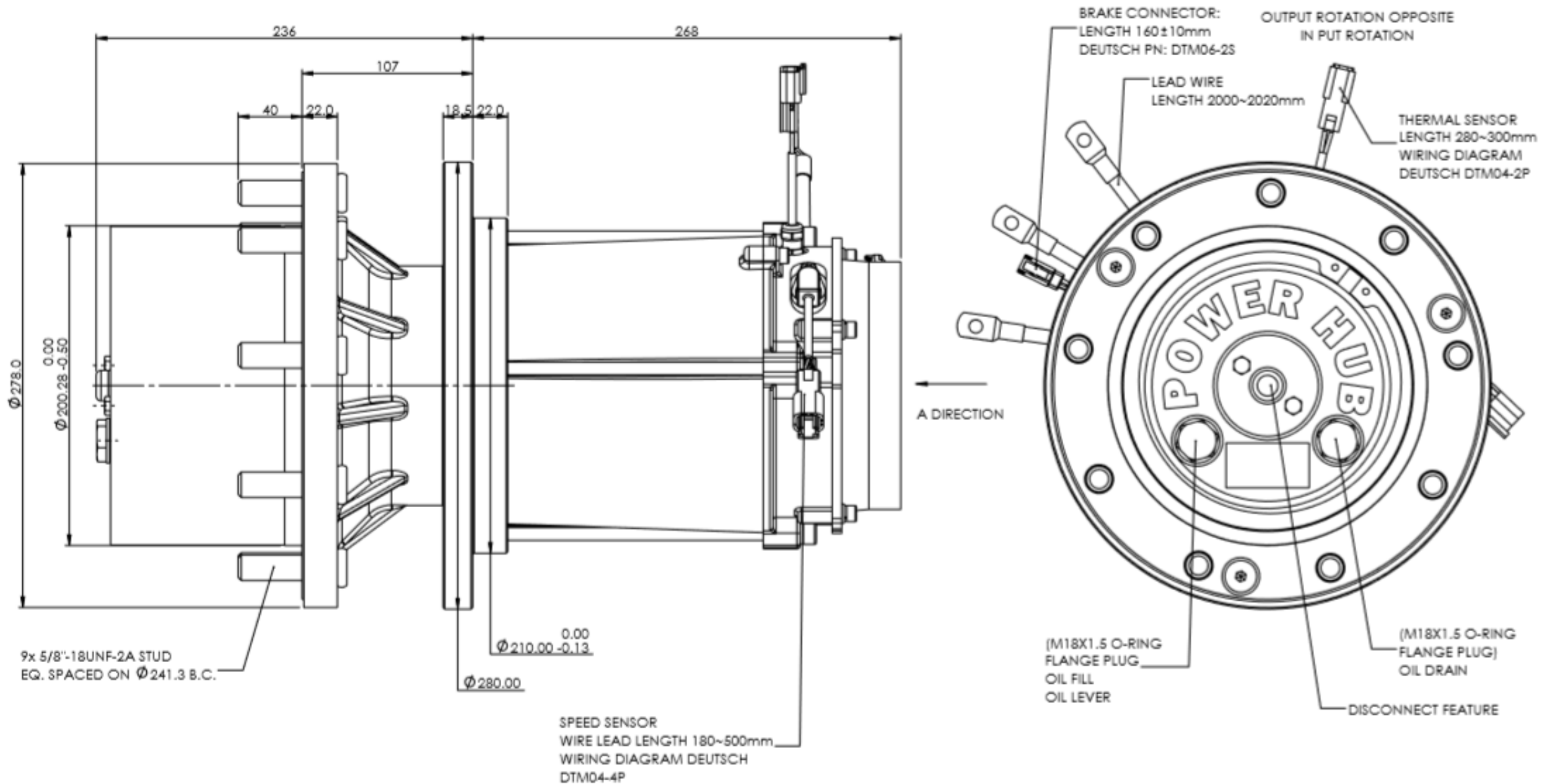
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(Houston Texas USA)
3620 W 11th Houston,
Texas 77008
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Europe, Africa, Middle East
(Bologna Italy)
Via Giuseppe Dozza, 40/42
40069 Zola Predosa (Bologna)
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Asia & Oceania
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Shanghai 201801
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North & South America
(Houston Texas USA)
 3620 W 11th Houston,
 Texas 77008
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www.omnigear.com
Email: sales@omnigear.com

Europe, Africa, Middle East
(Bologna Italy)
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Asia & Oceania
(Shanghai, China)
 2455 BaoAn Highway, JiaDing,
 Shanghai 201801
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Appendix: Application Instruction

To adjust life for loads and speeds other than shown on the curve

Life Factor (LF) =

$$\frac{SF \times R}{R'}$$

R = Allowable resultant load for a given location from the mounting flange

R' = Anticipated load at location from mounting flange

SF = Speed factor from table

Speed Factors		Bearing Life	
Output Speed		Life Factor	
(RPM)	SF	(LF)	Hours
5	2.456	0.584	500
10	1.944	0.719	1000
20	1.620	0.812	1500
30	1.435	0.886	2000
40	1.316	0.947	2500
50	1.231	1.000	3000
60	1.165	1.047	3500
70	1.113	1.090	4000
80	1.069	1.130	4500
90	1.032	1.116	5000
100	1.000	1.231	6000
200	0.812	1.289	7000
300	0.719	1.342	8000
400	0.659	1.390	9000
500	0.617	1.435	10000

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CAUTION: The same torsional load parameters used in calculating the driving mode must be used in the braking mode!

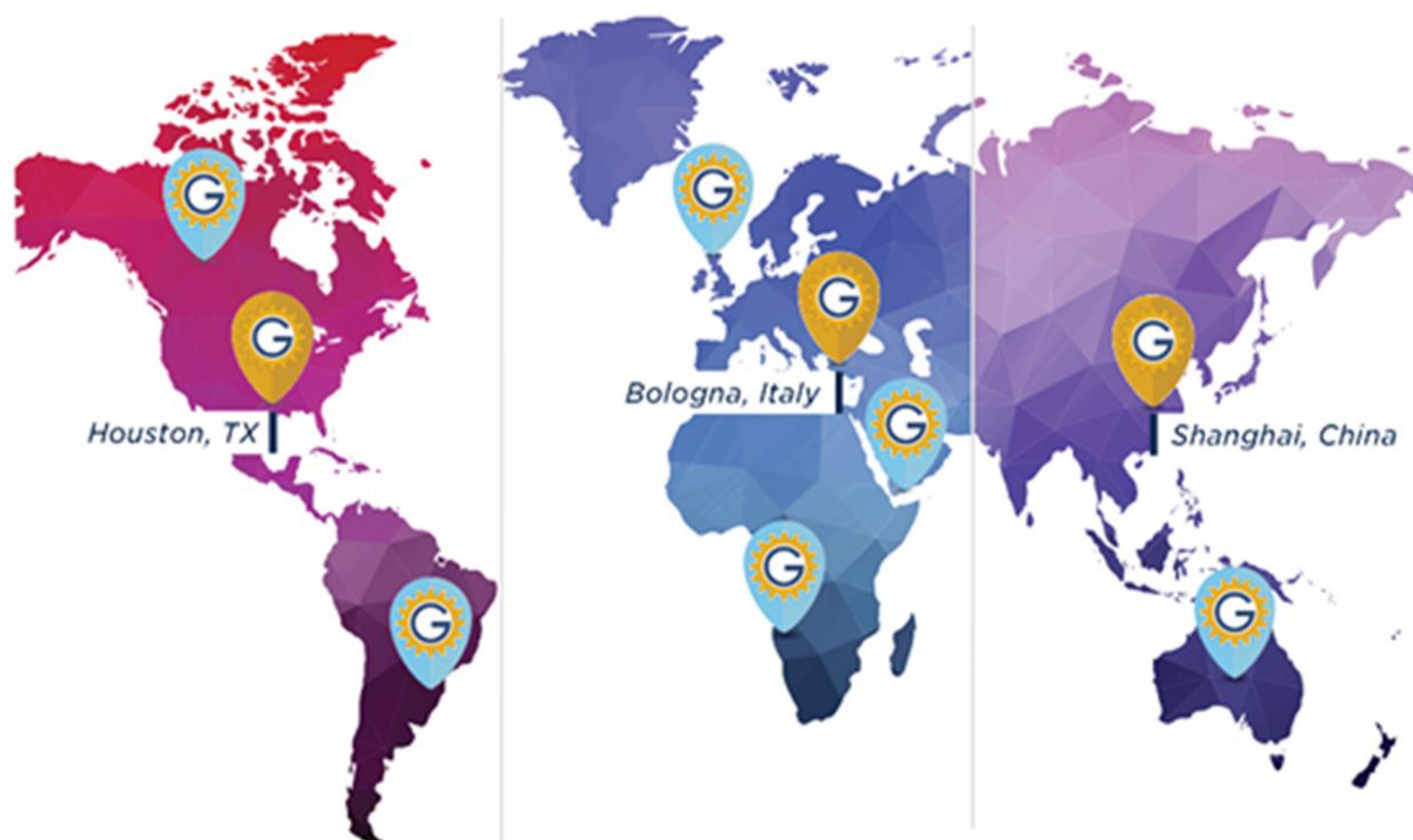
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2455 BaoAn Highway, JiaDing,
Shanghai 201801
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OMNI GEAR® designs, manufactures and distributes enclosed gear drives utilizing straight bevel, spur, spiral bevel, helical and worm gearing.

With over 70 years of manufacturing experience in the engineering, production, and sale of construction and agricultural equipment, **OMNI GEAR®** has a solid foundation and vast understanding of the needs of today's equipment builders. With 42 years of manufacturing experience in Asia, **OMNI GEAR®** has become a recognized leader within the world-wide enclosed gear drive community.



**North & South America
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(Bologna Italy)**

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2455 BaoAn Highway, JiaDing,
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